Educating the public about the safety of Contact Tracing Apps

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Abstract

Due to the ongoing Covid-19 pandemic, many countries have thought of preventive measures to slow down the spread of the virus. Contact tracings applications are one of these measures. Through recording if any users come into contact with another person that has contracted the virus, the spread can be observed, and possible infectees can take the necessary next precautions for their and others safety. In an ideal scenario, a large portion of the population would be actively using these apps but that is not the case. Privacy concerts seem to be a main focus as to why the amount of downloads are still relatively low. By creating a short animation, it is hoped to be able to inform the general public about the necessity of these applications and safety of them, in the hopes to up the amount of downloads that they receive.

Introduction

Contact tracing has been around for centuries to identify people who have come into contact with another person with a disease such as tuberculosis, HIV and airborne infections with the main goal of slowing the spread and treating possible new cases by giving tips on how to proceed when having contracted the virus. In addition to being able to inform people of possible safety measures people can take if they have contracted the virus, Aleta et al (2020) shows that it could also help with lessening the amount of quarantine a country will have to undergo as a whole, since people are more aware of their circumstance and can take individual action much faster thus preventing a more general quarantine and perhaps even opening up the country before a vaccine is readily available which is supported by Dar et al (2020).

Due to the ever-growing capabilities of technology, contact-tracing using app's has become a more popular method of contact-tracing but people still seem hesitant to utilize these apps. The issue of privacy seems to be the main factor as to why people are careful to participate (Bachtiger et al, 2020) with Parker et al (2020) raising similar concerns. The current issues of contact tracing, and studying the various methods that countries have employed with varying success, a clearer picture can be made on the best method to convince the general public to utilize these apps. Through gaining insight into different methods or techniques that have been used in the past or are currently being used for other purposes, the best method to convince the general public today can be manifested.

Spreadable viruses are actually quite frequently observed, although many do not become as prevalent as the coronavirus is at the moment, but this could become a stepping stone to being able to control them better in the future. These contact tracing apps is a new piece of technology, and although we can already reap from the benefits, such as being able to accurately see the spread of the virus, and contact new possible cases before it spreads even more, and advise current patients on the necessary steps that they have to take to prevent the

spread, it is still a pretty untested method. The apps can be refined to work better, and due to the fact that people will be more used to working with these apps, could become less hesitant to use them, due to seeing the positive effects that are currently being seen.

Literature Review

How Apps Work

Most European contact tracing apps utilize the Google Apple Exposure Notification (GAEN API) to help in the tracing of COVID-19. GAEN is a decentralized reporting protocol, which utilizes the Bluetooth Low Energy technology. GAEN is designed so that no personally identifiable information can be obtained from another device or obtained about your device. Bluetooth was chosen over GPS, which some other countries' apps do utilize, because of a combination of various factors. Privacy, accuracy, and feasibility.

Bluetooth Low Energy (BLE) is a technology, which compared to the standard Bluetooth, has a much reduced energy consumption and cost while still having a relatively similar communication range and a variety of operating systems currently support BLE. Whereas GPS can not be used indoors, BLE can be, this is very important in contact tracing apps as false contact messages could be sent if people are in completely different rooms as GPS can’t track this information. Since GAEN also uses special privacy technology, it once again has the upper hand over GPS where these safety nets aren’t in place. In terms of feasibility, most smartphones nowadays natively support BLE, which means that everyone with a phone can use these contact tracing apps, and due to its low power usage, it won’t be noticeable by the regular person.

The apps actually work by storing the contacts between two phone's using Bluetooth for a set period of time, if during this time, the owner of a phone that has been in contact through Bluetooth with your phone, you will receive a message stating that possible contact has been made with an infected person and that certain measures should be taken, this could mean, get yourself tested, go into quarantine, etc. This is done to ensure that the virus does not spread even further. Through this technology, the virus epicenters can also be located and contact can be made with others that were in the vicinity as well.

An issue that rises in European countries is the fact that due to the Schengen Area, people have easy access to be able to go to other countries on a whim. So will everyone have to download a new app every time they visit another country? The answer is no. All the countries that are member states of the European Commision, have agreed to an interoperability solution which will allow the apps to communicate with each other, effectively removing the need to download other apps. This is being achieved by having each national backend server not directly communicate with each other, but through the use of an interoperability gateway service. This service will enable there to be a secure transmission of the generated keys between the backend servers. Each of these keys will contain the minimum amount of information needed, so as to still ensure that privacy is safe. Just like with the apps themselves, all information that was shared, will only be available for a duration of 14 days.

Measuring the Effectiveness

To be able to have an accurate picture of which factors can help influence people to download the apps, the methods and effectiveness of the campaign's that previous apps have had need to be studied. An issue that exists is the fact that most countries government's, who

run these apps, keep the download data and other information behind closed doors. There are only a couple that actually share the amount of download's and other relevant data with the public. Although many countries have attempted to roll out such tracking apps countries have still had mixed success in implementing COV-19 tracing apps so far. To have a successful method of tracing cases, a large percentage of the population has to be actively using these apps otherwise, many cases will slip through the cracks, and it becomes impossible to track.

To be able to decide on what methods have been used in the past, a decision has to be made in which apps have been successful as no failing app wants to be replicated. Looking at how successful an app has been can be tricky, the amount of downloads it has received can be a metric that is looked at, but issue's do occur with this method. Some countries such as France, although initially might have looked like they were doing well on paper, have had a reduction in their download's, to the point that more were being uninstalled than downloaded. Within the first three weeks of France's roll out of their app, StopCovid, they had seen approximately 2.4 million downloads, within the same time frame, there had also been 700 thousand uninstalls leaving only 1.8 million downloads, in a country of close to 67 million, is only a 2.6% penetration on the market (O'Brien, C. 2020). Other countries, such as Finland, have seen much better numbers, with Finland's app reaching 20% of its entire population within the first 24 hours of its release, equaling about one million people (McDonnell, 2020). This was much higher than expected, as this number was only expected to be reached after a full month of the app's release. Iceland has the highest reach out of all the COV-19 tracing apps, not just in Europe, but in the entire world. Having reached 40% of its population, Iceland's app, Rakning C-19 (Johnson, B. 2020). has done incredibly well to reach this number. This shows that different countries have received differing receptions to the apps and useful information has the possibility of appearing if studied correctly.

As stated before though, coming across these values is quite difficult. All the values stated were given by government officials themselves on rare occasions. Other than these values, there are not many other countries that have publicized the numbers so being able to gain much insight into which countries have properly succeeded. Another issue with looking at the download numbers is that it is usually not accompanied by the amount of uninstalls, with France being an exception. It is entirely possible that even countries that look like they have succeeded such as Iceland, have seen a stark decline in the total amount of downloads.

As people are starting to learn to live with the coronavirus, and more time passes, an increase in downloads can be observed, this was stated by a government official from Finland. She states “One reason is that as the world grows more accustomed to living through a pandemic, people are becoming less likely to view the apps as scary and more likely to view them as essential, she said. Unsurprisingly, that’s especially true of people who have had Covid-19; as the virus spreads, adoption rates for new tracing apps will rise.” (McDonnell, T. 2020). This could be a good sign looking into the future as countries that currently struggle with gaining a high penetration such as France, might get an increase in downloads in time. Thus far however, the extent that people are willing to use contact tracing apps can be said to be on the lower end of the spectrum.

Issues with these apps

The method of convincing the general public about the importance of the usage of COVID tracing apps is a divided issue. To be able to create a good strategy to convince, the main issues that people have with these apps have to be extensively researched. Trenz et al (2020) divided participants within three categories to be able to test how much a certain factor

plays into a person's willingness to download, and actively use these apps. The three groups consisted of "Critics, the undecided, and advocates". These three groups were then equally divided between seven different versions of a COV-19 tracing app. These groups consisted of low or high privacy, low or high convenience, and self, societal and self/societal benefit appeal. After being exposed to such apps, interviews were carried out to be able to rank the importance of each factor between the original three groups.

The results between the three groups varied heavily, the critics group viewed self-benefit appeal and privacy design as integral parts that would need updating, the undecided group was evenly spread out over all three main categories, convenience, privacy, and the benefit appeal were all important to them. The largest difference could be found within the advocate group, no matter what version of the app they were shown, they thought the app would be a necessary tool either way, and that a low amount of privacy or self-benefit would not change the fact that COV-19 tracing apps are a necessity.

These are certain issues people have with contact tracing apps, but the main gripe that people still have with the downloading of these apps, is the fact that they believe their personal information is liable to be leaked and spread. This is not the case though, as personal information is not shared with other users. If contact was made with someone who tested positive to the coronavirus, the person's identity will not be shown, it will be done completely anonymously.

The reasons that these ideas that the apps are not protecting your privacy are not unfounded however, as there have been cases where apps will share your coronavirus results with your entire contact list, which is what the French app was originally designed to do. Certain countries, such as Lithuania, have not clearly stated how a user's data is handled. This lack of information can create a sense of distrust with the general population.

Although most European apps utilize this GAEN API, does not mean that they are the exact same, and some apps might actually still save some personal data. Leith et al (2020) compare and contrast various COV-19 tracing apps that were currently on the market at that time. Latvia's app, Apturi Covid, for example, was found to make use of Google Firebase analytics, this means that data is both shared on first launch, and while the app is idle, to the Google servers. This app also offers the users no way to decline this option. Ireland and Poland's apps both operate in the same way.

Countries such as Germany, Switzerland, Austria, where found to take a different approach, their apps have very minimal requests to back end servers and do not utilize persistent identifiers. Leith states that these apps "therefore represent best practice in the design of such client apps".

Some countries, to circumvent the issue that people are hesitant to use these apps, have decided to enforce the download and usage of these apps, European countries however, have pretty unanimously stated that this will not be the case, and that it will instead be voluntary for everyone.

Privacy concerns have been a hotly debated topic in the technology world for an extended period of time already. Companies such as Google, Apple have had their fair share of privacy related issues. Facebook is another example of how privacy issues can cause a distrust between a company and its users. In recent years, Facebook has come under a lot of scrutiny due to not keeping to their privacy policies and having millions of user's data leaked. In 2018, 9% of users that were surveyed, had cited that they had deleted their facebook account with another 35% saying they had used it significantly less. The reason for this, they distrusted facebook with their privacy. This show's how quickly people can become hesitant and distrustful if their privacy is not secured. Privacy has to really be securely protected, as can be seen with

Facebook, but also with contact tracing apps, to hopefully not see a decline in the amount of downloads, and instead create a deeper bond with the users and gain their trust.

State of the Art

I had also received a document detailing the amount of download's that other countries have reported, but not to the public. Due to this fact, I have omitted the names of the countries in this report and instead labeled them from A-K (See Appendix E).

Since countries have already brought out various different types of video's in an attempt to market their respective app's these could be analyzed and taken apart to get a better grasp of what might have led to a larger success. Through a metric of "Percentage of the population that has downloaded their respective app" two groups were formed between all european countries, countries that have done well in reaching a large population, and countries that have done poorly. After splitting up the countries, the video's of each country were analyzed and looked at the similarities and differences between them. The countries that saw a higher amount of downloads all had created videos. These videos were quite similar in some regards, such as having a certain scenario take place such as people interacting in a park, with a narration explaining the importance of these apps. Other styles were also being used, but the importance of privacy was prevalent in all of them and the videos were visually appealing as well.

The countries in the poorer category took different approaches, many of the countries had not developed a single video or animation to market the apps. The countries that did however, used a similar strategy, create a video with mostly text. The video's that were brought out were primarily text based with very limited animations or things to look at. The narration that

accompanied these videos were also predominantly exactly the same as the text that was on the screen, so all information was the same.

Ideation I

The first thing to think about in the creation process of this animation is “What tone do I want to represent?”. I thought of three main tone’s that could work for this animation and started brainstorming ideas for each and creating a pro’s and con’s list to best determine what could catch people’s attention. The three main tone’s I thought of were going for a more heartfelt version, a more comedic version, and lastly a more informational one. Looking at what has been done by other countries and what has been more successful, going for a more informational but still slightly less formal tone while having a visually interesting animation seemed to be the best idea.

After having a finalized tone in mind, the brainstorming stage for the content could be started. I had remembered a video (https://www.youtube.com/watch?v=XMktOXLINjk&ab_channel=NationalGeographic) from multiple years ago that I thought was quite visually interesting and could show an important aspect of what makes these applications effective, the fact that they can be used in all sorts of different scenarios and locations. By having an overhead shot with a singular main character as the focus as the world passes in the form of multiple environments seemed like an interesting angle to make the animation.

Going off of this idea, I needed to think of what environments I would choose. In the first brainstorming session I had come up with three different scenarios, the city, the train, and the

beach. After thinking about these more in detail, and in consultation with others,towards the end of the brainstorming time, I decided to abandon the idea of having a beach scene in favor or changing it to the park. This is due to various factors but one being that people might not always carry their phone at all times at the beach, which is one of the main importances in the usage of the applications. During one of the scenes I would have a pop-up come from the main characters phone indicating that they have received an alert that would show that they have come into contact with someone else in the last two weeks that has been diagnosed positive with the coronavirus, something that the application would do in real life to show how it works.

A quick storyboard (See Appendix F) plus script (See Appendix B) was constructed so that the realisation of the animation could be started. This storyboard consisted of five scenes to illustrate my vision. The first scene would consist of the character walking through the city, with growing rings around him indicating that the phone application is actively measuring if people are within a certain distance from them. The second scene shows the pop-up that was mentioned earlier. This pop-up would explain through a text medium that the user should contact the necessary health authorities due to the fact that they may have come into contact with an individual that has contracted COVID-19. The scene would then smoothly transition into the beach scene by having a certain object move overheard temporarily covering the main scene and switching it to the new scene, in the case of the storyboard, a bird flying overhead. The beach scene would have the main character continue walking. There would then be a second transition with another object flying overhead, in this case a plane, which would once again obscure what was happening in the background and smoothly transition it into a train scene which is shot from an outside perspective and not from the inside. Both the storyboard and original script can be found in appendix F and appendix B respectively.

Realisation I

To actually Realize the animation, two choices had to be made, which animation software to use, and which asset creation software to use, if any. Due to only having learned about Adobe After Effects, there wasn't much decision to be made in choosing the animation software. For the actual assets however, I decided to use mostly assets that could be found online if they had the required licensing which would allow me to utilize their assets for free if I gave them credit. This was mostly due to the fact that I was not heavily experienced in creating detailed designs using program's such as illustrator. Certain assets were still hand created by myself such as the train.

After having found some suitable assets, I used illustrator to subtly edit them to get rid of any unwanted layers or objects or change them in such a way that animating each individual object was possible. My original vision was to have the animation from a top-down perspective such as in the reference video. Due to very limited resources using this perspective, it was changed to still having an elevated angle, but now slightly more angled to have a bit of a side view as well.

After having a full rough draft of the animation, it was then sent to the supervisor for feedback. The feedback received was that it was not near being ready for sending it to the client, and I agreed with this assessment. After thinking hard about how to fix the animation, I came to the conclusion that my original vision was too complicated to complete with my level of animation skills and thus I returned to the ideation stage.

Ideation II

After going back to the ideation stage, I choose to keep most of the story intact and only changing the visual's of the scenes. A top down angled view was too difficult to achieve to a

high enough standard and thus I changed to a side view with everything facing to the right of the screen including the characters. The actual scenes used would not differ drastically from the original, the city, train and park scene would all still be used. Some extra changes came later as well during the creation process of this new animation such as the addition of an extra scene which would take place in an office setting.

Another difference between the original animation and the new animation is the fact that no object passes over the screen to transition to a new environment. The character that is walking throughout the animation doesn't change at all. Nothing cover's him or hides him. The background however does make transitions from one environment to another, this makes it seem like the character has a change of environment and can show a passage of time indicating that the application runs continuously throughout the day.

Realisation II

The applications that were to be used would not differ from the original animation, after effects was to be used for animating, and illustrator was to be used for creating the different assets. After looking through the assets I could find online, I decided to take a different approach. I decided to create all assets myself. There were two main reasons for doing this, everything would be hand made by myself and not licensing issues could occur, and secondly, assets online did not always have the same style and thus things could look out of place. If everything was created by myself, I could give everything the same style and everything would look more coherent and fit together nicely.

Creating assets that are entirely 2D was found to be much easier than attempting to make the assets look slightly 3D which was needed in the original animation and so the assets for the

new animation turned out quite well with some still being a bit harder than others. The character design was quite tricky as more dynamic objects are harder to create than still objects such as a table.

During the creation phase of the animation, it was quite evident that three scenes might not have been enough to keep the attention of the viewers enough while a voiceover is explaining the details. A fourth setting was created which was the office setting which allowed there to be a bit more diversity in what could be seen on screen.

During the first feedback session of the new animation, the feedback was much more positive than before. Most of the feedback was fixing smaller mistakes such as increasing frame rate, or fixing shadows. Another improvement was adding background characters with a bit more diversity such as adding more female characters so that the animation might appeal to more people and is more representative of real life.

The script doesn't change drastically, as the script doesn't relate to the visuals an extreme amount other than some of the timings might have to change slightly. The script was sent to a professional to get a more professional view on it and to some extra changes were once again made. The finalized script (See Appendix C) was also sent to a translator as the main language in Cyprus is not english. A greek version of the script (See Appendix D) was then sent back.

There were a couple difficulties while making this animation as well, mostly due to technological insufficiencies. The laptop that was used to create the animation is not of the best quality, this led to the render time of the animation to be extremely long which caused fixes to be slightly delayed. A single render of the 1:30 minute animation could take multiple hours. Luckily, a fix was found towards the end of the entire process which entailed changing the cache location of

the animation to a new folder which contained more space. This helped enormously to lowering the render time to around 10 minutes which allowed for more renders to be made after smaller fixes to be able to see the entire animation is good quality to see if everything looks how it is supposed to.

Evaluation

The actual impact that the animation has on the viewership and download of the application is unclear at the moment. At the time of writing this essay, the video has not been uploaded to the official website thus limiting the amount of effect that is visible at the moment. The results of the research would only be able to be seen after the animation has been able to be viewed by the general public after a reasonable amount of time. Even after the animation has been posted in an official manner, looking at the results could be quite due to the fact that most countries do not display their download data to the general public.

Even with the actual data, it could still be quite tricky to get a clear picture. Even looking at how other countries have done so far has its issues. There is no way of making sure that the actual animation has a causation effect on the amount of downloads. The quality of the videos seem to have a correlating effect with the amount of downloads but this does not necessarily mean that the amount of downloads is directly caused by the animation, correlation is not causation. Comparing my animation to those already on the market however can be done.

There are definitely similarities and differences between them. The actual content of the video's are quite similar, as they all serve the same purpose, attempting to encourage people to download the applications. The actual animation techniques used however are still different

which could lead to different results in the long run. Animations that are already existing seem to all have a slightly more realistic style in characters whereas the animation I created is slightly more cartoonish although the differences really aren't drastic. Another difference between the videos is the scenario that is being played out. In most cases the animations will take place in a single environment which is not the case in my animation where the characters interact with various different environments to show that the application is always able to function properly without interference from outside forces.

Conclusion

During this project, the meaning and importance of these contact-tracing applications was made evident and various approaches were looked at for potential inspirations for animations in order to convince the general public on the importance of these applications. Privacy was a large issue that people seemed to have in regards to using these applications but through the literature research it seemed that most of the issues that people had were quite unfounded and were mostly unsubstantiated. This showed that there might be a bit of a lack of communication between the general public and the applications which could quite easily be fixed and could lead to a higher amount of download for the applications.

Although there wasn't a definitive length that the animation had to be, it was expected to be around 1-2 minutes with the final animation ending up being around 1:30-1:40 minutes depending on which version is viewed, the english or greek language version. In the end, the animations were deemed acceptable and will likely end up on the official website for the application.

Although there were some technical and semantic difficulties through the project, primarily caused by the fact that the entire process had to be done remotely without a single face to face meeting, everything still went quite smoothly. Although the animation has most of the requested components, there is still potential to be further worked on in the future.

Future Work

One of the main continuations for this project is the fact that it can be broadened to a larger scale, and not limited to a cypriot audience. Most of the applications inside of the EU have the ability to communicate with each other. If someone has the application downloaded from country A, and travels to country B which utilizes a different contact tracing application, they can still be notified if they have come into contact with someone that uses the application from country B.

It was brought up that a second animation could be made, of a shorter length of around 30 seconds, that would inform the audience of this. This would be important for all countries' members to be aware of so that they won't have to download all the applications from any country that they are visiting.

Appendix A: Tone of Animation

Tone	Pro(s)	Con(s)
Heartfelt	Makes people emotional, can get pity downloads	Can be seen as fake if not done correctly

	Might reach people with an attachment to covid already (family/friend might have it)	People that have an attachment to it are probably already using apps/are aware of them
	People are already very emotion during this time, might get more sympathy views	
Comedic	More enjoyable for the viewers	Humor can be subjective
	Lightens up the mood since people are probably sick of hearing about covid	Can take away from the overall message
Informational	Can bring information that people did not know about before	Can be seen as more boring
	Is probably more concise and clean	Might not add much to existing material that people already know of

Appendix B: Original Script

Scene 1.

In these trying times, it is important to work together to overcome these hardships. Through the use of contact tracing apps, the effects of the Coronavirus can hopefully be eased.

Without storing any form of personal information through the use of extensive security measures these apps will be able to tell you if you have been in contact with anyone that has contracted the virus in the past two weeks.

Scene 2.

If you have come into contact with anyone else who has indicated that they have contracted the virus, you will be notified directly so that the necessary can be taken.

Scene 3.

These apps will run in the background while barely taking any battery in the process. While having your phone turned on, it will constantly check if people are in close proximity to your person and will be able to run in any situation, such as in the city, or on the beach.

Scene 4.

The virus is more likely to spread in enclosed spaces, which means that it is of paramount importance that the app is able to recognize the same proximity data while indoors.

Final

Hopefully, through the use of Contact tracing apps, we can lessen the burden for all, and quickly return to a normal life which we are accustomed to.

Appendix C: Final English Script

Scene 1.

In these difficult times, it is important to work together in order to overcome the pandemic and return to normality. Through the use of contact tracing apps, such as CovTracer-EN, for Cyprus, we can control the spread of the virus towards its elimination. The application does NOT store any form of personal information. With the use of advanced security mechanisms and protocols, CovTracer-EN will notify you if and when you have been in contact with anyone that has contracted the virus in the past two weeks, as long as they also have the application installed on their phone.

Scene 2.

If you have come into contact with anyone else who has afterwards been tested positive for COVID-19 and has the application installed on his/her device, you will be notified directly, so that you can take all the necessary actions , to properly take care of yourself and to avoid the risk of infecting others.

Scene 3.

Your phone will constantly be checking if other people are in close proximity to you, even when in idle mode. This happens at any place you are at, such as in the city or the countryside. CovTracer-EN runs in the background without draining your phone's battery .

Scene 4.

The virus is more likely to spread in indoor spaces, which means that it is of paramount importance that the app is kept properly functioning while indoors. Keep it always active on your phone device.

Final

Hopefully, through the use of Contact tracing apps such as CovTracer-EN, we can return quicker to a more normal life, a life closer to how it used to be before this pandemic. You have an opportunity to contribute to the solution of the problem, by installing and using CovTracer-EN on your phone right now. Join our effort now!

Appendix D: Translated Greek Script

Scene 1.

Σε αυτές τις δύσκολες στιγμές, είναι σημαντικό να συνεργαστούμε για να ξεπεράσουμε την πανδημία και να επιστρέψουμε στην κανονικότητα. Μέσω της χρήσης εφαρμογών ανίχνευσης

επαφών, όπως το CovTracer, μπορούμε να ελέγξουμε την εξάπλωση του ιού και να τον περιορίσουμε. Η εφαρμογή δεν αποθηκεύει καμία μορφή προσωπικών πληροφοριών. Με τη χρήση προηγμένων πρωτοκόλλων ασφαλείας, το CovTracer θα σας ειδοποιήσει εάν και πότε ήσασταν σε επαφή με κάποιο άτομο που έχει προσβληθεί από τον ιό τις τελευταίες δύο εβδομάδες, αρκεί να έχει εγκαταστήσει επίσης την εφαρμογή στο κινητό του.

Scene 2.

Επομένως, εάν έχετε έρθει σε επαφή με κάποιο άτομο θετικό στον κορονοϊό, που έχει εγκαταστήσει την εφαρμογή στη συσκευή του, θα ειδοποιηθείτε άμεσα, ώστε να μπορέσετε να κάνετε όλες τις απαραίτητες ενέργειες, για να φροντίσετε σωστά τον εαυτού σας να προστατεύσετε τα άτομα που αγαπάτε.

Scene 3.

Ο τρόπος που δουλεύει η εφαρμογή είναι ο εξής: Το τηλέφωνο σας ελέγχει συνεχώς εάν άλλα άτομα βρίσκονται κοντά σας, τα οποία έχουν εγκατεστημένη την εφαρμογή στο κινητό τους. Αυτό συμβαίνει σε οποιοδήποτε μέρος βρίσκεστε, όπως στην πόλη ή στην εξοχή. Το CovTracer λειτουργεί μέσω τεχνολογίας Bluetooth σε χαμηλή ενέργεια, χωρίς να εξαντλεί την μπαταρία του τηλεφώνου σας.

Scene 4.

Ο ιός είναι πιο πιθανό να εξαπλωθεί σε εσωτερικούς χώρους, πράγμα που σημαίνει ότι είναι σημαντικό η εφαρμογή να είναι σε λειτουργία όταν βρίσκεστε εντός κτηρίων. Διατηρήστε την εφαρμογή πάντα ενεργή στη συσκευή του τηλεφώνου σας.

Final

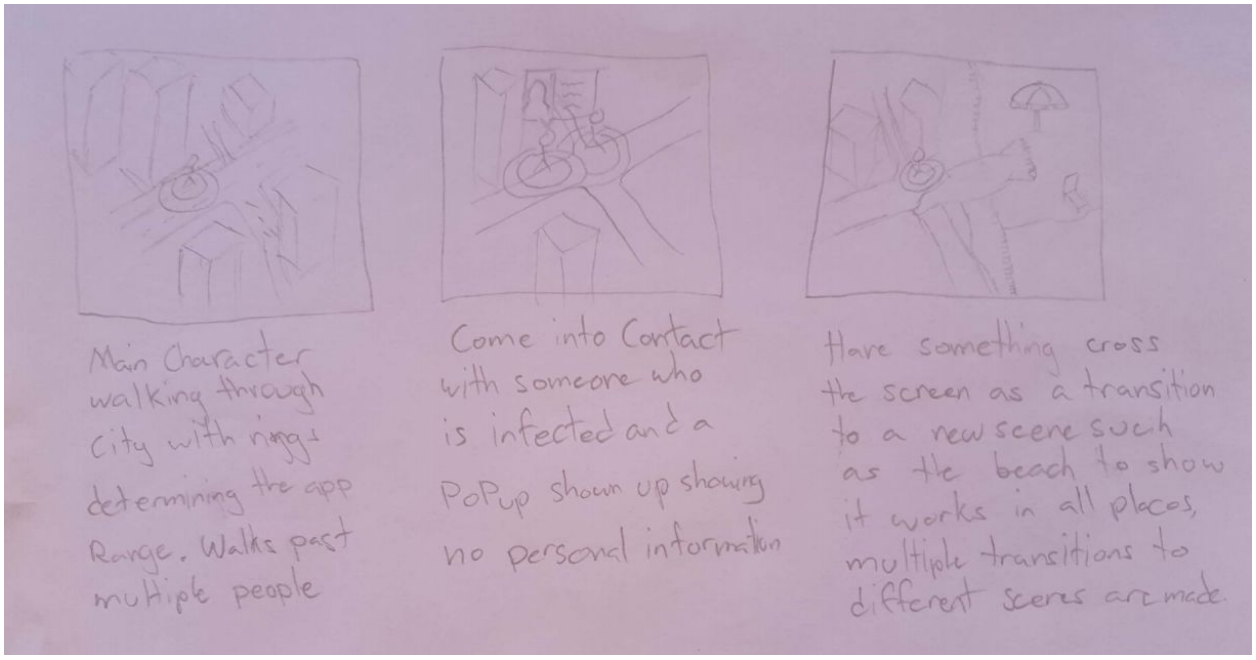
Ευελπιστούμε ότι με τη χρήση εφαρμογών ανίχνευσης επαφών όπως το CovTracer, θα μπορέσουμε να επιστρέψουμε σύντομα στην κανονική ζωή μας, όπως ήταν πριν από την

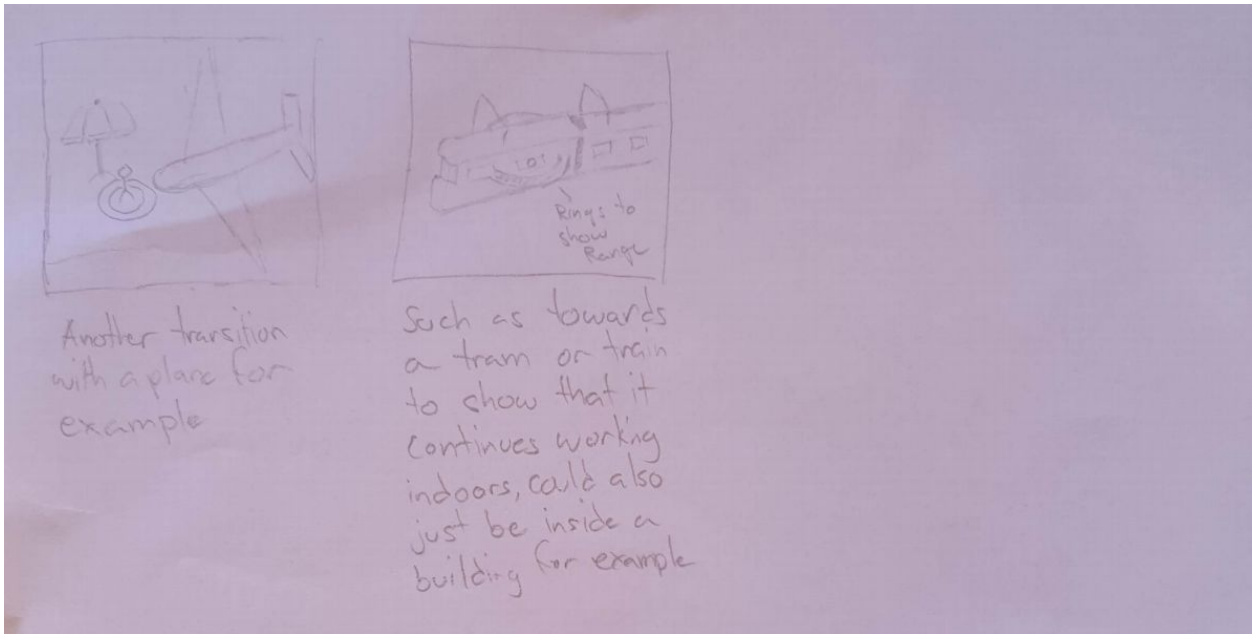
πανδημία. Έχετε την ευκαιρία να συμβάλετε στην επίλυση του προβλήματος, εγκαθιστώντας και χρησιμοποιώντας το CovTracer στο τηλέφωνό σας αυτήν τη στιγμή. Γίνετε μέλος της Παγκύπριας αυτής συλλογικής προσπάθειας τώρα!

Appendix E: Video Comparison Analysis

Country	Performance	Animation Style
A	High	Park Scenario with characters coming into contact with each other, narration to explain details
B	High	Focuses more on the entire process through animation, shows the notification, self-isolation,etc.
C	High	Real life footage/stock footage with narration
D	High	Stock Footage with narration
E	High	Focuses more on privacy and how the app works and how it could help everyone as a whole
F	Low	A lot of text on screen with the narration reading the exact same text
G	Low	No video/animation
H	Low	No video/animation or website at all
I	Low	No video/animation
J	Low	No video/animation
K	Low	Primarily text with narration reading the same text

Appendix F: Storyboard





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