

## **THESIS**

### **SOCIAL MEDIA FOR IMPROVED POST-DISASTER COPING CAPACITY AND NEEDS ASSESSMENT IN YOGYAKARTA SPECIAL DISTRICT**

Thesis submitted to the Double Degree M.Sc. Programme, Gadjah Mada  
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## **DISCLAIMER**

This document describes the research that was a part of Double Degree program with Faculty of Geo-Information and Earth Observation (ITC), University of Twente and Gadjah Mada University (UGM). All expressed in this document become the responsibility of the author.

## **ABSTRACT**

Twitter is a social media that widely used in Indonesia and as of 2013, there's 19,5 million Twitter users in Indonesia, placing it as the 5<sup>th</sup> biggest Twitter user in the world (Kementarian Komunikasi dan Informatika, 2013). When other communication services are down, social media as a communication device still working after disaster and its usage also increased. Indonesia also has Twitter account to release official disaster Information but the reach is limited to people that follow it. This result in a condition where information is available but did not get through to those that needs it.

This research tries to find out what information people need and to send the information to people in the relevant area. To achieve this, the information needs is gathered through survey, the most suitable method for finding location of people and to send information is developed through researching Twitter API (Application Programming Interface), and displaying the map of twitter user using Google Maps and regional selection map using MapBox.

***Keywords: Social media, Twitter, earthquake, information needs, Yogyakarta, MapBox, Google Maps***

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## **1. Introduction**

### **1.1. Background**

When disaster comes, people need information to sustain their lives. In 2012 Merapi volcano erupted in Yogyakarta, Indonesia, the evacuation order was considered successfully delivered using announcement from village leader, sirens, neighbors, telephone, kentongan, and radio. But most villagers did not know where to evacuate. They also move to other place that is not designated for evacuation destination, such as other family home (Mei et al., 2013). In 2012 when Hurricane Sandy hit the USA, the affected people needed to know the location of food distribution points, about the proper use of generators and resulting carbon monoxide gas emissions, about the location of hospitals that were open and functioning, and where they can get security help (Subaiya et al., 2014). In Texas, when Hurricanes Katrina and Rita hit the Gulf of Mexico coast in 2005, the majority of affected people had their needs unfulfilled. They needed to get housing/shelter, health/safely, food/water, and transportation/fuel. These needs increased during evacuation period and stayed high while in recovery phase (Bame et al., 2012).

The information people need are different from one disaster to another and from location to location. Generally, after a disaster people will have immediate needs for drinking water, sanitation, food, shelter, medical services, and search and rescue teams (Redmond, 2005). In the USA, The Federal Emergency Management Agency (FEMA) has a program called Disaster Assistance Improvement Program that lists some immediate needs for people affected by disaster such as things to immediately do, location of drinkable water, location of food, things to bring, location of shelter, emergency medical tips, and location of sanitation (FEMA, n.d.).

Unfortunately it's hard for people to get those needs fulfilled, in case of a disaster or other emergency, because important providers of daily necessities and utilities are not functioning, grocery stores are closed, electricity may be unavailable, and health facility closed (Subaiya et al., 2014). As such affected people can get information about where and how to get access to important necessities by calling emergency help services; but many other people will be doing the same thing, thus making the emergency help service's telephone lines congested (Bame et al., 2012). This problem of congestion also happened in Chile after a major earthquake in 2010, not only because of the damage that the mobile phone network suffered but also because a sudden increase of phone calls within a few hours after the earthquake (Eiselt & Marianov, 2012). Information that is delivered on Television won't have problems with network congestion, but it won't work without electricity.

### **The use of social media during disasters**

In disaster time, the use of social media is increasing and also showing a different pattern. For example, according to Chae et al., (2014) the amount of tweets with disaster related information increased with about 35% when hurricane Sandy hit the United States in 2012. The tweet topics ranged from information about on-site condition (e.g. about crowded area), to discussion about safe locations (e.g. school). The tweets then decreased because most people had evacuated the affected area. A week later it increases again because people came back.

Disaster alert can be sent through SMS but it can be hampered by cell tower congestion (Federal Communications Commission, 2013). When cell tower is congested with Voice and SMS traffic, communication can still be done through Internet (Ichiguchi, 2011). For example, when part of Japan got hit by an earthquake in 2011, people had difficulties to communicate using Voice and SMS while Internet communication still worked: people could communicate using Twitter and E-mail (Ichiguchi, 2011). Social media – such

as Facebook, Google+ and Twitter – are become interesting vehicles to actively deliver information to people in disaster affected areas; not only because they are still working in post-disaster situations, but also because it have growing population of social media users (Duggan et al., 2015). This could help to reduce problems such as people that can't evacuate efficiently, don't know where to get medical help, confusion where to go and what to bring. Oh et al.,(2010) have found that Twitter has become an important communication route used to spread unofficial information. In Acar & Muraki, (2011) analysis of Twitter use in the 2011 tsunami disaster in Japan , they have found that people not directly relevant to the disaster will also join the conversation in Twitter.

### **Information and communication services during disasters in Indonesia**

In Indonesia, the Agency for Meteorology, Climatology and Geophysics (BMKG) is mandated to provide data and information of meteorology, climatology, and geophysics to be used to support national development, protect people and reduce the effect from damages caused by disaster (Republik Indonesia, 2008). According to Chatfield et al., (2013) the tweet that BMKG published can reach more than 4 million Twitter users in 15 minutes. This is achieved because the rapid action of BMKG's Twitter followers to retweet (forward) information. A chain of reaction is created where the followers of BMKG followers also retweet the same information. 3 minutes and 2 seconds after tsunami hazard warning is received by BMKG, they tweeted that information and effectively give lead time for citizen to evacuate themselves for the incoming tsunami that is assumed to have 15 minutes latency (Chatfield et al., 2013).

Indonesia has a law called as “Undang-undang Republik Indonesia Nomor 24 Tahun 2007 Tentang Penanggulangan Bencana” that says that Indonesia is obliged to make their people more aware about disaster, and make effort to fulfill the basic needs of their people in disaster time. The same law

also states that disaster management also need to be handled with transparency, partnership, and non-discriminatory. The law also states that in each sub-district the Regional Disaster Management Agency BPBD (in Bahasa-Indonesia: Badan Penanggulangan Bencana Daerah) has an information provision responsibility For their people, the law also stated that they have a responsibility to give correct information about disaster (Republik Indonesia, 2007).

The use of Information and Communication Technology (ICT) has spread from Mitigation and Preparation, response, and recovery phase (Anggunia, 2014). Currently in Indonesia there are various digital platforms to collect disaster information from people and to share information to be accessed by public. Indonesia's National board for Disaster Management BNPB (Badan Nasional Penanggulangan Bencana) has developed Indonesia diastar Watch, an interactive, web-based disaster monitoring portal that maps disaster events across Indonesia (BNPB, 2014). The University of Wollongong (Australia) in collaboration with BPBD DKI Jakarta has developed petajakarta.org, a crowdsourcing-based flood and water infrastructure information system across Jakarta. This is built on top of CogniCity, an open source platform to address urgent issues that can be easily modified to accommodate the different needs of urban systems (Turpin et al., 2014b). Indonesia also has governmental bodies that share disaster information using their Twitter account and that can be accessed by the public. Earlier mentioned Twitter account of BMKG is focused on earthquake and tsunami information, BNPB provide general disaster-related information, and the Ministry of Energy and Mineral Resources (ESDM) focuses on volcanic activity (BMKG, n.d.; BNPB, n.d.-e; ESDM, n.d.). However, so far none of them act as active information delivery system to and with people.

As of the year 2013, Indonesia has 65 Million Facebook users, 3.4 million Google+ users, and 19.5 million Twitter users. This placed Indonesia as the 4th biggest Facebook user in the world, and the 5th for Twitter use (Kementerian Komunikasi dan Informatika, 2013). Unfortunately, there were no publicly available rank data for Google+ in Indonesia for year 2013. The latest available data were from 2012 and Indonesia were ranked 4<sup>th</sup> (Statista, 2012).

## **1.2. Research Problem**

In Indonesia, there are different emergency phone numbers for each different emergency service and did not available at the same time for all regions. Police emergency service can be reached by calling 110 emergency number that was launched in 2013 to replace 112 emergency number that was considered as unsuccessful, while 118 for ambulance emergency service is available in Yogyakarta since 2008 with less than 10 personnel and in Banyuwangi since 2014 (Akma, 2014; Aquina & Ansyari, 2013; Center for Health Market Innovations, n.d.; Rumah Sakit Bethesda, 2012). Unfortunately due to lack of socialization effort, people don't know that they have emergency number service. In some case, the problem is on the emergency service itself where the phone service was deliberately turned off or ignored (Aquina & Ansyari, 2013; Yahoo News Indonesia, 2011). So for Indonesia, people not only need to know the emergency phone number that they can call but also can get information from other source.

Official government agency such as BMKG have information that can be shared to public but it need to be manually accessed by people that know the information exist. To make the information that already available even more useful, known to more people, and can be easily accessed, this research must be able to communicate with BMKG that have twitter account that release official earthquake information and Twitter Search API (Application Programming Interface) can be used to collect relevant Tweet from them. This research need

to be able to immediately acquire, process, and add information that people need right after earthquake alert was published. Then the information need to be sent to people that located in disaster area. To be able to send information only to those in disaster area, this research also needs to find out Twitter user that located in disaster area. The location need to be gathered automatically from Twitter. But the method to do it becomes problem.

### **1.3. Expected result**

This research is expected to have the following result:

- Important informations map for each sub districts.
- Latest tweets about earthquake map.
- Prototype of information delivery system

### **1.4. Research objective and question**

This research tries to develop an approach for the use of Twitter to actively send information that people need in a post-disaster situation. This approach will be developed for a post-disaster situation in the Yogyakarta Special Disctrict region. The approach is intended to help people affected by earthquake and/or volcanic eruption to get information that they need just by being there with their mobile phone. They don't need to manually have initiative to search for it.

Objective 1: To identify and rank the information that people need after disaster.

Question 1.1: What is the information that people in Yogyakarta Special District need most after an earthquake?

Question 1.2: How the information can be obtained?

Question 1.3: Are there differences in information needs within Yogyakarta Special Disctrict?



Objective 2: To find a way to get disaster information from official governmental Twitter accounts.

Question 2.1: What keywords are official governmental Twitter accounts using?

Question 2.2: How can governmental disaster-related Twitter information be automatically obtained as soon as it is released?

Objective 3: To develop a system for sending information via Twitter to people in a disaster area .

Question 3.1: How can a disaster area be identified using Twitter information?

Question 3.2: How to communicate with people located in a disaster area using Twitter?

Objective 4: To map Twitter users after disaster alert released

Question 4.1: How can the disaster alert be collected?

Question 4.2: How can the location of twitter users be identified?

Question 4.3: What kinds of tweets can be displayed geographically ?

Question 4.4: How can geo-located tweets be displayed on an interactive map?

Objective 5: To test whether the proposed Twitter-based system can send information to people in a disaster-affected area.

Question 5.1. How well can the system collect disaster-related tweets from identified locations and/or containing selected keywords?

Question 5.2. How well can the system response to the information from these tweets?

Question 5.3. How well can the system send tailored information?

### **1.5. Research benefit**

This research brings benefit to the earthquake alert system and disaster information that already running in Indonesia and for future research and projects that delve into providing information to people. Currently people need to know where to get the information and alert, they also need to manually access the alert and disaster information provided by the government body (e.g. BMKG, BPPTKG, BNPB). This is where this research brings innovation, it allows people on each subdistricts to get tailored disaster information without forcing them to follow certain twitter account or remember web address or actively look for the information by themselves. The information delivered using the system developed in this research also can be customized in real time, as condition changes, as needed. It can be used to send other information that government need to send. The uses are not limited for releasing earthquake alert, it was made with customization in mind, but it is limited on using Twitter. This characteristics can help future research using Twitter in disaster information system and people mapping.

## **2. Literature Review**

### **2.1. Disaster**

Disaster is an unusual event that causes death and destruction in short time span, resulting in the disruption of normal living pattern in a community, region, or society (Fred C, 2008). While according to Indonesian government body that handle disaster issues, disaster is an event or a series of events that threaten and disturb lives and people's livelihood that are caused by natural or non-natural factors and human factor that result in mortality, environment damages, material loss, and psychological damages (BNPB, n.d.-b). Rao et al., (2007) defines disaster as technological, natural, and human-caused events that resulted in the disruption of normal economy and society condition in large scale.

## 2.2. Disaster Management

Public Safety Canada, (2011) considers disaster management concerns all hazards and activities and risk managements that include the following aspect: recovery, preparedness, response, mitigation, and prevention as shown on Figure 2.2.1. A similar understanding also shown by Rao et al., (2007) that defined disaster management as process that encompass recovery, response, mitigation, and preparedness that taken to reduce the impact from disaster.

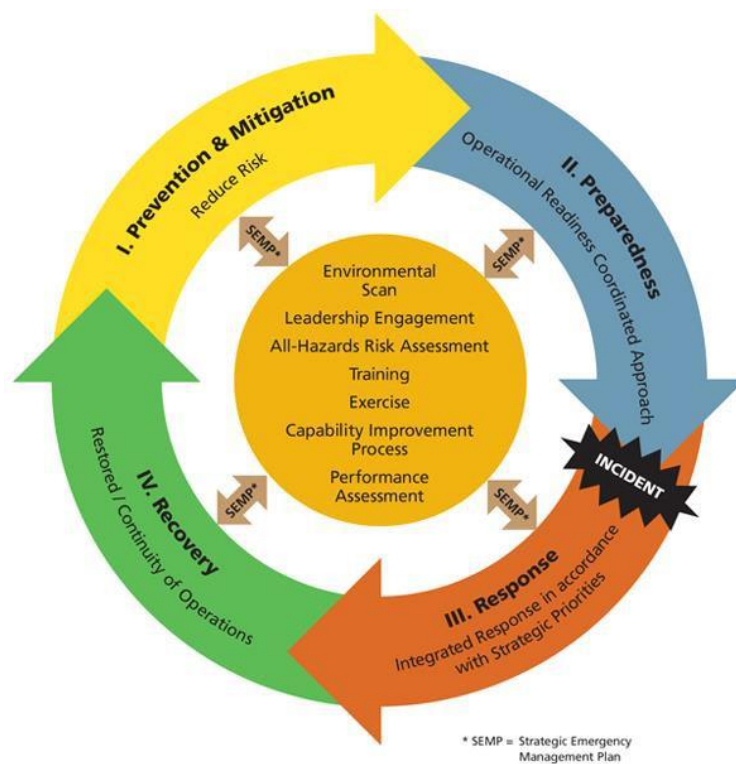


Figure 2.2.1. Phases in disaster management (Public Safety Canada, 2011)

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## 2.3. Widespread Use of GIS by Non-experts

Geographic Information System (GIS) has become more accessible and usable by citizen that's not an expert in GIS. This allows people to easily contribute using their own content that have geo location from GPS. Collecting data from social media such as Twitter feeds can provide data and insight about

people's behavior in time of crisis (Kamel Boulos et al., 2011). But the nature of social media that easily have certain viral information shared more often, this can become a misinformation and bias. This is why information gathered from Twitter not to be taken at face value, certain moderation needs to be applied. Thus, there's need to be a loop where the citizen can contribute for the data, an algorithm to classify the information, the experts needed to curate the resulting information and prioritize back to people onto what to focus. This interaction is shown on Figure 2.3.1.

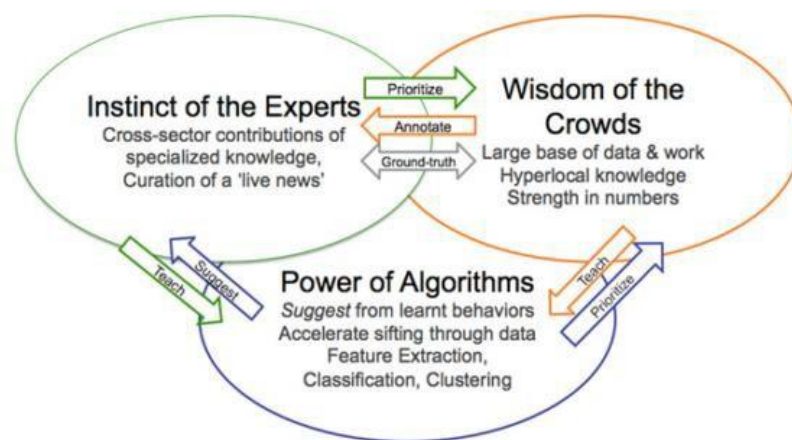


Figure 2.3.1. Integrating expert, crowds, and algorithm (Kamel Boulos et al., 2011).

The use of GIS by non-experts in Indonesia can be seen on Petajakarta project. It was a crowdsourced flood and water infrastructure information system across Jakarta. It map the flood by receiving reports from non-experts via Twitter (Turpin et al., 2014b).

## 2.4. Social media updates

Twitter is a social network that allows its users to send and read text post up to 140 characters and a picture. This is called as tweets and as default shown to public (Schade et al., 2011). Although tweets are shown to public, only those that become follower that can automatically receive the text broadcast (Tsou et al., 2013). In Indonesia as of 2013, there are 19,5 million Twitter users in Indonesia, placing it as the 5th biggest Twitter user in the world (Kementerian

Komunikasi dan Informatika, 2013). Twitter also has the ability to send information to people on certain location. The most accurate location will be gathered from GPS, while approximate location will be gathered from their network information such as IP address, nearby WiFi access point, and cell tower triangulation. This will allow the information to be targeted to people in certain area and not be received by people outside of the determined area. The users also don't need to keep opening the Twitter application to get information. By sending information directly to twitter username, they will get information in their phone notification area (Twitter, n.d.-d).

Facebook. According to BBC WebWise Team, (2012) Facebook is a fast network that allows you to share about yourself and get in-touch with friends. It can connect people together based on information such as schools and employer. It also has the features to share pictures and play games. Facebook have the most users in Indonesia compared to other social media such as Twitter and Google+ (Kementerian Komunikasi dan Informatika, 2013). Facebook also allows searching of people by location if they have set the privacy setting of location to public. Unfortunately the location is limited to their home town, not from their latest information. Although Facebook user ID is well defined, the username comes in various characters and spaces (Facebook, n.d.).

Google+ is a social media that allows people to keep relationship with family and friends, explore more about communities, experts, and activities people love. The communication can be done through posting pictures, videos, text, and video conference up to 10 people (Google, n.d.). Google+ has real-time location monitoring feature that allows its user to be mapped all the time. Unfortunately this location monitoring is limited only to specific people or circle that has been specifically approved to be able to access location monitoring. User in certain location can be searched by Google+ but it is limited to hometown, not latest information (Google Developers, 2014).

## **2.5. Twitter user location**

Twitter user location can be found out by looking at their gps data or through text strings (Stevenson, 2014). Location texts that are put by user can be proper location name or something that was put whimsically. Stevenson (2014) collects the location information by buying twitter dataset and then overlaid the gps coordinates and location names with shapefile of United States. The same thing also explained by Rodrigues et al., (2015) that the location of twitter user can be known from gps coordinate and the location name that they put themselves. Additionally, their location also can be collected by combining the content of tweets with relationship network.

## **2.6. Twitter communication**

Twitter has API (Application Programming Interface) that allows the location information such as cities, and regions to be collected from tweets (Tsou et al., 2013). The location data can be visualized using GIS (Geographic Information System). Twitter limits the amount of request to be sent for a period of time. For every 15 minutes, Twitter allows 180 search requests at maximum. If this limit is reached, the request won't be granted and Twitter will reply with error 403 (Twitter, n.d.-a). Twitter also able to send information by using its statuses API. While search request is limited to 180 request for 15 minutes window, the API to send information is limited to 15 request for 15 minutes window (Twitter, n.d.-b).

To send and collect data through Twitter, a request is made through Twitter REST API. When the client send a GET request, Twitter listen to what is requested and reply with the requested data. When client send a POST request, Twitter listen to the data being posted and put it into Twitter system. This interaction is shown on Figure 2.6.1.

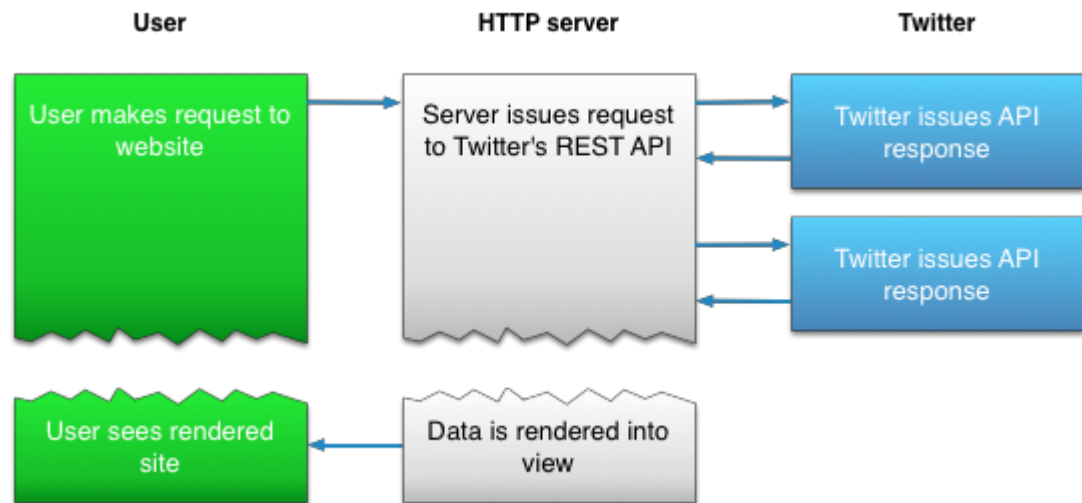


Figure 2.6.1. Twitter API diagram (Twitter, n.d.-a).

### 2.6.1. TwitterOAuth

TwitterOAuth is a software component that facilitates the communication between external software with Twitter. It is a PHP library that allows API requests to be done securely with a minimalist wrapper. The verification is done from a Twitter security token to collect and send data on Twitter. Currently, TwitterOAuth has a limitation that it only works with the Twitter REST API; it does not work with the Twitter Streaming API (Williams, n.d.).

### 2.7. Geocode

Geocode is an x,y coordinate information that indicates its location. This is usually using latitude and longitude decimal degrees format or in x,y coordinates that measure in meters or feet from a specific origin (Harries, 1999).

### 2.8. Likert scale

Likert scale is a rating scale that was developed by Rensis Likert and used for measuring attitudes or opinions (Garwood, 2006). The scale will have a graded response that is usually created in five. This scale will assume the strength is linear, for example, for agreement it will range from strongly disagree to

strongly agree. While for importance it ranges from unimportant to very important (McLeod, 2008). These characteristics of Likert scale that makes the survey response to able to be quantized and ranked, is beneficial to this research to find out which one is the most important information for each sub districts.

## **2.9.AutoIt**

AutoIt is a scripting language that designed to automate activities by simulating keystrokes, mouse movement and window/control manipulation. This allows routines that were done by human operator to be scripted and repeated as needed. In addition as a scripting language, AutoIt also act as its own program that can run stand-alone without external files (Bennett, n.d.). With the ability to record routines into script, AutoIt helps the process of automating Tweets and Usernames used in this research.

## **2.10. Google Forms**

Google Forms is an online form provided by Google for free and highly accessible from desktop or mobile browser. A wide range of question types can be made, including scale and grid that generally unavailable on free online form. All responses are automatically saved into Excel spreadsheet, so it is easier to analyze large amount of data (Agarwal, 2014).

The use of Google Forms can be ranging from online quiz, survey, and open ended questions. Although versatile, Google Forms is a web application that depends on internet connection, so the application will become slower when the internet connection is slow. With bad internet connection, the interest to use can diminish and frustration can happen (Mansor, 2012). These characteristics of Google Forms make the online survey for this research to be accessed from mobile phone or desktop computer. The online survey also can be printed as offline survey.



### **2.11. PHP**

PHP is a scripting language for web development and can be written inside HTML. With special start `<?php` and end `?>` instruction, the script can jump in and out of PHP mode. PHP processing is done in the server while the output can be generated into HTML to be rendered by client. The main advantage of PHP is that it is simple for newcomer while advanced enough for professional programmer (Achour et al., 2015). The ease of use of PHP and my familiarity with it helps me to write script for Twitter information delivery system.

### **2.12. MapBox**

MapBox is a map platform to make beautiful and interactive custom maps by using open data such as OpenStreetMap. The look and feel of the map can be further customized by using CartoCSS scripting language and TileMill application (Maly, 2013). The ease of use of MapBox, its high customization option, and my familiarity with it helps the development of interactive online map in this research.

### **2.13. Use case test**

Use case test is a test that starts with the steps needed to start user's goal and end when the goal is fulfilled. The scope includes the user, the goal, the steps to do a task, and how the system response (U.S. Department of Health & Human Services, n.d.). The system developed in this research has specific goals that need to be fulfilled.

### **2.14. Waterfall software development method**

Waterfall software development method a software development method where the specification of the software going to be developed is determined first and was done in linear stages where each stage must be finished before continuing to the next stage (Lotz, 2013; Rao et al., 2007). This development method flow can be seen on Figure 2.14.1.



Figure 2.14.1. Waterfall software development flowchart (Lotz, 2013)

## 2.15. Agile software development method

Agile software development method is an iterative approach that focus on quick application delivery in functional and complete component (Lotz, 2013). It is appropriate method for software development in short time (Greer & Hamon, 2011). This development method flow can be seen on Figure 2.15.1.

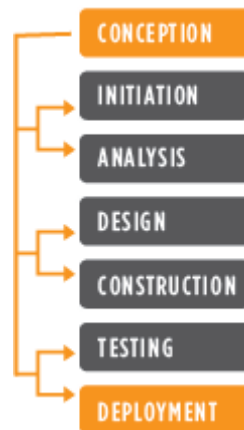


Figure 2.15.1. Agile Software Development Flowchart (Lotz, 2013)

### **3. Study area**

The study area of this research is Yogyakarta Special District that located in Java Island, Indonesia, with the following geographic coordinate: 7°47'S 110°22'E. It has total area of 3,133.15 km<sup>2</sup> and divided into four regencies and one city, namely Bantul, Gunung Kidul, Kulon Progo, Sleman, and Yogyakarta. Figure 3.1 shows that as of 2010, Yogyakarta Special District has around 3.5 million populations. Kulon Progo, Bantul, Gunung Kidul, Sleman, and Yogyakarta have population of 388869, 911503, 675382, 1093110, 388627 people respectively (BPS, 2010). 80% of population has mobile phone and it increase to more than 85% in 2012 (BPS, n.d., 2013). The populations that use Twitter not only located on city but also on rural areas, as can be seen on Figure 3.2. Although it reached rural areas, most concentration is in Yogyakarta City and southern Sleman. This showed that potentially twitter message can be received by people not only in ity but also on rural areas.



Figure 3.1. Yogyakarta Special District location and population.

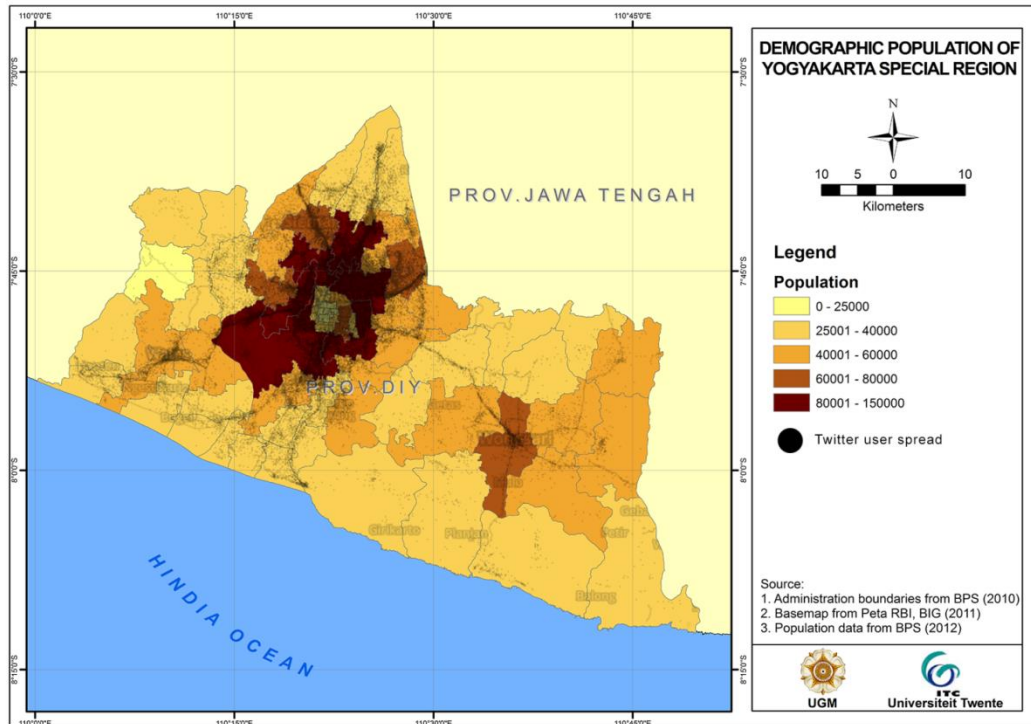


Figure 3.2. Population and twitter user spread on Yogyakarta Special District

Around 28 KM from Yogyakarta City, there's Merapi Volcano that considered as active volcano and regularly erupt. In 2006 and 2010 it experienced major earthquake (BNPB, n.d.-a). This puts Yogyakarta Special District in disaster danger zone and can be seen on Figure 3.3, where Sleman sub-district was inside danger zone 1 (green), 2 (yellow), and 3 (red).



## **4. Tools and Methods**

### **4.1.Tools**

There are various tools that were used, ranging from data collection, data storage, processing, delivery, writing, and display as presented in Table 4.1.1.

#### **Twitter**

Twitter is a social media that was used in this research. Indonesia have @infobmkg twitter account that shares earthquake alert and @BPPTKG that share Merapi volcano status. Using Twitter, the information of earthquake and Merapi volcano can be automatically gathered. Twitter also allows searching of tweets in certain location and using certain keywords. This capability was used for collecting usernames in each Yogyakarta Special District's sub-district that tweets about earthquake. The abilities of Twitter to send message was used to share the information page link.

#### **Survey paper**

Survey paper is a printed version of the survey form that questions the information that people considered important. Only one is a real printed paper while the other are copied using photocopy service. All of them are put into boxes and brought into each sub-districts. There, the survey is spread to people on campus, major mosque, or park.

#### **Google Forms**

Google Forms was used to make the survey form. A link to access it was made and spread to Twitter. This allows people that receive the link to fill the survey. The survey follows responsive design so it can be comfortable opened on Desktop or Mobile devices.

**Google Drive**

Google Drive was used to store the survey responses and as a backup tool. It automatically save changes and allows changes to be reverted back in case something wrong happened.

**Google Chrome**

Google Chrome was used for various part in this research that needs to display a web site. When writing the survey, it was used to access Google Form. When working on interactive map and information pages, it was used to see the web page that has been written and to do live-editing. This helps a lot when designing the layout while making sure it have good usability and visibility.

**Microsoft Excel**

Microsoft Excel was used for storing the survey responses and processing the data. It has formulas that can be used to process data quickly compared to doing it manually. This helps quicken the data processing because the big amount of entries.

**MapBox**

MapBox was used to make the interactive map without doing programming and research from scratch. Using MapBox, an interactive map that is formulized in this research can be built on top of it. The interactive map resides in the cloud (internet server) and can be called from anywhere as needed. It also have tools to import data, thus quicken the map making process. To some extent, MapBox is like a box full of tools to make map and it also have pre-made island shapes.



### **Google Maps**

Google Maps was used to make the interactive map of Twitter user location without doing programming and research from scratch. Using Google Maps, coordinate can be pushed through hyperlink and it will be shown in a map. This resulting map can use all of generic Google Maps capability (e.g. changing the layer to satellite, calculating route).

### **FileZilla**

FileZilla was used to transfer data to and from server. I have been using it for more than 15 years and all my server credentials are saved in it. Thus it was used to make data transfer without hassle.

### **Notepad**

Notepad was used for basic editing and writing of program script. It loads very quickly and good for small edits.

### **Notepad++**

Notepad++ was used for complete writing and editing of program script. It able to marks scripts with colors so script writing become easier.

### **AutoIt**

AutoIt was used to automate things that repeatable so I don't need to manually send tweets for thousands times. I just need to do it once and then AutoIt will do it until end. This helps a lot in multitasking when doing this research, so I am not limited to do one thing at a time. It's like I hire other people to do what I specifically tell them again and again.

**Server**

Server was used to store and process the information pages and information delivery system. This is where the system that was developen in this research lives. It is always on and always connected to the internet, allowing the system always work in real time. The server is not specifically built for this research, so it shares server resource with other stuff that is running on my server. It's like renting one room to be used by multiple people.

**PC**

Personal Computer was used to work on this research and store the data. Testing of web pages is done on PC with resolution of 1440x900.

**Mobile phone**

Mobile phone with resolution of 720x1280 was used to input the offline survey entries into Excel via Google Forms. It was used instead of PC because its faster and its where always-on internet connection is always available. It also used to display web pages of interactive map, online surveys, and information page. This is really helpful for testing whether the design is working properly on mobile phone.

Table 4.1.1. Equipment and its function.

Tools	Description
Twitter	To deliver and collect data to/from Twitter users
Survey paper	To collect information needs via offline
Google Forms	To collect information needs via online
Google Drive	To store the survey answers data
Google Chrome	To display web pages (online survey, information pages, interactive map)
Microsoft	To display and process the data offline
MapBox	To display and store an online interactive map
FileZilla	To deliver data to server
Notepad	To write program script
Notepad++	To write program script
AutoIt	To write program script
Server	To store the information pages and process the information delivery system.
PC	To collect data, store data, processing, delivery, writing, display
Mobile phone	To input the offline answers into online database, To display web pages (online survey, information pages, interactive map)

## **4.2. Methodological approach**

### **4.2.1. Overview**

This chapter describes the methods that were used for this research. The research started with reviewing the literature for information that are important in post disaster, social media characteristics and general abilities, twitter's search capability and its communication method, MapBox and Google Maps communication method. Then surveys was done to find out the informations that are considered as most important by people on Yogyakarta Special District. Then using waterfall software development method, the methods that was found on literature review was developed further to be able to work together and incorporated into a system software to automate the process of collecting information, finding user locations, and sending informations. The prototype for each component was tested using use case method. This is to make sure the components to able to function as planned, fulfilling the objective. After the components work as intended, Chrysalis was made by merging the system together and complementing them with user interface to make them accessible to human. This method flow can be seen on figure 4.2.1.1.

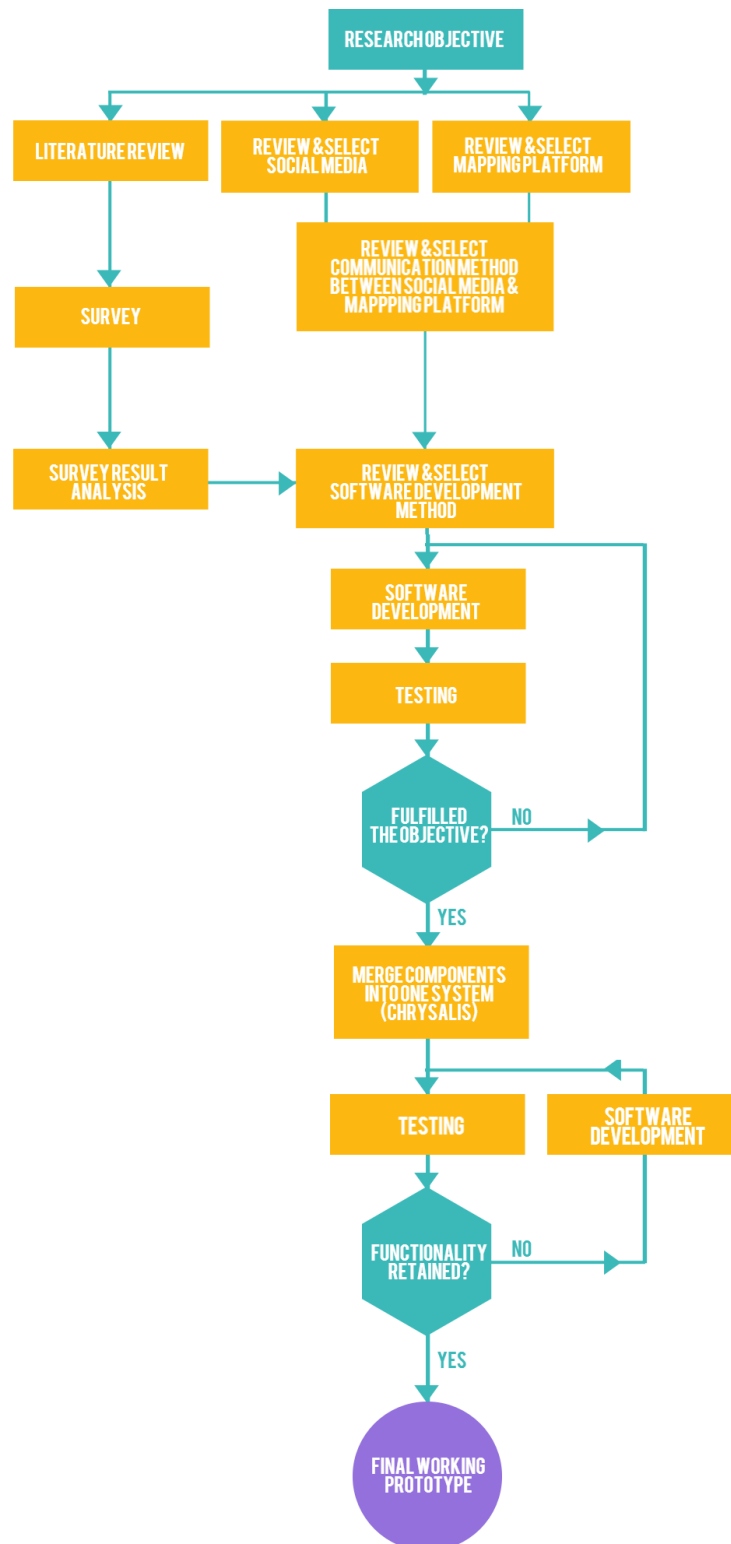


Figure 4.2.1.1. Research method flowchart

#### **4.2.2. Survey**

The informations that was probed in the survey was collected from literature review to find out information that people need after disaster and the information that are available in Indonesia. Information provided by Indonesian government are evacuation route, evacuation location, emergency service phone numbers, local police service phone numbers, merapi volcano status, tsunami status, earthquake information, things to immediately do, and emergency medical tips (BPBD, 2014; Dishubkominfo DIY, n.d.; Kepolisian Negara Republik Indonesia, n.d.). Information such as things to immediately do, location of drinkable water, location of food, things to bring, location of shelter, emergency medical tips, and location of sanitation also important to have (FEMA, n.d.; Redmond, 2005).

The list of information needs and availability are combined together, while tsunami status was taken out because the focus in this research is on earthquake and Yogyakarta Special District is an area with high earthquake as explained on Chapter 3. The result are listed on Table 4.2.2.1. It was used in survey questions that was shown on Annex 2 with answers that scales using Likert scale of 1 to 5. To prepare for online survey, Google Forms was used. It allows the respondents to fill the survey via any web browser on PC, Tablet, or Mobile Phone and the answers collected into Microsoft Excel database.

Table 4.2.2.1. Information list

1	Merapi Volcano status
2	First aid procedure
3	Instruction for things to do after earthquake
4	Evacuation route
5	Earthquake location
6	Emergency service phone number
7	Location of food and drinking water
8	Sanitation location
9	Location of temporary shelter
10	Local police service phone number

The survey that was shown on Annex 2 was made into two types, online and offline. The target is to get 95% confidence level with +/- 10% margin of error for each sub-district. This puts each sub-district with 100 responses, thus resulting in a need of 500 total responses for 5 sub-districts. Online survey was conducted by sending tweets to twitter users in Yogyakarta Special District. AutoIt script shown on Annex 1 was used to automatically gather tweets for one day and its username on each sub-district into a list. The script keep doing this for a month (each sub-district have range for 6 days) and finally it collected 3821 usernames in total, that consist of 1227 Bantul, 400 Kulonprogo, 230 Gunungkidul, 797 Sleman, and 1167 Yogyakarta City. This amount of usernames is more than the amount of response that was needed (100 response each sub-district) but was done in case the survey have low return rate. While conducting online survey, offline survey was also conducted. It was done by coming to university, major mosque, and park for a day on Bantul, Kulonprogo, Gunungkidul, Sleman, and Yogyakarta City. The target for offline survey was 500 respondents for each sub-district, this is to be safe in case that there are survey without good conditions (incomplete answers, unreadable).

#### 4.2.3. Survey analysis

In this phase, the survey responses is collected and inputted into Microsoft Excel database. The data from offline and online survey was put together following their sub-districts, and then 100 entries from each sub-district was selected using simple random sampling method. The randomization was done to avoid only covering the first 100 entries that was done earliest in some specific time-frame (e.g. in morning), it was randomized to encompass the entries across the survey duration. The informations was ranked and the top 3 important information for each sub district was shown on Table 5.1.1 and the flowchart can be seen on figure 4.2.3.1.

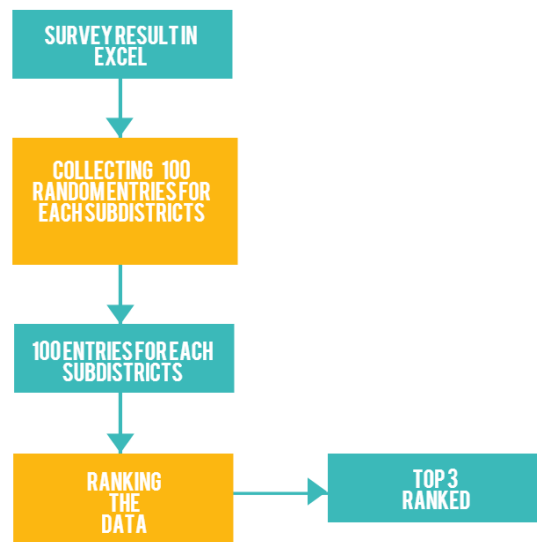


Figure 4.2.3.1. Flowchart of survey analysis



#### **4.2.4. Software development overview**

This research used waterfall software development method, it is a software development method where the specification of the software going to be developed is determined first and was done in linear stages where each stage must be finished before continuing to the next stage (Lotz, 2013; Rao et al., 2007). Waterfall software development method was selected although agile software development method is more appropriate for developing software in short term with its dynamics. The software development in this research was done by one person and the requirements was determined in the research prior to the software development phase, hence waterfall software development was selected. An aspect from agile software development method also adapted into this research, the software development was divided into components that was tested to make sure it does work. But instead of developing each components with different teams, in this research each components was developed by me and they share programming script that can be shared. This helps me to quickly develop and adapt the software according to the research. As soon as I finished researching aspect for the component, I develop it into software, then test it whether it works as intended. The effort spend in this one component also applicable for the other components. The knowledge and programming script was shared across other components that was developed and customized following the requirements of this research and the software features.

In general, the software development in this research have two main components: front-end, and back-end. The back-end components are the component that invisible from the user's point of view. It consist of locating twitter users, detecting and collecting disaster information and alert, and sending information. On the other hand, the front-end components are the component that visible from user's point of view. It consist of user interface and interaction, information output (information pages, interactive map). Each components were developed and tested to see whether it works and achieve the objective, they also

share programming scripts that can be shared. This was most apparent in the twitter communication. Finally all componets was merged into one and named as Chrysalis. The overview flowchart can be seen on figure 4.2.4.1.

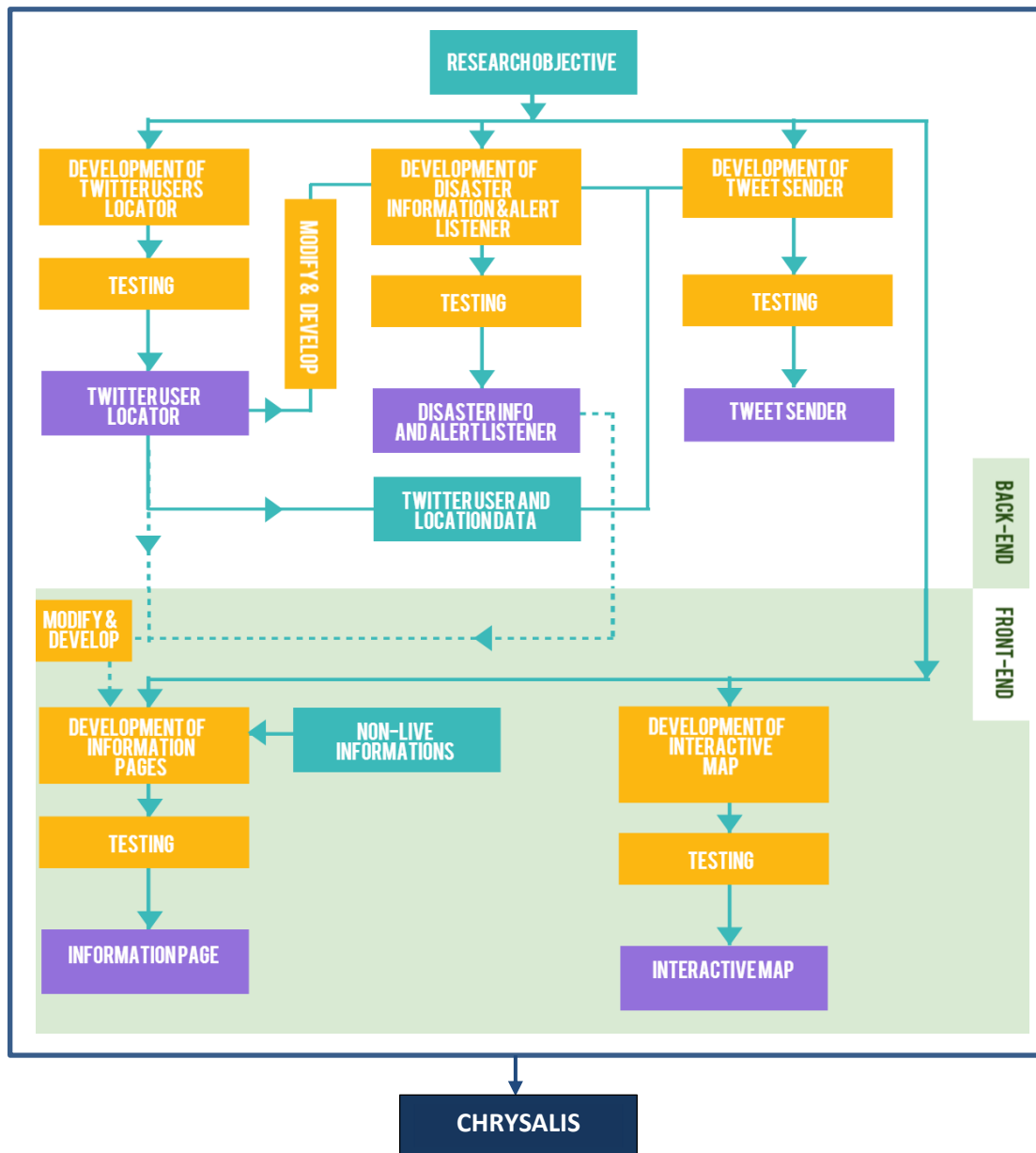


Figure 4.2.4.1. Chrysalis software development overview flowchart

#### 4.2.5. Communication with twitter

This research used Twitter for all of its communication with real world. Twitter was chosen as the most appropriate social media to be used in this research because Indonesia are the 5th biggest Twitter user in the world (Kementarian Komunikasi dan Informatika, 2013) and it have publicly accessible and searchable information for tweets and its location. Twitter also allows people to get message from stranger (other user) without being a friend or follower. This characteristic is important to make the information being sent can reach wide audience without being limited by follower.

At first, the method to communicate with twitter was researched and developed into programming script as needed. To communicate with Twitter, API access keys need to be provided, so developer API access to Twitter was requested and the keys was put into TwitterOAuth to enable communication with Twitter. TwitterOAuth is a component that allow other programming script to be built around it and securely have conversation with Twitter. The communication component built around TwitterOAuth was reused for various aspect in this research that involve talking with twitter: locating twitter users, detecting and collecting disaster information and alert, and sending information.

#### 4.2.6. Locating twitter user

Twitter have search feature that allow software to talk to it through Twitter API and get replied with data. *Place* search operator was used in the development of Chrysls in this research. It allows twitter to give latest tweets that came from the specified Place ID of sub districts, unfortunately this search operator did not include users without geotag in their tweets. The Place ID was shown on Table 5.2.1. *Geocode* operator is similar with *place* but it works by defining a coordinate and radius. It was not used because of Yogyakarta Special District's and its sub-districts shape would need multiple points with small radius to evade bleeding to other area and overlap. Twitter also have *near*

search operator that able to give tweets from each sub districts with or without geotag. Unfortunately this behavior changed while I was developing Chrysalis, where it become unable to give tweets without geotag. *Near* operator function got changed again after the thesis submission, its become able to give result for tweet with and without geotag again. *Near* operator also unavailable in API communication (Twitter, n.d.-c).

To locate twitter users, twitter was told to look for latest tweets that came from each sub-districts by its Place ID. Twitter then replies with latest tweets from the specified location. After that the username was extracted and resulted in list of username and its location. The flowchart can be seen on figure 4.2.6.1 and this method flow was developed into a software component using php scripting.

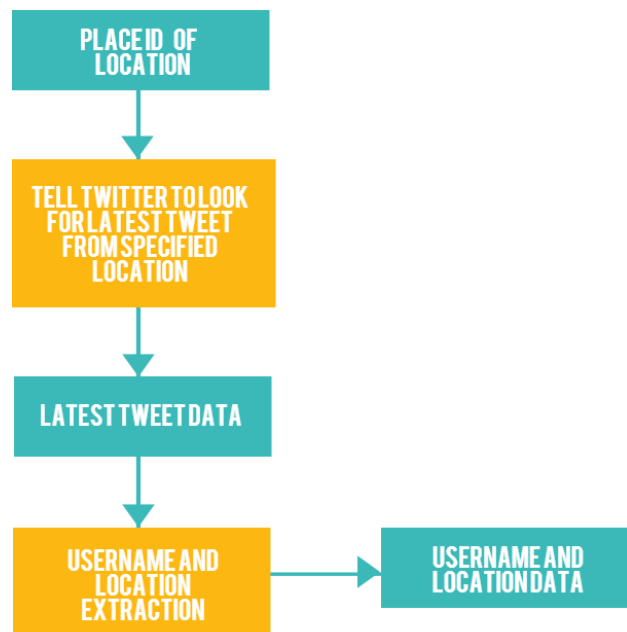


Figure 4.2.6.1. Locating twitter user flowchart

#### 4.2.7. Detecting and collecting tweets

Information page for Merapi volcano status and earthquake location was made by automatically collecting Merapi volcano status from @BPPTKG twitter and disaster information from @infobmkg twitter. This was achieved by modifying the twitter user locator component to automatically check designated twitter account for new tweet that adhere to the determined criteria. For @infobmkg twitter, the criteria was looking for tweet with gempa DIY keyword that was published today. This is because it was the keyword used for earthquake disaster announcement as shown on figure 4.2.7.1. The same method also used for @BPPTKG twitter account but it was modified to look for merapi aktivitas status keyword, because it was the keyword that was used for announcing Merapi volcano status as shown on figure 4.2.7.2. The method flowchart for Merapi volcano status can be seen on figure 4.2.7.3, while flowchart for earthquake alert on figure 4.2.7.4. Then it was developed into a software component using php scripting.

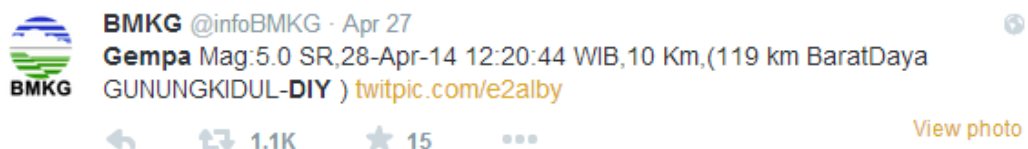


Figure 4.2.7.1. @infobmkg tweet of earthquake

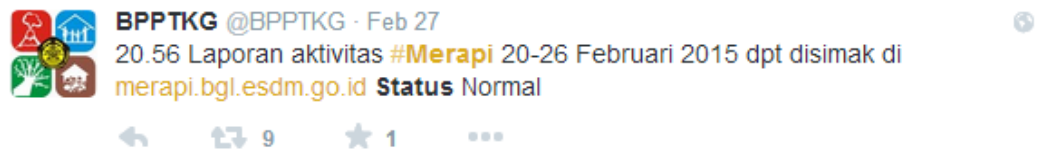


Figure 4.2.7.2. @BPPTKG tweet of Merapi status

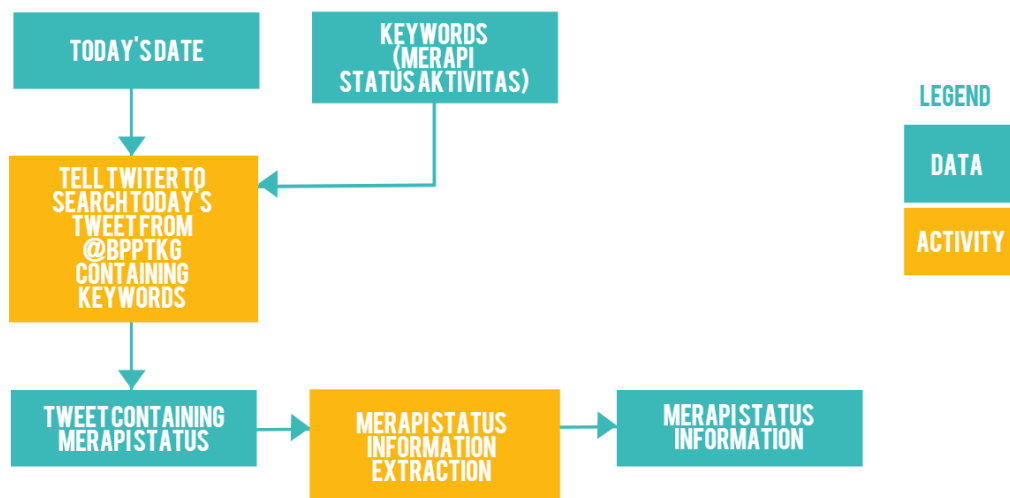


Figure 4.2.7.3. Flowchart for collecting merapi volcano status

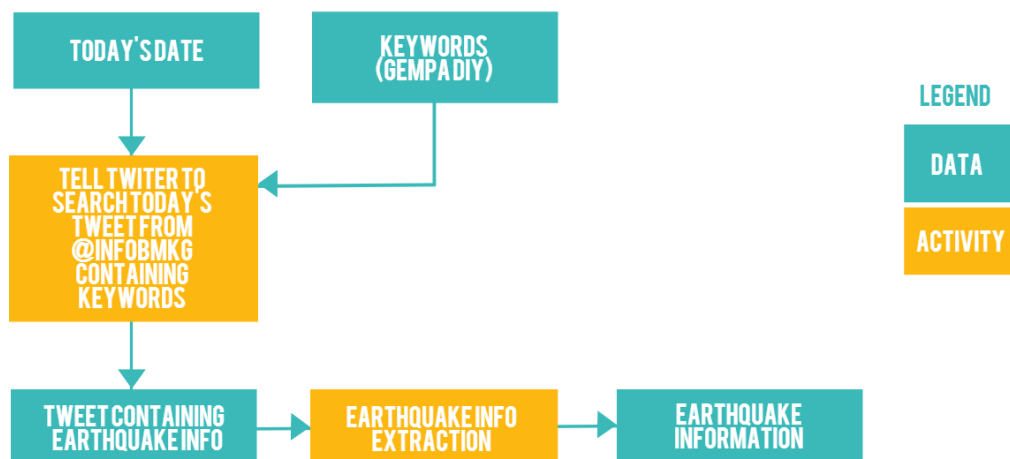


Figure 4.2.7.4. Flowchart for collecting earthquake alert

Other than automatically collecting latest information from @infobmkg and @BPPTKG twitter, it also automatically collect latest tweet from each subdistricts and latest tweet about earthquake in Yogyakarta Special District as shown on Figure 4.2.7.5 and 4.2.7.6 respectively. This was done by using the same method as locating twitter user but instead of only extracting the usernames and location, it also extracts the tweet content. Tweet from each subdistricts with geotag was collected per-location by using Place ID, while tweet about earthquake was collected by adding location name as additional search keyword (e.g. bantul gempa).



Figure 4.2.7.5. Sending tweet to geolocated users flowchart

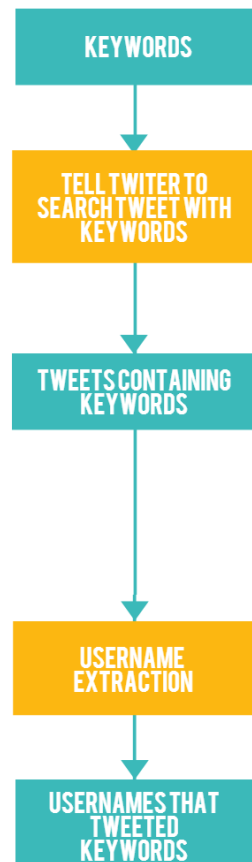


Figure 4.2.7.6. Sending tweet to users that talked about earthquake for particular location flowchart

#### 4.2.8. Sending tweet to users

The information delivery component shared a lot of works with chapter 4.2.6 and 4.2.7. It used method explained in chapter 4.2.7 to detect earthquake alert and method in chapter 4.2.6 to get the users with their location to be send with tweet containing tailored information. This component also collect users that talks about earthquake for particular location that was explained on chapter 4.2.7. After that, twitter was asked to send tweets to the users it have found. After tweet was send, a text informing that tweet has been sent and the tweet content was displayed. This last step was not needed by the component to be able to send tweet but it was made to help me on fixing and developing the software. So what the software has done in the background that was invisible to human, became visible and readable as shown on Figure 4.2.8.1, and this



method flow was developed into a software component using php scripting. The method flowchart for sending tweet to geolocated users can be seen on Figure 4.2.8.2, the method for sending tweet to users that talk about earthquake can be seen on Figure 4.2.8.3, while the detection of earthquake alert was explained on chapter 4.2.7. Please keep in mind that this is running in back-end, and not visible to user.



Figure 4.2.8.1. Tweet delivery status on back-end (not to be seen by user)

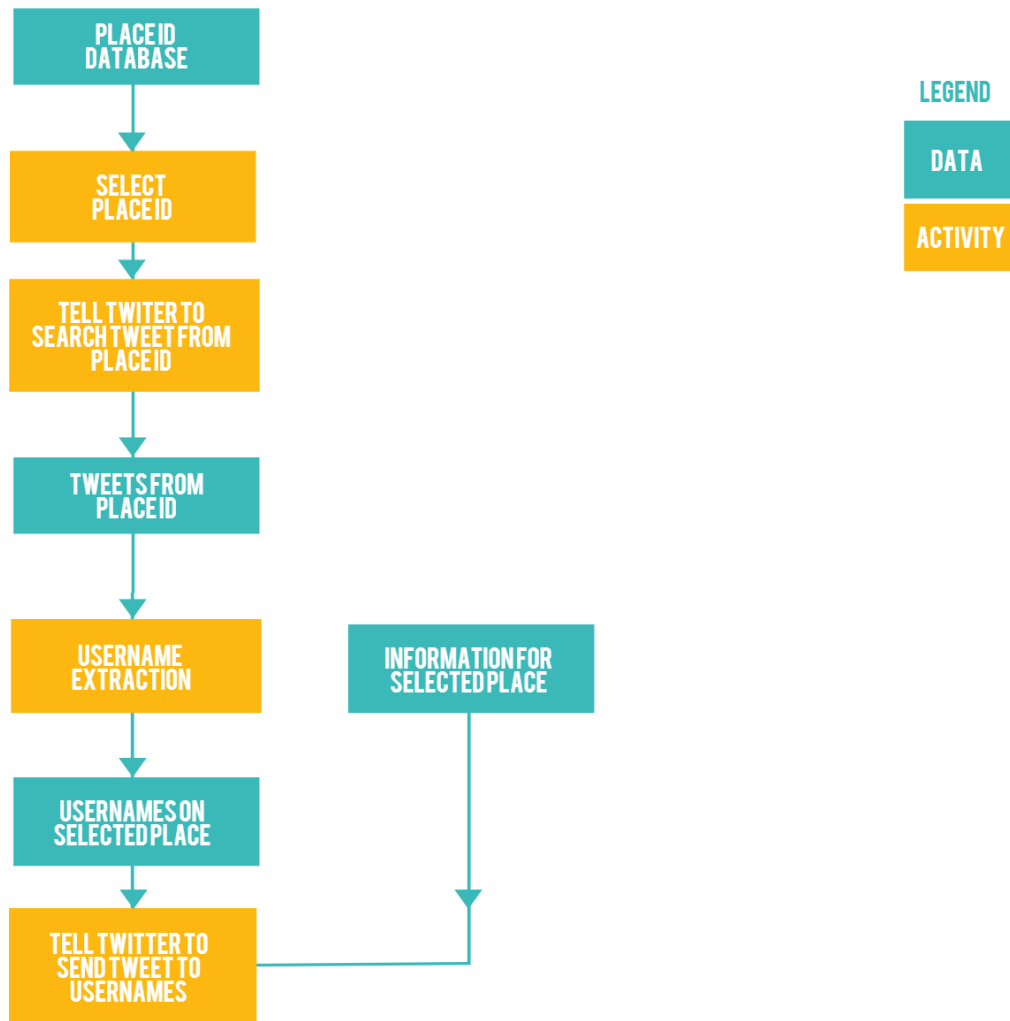


Figure 4.2.8.2. Sending tweet to geolocated users flowchart

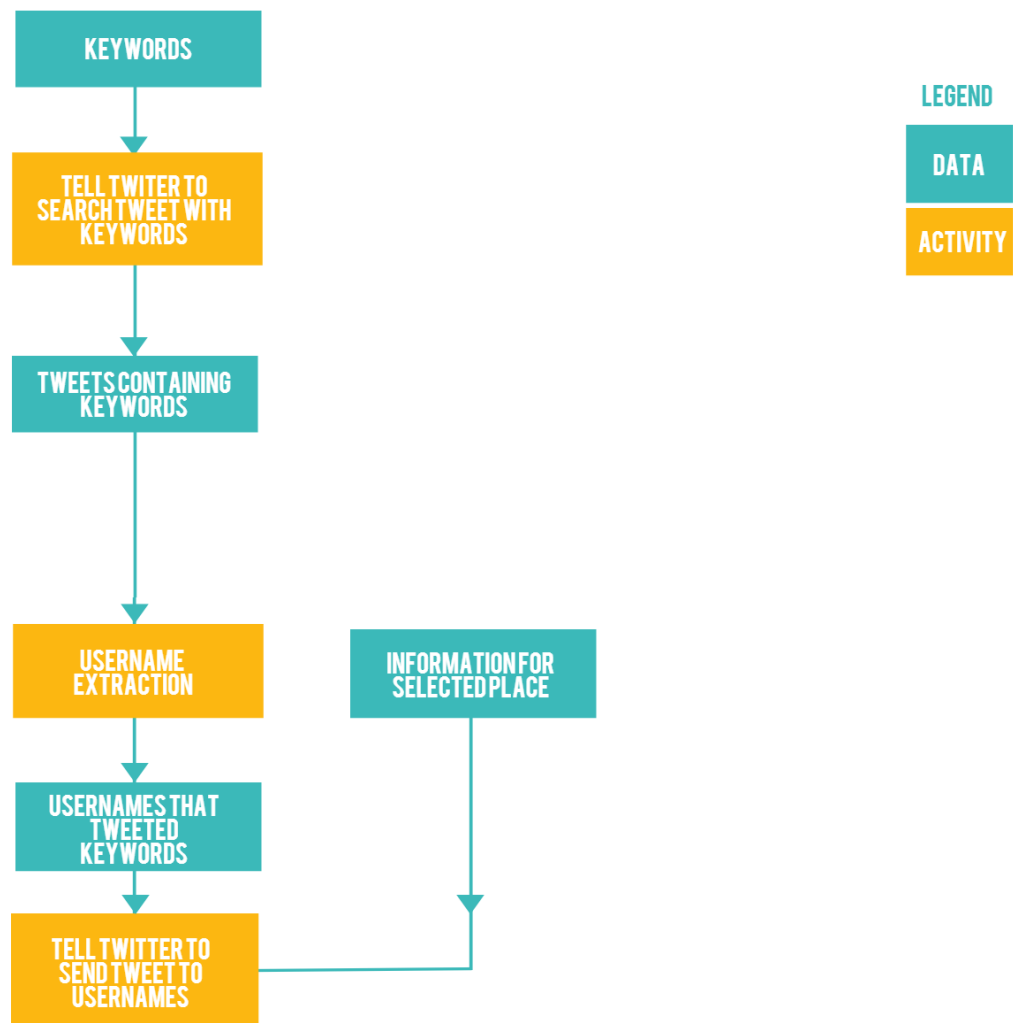


Figure 4.2.8.3. Sending tweet to users that talked about earthquake for particular location flowchart

#### **4.2.9. Building interactive map and information pages**

MapBox map platform, php, html, and css scripting was used to make the interactive map and information pages. MapBox is compatible with standard location data and also can visualize to mobile device (Mandl, Cappelaere, Frye, Evans, & Moe, 2014). It also have the ability to be customized (Maly, 2013). Mapbox was chosen as the main mapping platform for this research. It was selected not only because my familiarity with it but also because it is easy to customize in programming and layout, its abundant of examples and snippets, its ability to be embedded inside web pages, and its attractive looks. On the other hand, the location of twitter user was shown using Google Maps to allow their location to be easily accessed from desktop and mobile device. This is because Goole Maps allows point of interest (in this case, twitter user location) to be displayed through a link that will open in a web browser or Google Maps application. Thus allowing it to work not only on desktop but also on mobile device with and without Google Maps installed.

The interactive map was created by placing the region borders of Bantul, Sleman, Kulonprogo, Gunungkidul, and Yogyakarta City into MapBox's database and given with different colours as shown on Figure 4.2.9.1. Then this method was developed into interactive map and information page using html and css script. The MapBox interface to develop pop up menu that contained links to access live tweet and information page was shown on Figure 4.2.9.2.

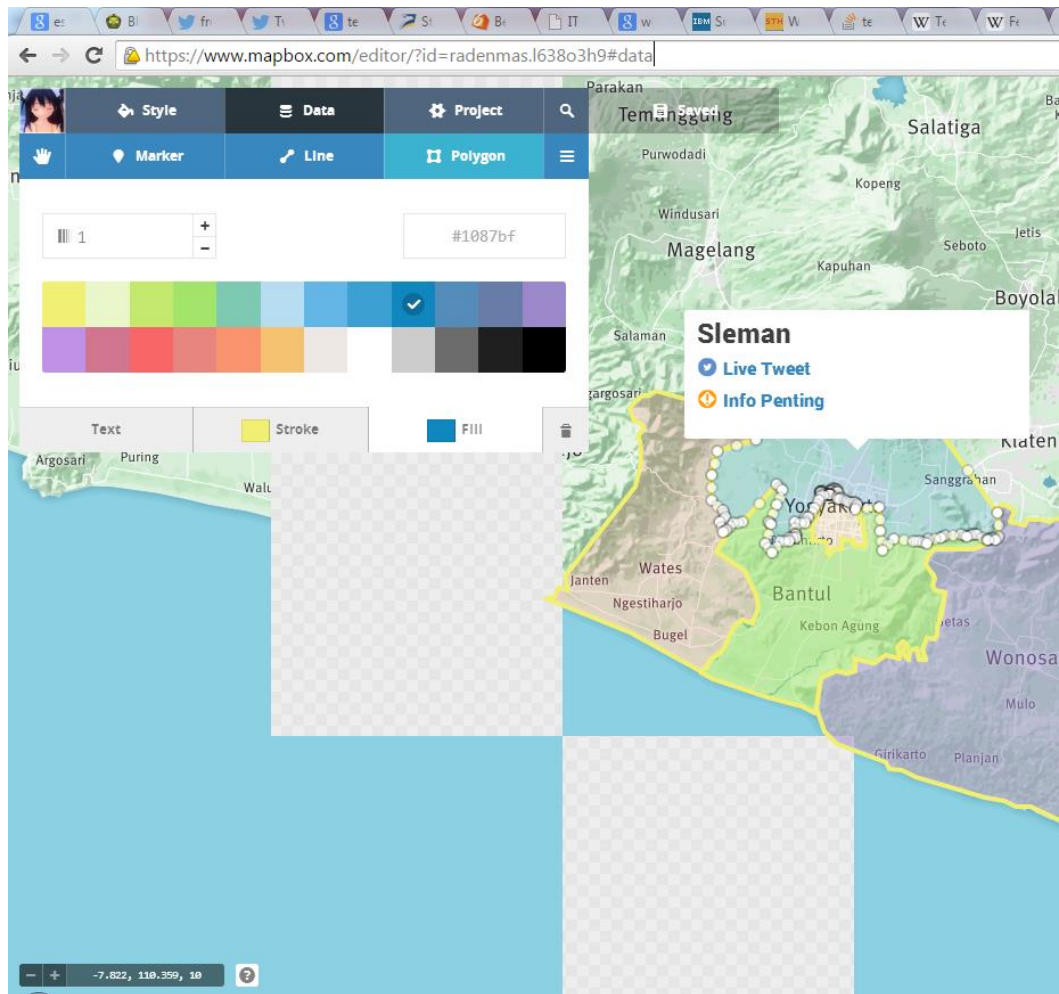


Figure 4.2.9.1. Colour settings on MapBox

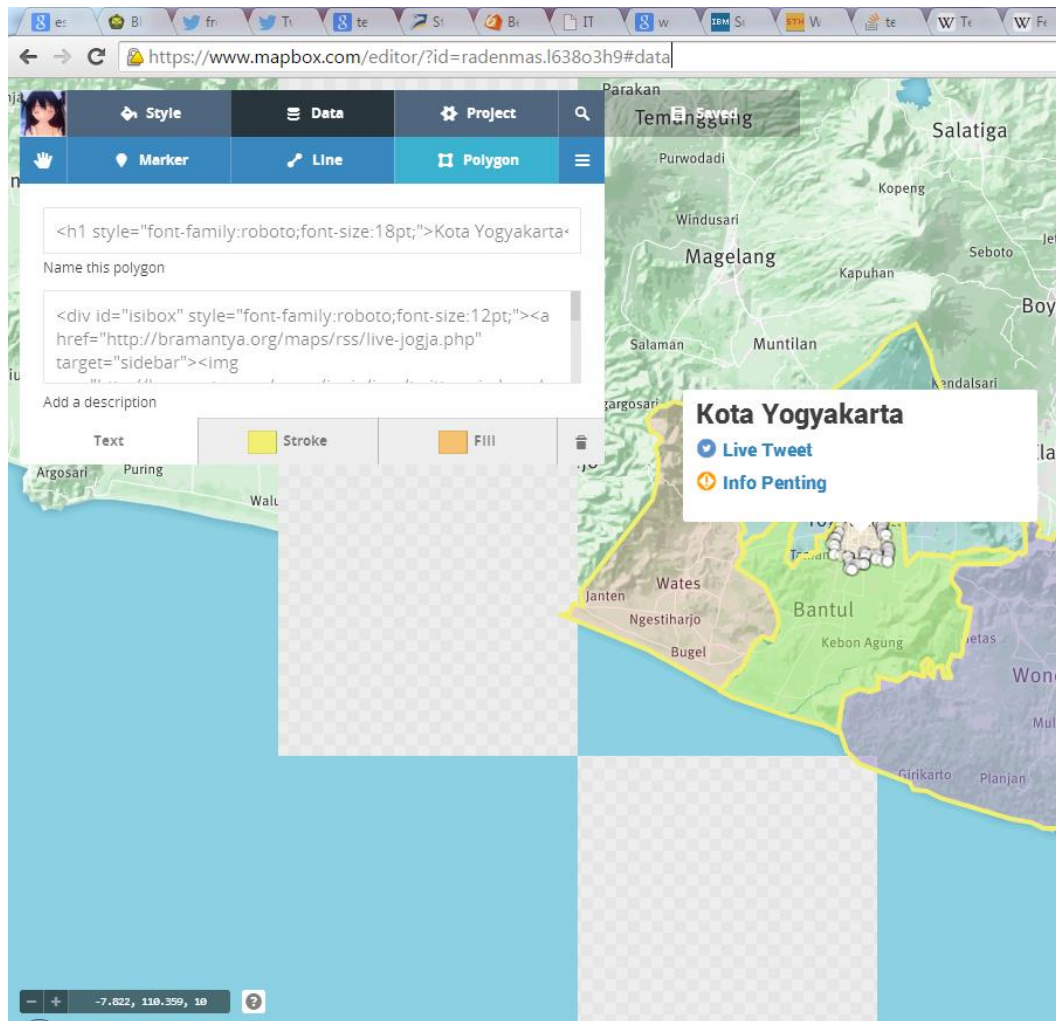


Figure 4.2.9.2. Popup menu programming page on MapBox

The information page contains live and non-live information. Live information such as latest tweet, earthquake alert, and Merapi volcano status was collected using the method explained in chapter 4.2.5 – 4.2.7 that was further developed to show data into information page. Non-live information such as first aid procedure and things to do was gathered beforehand from BNPB and CDC documents and put into static text and can be seen in chapter 5.3.1.

Finally both the interactive map and the information page was wrapped into one using Chrysalis page. This allows desktop computer to easily choose to see information page and live tweet for specific region.

#### **4.2.10. Testing overview**

The software developed in this research was tested using use case method. Use case test method was used because its characteristics fit well with this research. It works by testing how the software response on certain task to reach the target objective. The system developed in this research has specific objecties that need to be fulfilled on front-end and back-end. The front-end developed in this research needs to response properly to give information pages, interactive map, and live tweet that accessible by user. On the back-end it need to be able to properly detect and collect informations and users from twitter, and send tailored information to twitter users.

The test need to be done on desktop and mobile device because different web browsers can render a web page differently and make some function not working (World Wide Web Consortium, 2013). The test were conducted by opening the pages by using Chrome and Internet Explorer on desktop because they are the two most used web browser in the world (StatCounter, 2015a). On mobile the test used Chrome and Opera although most used web browser in the world are Android, iPhone, Chrome, Opera, and UC Browser (StatCounter, 2015b). Android web browser test is not included because its already abandoned by Google in favor of Chrome (Bright, 2014). iPhone web browser was not selected for test because i don't have access to iPhone and i have no familiarity with it. After the pages are opened using web browsers, it was checked whether the features are working properly and whether it is usable, this will be elaborated more on each testing section.

#### **4.2.11. Back-end test**

The back-end is the place where it works behind the scene, invisible to human, this includes: locating twitter users, detecting and collecting disaster information and alert, and sending information. Those were tested using use case method where they are examined whether it's working or not in given scenario and whether it give the success result or not.

#### **4.2.11.1. Locating twitter user test**

The component to locate twitter users have a use for locating twitter user. Its use case is: when it was asked for twitter user location by Place ID, it should start talking with twitter and finally give the coordinate of twitter user. To do this, at first the component was ran and observed whether it can run. It may seems obvious, but a software that has been developed can refuse to run for various reason (typo, wrong method and logic, etc). When it can't run, its programming script was checked and developed again until it can run. Finally the resulting username and location was compared to the query result seen on twitter website. This component was considered working properly when it give username and location that's in the searched location and those are the same as the ones that was manually checked on twitter web page.

#### **4.2.11.2. Detecting and collecting tweet test**

The component for detecting and collecting tweet has a use for detecting and collecting latest tweet based on given keywords. It was divided into four components: for collecting Merapi volcano status, collecting earthquake alert, collecting latest tweet from each subdistricts, collecting latest tweet about earthquake for each subdistricts.

For collecting Merapi volcano status, the use case is: when it was asked for Merapi volcano status, it should start taking note of today's date, then check @BPPTKG twitter account for tweet that contain Merapi aktivitas status keyword, and finally give the today's latest tweet about Merapi volcano status. To do this, at first the component was ran and observed whether it can run. Then the date was checked whether it is correct. Finally the resulting tweet it found was compared to the query result seen on twitter website. This component was considered working properly when it can give today's latest tweet about Merapi volcano status and those are the same as the ones that was manually checked on twitter web page.



The similar thing was done for testing its use for collecting earthquake alert, collecting latest tweet from each subdistricts, collecting latest tweet about earthquake for each subdistricts. For collecting earthquake alert, instead of checking @BPPTKG twitter account for tweet that contain Merapi aktivitas status keyword, it was told to check for @infobmkg twitter account for tweet that contain earthquake alert for Yogyakarta Special District using gempa DIY keywords. But because there's no earthquake alert in Yogyakarta Special District when this research was done, it was considered working properly when it can give tweet from designated date about earthquake alert for Yogyakarta Special District and those are the same as the ones that was manually checked on twitter web page. The same procedure was done again but this time using today's date and it listen to @orangpelupa Twitter account for listening test earthquake alert.

For collecting latest tweet from each subdistricts, it was told to check for latest tweet from Place ID. It was considered working properly when it can give latest tweet that came from the place specified in Place ID, and those are the same as the ones that was manually checked on twitter web page.

For collecting latest tweet about earthquake for each subdistricts, it was told to check for latest tweet that contain gempa and location keywords. It was considered working properly when it can give latest tweet that contain gempa and mentioned the location, and those are the same as the ones that was manually checked on twitter web page.

#### **4.2.11.3. Sending tweets to user test**

The component to send tweet to user have a use for sending tweet to twitter user. Its use case is: when earthquake alert was detected, it send tweet containing tailored information page link to Twitter user on each subdistricts and Twitter users that talks about earthquake and location. But to evade misinformation and public confusion, @orangpelupa was added as prefix for the tweet that was sent. To do this, at first the component was observed whether it

can run after earthquake alert was detected on its detecting component. Then the twitter usernames it collects (by Place ID and by keywords) was compared with what was found on Twitter website. Finally its tweet report was compared with its sent page on Twitter website. This component was considered working properly when it can run after earthquake alert was detected, have the same twitter username result with what was found on Twitter web page, and able to send tweet with correct content as observed on its Twitter web page.

#### **4.2.12. Front-end test**

Front-end components are the component that visible from user's point of view. It consist of interactive map, information page, and live tweet pages. Those were tested by using use case method, a testing method where user interacting with the pages and how the page respond back according to the main success scenario (U.S. Department of Health & Human Services, n.d.). First the Chrysalis website is opened using Chrome and Internet Explorer on desktop, while on mobile Chrome and Opera was used. The main page of Chrysalis was visually checked for items that it was designed to be there: sidebar telling to choose region, MapBox's map on main window with Yogyakarta City, Sleman, Kulonprogo, Bantul, and Gunungkidul in different colours. The popup then got checked by clicking (on desktop) or touching (on mobile device) Yogyakarta City, Sleman, Kulonprogo, Gunungkidul, and Bantul region. After that, the links inside the popup is clicked or touched and the appropriate information pages and live tweet is checked whether they working and appear properly. Finally the interaction on the sidebar is checked by using mouse click and scroll (on desktop) and touch and drag (on mobile device). This overview flowchart can be seen on Figure 4.2.12.1.



Figure 4.2.12.1. Front-end testing flow overview

## 5. Result and Discussion

### 5.1.Information that people need

Yogyakarta Special Districts have five sub districts that the people may or may not have the same information needs. The ranked survey result was shown on Table 5.1.1 and it was found that people on Bantul, Kulonprogo, Yogyakarta City, and Sleman need information of Merapi volcano status, first aid procedure, and instructions for things to do after earthquake. Gunungkidul has two information needs that are the same with other sub districts, those are first aid procedure and things to do. The different information that it need is earthquake location.

Table 5.1.1. Information needs in each sub-district

Sub District	Information Needed
Bantul	Merapi Volcano status, First aid procedure, Instructions for things to do after earthquake
Kulonprogo	First aid procedure, Instructions for things to do after earthquake, Merapi Volcano status
Gunungkidul	Instructions for things to do after earthquake, First aid procedure, Earthquake location
Yogyakarta City	First aid procedure, Merapi Volcano status, Instructions for things to do after earthquake
Sleman	First aid procedure, Merapi Volcano status, Instructions for things to do after earthquake

Different information needs can be affected by different perception of disaster risk on each sub-districts. According to Wachinger et al., (2010), the difference in authorities' roles, disaster frequency and effect, social economy and political condition, and personal values can affect the perception of disaster risk. Gunungkidul is located the furthest away from Merapi volcano. The distance between Merapi volcano and the nearest region border when measured are: 29.4 KM from Gunungkidul, 22.9 KM from Kulonprogo, 0 KM from Sleman, 23.3 KM from Yogyakarta City, 26.5 KM from Bantul. Gunungkidul also have the furthest border from Merapi volcano, at 84 KM. Its southern border also directly meets Indian Ocean. This geographical condition may became the reason people in Gunungkidul need information of earthquake location instead of Merapi volcano status. They are far from Merapi Volcano and more concerned about where the earthquake is, whether it's on Indian Ocean and potentially result into a tsunami or not. To know the exact reason why different information needs is found, further research on each sub-district's authorities roles, disaster frequency and effect, social economy and political condition, and personal values need to be done.

This result fulfilled objective 1 and answers its questions. Informations that are important was obtained through survey. People on Bantul, Kulonprogo, Yogyakarta City, and Sleman need information of Merapi volcano status, first aid procedure, and instructions for things to do after earthquake. While people on Gunungkidul need first aid procedure, things to do and earthquake location. This showed that most need same information but there is one difference. It was earthquake location informationfor people in Gunungkidul.

## 5.2. Locating twitter users

In summary, this research results in the following method to locate twitter user in Yogyakarta Special District: telling Twitter to search for latest tweet in certain location by Place ID, and then extract the username and location from tweet. This method was elaborated in-depth in chapter 4.2.6. The software result can be seen on Annex 8 to 12 and the Place ID was shown on Table 5.2.1.

Table 5.2.1. Place ID for each sub districts.

Sub District	Place ID
Sleman	7349ae0f1fcb7e04
Bantul	90d55178721b1fb9
Kota Jogja	b02c1f786ae45a8c
Kulonprogo	a0ded55549d17565
Gunungkidul	8c1db534e83bec62

Although the resulting method and software that was developed able to fulfill question 4.2 on objective 4 about knowing the location of twitter user, it is still not perfect when considering other factors and uses. It does not have permanent database, thus it's unable to provide historical data. Combined with the real time search that only done every minute instead of continuously and the absence of duplication check, the system potentially can miss username and can send multiple tweet to the same username. The way it looks for tweets without geotag also makes it limited to people that talk about earthquake and location, instead of any tweets that originated from specified location even without geotag.

### 5.3. Disaster information availability and communication

#### 5.3.1. Availability

Live information such as Merapi volcano status and earthquake location are the informations that the government provides through their respective agency twitter account. Merapi status from @BPPTKG comes in tweet that shown on Figure 4.2.7.2. It explains the current Merapi status and gives a link to web page that contains historical status. Earthquake location from @infobmkg comes with a location description as shown on Figure 4.2.7.1. It explains the magnitude, the time and date, and then the location. The information that available from @BPPTKG and @infobmkg was summarized on Table 5.3.1.1.

Table 5.3.1.1. Information availability

Twitter account	Information available
Infobmkg	Earthquake magnitude, Earthquake date and time, Earthquake depth, Earthquake location. Earthquake map (no longer available since 2015)
Bpptkg	Merapi status Date range for Merapi status Time for the status publication Hyperlink to <a href="http://merapi.bgl.esdm.go.id">merapi.bgl.esdm.go.id</a>

Non-live information such as instructions for things to do after earthquake is: it is recommended for people to stay outside after earthquake because it's possible there will be second earthquake. When there are earthquake victims, it is recommended to give them first aid. After earthquake, it is also recommended to get further information from authorities (BNPB, n.d.-d). First aid procedures are: at first tries to clean both hands as clean as possible

using soap and clean water if available. When treating the wound, make sure to keep the fingers from touching it. Obstructive jewelry need to be removed from injured part. To control the bleeding, direct pressure may be applied to the wound. After the bleeding has stopped, clean the wound. Wounds that are unclean, bitten, or have open punctures need to be kept open. Finally give painkillers if possible (CDC, 2005). Finally the live and non-live information was merged into one and added with user interface so it's accessible by human as was shown on figure 5.3.1.1.

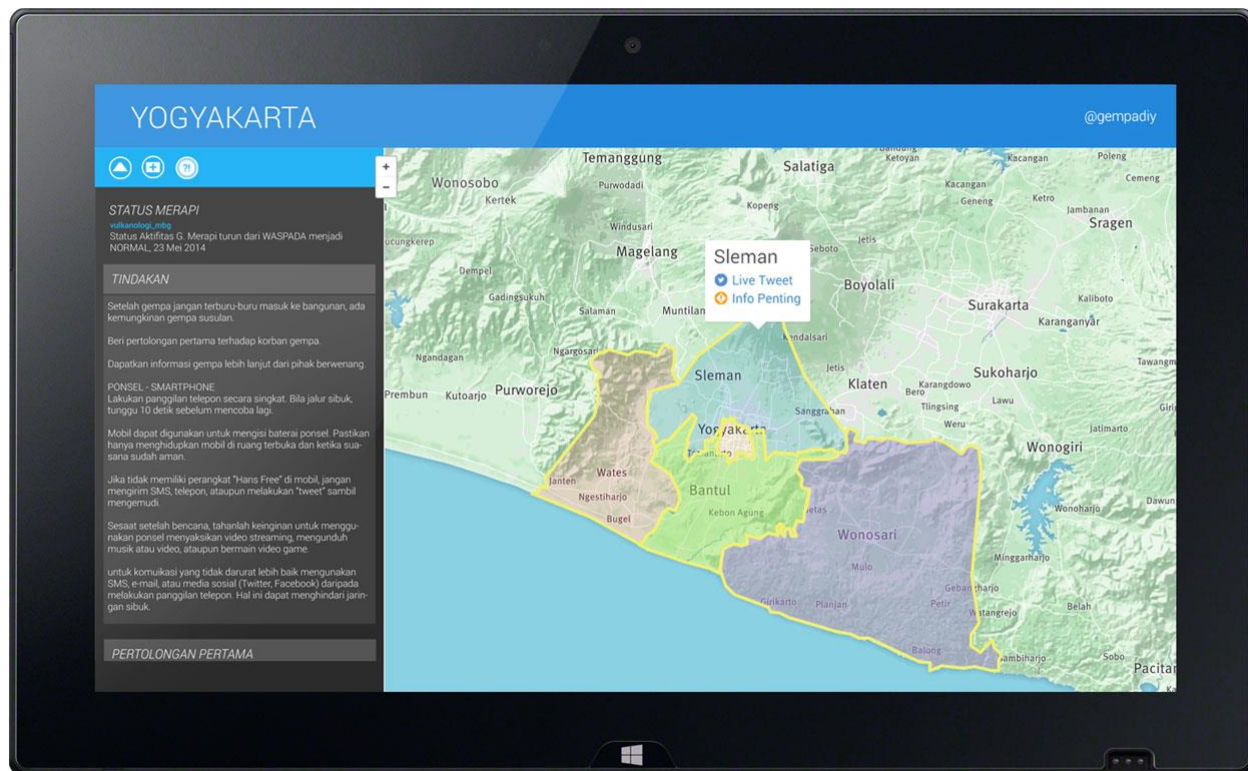


Figure 5.3.1.1. Chrysalis main page (accessible online on <http://bramantya.org/maps/jogja/> )

Unfortunately governmental website and twitter account used to share disaster information to public are not in optimal condition, especially in consistency and data accessibility. BPPTKG and BMKG sometimes change their tweet format and the amount of information. Their website also filled with



detailed static information (such as graph or map in picture file) that could be confusing for laymen and can't easily and reliably read by software. Ideally their tweet should be consistent and the publicly accessible data in their website are presented with API, or at bare minimum in readable html. This will allow other research and developer to take advantage of the available data automatically and reliably through software.

### **5.3.2. Communication**

The communication between government and twitter users was able to be conducted using method formulated on chapter 4.2.5 – 4.2.8 and developed into software shown on Annex 3 to 7 and Annex 15 to 19. To summarize, the communication was done by automatically collecting twitter users and their location, detecting and collecting Merapi volcano status from @BPPTKG twitter and earthquake information from @infobmkg twitter, and finally sending tweet to twitter user in designated location with tailored information when earthquake alert was detected. The keywords used to collect latest tweet about earthquake in Yogyakarta Special District were shown on Table 5.3.2.1. The keywords used to collect latest tweet that came from Yogyakarta Special District were shown on Table 5.3.2.2. The keywords used to collect earthquake alert in Yogyakarta Special District were shown on Table 5.3.2.3. The keywords used to collect Merapi volcano status were shown on Table 5.3.2.4. This result answers objective 2 and its questions about finding a way to obtain disaster information from governmental Twitter account.

Table 5.3.2.1. Keywords to look for tweets that talk about particular location and earthquake

Keyword	Location
gempa sleman	Sleman
gempa kulonprogo	Kulonprogo
gempa bantul	Bantul
gempa gunungkidul	Gunungkidul
gempa yogyakarta OR jogja OR yogya	Yogyakarta City

Table 5.3.2.2. Keywords used to collect latest tweet that came from Yogyakarta Special District

Keyword	Location
place:7349ae0f1fcb7e04	Sleman
place:90d55178721b1fb9	Kulonprogo
place:b02c1f786ae45a8c	Bantul
place:a0ded55549d17565	Gunungkidul
place:8c1db534e83bec62	Yogyakarta City

Table 5.3.2.3. Keywords used to collect earthquake alert in Yogyakarta Special District

Keyword	Location
from:infobmkg gempa DIY since:today's date	Sleman, Kulonprogo, Bantul, Gunungkidul, Yogyakarta City

Table 5.3.2.4. Keywords used to collect Merapi volcano status

Keyword
from:bpptkg merapi aktivitas status since:today's date

This communication capability brings innovation to the online disaster information system that already available in Indonesia. Currently they act as passive information source where people need to know where to look and to actively check their website or twitter account. This research allows disaster related information that has been tailored for each location to be sent to people that use twitter. Twitter users are not needed to follow specific twitter account, thus allowing the information to reach wider audience compared to what currently we have in Indonesia.

Unfortunately because the method and software formulated in this research reliant to @BPPTKG and @infobmkg twitter account, any changes in their tweet could disturb the functionality of the system that was developed but does not means the method automatically became unimplementable. For example, BPPTKG can change their Merapi volcano status to simply say “Merapi Normal”, thus making the system missed that status. The method and software formulated in this research should be still work with minor modification. This is because Chrysalis was made with components that keep changes and customization in mind, so it can be quickly customized to accommodate the changes brought by government agency to certain extent. This ability to adapt is not perfect and need to be done manually. Thus limiting its versatility to the human who keeps it updated. This research did not delve into artificial intelligence and machine learning to automatically adapt Chrysalis without human intervention when the government agencies make changes to the information they share.

Despite its imperfection in some aspects, this result already capable to fulfill objective 2. The way to get official disaster information from official government Twitter accounts was found. The official disaster information was collected by using keywords shown on Table 5.3.2.3 and 5.3.2.4 that was automatically done by using programming script that was developed to keep checking the twitter account for new tweets. This allows the official disaster information to be collected when they release it on Twitter.

This result also fulfilled question 3.1 on objective 3 that asks for a way to identify disaster area using Twitter information. It was shown on Table 5.3.1.1 that BMKG provides the location in their tweet and it was collected using keywords shown on Table 5.3.2.3. This process was done automatically using programming script show on Annex 3 to 7 and Annex 15 to 19. Keywords result that shown on Table 5.3.2.1 and 5.3.2.2 were used to gather the usernames to be

sent with tweet. By knowing the target, it helps to answer question 3.2 that asks for a way to send information to people located in a disaster area using Twitter. Question 4.1 about collecting disaster alert also fulfilled in this result, using method on figure 4.2.7.4 that showed the method for collecting disaster alert. The programming script that was developed able to automatically collect Merapi information from @BPPTKG and earthquake information from @infobmkg.

#### **5.4. Mapping twitter users**

The resulting interactive map able to map twitter users by using the coordinate that was found on their tweet, as explained on chapter 4.2.9. To summarize, tweets from specified location was found by telling Twitter to search by Place ID. Coordinates was extracted from tweet, collected together with the username, and then send to Google Maps platform. The resulting map can be seen on Figure 5.4.1.

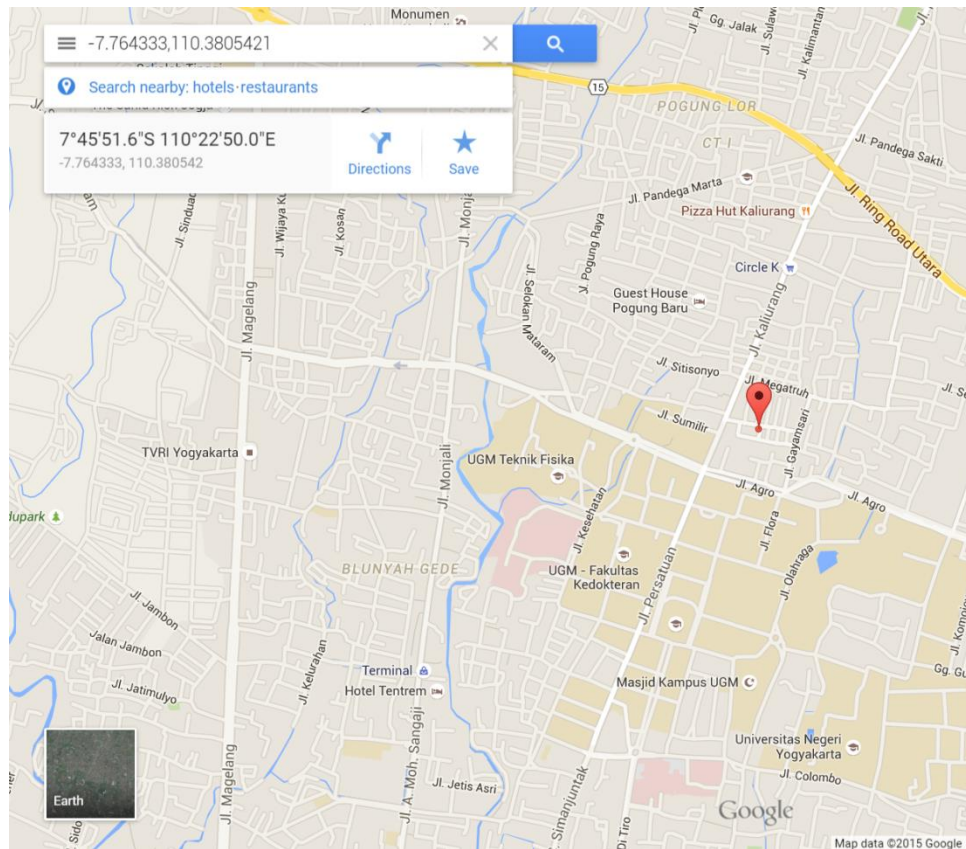


Figure 5.4.1. Twitter user location on map (shown with red pin)

This result fulfilled question 4.3 that asks what kinds of tweet can be displayed geographically. It was tweets that were found by searching using Place ID because it has geocode embedded inside them. Question 4.4 that asks about how to display geo-located tweet on interactive map also fulfilled in this result. The tweets then displayed on an interactive map, in this case Google Maps, by using the method explained on chapter 4.2.9 and implemented the link into programming script of live tweet pages that was shown on Annex 8-12.

## 5.5. Testing Result

### 5.5.1. Locating Twitter user test result

Its ability to locate Twitter user was tested by telling Twitter to search for latest tweet from Kulonprogo, Sleman, Gunungkidul, Bantul, and Yogyakarta City using Place ID that was mentioned on Table 5.2.1. Tweets from search result then checked for its tweet location and compared with the result on Twitter web page. The testing result is shown on Table 5.5.1.1, it showed that the component do able to find twitter users' location. The tweets are located on the location it searched and validated by checking it on Twitter website.

Table 5.5.1.1. Locating twitter user test result

Location Searched	Place ID	Tweets comes from searched location	Tweets accompanied with coordinate	Location gathered are the same on Twitter website
Sleman	7349ae0f1fcb7e04	Yes	Yes	Yes
Kulonprogo	90d55178721b1fb9	Yes	Yes	Yes
Bantul	b02c1f786ae45a8c	Yes	Yes	Yes
Gunungkidul	a0ded55549d17565	Yes	Yes	Yes
Yogyakarta City	8c1db534e83bec62	Yes	Yes	Yes

### 5.5.2. Detecting and collecting tweet test result

The testing was done using method on chapter 4.2.11.2 and the result presented in this chapter showed that the components are working as intended, and able to achieve its target. It able to detect and collect tweet according to their parameters, as shown on Table 5.5.2.1 – 5.5.2.3.

The testing result shown on Table 5.5.2.1 showed that the component able to provide Merapi volcano status and earthquake alert information by listening @BPPTKG and @infombkg twitter account respectively. The component that collects tweets from each subdistricts was working properly as shown on Table 5.5.2.2. The tweet it gathered to come from the searched location and it's also valid with the result on Twitter website. The testing result shown on Table 5.5.2.3 showed the component able to collect tweets about earthquake. The resulting tweet was valid as checked on Twitter website.

Table 5.5.2.1. Earthquake alert and Merapi volcano status collection from governmental Twitter account test result

Keyword searched	Tweet found
from:infombkg gempa DIY since:custom date	Earthquake alert for Yogyakarta Special District for the designated date
from:orangpelupa gempa DIY since:today's date	Today's test earthquake alert
from:bpptkg merapi aktivitas status since:today's date	Today's Merapi volcano status

Table 5.5.2.2. Collecting tweet from each subdistricts test result

Location	Place ID	Tweets comes from searched location	Location gathered are the same on Twitter website
Sleman	7349ae0f1fcb7e04	Yes	Yes
Kulonprogo	90d55178721b1fb9	Yes	Yes
Bantul	b02c1f786ae45a8c	Yes	Yes
Gunungkidul	a0ded55549d17565	Yes	Yes
Yogyakarta City	8c1db534e83bec62	Yes	Yes

Table 5.5.2.3. Collecting tweet about earthquake test result

Keyword searched	Tweets contain searched keyword	Same tweet found on Twitter website
gempa sleman	Yes	Yes
gempa kulonprogo	Yes	Yes
gempa bantul	Yes	Yes
gempa gunungkidul	Yes	Yes
gempa yogyakarta OR jogja OR yogya	Yes	Yes

### 5.5.3. Sending tweet to user test result

The testing was done using method on chapter 4.2.11.3 and the result presented in this chapter showed that the components are working as intended, and able to achieve its target. It able to send tweets to targeted users as shown on Table 5.5.3.1 – 5.5.3.2.

The testing result shown on Table 5.5.3.1 showed that the component to send tweet to user with geolocation able to start working after earthquake alert. It successfully collects tweets from each subdistricts and it is the correct ones as validated by checking it on Twitter website. The tweet that was sent also checked on Twitter website to see that it do able to send tweets and the content also correct. The testing result shown on Table 5.5.3.2 showed that the component to send tweet to user that talking about earthquake for specified location able to start working after earthquake alert. It successfully collects tweets by its content and it is the correct ones as validated by checking it on Twitter website. The tweet that was sent also checked on Twitter website to see that it do able to send tweets and the content also correct.



Table 5.5.3.1. Tweet delivery for user with geo location test result

<b>Location</b>	<b>Place ID</b>	<b>Run after earthquake alert</b>	<b>Tweets comes from searched location</b>	<b>Location gathered are the same on Twitter website</b>	<b>Tweets that were sent contain username for its respective location?</b>	<b>Tweets that were sent are the same with sent tweet on Twitter web page?</b>	<b>Tweets that were sent contain information link for the respective location?</b>
Sleman	7349ae0f1fcb7e04	Yes	Yes	Yes	Yes	Yes	Yes
Kulonprogo	90d55178721b1fb9	Yes	Yes	Yes	Yes	Yes	Yes
Bantul	b02c1f786ae45a8c	Yes	Yes	Yes	Yes	Yes	Yes
Gunungkidul	a0ded55549d17565	Yes	Yes	Yes	Yes	Yes	Yes
Yogyakarta City	8c1db534e83bec62	Yes	Yes	Yes	Yes	Yes	Yes

Table 5.5.3.2. Tweet delivery for user that tweeted about earthquake for the specified location

<b>Keyword</b>	<b>Run after earthquake alert</b>	<b>Tweets contain searched keyword</b>	<b>Same tweet found on Twitter website</b>	<b>Tweets that were sent contain username for its respective keywords?</b>	<b>Tweets that were sent are the same with sent tweet on Twitter web page?</b>	<b>Tweets that were sent contain username for its respective keyword?</b>
gempa sleman	Yes	Yes	Yes	Yes	Yes	Yes
gempa kulonprogo	Yes	Yes	Yes	Yes	Yes	Yes
gempa bantul	Yes	Yes	Yes	Yes	Yes	Yes
gempa gunungkidul	Yes	Yes	Yes	Yes	Yes	Yes
gempa yogyakarta OR jogja OR yogya	Yes	Yes	Yes	Yes	Yes	Yes

#### 5.5.4. Front-end test result

Chrysalis front-end consists of interactive map, information page, and live tweet page that its target result are pages that visually visible and works when user interacts with it. The testing result on Table 5.5.4.1 showed that the information pages are working properly and it have good visibility and readability on desktop and mobile. This is because the information page was designed with small screen and big screen in mind. It automatically adapts its layout to take advantage big screen and to keep the items readable and functional in small screen. The testing result on Table 5.5.4.2 showed that the interactive map works on desktop and mobile. This is because the interactive map was built using MapBox mapping platform that able to adapt to various screen dimension. The testing result on Table 5.5.4.3 showed that the Chrysalis page where it combines interactive map and information page in one screen able to work but did not have good visibility and readability on mobile, where the items and menus won't automatically adapt to smaller screen. It also have

problem in zooming where the frames make the web browser got confused with zooming each elements. This is fine and expected. The problem happened because it was designed to be accessed from desktop, and its address was not sent with the information tweet. It's only the information page address that was targeted for both mobile and desktop access. The Chrysalis page can be made to automatically adapt to various screen sizes by applying responsive design. It's a design language that will allow the layout to dynamically adapt to various screen sizes and devices (Gardner, 2011). Fortunately this page

Table 5.5.4.1. Browser test result for information page

Device	Hyperlink visibility	Hyperlink action	Text readability	Icon visibility	Icon action	Touch interaction	Mouse interaction
Desktop – Chrome	Visible	Working	Readable	Visible	Working	Not available	Working
Desktop – Internet Explorer	Visible	Working	Readable	Visible	Working	Not available	Working
Mobile – Chrome Android	Visible	Working	Readable	Visible	Working	Working	Not available
Mobile – Opera Mobile Android	Visible	Working	Readable	Visible	Working	Working	Not available

Table 5.5.4.2. Browser test result for interactive map

<b>Device</b>	<b>Hyperlink visibility</b>	<b>Hyperlink action</b>	<b>Text readability</b>	<b>Region visibility</b>	<b>Region action</b>	<b>Touch interaction</b>	<b>Mouse interaction</b>
Desktop – Chrome	Visible	Working	Readable	Visible	Working	Not available	Working
Desktop – Internet Explorer	Visible	Working	Readable	Visible	Working	Not available	Working
Mobile – Chrome Android	Visible	Working	Readable	Visible	Working	Working	Not available
Mobile – Opera Mobile Android	Visible	Working	Readable	Visible	Working	Working	Not available

Table 5.5.4.3. Browser test result for chrysalis page

Device	Hyper link visibility	Hyper link action	Icon visibility	Icon action	Text readability	Region visibility	Region action	Touch interaction	Mouse interaction
Desktop – Chrome	Visible	Working	Visible	Working	Readable	Visible	Working	Not available	Working
Desktop – Internet Explorer	Visible	Working	Visible	Working	Readable	Visible	Working	Not available	Working
Mobile – Chrome Android	Too small	Working, but hard to press	Visible	Working	Too small	Visible	Working	Working except zooming	Not available
Mobile – Opera Mobile Android	Too small	Working, but hard to press	Visible	Working	Too small	Visible	Working	Working except zooming	Not available

#### **5.5.5. Testing result discussion**

These results showed that the system developed in this research really able to work and fulfill its required function as designed, its also reached objective 2 to 4: to get disaster information from official governmental Twitter accounts, to send information via Twitter to people in a disaster area, to map Twitter users after disaster alert released. The success of testing makes it able to fulfill objective 5.

Combined together, this system brings innovation of interactivity and information tailoring into the Twitter disaster information system in Indonesia. Innovation not only by allowing tailored disaster related information to be send to people on relevant location, but also innovation in gathering latest discussion on Twitter from each subdistricts and Twitter user location using interactive map (MapBox and Google Maps). The system developed in this research also has benefit in its behavior as a “drop in” component that did not replace, and did not compete with the Twitter disaster information system in Indonesia. It is invisible from the perspective of Twitter disaster information system in Indonesia. It taps into them and increase their features.

The whole front-end and partial back-end (it doesn't have the components for sending tweet) also available for public access on my personal website with the following address: <http://bramantya.org/maps/> and then select “Jogja”. It was set to not be searchable by search engines (e.g. Google), limiting access only to people who know that web address. The component for sending tweet was disabled because it was not supposed to be accessed by public but it have no security measure implemented and can be accessed by anybody who have the address.

## 6. Conclusion and Recommendation

The main objective of this research is to develop an approach for the use of Twitter to actively send information that people need after disaster. With coming into conclusion, the research question now can be answered.

Objective 1: To identify and rank the information that people need after disaster.

Question 1.1: What is the information that people in Yogyakarta Special District need most after an earthquake?

Conclusion: People on Bantul, Kulonprogo, Yogyakarta City, and Sleman need information of Merapi volcano status, first aid procedure, and things to do. People on Gunungkidul need earthquake location instead of Merapi volcano status. Thus this conclusion fully answered the question.

Question 1.2: How the information can be obtained?

Conclusion: Informations was obtained through online and offline survey. Online survey was conducted by sending Google Forms survey page through Twitter to the target location. Offline survey was conducted by doing survey using survey paper to the target location. Thus this conclusion fully answered the question.

Question 1.3: Are there differences in information needs within Yogyakarta Special District?

Conclusion: There are different information needs within Yogyakarta Special district although the majority are the same. People on Bantul, Kulonprogo, Yogyakarta City, and Sleman need the same information. People on Gunungkidul need different information. Thus this conclusion fully answered the question.

Objective 2: To find a way to get disaster information from official governmental Twitter accounts.

Question 2.1: What keywords are official governmental Twitter accounts using?

Conclusion: Earthquake information released by @infoBMKG uses “gempa” to indicate earthquake and uses subdistrict-district to indicate the location. Yogyakarta Special District (Daerah Istimewa Yogyakarta) was abbreviated into “DIY”. Merapi volcano status was released by @BPPTKG and they uses “merapi” to indicate Merapi volcano. “status” and “aktivitas” used at the same time on the tweet that indicate Merapi volcano’s status. This conclusion fully answered the question.

Question 2.2: How can governmental disaster-related Twitter information be automatically obtained as soon as it is released?

Conclusion: The system listens to @infobmkg and @BPPTKG Twitter account every minute using the appropriate keywords as explained on previous question. Thus the governmental disaster-related Twitter information can be automatically obtained within a minute. Thus this conclusion fully answered the question.

Objective 3: To develop a system for sending information via Twitter to people in a disaster area.

Question 3.1: How can a disaster area be identified using Twitter information?

Conclusion: Indonesian government have @infobmkg twitter account that provides disaster information. The disaster area was automatically gathered every minute from @infobmkg Twitter account using gempa and DIY keyword. As this research focused on earthquake and Yogyakarta Special District. Thus this conclusion fully answered the question.



Question 3.2: How to send information to people located in a disaster area using Twitter?

Conclusion: At first the earthquake alert and information was gathered from infobmkg tweet. This result in knowing where the earthquake is. Then twitter user location was gathered by collecting latest tweet that came from each subdistricts. Then username and location extraction was done, so the system know which username on which location. Finally twitter was told to send the tailored information page to them (e.g. people on Gunungkidul got information page for Gunungkidul). Thus this conclusion fully answered the question.

#### Objective 4: To map Twitter users after disaster alert released

Question 4.1: How can the disaster alert be collected?

Conclusion: The system listens to @infobmkg Twitter account every minute using gempa DIY keywords because this research focused on earthquake. Thus the earthquake alert provided by government can be automatically obtained within a minute. Thus this conclusion fully answered the question

Question 4.2: How can the location of twitter users be identified?

Conclusion: Ttwitter user location was gathered by collecting latest tweet that came from each subdistricts. This was done by telling twitter to look for latest tweet that came from each subdistrict by their Place ID. Then username and location extraction was done and resulted in data of twitter usernames that's on that particular location. Thus this conclusion fully answered the question

Question 4.3: What kinds of tweets can be displayed geographically?

Conclusion: Tweets that have the geolocation embedded in their tweets, in form of embedded coordinates or home location that was set in their twitter account. Thus this conclusion fully answered the question

Question 4.4: How can geo-located tweets be displayed on an interactive map?

Conclusion: There are two sides of this. On MapBox interactive map, the geo-

located tweets was displayed on the sidebar rather on the map itself. The map act as a menu to select tweets from which subdistricts will be displayed on sidebar. On the other hand Google Maps interactive map was used to geographically show the coordinate and location of a user that was selected from sidebar. This was achieved by sending the user's coordinate to Google Maps via link. Google Maps recognized the coordinate and show it as a point. So to summarize, MapBox interactive map was used to select the location of interest, sidebar to show the geo-located tweets, and Google Maps interactive map to geographically show their location. Thus the answer to the question is: Geo-located tweet was displayed into interactive map by sending its coordinate to Google Maps.

Objective 5: To test whether the proposed Twitter-based system can send information to people in a disaster-affected area.

Question 5.1. How well can the system collect disaster-related tweets from identified locations and/or containing selected keywords?

Conclusion: The testing result showed that it able to achieve its target to detect and collect tweets from locations and/or specified keywords, as shown on Table 5.5.2.1 – 5.5.2.3. It taps on the governmental Twitter accounts to provide the information, so it need them to keep working properly and using the same keyword.

Question 5.2. How well can the system response to the information from these tweets?

Conclusion: The testing result on chapter 5.5.3 showed that it able respond by sending tweet with tailored information and using earthquake alert from governmental Twitter account as a trigger. It relies on the governmental Twitter accounts to provide the disaster alert in timely manner and in consistect format, so it need them to keep working properly and using the same keyword.

Question 5.3. How well can the system send tailored information?

Conclusion: The testing result showed that it able to send tailored information via tweet as shown on chapter 5.5.3. It taps to the governmental Twitter accounts to provide the information and trigger, so it need them to keep working properly and using the same keyword.

### **Recommendation**

Although this research has reached its objectives and answered the questions, it still can be further improved. There are a few points that can make it even better.

1. On privacy perspective, the location of people was collected, listed, and shown in a map as-is. This can result in privacy concern where the location of people is too easily seen and pin-pointed. Thus future research that touch in mapping people will be better when the location can be made fuzzier for public pages.
2. While the current system already able to show people's location on a map, it was limited one map per person. Future research will be better if it's expanded to show the location of multiple people in a map.
3. The current system have interactive map that specifically designed to be viewed on desktop. It needs responsive design to automatically adapt layout to various screen sizes and make it have a pleasant user experience on mobile devices as illustrated on Figure 6.1.

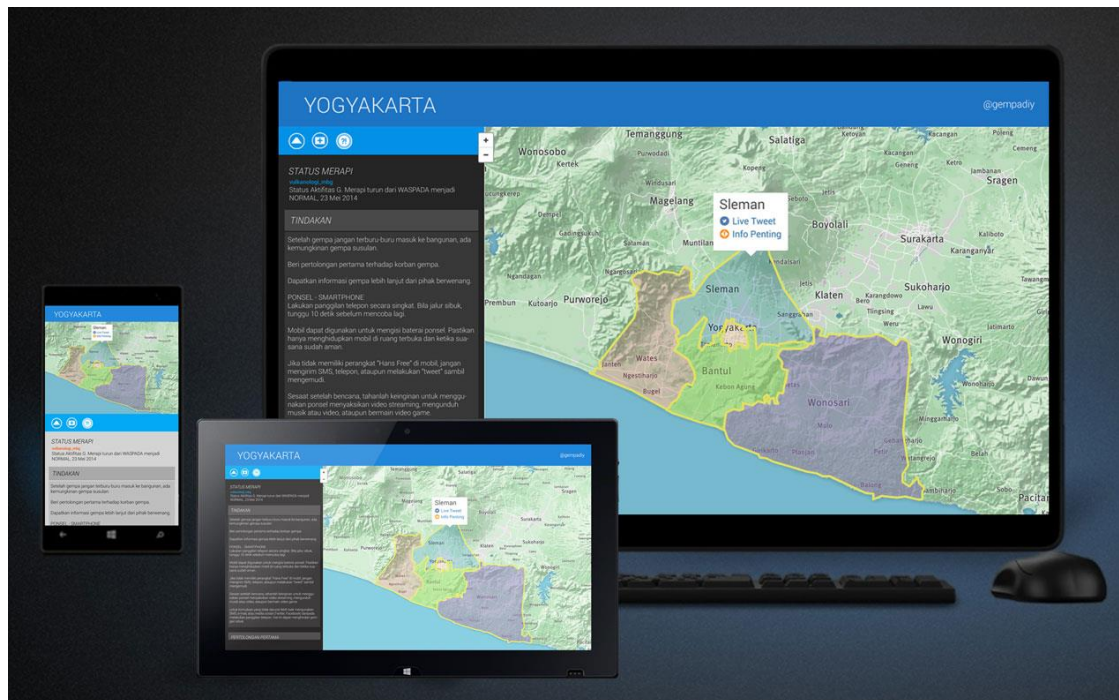


Figure 6.1. Mockup of responsive design on interactive map.

4. Currently the system works without permanent database so it's unable to give historical data. Historical data and ability to make snapshot will be good for people to do research in this system and for them to cite.
5. The ability to collect and send tweets already can be customized as needed from the programming script itself. It will be better if the web interface have the means to customize the system. This will allow the system to better cope with unexpected events and sudden information needs. In principal, it is trivial to put input box and feed that into the available search variable. But further research around the risk of putting custom input box need to be done to make sure the system still works as intended with various custom input.
6. The system was developed with customization in mind, thus allowing it to be customized to fit more roles, not just in post-disaster for earthquake. It will be better if future research around mapping people location and information collection in real-time can use this system as a base, rather than making and researching a totally new one.

7. Although the system already working, it is not well optimized and still needs to be triggered by a client. This can be made better by using Cron to do the triggering on server and better optimization by deleting redundant functions, disabled scripts, and more advanced logic.
8. On security perspective, the pages that trigger the system is currently accessible by public. Public access should be blocked.
9. Test with more devices need to be done. Ideally it includes the various version of devices, operating systems, and softwares.
10. It will be better when public interaction in live environment can be accommodated to give on-demand information. This is important for the system to keep up with user expectations and keeping good communication with user.
11. On psychology perspective, it was not taken into account whether it will cause friction with government body and the public at large, whether it will change the psychological perception of official information pushed to them, and various other psychological effect in individual level and community level. Future research in psychological aspect can give this research a better view of what effect it will bring to people.
12. For tweet without geotag, it was limited to people that talk about earthquake and location. It can't find tweets that originated from specified location even without geotag. It will be better if in the future the 'near' and 'geocode' search operator can be researched to address this. Those two operator have a capability to find tweets originated from specified location without geotag. But 'near' was unreliable as its function keeps changing and 'geocode' was not used due to it needing multiple point to avoid overlap and cover the big area in this research (whole Yogyakarta Special District).

## References

- Acar, A., & Muraki, Y. (2011). Twitter for crisis communication : lessons learned from Japan ' s tsunami disaster Adam Acar \* and Yuya Muraki, 7(3), 392–402.
- Achour, M., Betz, F., Dovgal, A., Lopes, N., Magnusson, H., Richter, G., ... Vrana, J. (2015). What is PHP? Retrieved February 1, 2015, from <http://php.net/manual/en/intro-what-is.php>
- Agarwal, A. (2014). Why Google Docs Forms are the Best Tool for Creating Online Polls and Surveys. Retrieved February 4, 2015, from <http://www.labnol.org/software/google-docs-forms-for-surveys/10056/>
- Anggunia, S. (2014). How Indonesians Use ICT and Social Media for Disaster Management. Retrieved September 16, 2014, from <http://discover.isif.asia/2014/03/how-indonesians-use-ict-and-social-media-for-disaster-management/>
- Bame, S. I., Parker, K., Lee, J. Y., Norman, A., Finley, D., Desai, A., ... Robinson, C. (2012). Monitoring unmet needs: using 2-1-1 during natural disasters. *American Journal of Preventive Medicine*, 43(6 Suppl 5), S435–42. <http://doi.org/10.1016/j.amepre.2012.09.002>
- BBC WebWise Team. (2012). What is Facebook? Retrieved April 1, 2015, from <http://www.bbc.co.uk/webwise/guides/about-facebook>
- Bennett, J. (n.d.). AutoIt - Automation and Scripting Language. Retrieved January 29, 2015, from <https://www.autoitscript.com/site/autoit/>
- BMKG. (n.d.). Twitter Resmi BMKG. Retrieved September 16, 2014, from <https://twitter.com/infoBMKG>
- BNPB. (n.d.-a). Data dan Informasi Bencana Indonesia. Retrieved August 18, 2014, from [http://dibi.bnpb.go.id/DesInventar/simple\\_results.jsp](http://dibi.bnpb.go.id/DesInventar/simple_results.jsp)
- BNPB. (n.d.-b). Definisi dan Jenis Bencana. Retrieved April 10, 2015, from <http://www.bnpb.go.id/pengetahuan-bencana/definisi-dan-jenis-bencana>
- BNPB. (n.d.-c). Peta Wilayah Permukiman Penduduk di Kawasan Rawan Bencana III Gunungapi Merapi.
- BNPB. (n.d.-d). Sigana Gempa Bumi. Retrieved January 29, 2015, from <http://www.sigana.web.id/index.php/panduan-bencana/gempa.html>

- BNPB. (n.d.-e). Twitter Resmi BNPB. Retrieved September 16, 2014, from [https://twitter.com/BNPB\\_Indonesia](https://twitter.com/BNPB_Indonesia)
- BNPB. (2014). Indonesia Disaster Watch. Retrieved September 18, 2014, from <http://geospasial.bnpb.go.id/pantauanbencana/>
- BPBD. (2014). Informasi Bagi Publik Dampak Gunung Kelud di DIY. Retrieved September 18, 2014, from <http://bpbd.jogjaprovo.go.id/?p=809>
- BPS. (n.d.). Penduduk Indonesia menurut Provinsi 1971, 1980, 1990, 1995, 2000 dan 2010. Retrieved August 6, 2014, from [http://www.bps.go.id/tab\\_sub/view.php?tabel=1&id\\_subyek=12](http://www.bps.go.id/tab_sub/view.php?tabel=1&id_subyek=12)
- BPS. (2010). Sensus Penduduk 2010 - Penduduk Menurut Wilayah, Jenis Dokumen Pencacahan yang Digunakan, dan Jenis Kelamin Provinsi DI Yogyakarta. Retrieved January 29, 2015, from <http://sp2010.bps.go.id/index.php/site/tabel?tid=337&wid=3400000000>
- BPS. (2013). *Perkembangan Beberapa Indikator Utama Sosial-Ekonomi Indonesia*. Jakarta: Badan Pusat Statistik Indonesia.
- Bright, P. (2014). Android Browser Flaw a “Privacy Disaster” for Half of Android Users. Retrieved April 15, 2015, from <http://arstechnica.com/security/2014/09/android-browser-flaw-a-privacy-disaster-for-half-of-android-users/>
- CDC. (2005). *Emergency Wound Care*.
- Chae, J., Thom, D., Jang, Y., Kim, S., Ertl, T., & Ebert, D. S. (2014). Public behavior response analysis in disaster events utilizing visual analytics of microblog data. *Computers & Graphics*, 38, 51–60. <http://doi.org/10.1016/j.cag.2013.10.008>
- Chatfield, A. T., Scholl, H. J. (Jochen), & Brajawidagda, U. (2013). Tsunami early warnings via Twitter in government: Net-savvy citizens’ co-production of time-critical public information services. *Government Information Quarterly*, 30(4), 377–386. <http://doi.org/10.1016/j.giq.2013.05.021>
- Dishubkominfo DIY. (n.d.). Nomor Telepon Darurat. Retrieved September 18, 2014, from [http://www.plazainformasi.jogjaprovo.go.id/index.php?option=com\\_content&view=article&id=858&Itemid=132](http://www.plazainformasi.jogjaprovo.go.id/index.php?option=com_content&view=article&id=858&Itemid=132)
- Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015). Social Media Site Usage 2014. Retrieved March 27, 2015, from <http://www.pewinternet.org/2015/01/09/social-media-update-2014/>

- Eiselt, H. a., & Marianov, V. (2012). Mobile phone tower location for survival after natural disasters. *European Journal of Operational Research*, 216(3), 563–572. <http://doi.org/10.1016/j.ejor.2011.08.021>
- ESDM. (n.d.). Pusat Vulkanologi dan Mitigasi Bencana Geologi-Badan Geologi-Kementerian Energi dan Sumber Daya Mineral. Retrieved September 17, 2014, from [https://twitter.com/vulkanologi\\_mbg](https://twitter.com/vulkanologi_mbg)
- Federal Communications Commission. (2013). Wireless Emergency Alerts (WEA). Washington, DC: Consumer and Governmental Affairs Bureau.
- FEMA. (n.d.). Immediate Needs. Retrieved August 18, 2014, from <http://www.disasterassistance.gov/disaster-information/immediate-needs>
- Fred C, P. (2008). *Disaster Response*. New York: Facts On File, Inc.
- Gardner, B. S. (2011). Responsive Web Design: Enriching the User Experience. In H. G. Miller (Ed.), *Sigma Journal: Inside the Digital Ecosystem* (Vol. 11, p. 52). Virginia: Noblis.
- Garwood, J. (2006). Likert Scale. In V. Jupp (Ed.), *The SAGE Dictionary of Social Research Methods*. London: SAGE Publications Ltd.
- Google. (n.d.). Share and discover, all across Google. Retrieved April 1, 2015, from <http://www.google.com/intl/en/+/learnmore/>
- Google Developers. (2014). People - Google+ Platform. Retrieved May 25, 2014, from <https://developers.google.com/+api/latest/people>
- Greer, D., & Hamon, Y. (2011). *Agile Software Development. Software - Practice and Experience*. <http://doi.org/10.1002/spe>
- Harries, K. (1999). Mapping Crime: Principle and Practice. Retrieved April 1, 2015, from [https://www.ncjrs.gov/html/nij/mapping/ch4\\_3.html](https://www.ncjrs.gov/html/nij/mapping/ch4_3.html)
- Ichiguchi, T. (2011). Robust and Usable Media for Communication in a Disaster. In *Science & Technology Trends Quarterly Review* (041 ed.). NISTEP Science & Technology Foresight Center. Retrieved from <http://hdl.handle.net/11035/2871>
- Kamel Boulos, M. N., Resch, B., Crowley, D. N., Breslin, J. G., Sohn, G., Burtner, R., ... Chuang, K.-Y. S. (2011). Crowdsourcing, citizen sensing and sensor web technologies for public and environmental health surveillance and crisis management: trends, OGC standards and application examples. *International Journal of Health Geographics*, 10, 67. <http://doi.org/10.1186/1476-072X-10-67>



- Kementerian Komunikasi dan Informatika. (2013). Pengguna Internet di Indonesia. Retrieved September 13, 2014, from [http://kominfo.go.id/index.php/content/detail/3415/Kominfo+%3A+Pengguna+Internet+di+Indonesia+63+Juta+Orang/0/berita\\_satker#.VBRjJvmSw71](http://kominfo.go.id/index.php/content/detail/3415/Kominfo+%3A+Pengguna+Internet+di+Indonesia+63+Juta+Orang/0/berita_satker#.VBRjJvmSw71)
- Kepolisian Negara Republik Indonesia. (n.d.). Alamat dan Telepon Penting. Retrieved September 18, 2014, from [http://www.jogja.polri.go.id/info/telp\\_penting.html](http://www.jogja.polri.go.id/info/telp_penting.html)
- Lotz, M. (2013). Waterfall vs. Agile: Which is the Right Development Methodology for Your Project? Retrieved June 13, 2015, from <http://www.seguetech.com/blog/2013/07/05/waterfall-vs-agile-right-development-methodology>
- Maly, T. (2013). A Cloudless Atlas — How MapBox Aims to Make the World’s “Most Beautiful Map.” Retrieved February 6, 2015, from <http://www.wired.com/2013/05/a-cloudless-atlas/>
- Mandl, D., Cappelaere, P., Frye, S., Evans, J., & Moe, K. (2014). Using Social Media and Mobile Devices to Discover and Share Disaster Data Products Derived from Satellites. In *2014 IEEE International Geoscience And Remote Sensing Symposium* (pp. 3–5). NASA.
- Mansor, A. Z. (2012). Managing Student’s Grades and Attendance Records using Google Forms and Google Spreadsheets. *Procedia - Social and Behavioral Sciences*, 59, 420–428. <http://doi.org/10.1016/j.sbspro.2012.09.296>
- McLeod, S. (2008). Likert Scale. Retrieved December 20, 2014, from <http://www.simplypsychology.org/likert-scale.html>
- Mei, E. T. W., Lavigne, F., Picquout, A., de Bélizal, E., Brunstein, D., Grancher, D., ... Vidal, C. (2013). Lessons learned from the 2010 evacuations at Merapi volcano. *Journal of Volcanology and Geothermal Research*, 261, 348–365. <http://doi.org/10.1016/j.jvolgeores.2013.03.010>
- Oh, O., Kwon, K., & Rao, H. (2010). An exploration of social media in extreme events: Rumor theory and twitter during the Haiti earthquake 2010, 1–14. Retrieved from [http://aisel.aisnet.org/icis2010\\_submissions/231/](http://aisel.aisnet.org/icis2010_submissions/231/)
- Public Safety Canada. (2011). *Emergency Management Planning Guide*. Canada: Emergency Management Planning Unit.
- Rao, R., Eisenberg, J., & Schmitt, T. (2007). *Improving disaster management: the role of IT in mitigation, preparedness, response, and recovery. Annals of Physics* (Vol. 54). Retrieved from <http://www.mendeley.com/research/no-title->

avail/\n[http://books.google.com/books?hl=en&lr=&id=F6su4xVXy7EC&oi=fnd&pg=PA1&dq=Improving+Disaster+Management:+The+Role+of+IT+in+Mitigation,+Preparedness,+Response,+and+Recovery&ots=FHYT\\_0](http://books.google.com/books?hl=en&lr=&id=F6su4xVXy7EC&oi=fnd&pg=PA1&dq=Improving+Disaster+Management:+The+Role+of+IT+in+Mitigation,+Preparedness,+Response,+and+Recovery&ots=FHYT_0)

Redmond, A. D. (2005). Needs assessment of humanitarian crises. *BMJ (Clinical Research Ed.)*, 330(7503), 1320–2.  
<http://doi.org/10.1136/bmj.330.7503.1320>

Republik Indonesia. (2007). Undang-undang Republik Indonesia Nomor 24 Tahun 2007. Jakarta.

Republik Indonesia. Peraturan Presiden Republik Indonesia Nomor 61 Tahun 2008 (2008). Indonesia.

Rodrigues, E., Assunção, R., Gisele, L., Renno, D., Jr, W. M., Pappa, G. L., ... Assunc, R. (2015). Exploring Multiple Evidences to Infer Users Location in Twitter. *Neurocomputing*. <http://doi.org/10.1016/j.neucom.2015.05.066>

Schade, S., Díaz, L., Ostermann, F., Spinsanti, L., Luraschi, G., Cox, S., ... Longueville, B. (2011). Citizen-based sensing of crisis events: sensor web enablement for volunteered geographic information. *Applied Geomatics*, 5(1), 3–18. <http://doi.org/10.1007/s12518-011-0056-y>

StatCounter. (2015a). Top 5 Desktop Browsers from Jan to Dec 2014. Retrieved April 15, 2015, from <http://gs.statcounter.com/#desktop-browser-ww-monthly-201401-201412>

StatCounter. (2015b). Top 9 Mobile Browsers from Jan to Dec 2014. Retrieved April 15, 2015, from [http://gs.statcounter.com/#mobile\\_browser-ww-monthly-201401-201412](http://gs.statcounter.com/#mobile_browser-ww-monthly-201401-201412)

Statista. (2012). Number of monthly active Google+ users in selected countries in 2nd quarter 2012 (in millions). Retrieved September 18, 2014, from <http://www.statista.com/statistics/281122/number-of-monthly-active-google-users-in-selected-markets/>

Stevenson, A. J. (2014). Finding the Twitter users who stood with Wendy. *Contraception*, 90(5), 502–507.  
<http://doi.org/10.1016/j.contraception.2014.07.007>

Subaiya, S., Moussavi, C., Velasquez, A., & Stillman, J. (2014). A rapid needs assessment of the Rockaway Peninsula in New York City after Hurricane Sandy and the relationship of socioeconomic status to recovery. *American Journal of Public Health*, 104(4), 632–8.  
<http://doi.org/10.2105/AJPH.2013.301668>

- Tsou, M.-H., Yang, J.-A., Lusher, D., Han, S., Spitzberg, B., Gawron, J. M., ... An, L. (2013). Mapping social activities and concepts with social media (Twitter) and web search engines (Yahoo and Bing): a case study in 2012 US Presidential Election. *Cartography and Geographic Information Science*, 40(4), 337–348. <http://doi.org/10.1080/15230406.2013.799738>
- Turpin, E., Holderness, T., Wickramasuriya, R., Berryman, M., & Dean, S. (2014). Map Jakarta. Retrieved September 18, 2014, from <http://smart.uow.edu.au/projects/UOW164497.html>
- Twitter. (n.d.-a). API Rate Limits. Retrieved January 29, 2015, from <https://dev.twitter.com/rest/public/rate-limiting>
- Twitter. (n.d.-b). Rate Limits: Charts. Retrieved January 28, 2015, from <https://dev.twitter.com/rest/public/rate-limits>
- Twitter. (n.d.-c). Search API. Retrieved February 11, 2015, from <https://dev.twitter.com/rest/reference/get/search/tweets>
- Twitter. (n.d.-d). Twitter Public API GET geo/search. Retrieved September 13, 2014, from <https://dev.twitter.com/rest/reference/get/geo/search>
- U.S. Department of Health & Human Services. (n.d.). Use Cases. Retrieved December 2, 2014, from <http://www.usability.gov/how-to-and-tools/methods/use-cases.html>
- Wachinger, G., Renn, O., Domènech, L., Jakobson, I., Kuhlicke, C., Lemkow, L., ... Marchi, B. De. (2010). Risk perception and natural hazards. *Natural Hazards*, (09), 1–111.
- Williams, A. (n.d.). TwitterOAuth PHP Library for the Twitter REST API. Retrieved January 30, 2015, from <https://twitteroauth.com/>
- World Wide Web Consortium. (2013). Optimizing Content for Different Browsers. Retrieved April 15, 2015, from [https://www.w3.org/community/webed/wiki/index.php?title=Optimizing\\_content\\_for\\_different\\_browsers:\\_the\\_RIGHT\\_way&oldid=2374](https://www.w3.org/community/webed/wiki/index.php?title=Optimizing_content_for_different_browsers:_the_RIGHT_way&oldid=2374)

## ANNEX

### Annex 1. AutoIt script to collect user send tweets.

```
#region ---Au3Recorder generated code Start (v3.3.7.0) ---
#region --- Internal functions
Au3Recorder Start --- Func
Au3RecordSetup()
Opt('WinWaitDelay',300)
Opt('WinDetectHiddenText',1)
Opt('MouseCoordMode',0)
EndFunc

Func
    _WinWaitActivate($title,$text,
    $timeout=0)
    WinWait($title,$text,$timeout)
    If Not WinActive($title,$text) Then WinActivate($title,$text)
    WinWaitActive($title,$text,$timeout)
EndFunc
```

```

AU3RecordSetup()
#endregion --- Internal functions
Au3Recorder End --- While 1
    HotKeySet("{ESC}", "_Exit") ; Press ESC to Exit.
    _WinWaitActivate("Microsoft Excel (Product Activation Failed) -
kotajogja3.xlsx", "") Send("{ALTDOWN}{TAB}{ALTUP}")
    _WinWaitActivate("G:\Tools\dropbox\ITC-SDCard\modul14
                                                                    penelitian\crawlu
sename\ALL kota jogja geocode -7.797068,110.370527,2.5km - Twitter
Search.html - Notepad++", "") Send("{CTRLDOWN}f{CTRLUP}")
    #_WinWaitActivate("Find", "")
    Send("{DOWN}{ENTER}")
    #MouseDown("left", 559, -21, 1)
    _WinWaitActivate("G:\Tools\dropbox\ITC-SDCard\modul14
                                                                    penelitian\crawlu
sename\ALL kota jogja geocode -7.797068,110.370527,2.5km - Twitter
Search.html - Notepad++", "") MouseClick("left", 848, 475, 2)
    Send("{CTRLDOWN}c{CTRLUP}{ALTDOWN}{TAB}{ALTUP}")
    _WinWaitActivate("Microsoft Excel (Product Activation Failed) -
kotajogja3.xlsx", "") Send("{CTRLDOWN}v{CTRLUP}{ENTER}")
    WEnd
#endregion --- Au3Recorder generated code End ---

```

#region ---Au3Recorder generated code Start (v3.3.7.0) ---

```

#region --- Internal functions
Au3Recorder Start --- Func
Au3RecordSetup()
Opt('WinWaitDelay',
300)
Opt('WinDetectHidd
enText', 1)
Opt('MouseCoordMo
de', 0) EndFunc

```

```

Func
    _WinWaitActivate($title,$text,$ti
meout=0)
    WinWait($title,$text,$timeout)

```

```
        If Not WinActive($title,$text) Then WinActivate($title,$text)
        WinWaitActive($title,$text,$timeout)
    EndFunc

    AU3RecordSetup()
    #endregion --- Internal functions Au3Recorder End ---
    #endregion --- Internal functions
    Au3Recorder End --- While 1
    Local $i = 0
```

```

Do
_WinWaitActivate("Microsoft Excel (Product Activation Failed) -
kotajogja3.xlsx", "") Sleep(Random(100, 500, 1))
Send("{DOWN}{DOWN}{SHIFTDOWN}{RIGHT}{RIGHT}{RIGHT}{DOWN}{SHIFТУP} ")
Sleep(Random(100, 500, 1))
Send("{CTRLDOWN}c{CTRLUP}{ALTDOWN}{TAB}{TAB}{ALTUP}")
Sleep(Random(100, 500, 1))
_WinWaitActivate("mention.txt - Notepad", "")
Send("{CTRLDOWN}v{CTRLUP}{CTRLDOWN}h{CTRLUP}")
Sleep(Random(100, 500, 1))
_WinWaitActivate("Replace", "")
Send("{ALTDOWN}a{ALTUP}{ESC}")
Sleep(Random(100, 500, 1))
_WinWaitActivate("mention.txt -
Notepad", "") Sleep(Random(100, 500,
1))
Send("{CTRLDOWN}a{CTRLUP}{CTRLDOWN}c{CTRLUP}{ALTDOWN}{TAB}{TAB}{ALTUP}")
Sleep(Random(100, 500, 1))
_WinWaitActivate("Twitter / Notifications - Google Chrome", "")
Sleep(Random(300, 5000, 1))
MouseDown("left", 1275, 84, 1)
Sleep(Random(100, 500, 1))
Send("{CTRLDOWN}v{CTRLUP}")
Sleep(Random(13
2, 500, 1))
MouseDown("left",
926, 520, 1)
Sleep(Random(10
00, 10000, 1))
    $i = $i + 1 ; Or $i += 1 can be used as well.
Until $i = 10 ; Increase the value of $i until it equals the value of 10.
_WinWaitActivate("Links.txt -
Notepad", "") Sleep(Random(900000,
1080000, 1))

WEnd
#endregion --- Au3Recorder generated code End ---

```

## Annex 2. The survey questions

Twitter: \*

Usia: \*

(hanya angka)

Tempat tinggal \*

- ☐ Kota Yogyakarta
- ☐ Sleman
- ☐ Kulon Progo
- ☐ Bantul
- ☐ Gunung Kidul

### Keterangan skala:

1. Tidak diperlukan
2. Agak diperlukan
3. Cukup diperlukan
4. Diperlukan
5. Sangat diperlukan

#### 1. Nomor telepon layanan darurat (Ambulan, Polisi, Pemadam Kebakaran, SAR, Posko Bencana Alam) \*

Apakah anda mendapatkan semua informasi nomor telepon layanan darurat tersebut?

- ☐ Ya, saya mendapatkannya
- ☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan semua informasi nomor telepon layanan darurat tersebut?

1   2   3   4   5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

#### 2. Nomor telepon kantor polisi daerah \*

Apakah anda mendapatkan informasi nomor telepon kantor polisi daerah?

- ☐ Ya, saya mendapatkannya
- ☐ Tidak, saya tidak mendapatkannya



\*

Apakah anda memerlukan informasi nomor telepon kantor polisi daerah?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**3. Lokasi air minum dan makanan \***

Apakah anda mendapatkan informasi lokasi air minum dan makanan?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi lokasi air minum dan makanan?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**4. Lokasi hunian sementara \***

Apakah anda mendapatkan informasi lokasi hunian sementara?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi lokasi hunian sementara?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**5. Lokasi MCK (Mandi, Cuci, Kakus) \***

Apakah anda mendapatkan informasi Lokasi MCK?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi lokasi MCK?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**6. Jalur evakuasi \***

Apakah anda mendapatkan informasi jalur evakuasi?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi jalur evakuasi

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**7. Status Gunung Merapi \***

Apakah anda mendapatkan informasi status Gunung Merapi?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi status Gunung Merapi?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**8. Lokasi gempa \***

Apakah anda mendapatkan informasi lokasi gempa?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi lokasi gempa?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

\*

Apakah anda memerlukan informasi lokasi gempa?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**9. Pertolongan pertama \***

Apakah anda mendapatkan informasi tentang pertolongan pertama?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi tentang pertolongan pertama?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

**10. Hal-hal yang harus dilakukan (segera periksa kondisi tubuh, gunakan telepon hanya untuk kepentingan darurat, dll) \***

Apakah anda mendapatkan informasi hal-hal yang harus dilakukan pasca gempa bumi?

- ☐ Ya, saya mendapatkannya  
☐ Tidak, saya tidak mendapatkannya

\*

Apakah anda memerlukan informasi hal-hal yang harus dilakukan pasca gempa bumi?

1 2 3 4 5

tidak diperlukan ☐ ☐ ☐ ☐ ☐ sangat diperlukan

### **Annex 3. Bantul information page**

```
<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#name {
color: #03a9f4;
font-family: roboto;
font-weight: bold;
margin-left: 10px;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-weight: 300;
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

background: #ff9800;
color: white;
```

```

text-align: center;
font-family: roboto;
font-size: 22pt;
margin-top: 20px;

}

#judul {
font-family: roboto,arial;
color: white;
font-size: 22pt;
margin-left: 10px;
font-style: italic;
margin-right: 10px;
margin-top: 20px;
}

#judul-tweet {
font-family: roboto,arial;
color: white;
font-size: 24pt;
padding: 5px;
font-style: italic;
background: #555555;
margin: 5px;
margin-top: 20px;
}

#teks-tweet {
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left:5px;
margin-right:5px;
background: #414141;
padding: 10px;
font-weight: 300;
}

}
</style>
<div id="kepala">
<!-- <div id="kepala-teks">ICON NAV</div> -->
<a href="#merapi"></a>
<a href="#todo"></a>
<a href="#firstaid"></a>

```

</div>

```
<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$cari = ' from:BPPTKG aktivitas ';
$lokasikeyword = ' merapi ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:7349ae0f1fcb7e04 ';
$scaritotal = $cari . $tanggal . $lokasikeyword;
//$scarilokasi = 'from:BPPTKG aktivitas merapi';
//$scarilokasi = 'from:vulkanologi_mbg status merapi';
//$scarilokasi = $cari . $tanggal . $lokasi;

//$lokasi = 'gempa jogja OR diy OR yogya';
?>
```

```
<br /><br />
<div id="merapi"></div>
<div id="judul">
STATUS MERAPI
</div>
```

```
<?php //echo $scarilokasi; ?>
```

```
<?php
//-----search isi tweet
function search(array $query)
```

```

{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $caritotal,
    "count" => "1",
);

$nama = array();

$results = search($query);

if (!empty($results)) {

    //Display tweet terbaru dari infoBMKG mengandung keyword
    foreach ($results->statuses as $result) {
        echo "<div id='name'>" . $result->user->screen_name . "</div> <div id='teks'>"
        . $result->text .
        "</div><br />";
        //print_r ($result->geo->coordinates);
        $nama[] = $result->user->screen_name;

    }
    echo '</div>';
}

if (empty($result)) {
    echo "<div id='name'>Tidak ada update status merapi</div>";
}
echo '<br />';
//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;

```

```

//          echo "</br>isinya adalah: " . $isi . "</br>";

//          ingat, MASIH case sensitive
//KEYWORD 1
//          if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//          $k1=1;
//          $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//          $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//      echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//          if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//          $k1=1;

//          $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";
?>
<div id="todo"></div>
<div id="judul-tweet">TINDAKAN</div>
<div id="teks-tweet">

```



```

<li>Setelah gempa jangan terburu-buru masuk ke bangunan, ada kemungkinan
gempa susulan.</li>

<li>Beri pertolongan pertama terhadap korban gempa.</li>

<li>Dapatkan informasi gempa lebih lanjut dari pihak berwenang.</li>
<br /></div>
<div id="firstaid"></div>
<div id="judul">
PERTOLONGAN PERTAMA
</div>
<div id="teks">
<div id="name">Luka ringan:</div>
<li>Cuci tangan sampai bersih dengan menggunakan sabun dan air bersih bila
memungkinkan.</li>
<li>Hindari menyentuh luka dengan jari ketika melakukan perawatan (bila
memungkinkan, gunakan sarung tangan latex sekali pakai).</li>
<li>Lepaskan perhiasan yang mengganggu dan pakaian dari bagian tubuh yang
terluka.</li>
<li>Beri tekanan pada luka yang berdarah untuk mengendalikan pendarahan.</li>
<li>Bersihkan luka setelah pendarahan berhenti.</li>
<li>Biarkan luka yang tidak bersih, terkena gigitan, atau terkena tusukan
terbuka.</li>
<li>Berikan obat penahan rasa sakit bila memungkinkan.</li>
<br />
<div id="name">Segera cari perhatian medis jika:</div>
<li>Ada objek asing tertanam di dalam luka.</li>
<li>Luka memiliki risiko khusus untuk terinfeksi (misalnya luka tergigit anjing
atau tertusuk benda kotor);</li>
<li>Ada luka lama yang tampak terinfeksi (semakin terasa sakit, bengkak, merah,
atau kalau kamu menjadi demam).</li>
</div>
<br />
<div id="teks"></div>

</body>
</html>

```

#### **Annex 4. Gunungkidul information page**

```

<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
body {

```

```
background: #2b2b2b !important;
margin: 0px !important;
}
```

```
#name {
  color: #03a9f4;
  font-family: roboto;
  font-weight: bold;
  margin-left: 10px;
}
```

```
#kepala {
background: #03a9f4;
width:100%;

}
```

```
#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}
```

```
#teks {
font-weight: 300;
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left: 10px;
margin-right: 10px;
}
```

```
#judul-notifikasi {

  background: #ff9800;
  color: white;
  text-align: center;
  font-family: roboto;
  font-size: 22pt;
  margin-top: 20px;

}
```

```
#judul {
```

```
font-family: roboto,arial;
color: white;
font-size: 22pt;
margin-left: 10px;
font-style: italic;
margin-right: 10px;
margin-top: 20px;
}
```

```
#judul-tweet {
font-family: roboto,arial;
color: white;
font-size: 24pt;
padding: 5px;
font-style: italic;
background: #555555;
margin: 5px;
margin-top: 20px;
}
```

```
#teks-tweet {
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left:5px;
margin-right:5px;
background: #414141;
padding: 10px;
font-weight: 300;
}
```

```
}
</style>
<div id="kepala">
<!-- <div id="kepala-teks">ICON NAV</div> -->
<a href="#merapi"></a>
<a href="#todo"></a>
<a href="#firstaid"></a>
</div>
```

```
<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
```

```

//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
//$tanggal = ' since:' . date('Y-m-d');
//$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$cari = ' from:infobmkg gempa ';
$lokasikeyword = ' diy ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:7349ae0f1fcb7e04 ';
$scaritotal = $cari . $tanggal . $lokasikeyword;
//$scarilokasi = 'from:vulkanologi_mbg status merapi';
//$scarilokasi = $cari . $tanggal . $lokasi;

//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="merapi"></div>
<div id="judul">
LOKASI GEMPA
</div>

<?php echo $scarilokasi; ?>

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $scaritotal,

```

```

    "count" => "1",
);

$nama = array();

$results = search($query);

if (!empty($results)) {

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo "<div id='name'>" . $result->user->screen_name . "</div> <div id='teks'>"
    . $result->text .
    "</div><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;

}
echo '</div>';
}

if (empty($result)) {
echo "<div id='name'>Hari ini tidak ada update lokasi gempa area DIY</div>";
}
echo '<br />';
//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

// ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true<br>';
//      $k1=1;
//      //$toa = new TwitterOAuth(CONSUMER_KEY,

```

```

CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    // $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
    $tweetSleman));

    //      }

    //foreach ($results->statuses as $result) {
    // echo $result->user->screen_name . ": " . $result->text . "\n";

    //}

    //$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
    VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
    grnjJlCHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
    //$content = $connection->get("account/verify_credentials");
    //$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
    //print_r($statuses);

    //-----search usernames

    //Mencari
    //      if (strpos($isi,'Gempa') !== false) {
    // echo 'Gempa true</ br>';
    //      $k1=1;

    //      $result = array_filter($result);

    //if (!empty($result)) {

    //echo "<div id='judul-tweet'>TWEET TERBARU</div>";
    ?>
    <div id="todo"></div>
    <div id="judul-tweet">TINDAKAN</div>
    <div id="teks-tweet">
    <li>Setelah gempa jangan terburu-buru masuk ke bangunan, ada kemungkinan
    gempa susulan.</li>

    <li>Beri pertolongan pertama terhadap korban gempa.</li>

    <li>Dapatkan informasi gempa lebih lanjut dari pihak berwenang.</li>
    <br /></div>
    <div id="firstaid"></div>
    <div id="judul">

```

## PERTOLONGAN PERTAMA

```
</div>
<div id="teks">
<div id="name">Luka ringan:</div>
  <li>Cuci tangan sampai bersih dengan menggunakan sabun dan air bersih bila
  memungkinkan.</li>
  <li>Hindari menyentuh luka dengan jari ketika melakukan perawatan (bila
  memungkinkan, gunakan sarung tangan latex sekali pakai).</li>
  <li>Lepaskan perhiasan yang mengganggu dan pakaian dari bagian tubuh yang
  terluka.</li>
  <li>Beri tekanan pada luka yang berdarah untuk mengendalikan pendarahan.</li>
  <li>Bersihkan luka setelah pendarahan berhenti.</li>
  <li>Biarkan luka yang tidak bersih, terkena gigitan, atau terkena tusukan
  terbuka.</li>
  <li>Berikan obat penahan rasa sakit bila memungkinkan.</li>
<br />
<div id="name">Segera cari perhatian medis jika:</div>
  <li>Ada objek asing tertanam di dalam luka.</li>
  <li>Luka memiliki risiko khusus untuk terinfeksi (misalnya luka tergigit anjing
  atau tertusuk benda kotor);</li>
  <li>Ada luka lama yang tampak terinfeksi (semakin terasa sakit, bengkak, merah,
  atau kalau kamu menjadi demam).</li>
</div>
<br />
<div id="teks"></div>

</body>
</html>
```

### **Annex 5. Yogyakarta City information page**

```
<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#name {
color: #03a9f4;
font-family: roboto;
font-weight: bold;
margin-left: 10px;
```

```

}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-weight: 300;
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

background: #ff9800;
color: white;
text-align: center;
font-family: roboto;
font-size: 22pt;
margin-top: 20px;

}

#judul {
font-family: roboto,arial;
color: white;
font-size: 22pt;
margin-left: 10px;
font-style: italic;
margin-right: 10px;
margin-top: 20px;
}

```



```

#judul-tweet {
font-family: roboto,arial;
color: white;
font-size: 24pt;
padding: 5px;
font-style: italic;
background: #555555;
margin: 5px;
margin-top: 20px;
}

#teks-tweet {
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left:5px;
margin-right:5px;
background: #414141;
padding: 10px;
font-weight: 300;
}

}
</style>
<div id="kepala">
<!-- <div id="kepala-teks">ICON NAV</div> -->
<a href="#merapi"></a>
<a href="#todo"></a>
<a href="#firstaid"></a>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');

```

```

$tanggal = ' since:' . date('Y-m-d');
//$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$cari = ' from:BPPTKG aktivitas ';
$lokasikeyword = ' merapi ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:7349ae0f1fcb7e04 ';
$scaritotal = $cari . $tanggal . $lokasikeyword;
//$scarilokasi = 'from:BPPTKG aktivitas merapi';
//$scarilokasi = 'from:vulkanologi_mbg status merapi';
//$scarilokasi = $cari . $tanggal . $lokasi;

```

```

//$lokasi = 'gempa jogja OR diy OR yogya';
?>

```

```

<br /><br />
<div id="merapi"></div>
<div id="judul">
STATUS MERAPI
</div>

```

```

<?php //echo $scarilokasi; ?>

```

```

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

```

```

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $scaritotal,
    "count" => "1",
);

```

```

$nama = array();

```

```

$results = search($query);

```

```

if (!empty($results)) {

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo "<div id='name'>" . $result->user->screen_name . "</div> <div id='teks'>"
    . $result->text .
    "</div><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;

}
echo '</div>';
}

if (empty($result)) {
echo "<div id='name'>Tidak ada update status merapi</div>";
}
echo '<br />';
//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

    $isi = $result->text;
    //          echo "<br>isinya adalah: " . $isi . "<br>";

        // ingat, MASIH case sensitive
//KEYWORD 1
//          if (strpos($isi,'Gempa') !== false) {
//    echo 'Gempa true<br>';
//    $k1=1;
//    $toa = new TwitterOAuth(CONSUMER_KEY,
//CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//tweetSleman));

//    }

//foreach ($results->statuses as $result) {
//    echo $result->user->screen_name . ": " . $result->text . "\n";

```

```
//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
// $content = $connection->get("account/verify_credentials");
// $statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
// print_r($statuses);

//-----search usernames

//Mencari
//          if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;

// $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";
?>
<div id="todo"></div>
<div id="judul-tweet">TINDAKAN</div>
<div id="teks-tweet">
<li>Setelah gempa jangan terburu-buru masuk ke bangunan, ada kemungkinan
gempa susulan.</li>

<li>Beri pertolongan pertama terhadap korban gempa.</li>

<li>Dapatkan informasi gempa lebih lanjut dari pihak berwenang.</li>
<br /></div>
<div id="firstaid"></div>
<div id="judul">
PERTOLONGAN PERTAMA
</div>
<div id="teks">
<div id="name">Luka ringan:</div>
<li>Cuci tangan sampai bersih dengan menggunakan sabun dan air bersih bila
memungkinkan.</li>
<li>Hindari menyentuh luka dengan jari ketika melakukan perawatan (bila
memungkinkan, gunakan sarung tangan latex sekali pakai).</li>
```

```

<li>Lepaskan perhiasan yang mengganggu dan pakaian dari bagian tubuh yang
terluka.</li>
<li>Beri tekanan pada luka yang berdarah untuk mengendalikan pendarahan.</li>
<li>Bersihkan luka setelah pendarahan berhenti.</li>
<li>Biarkan luka yang tidak bersih, terkena gigitan, atau terkena tusukan
terbuka.</li>
<li>Berikan obat penahan rasa sakit bila memungkinkan.</li>
<br />
<div id="name">Segera cari perhatian medis jika:</div>
<li>Ada objek asing tertanam di dalam luka.</li>
<li>Luka memiliki risiko khusus untuk terinfeksi (misalnya luka tergigit anjing
atau tertusuk benda kotor);</li>
<li>Ada luka lama yang tampak terinfeksi (semakin terasa sakit, bengkak, merah,
atau kalau kamu menjadi demam).</li>
</div>
<br />
<div id="teks"></div>

</body>
</html>

```

#### **Annex 6. Kulonprogo information page**

```

<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#name {
color: #03a9f4;
font-family: roboto;
font-weight: bold;
margin-left: 10px;
}

#kepala {
background: #03a9f4;
width:100%;

}

```

```
#kepala-teks {  
font-family: roboto,arial;  
color: white;  
font-size: 32pt;  
padding: 10px;  
font-weight: lighter;  
}
```

```
#teks {  
font-weight: 300;  
font-family: roboto,arial;  
color: white;  
font-size: 13pt;  
margin-left: 10px;  
margin-right: 10px;  
}
```

```
#judul-notifikasi {  
  
background: #ff9800;  
color: white;  
text-align: center;  
font-family: roboto;  
font-size: 22pt;  
margin-top: 20px;  
  
}
```

```
#judul {  
font-family: roboto,arial;  
color: white;  
font-size: 22pt;  
margin-left: 10px;  
font-style: italic;  
margin-right: 10px;  
margin-top: 20px;  
}
```

```
#judul-tweet {  
font-family: roboto,arial;  
color: white;  
font-size: 24pt;  
padding: 5px;  
font-style: italic;  
background: #555555;  
margin: 5px;
```

```
margin-top: 20px;
}
```

```
#teks-tweet {
font-family: roboto,arial;
color: white;
font-size: 13pt;
margin-left:5px;
margin-right:5px;
background: #414141;
padding: 10px;
font-weight: 300;
}
}
```

```
</style>
<div id="kepala">
<!-- <div id="kepala-teks">ICON NAV</div> -->
<a href="#merapi"></a>
<a href="#todo"></a>
<a href="#firstaid"></a>
</div>
```

```
<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;
```

```
//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');
```

```
define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');
```

```
date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$cari = ' from:BPPTKG aktivitas ';
$lokasikeyword = ' merapi ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:7349ae0f1fcb7e04 ';
```

```

$caritotal = $cari . $tanggal . $lokasikeyword;
//$carilokasi = 'from:BPPTKG aktivitas merapi';
//$carilokasi = 'from:vulkanologi_mbg status merapi';
//$carilokasi = $cari . $tanggal . $lokasi;

//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="merapi"></div>
<div id="judul">
STATUS MERAPI
</div>

<?php //echo $carilokasi; ?>

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $caritotal,
    "count" => "1",
);

$nama = array();

$results = search($query);

if (!empty($results)) {

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo "<div id='name'>" . $result->user->screen_name . "</div> <div id='teks'>"
    . $result->text .

```



```

"</div><br />";
//print_r ($result->geo->coordinates);
$nama[] = $result->user->screen_name;

}
echo '</div>';
}

if (empty($result)) {
echo "<div id='name'>Tidak ada update status merapi</div>";
}
echo '<br />';
//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "</br>isinya adalah: " . $isi . "</br>";

//      // ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status'=> '@' . $userSleman . ' ' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//      echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");

```

```

// $statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
// print_r($statuses);

//-----search usernames

// Mencari
//           if (strpos($isi,'Gempa') !== false) {
//   echo 'Gempa true</ br>';
//       $k1=1;

// $result = array_filter($result);

// if (!empty($result)) {

// echo "<div id='judul-tweet'>TWEET TERBARU</div>";
// >
// <div id="todo"></div>
// <div id="judul-tweet">TINDAKAN</div>
// <div id="teks-tweet">
// <li>Setelah gempa jangan terburu-buru masuk ke bangunan, ada kemungkinan
// gempa susulan.</li>

// <li>Beri pertolongan pertama terhadap korban gempa.</li>

// <li>Dapatkan informasi gempa lebih lanjut dari pihak berwenang.</li>
// <br /></div>
// <div id="firstaid"></div>
// <div id="judul">
// PERTOLONGAN PERTAMA
// </div>
// <div id="teks">
// <div id="name">Luka ringan:</div>
// <li>Cuci tangan sampai bersih dengan menggunakan sabun dan air bersih bila
// memungkinkan.</li>
// <li>Hindari menyentuh luka dengan jari ketika melakukan perawatan (bila
// memungkinkan, gunakan sarung tangan latex sekali pakai).</li>
// <li>Lepaskan perhiasan yang mengganggu dan pakaian dari bagian tubuh yang
// terluka.</li>
// <li>Beri tekanan pada luka yang berdarah untuk mengendalikan pendarahan.</li>
// <li>Bersihkan luka setelah pendarahan berhenti.</li>
// <li>Biarkan luka yang tidak bersih, terkena gigitan, atau terkena tusukan
// terbuka.</li>
// <li>Berikan obat penahan rasa sakit bila memungkinkan.</li>
// <br />

```

```

<div id="name">Segera cari perhatian medis jika:</div>
<li>Ada objek asing tertanam di dalam luka.</li>
<li>Luka memiliki risiko khusus untuk terinfeksi (misalnya luka tergigit anjing
atau tertusuk benda kotor);</li>
<li>Ada luka lama yang tampak terinfeksi (semakin terasa sakit, bengkak, merah,
atau kalau kamu menjadi demam).</li>
</div>
<br />
<div id="teks"></div>

</body>
</html>

```

### **Annex 7. Sleman information page**

```

<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#name {
color: #03a9f4;
font-family: roboto;
font-weight: bold;
margin-left: 10px;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

```

```
#teks {  
font-weight: 300;  
font-family: roboto,arial;  
color: white;  
font-size: 13pt;  
margin-left: 10px;  
margin-right: 10px;  
}
```

```
#judul-notifikasi {  
  
background: #ff9800;  
color: white;  
text-align: center;  
font-family: roboto;  
font-size: 22pt;  
margin-top: 20px;  
  
}
```

```
#judul {  
font-family: roboto,arial;  
color: white;  
font-size: 22pt;  
margin-left: 10px;  
font-style: italic;  
margin-right: 10px;  
margin-top: 20px;  
}
```

```
#judul-tweet {  
font-family: roboto,arial;  
color: white;  
font-size: 24pt;  
padding: 5px;  
font-style: italic;  
background: #555555;  
margin: 5px;  
margin-top: 20px;  
}
```

```
#teks-tweet {  
font-family: roboto,arial;  
color: white;  
font-size: 13pt;  
margin-left: 5px;
```

```

margin-right:5px;
background: #414141;
padding: 10px;
font-weight: 300;
}

}
</style>
<div id="kepala">
<!-- <div id="kepala-teks">ICON NAV</div> -->
<a href="#merapi"></a>
<a href="#todo"></a>
<a href="#firstaid"></a>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$cari = ' from:BPPTKG aktivitas ';
$lokasikeyword = ' merapi ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:7349ae0f1fcb7e04 ';
$scaritotal = $cari . $tanggal . $lokasikeyword;
//$scarilokasi = 'from:BPPTKG aktivitas merapi';
//$scarilokasi = 'from:vulkanologi_mbg status merapi';
//$scarilokasi = $cari . $tanggal . $lokasi;

//$lokasi = 'gempa jogja OR diy OR yogya';
?>

```

```

<br /><br />
<div id="merapi"></div>
<div id="judul">
STATUS MERAPI
</div>

```

```

<?php //echo $carilokasi; ?>

```

```

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $caritotal,
    "count" => "1",
);

$nama = array();

$results = search($query);

if (!empty($results)) {

    //Display tweet terbaru dari infoBMKG mengandung keyword
    foreach ($results->statuses as $result) {
        echo "<div id='name'>" . $result->user->screen_name . "</div> <div id='teks'>"
        . $result->text .
        "</div><br />";
        //print_r ($result->geo->coordinates);
        $nama[] = $result->user->screen_name;
    }
    echo '</div>';
}

```

```

if (empty($result)) {
echo "<div id='name'>Tidak ada update status merapi</div>";
}
echo '<br />';
//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "</br>isinya adalah: " . $isi . "</br>";

//      // ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//      $k1=1;
//      // $toa = new TwitterOAuth(CONSUMER_KEY,
//      CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      // $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//      $tweetSleman));

//      }

//foreach ($results->statuses as $result) {
// echo $result->user->screen_name . ": " . $result->text . "\n";

//}

// $connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
// VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
// grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
// $content = $connection->get("account/verify_credentials");
// $statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
// print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {

```

```
// echo 'Gempa true</ br>';
    //$k1=1;

    //$result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";
?>
<div id="todo"></div>
<div id="judul-tweet">TINDAKAN</div>
<div id="teks-tweet">
<li>Setelah gempa jangan terburu-buru masuk ke bangunan, ada kemungkinan
gempa susulan.</li>

<li>Beri pertolongan pertama terhadap korban gempa.</li>

<li>Dapatkan informasi gempa lebih lanjut dari pihak berwenang.</li>
<br /></div>
<div id="firstaid"></div>
<div id="judul">
PERTOLONGAN PERTAMA
</div>
<div id="teks">
<div id="name">Luka ringan:</div>
<li>Cuci tangan sampai bersih dengan menggunakan sabun dan air bersih bila
memungkinkan.</li>
<li>Hindari menyentuh luka dengan jari ketika melakukan perawatan (bila
memungkinkan, gunakan sarung tangan latex sekali pakai).</li>
<li>Lepaskan perhiasan yang mengganggu dan pakaian dari bagian tubuh yang
terluka.</li>
<li>Beri tekanan pada luka yang berdarah untuk mengendalikan pendarahan.</li>
<li>Bersihkan luka setelah pendarahan berhenti.</li>
<li>Biarkan luka yang tidak bersih, terkena gigitan, atau terkena tusukan
terbuka.</li>
<li>Berikan obat penahan rasa sakit bila memungkinkan.</li>
<br />
<div id="name">Segera cari perhatian medis jika:</div>
<li>Ada objek asing tertanam di dalam luka.</li>
<li>Luka memiliki risiko khusus untuk terinfeksi (misalnya luka tergigit anjing
atau tertusuk benda kotor);</li>
<li>Ada luka lama yang tampak terinfeksi (semakin terasa sakit, bengkak, merah,
atau kalau kamu menjadi demam).</li>
</div>
<br />
```



```
<div id="teks"></div>
```

```
</body>
```

```
</html>
```

### **Annex 8. Bantul live tweet page**

```
<html>
```

```
<head>
```

```
<!-- <meta http-equiv="refresh" content="60"> -->
```

```
</head>
```

```
<body>
```

```
<style>
```

```
a {  
  color: #03a9f4;  
  font-family: roboto;  
  font-weight: bold;  
  margin-left: 10px;  
}
```

```
body {  
  background: #2b2b2b !important;  
  margin: 0px !important;  
}
```

```
#kepala {  
  background: #03a9f4;  
  width:100%;  
  
}
```

```
#kepala-teks {  
  font-family: roboto,arial;  
  color: white;  
  font-size: 32pt;  
  padding: 10px;  
  font-weight: lighter;  
}
```

```
#teks {  
  font-family: roboto,arial;  
  color: white;  
  font-size: 12pt;  
  margin-left: 10px;  
  margin-right: 10px;  
}
```

```

#judul-notifikasi {

    background: #ff9800;
    color: white;
    text-align: center;
    font-family: roboto;
    font-size: 22pt;
    margin-top: 20px;

}

#judul {
font-family: roboto,arial;
    color: white;
    font-size: 22pt;
    margin-left: 10px;
    font-style: italic;
    margin-right: 10px;
    margin-top: 20px;
}

#judul-tweet {
font-family: roboto,arial;
    color: white;
    font-size: 24pt;
    padding: 5px;
    font-style: italic;
    background: #555555;
    margin: 5px;
    margin-top: 20px;
}

#teks-tweet {
font-family: roboto,arial;
    color: white;
    font-size: 12pt;
    margin-left: 5px;
    margin-right: 5px;
    background: #414141;
    padding: 10px;
}

}
</style>
<div id="kepala">
<div id="kepala-teks">live tweet</div>

```

</div>

<?php

```
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;
```

```
//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');
```

```
define('CONSUMER_KEY', '81Jzr7cAtHR7ZLADTNRq2v7y1');
define('CONSUMER_SECRET',
'7ztq9OFLPB2ABwVjy5JB7MeuWQFs78xt4cXWr26fEGUVeh9UBN');
define('ACCESS_TOKEN', '2851415868-
2ZcFoYeLNRJ1IiVGTFtuzbeh1YfxuBrgML3bBhS');
define('ACCESS_TOKEN_SECRET',
'HfCp9YvI7H2PpnyAwVhnEhFM3ns9oq7yvUXqgR29W9VXD');
```

```
date_default_timezone_set('Asia/Jakarta');
//$tanggal = 'since:' . date('Y-m-d');
$tanggal = "";
//$sari = 'from:infobmkg gempa DIY';
//$sari = 'from:orangpelupa gempa DIY';
$sari = ' gempa ';
$lokasikeyword = ' bantul ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:90d55178721b1fb9 ';
$scaritotal = $sari . $tanggal . $lokasikeyword;
$scarilokasi = $tanggal . $lokasi;
```

```
//$lokasi = 'gempa jogja OR diy OR yoga';
?>
```

<br /><br />

<div id="judul">

BANTUL

</div>

<div id="teks">

Pencarian:

<?php echo \$scarilokasi; ?>

<br />----<br />

<?php

```

//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $carilokasi . '-filter:retweets',
    "count" => "5",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text .
    "<br /><a href='https://www.google.com/maps/place/" .
    $result->geo->coordinates[0] .
    ", " .
    $result->geo->coordinates[1] .
    "' target='_blank'> COORDINATE " .
    $result->geo->coordinates[0] .
    ", " .
    $result->geo->coordinates[1] .
    "</a><br /><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;
}
echo '</div>';

//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';

```

```

//print_r ($nama);

$isi = $result->text;
//      echo "</br>isinya adalah: " . $isi . "</br>";

//      ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status'=> '@' . $userSleman . ' ' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//      echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q'=> 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//      $k1=1;

//      $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";

```

```

        echo "<div id='teks-tweet'>Pencarian: " . $scaritotal . "<br />---<br />";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $scaritotal,
    "count" => "5",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

//echo "<div id='judul'>USERNAME</div><div id='teks'>";
//print_r ($namau);
//echo "</div>";

//for each user, send tweet
//foreach ($resultsu->statuses as $resultu) {
//    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$resultu->user->screen_name . $tweetSleman));
//}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
//}
//}
?>
</body>
</html>

```

## Annex 9. Gunungkidul live tweet page

```
<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
a {
  color: #03a9f4;
  font-family: roboto;
  font-weight: bold;
  margin-left: 10px;
}

body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

  background: #ff9800;
  color: white;
  text-align: center;
```

```

    font-family: roboto;
    font-size: 22pt;
    margin-top: 20px;

}

#judul {
font-family: roboto,arial;
    color: white;
    font-size: 22pt;
    margin-left: 10px;
    font-style: italic;
    margin-right: 10px;
    margin-top: 20px;
}

#judul-tweet {
font-family: roboto,arial;
    color: white;
    font-size: 24pt;
    padding: 5px;
    font-style: italic;
    background: #555555;
    margin: 5px;
    margin-top: 20px;
}

#teks-tweet {
font-family: roboto,arial;
    color: white;
    font-size: 12pt;
    margin-left:5px;
    margin-right:5px;
    background: #414141;
    padding: 10px;
}

}
</style>
<div id="kepala">
<div id="kepala-teks">live tweet</div>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

```



```

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', '81Jzr7cAtHR7ZLADTNRq2v7yl');
define('CONSUMER_SECRET',
'7ztq9OFLPB2ABwVjy5JB7MeuWQFs78xt4cXWr26fEGUVeh9UBN');
define('ACCESS_TOKEN', '2851415868-
2ZcFoYeLNRJ1IiVGTFtuzbeh1YfxuBrgML3bBhS');
define('ACCESS_TOKEN_SECRET',
'HfCp9YvI7H2PpnyAwVhnEhFM3ns9oq7yvUXqgR29W9VXD');

date_default_timezone_set('Asia/Jakarta');
//$tanggal = ' since:' . date('Y-m-d');
$tanggal = "";
//$sari = 'from:infobmkg gempap DIY';
//$sari = 'from:orangpelupa gempap DIY';
$sari = ' gempap ';
$lokasikeyword = ' gunungkidul ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:8c1db534e83bec62 ';
$scaritotal = $sari . $tanggal . $lokasikeyword;
$scarilokasi = $tanggal . $lokasi;

//$lokasi = 'gempap jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
GUNUNGKIDUL
</div>

<div id="teks">
Pencarian:
<?php echo $scarilokasi; ?>
<br />---<br />

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);

```

```

    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $carilokasi . '-filter:retweets',
    "count" => "5",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text .
    "<br /><a href='https://www.google.com/maps/place/' .
    $result->geo->coordinates[0] .
    \" , \" .
    $result->geo->coordinates[1] .
    \" target='_blank'> COORDINATE \" .
    $result->geo->coordinates[0] .
    \" , \" .
    $result->geo->coordinates[1] .
    \"</a><br /><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;
}
echo '</div>';

//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

```

```

// ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//  echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGallFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ,
2851415868, grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;

//      $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";

//      echo "<div id='teks-tweet'>Pencarian: " . $scaritotal . "<br />---<br />";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,

```

```

ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $caritotal,
    "count" => "5",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

//echo "<div id='judul'>USERNAME</div><div id='teks'>";
//print_r ($namau);
//echo "</div>";

//for each user, send tweet
//foreach ($resultsu->statuses as $resultu) {
//    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
//    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//    $resultu->user->screen_name . $tweetSleman));
//}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
//}

//}
?>
</body>
</html>

```

## Annex 10. Yogyakarta City live tweet page

```
<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
a {
  color: #03a9f4;
  font-family: roboto;
  font-weight: bold;
  margin-left: 10px;
}

body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

  background: #ff9800;
  color: white;
  text-align: center;
```

```

    font-family: roboto;
    font-size: 22pt;
    margin-top: 20px;

}

#judul {
font-family: roboto,arial;
    color: white;
    font-size: 22pt;
    margin-left: 10px;
    font-style: italic;
    margin-right: 10px;
    margin-top: 20px;
}

#judul-tweet {
font-family: roboto,arial;
    color: white;
    font-size: 24pt;
    padding: 5px;
    font-style: italic;
    background: #555555;
    margin: 5px;
    margin-top: 20px;
}

#teks-tweet {
font-family: roboto,arial;
    color: white;
    font-size: 12pt;
    margin-left:5px;
    margin-right:5px;
    background: #414141;
    padding: 10px;
}

}
</style>
<div id="kepala">
<div id="kepala-teks">live tweet</div>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

```

```

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', '81Jzr7cAtHR7ZLADTNRq2v7yl');
define('CONSUMER_SECRET',
'7ztq9OFLPB2ABwVjy5JB7MeuWQFs78xt4cXWr26fEGUVeh9UBN');
define('ACCESS_TOKEN', '2851415868-
2ZcFoYeLNRJ1liVGTFtuzbeh1YfxuBrgML3bBhS');
define('ACCESS_TOKEN_SECRET',
'HfCp9YvI7H2PpnyAwVhnEhFM3ns9oq7yvUXqgR29W9VXD');

date_default_timezone_set('Asia/Jakarta');
//$tanggal = ' since:' . date('Y-m-d');
$tanggal = "";
//$cari = 'from:infobmkg gempap DIY';
//$cari = 'from:orangpelupa gempap DIY';
$cari = ' gempap ';
$lokasikeyword = ' yogyakarta OR jogja OR yogya ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:b02c1f786ae45a8c ';
$caritotal = $cari . $tanggal . $lokasikeyword;
$carilokasi = $tanggal . $lokasi;

//$lokasi = 'gempap jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
YOGYAKARTA
</div>

<div id="teks">
Pencarian:
<?php echo $carilokasi; ?>
<br />---<br />

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);

```

```

    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $carilokasi . '-filter:retweets',
    "count" => "5",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text .
    "<br /><a href='https://www.google.com/maps/place/" .
    $result->geo->coordinates[0] .
    "," .
    $result->geo->coordinates[1] .
    "' target='_blank'> COORDINATE " .
    $result->geo->coordinates[0] .
    "," .
    $result->geo->coordinates[1] .
    "</a><br /><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;
}
echo '</div>';

//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

```



```

// ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//  echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGallFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ,
2851415868, grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;

//      $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";

//      echo "<div id='teks-tweet'>Pencarian: " . $caritotal . "<br />---<br />";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,

```

```

ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $caritotal,
    "count" => "5",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

//echo "<div id='judul'>USERNAME</div><div id='teks'>";
//print_r ($namau);
//echo "</div>";

//for each user, send tweet
//foreach ($resultsu->statuses as $resultu) {
//    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
//    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//    $resultu->user->screen_name . $tweetSleman));
//}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
//}

//}
?>
</body>
</html>

```

### Annex 11. Kulonprogo live tweet page

```
<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
a {
  color: #03a9f4;
  font-family: roboto;
  font-weight: bold;
  margin-left: 10px;
}

body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

  background: #ff9800;
  color: white;
```

```

        text-align: center;
        font-family: roboto;
        font-size: 22pt;
        margin-top: 20px;
    }

    #judul {
        font-family: roboto,arial;
        color: white;
        font-size: 22pt;
        margin-left: 10px;
        font-style: italic;
        margin-right: 10px;
        margin-top: 20px;
    }

    #judul-tweet {
        font-family: roboto,arial;
        color: white;
        font-size: 24pt;
        padding: 5px;
        font-style: italic;
        background: #555555;
        margin: 5px;
        margin-top: 20px;
    }

    #teks-tweet {
        font-family: roboto,arial;
        color: white;
        font-size: 12pt;
        margin-left:5px;
        margin-right:5px;
        background: #414141;
        padding: 10px;
    }

}
</style>
<div id="kepala">
<div id="kepala-teks">live tweet</div>
</div>

<?php
require "twitteroauth/autoload.php";

```

```

use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', '81Jzr7cAtHR7ZLADTNRq2v7yl');
define('CONSUMER_SECRET',
'7ztq9OFLPB2ABwVjy5JB7MeuWQFs78xt4cXWr26fEGUVeh9UBN');
define('ACCESS_TOKEN', '2851415868-
2ZcFoYeLNRJ1IiVGTFtuzbeh1YfxuBrgML3bBhS');
define('ACCESS_TOKEN_SECRET',
'HfCp9YvI7H2PpnyAwVhnEhFM3ns9oq7yvUXqgR29W9VXD');

date_default_timezone_set('Asia/Jakarta');
//$tanggal = ' since:' . date('Y-m-d');
$tanggal = "";
//$sari = 'from:infobmkg gempa DIY';
//$sari = 'from:orangpelupa gempa DIY';
$sari = ' gempa ';
$lokasikeyword = ' kulonprogo ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:a0ded55549d17565 ';
$scaritotal = $sari . $tanggal . $lokasikeyword;
$scarilokasi = $tanggal . $lokasi;

//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
KULONPROGO
</div>

<div id="teks">
Pencarian:
<?php echo $scarilokasi; ?>
<br />---<br />

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,

```

```

ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $carilokasi . '-filter:retweets',
    "count" => "5",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text .
    "<br /><a href='https://www.google.com/maps/place/" .
    $result->geo->coordinates[0] .
    ", " .
    $result->geo->coordinates[1] .
    "' target='_blank'> COORDINATE " .
    $result->geo->coordinates[0] .
    ", " .
    $result->geo->coordinates[1] .
    "</a><br /><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;
}
echo '</div>';

//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

```

```

// ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status' => '@' . $userSleman . '' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//  echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;

//      $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";

//      echo "<div id='teks-tweet'>Pencarian: " . $scaritotal . "<br />---<br />";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{

```

```

    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $caritotal,
    "count" => "5",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

//echo "<div id='judul'>USERNAME</div><div id='teks'>";
//print_r ($namau);
//echo "</div>";

//for each user, send tweet
//foreach ($resultsu->statuses as $resultu) {
//    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$resultu->user->screen_name . $tweetSleman));
//}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
//}

//}
?>
</body>
</html>

```



## Annex 12. Sleman live tweet page

```
<html>
<head>
<!-- <meta http-equiv="refresh" content="60"> -->
</head>
<body>
<style>
a {
  color: #03a9f4;
  font-family: roboto;
  font-weight: bold;
  margin-left: 10px;
}

body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

  background: #ff9800;
  color: white;
```

```

        text-align: center;
        font-family: roboto;
        font-size: 22pt;
        margin-top: 20px;
    }

    #judul {
        font-family: roboto,arial;
        color: white;
        font-size: 22pt;
        margin-left: 10px;
        font-style: italic;
        margin-right: 10px;
        margin-top: 20px;
    }

    #judul-tweet {
        font-family: roboto,arial;
        color: white;
        font-size: 24pt;
        padding: 5px;
        font-style: italic;
        background: #555555;
        margin: 5px;
        margin-top: 20px;
    }

    #teks-tweet {
        font-family: roboto,arial;
        color: white;
        font-size: 12pt;
        margin-left:5px;
        margin-right:5px;
        background: #414141;
        padding: 10px;
    }

}
</style>
<div id="kepala">
<div id="kepala-teks">live tweet</div>
</div>

<?php
require "twitteroauth/autoload.php";

```

```

use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', '81Jzr7cAtHR7ZLADTNRq2v7yl');
define('CONSUMER_SECRET',
'7ztq9OFLPB2ABwVjy5JB7MeuWQFs78xt4cXWr26fEGUVeh9UBN');
define('ACCESS_TOKEN', '2851415868-
2ZcFoYeLNRJ1IiVGTFtuzbeh1YfxuBrgML3bBhS');
define('ACCESS_TOKEN_SECRET',
'HfCp9YvI7H2PpnyAwVhnEhFM3ns9oq7yvUXqgR29W9VXD');

date_default_timezone_set('Asia/Jakarta');
//$tanggal = ' since:' . date('Y-m-d');
$tanggal = "";
//$sari = 'from:infobmkg gempa DIY';
//$sari = 'from:orangpelupa gempa DIY';
$sari = ' gempa ';
$lokasikeyword = ' sleman ';
$tweetSleman = 'Uji pengiriman pesan (SLMN)';
$userSleman = 'orangpelupa';
$lokasi = ' place:7349ae0f1fcb7e04 ';
$scaritotal = $sari . $tanggal . $lokasikeyword;
$scarilokasi = $tanggal . $lokasi;

//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
SLEMAN
</div>

<div id="teks">
Pencarian:
<?php echo $scarilokasi; ?>
<br />---<br />

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,

```

```

ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $carilokasi . '-filter:retweets',
    "count" => "5",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text .
    "<br /><a href='https://www.google.com/maps/place/" .
    $result->geo->coordinates[0] .
    ", " .
    $result->geo->coordinates[1] .
    "' target='_blank'> COORDINATE " .
    $result->geo->coordinates[0] .
    ", " .
    $result->geo->coordinates[1] .
    "</a><br /><br />";
    //print_r ($result->geo->coordinates);
    $nama[] = $result->user->screen_name;
}
echo '</div>';

//if (empty($result)) {
//echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
//}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

```

```

// ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status' => '@' . $userSleman . '' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//  echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;

//      $result = array_filter($result);

//if (!empty($result)) {

//echo "<div id='judul-tweet'>TWEET TERBARU</div>";

//      echo "<div id='teks-tweet'>Pencarian: " . $scaritotal . "<br />---<br />";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{

```

```

    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $caritotal,
    "count" => "5",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

//echo "<div id='judul'>USERNAME</div><div id='teks'>";
//print_r ($namau);
//echo "</div>";

//for each user, send tweet
//foreach ($resultsu->statuses as $resultu) {
//    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$resultu->user->screen_name . $tweetSleman));
//}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
//}

//}
?>
</body>
</html>

```

### Annex 13. Index frames

```
<!DOCTYPE html>
<html>

<frameset cols="25%,*" scrolling="no" frameborder="0">
  <frame name="sidebar" src="sidebar.html" scrolling="yes" frameborder="0">
  <frame name="tmap" src="map.html" scrolling="no" frameborder="0"
style="padding-left:3px;">

</frameset>
</html>
```

### Annex 14. Map page

```
<!DOCTYPE html>
<html>
<head>
<meta charset=utf-8 />
<title>Chrysalis - Info dan Tweet Gempa Terbaru Jogja (int20150219)</title>
<meta name='viewport' content='initial-scale=1,maximum-scale=1,user-
scalable=no' />
<script src='https://api.tiles.mapbox.com/mapbox.js/v1.6.4/mapbox.js'></script>
<link href='https://api.tiles.mapbox.com/mapbox.js/v1.6.4/mapbox.css'
rel='stylesheet' />
<style>
  body { margin:0; padding:0; }
  #map { position:absolute; top:0; bottom:0; width:100%; }
</style>
</head>
<body>

<style>

.leaflet-container .marker-description img {
margin-bottom: 0px;
}

.leaflet-container a {
vertical-align: top;
font-family: roboto,'Helvetica Neue',Arial,Helvetica,sans-serif;
}

.marker-title h1 {
```

```
font-family: roboto,'Helvetica Neue',Arial,Helvetica,sans-serif;
font-weight: lighter;
}
```

```
.search-ui {
position: absolute;
top: 10px;
right: 10px;
width: 240px;
height: 20px;
border: 0px;
padding: 3px;
border-radius: 3px;
}
```

```
.menu-ui {
background: #fff;
position: absolute;
top: 45px;
right: 10px;
z-index: 1;
border-radius: 3px;
width: 120px;
/* border: 1px solid rgba(0,0,0,0.4); */
text-transform: uppercase;
font-family: tahoma;
}
```

```
.menu-ui a {
font-size: 13px;
color: #404040;
display: block;
margin: 0; padding: 0;
padding: 10px;
text-decoration: none;
border-bottom: 1px solid rgba(0,0,0,0.25);
text-align: center;
}
.menu-ui a:first-child {
border-radius: 3px 3px 0 0;
}
.menu-ui a:last-child {
border: none;
border-radius: 0 0 3px 3px;
}
```



```

.menu-ui a:hover {
  background:#f8f8f8;
  color:#404040;
}
.menu-ui a.active,
.menu-ui a.active:hover {
  background:#3887BE;
  color:#FFF;
}
</style>

<!--
<nav id='menu-ui' class='menu-ui'>
  <a href='#' class='active' id='filter-all'>All events</a>
  <a href='#' id='filter-food'>Tourist spots</a>
  <a href='#' id='filter-hotel'>Hotels</a>
</nav>
-->

<div id='map'></div>
<!-- <input id='search' class='search-ui' placeholder='Search lion,turtle...' /> -->

<script>
  var map = L.mapbox.map('map', 'radenmas.l638o3h9'),
      food = document.getElementById('filter-food'),
      all = document.getElementById('filter-all'),
      hotel = document.getElementById('filter-hotel');

  food.onclick = function(e) {
    all.className = "";
    this.className = 'active';
    // The setFilter function takes a GeoJSON feature object
    // and returns true to show it or false to hide it.
    map.featureLayer.setFilter(function(f) {
      return f.properties['marker-symbol'] === 'school';
    });
    return false;
  };

  hotel.onclick = function(e) {
    all.className = "";
    this.className = 'active';
    // The setFilter function takes a GeoJSON feature object
    // and returns true to show it or false to hide it.
    map.featureLayer.setFilter(function(f) {
      return f.properties['marker-symbol'] === 'lodging';
    });
  };

```

```

    });
    return false;
  };

  all.onclick = function() {
    food.className = "";
    this.className = 'active';
    map.featureLayer.setFilter(function(f) {
      // Returning true for all markers shows everything.
      return true;
    });
    return false;
  };
</script>

</body>
</html>

```

### **Annex 15. Bantul information delivery**

```

<html>
<head>
<meta http-equiv="refresh" content="60">
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {

```

```
font-family: roboto,arial;  
color: white;  
font-size: 12pt;  
margin-left: 10px;  
margin-right: 10px;  
}
```

```
#judul-notifikasi {  
  
    background: #ff9800;  
    color: white;  
    text-align: center;  
    font-family: roboto;  
    font-size: 22pt;  
    margin-top: 20px;  
  
}
```

```
#judul {  
font-family: roboto,arial;  
color: white;  
font-size: 22pt;  
margin-left: 10px;  
font-style: italic;  
margin-right: 10px;  
margin-top: 20px;  
}
```

```
#judul-tweet {  
font-family: roboto,arial;  
color: white;  
font-size: 24pt;  
padding: 5px;  
font-style: italic;  
background: #555555;  
margin: 5px;  
margin-top: 20px;  
}
```

```
#teks-tweet {  
font-family: roboto,arial;  
color: white;  
font-size: 12pt;  
margin-left: 5px;  
margin-right: 5px;  
background: #414141;
```

```

padding: 10px;
}

}
</style>
<div id="kepala">
<div id="kepala-teks">chrysalis</div>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$tanggal = "";
$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$tweetSleman = 'Info lebih lanjut gempa hari ini
http://bramantya.org/maps/jogja/info-bantul.php';
//$userSleman = 'orangpelupa';
$userSleman = "";
$caritotal = $cari . $tanggal;
$lokasi = 'place:90d55178721b1fb9';
$lokasi2 = 'gempa bantul';
//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
PENCARIAN DAN HASIL
</div>

<div id="teks">
<?php echo $caritotal . '<br />'; ?>

```

```

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $caritotal,
    "count" => "1",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text . "<br>";
    $nama[] = $result->user->screen_name;
}
echo '</div>';

if (empty($result)) {
    echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//          echo "<br>isinya adalah: " . $isi . "<br>";

// ingat, MASIH case sensitive
//KEYWORD 1

```

```

//          if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//          $k1=1;
//          $toa = new TwitterOAuth(CONSUMER_KEY,
CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//          $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
$tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//      echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//          if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true</ br>';
//          $k1=1;

//          $result = array_filter($result);

if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU DI SLEMAN</div>";

        echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

```

```

$queryu = array(
    "q" => $lokasi,
    "count" => "3",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namau);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsu->statuses as $resultu) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultu-
    >user->screen_name . $tweetSleman));
}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//ini keyword gak geo loc
if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU TENTANG GEMPA
SLEMAN</div>";

    echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchk(array $queryk)
{

```

```

    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryk);
}

$queryk = array(
    "q" => $lokasi2,
    "count" => "3",
);

$namak = array();

$resultsk = searchk($queryk);

//array nama pengguna twitter diambil
foreach ($resultsk->statuses as $resultk) {
    echo $resultk->user->screen_name . ": " . $resultk->text . "<br><br>";
    $namak[] = $resultk->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namak);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsk->statuses as $resultk) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultk-
>user->screen_name . $tweetSleman));
}

echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//}
?>
</body>
</html>

```

## **Annex 16. Gunungkidul information delivery**



```

<html>
<head>
<meta http-equiv="refresh" content="60">
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

background: #ff9800;
color: white;
text-align: center;
font-family: roboto;
font-size: 22pt;
margin-top: 20px;

}

#judul {
font-family: roboto,arial;

```

```

        color: white;
        font-size: 22pt;
        margin-left: 10px;
        font-style: italic;
        margin-right: 10px;
        margin-top: 20px;
    }

    #judul-tweet {
        font-family: roboto,arial;
        color: white;
        font-size: 24pt;
        padding: 5px;
        font-style: italic;
        background: #555555;
        margin: 5px;
        margin-top: 20px;
    }

    #teks-tweet {
        font-family: roboto,arial;
        color: white;
        font-size: 12pt;
        margin-left: 5px;
        margin-right: 5px;
        background: #414141;
        padding: 10px;
    }

}
</style>
<div id="kepala">
<div id="kepala-teks">chrysalis</div>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');

```

```

define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$tanggal = "";
$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$tweetSleman = 'Info lebih lanjut gempa hari ini
http://bramantya.org/maps/jogja/info-gunungkidul.php';
//$userSleman = 'orangpelupa';
$userSleman = "";
$scaritotal = $cari . $tanggal;
$lokasi = 'place:8c1db534e83bec62';
$lokasi2 = 'gempa gunungkidul';
//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
PENCARIAN DAN HASIL
</div>

<div id="teks">
<?php echo $scaritotal . '<br />'; ?>

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $scaritotal,
    "count" => "1",
);

$nama = array();

```

```

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text . "</br>";
    $nama[] = $result->user->screen_name;
}
echo '</div>';

if (empty($result)) {
    echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//          echo "</br>isinya adalah: " . $isi . "</br>";

// ingat, MASIH case sensitive
//KEYWORD 1
//          if (strpos($isi,'Gempa') !== false) {
//    echo 'Gempa true</ br>';
//    $k1=1;
//    $toa = new TwitterOAuth(CONSUMER_KEY,
//    CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//    $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//    $tweetSleman));

//    }

//foreach ($results->statuses as $result) {
//    echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
//VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
//grnjjJ1CHd6HuJvRaxs3qzfafkFvJDakB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");

```

```

// $statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
// print_r($statuses);

//-----search usernames

// Mencari
//           if (strpos($isi,'Gempa') !== false) {
//   echo 'Gempa true</ br>';
//       $k1=1;

// $result = array_filter($result);

if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU DI SLEMAN</div>";

        echo "<div id='teks-tweet'>";
// Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $lokasi,
    "count" => "3",
);

$namau = array();

$resultsu = searchu($queryu);

// array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "</br></br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namau);

```

```

echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsu->statuses as $resultu) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultu-
    >user->screen_name . $tweetSleman));

}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//ini keyword gak geo loc
if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU TENTANG GEMPA
SLEMAN</div>";

    echo "<div id='teks-tweet'>";
    //Mencari pengguna twitter di lokasi tertentu
    function searchk(array $queryk)
    {
        $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
        ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
        return $toa->get('search/tweets', $queryk);
    }

$queryk = array(
    "q" => $lokasi2,
    "count" => "3",
);

$namak = array();

$resultsk = searchk($queryk);

//array nama pengguna twitter diambil
foreach ($resultsk->statuses as $resultk) {
    echo $resultk->user->screen_name . ": " . $resultk->text . "<br><br>";
    $namak[] = $resultk->user->screen_name;

}

```

```

echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r($namak);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsk->statuses as $resultk) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultk-
    >user->screen_name . $tweetSleman));

}

echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//}
?>
</body>
</html>

```

### **Annex 17. Yogyakarta City information delivery**

```

<html>
<head>
<meta http-equiv="refresh" content="60">
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;

```

```
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}
```

```
#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}
```

```
#judul-notifikasi {

background: #ff9800;
color: white;
text-align: center;
font-family: roboto;
font-size: 22pt;
margin-top: 20px;

}
```

```
#judul {
font-family: roboto,arial;
color: white;
font-size: 22pt;
margin-left: 10px;
font-style: italic;
margin-right: 10px;
margin-top: 20px;
}
```

```
#judul-tweet {
font-family: roboto,arial;
color: white;
font-size: 24pt;
padding: 5px;
font-style: italic;
background: #555555;
margin: 5px;
margin-top: 20px;
}
```

```
#teks-tweet {
```



```

font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left:5px;
margin-right:5px;
background: #414141;
padding: 10px;
}

}
</style>
<div id="kepala">
<div id="kepala-teks">chrysalis</div>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$tanggal = "";
$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$tweetSleman = 'Info lebih lanjut gempa hari ini
http://bramantya.org/maps/jogja/info-jogja.php';
//$userSleman = 'orangpelupa';
$userSleman = "";
$caritotal = $cari . $tanggal;
$lokasi = 'place:b02c1f786ae45a8c';
//$lokasi2 = 'gempa gunungkidul';
$lokasi = 'gempa jogja OR diy OR yoga';
?>

<br /><br />
<div id="judul">

```

## PENCARIAN DAN HASIL

</div>

<div id="teks">

<?php echo \$scaritotal . '<br />'; ?>

<?php

//-----search isi tweet

function search(array \$query)

{

    \$toa = new TwitterOAuth(CONSUMER\_KEY, CONSUMER\_SECRET,  
    ACCESS\_TOKEN, ACCESS\_TOKEN\_SECRET);

    return \$toa->get('search/tweets', \$query);

}

//cari tweet yang mengandung kata kunci

\$query = array(

    "q" => \$scaritotal,

    "count" => "1",

);

\$nama = array();

\$results = search(\$query);

//Display tweet terbaru dari infoBMKG mengandung keyword

foreach (\$results->statuses as \$result) {

    echo \$result->user->screen\_name . ": " . \$result->text . "<br>";

    \$nama[] = \$result->user->screen\_name;

}

echo '</div>';

if (empty(\$result)) {

echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";

}

//echo 'bawah <br>';

//print\_r (\$nama);

```

    $isi = $result->text;
    //          echo "</br>isinya adalah: " . $isi . "</br>";

    // ingat, MASIH case sensitive
    //KEYWORD 1
    //          if (strpos($isi,'Gempa') !== false) {
    //      echo 'Gempa true</ br>';
    //          $k1=1;
    //          $toa = new TwitterOAuth(CONSUMER_KEY,
    CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    //          $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
    $tweetSleman));

    //          }

    //foreach ($results->statuses as $result) {
    //      echo $result->user->screen_name . ": " . $result->text . "\n";

    //}

    //$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
    VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
    grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
    //$content = $connection->get("account/verify_credentials");
    //$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
    //print_r($statuses);

    //-----search usernames

    //Mencari
    //          if (strpos($isi,'Gempa') !== false) {
    //      echo 'Gempa true</ br>';
    //          $k1=1;

    //          $result = array_filter($result);

    if (!empty($result)) {

    echo "<div id='judul-tweet'>TWEET TERBARU DI SLEMAN</div>";

    echo "<div id='teks-tweet'>";
    //Mencari pengguna twitter di lokasi tertentu

```

```

function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $lokasi,
    "count" => "3",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namau);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsu->statuses as $resultu) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultu-
    >user->screen_name . $tweetSleman));
}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//ini keyword gak geo loc
if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU TENTANG GEMPA

```

```

SLEMAN</div>";

        echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchk(array $queryk)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryk);
}

$queryk = array(
    "q" => $lokasi2,
    "count" => "3",
);

$namak = array();

$resultsk = searchk($queryk);

//array nama pengguna twitter diambil
foreach ($resultsk->statuses as $resultk) {
    echo $resultk->user->screen_name . ": " . $resultk->text . "<br><br>";
    $namak[] = $resultk->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namak);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsk->statuses as $resultk) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultk-
>user->screen_name . $tweetSleman));
}

echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
echo "<div id='teks'>" . $tweetSleman . "</div>";
}

```

```
//}
?>
</body>
</html>
```

### **Annex 18. Kulonprogo information delivery**

```
<html>
<head>
<meta http-equiv="refresh" content="60">
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

background: #ff9800;
color: white;
text-align: center;
font-family: roboto;
font-size: 22pt;
```

```

        margin-top: 20px;

    }

    #judul {
    font-family: roboto,arial;
    color: white;
    font-size: 22pt;
    margin-left: 10px;
    font-style: italic;
    margin-right: 10px;
    margin-top: 20px;
    }

    #judul-tweet {
    font-family: roboto,arial;
    color: white;
    font-size: 24pt;
    padding: 5px;
    font-style: italic;
    background: #555555;
    margin: 5px;
    margin-top: 20px;
    }

    #teks-tweet {
    font-family: roboto,arial;
    color: white;
    font-size: 12pt;
    margin-left:5px;
    margin-right:5px;
    background: #414141;
    padding: 10px;
    }

    }
</style>
<div id="kepala">
<div id="kepala-teks">chrysalis</div>
</div>

<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';

```

```

//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$tanggal = "";
$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$tweetSleman = 'Info lebih lanjut gempa hari ini
http://bramantya.org/maps/jogja/info-kulonprogo.php';
//$userSleman = 'orangpelupa';
$userSleman = "";
$scaritotal = $cari . $tanggal;
$lokasi = 'place:a0ded55549d17565';
$lokasi2 = 'gempa kulonprogo';
//$lokasi = 'gempa jogja OR diy OR yogya';
?>

```

```

<br /><br />
<div id="judul">
PENCARIAN DAN HASIL
</div>

```

```

<div id="teks">
<?php echo $scaritotal . '<br />'; ?>

```

```

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $scaritotal,
    "count" => "1",

```



```

);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text . "<br>";
    $nama[] = $result->user->screen_name;
}
echo '</div>';

if (empty($result)) {
    echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

//      // ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//      echo 'Gempa true<br>';
//      $k1=1;
//      $toa = new TwitterOAuth(CONSUMER_KEY,
//CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//tweetSleman));
//      }

//foreach ($results->statuses as $result) {
//      echo $result->user->screen_name . ": " . $result->text . "\n";

//}

```

```

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//          if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//          $k1=1;

//          $result = array_filter($result);

if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU DI SLEMAN</div>";

        echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $lokasi,
    "count" => "3",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "</br></br>";
    $namau[] = $resultu->user->screen_name;
}

```

```

}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namau);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsu->statuses as $resultu) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultu-
    >user->screen_name . $tweetSleman));
}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//ini keyword gak geo loc
if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU TENTANG GEMPA
SLEMAN</div>";

    echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchk(array $queryk)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryk);
}

$queryk = array(
    "q" => $lokasi2,
    "count" => "3",
);

$namak = array();

$resultsk = searchk($queryk);

```

```

//array nama pengguna twitter diambil
foreach ($resultsk->statuses as $resultk) {
    echo $resultk->user->screen_name . ": " . $resultk->text . "<br><br>";
    $namak[] = $resultk->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namak);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsk->statuses as $resultk) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultk-
    >user->screen_name . $tweetSleman));
}

echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
echo "<div id='teks'>" . $tweetSleman . "</div>";
}

//}
?>
</body>
</html>

```

### **Annex 19. Sleman information delivery**

```

<html>
<head>
<meta http-equiv="refresh" content="60">
</head>
<body>
<style>
body {
background: #2b2b2b !important;
margin: 0px !important;
}

#kepala {
background: #03a9f4;
width:100%;

```

```

}

#kepala-teks {
font-family: roboto,arial;
color: white;
font-size: 32pt;
padding: 10px;
font-weight: lighter;
}

#teks {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left: 10px;
margin-right: 10px;
}

#judul-notifikasi {

background: #ff9800;
color: white;
text-align: center;
font-family: roboto;
font-size: 22pt;
margin-top: 20px;

}

#judul {
font-family: roboto,arial;
color: white;
font-size: 22pt;
margin-left: 10px;
font-style: italic;
margin-right: 10px;
margin-top: 20px;
}

#judul-tweet {
font-family: roboto,arial;
color: white;
font-size: 24pt;
padding: 5px;
font-style: italic;

```

```
background: #555555;
margin: 5px;
margin-top: 20px;
}
```

```
#teks-tweet {
font-family: roboto,arial;
color: white;
font-size: 12pt;
margin-left:5px;
margin-right:5px;
background: #414141;
padding: 10px;
}
```

```
}
</style>
<div id="kepala">
<div id="kepala-teks">chrysalis</div>
</div>
```

```
<?php
require "twitteroauth/autoload.php";
use Abraham\TwitterOAuth\TwitterOAuth;

//require_once 'lib/TwitterOAuth.php';
//require "vendor/autoload.php";
//use Abraham\TwitterOAuth\TwitterOAuth;
//require_once('src/Config.php');

define('CONSUMER_KEY', 'ckey');
define('CONSUMER_SECRET', 'cskey');
define('ACCESS_TOKEN', 'atkey');
define('ACCESS_TOKEN_SECRET', 'atskey');

date_default_timezone_set('Asia/Jakarta');
$tanggal = ' since:' . date('Y-m-d');
//$tanggal = "";
$cari = 'from:infobmkg gempa DIY';
//$cari = 'from:orangpelupa gempa DIY';
$tweetSleman = 'Info lebih lanjut gempa hari ini
http://bramantya.org/maps/jogja/info-sleman.php';
//$userSleman = 'orangpelupa';
$userSleman = "";
$scaritotal = $cari . $tanggal;
$lokasi = 'place:7349ae0f1fcb7e04';
```

```

$lokasi2 = 'gempa sleman';
//$lokasi = 'gempa jogja OR diy OR yogya';
?>

<br /><br />
<div id="judul">
PENCARIAN DAN HASIL
</div>

<div id="teks">
<?php echo $scaritotal . '<br />'; ?>

<?php
//-----search isi tweet
function search(array $query)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
    ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $query);
}

//cari tweet yang mengandung kata kunci
$query = array(
    "q" => $scaritotal,
    "count" => "1",
);

$nama = array();

$results = search($query);

//Display tweet terbaru dari infoBMKG mengandung keyword
foreach ($results->statuses as $result) {
    echo $result->user->screen_name . ": " . $result->text . "<br>";
    $nama[] = $result->user->screen_name;
}
echo '</div>';

if (empty($result)) {
    echo "<div id='judul-notifikasi'>INFORMASI TIDAK DIKIRIM</div>";
}

```

```

}

//echo 'bawah <br>';
//print_r ($nama);

$isi = $result->text;
//      echo "<br>isinya adalah: " . $isi . "<br>";

//      // ingat, MASIH case sensitive
//KEYWORD 1
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      $k1=1;
//      //$toa = new TwitterOAuth(CONSUMER_KEY,
//      CONSUMER_SECRET, ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
//      $toa->post('statuses/update', array('status' => '@' . $userSleman . ' ' .
//      $tweetSleman));

//      }

//foreach ($results->statuses as $result) {
//  echo $result->user->screen_name . ": " . $result->text . "\n";

//}

//$connection = new TwitterOAuth(HI6yfgXbaWTEG72T8QOpSYE0M,
//VrcGalLFT4w4QJtULaRdQnqQErBekPZq1kwX9GjT2osbpIm4rQ, 2851415868,
//grnjjJ1CHd6HuJvRaxs3qzfafkFvJDaKB4tHihT35wD1n);
//$content = $connection->get("account/verify_credentials");
//$statuses = $connection->get('search/tweets', array('q' => 'bananaz'));
//print_r($statuses);

//-----search usernames

//Mencari
//      if (strpos($isi,'Gempa') !== false) {
//  echo 'Gempa true</ br>';
//      //$k1=1;

//      //$result = array_filter($result);

if (!empty($result)) {

```



```

echo "<div id='judul-tweet'>TWEET TERBARU DI SLEMAN</div>";

        echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchu(array $queryu)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryu);
}

$queryu = array(
    "q" => $lokasi,
    "count" => "3",
);

$namau = array();

$resultsu = searchu($queryu);

//array nama pengguna twitter diambil
foreach ($resultsu->statuses as $resultu) {
    echo $resultu->user->screen_name . ": " . $resultu->text . "<br><br>";
    $namau[] = $resultu->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namau);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsu->statuses as $resultu) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultu-
>user->screen_name . $tweetSleman));
}

//echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";
//echo "<div id='teks'>" . $tweetSleman . "</div>";
}

```

```

//ini keyword gak geo loc
if (!empty($result)) {

echo "<div id='judul-tweet'>TWEET TERBARU TENTANG GEMPA
SLEMAN</div>";

        echo "<div id='teks-tweet'>";
//Mencari pengguna twitter di lokasi tertentu
function searchk(array $queryk)
{
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    return $toa->get('search/tweets', $queryk);
}

$queryk = array(
    "q" => $lokasi2,
    "count" => "3",
);

$namak = array();

$resultsk = searchk($queryk);

//array nama pengguna twitter diambil
foreach ($resultsk->statuses as $resultk) {
    echo $resultk->user->screen_name . ": " . $resultk->text . "<br><br>";
    $namak[] = $resultk->user->screen_name;
}
echo "</div>";

echo "<div id='judul'>USERNAME</div><div id='teks'>";
print_r ($namak);
echo "</div>";

//for each user, send tweet (INI BARU DARI KEYWORD TOK)
foreach ($resultsk->statuses as $resultk) {
    $toa = new TwitterOAuth(CONSUMER_KEY, CONSUMER_SECRET,
ACCESS_TOKEN, ACCESS_TOKEN_SECRET);
    $toa->post('statuses/update', array('status' => '@' . $userSleman . $resultk-
>user->screen_name . $tweetSleman));
}

```

```
echo "<div id='judul-notifikasi'>INFORMASI TERKIRIM</div>";  
echo "<div id='teks'>" . $tweetSleman . "</div>";  
}
```

```
//}  
?>  
</body>  
</html>
```