Building a Platform to Improve Sedentary Behaviour by Centralising Joy in Physical Activity

Graduation Project Thesis

Creative Technology
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ABSTRACT

The Upward Spiral theory of Behaviour Change highlights the importance of experiencing positive emotions during a physical activity, and how it can aid in the long term fidelity to positive health behaviours. Simultaneously, there is an increasing amount of people in academic work environments that are falling into a sedentary lifestyle. An interactive web platform that centralises enjoyment was designed to encourage physical activity amongst employees of the University of Twente. This platform was developed through three user tests, with iterative changes made from the feedback gathered after each test. The user test involved 8, 16 and 21 employees respectively, all with functioning prototypes. Strong visuals and media were carefully curated and used to help convey the theme of enjoyment in the platform. Evaluation of the platform through a general System Usability Scale, together with specific functionality-analysis questions can conclude that this approach is effective in encouraging users to partake in physical activity, and this platform is a profoundly promising attempt at solving the problem of increasing sedentary behaviour of employees. User test results also show that 81% of the 21 users express that this platform conveys enjoyment in physical exercise, and the system usability score calculated showed an above average usability score of 77. Health promoting interventions should step away from negative-consequential approaches, and instead be more focused on positive emotions and experiences such as enjoyment. With the help of inspiring visual elements that improve user experience and social features that connect people together, physical activity can be promoted and encouraged within the University of Twente working environment.

ACKNOWLEDGEMENT

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1. INTRODUCTION

1.1. Motivation

Changing one's lifestyle to a healthier one is difficult. Losing weight is desired by many, however it is hard to maintain weight loss once reached. The same is true for the desire to exercise more, most people fall back into their old lifestyle after a few months. Much seems to go wrong during this process, and the sustainability and limitations of lifestyle interventions could be questioned. Research shows that people have difficulties in acting according to their intentions, and in general, health compromising behaviours are very hard to change (Schwarzer, 2008). However, an approach towards enjoyment in physical activity has seen extremely promising results in promoting and encouraging long term behaviour change (Van Cappellen et al. 2018). Together with the focus on enjoyment, other psychological factors such as self-efficacy, motivation (intrinsic & extrinsic), grit and resilience can also empower an individual to shift their behaviour to a healthier one, when used concurrently.

By encouraging users to focus on the positive emotional aspects in a partaken activity, we hope to provide an innovative long term solution to encourage users to engage in physical activity.

1.2. Goals & Challenges

The goal of this project is to introduce a behaviour-change intervention to promote physical activity amongst employees at the University of Twente. University employees have been observed to fall into a sedentary lifestyle with increased levels of physical inactivity, therefore increasing their risk of developing chronic diseases such as obesity and other cardiovascular diseases. Furthermore, the risk of developing musculoskeletal diseases (MSDs) are also on the rise due to inactivity (Hanna et al, 2019). We have found that positive emotions play an impactful role in motivating individuals in physical activity. Therefore, sustainable and engaging solutions will be discussed and developed to encourage physical activity in the workplace, and cater for these health problems that employees face.

However, there are always several challenges in any project. The target group in question are the employees of the University of Twente, however within this target group, there are a wide range of different nationalities, gender, age, personal interests and technical knowledge. Many employees may not even have the motivation to trigger a change, while some may wish to find a platform that can fuel their current motivation. Creating a platform to adhere to users with different interests and backgrounds, and promoting enjoyment to all individuals will be a challenging task.

Another challenge will be implementing a behaviour-change intervention to encourage physical activity of individuals, as it is known that changing behaviours of individuals is difficult to achieve. Regular feedback and iteration will be necessary during the development of this project to come up with the best solution possible.

1.3. Research Questions

The research questions regarding this Graduation Project are as follows:

Main RQ: How can an online platform designed to enhance positive experience, with the main focus on enjoyment, encourage physical activity amongst University employees?

With this main research question, we can also derive the following sub-questions:

Sub Q1: *How can social features in a platform encourage physical activity amongst users?*

Sub Q2: *How can visual media engage users to partake in physical activity?*

2. STATE OF THE ART

2.1. Literature Review

2.1.1. Introduction

This literature research will aid in pursuing the objective of the graduation project. In order to understand how to successfully introduce a sustainable lifestyle intervention to promote physical activity through enjoyment, much research has to be done about various psychological factors and also how positive emotions can impact physical health. Therefore, the purpose of this literature research is to learn much about various psychological factors that can impact behaviour change, and to understand which factors can efficiently and effectively impact a change towards a healthy lifestyle. The central focus of this research is to find out:

> What are some psychological factors that are important for goal attainment, and how can Positive Affect encourage healthy behaviour change in people?

2.1.2 Psychological factors that can influence behaviour change

There are several psychological factors that can allow for a behaviour shift in individuals, and it is crucial to understand these in order to create an effective system for the final graduation project. These psychological factors can branch out to grit, self efficacy, motivation and resilience.

2.1.2.1 Grit

Grit is recently understood as an important psychological factor that is known to impact positive behavioral change amongst people. Duckworth et al. (2007) defines grit as the quality that allows for perseverance and passion to achieve long term goals. Similarly, Credé, M., Tynan, M. C., & Harms, P. D., (2017) define grit as the tendency to work hard even in difficult situations without frequently changing their goals and interests. Grit is therefore seen to make individuals to be more focused, goal driven, determined and tenacious to achieve the tasks they wish to achieve. Grit has been observed to be a very accurate way of predicting an individual's ability to

perform well in certain tasks to achieve their long term goals. Based on case studies, it has also overtaken intelligence and talent in its ability to predict performance (Duckworth et al. 2007).

However, there are few people that question the construct. Firstly, Jachimowicz, Wihler, Bailey, & Galinsky (n.d.). Argue that grit and the developed grit scale has accommodated inconsistent information in prior case studies and research due to the absence of a critical role; *Passion*. Alternatively, Grit is seen to be misapplied in literature due to the fact that it overlaps frequently with other constructs, such as resilience, therefore making it conceptually weak (Stoffel & Cain, 2018). Lastly, Credé et al. (2017) argues that despite the fact that grit is an excellent method of predicting success, people work in different ways to achieve different goals, and therefore grit may not prove effective across different domains. Thus, grit may be effective, but interventions arranged to increase levels of grit in individuals may not benefit everybody the same.

2.1.2.2 Self Efficacy

Self Efficacy is often mentioned as a factor that can influence behaviour change. It refers to an individual's confidence levels in their ability to successfully carry out a specific behaviour (Milam, Cohen, Mueller & Salles, 2019). Simultaneously, according to Duan et al. (2018), self efficacy is the factor that regulates how much effort should be invested in goal achievement, and how much persistence should be maintained in the presence of any obstacles or setbacks. Additionally, self efficacy is constituted in several models such as the *Transtheoretical Model* and the *Health Belief Model* (Wingo et al, 2013). These models suggest that high levels of self efficacy are associated with an improved adoption of behaviour change towards specific health behaviours. Positive results in studies regarding the correlation between self efficacy and weight loss have also been observed. Schwarzer (2008) argues that self efficacy is especially important because it can impact the intention-behaviour gap of individuals. Moreover, it is important to note that different types of self efficacy are needed within different stages of health behaviour change processes. This is because certain tasks have to be mastered in different stages of this process, and different self efficacy beliefs are required to master these tasks successfully. Perhaps focusing on self efficacy together with grit will yield better results in performance prediction.

2.1.2.3 Motivation

Motivation is another psychological factor that should be present in an individual in order to successfully work towards a goal. People should be motivated first to change unhealthy behaviours, i.e. physical inactivity, and motivation is seen to be particularly important to people who have no intention to change their unhealthy behaviours. Motivation improves the perceived self efficacy of individuals, risk perception and positive outcome expectancies to support the formation of goal intentions (Duan et al., 2018). In addition to highlighting the importance of motivation in lifestyle interventions, Livia et al. (2016) strongly expresses that it is important to note that motivation is a dynamic state. People's motivation can fluctuate in certain stages of behavioural change because of many personal factors, and motivation works well when modified during different change processes.

2.1.2.4 Resilience

Resilience is a psychological factor similar to grit that is also a dynamic process, and this concept very similar to grit can be influenced by the environment, external factors, the individual and the outcome. The ability to bounce back from a failure or adversity is a strong psychological factor which works very well with self efficacy and motivation, and the important thing to note is that it can be developed as a skill within individuals (Garcia-Dia, DiNapoli, Garcia-Ona, Jakubowski, & O'Flaherty, 2013). The fact that a psychological skill as important as resilience can be learnt is a significant discovery, and will be highly useful if implemented in the final graduation project.

2.1.3 Positive Affect and Enjoyment

Aside from the psychological factors aforementioned, Positive Affect (also known as positive emotions) such as joy, happiness and excitement are an important factor that should be revered. These positive emotions have proven to influence short term and long term behaviour change, and should therefore be a focus of many behaviour-change interventions (Lawton, Conner, & McEachan, 2009; Van Cappellen et al., 2018). Moreover, the experience of these positive emotions have been seen to develop psychological resources in individuals, such as grit & resilience (Salovey, Rothman, Detweiler, & Steward, 2000).

2.1.3.1 The Upward Spiral theory of lifestyle change

A theoretical framework developed by Fredrickson (2013) as seen in fig. 2.1, highlights the importance of positive affect and how it can aid long term fidelity to positive health behaviours. This framework explains how enjoyment in an activity can fuel the repetition of healthy behaviour, and as positive emotions are experienced, people unconsciously develop personal motives and resources that grow stronger over time (as shown in the inner loop) to support subsequent and repeated decisions to engage in that behaviour again (Van Cappellen et al., 2018). The outer loop suggests that positive affect builds internal resources (Fredrickson, 2013) - that can be seen as *Vantage Resources* - and render people more perceptive to following positive experiences (Pluess & Belsky, 2013, as cited in van Cappellen et al, 2018).

She further elaborates on the necessity to prioritise positivity in healthy behaviours, and that people should start to focus on working toward healthy behaviours that focus on joy (Van Cappellen et al., 2018). This can be an important focus point for the graduation project, abreast psychological factors such as grit, motivation, self efficacy and resilience.
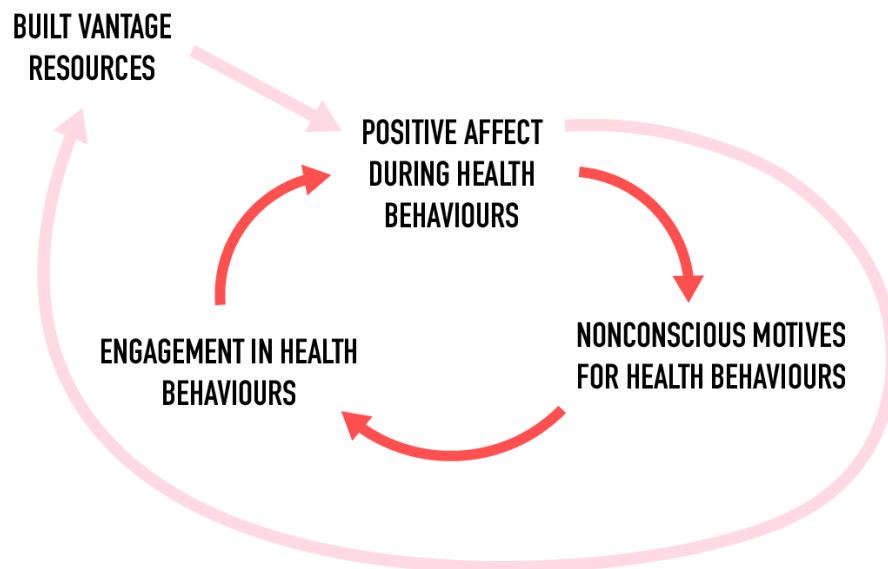

Figure 2.1. Upward spiral theory of behaviour change (Fredrikson, 2013). The inner loop is red, and the outer look is pink.

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2.1.4 Conclusion/ Discussion

We conclude that *positive affect* can play a huge role in the graduation project, due to the fact that it increases long term engagement in people. The project can benefit by focusing on positive emotions, together with psychological factors such as motivation, self efficacy, resilience and grit. In the future development of the platform, it may be important to expand the field of research to identify other important psychological factors that will help bridge the intention-gap behaviour of pursuing a healthy lifestyle.

2.2. Market Research

A traditional approach to a market research (otherwise known as competitor analysis) would be to observe and analyse existing platforms that are similar to the GP platform. However, this analysis will take a different approach, by analysing a wide range of platforms that can help with the inspiration in designing the GP platform. The platforms selected have elements of social interaction, positive/ shared experiences, physical activity and friendly UX & UI, because the solution we wish to create also focuses on these factors. This approach ensures that the analysis is not limited to physical activity only. Therefore, through the analysis of a wide range of different platforms that excel in its own core features, we can identify its benefits and drawbacks, and allow us to create a unique project that stands out to its target audience. The findings are discussed respectively.
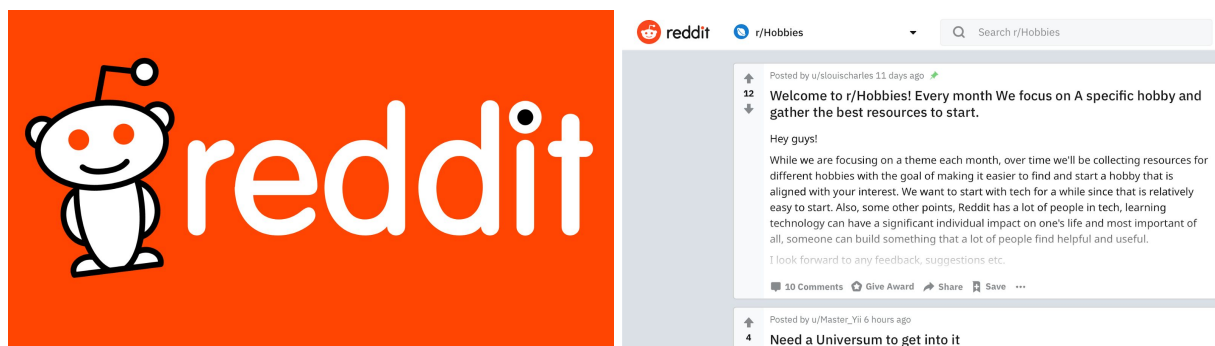
2.2.1. The selected platforms

1. Reddit

Figure 2.2. Reddit logo and website

Description	A social news and media aggregation website that encourages discussion of wide topics
Key features	1. Any topic can be widely discussed via 'subreddits' 2. Connection between strangers who are interested in common topics 3. Anybody can post and start a discussion at any time 4. Moderators of subreddits can control and filter out any harassment
Disadvantages	1. Complicated and unfriendly UX and UI for new users 2. Posts get lost over time, thus not suitable to use every time you want to arrange a social meet-up 3. For posts to be recognised, they need significant amounts of recognition via 'upvotes' 4. Does not motivate users to partake in physical activity on its own without prior motivation 5. Does not prioritise on enjoyment.
Monthly users	330 million

Reddit was chosen to analyse its strong communication feature. It's largely active discussion even amongst strangers is unmatched compared to other existing platforms. The implementation of this communication feature in the GP, to encourage and inspire new activities amongst users, will be very promising.

2. Strava

Figure 2.3. Strava logo and its application support in different hardware

Description	A social fitness network that tracks physical activity via GPS. The social network for athletes
Key features	1. Social integration allows you to share and connect with friends and family 2. Ability to track and analyse progress - allows for intrinsic motivation 3. Activities can be measured and tracked amongst various hardware devices 4. The implementation of GPS allows the platform to track outdoor exercises.
Disadvantages	1. Very reliant on GPS. If GPS disconnects due to network or hardware failure, then tracking terminates for outdoor activities such as running. 2. The social integration occurs only after an event has happened. It does not suggest activities nor does it allow people to arrange events together
Monthly users	32 million

The strongest feature of strava comes from the ability to connect to the friendly athletic community, and offer encouragement with "kudos" and comments. You can also join local clubs and be part of a larger athletic community outside the app.
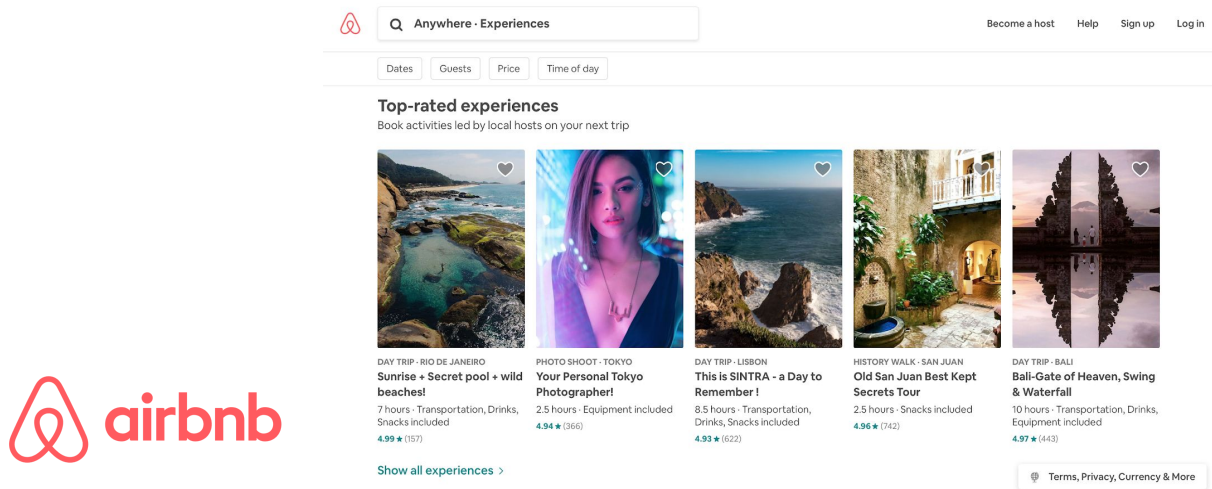
3. AirBnB Activities

Figure 2.4. Airbnb logo and website

Description	As an additional feature to the AirBnB platform, it introduces unique experiences (food & health, concerts, sports, nature etc.) to travellers
Key features	1. Any local host can arrange an experience for travellers based on their interests 2. Extremely well defined overview before an activity, such as host information, time, location, language support etc. 3. A review feature which allows the future users to get some insight, and also for the host to improve an arranged activity 4. Great focus on enjoyment
Disadvantages	1. Only the host can arrange events, and is time consuming to arrange 2. Lack of experiences that focus precisely on physical activity 3. The target audience is mostly travellers due to the platform's

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	nature
Monthly users	150 million

The strongest feature of this platform is the activity suggestion based on the popular interests of users. For example, if a user is interested in football or in cooking, it will suggest local activities together with well-equipped facilities. The ability to "sell" experiences are also a strong feature of this platform, and if the GP can incorporate this feature within its solution, it would be favourable.
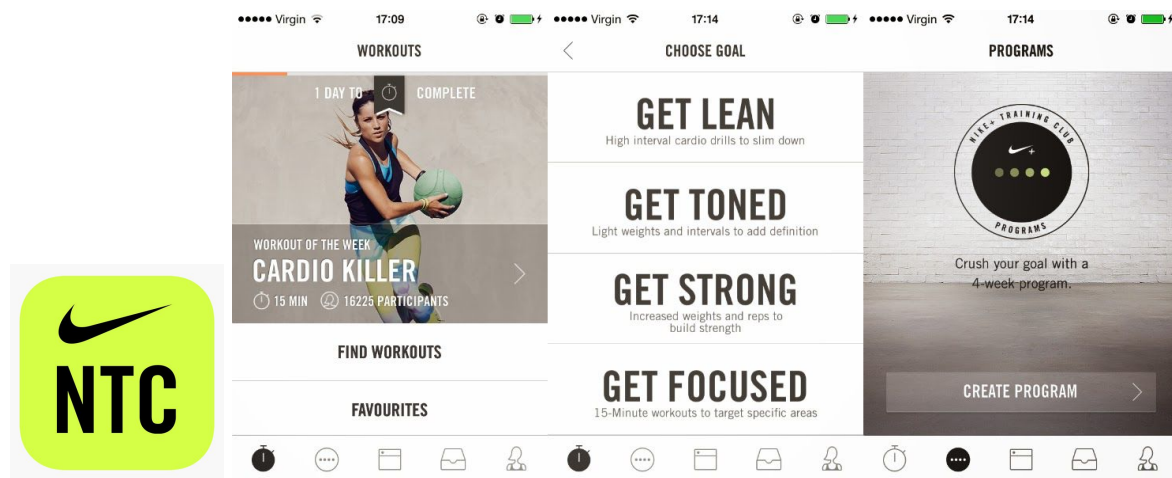
4. Nike Training Club

Figure 2.5. Nike Training Club logo and App screenshots

Description	A mobile workout application that mimics a personal trainer and suggests workout plans for the users
Key features	1. Ability to share workout progress with friends 2. The personal trainer 'adapts' based on analytics 3. User friendly design 4. Can tailor workouts based on your current body type/ workout style 5. Focuses on some psychological factors such as motivation and

|	
	resilience 6. Trains discipline
Disadvantages	1. Heavily focused on athletes. May not be the best approach towards all university employees. 2. The social features are limited 3. No focus on joy
Monthly users	28 million
The platform has a great approach in providing workout suggestions based on previous exercises/ interests. Its bold visuals are also able to inspire its users and make them feel like they can achieve their goals.	

5. Forest App
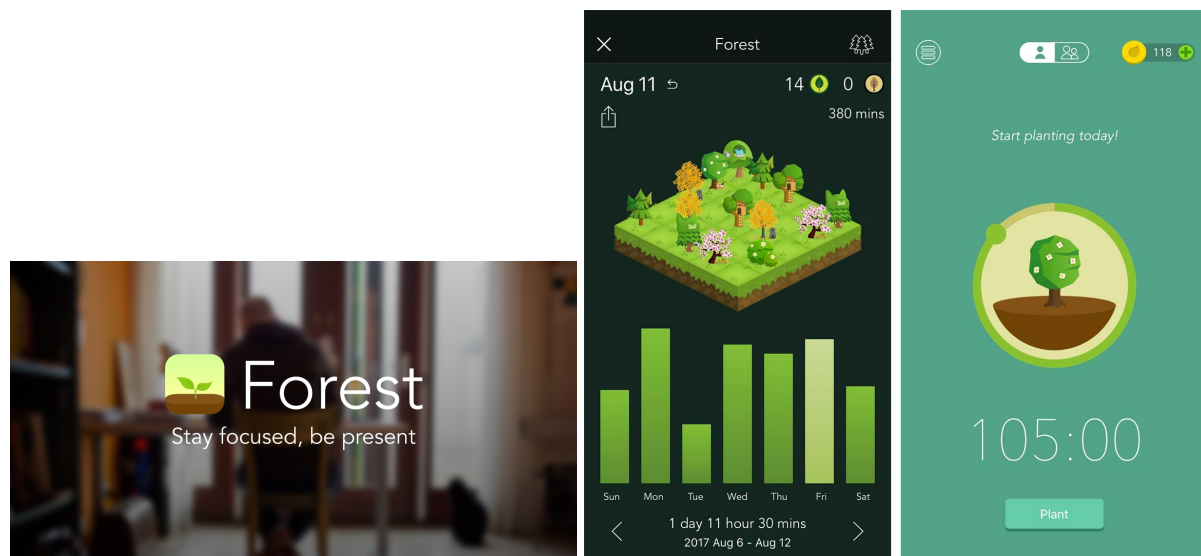
Figure 2.6. Forest App logo and app screenshots

Description	A productivity app that aims at phone addiction and manage their time in an interesting way
Key features	1. Friendly and simple UX & UI design 2. Feels like a game, therefore attracting young users

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	3. Extremely effective way of changing user behaviour
	4. The developers have partnered with a real tree planting organisation that plant trees around the world when done in the mobile application
	5. Ability to measure and analyse productivity
Disadvantages	1. Does not target physical activity, but rather sedentary productivity
	2. Dependent on keeping the phone turned on to run the application
Monthly users	2 million

This productivity app has attracted many users for its features, but also because of its beautiful design. The main reason we analyse this application is due to its strong behaviour-changing feature, and friendly UX/UI.

2.2.2. Market research conclusion

By analysing the different range of platforms available in the current market, we were able to identify what each platform's strongest features were. These include reddit's large communication forum, Strava's local athletic community, AirBnB's ability to sell positive experiences, NTC's ability to motivate through its visuals and Forest's ability to provide a strong UX and UI design to help shift people's behaviour towards a positive one. This evaluation can help us in the development of the GP idea to create a solution that could incorporate these respective strong features, and empower university employees to focus on joyous aspects of physical activity.

3. METHODOLOGY AND TECHNIQUES

This chapter of the report will introduce all the methods that I will use during the development of this project in its respective order, to explore and validate the project idea. These methods range from, and are not limited to brainstorms, interviews and discussions, as well as various analysis frameworks.

3.1. The Design Framework of Creative Technology

A framework developed by Mader (2014) outlines the four stages towards designing and developing a project idea in a Creative Technology project (as seen in fig.3.1). These four stages are Ideation, Specification, Realisation and Evaluation respectively.

- **Ideation**

The ideation stage is where a simple creative idea or a design question is developed, through an iterative process of analysing stakeholder requirements or user needs and connecting them to existing technologies. These are done using creative thinking methods such as brainstorms and tinkering, together with the use of literature research and interviews. The respective findings from these methods are then taken to the specification stage to further develop in the realisation stage. The ideas are analysed using methods such as the iPACT analysis (People, Activities, Context and Technologies).

- **Specification**

In this second stage, early prototypes are used together with a potential user scenario to explore its experience specifications and its functional specifications. Just like the Ideation stage, it is an iterative process, or a feedback loop, and findings from these early prototypes will be used to improve on the specifications for the updated prototype. Analysis methods such as the FICS (functions, interactions, contexts and services) are used to aid in the improvement of specifications.

- **Realisation**

The realisation stems from the specifications from the previous stage, and this stage of advanced prototyping can be done multiple times. For this project, the platform prototype will be tested and improved iteratively based on feedback and recommendations from the users.

- **Evaluation**

The evaluation stage looks into user testing and functional testing of the platform prototype. Based on this evaluation the platform can further be improved in either stage of the design framework.
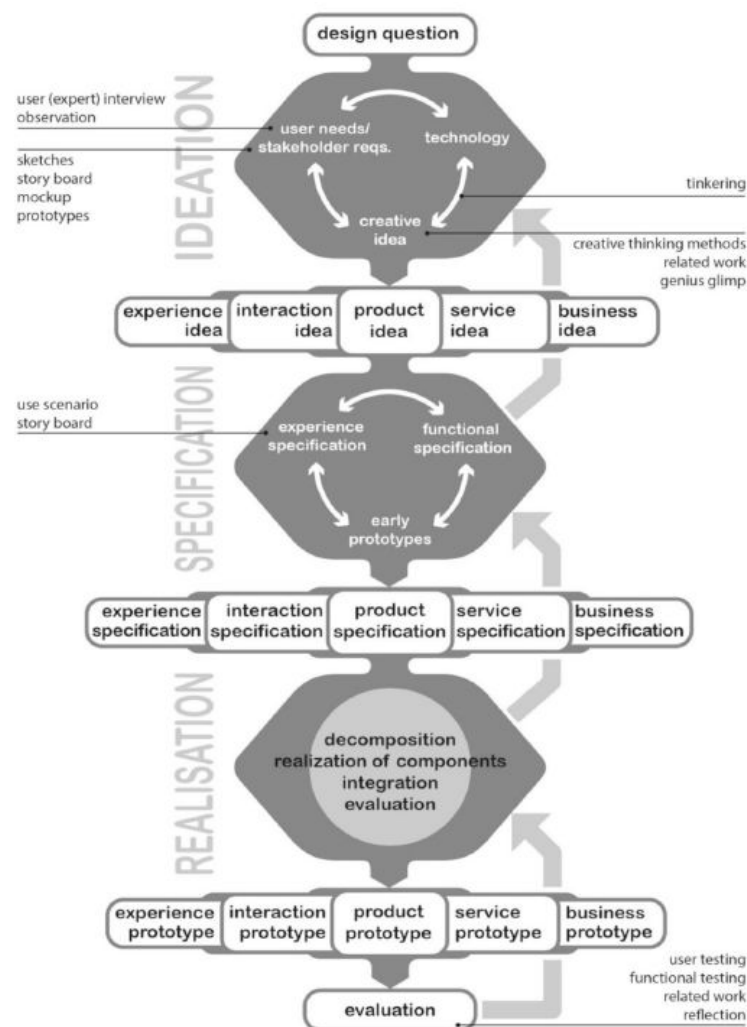

Figure 3.1. Creative Technology Design Process (Mader, A. H. & Eggink, W. 2014)

3.2. Brainstorm

Brainstorms can be done either individually or in groups, and it is a discussion session that is held to solve problems or produce ideas. The brainstorm process undertaken in this project , as seen in *Chapter 4: Ideation*, involves a divergence of ideas to explore alternatives, followed by a convergence to narrow down the potential ideas into one that is feasible and well defined considering the skills and time frame that is available. This divergence and convergence may happen multiple times depending on the situation, and this method can be explained using the illustration by Liu, J. (2016) in fig. 3.2.
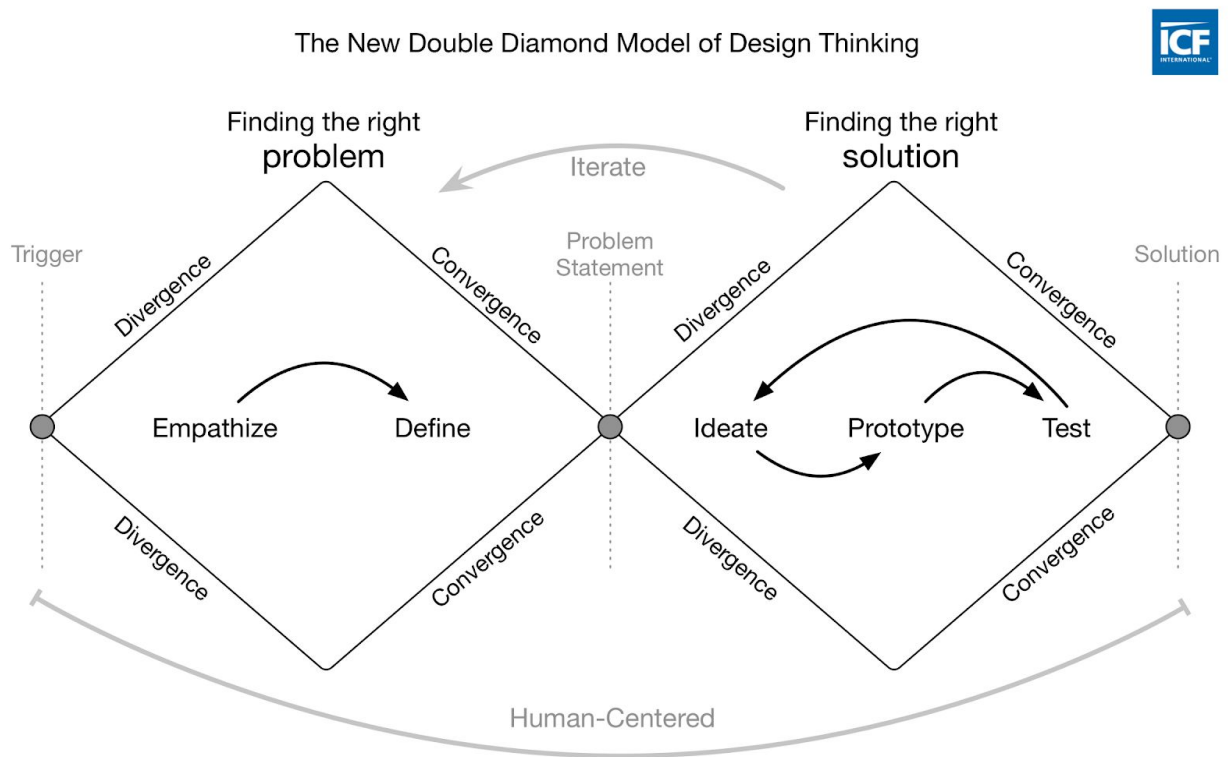
Figure 3.2. The divergence-convergence model, Liu. J (2016).

The figure above illustrates four main phases of a successful brainstorm. The first step requires the designers to begin by finding the right problem first, as a well-defined problem will lead to a well-defined solution. This is then followed by divergent and convergent thinking process - through several exercises of evaluating various ideas and comparing them, only a few are

selected to be prototyped and tested. In some cases, the few ideas are the merge of the few best alternatives. An iterative process follows the divergent and convergent process, whereby the designers will work to improve and develop new solutions, as there is simply no perfect solution to any given problem. Continuous prototyping and alterations are made, and during the process, designers will learn much more about the target audience and may return to redefine certain problems. During this whole design process, the Human-Centered Design is kept as the foundation, catering for any stakeholder of the project.

3.3. Stakeholder Analysis

A stakeholder analysis is done to determine who the respective stakeholders are for this specific project, and how much each stakeholder should be taken into account when making a decision within the project.

A stakeholder, according to Freeman (1984), is any group or individual that affects or can be affected by the achievement of an organisation's purpose/ objectives. Moreover, Sharp, H., Finkelstein, A., and Galal, G. (1999) state that stakeholders can be identified in 4 categories:

- **Users**

These are people who interact with the platform directly and will be using the platform either on a day to day basis, infrequently, or no interaction at all but are affected by its development and introduction.

- **Developers**

These are people who are designing and developing the platform for the users.

- **Legislators**

Legislators are people who have authority, and may provide guidelines that could affect the development of the project.

- **Decision makers**

Refers to managers or financial controllers of the project. They can decide the processes and standards of the project in development.

3.4. Interviews

Formal, Informal, Structured, Semi-Structured, Unstructured. Interviews can be done in various ways to gain significant insight from users, developers and experts to aid in the development of the project.

3.5. iPACT Analysis

An iPACT analysis is done to understand the system from a user's perspective. By being in the user's perspective, the designer can understand the features and functionalities needed to effectively achieve the goal he/she intended to. This acronym stands for Intention, People, Activites, Context and Technologies. It is essentially a mockup of a personality, predicting how a user will be using the platform.

3.6. FICS Analysis

FICS stands for Functions and events, Interaction and usability, Content and structure, and Style and Aesthetics. FICS is an analysis tool used to understand the system from the system's point of view, just like the way the iPACT does for the users.

3.7. MoSCoW Analysis

MoSCoW is an abbreviation for Must Haves, Should Haves, Could haves and Won't Haves. This analysis is extremely useful when determining the platform requirements and is mostly evaluated after user tests with an operating prototype.

- Must haves - Represent core features that are essential to the platform
- Should haves - Features that are beneficial to have in the platform, but are not necessary for basic operation of the platform
- Could haves - Lower priority than Should haves, they represent possible features the platform could have but are not noticed if left out.
- Won't Haves - These are the features that have been deemed unnecessary or unfeasible given the current time frame of the project, or are beyond the skill level of the designers of the platform. They are still features that would be beneficial to have in future development.

3.8. Platform Iterations

The platform will develop in iterative steps with each user test carried out. Each version of the website will be an improved version of its previous one, with its improvements determined after user tests. Prototyping the different versions of the platform will be a co-creation process to a certain extent, as the improvement suggestions made by employees are implemented for the next version of the platform. This process can be illustrated using the flowchart below (fig.3.3).
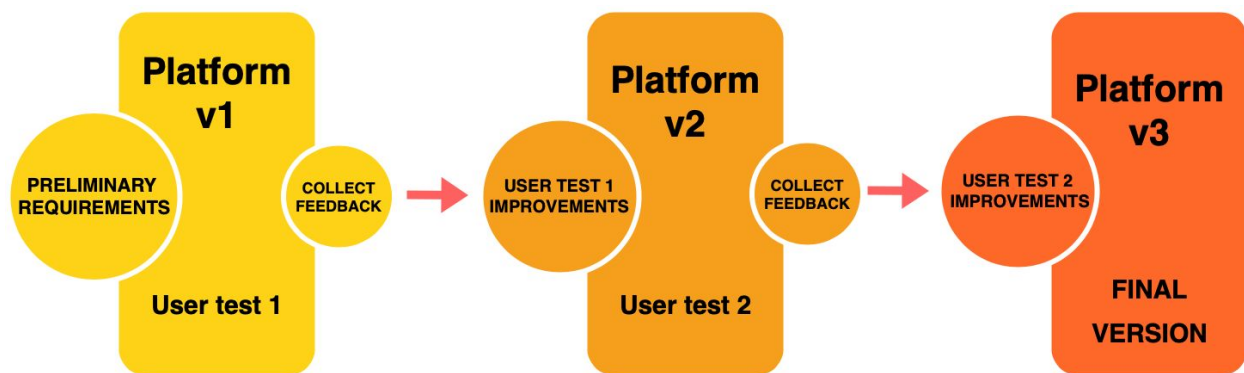

Figure 3.3. The platform development approach, as iterative changes are made after each user test.

4. IDEATION

This chapter will look into how the platform was created, with the use of the methodology and techniques mentioned in the previous chapter. It walks through how the problem was defined in the beginning, what options were explored and the solution that was chosen to tackle the problem.

4.1. Interview

Series of informal and unstructured interviews/ discussions were held with three university employees, with two of them as the supervisor and critical advisor of the graduation project. The initial question that was in discussion was:

How can we empower people to achieve a healthy lifestyle?

Given this general question, and the discussions from it, it was evident that a new approach towards enjoyment in lifestyles was favoured, much over trying to avoid negative consequences of having poor health.

However, with the main research question being such a large scope, the problem needed to be narrowed down to a specific one, within a specific target group. This in turn, lead to the reformation of the question:

How do we reduce sedentary behaviour amongst workers, specifically University of Twente employees?

4.2. Brainstorm

A group brainstorm session was arranged with three 3rd year university students; Mahandra Raditya, Fredrika Åström and I, to develop multiple ideas, given the problem statement. This involved the divergence of multiple ideas, followed by the categorisation of each based on similarity, to then finally converge into ideas that were most applicable for the final project.

The brainstorm was carried out by:

1. Mentioning anything & everything that comes into mind when the problem statement is read.
2. Categorise said words based on similarity.
3. Develop solutions based on the words within its category.
4. Analyse and evaluate solutions.
5. Select the most favoured solution (or merge if more than one).

Due to the project being very open-ended with a large scope of possibilities, the brainstorm session resulted in a wide range and large quantity of potential solutions.

Listing of multiple keywords that relate to aid in reducing sedentary behaviour (fig. 4.1):

Figure 4.1. Brainstorm 1, listing of subjects related to sedentary behaviour.

After listing multiple words that relate to sedentary behaviour, they were grouped and categorised based on their similarities. This will aid us in brainstorming potential solutions for the given categories.

The category headers were hobbies, physical health, lifestyle, values, environment, social, mental, entertainment and technology.

Hobbies:
- Yoga
- Football
- Sports
- Games
- Biking

Physical Health:
- Fitness
- Stamina
- Strength
- Energy
- Extreme
- Vitamin D

Lifestyle:
- Diet
- Self care
- Trendy
- Fashion
- Sustainable
- Goal

Values:
- Humour
- Simplicity
- Fun
- Experience
- New

- Eco-friendly
- Design
- Guidance
- Accessibility
- Organise
- Creative

Environment:
- Sun
- Waves
- Water
- Nature
- Plants
- Scenery
- Sustainability
- Recycle
- Inspiration
- Distraction

Social:
- Friends
- Love
- Peer pressure
- Meetings
- Company
- Life
- Laughter

Mental:
- Energy
- Leadership
- Sanity
- Positivity
- Self efficacy
- Confidence
- Laughter
- Empowerment
- Calm
- Creativity
- Inspiration
- Goal
- Achievement
- Stress relief
- Ideas

Entertainment:
- Music
- Games

Technology:
- Equipment
- Computer
- Smart devices
- Sensors
- Data
- Cues

Categorisation of the key words allowed us to carry out the brainstorm smoothly and systematically by pitching several solutions for each branch. The discussed solutions for each category was as follows:

CATEGORY	IDEAS

HOBBY	1. Smart Yoga mat
	2. Smart Yoga ball
	3. Hobby coach/ assistant
	    ○ UT facility based activity suggestor
	4. Smart Office Sports
	5. Pedal Chair
	6. Dance Mat
	    ○ Inspiration: Dance Dance Rev.

PHYSICAL HEALTH	7. Smart dumbbells
	    ○ Calculate reps
	    ○ Calculate calories burnt (altimeter or accelerometer)
	    ○ Dumbbell alarm
	8. Smart Pull-Up bar
	9. Bodyweight training
	10. Mobile/ movable meetings
	11. UT exercise networks

LIFESTYLE	12. UT uniform
	    ○ Tight uniform to make people more aware of their health
	    ○ Smart uniform
	13. UT fashion day
	    ○ Empowerment
	14. UT crowd event planner
	15. UT Training Tinder

LIFESTYLE	16. UT Student vs Teacher

VALUES	17. Experience suggestor
	18. #Trashtag/ Plogging
	19. Negative coach
	    ○ Humour coaching
	    ○ Negative psychology
	20. Organiser
	    ○ Personal planner
	21. Activity during lectures

ENVIRONMENT	22. Environment specific cues
	23. Playful office
	    ○ Smart mini golf
	    ○ Giant chess board
	        i. Chess pieces are a certain amount of weight
	        ii. VR games
	        iii. Kinect area
	    ○ Maintaining a garden
	    ○ Exercise group discussions

SOCIAL	24. UT Hobby connector
	25. Smart foosball table
	26. UT interactive activity overview map
	    ○ Showing people what there is to do around campus
	27. Digital sports friend/ assistant
	    ○ Encourages activity through emotional bond
	28. Tamagotchi-like virtual pet
	29. Video chatting software to make friends around the UT
	30. Actual human coaching through app
	31. Be a kid again
	    ○ An interactive photo reminder of what you like/ enjoy

SOCIAL	32. Joy in exercise platform
	    ○ Create a platform focusing on having fun
	    ○ Ability to rate amount of joy experienced
	    ○ Receive personalised suggestions of what might spark joy for you
	    ○ Wearable bracelet where you can physically rate the joy experienced
	    ○ Platform within the UT website
	    ○ Compare similar interests, driven by joy.

MENTAL & ENTERTAINMENT	33. Each walk creates new artwork
	34. Treasure hunt
	35. Activities that spark joy
	    ○ UT dog walk
	    ○ UT parkour + skill points
	    ○ Role playing games
	    ○ Rock climbing
	    ○ Swimming
	    ○ Trampoline
	    ○ Gymnastics

TECHNOLOGY	36. Chair that sends nudging shock 37. Alarm clock that runs away 38. Mobile bar 39. Audiobook system that plays only if you keep running/ moving 40. Bracelets that give you more points when you work together ○ Points can be redeemed in real life.

Table 4.1. Categorisation of ideas from brainstorm 1.

These solutions were analysed and evaluated in terms of the following factors:

1. Is the project suitable for a full graduation project
2. Is the idea executable within the given time frame
3. Is the solution feasible and unique

The most favoured idea was from the Social category, a platform that focuses on enjoyment in physical exercise amongst the University of Twente employees. The idea is able to merge multiple sub-solutions introduced in the brainstorm through events and activities, and will allow university employees to explore and connect with other employees with similar interests, through activities they can do in and around the University campus. The focus on enjoyment is supported by initial literature and aims to fuel the intrinsic motivation of employees.

4.3. Stakeholders

The platform has three types of stakeholders; the user, developer and the decision maker.

Users: The users of this platform will be all University of Twente employees. These users have varying levels of interest, but with a large level of influence in the platform. They are able to access and make use of the platform at any time any given day.

Developers: The developers of this platform are John Kim and Fredrika Åström. They are also the primary researchers of this project, having a high interest and high influence regarding the platform.

Decision Makers: John Kim, Fredrika Åström, Alma Schaafstal and Femke Nijboer are the decision makers of the project. Alma Schaafstal & Femke Nijboer are also supervisors and critical observers as well. These people also have high interest and high influence regarding the platform similar to the developer stakeholders.

4.4. iPACT analysis

The iPACT analysis is being carried out to analyse the system from a potential user's perspective.

Intention

The platform's intention is to encourage the employees of the University of Twente to partake in physical activity with the main focus being enjoyment.

People

A potential user of this platform can be Laura van Dijk, a Communications Science lecturer in the university. She is 32 years old, and her involvement in physical activity has been slowly deteriorating. Laura has been finding it difficult to motivate herself to exercise regularly, especially when alone. She has great communication skills and loves to talk to people, and enjoys activities with friends. She has tried to download several fitness apps only to find that they are very focused on high functioning athletes, or the apps require a payment. She has sufficient knowledge that the university provides various facilities for lots of activities.

Another user of this platform can be Andreas Lee, aged 28. He is a lecturer in the Industrial Design course and spends several hours designing and planning out class and exam material. He is already quite active in the university, occasionally doing sports activities in the university campus alone. He would love to find some people who can go on occasional runs or badminton games with him, but he has no way of looking for people with similar interests on campus. He is also very interested in technology, and is always up to date with the latest tech news.

Activities

The platform can suggest several activities and events that are available within the university, for the employees to take part in. Activities range across different levels of intensity, and they are free to choose what interests them. The social aspect of the platform allow users to find others who have similar interests, and chat with them either in respective forums or in real time. Each activity page has information on where to get started in the university via maps, instructions or small tips to cater for beginner or intermediate users, as well as several motivational and enjoyable UX designs.

John Kim - s1875574
Graduation Project
Creative Technology, Module 12, University of Twente

Context

The platform has been designed to be available to every employee at any time and in any location. It can be accessed via any digital device, at any social or organisational context.

Technology

This web platform is being developed with Wix. The platform can be accessed using any web browser that is currently available to every day users.

4.5. Organisational Identity

4.5.1 Core Values

An organisational identity is crucial for a platform to help identify its core values. The development of this identity allows the developers to design the platform accordingly based on its mission and vision statement. Furthermore an identity can create a sense of belonging amongst users. The developers of this platform, John Kim and Fredrika Åström held another brainstorming session to help identify the platform's core values. The name of the platform was also decided as *JOYxUT*.

Just like the divergence-convergence model, this started by writing down what values we wish to incorporate within JOYxUT, and was as follows:

- Enjoyment
- Workouts
- Positivity
- Inspiring
- Social
- Hobbies
- Welcoming
- Friendly
- Mental health
- Physical health

- Design
- Unique
- Different
- Sustainable lifestyle
- Rule breakers
- Technology
- Human touch
- Engaging
- Leaders
- Trail Blazers

Three top values; Enjoyment, Sustainable healthy lifestyle and Social were selected amongst the brainstorm list. These following three values will help design the platform accordingly, together with the mission statement that we aim to follow along the development of this platform. This can be seen as follows:

Core Values of JOYxUT:

1. **Enjoyment**

One of the most important predictors of continued health behaviour, is the level of positive emotion experienced during the exercise. Focusing on physical activities that brings you joy is a guiding value for our service.

2. **Sustainable Healthy Lifestyle**

Our goal is to encourage lifestyle changes that are not just temporary, but that are sustained over time. Each individual's journey is different, but what will make them more likely to succeed is doing what they enjoy.

3. **Social**

Sharing experiences, thoughts and ideas with others is the foundation of what we do. We believe that positive emotion is amplified when it is shared.

JOYxUT Mission

Our mission is to encourage and inspire university employees to acquire a sustainable healthy lifestyle, by practicing sports and activities that they genuinely enjoy. By connecting people to like-minded others, we wish to make physical activity a more fun and gratifying experience.

JOYxUT Vision

We want to change the focus of physical exercise from the number of calories burned, to the level of enjoyment they elicit.

4.5.2 Platform Moodboard

To aid in the development of the website's colour scheme, emotional themes, etc. a brainstorm with Fredrika Åström was carried out, resulting in the following moodboards for the website's theme.
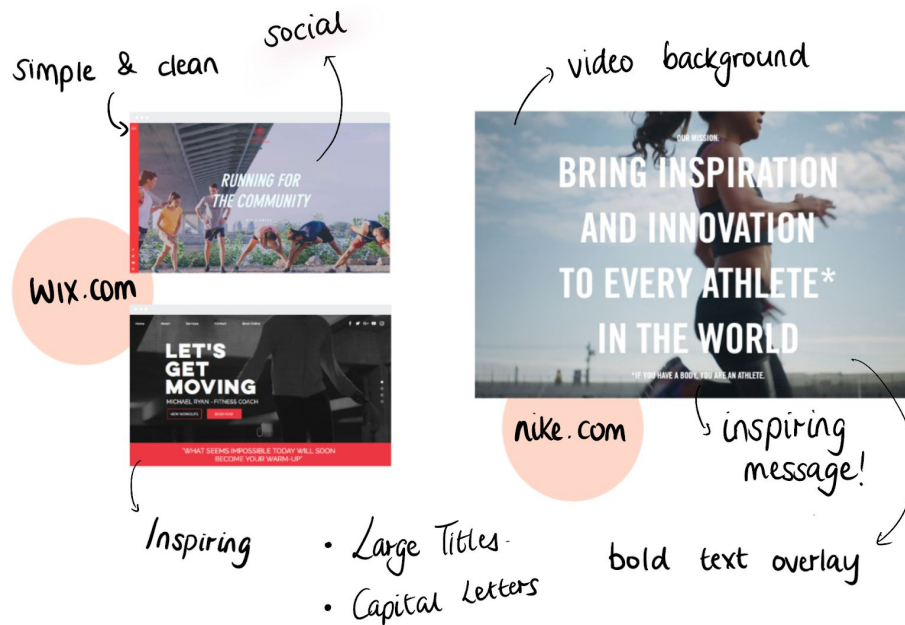
Figure 4.2. Moodboard 1: General landing page theme.
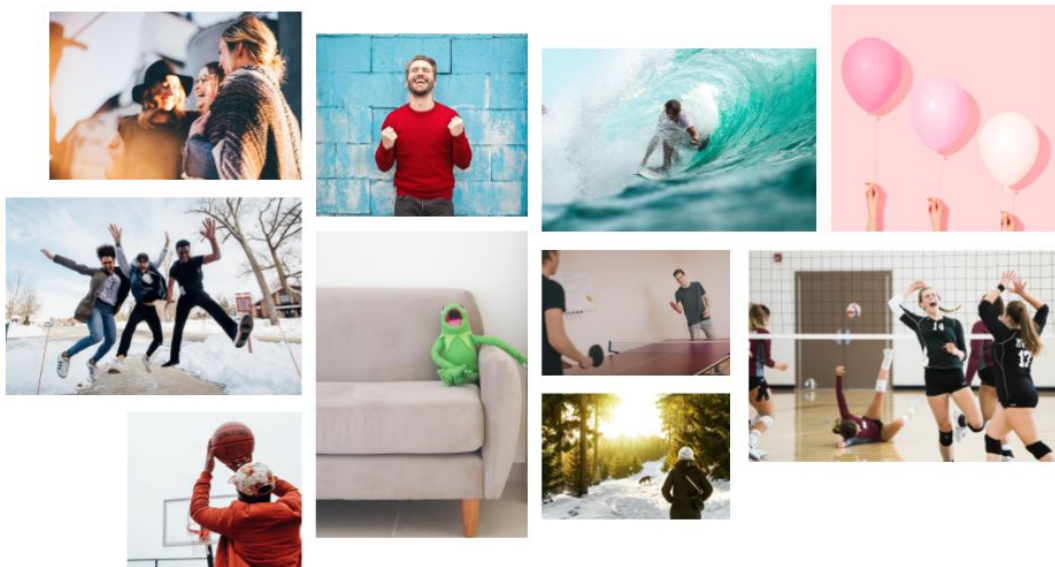
Figure 4.3. Moodboard 2: Colours and emotions of the website.

4.6. Preliminary Requirements

Based on the previous interviews and brainstorms, as well as the iPACT analysis, the following preliminary requirements have been determined for the project. Please note that these requirements may change or be improved, based on user testing feedback, towards the Specification and Realisation stage.

1. The platform should offer a wide range of enjoyable physical activities that employees can choose from.
   - The aim is to nudge employees to try out activities that they already enjoy in university
   - Employees can also be nudged to try out new activities with ease and comfort within the university campus
2. The platform's main focus is on enjoyment, and not athletic achievement.
   - Every user must feel comfortable in choosing what they want to do.
3. Social integration in the platform should allow users to connect easily and find similar interests.
4. JOYxUT must be a clean, simple aesthetic to make sure that users are not confused or irritated by cluttered design.
   - As the target audience may not have the same experience when using technology, UX and UI design must be done to cater for all levels of users.
5. The platform must be free and accessible by all UT employees at any given time.

5. SPECIFICATION

The Specification chapter will look into the preliminary requirements listed in the previous chapter and put them to test using a prototype. The prototype will be analysed with the user test 1 & 2 conducted to evaluate if these requirements are sufficient or need certain improvements. An FICS analysis will be carried out to evaluate the system from the system's perspective, and will conclude with a summary of the requirements needed for the following Realisation chapter via a MoSCoW analysis, and possibly future improvements to the platform.

5.1. FICS Analysis

The FICS analysis, as described in section 3.6, is used to analyse the platform from the system's perspective. The following cover the categories:

Functions and Events

There are 4 key functions in the JOYxUT platform, and these are:

1. Presenting a wide range of activities that are possible to do in and around the university campus with minimal effort.
2. Providing specific activities and learning much about them to inspire and help employees bridge the intention-behaviour gap.
3. Providing a communication tool for socialisation, present as a forum/ discussion page and instant messaging.
4. Showcasing various events that the employees of the university can partake in via a pre-registration and information page.

Interaction and Usability

Users will actively interact with the platform to cater for their individual needs, such as by clicking on the pages they are interested in, actively talking to people they wish to connect with, or exploring specific pages to learn more about a topic. A passive interaction with this platform is present whereby user profile information is saved when they log in or post or comment on pages.

Content and Structure

The platform shows informative and relevant content to users who wish to partake in activities around the university. Additionally a list of the content and structure present in the platform can be observed in section 4.6. Preliminary Requirements.

Style and Aesthetics

Style and Aesthetics are an important component in this project. Both the style and aesthetics of this platform needs to reflect positive emotions, with the main emotion being enjoyment. Each page of the website must be clean and simple in order for it to be intuitive and usable across different users, while simultaneously conveying enjoyment and positivity in every section of the platform. It is also very visual, with the aid of various photography and videography materials to engage users and providing them with an enjoyable experience.

Therefore, the style of this platform can be described as visual- heavy, yet minimalistic, and its aesthetics concentrate on conveying positivity and enjoyment.

5.2. User Test 1: Primary requirements of the platform

An early prototype of the website was built in Wix using the preliminary requirements of the platform (section 4.6). The early prototype was then used to carry out the first user test, with 8 employees of the University of Twente (4 from Creative Technology, 3 from Psychology and 1 from Communications department). The findings from the user test were used to develop the necessary requirements needed for the functioning JOYxUT platform.

Method:

The users sit together with the developers of this platform, and freely interact with different pages of the website. They also speak out loud as they perform any actions, and are free to ask any questions during the user test. After they have familiarised themselves with the platform, a set of questions are asked by the developers about the website's functionality.

See Appendix A2 for the full User Test 1 Protocol.

5.2.1. User Test 1 Improvements

The fundamental improvements needed to be made on the platform, based on the User Test 1, can be seen below:

- The platform requires information that is tailored to employees of the UT. Make any information in the platform specific and relatable to the university.
- The platform needs an explanation to clarify what it is about, and purpose needs to be clear. This will be solved with an *About* page with the incorporation of the Mission and Vision Statement as defined in *Chapter 4.5.1 Ideation: Core Values.*
  - Include a section in the platform that explains the research done to support the project idea e.g. the Upward Spiral theory
- The homepage image makes it seem too athletic, and may be intimidating to new users. Introduce a background that is less athletic.
- The website needs to cater to different types of users (casual, intermediate and advanced)
  - Beginner - low to no physical activity in a week
  - Intermediate - frequent physical activity every week
  - Expert users - frequent physical activity every week at an advanced level
- Activities need to be more diversified, and arranged in a specific order
  - Introduce additional casual activities that are less time consuming or need less preparation
  - Needs more unusual/ niche activities
  - Arrange activities in order of intensity or difficulty
- Needs more focus on enjoyment throughout the platform
  - Include more activities that concentrate on having fun rather than athletic sports
  - Embed enjoyment in the platform's visual theme. This can be achieved by smarter use of visuals and media.
- Organise the activity "groups", to be able to connect to like minded people
  - Make the forum pages group specific, e.g. runners on the running forum, swimmers on the swimming forum, etc.
  - Organise users by department

- Tailor each specific activity page to encourage engagement amongst employees. This can be done by phrasing sentences in a way that is less intimidating and more welcoming for new users
- Make the website more accessible in terms of navigation and interaction
    - Such as larger icon size, more clickable text etc.
- Add more information about activity-specific events, such as events specifically for runners on the running page.
- Ensure that the website always answers the four W's: What, When, Where and with Whom?
- Phrasing of words must be done to be more inviting across the whole website, and not just in the forum
    - Some users felt intimidated because of the way a sentence was phrased
- Not everybody wants to exercise together, therefore the platform needs to cater for solo activities
- Incorporate a reminder/ subscription regarding activities and events, this can be achieved via reminder emails
- The blog needs to be more about joy, not announcements. Improve the blog, or remove it
- Integrate more information similar to the UT Sports Centre
- Add APA references to the "tips" for credibility, as researchers are the main target group.

5.2.2. Evaluation of results from User Test 1

After the user test and evaluation of the feedback, some important decisions were made regarding the platform.

1. 3 main types of users were determined;
    a. Beginner users - low to no physical activity in a given week
    b. Intermediate users - moderate physical activity/ exercise at least once every week
    c. Expert users - high physical activity/ exercise once or multiple times every week at high intensity

With the current research question, the target group of this project was much more suitable to the beginner and intermediate users. Therefore, expert users will be excluded as a target group for the development of this platform. The platform, however, will still be available to the expert users.

2. I will specifically focus on improving the experience of the Intermediate users, and further carry out research and development with intermediate users in mind.
    The needs of the beginner users will be catered by Fredrika Åström of Creative Technology. Later on, both beginner and intermediate factors will be implemented together to ensure coherence in style and structure of the platform.

3. The blog feature will be removed as it served no major purpose in the platform. Most users found the feature to be unnecessary, or sometimes confusing.

4. The Mission and Vision statement will be expanded as "Our Vision" and "Our Inspiration" pages on the website. The text in these sections were written by Fredrika Åström, but designed/ edited and incorporated to the platform by both developers.

5. Due to time constraints, few improvements that were introduced from the user test 1 will be moved to section 5.6. Future Improvements.

5.2.2.1. Intermediate user needs

The current target group (intermediately active users) has differing requirements as compared to the beginner users that are being catered for by Fredrika Astrom. Table 5.1 below illustrates the differences defined after user test 1:

Beginner Requirements	Intermediate Requirements
1. Visual content should not feel intimidating 2. Visual content must not be too sporty 3. Users would like to see more casual	1. Platform needs to encourage users to maintain or improve their current level of physical activity 2. Ability to meet other users on a

activities that are not very intense 4. Users want to connect with like-minded others on a similar beginner level 5. Additional tips on how, where and when they can get started in an activity	similar intermediate level 3. Visual media should neither be too casual nor too athletic as intermediate users are still below expert users 4. Users need additional Intermediate tips as compared to beginner tips 5. Additional information about upcoming events within the activities that users already do 6. More information about different aspects of the activities the users already do

Table 5.1 Differences in Beginner and Intermediate Requirements

To fulfil the intermediate users' requirements in the platform, new features were introduced after user test 1. At this point in time, one specific-activity page is being used as a pilot-activity page, therefore any improvements that need to be made in activities are all currently being made to the running page. These features, specialised for the running activity, were:

● Introduce different types of running, to make running more fun to users who already know how to run
● Adding a "challenge" element to the page to engage and inspire intermediate users
● Show information of upcoming running events that users can take part in and challenge themselves
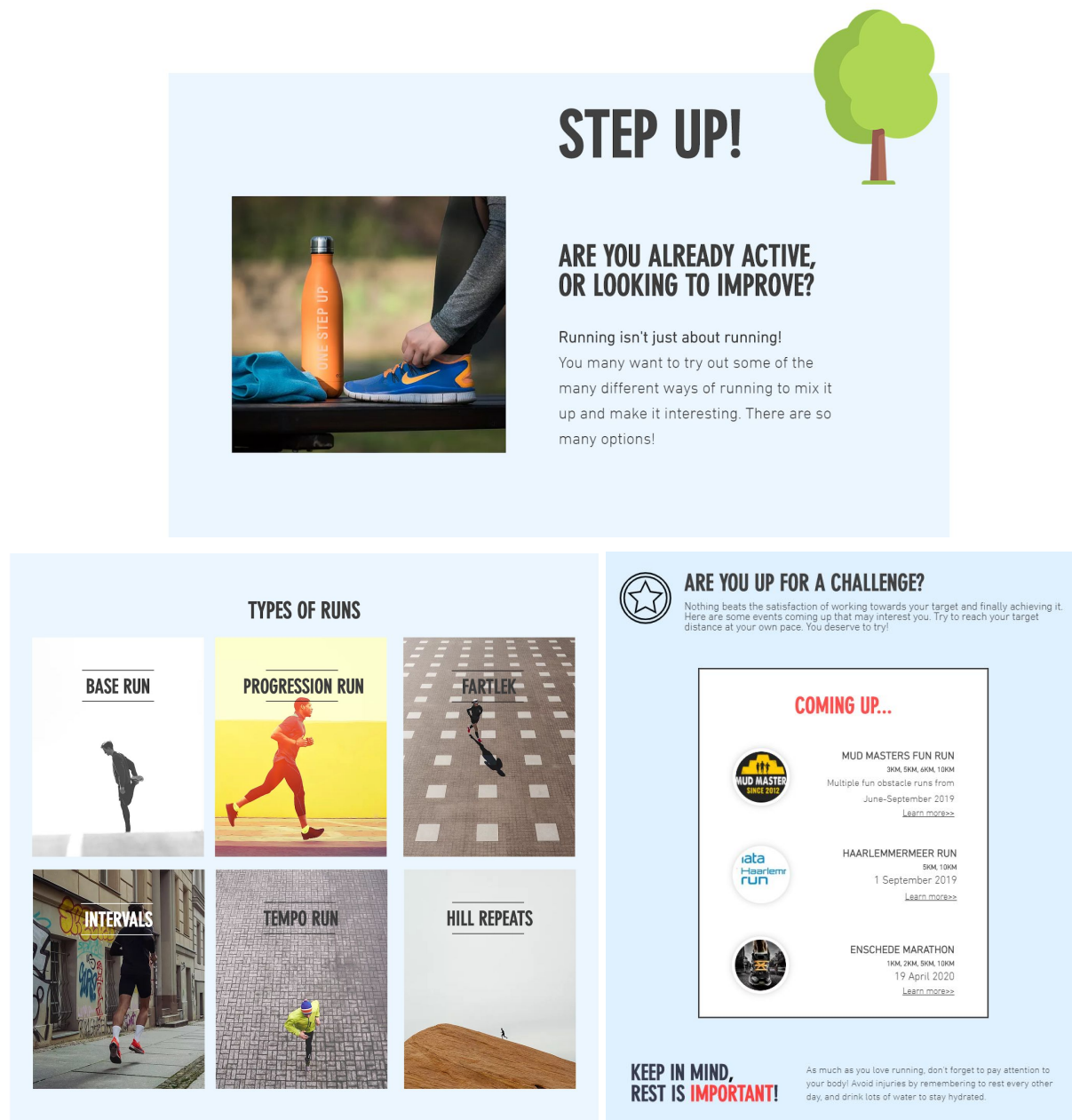
Figure 5.1. Improvements for intermediate users.

These features were readily implemented to be tested in the next user test, and to gather feedback from intermediate users on these features.

5.3. User Test 2: Intermediate users and other platform requirements

After various improvements were made based on the feedback from user test 1, a second user test was carried out with the University of Twente employees. The user test 2 involved 16 employees, representing different faculties in the university.

Method:

The users would sit and explore the website for 5-10 minutes, and perform a few tasks specified by the developers. The users will speak out loud as they perform certain actions, and are free to ask any questions at any time. All actions performed by the users were recorded to be analysed afterwards. After the specific tasks are completed, the users will answer an online questionnaire which takes an additional 5 to 10 minutes.

The central objective of user test 2 was to learn more about:

1. Additional general feedback from the users above the improvements from user test 1
2. Specific insight about the platform from the Intermediate users
    a. What can be improved in the platform to cater for the needs of employees that are already fairly active?
    b. What new features can be introduced to the platform for these users?

See Appendix A3 for the full User Test 2 Protocol that was followed.

5.3.1. User Test 2 Findings

Out of the 16 employees that took part in the user test, 7 identified themselves as intermediately active users (while the other 7 identified themselves as beginners, and the remaining 2 identified as expert level.)

See Appendix A5 for the full list of User Test 2 results obtained.

From the full 16 user participants:

1. The age distribution was relatively wide, with ages ranging from 24 to 50 years. The average age of these users was 34 years (± 7.96).

2. The gender ratio was 62.5% male and 37.5% female.

3. The current lifestyle of the 16 employees can be analysed with the table:

I rarely exercise (or never)	25%
I exercise sometimes, but not every week (irregularly)	18.8%
I exercise regularly (once per week)	**6.3%**
I exercise regularly (multiple times a week)	**37.5%**
I exercise on an advanced, or expert level (once or multiple times a week)	12.5%

Table 5.2. Lifestyle analysis of the 16 employees.

The highlighted users (3rd and 4th results in the table) represent the intermediately active users in the University. The first 2 results represent the beginner users, and the last result represents the expert users.

The Intermediate users were then directed to specific questions that were tailored for them. The analysis of the 7 intermediate user questions are as follows:

1. 100% of the users felt that the platform was designed for them; 71.4% of users stating that they agree, and 28.6% saying that they strongly agree. This is a good indication that shows that the information in the website is well curated for employees.

2. Every page on the website was voted as users' favorite page, except the *Members* page and the *Contact Us* page. The activities page was the most popular with 85.7% of users voting as their favorite, followed by the Events page with 71.4%, and the About: Our Mission page with 42.9% votes. This hierarchy of popularity rightfully reflects on the amount of detail and information the platform holds.

3. The users were asked why they like the specific pages:

User x of 16	Preferred pages	Reason they liked the page
4	Home, Activities, About: Our Mission & Our Inspiration	*-No comment-*
7	Activities & Events	"Content and layout really relate to the target group"
9	Forums & Specific Activity page (Running page)	"Forum looks nice and gets you in touch with the community. Activity page gives a good overview of how to get started and who to contact"
10	Activities, Events & About: Our Mission page	"I liked seeing all the opportunities on one page, divided for activity types (so if you have only a specific amount of time, it becomes easier to choose; or if you are interested in a specific type (such as relaxing) you have all the activities together in one category"
11	Activities & Events	"Liked the inspiration and a quick overview of what I could do, also might be nice to meet new people for employees coming from another city or country"
13	Activities & Events	"If thinking about the future, these are the pages I find most useful"
14	Activities, Events & About: Our Mission	*-No comment-*

Table 5.3. Respective preferred pages and its reasons.

4. Intermediate users perform and enjoy a wide distribution of sports, ranging from gym & fitness, tennis, walking, cycling, yoga, running, football, hiking, rowing, beach volleyball, bootcamp and swimming. The users enjoy these wide range of activities equally, and not one in particular.

5. Majority of Intermediate users (57.2% of users) find it easy to motivate themselves to exercise. No users voted that it was difficult. This shows that the features in the platform introduced for intermediate users do not need to focus on early motivational skills.

6. 71.4% of users state that they are interested in exercising both with friends/ colleagues and alone. 28.6% of users voted that they with to exercise alone only, and 14.3% voted for exercising with friends/ colleagues only. This shows that people who wish to exercise alone exist, and should be catered for too.

7. Majority of users (57.1%) wish to improve their current level of exercise, while 28.6% of users wish to maintain it. Incorporating a feature that allows users to challenge themselves can target those who wish to improve their physical activity. Challenges at a lower intensity level can also cater for users who wish to maintain physical activity.

8. Any open remarks:

User x of 16	Comment
7	"The website looks amazing. I'm looking forward to the final version!"
10	"I like your website, keep up the good work! I haven't explored if it is possible to create groups as well, with colleagues with whom you can undertake activities regularly, this would be interesting for me"
11	"Although I like cycling I don't make the time for it often enough, for a team sport I notice this is way easier because you commit to it, this week I actually decided to dedicate an evening with my girlfriend to go cycling so we "have to"/commit to it. For running or swimming I would need a challenge, for beach volleyball it was a bonding thing as well with colleagues you get to know them a bit differently, rowing was more of a getting to know a sport just to learn a bit about it (both by "accident" also research related)"
13	"I hope this webpage gets available soon. Good luck!"

Table 5.4. Open remarks.

In addition to the questionnaire responses, other general remarks were made during the user test:

● The users felt that the web platform made them feel joyful and happy just by its appearance. This is an important achievement, as it is the foundation of this graduation project
● The home page felt empty, as they expected to find more information on a landing page

- The *Coming Up* and *Types of Running* features in the specific activity page were found useful
- Half of all the users struggled to find the chat icon on the platform, and will need clarification to make it more visible.
- Users navigated the platform with ease during the specific tasks required to do during the user test

5.3.2. User Test 2 Improvements

Following the observations of the responses, these are the specific improvements to be made in the 2nd alteration of the platform:

- Clarify what the website is about on the home page. This can be done by expanding the home page and including additional info of the specific features provided by the platform
- Make the introduction text in the *Activities* page more clear to the users. This can be done in the top of the page before the list of activities
- Add a condensed list of all activities at the bottom of the *Activities* page for users who wish to see an overview
- Add a descriptive sentence for each category of the activities, to clarify what each section is about
- Add anchors that link the user to beginner and intermediate information respectively (tunneling), for users who wish to save time and effort of scrolling
- The *Messenger* icon is often overlooked by users. Clarify the *Messenger* feature by explaining it at the top of the *Members* page
- Use images and videos that are UT-specific, with real photos of the University with real employees for a better tailored experience.

The feedback from the intermediate users of this platform will act as key information to help design additional features to cater for their needs, which we will further evaluate in the next Realisation chapter. We can also observe that the responses gathered from the users positively reflect on the improvements made after user test 1.

5.4. MoSCoW

As described in chapter 3.7., the MoSCoW analysis is done to determine the core requirements of the platform. After having user tests carried out with the first prototype, this analysis can now be seen as an improved version of the requirement list based on user feedback. The analysis will be used to continue working on the Realisation phase.

Must haves:
- Physical activity suggestions to allow users to explore and engage in different activities
- Each physical activity page must have its detailed respective information about its activity (e.g. location, definition etc.), and nudge users to try them out
- Word and sentence phrasing that feel more inviting and less intimidating to users
- Visual design to specifically cater for the UT employees
  - For example, if visual media of sporty athletes are used, they may put off university employees that have no experience in physical activity
- A social communication tool for users to connect to others with similar interests
- Free and accessible by every University of Twente employee
- Embed enjoyment in its corporate identity
  - Visual theme, content, interaction and copyright.

Additional: Please refer to section 5.2.1 (User Test 1 Improvements)

Should haves:
- Intuitive UX and UI design to cater for users of different backgrounds
- Mission & Vision statement to explain what the platform is about
- Visual elements elicit positive emotion, and is relatable to the target groups
- Duration and difficulty of specific events to give users an overview
- Specific tips and information tailored for intermediate users in each given activity
- Cater for users who wish to exercise alone.
- Event specific information, such as specific running events for users interested in running. E.g. Upcoming marathons where intermediate users can challenge themselves.

Could haves:
- Activity specific information, for example, tailored running routes for the running activity, location tracking for movement activities, recommended gear for outdoor activities, etc.
- Gamification of activities, motivating users by unlocking "achievements"
- Tunneling specific information to cater for respective users

Won't haves:
- Information specifically tailored to expert athletes
- Visual media that represents users that are not within the target group e.g. expert athletes or teenagers.

5.5. Future Improvements

This section of the report highlights features that would benefit the platform if implemented, but has been excluded in the development due to the narrow time frame allocated for this project. The following are improvements that may be implemented in the future to enhance user experience:

1. Specific Activities
   a. Incorporate a subscription functionality to get weekly news
   b. Route maps and GPS tracking for activities such as cycling, running, etc.
   c. Music and podcast suggestions during an activity
   d. Challenges that a user can choose to partake in

2. Events
   a. Information to show who amongst your friends are going to specific activities
   b. Additional organised, external events
   c. A calendar overview synced with UT employee profiles

3. Members
   a. Organising users by department in the UT

    b. Ability to connect to like minded users on similar levels

4. News/ Blog
   a. A feature weekly article about joy, positivity, enjoyment and exercise
   b. Research posts that can be read by UT employees

5. Personal Profile Page
   a. Ability to add personal stories
   b. History of activities
   c. Ability to quantify the amount of enjoyment experienced during an activity

6. Data Collection
   a. Collecting data of the users to tailor content better
   b. Incorporation of the European Data Collection form
   c. Incorporation of a Privacy Policy

6. REALISATION

This chapter of the report looks into the various design choices made by the developers, Fredrika Åström and I, in order to design a platform that effectively realises the goal of the GP. With the discoveries from the user tests in the Specification phase, the various steps taken to reach an effective design of the platform are explained. This final prototype will then be used to evaluate the project in the next chapter.

6.1. The Web Platform

6.1.1. Decision to use an online Web-building tool

Once the idea of developing a web platform was established, it was evident that an online website building tool would have to be used due to several reasons. Given the timeframe of 10 weeks to realise the project goal, it would be much more efficient and effective to use an online web-building tool rather than programming the platform from scratch. As developers, our main strengths were in visuals and UX /UI design, therefore working on Javascript, HTML and CSS would not have been the most optimal decision. Moreover, web builders allowed complex features within the website (such as user log-in databases, online chat servers for real time communication and live email alerts) to be introduced via the use of plugins, instead of developing these features separately within the platform in the given time frame.

6.1.2. The decision to use Wix

Before the decision to use Wix, other online web-building tools, such as Squarespace, WordPress and CraftCMS, were analysed to see what the most suitable one would be. Without going to extensive details and pros & cons of each, Wix, compared to the rest, excelled in its ease of use and wide variety of plugins, as well as having the lowest cost to develop. It also fulfilled the following:

1. Ability to make a user profile and log-in using an existing google or facebook account
2. Flexible design options, especially for startup websites
3. Free initial design plan, with the ability to upgrade to premium if additional features are needed

6.1.3. How Wix was used

Despite the fact that Wix offers a wide range of templates that developers can use to customise their web pages, this feature was not used. The JOYxUT platform was built from an empty template to tailor the pages according to UT employee's needs, without any predetermined themes. During development, the Wix Premium plan was purchased, which allowed us to:

- Remove any advertisements visible on the platform. Advertisements hindered user experience and needed to be eliminated.
- Receive 10GB of online storage and unlimited bandwidth. This was especially important due to the heavy visuals in the platform, as it would make the loading times much faster.
- Upload up to 1 hour of video, which is also important for moving visuals.

The empty template of Wix is shown below (fig. 6.1.), which was the starting point of designing the platform.
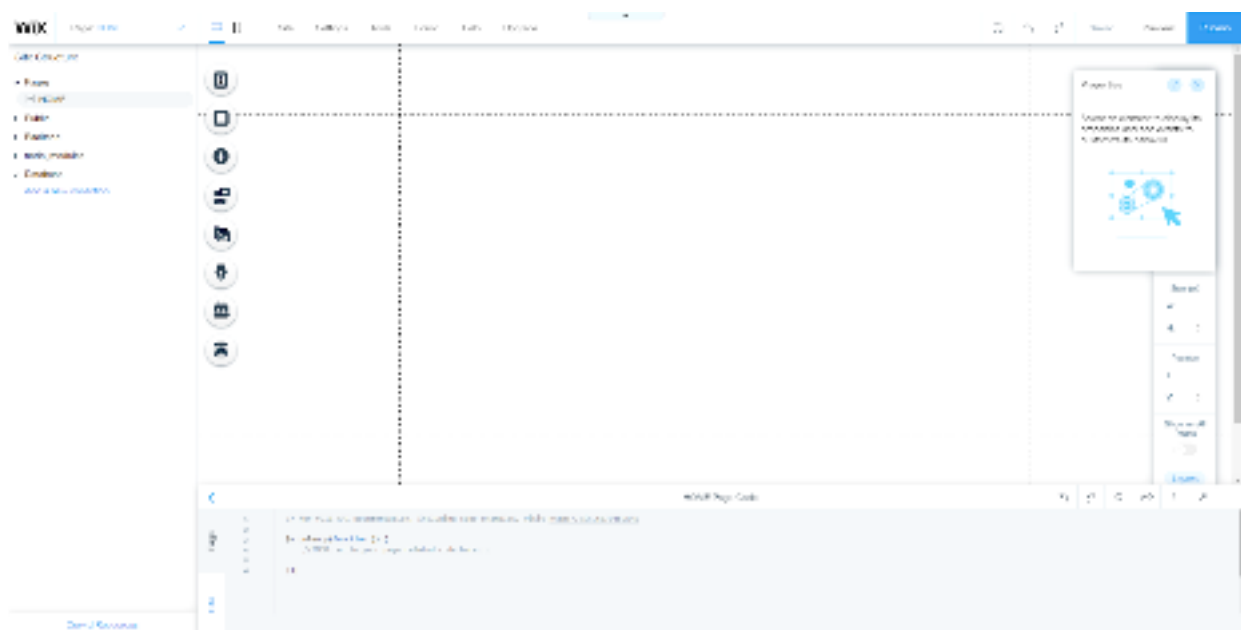
Figure 6.1. The starting empty template of Wix.

6.2. Visuals and Media

Visuals and media are an integral part of this platform as they help to convey positive emotions through empathetic and inspiring content at a glance, and they help to promote engagement amongst the UT employees.

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6.2.1. Images

The process of selecting images suitable for this platform was a challenging task, as every image selected to represent a specific element in the platform must fulfill the following criteria:

- Images must convey positive emotion if it includes human expression
- Any persona within an image must relate to the target group in terms of age, appearance and athletic ability
- Images must represent the environment that the University employees are in

For the first and second iteration of the platform prototype, free stock images were used from Unsplash[1] and Wix Images[2]. For the final version of this platform, photographs were taken within the University of Twente using a Canon 80D camera. These photos were then edited using Adobe Lightroom CC 2019 and Adobe Photoshop CC 2019.
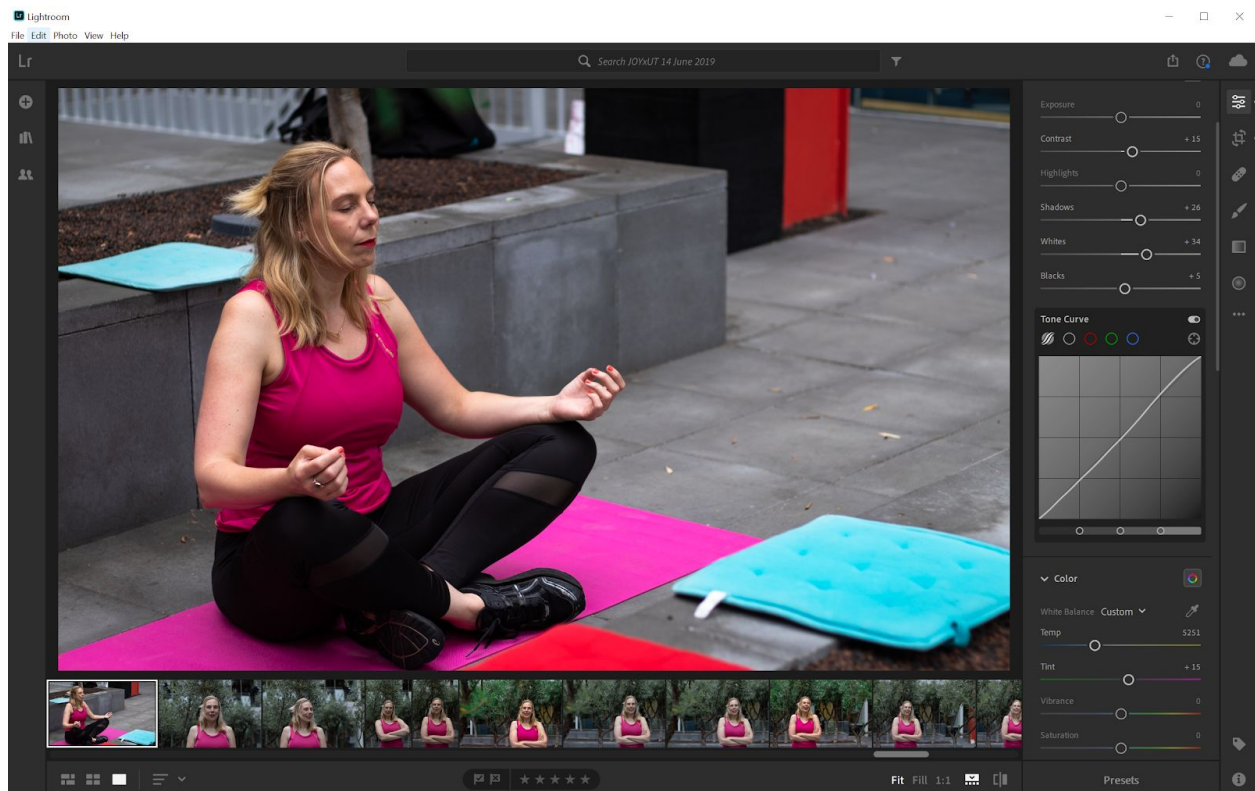
Figure 6.2. Adobe Lightroom CC 2019 edit workspace, with the Yoga activity photo.

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[1] https://unsplash.com
[2] https://wix.com

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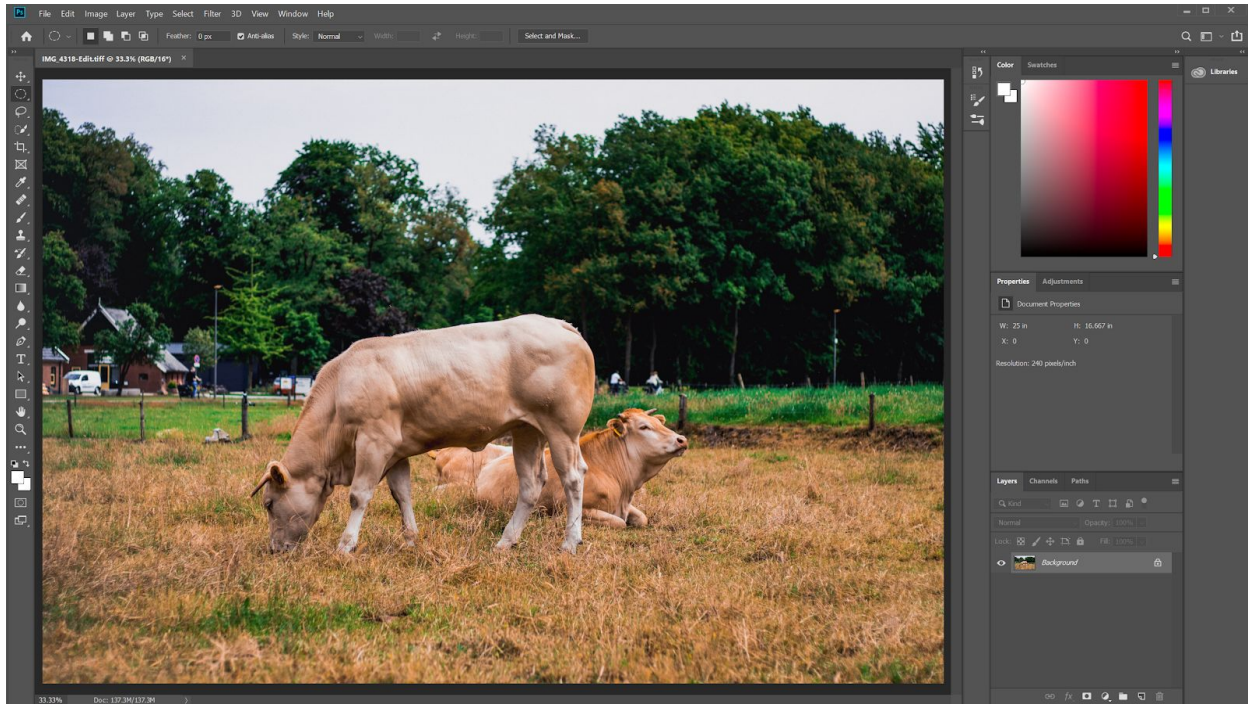
Figure. 6.3 Adobe Photoshop CC 2019 workspace, with the Animal Watching activity photo.

6.2.2. Video

The selection of video for the platform went through the same criteria as the images. A free stock video from Wix was used for the landing-page of the platform in the second prototype, however, for the final iteration of the website, the landing-page video was replaced with a video that was recorded within the University of Twente. This new video featured actual employees of the UT, representing both beginner and intermediate users. The video was planned and organised with the joint effort of both developers, but filmed and edited by John Kim.

6.2.2.1. Editing Process of the Homepage video for the final version of the platform

A Samsung Galaxy S8 smartphone was used to film footage in 4K resolution, together with the use of the DJI Osmo Mobile 2 gimbal[3]. The use of the gimbal allowed smooth video stabilisation and a motion hyperlapse, to showcase the main University of Twente letters on campus. These videos were then edited and colour graded using Adobe Premiere Pro CC 2019. The videos filmed showcase Yoga in the UT Olive Garden, a photowalk activity of three employees in a

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[3] https://www.dji.com/nl/osmo-mobile-2

campus nature track, frisbee in the UTrack and the University of Twente sign on the main campus entrance.
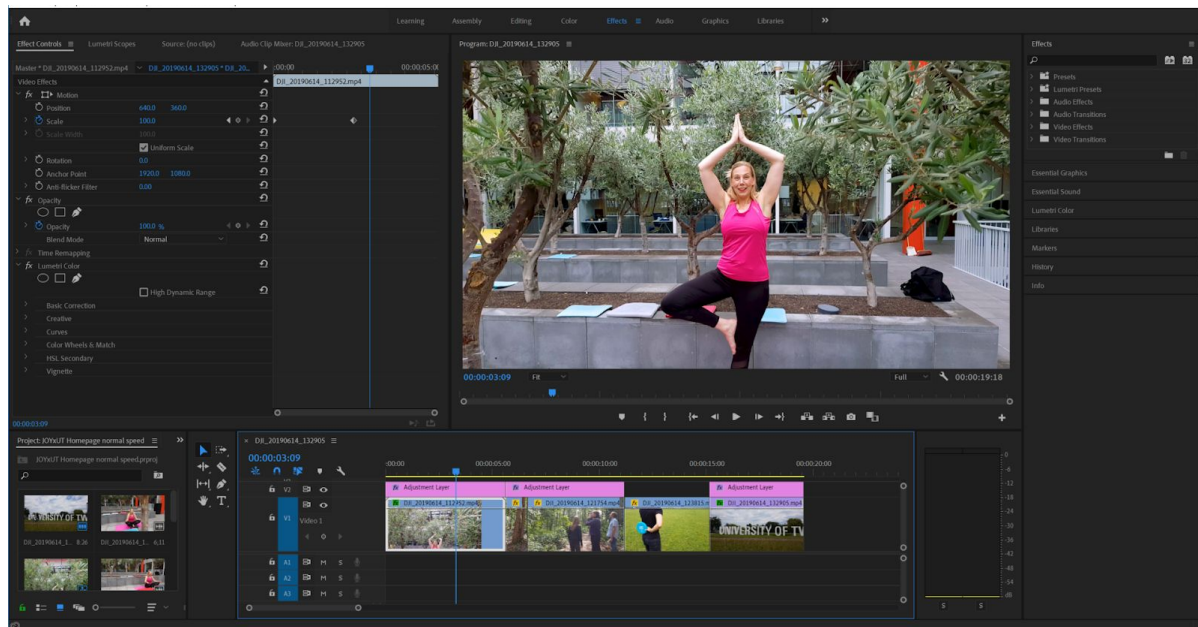
Figure 6.4. Adobe Premiere Pro CC workspace with effect controls and timeline for the Yoga edit.
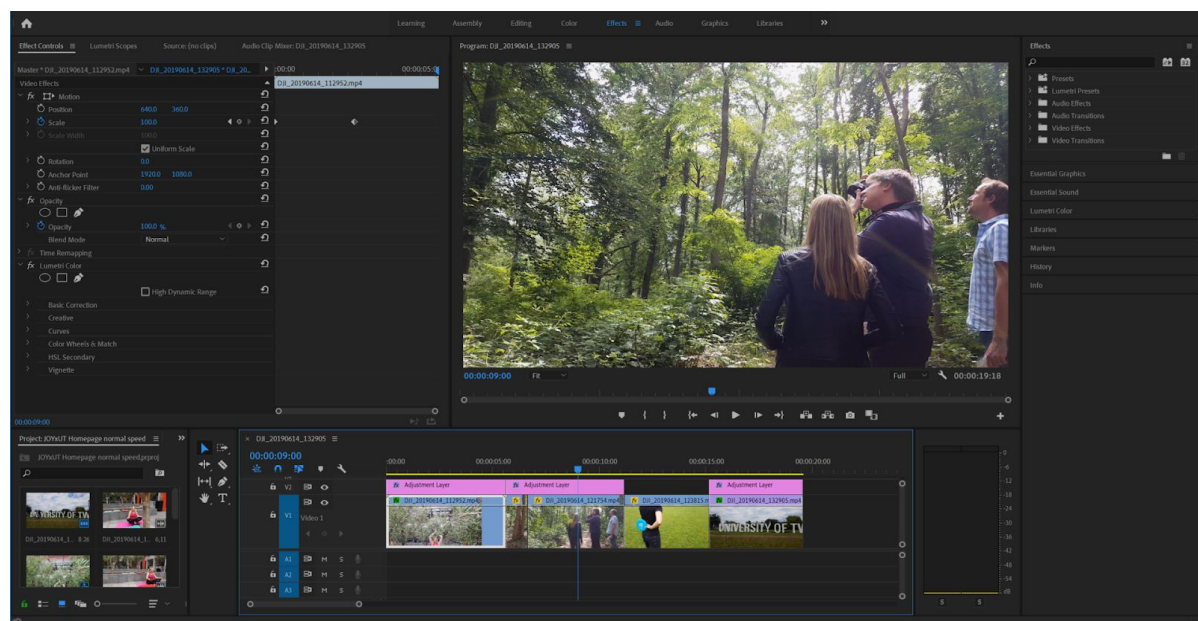
Figure 6.5. Adobe Premiere Pro CC workspace with effect controls and timeline for the photowalk edit.

The colour-grading was done using an adjustment layer on top of the clips, with the in-built lumetri colour editor. Colour grading the videos made them appear more colourful and vibrant

for the viewer of the platform video. Editing would be finalised by exporting the video in 1080p, and compressed before uploading to Wix in order to reduce loading time of the website.
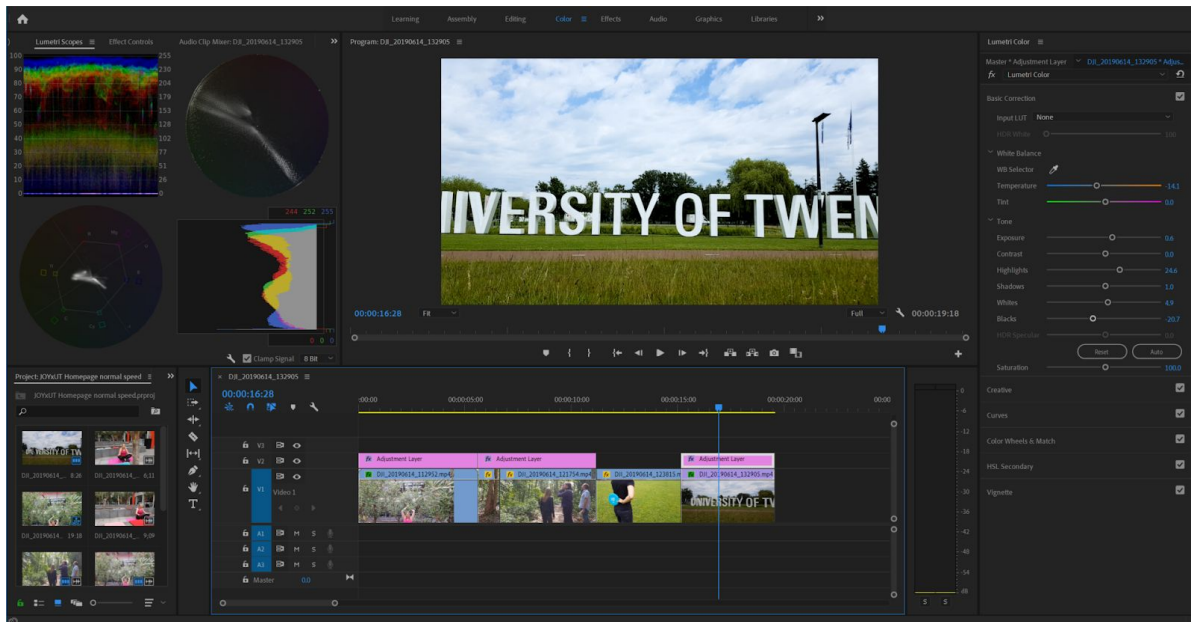
Figure 6.6. Adobe Premiere Pro CC timeline and Colour-grading workspace with lumetri colour effect controls.

6.2.3. Website colour scheme

The colour scheme of the website was chosen to work around black and white and one or two primary colours. This would ensure that the website looks clean and modern, yet bright to reflect on positive emotions together with health and wellbeing.
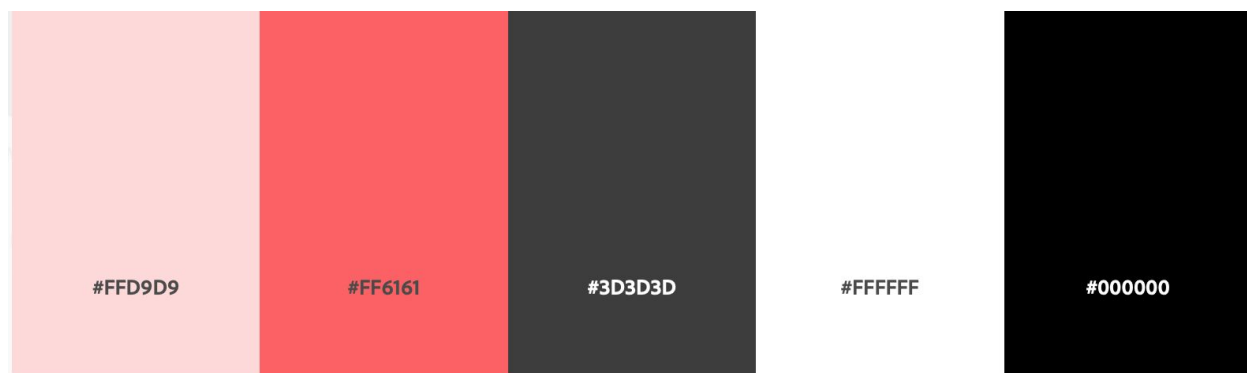
Figure 6.7. Colour scheme of the platform, with HEX values.

6.2.4. Typography

There are two font styles used for the platform, the *DIN Neuzeit Grotesk* for any headers or titles, and *DIN Next light* for body text. These are both Serif fonts, which reflect on modern typefaces that allow for a clean yet easily legible design.
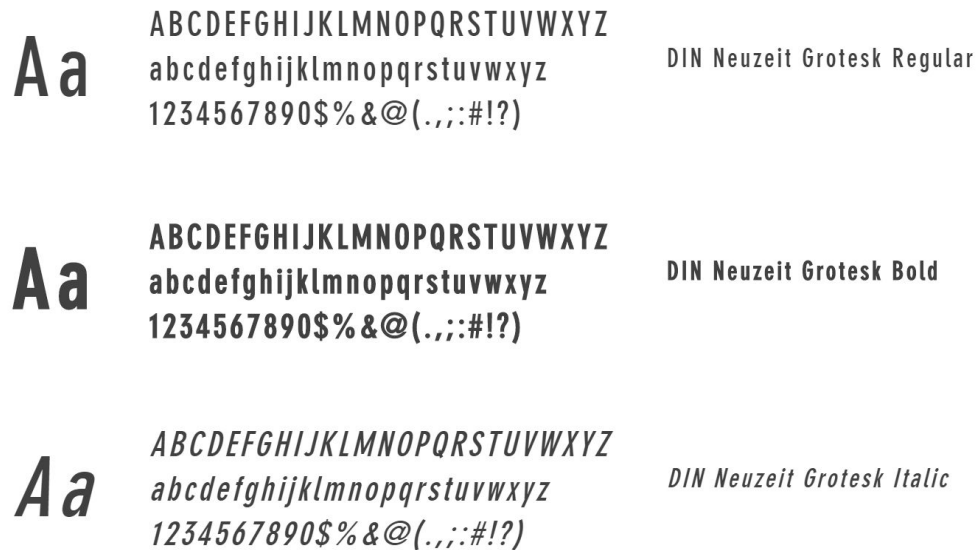
Figure 6.8. DIN Neuzeit Grotesk font.
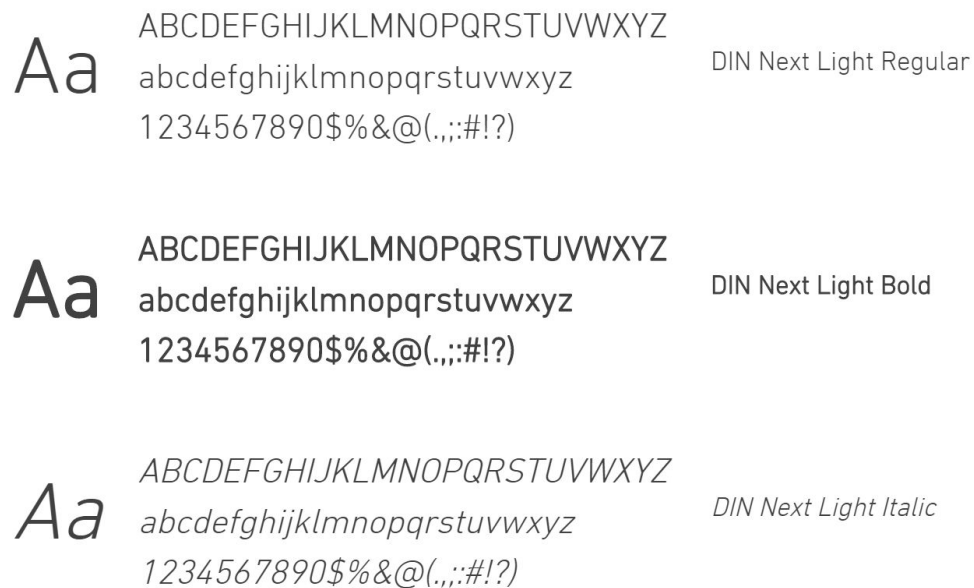
Figure 6.9. DIN Next Light font.

6.3. Iterations to the Platform

Although JOYxUT's design was constantly changing within the 8 weeks of development, the platform can be identified and divided into 3 separate versions. The process of these iterative changes are explained in Chapter *3.8. Platform Iterations*.

6.3.1. Platform version 1

The platform v1 is the earliest prototype made with early requirements, specified in *Chapter 4.6. Ideation: Preliminary Requirements*. This platform was designed and user tested for the first time to analyse improvements that could be made on the general concept. The general appearance and feel of the platform v1 is shown below. For more detailed visuals, see appendix which contains screenshots of every page of the platform v1.
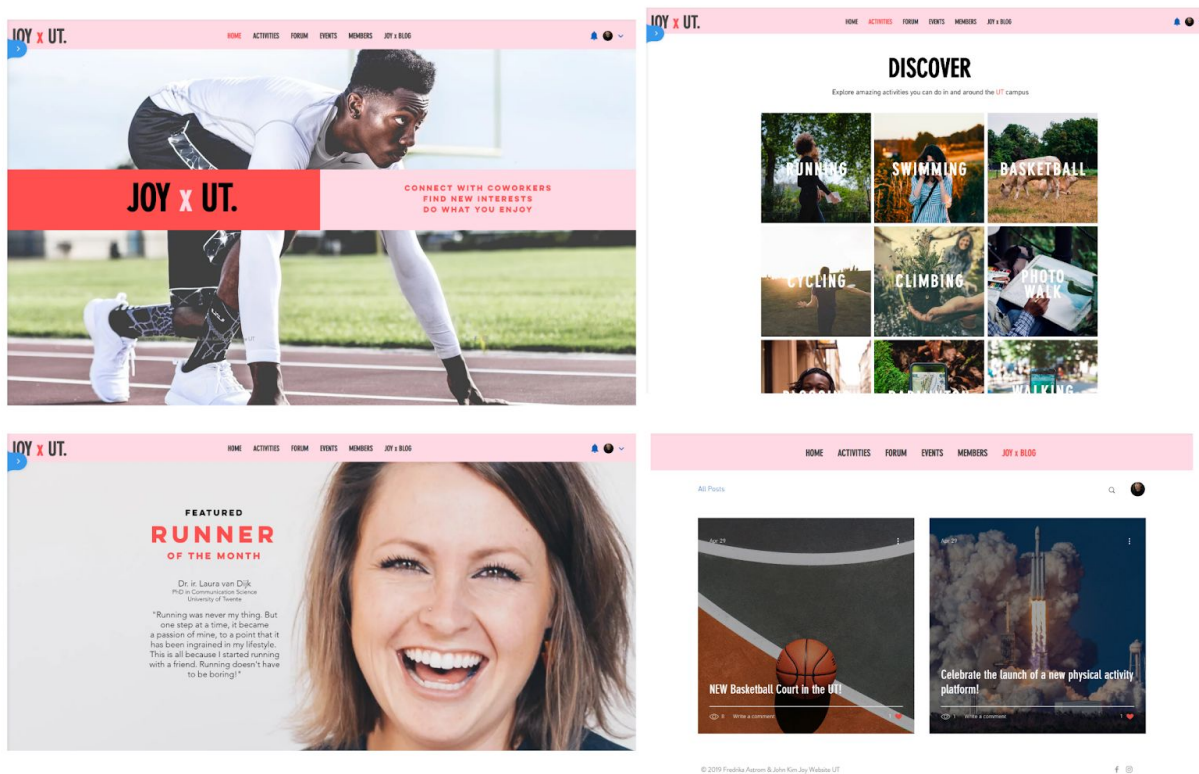
Figure 6.10. General appearance and design of platform v1.

6.3.1.1 Website Map v1

To visualise the platform's flow and overall structure, a sitemap was created and can be seen in the matrix below. This sitemap is useful when it comes to designing the user experience of the platform to ensure it is as simple and intuitive when stipped down to its core elements.

The yellow boxes with "…multiple activities" are in fact many individual pages of each activity e.g. running page, swimming page, plogging page etc. and has been condensed to fit in one box. The dark-pink boxes represent individual pages that can be accessed any time, while the light-pink boxes represent pages of low hierarchy in the same level page. Just like the dark-pink pages, the light-pink pages can also be accessed at any time.
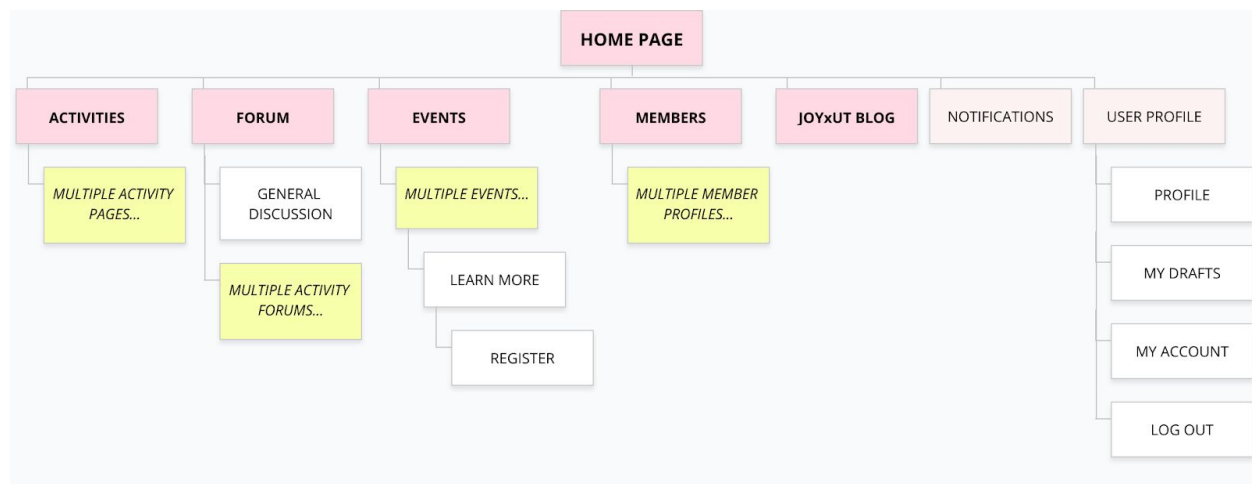
Figure 6.11. Sitemap of the JOYxUT platform v1.

6.3.2. Platform version 2

The platform v2 is the second iteration of the JOYxUT, after all the improvements from user test 1 were made. See *Chapter 5.2.1 Specification: User Test 1 Improvements* for the full list of improvements made to the platform.

The general appearance and feel of the platform v2 is shown below. For more detailed visuals, see Appendix B2 which contains screenshots of every page of the platform v2.
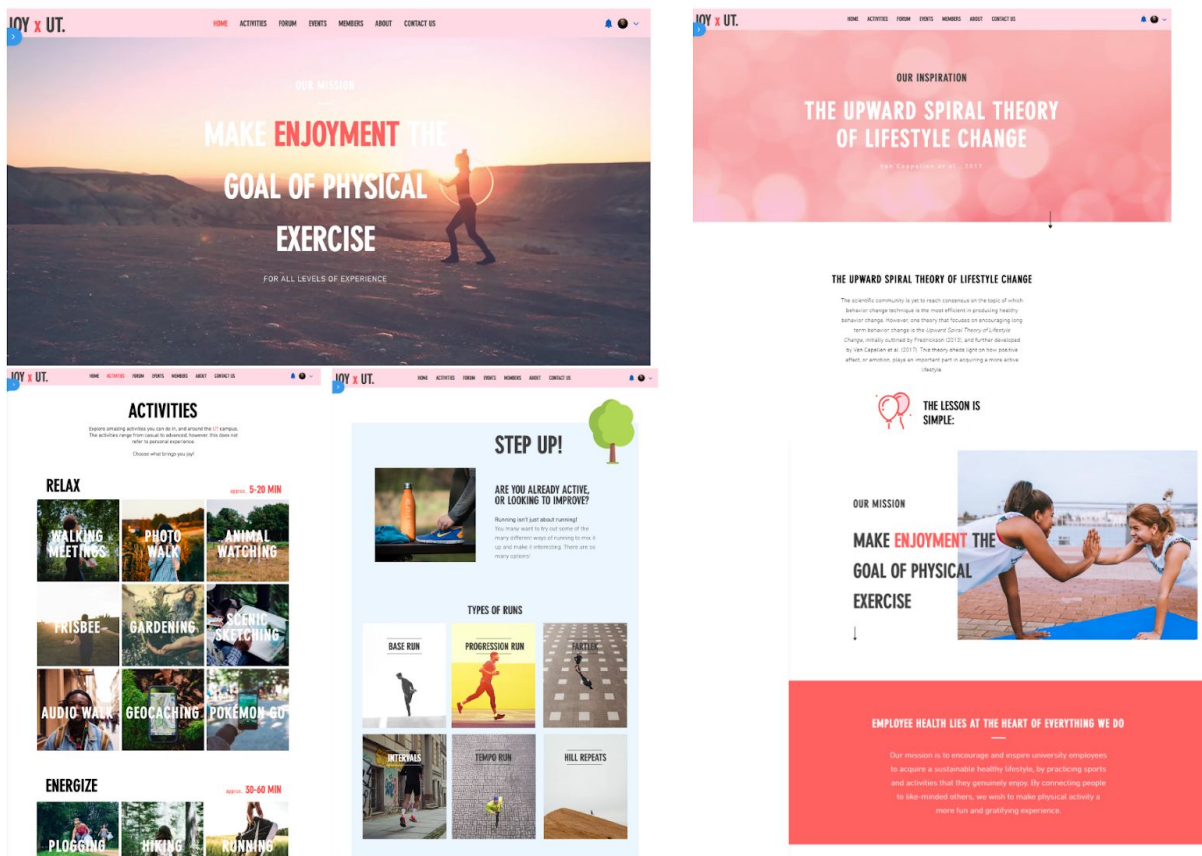
Figure 6.12. *General appearance and design of platform v2.*

6.3.2.1 Website Map v2

A website map for the platform v2 was designed for similar purposes as the website map for the previous version, and is shown in the following matrix:
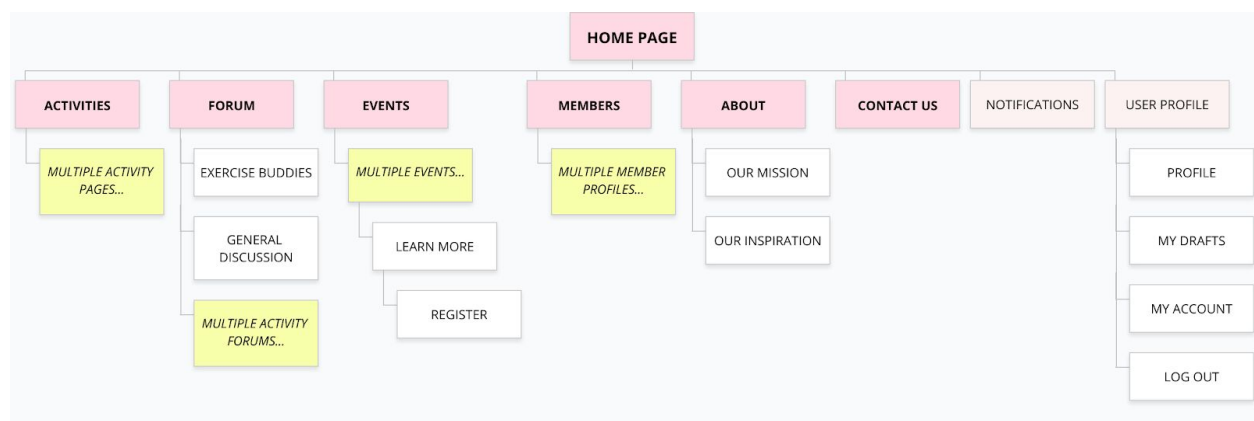
Figure 6.13. Sitemap of the JOYxUT platform v2.

Changes to be observed in matrix v2, as compared to matrix v1, after User Test 1:

- The *JOYxUT Blog* page was removed
- An addition of the *Exercise Buddies* group forum
- New *About* page with information about *Our Mission* and *Our Inspiration*
- New *Contact Us* page

6.3.3. Platform version 3

This platform v3 is the final version of the platform, done after the second user test, and will be carried on to the next and final stage: Evaluation. See *Chapter 5.3.2. Specification: User Test 2 Improvements* for a detailed list of improvements made. The general appearance and feel of the platform v3 is shown below. For more detailed visuals, please visit the appendix which contains screenshots of every page of the final version, platform v3.
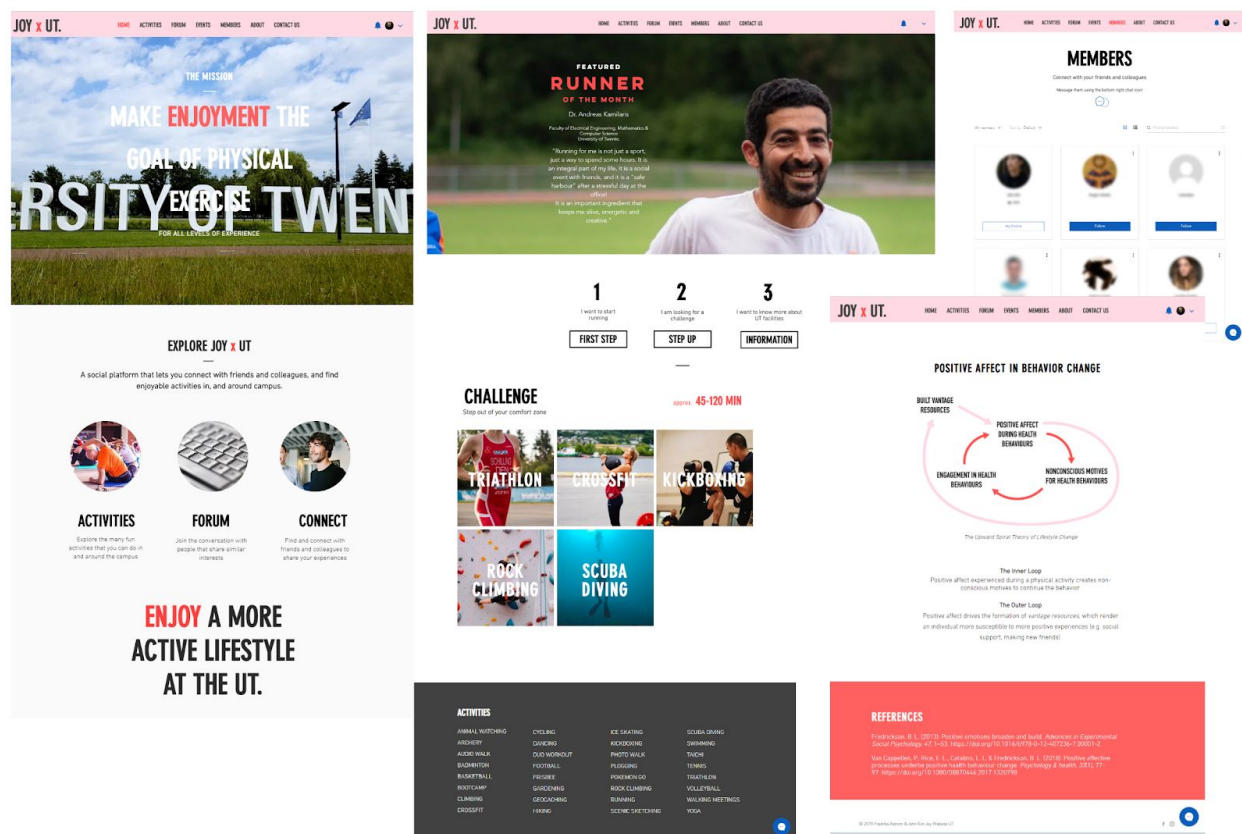
Figure 6.14. *General appearance and design of platform v3.*

6.3.3.1 Website Map v3

A final website map was created with the structure of the platform v3, and can be seen in the following matrix.
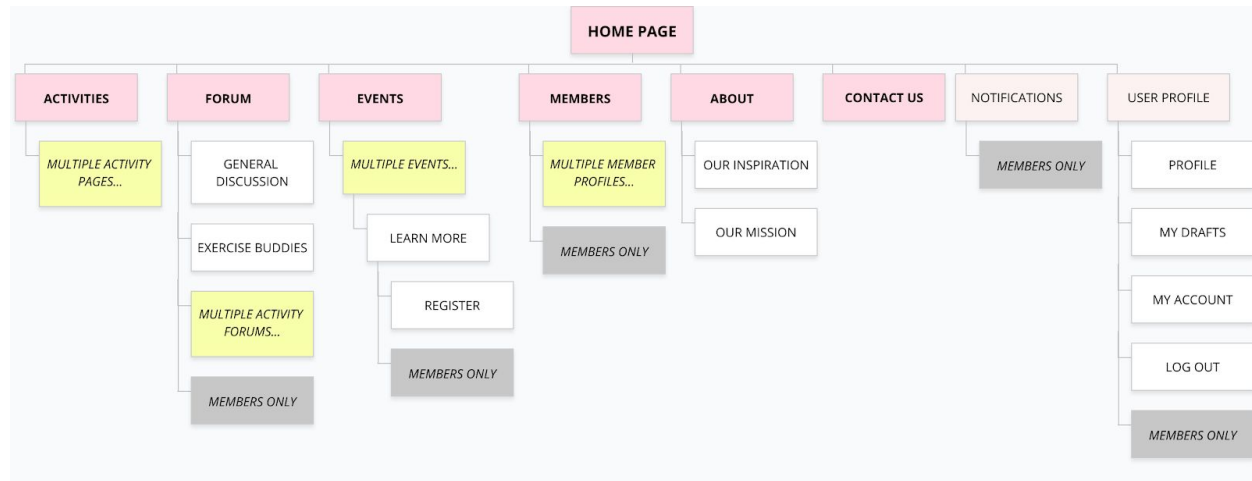
Figure 6.15. Sitemap of the JOYxUT platform v3.

Changes to be observed in matrix v3, as compared to matrix v2, after User Test 2:

● The pages in highlighted in grey: *Forum, Events, Members, Notifications* and *User Profile* can only be accessed by members who have logged into the platform.

6.4. Questionnaires

During the user tests during this project, questionnaires were conducted with university employees. The employees chosen were either those in the study of Creative Technology, those with mutual connections to employees in Creative Technology, and also other fully randomised employees who volunteered for the user tests. These questionnaires were made using Google Forms, and sent out to users via email. The questionnaires were constructed to provide an easy-answering experience for users, and phrased in a manner that does not impose or offend any user during this feedback session.

7. EVALUATION

In this final evaluation chapter, the final version of the web platform will be evaluated using a platform functional test, followed by a new User Test 3, which covers general user information, general system usability and detailed intermediate user feedback. The evaluation of the requirements and the user test responses gathered will allow the developers to affirm the potential of the JOYxUT platform.

7.1. Functional Test

A functional test is performed to analyse whether the project's functional requirements have been met at the end of the project duration. It is carried out using the requirements described in Chapter 5: Specification. These requirements will be evaluated using a binary check, as they can be sufficiently explained with a simple yes or no if they have been successfully implemented or not. The following table mirrors the requirements from the MoSCoW analysis, and are checked if they have been implemented successfully:

No.	REQUIREMENT	CHECK
	MUST HAVE REQUIREMENTS	
1	The platform must have physical activity suggestions to allow users to explore and engage in different activities	✓
2	The platform must cater for Intermediate users' requirements	✓
3	Each physical activity page must have its detailed respective information about its activity (e.g. location, definition etc.), and nudge users to try them out	✓
4	The platform's word and sentence phrasing must feel inviting and not intimidating to users	✓
5	The platform's visual elements must be specifically curated for the UT employees (photos & videos)	✓
6	The platform must have a social communication tool for users to connect to others with similar interests	✓
7	The platform must be free and accessible by every University of Twente employee	✓

8	The platform must embed enjoyment in its corporate identity (Visual theme, content, interaction and copyright.)	✓
	SHOULD HAVE REQUIREMENTS	
1	Intuitive UX and UI design should cater for users of different backgrounds	✓
2	The platform should have a Mission and Vision statement to explain what the platform is about	✓
3	The platform's visual elements should help express positive emotion and relatable target groups	✓
4	The platform should show the duration and difficulty of specific events to give users an overview	✓
5	The platform should provide specific tips and information tailored for intermediate users in each given activity	✓
6	The platform should cater for users who wish to exercise alone	✓
7	The platform should provide event-specific information, such as specific running events for users interested in running.	✓
	COULD HAVE REQUIREMENTS	
1	The platform could provide activity specific information, e.g. tailored running routes for the running activity, location tracking for movement activities, recommended gear for outdoor activities etc.	
2	The platform could gamify activities, and motivate users by unlocking "achievements"	
3	The platform could tunnel specific information to cater for respective users	✓

Table 7.1. Functional test with the MoSCoW list.

The project's requirements were prioritised in its respective order, therefore, the most important features were successfully implemented in due time. The intuitive UX and UI requirement (Should have [1]), although it is very subjective in nature, was checked off as the majority of

users found the platform to be intuitive based on the user test 3 results, which is explained further.

7.2. User Test 3

A final user test was carried out with the latest version of the web platform. Unlike the previous two user tests, this user test 3 was fully performed online and anonymous with the employees of the UT, with a total of 21 users. Out of these 21 users, 14 users identified themselves as Intermediate users (with 6 beginner level, and 1 expert level).

Method:

The users are emailed a set of instructions to follow during the user test, and a link that directs them to the JOYxUT platform. They would take around 5 to 10 minutes to view and explore the new platform on their own personal computer, and afterwards answer a set of questions in an online questionnaire. See Appendix A6 to view the full user test 3 protocol.

The main purpose of the 3rd user test was to find out:

1. The platform's general usability rating, using the System Usability Scale (SUS)
2. Additional specific usability contributors, apart from the SUS, that aid the platform to achieve the main goal of the GP
3. User feedback for future improvements and other general remarks of the platform

The users of user test 3 showed a wider range of ages in comparison to user test 2, as shown in Chapter 5.3. With ages ranging from 28 to 64 years, and the average age of 40 years, the improvement in the age range can provide much more insight about the employees in the UT.

7.2.1. System Usability Scale (SUS)

The System Usability Scale, developed by Brooke (1986), was used to analyse the usability of the JOYxUT platform. A user will answer a set of 10 questions regarding the platform's usability, with each answer laying on a scale from 1 (Strongly Disagree) to 5 (Strongly Agree). The results from these questions will then be compiled and calculated to give a SUS score out of 100 points. Out of the total 100 points:

- A score of 80.3 or higher suggests that the users love the platform and will recommend it to their friends/ colleagues
- A score of 68 or thereabouts suggest the platform is average/ OK, but there is room to improve
- A score of 51 or under means the platform needs its usability to be the main priority, and needs to be fixed fast.

Method:

To calculate the SUS score; for odd numbered questions, a value of 1 is subtracted from the score. For even numbered questions, their score is subtracted from a value of 5. These new values are then added together and multiplied by 2.5. The calculated total average SUS score was 77. This means that the JOYxUT platform has above average usability, however, there is still room for improvement.

The table below shows the resulting score for each question of the SUS questionnaire.

No.	Question	Score
1.	I think that I would like to use this platform frequently	55
2.	I found the system unnecessarily complex	73
3.	I thought the platform was easy to use	79
4.	I think that I would need the support of a technical person to be able to use this platform	95
5.	I found the various functions in the platform were well integrated	67
6.	I thought there was too much inconsistency in this platform	75
7.	I would imagine that most people would learn to use this platform very quickly	83
8.	I found the platform very cumbersome to use	79
9.	I felt very confident using the platform	74
10.	I needed to learn a lot of things before I could get going with this platform	93

Table 7.2. Individual SUS score for each question

7.2.2. Other Usability Contributors to the Platform

The platform's usability was further evaluated based on the responses gathered from the user test 3 questionnaire. Each question analysed a specific aspect that contributes to the goal of the platform. These questions were directed towards the intermediate users in order to analyse the effectiveness of the platform from an Intermediately active user's perspective (except 7.2.2.1 Enjoyment). See Appendix to view the full User Test 3 Questionnaire.

7.2.2.1. Enjoyment

The users from user test 3 were asked if they think that the platform conveys enjoyment in physical exercise. (This specific question was asked to the general users, which includes both beginner and intermediate users, because the level of physical exercise people perform does not affect this analysis.) This question was met with a very positive result, with 81% of users stating that it conveys enjoyment. Having large majority of the users feeling that the platform conveys enjoyment is important given the main theme of this GP, and is also a large improvement from user test 1.

Question: Do you think this platform conveys enjoyment in physical exercise?

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0%	*4.8%*	*14.3%*	*52.4%*	*28.6%*

Table 7.3. Do you think this platform conveys enjoyment in physical exercise?

7.2.2.2. Motivation

To analyse the motivation aspect of this platform, the following open question was asked:

Do you think this platform could help you maintain or increase your motivation/ intention to exercise? Why/ Why not?

The responses gathered are as follows:

User x of 12	Response
1.	"Yes, this platform would give me information about activities that I am currently not aware of."
2.	"It could, as it provides information about sports events"
3.	"No, I am afraid I would not, maybe through other people (peer-pressure to join) who would be motivated by it."
4.	"Yes, because of the number of possibilities (sporty and not sporty) and the possibility to get active with colleagues and getting to know them in a different way"
5.	"Maybe if it got critical social mass"
6.	"You feel inspired, and the social functions seem like fun to join."
7.	"Helps me connect to sporty colleagues. Low threshold to then ask them to sport together. I would ask them during lectures. But knowing they're on the platform confirms me that they are interested in teaming up as well"

8.	"Maybe, I am a runner and already motivated to run. If there are some more regional upcoming events, I would be interested in viewing those."
9.	"Perhaps, I do see some interesting activities which I would like to try."
10.	"Yes, because of the meet ups, and other functionalities that make it easy to find a training partner, or last minute join an activity"
11.	"Probably not. I prefer to exercise on my own"
12.	"It looks nice and welcoming and I am sure that the suggestions are helpful, but I do not like it that I have to create a log-in due to privacy reasons. I also did not do this, which meant that I could not read the "Running" page instructions. This is unfortunate and lowers my likelihood of using the platform."
13.	"Yes, because of the social element within this platform"
14.	"For sports that I am normally not into, it will probably help"

Table 7.4. Do you think this platform could help you maintain or increase your motivation/ intention to exercise?

The qualitative responses suggest that majority of the users feel that the JOYxUT platform can help them maintain or increase their motivation to exercise, due to the different types of activities and events present, as well as the social features in the platform. As the ability to maintain or improve physical exercise was a key requirement for intermediate users, it can be assumed that the platform shows positive results in this field. However, there is still room for improvement, as User 3 and 11 show inverse results.

7.2.2.3. Social aspects

The social aspects in the platform, such as the group events, forums and messenger tool was analysed with the question:

Do you think the social features of this platform could help you connect with like-minded others in the UT? Why/ Why not?

The response gathered is as follows:

User x of 12	Response
1.	"Maybe, maybe not. If I would find group activities in which I would be interested, the platform would help me broaden my social network. But I would not use this platform specifically for that aim (social features are a plus, not a must)."
2.	"I am not sure I would need that"

3.	"Yes, but I am unlikely to post anything on it, somehow feel a barrier even in the mockup version to do so."
4.	"Yes, I think that is a very interesting part of this platform"
5.	"Probably, events and the forum would allow that"
6.	"Yes, the community function is motivating."
7.	"Yes. My first interest was to look at the member page. Who else is in there."
8.	"Yes via the forum"
9.	"Yes, the members site can be a help to contact others."
10.	"Maybe through some join in activities"
11.	"It would help, but as I said, I'm not interested in socializing."
12.	"No, because I would not want to login"
13.	"Yes, when it is actually used by others too"
14.	"Yes, you know your colleagues in their work, but you often don't know their hobbies"

Table 7.5. Do you think the social features of this platform could help you connect with like-minded others in the UT?

The qualitative responses above show that the platform is a useful tool to help university employees to connect with other like-minded others, as 12 of 14 users answered with a positive response. The social aspects of JOYxUT can be seen as a strong feature of this platform, and has been implemented effectively for those who wish to exercise together with friends or colleagues. However, it is important to note for future development, that users who wish to exercise alone should not miss out on opportunities present to social users.

7.2.2.4. Skills in physical activity

The users of the platform were asked if they think the JOYxUT platform could help improve or maintain their skills in particular physical activities, and why/ why not. The responses were as follows:

User x of 12	Response
1.	"Yes, if there is information about the activities. Just an idea, the platform does not need to include information about all activities; it would already be very useful it it would provide links for reliable sources."
2.	"Depends on what further information you will put on it."
3.	"It might inspire or help to train in certain ways, some of the suggestions for running were new."
4.	"Yes, not only being active in the evening hours"
5.	"Not sure"
6.	"The running site had personalised functions, and provided ideas of how to exercise. Of course, more info could be provided on -for instance- how to do an interval training."
7.	"The content is obviously not so detailed yet. Like running. How do I go from 5km to 8km in the next three months"
8.	"No, I am already physically active"
9.	"No, I do things on my own course."
10.	"No"
11.	"Difficult to say. It might, if you come into contact with the right people."
12.	"Perhaps, if there are fun activities scheduled which I could easily join"
13.	"Yes"
14.	"This depends on the person(s) you are training with"

Table 7.6. Do you think this platform can help improve/ maintain your skills in particular activities?

The responses gathered for this question included very mixed views, but most responses seem to depend on the information users saw in the platform. Based on these responses, it appears that the skills that they would learn in an activity would largely depend on the amount of detail in intermediate tips, or general information about specific variants of an activity. This can further be improved for all other activities in future improvements of the platform.

7.2.2.5. Inspiration

To assess the platform in its ability to inspire users to partake in an activity, the following question was asked:

Do you find the content of the platform inspiring?

The quantitative results are as follows:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0%	*0%*	*21.4%*	*50%*	*28.6%*

Table 7.7. Do you find the content of this platform inspiring?

The quantitative data above shows that 78.6% of the users believe that the platform contains inspiring content. It is important that the platform inspires users, because we want them to shift their behaviour.

7..2.2.6. Visual and Media

The visual content of this platform (such as images, text, videos etc.) was tested with the question:

Do you think that the visual content is relevant to you?

The quantitative results are as follows:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0%	*0%*	*14.3%*	*64.3%*	*21.4%*

Table 7.8. Do you think that the visual content is relevant to you?

The results above show that a large majority, 83.3% of the users felt that the visual elements are relatable to them, which proves that the visuals and media in the platform have been well curated for the target group. These visuals and media are to be constantly improved over the course of any future improvements in the platform to ensure the best overall experience for the users.

7.2.3. General Remarks and Feedback for Future Development

Apart from the previously mentioned SUS and other usability contributors to the platform, general remarks and future improvement remarks were collected to conclude user test 3. The *7.2.3.1. Open Remarks* and *7.2.3.2. Future improvements* responses are collected from the Intermediate users, and the rest of the feedback information are from the general users (both beginner and intermediate).

7.2.3.1. Open Remarks

The participants of user test 3 were asked if they had any general remarks or feedback they could provide about the platform. The following responses were received:

User x of 14	Response
1.	"I liked seeing more UT-related content in this version. Good job!"
2.	"Looks nice, feels fitting for target group, stating that see whom you want to target, have a look at this test and might be more inspiring for people who already do a bit (than those who are pretty sedentary), as some elements might be dependent on recognizing the fun and alternative ways to exercise."
3.	"Good luck with filling the platform. It looks amazing!"
6.	"Of course, for a first time visit it took some time to explore the features of the site. I think the next time would be even more joyful/inspirational once you feel familiar with the site."
7.	"Nice improvement from previous version."
13.	"Nice platform. I hope it will be operable in the near future."
14.	"Give examples of training programmes and activities on different levels."

Table 7.9. Open Remarks.

Many users seem to have liked the iterative improvements made from the previous user test, and the platform is fitting for the target group.

7.2.3.2. Future Improvements

In the case of future improvements that could be made, users were asked if they had any recommendations to improve the platform. The following are the responses:

User x of 14	Response
1.	"For example provide running plans. This is something I am missing at this moment. Especially for people who want to start with running, but also for more advanced runners who want to increase their performance. More tips would be appreciated."
2.	"I liked the path function (like these route things above average), so perhaps a better interface than the gallery that automatically goes away, so I could look better at these routes from fellow employees? (might be based on other monitoring platforms strava/runkeeper or route platforms as afstandmeten etc)"
3.	People sharing their experiences and maybe having the opportunity to share upcoming activities"
6.	"Maybe a link to runner app, or some feature to integrate personal data"
7.	"More routes. I really liked to route suggestions for running on campus.. can I have a button to send these routes to my strava or watch?"
8.	"Regional events, link with e.g. running and food, new blogs on a regular basis?"
10.	"Less loading time, more integration between activities and events, more functionality in e.g. the maps at the running section."
12.	"No requirement to login and provide your personal information (email address, etc.) to third parties"
13.	"I wanted to add an event, but this was not possible. Maybe a good extension will be that members can add events etc too, however this would require a moderator."
14.	"You could (after a while) show pictures and give comments of events."

Table 7.10. Future Improvements.

The most common improvements that were suggested were about providing more information about an event (running, in this case), and perhaps a link to an external activity tracking app such as Strava[4]. Issues on privacy are also an important improvement feature to consider, however this is a challenge for all user platforms currently available today. These improvements are to be considered together with the Chapter 5.5. Future Improvements list.

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[4] https://www.strava.com

7.2.3.3. Testing the Platform's Practical use

To assess how useful the platform would be in a real world environment, the following question was asked to the general users:

Do you think this platform (if developed further) could be useful for UT employees that want to be more active?

The quantitative results were as follows:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0%	0%	4.8%	66.7%	28.6%

Table 7.11. Do you think this platform (if developed further) could be useful for UT employees that want to be more active?

A large majority of the users believe that this platform could be a practical website that is useful in encouraging physical activity amongst UT employees. It is important for a platform to be considered useful in a real world setting, and not appear to be a gimmick.

7.2.3.4. The General Concept test

Users were asked if this platform shows an innovative approach to improve employee health, and how they rate this idea:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0%	19%	28.6%	33.3%	19%

Table 7.12. Do you think this platform is an innovative approach to improve employee health?

The responses suggest that this platform idea is a fairly unique approach to solve the problem of sedentary behaviour amongst employees.

7.2.3.5. User Knowledge of Similar Interventions

Users were asked if they were aware of any similar interventions, similar to this JOYxUT platform, that strive to improve employee health.

A large majority of users reported that they are not aware of any similar interventions that encourage physical activity in the workplace. Amongst the 3 users who answered yes, they mentioned the UT Kring and the UT health week. Out of all respondents, there was no intervention that focused on positive emotions in physical activity.

7.2.3.6. Interest in further development of the platform

Finalising user test 3, the employees were asked the following question:

Would you like to see the platform being developed further?

The quantitative response can be seen in the table below:

Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
0%	*0%*	*9.5%*	*42.9%*	*47.6%*

Table 7.13. Would you like to see the platform be developed further?

The responses suggest that 89.5% of the total user participants show interest in the JOYxUT platform, and would like to see the platform be developed further.

8. DISCUSSION

8.1. General Discussion and the Research Questions

The initial goal of this project was to encourage physical activity among university employees, with principles of enjoyment and social communication embedded in its solution. Through multiple iterations and improvements with the user tests carried out during development, we have observed that this platform conveys its theme of enjoyment effectively, and users have also felt that this platform can help motivate them to take part in physical activity.

First, we investigated how social features in a platform can encourage physical activity amongst different users. These social features in the platform were instant messaging tools, a forum/discussion page to connect users together, joint events and other notifications and alerts if a friend or colleague posts an activity. The social features of this platform has proven to be effective and useful to users as they can help them find friends and colleagues to exercise together with, and these features also contribute to why users feel that they would like to partake in physical activity much more. The majority of the users find it much more enjoyable and motivating to exercise with friends and colleagues with similar activity interests and levels, showing a clear indication that social interaction within the platform adds to the general enjoyment factor in an activity.

Second, we investigated how visual media can be used to engage users to partake in physical activity. With careful integration of relevant visuals and informative media in the platform, JOYxUT was found to be capable of inspiring users through these elements. This is a particularly important discovery due to the fact that human behaviour is difficult to change towards a healthier one, without any internal motive as presented in the literature research (Schwarzer, 2008; Duan et al., 2018). Inspiration of users can also be seen to correlate to why users feel motivated to partake in physical activity, and these discoveries show that visuals and media are an important aspect in this platform.

The JOYxUT platform has shown to have high interest and appeal from a large number of users during user tests, and the results of questionnaires also illustrate this high demand. As shown from the State of the Art research, as well as user responses, it appears that there are no similar interventions to JOYxUT which exists to help encourage physical activity amongst university employees. With this research, it can be concluded that JOYxUT could have high potential in the real world if developed further.

Finally, the main research question of this thesis report was as follows:

> *How can an online platform designed to enhance positive experience, with the main focus on enjoyment, encourage physical activity amongst university employees?*

Based on the discoveries made during user tests, which were also mentioned in the analysis of the sub-research questions, it can be concluded that the JOYxUT platform aims to positively impact users through increased levels of motivation and inspiration, additionally with the arranged social events and communication features to encourage levels of physical activity amongst employees of UT. The platform achieves the challenges that the research question poses, and can be seen as an effective solution to answer the main question.

8.2. Unexpected findings

During the development of this platform, there were a few findings that were unanticipated by the developers. These findings were as follows:

1. The issue of privacy was a large factor that made users uncomfortable during the log-in process in the website. Privacy is an important factor to users and was expected to cause concern to a certain degree, however the response of discomfort that was noted was higher than anticipated. Due to this reason, many users refused to log-in with their own facebook or google profile during the user test. One user sent a personal email to erase their profile data from the website database, and another expressed their personal-data concerns in the online questionnaire.

2. During user test 2, I was surprised to see the large number of users that manually looked up the academic articles mentioned in the platform, to learn more about the platform's theory. However, this only made sense as the users represented academic researchers. Through this discovery, academic doi's were further added to the references in the platform.

3. During user test 2, intermediately active users expressed that it was relatively easy to motivate themselves to exercise. With motivation being such a dynamic state, I had expected a few users to mention that it was still quite difficult.

8.3. Limitations and Strengths

This research is subject to several limitations and strengths, and they can be identified as follows. The limitations can be seen as a chance to improve and develop the platform further, while strengths can be seen as to why this study may possibly stand out from others.

Limitations:

1. User Test Inconsistency

The three user tests conducted involved three different sample sizes, with different age groups and different gender ratios. It is important to make sure that the user tests are consistent in the future to allow for a fair data analysis.

2. Cultural/ Language barriers

During the collection of user test responses, a large amount of spelling and grammatical errors were observed from users who speak English as their second language. From the developer's view, a few confusions arose when interpreting the data for analysis due to these errors. However, from the user's point of view, they may have not been able to accurately describe their thoughts as they normally do in their first language.

3. Web Development limitations due to time constraints

As specified in *Chapter 6.1.1. Decision to use an online web-building tool*, an online web-building tool was used instead of programming the website with HTML, CSS and other

web-building languages in 10 weeks.. For more tailored and customisable features to be present in the website, these programming languages may be used in future development without any time constraints.

Strengths:

1. Co-Creation with employees

One of the core strengths of this study was that during development, three user tests were carried out closely with the employees of the university of Twente. This allowed us to gather insightful feedback straight from the target group and incorporate features that they value most after each test. Due to this approach, we were able to design a platform that fits the target group's needs effectively.

2. Contribution to existing literature

The development and outcomes from this project contributes to existing literature of Positive Affect, as mentioned in *Chapter 2.1 Literature Review*, and shows that health interventions can effectively be modeled using the upward spiral theory of behaviour change by Fredrickson (2013) and Van Cappellen et al. (2018).

3. A unique solution

Through early research during *Chapter 2: State of the Art* and also through user test 3 results, we have observed that there are no similar interventions that exist in the current market which aims to increase physical activity amongst individuals with the focus on enjoyment. This shows that the platform is a unique solution to the current problem.

4. Qualitative and Quantitative feedback

During user tests, meetings, brainstorms and other ways of collecting feedback, both qualitative and quantitative analysis methods were used, which allowed us to gain as much information in the most detailed and efficient way possible.

9. CONCLUSION

9.1. Conclusion

Despite the difficulty in changing behaviour towards a healthier one as described by Schwarzer (2008), the online web-platform JOYxUT has shown extensive potential and is a promising attempt to help users increase their levels of physical activity in the workplace. With increased levels of motivation, inspiration and positivity in physical activity made possible through the platform, a healthy behaviour change of individuals can potentially be made easier with the existence of the JOYxUT project.

The focus on positive emotions during physical activity has shown that users are more open and inspired to change their behaviour towards a healthier one, than through the focus of negative consequences of poor health. I hope that this platform can inspire other future developers to create more health interventions that focus on positive emotions and enjoyment. More health interventions should follow the Upward Spiral theory of Behaviour Change explained by Van Cappellen et al. (2018), as when adopted, could address the general impact of these interventions.

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Appendix A: User Test

A1. User Test Consent Form

STATEMENT OF INFORMED CONSENT

Two Creative Technology students (Fredrika Åström and John Kim) from the University of Twente are conducting user testing in order to gain feedback and suggestions for improvements for their graduation project. The information gathered in this feedback session will be used to improve the design and development of the platform.

The benefits of participating in this user test is to help improve the user experience of this platform. We hope that the research will benefit the users, namely, University of Twente employees.

This user test poses no risks to you other than those normally encountered in daily life. The information gathered will be kept confidential. We may save the notes for future use by ourselves or others, but your name will be omitted.

Your participation in this user test is voluntary, and you are free to quit the user testing session at any time. Whether or not you choose to participate will have no impact on you whatsoever.

If you have questions about the research, you may contact:

- Fredrika Åström - f.k.astrom@student.utwente.nl
- John Kim - g.s.kim@student.utwente.nl

If you would like, we can send you a copy of this form, for reference.

The details of this study were explained to me by:

Investigator Names: Fredrika Astrom and John Kim

Date: _____

I have read the above project description. I agree with the terms and hereby consent to participate in the user test.

Participant Signature:

_____

Participant Name: _____

Date: _____

A2. User Test 1 Protocol

(Date: 6th May 2019, Duration: 15-20 min)

This protocol is to be followed during the user testing. One team member will ask the questions and give instructions, while the other transcribes the conversations.

Greet user & explain testing procedure
Hello!

We are John & Fredrika from Creative Technology. Today we are user testing a platform that we are building for our graduation project. It is targeted at UT employees, and our aim is to encourage involvement in physical activity.

We just want to make clear that we are testing the platform, and we are not testing you. We really appreciate any feedback you have to give us.

Please speak all your thoughts aloud as you go through the platform. This helps us better understand why you are making certain choices.

The study will take about 15 minutes (5 for exploring the platform, 10 for questions). We will answer any questions you have at the end of the study.

Consent form
We would like for you to sign this consent form. The information will only be used for research purposes.

Questions?
Do you have any questions?
Let's get started!

User test of platform
- Remind the user to think out loud.
- If the user asks for help, ask them "what do you think you should do?"

Notes:

Pre-scripted Questions:
1. Do you think this platform could be useful for you?
Notes:

2. Does this platform solve some problems that you had before?
Notes:

3. What did you specifically like about this platform?
Notes:

4. What improvements can you suggest for this platform?
Notes:

5. What are some activities you would like to see?
Notes:

6. Can we perform another user test with an updated version?
Notes:

7. Does this platform convey joy?
Notes:

Debriefing
● Do you have any questions?
● Thank the user for participating.

End of User Test 1.

A3. User Test 2 Protocol

(Date: 5th-6th June, Duration 15-30 min)

This protocol is to be followed during the user testing. One team member will ask the questions and give instructions, while the other transcribes the conversations or any general notes.

Greet user & explain testing procedure

Hello!

We are John & Fredrika from Creative Technology. Today we are user testing a platform that we are building for our graduation project. It is targeted at UT employees, and our aim is to encourage involvement in physical activity, with the focus on enjoyment.

We just want to make clear that we are testing the platform, and we are not testing you. We really appreciate any feedback you have to give us.

Please speak all your thoughts aloud as you go through the platform. This helps us better understand why you are making certain choices.

You will be given specific tasks to accomplish. After this, you are free to explore the platform until you are comfortable to answer the questionnaire we have for you.

We hope that this study will take about 15 minutes (approximately 5 for exploring the platform, 10 for questions). We will answer any questions you have at the end of the study.

Consent form

We would like for you to sign this consent form. The information will only be used for research purposes.

Questions?

Do you have any questions?
Let's get started!

User test of platform - Task performance

- Remind the user to think out loud.
- If the user asks for help, ask them "what do you think you should do?"

General Notes: Like one or more of the activities in the activity overview

Notes:

Task 1: Like one or more of the activities in the activity overview

Notes:

Task 2: Find the place on the website where you can learn more about running.

Notes:

Task 3: Make a post in a forum of your choice

Notes:

Task 4: Find information about the Yoga event in the olive garden

Notes:

Task 5: Write a message to John or Fredrika in the chat

Notes:

Task 6: Find more information about our mission

Notes:

Task 8: Find more information about our inspiration

Notes:

General Feedback.

Notes:

Introduce the Questionnaire.

Please feel free to ask us any questions that you may have, if you come across any difficulties or require elaboration.

Debriefing
- Do you have any questions?
- Thank the user for participating.

A4. User Test 2 Questionnaire

Take 5 minutes to help us improve the JOYxUT platform!

(Section 1 of 5)
The purpose of this questionnaire is to examine how University of Twente employees feel about the JOYxUT platform, in order to improve it. We also wish to learn more about the users we are targeting.

Your participation is entirely voluntary, and the collected data will only be used to improve the project.

Thank you for your cooperation!

(Section 2 of 5)
1. What is your age?
    a. (Open Question)
2. What is your gender?
    a. (Male/ Female/ Prefer not to say)
3. Did you participate in User test 1?
    a. (Yes/ No)
4. Which statement best reflects your current lifestyle (on average)?
    a. I rarely exercise (or never) **[go to section 3]**
    b. I exercise sometimes, but not necessarily every week (irregularly) **[go to section 3]**
    c. I exercise regularly (once a week) **[go to section 4]**
    d. I exercise regularly (multiple times per week) **[go to section 4]**
    e. I exercise on an advanced, or expert level (once, or multiple times per week) **[go to section 5]**

(Section 3 of 5) [for beginner user evaluation]
Feel free to open the website again using this link if you would like to see it again:

https://gskim3.wixsite.com/usertest2
This section contains 7 questions.

1. I want to do physical activities that I enjoy more often.
    a. (5 point linear scale [Strongly Disagree - Strongly Agree])
2. I believe I am capable of doing a physical activity that I enjoy more regularly
    a. (5 point linear scale [Strongly Disagree - Strongly Agree])
3. What is currently keeping you from doing more physical activities? (multiple answers possible)
    a. I don't know
    b. Procrastination
    c. Time constraints
    d. I do not enjoy the type of activities I do
    e. I don't know what to do, or where to start

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      f.   I don't have anyone to do activities with
      g. Health related issues
      h. Other
      i.   Prefer not to answer

4. What are your favorite pages on the JOYxUT platform? (You may select more than one answer)
   a. Home page
   b. Activities page
   c. Specific activity page (e.g. running page)
   d. Forum page
   e. Events page
   f. Members page
   g. About (Our Mission) page
   h. About (Our Inspiration) page
   i. Contact us page
   j. None

   …Why did you like this (these) specific page (pages)?
   (open answer)

5. Is there anything you do not like about this platform?
   a. (open answer)

6. Does the platform make you feel like you want to partake in more physical activities that you enjoy?
   a. (5 point linear scale [Strongly Disagree - Strongly Agree])

7. Other remarks on the platform (optional)
   a. (open answer)

This marks the end of the Survey. Thank you so much for your participation, and please don't forget to press submit!

-End of Survey-

(Section 4 of 5) [for intermediate user evaluation]
Please feel free to open the website again using this link if you would like to see it again:
 https://gskim3.wixsite.com/usertest2

1. Do you feel that this platform has been designed with you in mind?
   a. (5 point linear scale [Strongly Disagree - Strongly Agree])

2. What are your favorite pages on the JOYxUT platform? (You may select more than one answer)
   a. Home page
   b. Activities page
   c. Specific activity page (e.g. running page)
   d. Forum page
   e. Events page
   f. Members page
   g. About (Our Mission) page

      h.   About (Our Inspiration) page
      i.   Contact us page
      j.   None

    …Why did you like this (these) specific page (pages)?
    (long answer text)
3. Do you find it easy to motivate yourself to exercise?
    a. (5 point linear scale [Very Difficult - Very Easy])
4. What physical activities do you currently do?
    a. (open answer)
    …and what physical activities do you enjoy the most?
5. I am mostly interested in exercising…
    a. Alone
    b. With friends/ colleagues
    c. Both
    d. Other
6. I am looking to ….. my current level of exercise
    a. Maintain
    b. Improve
    c. Decrease
7. Open remarks and Comments (Optional)
    a. (open answer)

This marks the end of the Survey. Thank you so much for your participation, and please don't forget to press submit!

-End of Survey-

(Section 5 of 5) [for expert user evaluation]
Please feel free to open the website again using this link if you would like to see it again:

https://gskim3.wixsite.com/usertest2

1. As an already active person, do you feel that this platform has been designed with you in mind?
    a. (5 point linear scale [Strongly Disagree - Strongly Agree])
2. Is there anything about the platform that you specifically like?
    a. (open answer)
3. Is there anything specific about the platform that you specifically dislike?
    a. (open answer)
4. Additional comments (Optional)
    a. (open answer)

This marks the end of the Survey. Thank you so much for your participation, and please don't forget to press submit!

-End of Survey-

A5. User Test 2 Questionnaire Results

Do you feel that this platform has been designed with you in mind?
7 responses
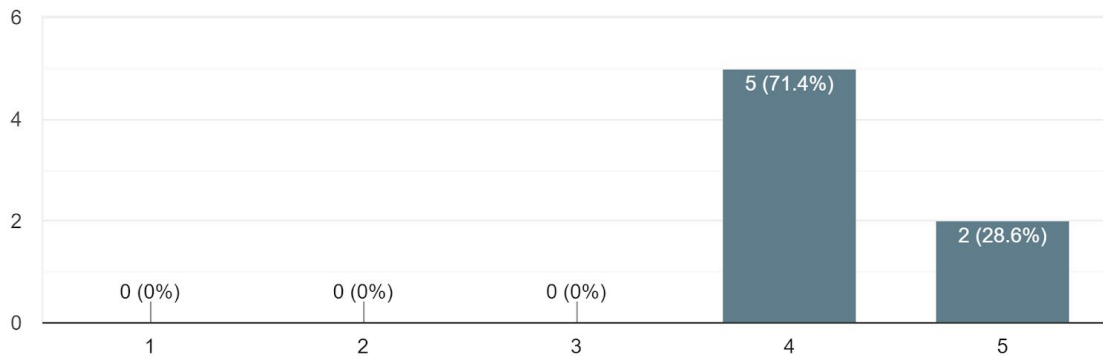
Figure A5.1. Question: Do you feel that this platform has been designed with you in mind? Scale ranges from Strongly Disagree (1) to Strongly Agree (5).

What are your favourite pages on the JOYxUT platform? (you may select more than one answer)
7 responses
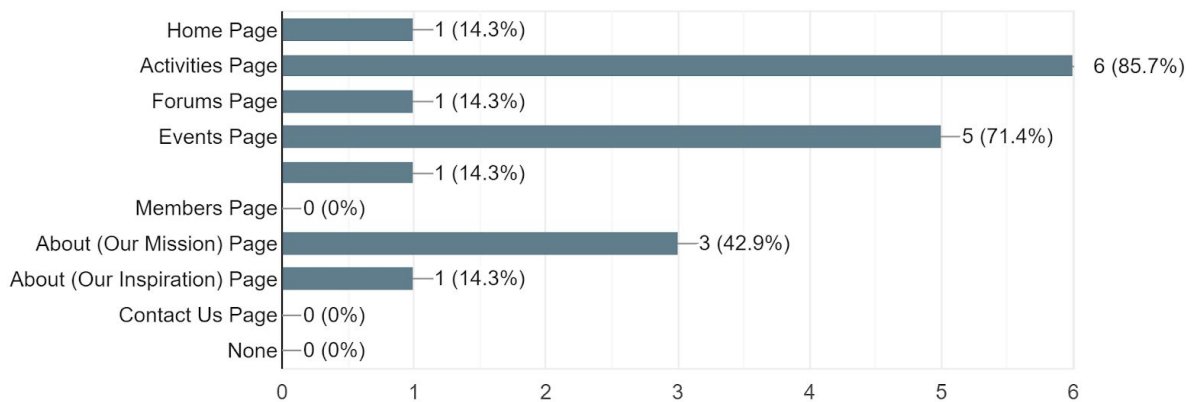
Figure A5.2. Question: What are your favorite pages?

... Why did you like this (these) specific page (pages)?

5 responses

> Content and layout really relate to the target group

> Forum looks nice and gets you in touch with the community. Activity page gives a good overview of how to get started & who to contact

> I liked to see all the opportunities on one page, divided for activity types (so if yo have only an specific amount of time, it becomes easier to choose; or if you are interested in a specific type (such as relaxing) you have all the activities together in one category

> some inspiration and a quick overview of what I could do, also might be nice to meet new people for employees coming from another city or country

> if thinking about future use these are the pages I find more useful

Figure A5.3. Question: Why did you like these pages?

Do you find it easy to motivate yourself to exercise?

7 responses
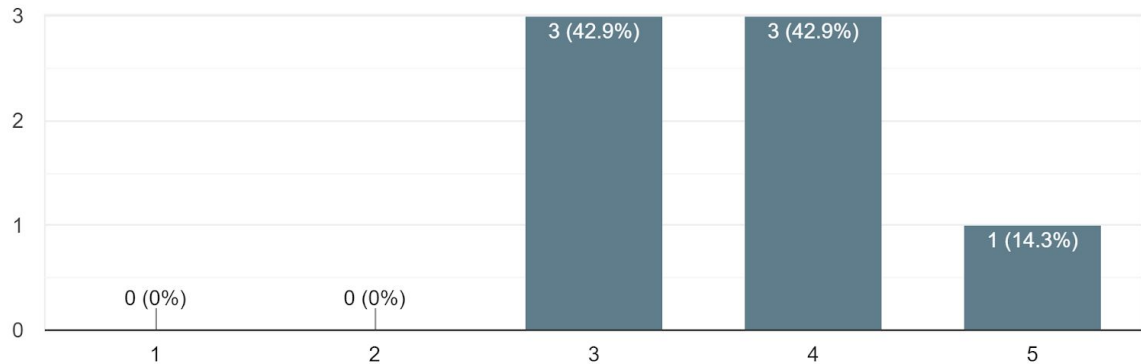
Figure A5.4. Question: Do you find it easy to motivate yourself to run? Scale ranges from Strongly Disagree (1) to Strongly Agree (5).

What physical activities do you currently do?

7 responses

Fitness
Tennis, walking, cycling
Gym workout, yoga
running
soccer, cycling,hiking/walking, (rowing,beachvolleybal: 3x),
Bootcamp, running
tennis and swim

Figure A5.5. Question: What physical activity do you currently do?

... and what physical activities do you enjoy the most?

7 responses
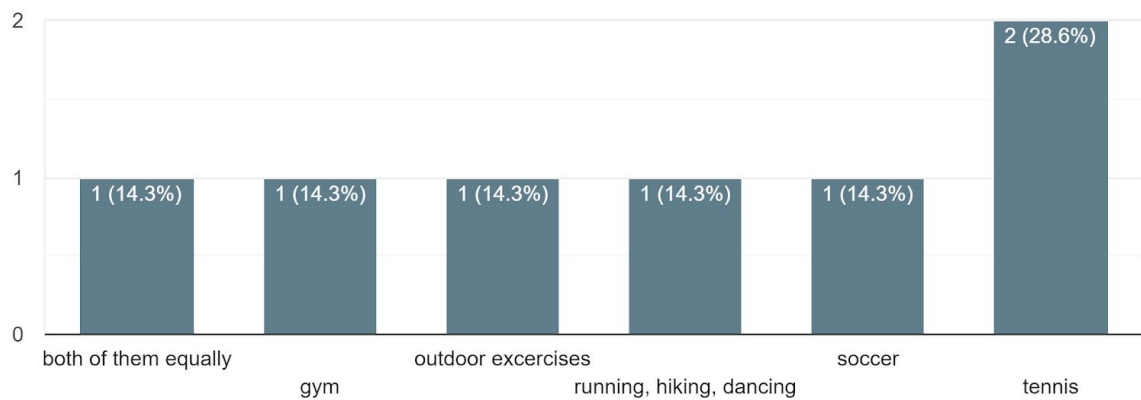
Figure A5.6. Question: What activities do you enjoy the most?

I am mostly interested in exercising _____.

7 responses
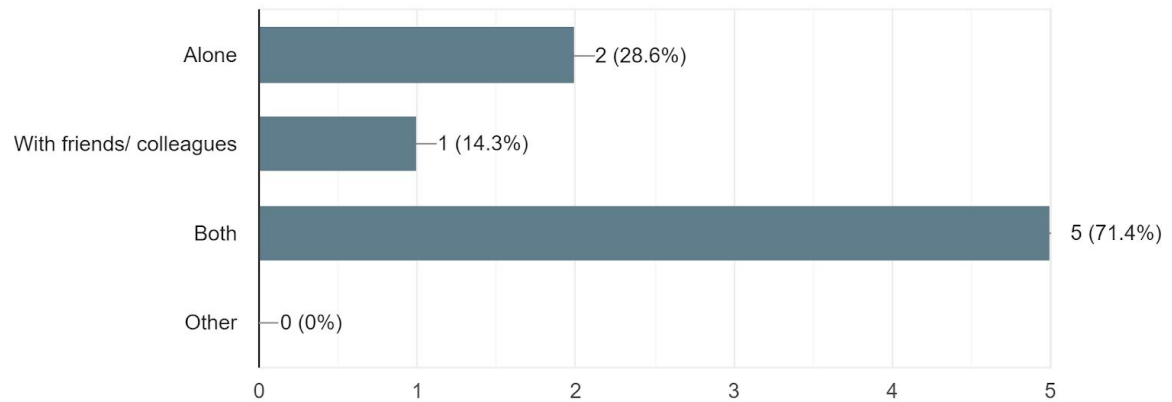
Figure A5.7 Question: Mostly interested in working out alone/ together/ both?

I am looking to _____ my current level of exercise.

7 responses
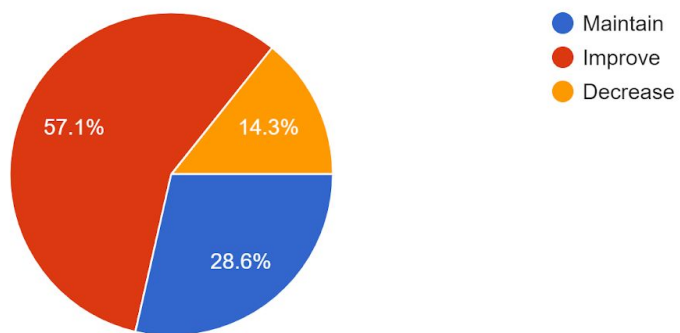
Figure A5.8. Looking to maintain/ improve/ decrease level of exercise.

Open Remarks & Comments (Optional).

4 responses

The website looks amazing. I'm looking forward to the final version!

I like your website, keep up the good work! I haven't explored if it is possible to create groups as well, with colleagues with whom you can undertake activities regularly, this would be interesting for me.

Although I like cycling I don't make the time for it often enough, for a team sport I notice this is way easier because you commit to it, this week actually I decided to dedicate a evening with my girlfriend to go cycling so we "have to"/commit to it. For running or swimming I would need a challenge, for beachbvolleybal it was a bonding thing as well with collegues you get to know them a bit differently, rowing was more of a getting to know a sport just to learn a bit about it (both by "accident" also research related)

I hope this webpage gets available soon. Good luck!

Figure A5.9. General remarks & comments.

A6. User Test 3 Online Protocol

(Date: 16th-20th June, Duration ~20 min)

Dear UT Employee,

We are John and Fredrika, two Creative Technology students currently developing a web-platform for UT employees, that focuses on enjoyment in physical activity. The project is being developed for our bachelor thesis, under the supervision of Alma Schaafstal and Femke Nijboer.

Earlier this month, we carried out two user tests of the platform, and used the feedback to make improvements to the website. This time, we are carrying out a final user test online, and were wondering if you had time to help us out!

We would really appreciate your input. The user test can be done from any computer with internet access, and is expected to take about 20 minutes.

You can find instructions and more information below.

Instructions:
1. Explore the website (on a computer, not a mobile device) using the following link: https://gskim3.wixsite.com/usertest3
(We recommend not using internet explorer!)
- You will be prompted to log in to the website for this user test. You can log in with Google or Facebook, or create a new account
- In the Activities page, only the Running page can be clicked and viewed. Please visit this page. It serves as an example for how all the other pages would look (for the other activities)
- Explore the website freely, hopefully visiting every page
- This phase could take about 10 minutes, or more if you prefer

2. Fill in our online questionnaire after exploring the platform, using the following link: https://forms.gle/3eoNhfvQQ4DiczWR9
- The questionnaire takes about 10 minutes to fill in
- We appreciate as much feedback as possible
- The questionnaire is anonymous

Deadline:
This user test will be open from tonight (Sunday 16/06/2019) to Wednesday night at 00:00 (19/06/2019). This is so that we have enough time to process the data.

Questions?
If you have any questions about this user test, feel free to contact us:
- Fredrika Astrom (f.k.astrom@student.utwente.nl)
- John Kim (g.s.kim@student.utwente.nl)

Thank you and Best Regards,

John & Fredrika
g.s.kim@student.utwente.nl
f.k.astrom@student.utwente.nl

A7. User Test 3 Questionnaire

Help us improve the platform in 10 minutes!
(Section 1 of 5)

This is a user test for the Graduation Project of John Kim & Fredrika Astrom of Creative Technology. The platform focuses on enjoyment in physical exercise!

The purpose of this questionnaire is to examine how University of Twente employees feel about the platform, in order to improve it. We also wish to learn more about the users we are targeting.

Your participation is entirely voluntary. The data collected is anonymous, and will only be used for academic evaluation of the project.

Thank you for your cooperation!

(Section 2 of 7)
1. What is your age?
2. What is your gender?

 (after this section, go to section 3)

(Section 3 of 7) [SUS]
All answers on a 5 point linear scale [Strongly Disagree - Strongly Agree]
1. I think I would like to use this platform frequently
2. I found the platform unnecessarily complex
3. I thought the platform was easy to use
4. I think that I would need the support of a technical person to be able to use the platform
5. I found various functions in this platform were well integrated
6. I thought there was too much inconsistency in this platform
7. I would imagine that most people would learn to use this platform very easily
8. I found the platform very cumbersome to use
9. I felt very confident using the platform
10. I needed to learn a lot of things before I could get going with this platform

(after this section, go to section 4)

(Section 4 of 7)
1. Do you think this platform conveys enjoyment in physical exercise?
2. Which statement best reflects your current lifestyle?
   a. I rarely exercise (or never) **[go to section 5]**
   b. I exercise sometimes, but not necessarily every week (irregularly) **[go to section 5]**

    c. I exercise regularly (once per week) **[go to section 6]**
    d. I exercise regularly (multiple times per week) **[go to section 6]**
    e. I exercise on an advanced, or expert level (once or multiple times per week) **[go to section 7]**

(Section 5 of 7) [for beginner user evaluation]
1. Do you find the content (images, text, videos) of the platform inspiring?
2. Did you feel like the content (images, text, videos) was encouraging?
3. Do you think this platform could help you find like-minded others that share your interests? Why/Why not?
4. Do you think the content of this website makes you feel a bit more positive about your own ability, and like you are capable of acquiring new healthy habits? (Why/Why not?)
5. Do you think this platform would make it easier for you to become more active in and outside of the workplace? (Why/Why not?)
6. In case of future development, how can this platform be improved?
7. Other comments/ Open remarks

(after this section, go to section 7)

(Section 6 of 7) [for intermediate user evaluation]
1. Do you think this platform could help you maintain or increase your motivation/intention to exercise? (Why/Why not?)
2. Do you think the social features of this platform could help you connect with like-minded others in the UT? (Why/Why not)
3. Do you think this platform could help you to improve or maintain your skills in particular physical activities? (Why/Why not?)
4. Do you think that the visual content (images, text, videos) is relevant to you?
5. Do you find the content of the platform inspiring?
6. In case of future development, in what ways could this platform be improved?
7. Other comments/ Open remarks

(after this section, go to section 7)

(Section 7 of 7)
1. Do you think this platform (if developed further) could useful for UT employees that want to be more active?
2. Do you think that the platform is an innovative/novel idea, in the field of improving employee health?
3. Do you know of any other interventions similar to the platform, that strive to improve employee health?
4. Would you like to see this platform being developed further?

This marks the end of the survey.
Thank you for your participation, and don't forget to press submit!

A8. User Test 3 Questionnaire Results

What is your age?
21 responses
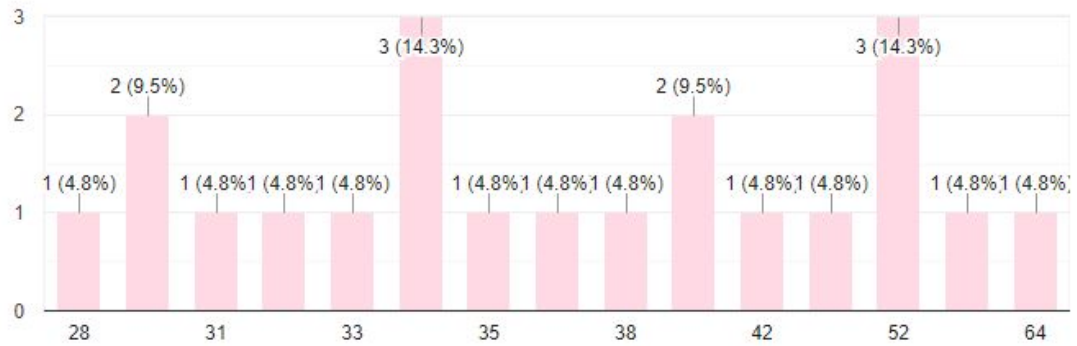
Figure A8.1. What is your age?

What is your gender?
21 responses
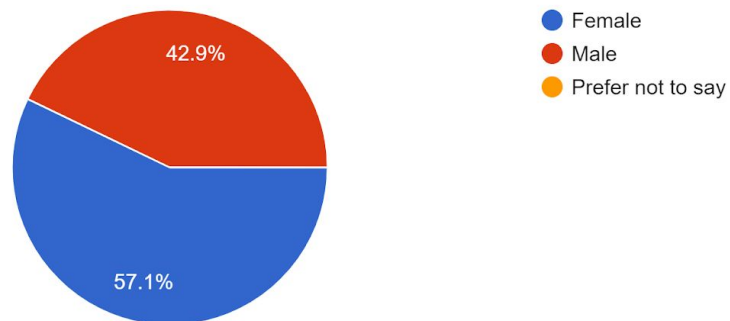
Figure A8.2. What is your gender?

I think that I would like to use this platform frequently
21 responses
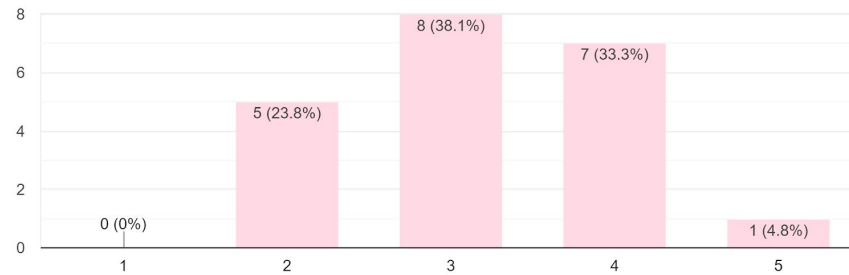
Figure A8.3. SUS Q1.

I found the platform unnecessarily complex
21 responses
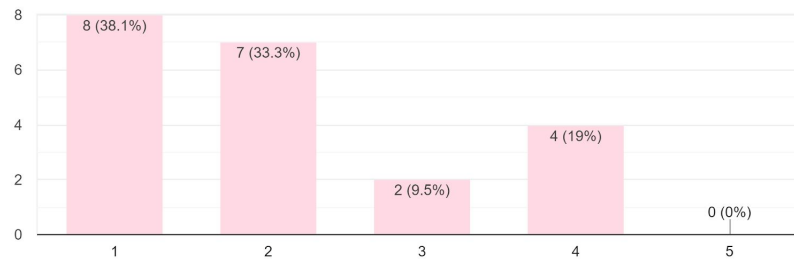
Figure A8.4. SUS Q2.

I thought the platform was easy to use
21 responses
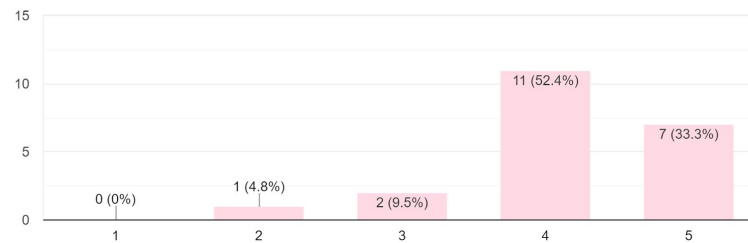
Figure A8.5. SUS Q3.

I think that I would need the support of a technical person to be able to use this platform

21 responses
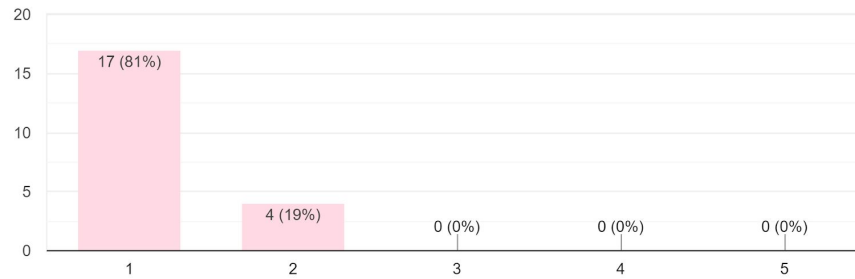
Figure A8.6.SUS Q4.

I found the various functions in this platform were well integrated

21 responses
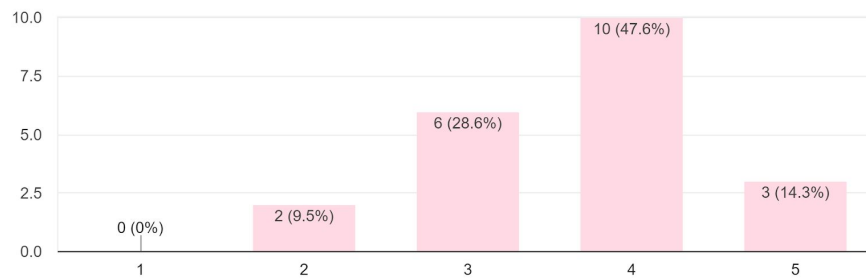
Figure A8.7. SUS Q5.

I thought there was too much inconsistency in this platform

21 responses
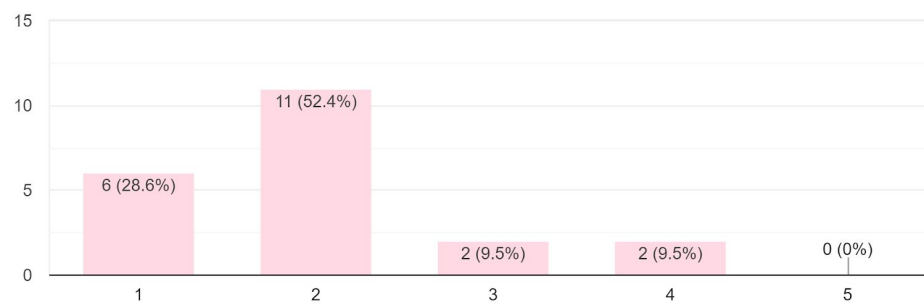
Figure A8.8. SUS Q6.

I found the platform was very cumbersome to use
21 responses
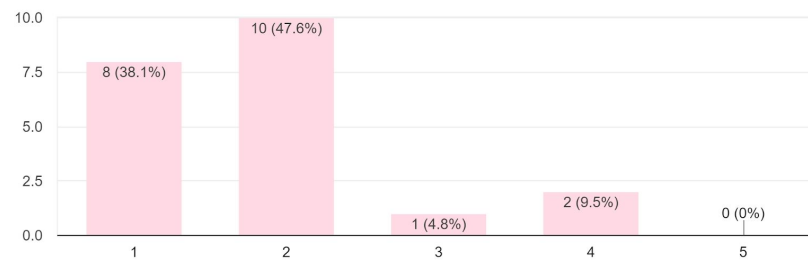
Figure A8.9. SUS Q7.

I would imagine that most people would learn to use this platform very quickly
21 responses
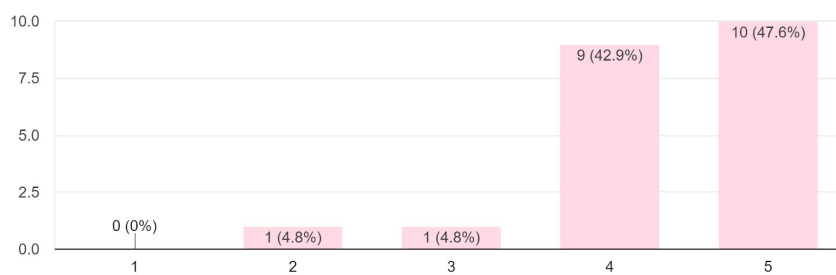
Figure A8.10. SUS Q8.

I felt very confident using the platform
21 responses
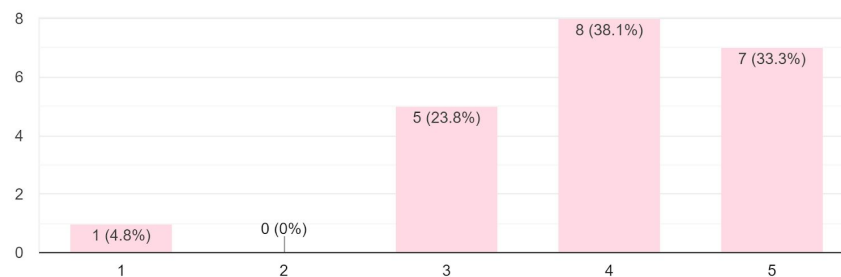
Figure A8.11. SUS Q9.

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I needed to learn a lot of things before I could get going with this platform
21 responses
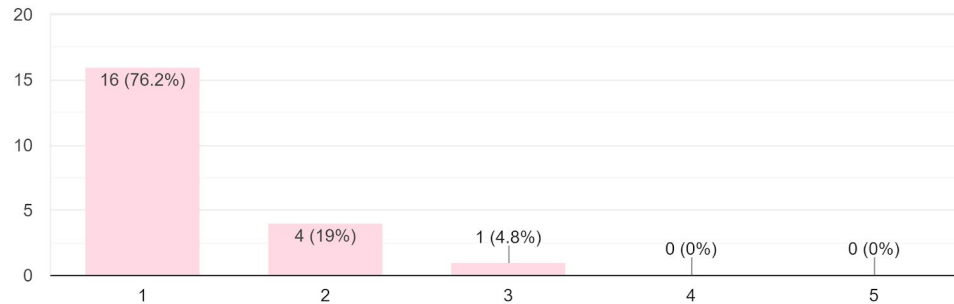
Figure A8.12. SUS Q10.

Which statement best reflects your current lifestyle?
21 responses
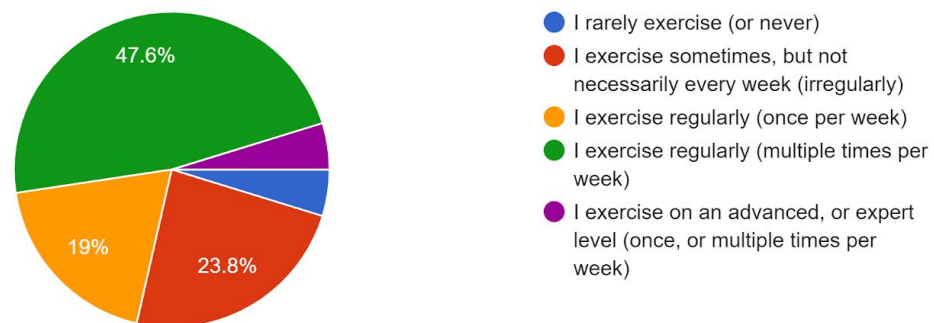
Figure A8.13. Which statement best reflects your current lifestyle?

Do you think this platform conveys enjoyment in physical exercise?
21 responses
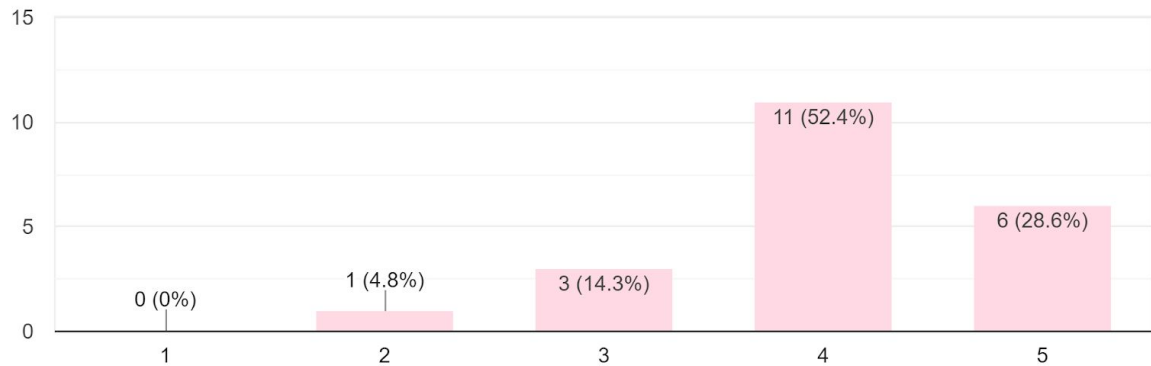
Figure A8.14. Platform conveying enjoyment

Do you think this platform could help you maintain or increase your motivation/intention to exercise? (Why/Why not?)

14 responses

Yes, this platform would give me information about activities that I am currently not aware of.

It could as it provides information about sport events.

No, I am afraid I would not, maybe through other people (peer-pressure to join) who would be motivated by it.

Yes, because of the number of possibilities (sporty and not sporty) and the possibility to get active with collegeaus and getting to know them in a different way

Maybe if it got critical social mass

You feel inspired, and the social functions seem like fun to join.

Helps me connect to sporty colleagues. Low threshold to then ask them to sport together. I would ask them during lectures. But knowing they're on the platform confirms me that they are interested in teaming up as well

Maybe, I am a runner and already motivated to run. If there are some more regional upcoming events, I would be interested in viewing those.

Perhaps, I do see some interesting activities which I would like to try.

Yes, because of the meet ups, and other functionalities that make it easy to find a training partner, or last minute join an activity

Figure A8.15. Maintain/ increase motivation to exercise

Do you think the social features of this platform could help you connect with like-minded others in the UT? (Why/Why not)

14 responses

Maybe, maybe not. If I would find group activities in which I would be interested, the platform would help me broaden my social network. But I would not use this platform specifically for that aim (social features are a plus, not a must).

I am not sure I would need that

Yes, but I am unlikely to post anything on it, somehow feel a barrier even in the mockup version to do so.

yes, I think that is a very interesting part of this platform

Probably, events and the forum would allow that

Yes, the community function is motivating.

Yes. My first interest was to look at the member page. Who else is in there.

yes via the forum

Yes, the members site can be a help to contact others.

Maybe through some join in activities

It would help, but a I said, I'm not interested in socializing.

Figure A8.16. Social features of the platform

Do you think this platform could help you to improve or maintain your skills in particular physical activities? (Why/Why not?)

14 responses

yes, if there is information about the activities. Just an idea, the platform does not need to include information about all activities; it would be already very useful it would provide links for reliable sources.

Depends on what further information you will put on it.

It might inspire or help to train in certain ways, some of the suggestions for running were new.

yes, not only being active in the evening hours

Not sure

The running site had personalised functions, and provided ideas of how to exercise. Of course, more info could be provided on -for instance- how to do an interval training.

The content is obviously not so detailed yet. Like running. How do 8 go from 5km to 8km in the next three months

no, I am already physical active

No, I do things on my own course.

No

Difficult to say. It might, if you come into contact with the right persons.

Figure A8.17. Improve or maintain skills in physical activity

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Do you think that the visual content (images, text, videos) is relevant to you?
14 responses
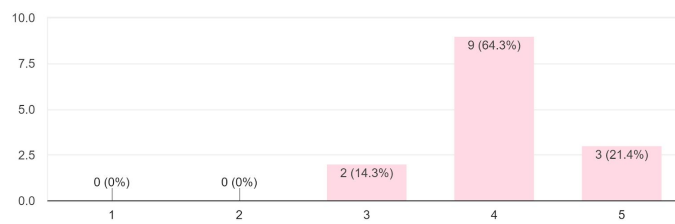
Figure A8.18. Visual content relevance

Do you find the content of the platform inspiring?
14 responses
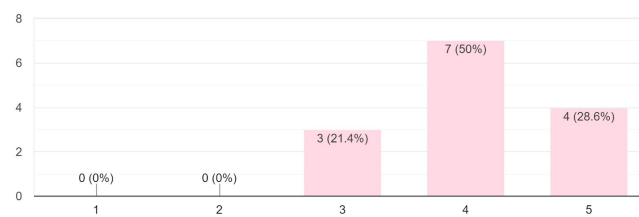
Figure A8.19. Platform inspiration

In case of future development, in what ways could this platform be improved?
10 responses

For example provide running plans. This is something I am missing at this moment. Especially for people who want to start with running, but also for more advanced runners who want to increase their performance. More tips would be appreciated.

I liked the path function (like these route things above average), so perhaps a better interface than the gallery that automatically goes away, so I could look better at these routes from fellow employees? (might be based on other monitoring platforms strava/runkeeper or route platforms as afstandmeten etc)

people sharing their experiences and maybe having the opportunity to share upcoming activities

maybe a link to runner app, or some feature to integrate personal data

More routes. I really liked to route suggestions for running on campus.. can I have a button to send these routes to my strava or watch?

regional events, link with e.g. running and food, new blogs on a regular basis?

Less loading time, more integration between activities and events, more functionality in e.g. the maps at the running section.

No requirement to login and provide your personal information (e-mail address, etc.) to third parties

I wanted to add an event, but this was not possible. Maybe a good extension will be that members can add events etc too, however this would require a moderator

Figure A8.20. Future improvements

Open remarks

8 responses

I like to see more UT-related content in this version. Good job!

looks nice feels fitting for target group, stating that see whom you want to target, have a look at this test and might be more inspiring for people who already do a bit (than those who are pretty sedentary), as some elements might be dependent on recognizing the fun and alternative ways to exercise.

Good luck with filling the platform. It looks amazing!

Of course, for a first time visit it took some time to explore the features of the site. I think a next time would be even more joyful/inspirational once you feel familiar with the site.

Nice improvement from previous version.

Why do you use the US-based Google Forms to take this survey? At the UT BMS faculty we use a specialized Qualtrics survey instrument that adheres to GDPR regulation and secures our data.

Nice platform. I hope it will be operable in the near future.

Give examples of training programmes and activities on different levels.

Figure A8.21. Open remarks

Do you think this platform (if developed further) could useful for UT employees that want to be more active?

21 responses
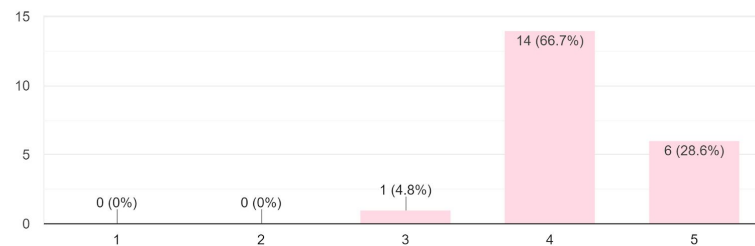
Figure A8.22. Platform's usefulness if developed further

Do you think that the platform is an innovative/novel idea, in the field of improving employee health?

21 responses
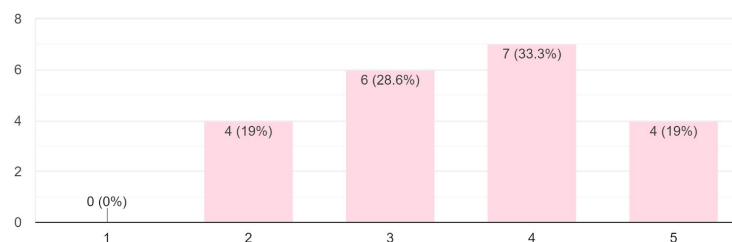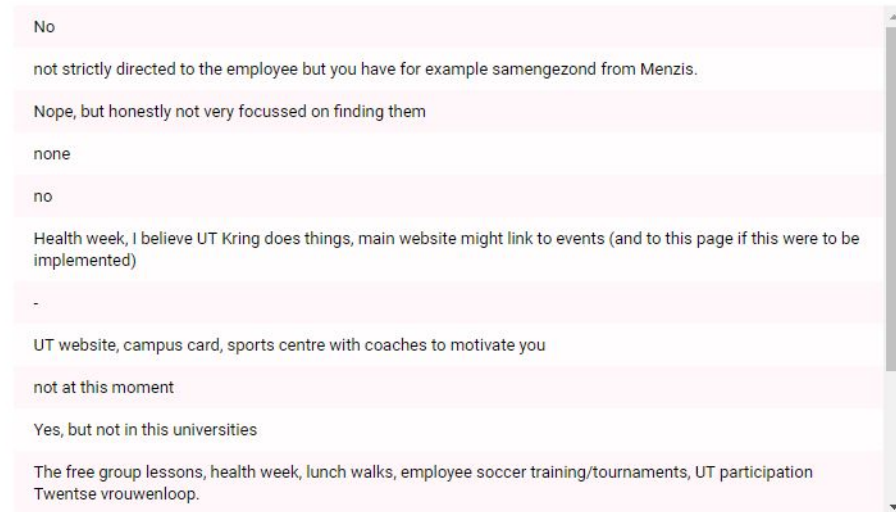
Figure A8.23. Opinions if the platform is an innovative/ novel idea.

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Do you know of any other interventions similar to the platform, that strive to improve employee health?

16 responses

> No
>
> not strictly directed to the employee but you have for example samengezond from Menzis.
>
> Nope, but honestly not very focussed on finding them
>
> none
>
> no
>
> Health week, I believe UT Kring does things, main website might link to events (and to this page if this were to be implemented)
>
> -
>
> UT website, campus card, sports centre with coaches to motivate you
>
> not at this moment
>
> Yes, but not in this universities
>
> The free group lessons, health week, lunch walks, employee soccer training/tournaments, UT participation Twentse vrouwenloop.

Figure A8.24. Awareness of similar interventions

Would you like to see this platform being developed further?

21 responses
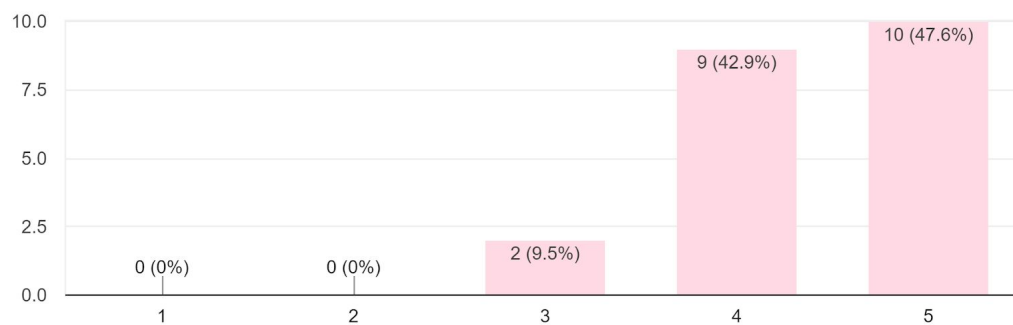
Figure A8.25. Interest of the platform if developed further.

Appendix B: Platform Versions

B1. Platform version 1
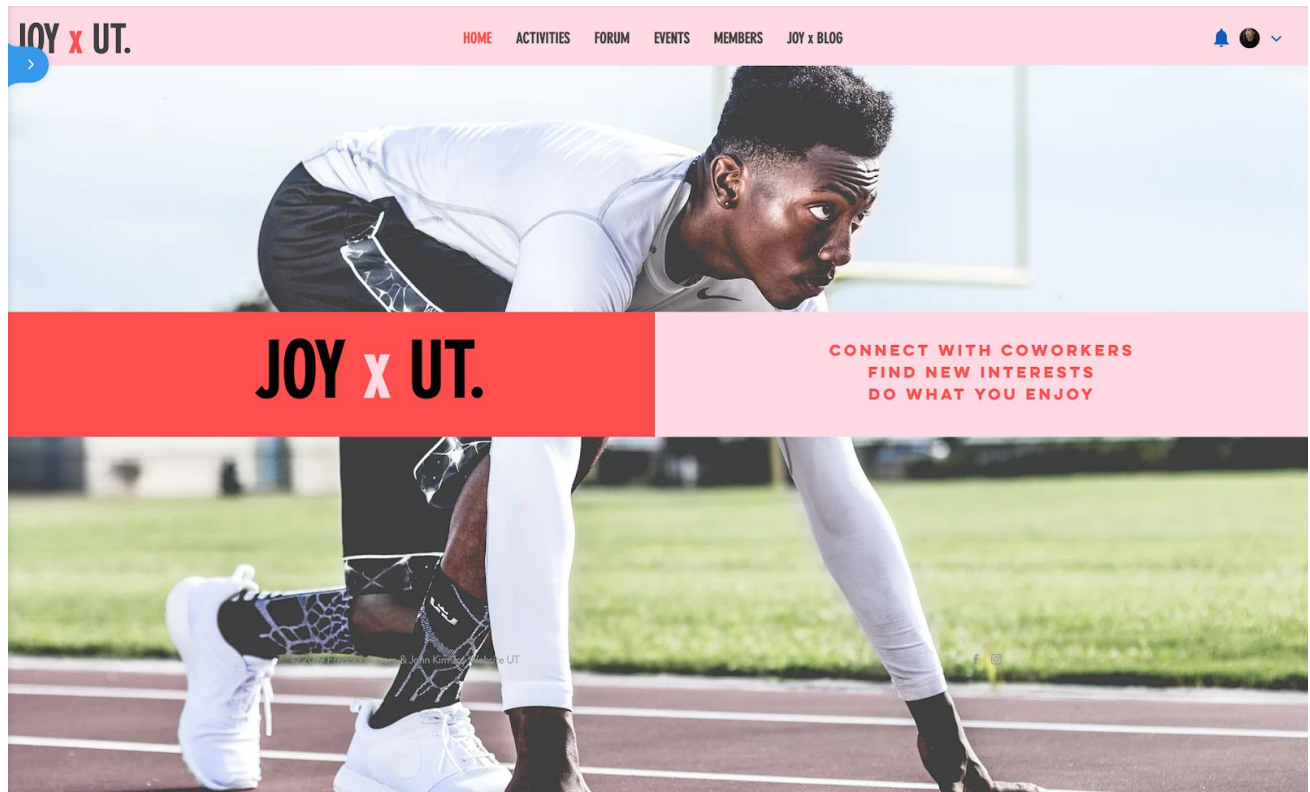
Figure B1.1 Homepage
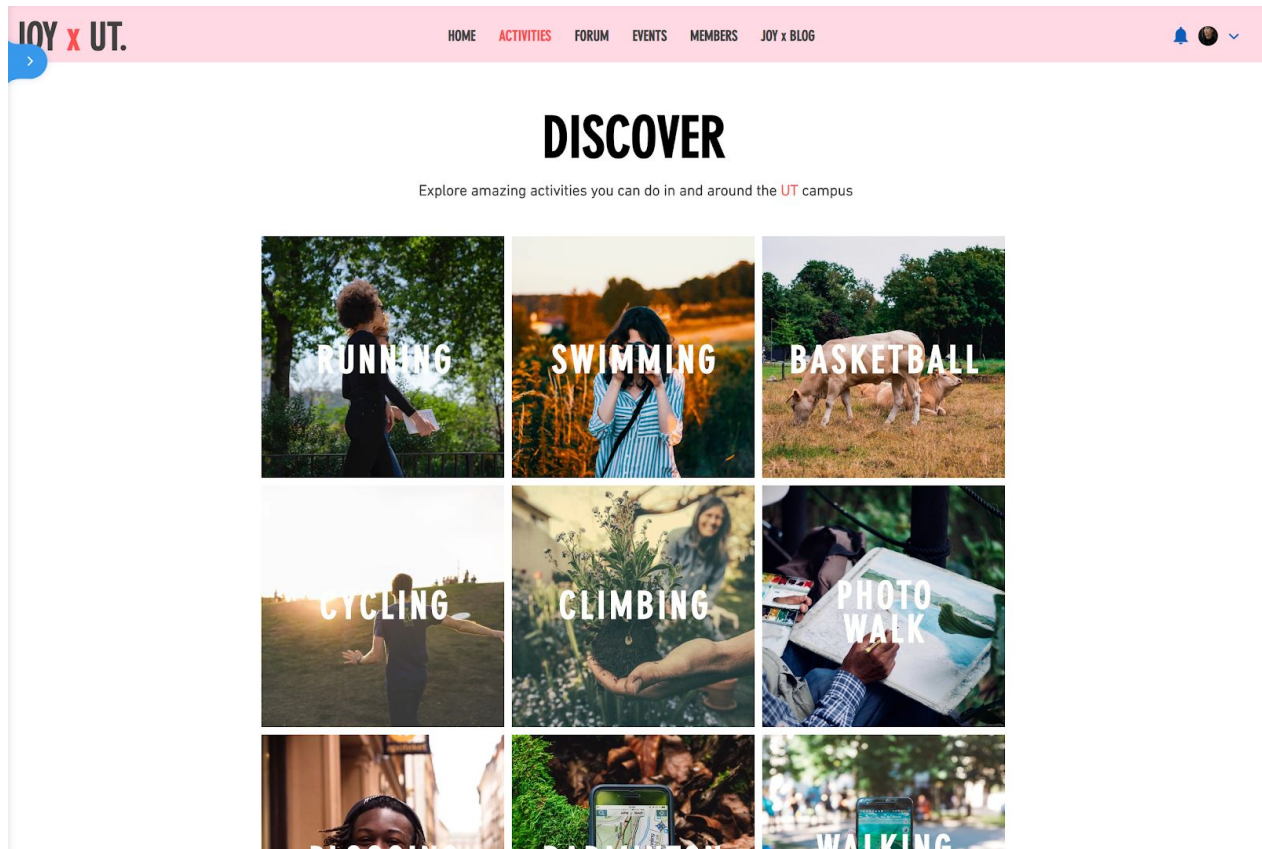
Figure B1.2. Activities page
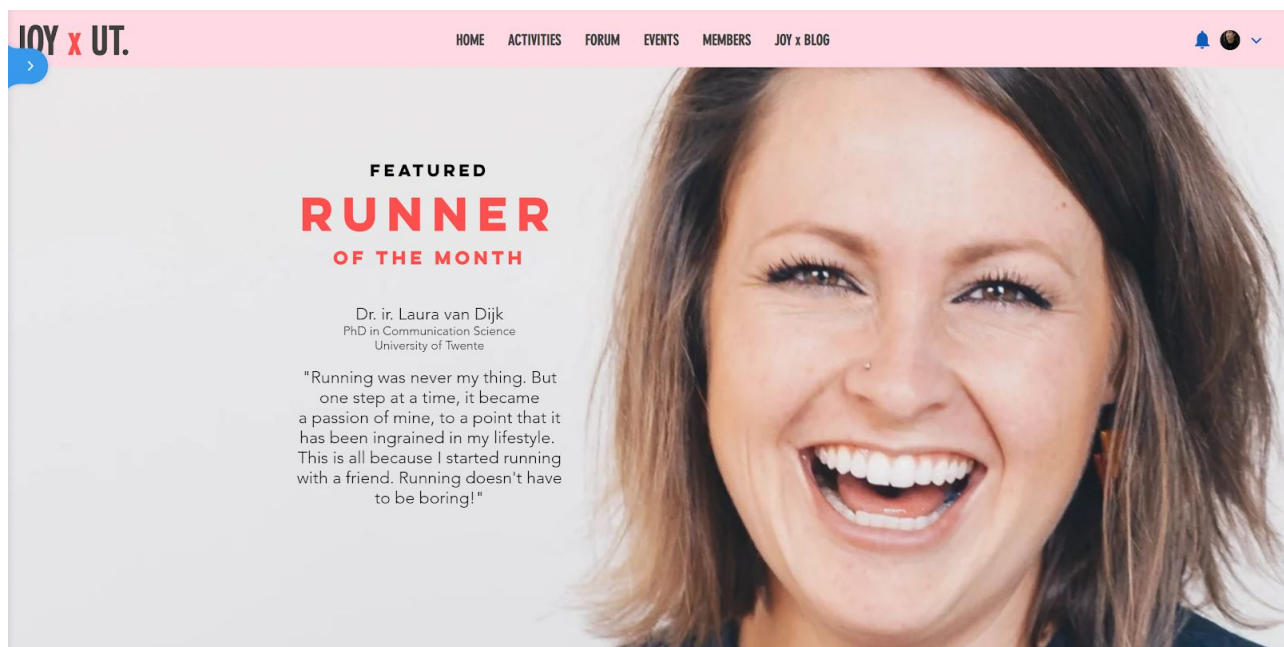
Figure B1.3 Activities page
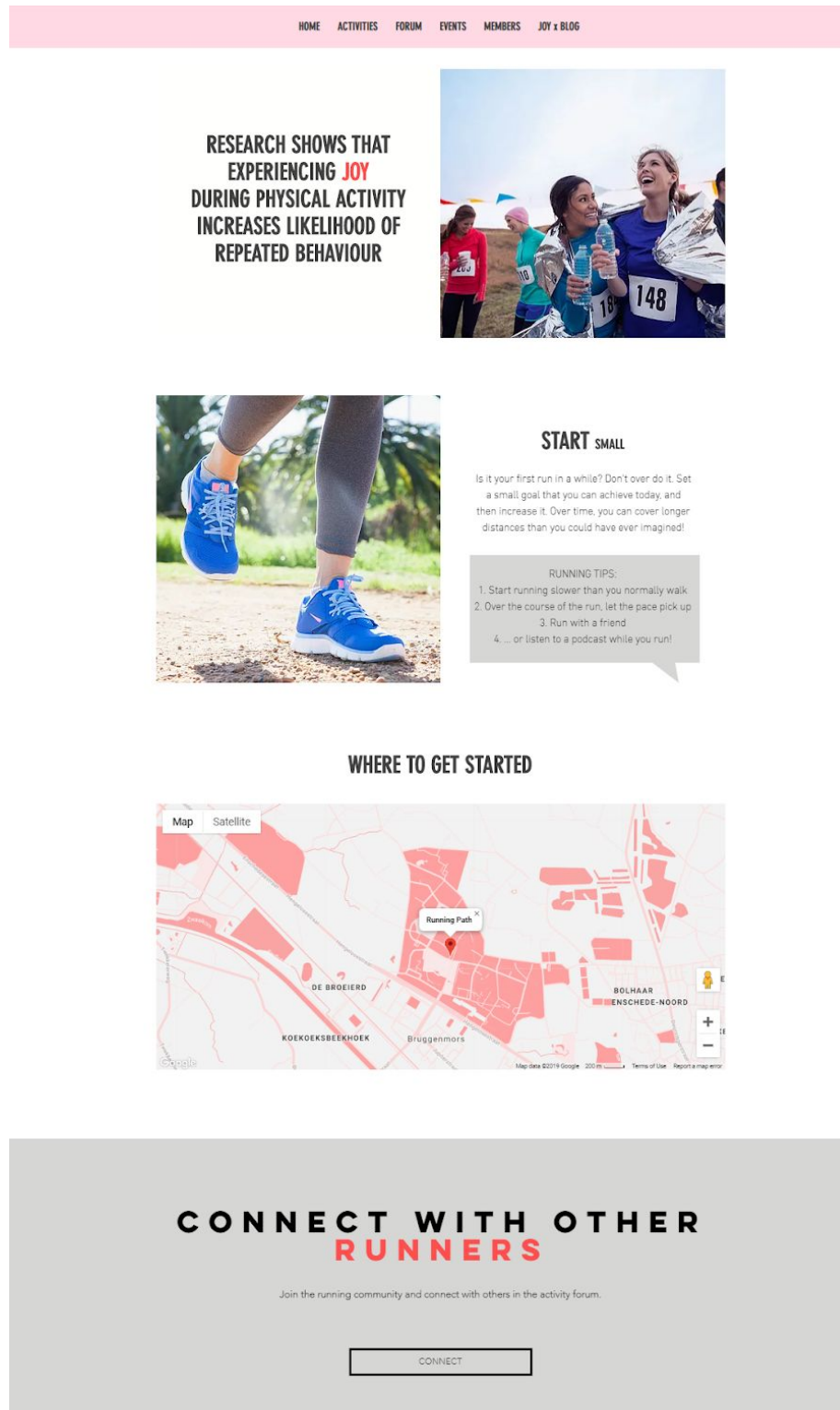
Figure B1.4. Running page
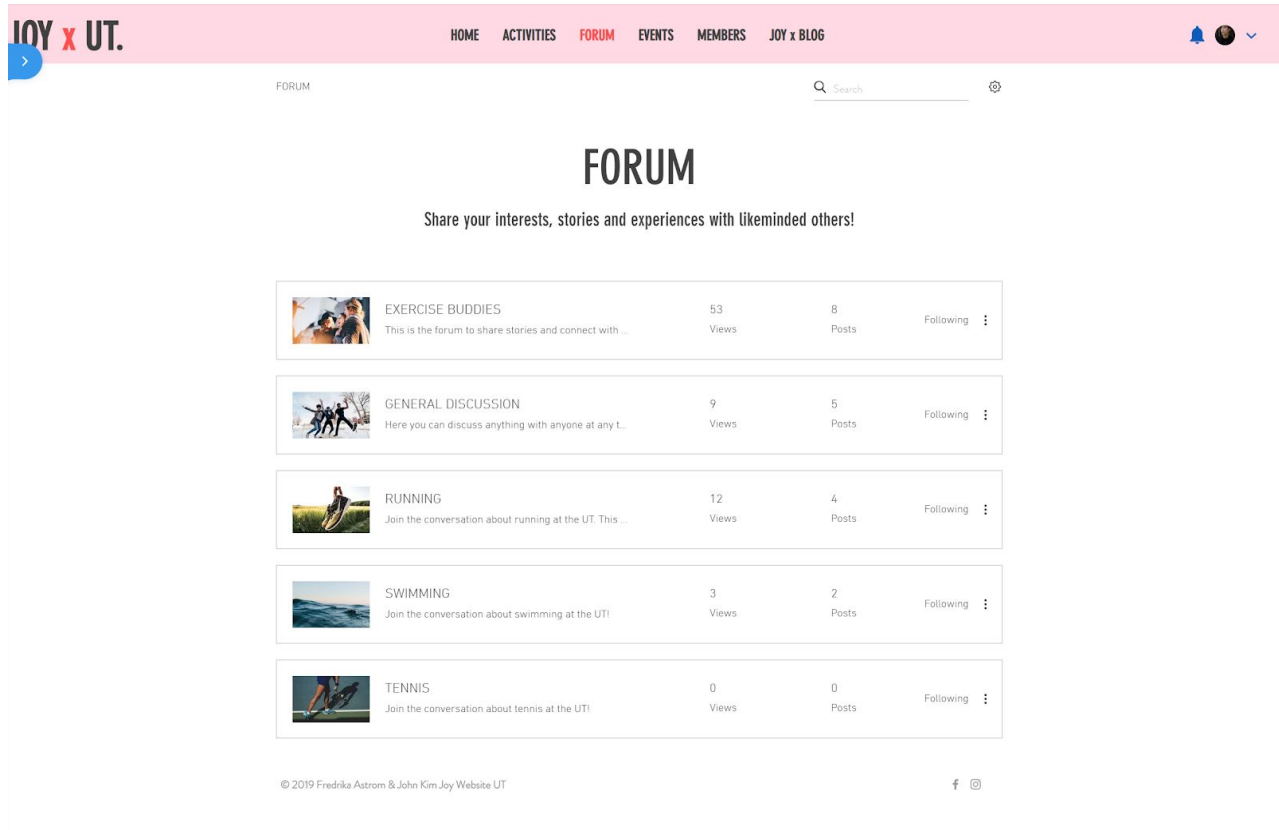
Figure B1.5. Forum page
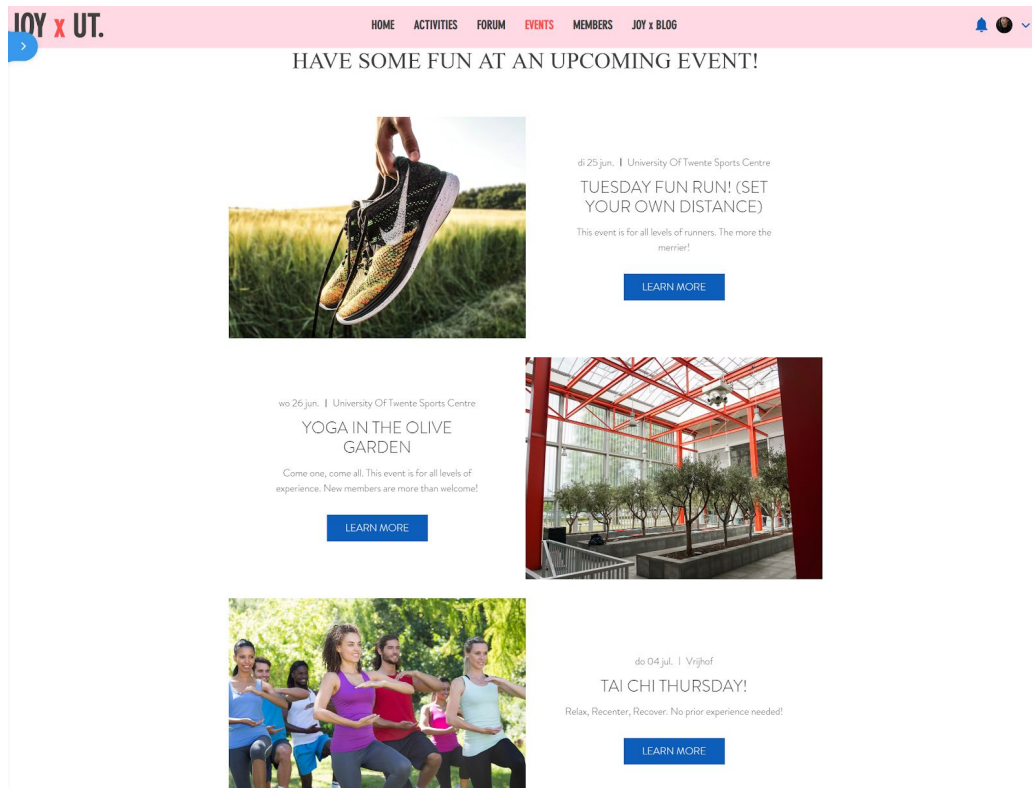
Figure B1.6. Events page
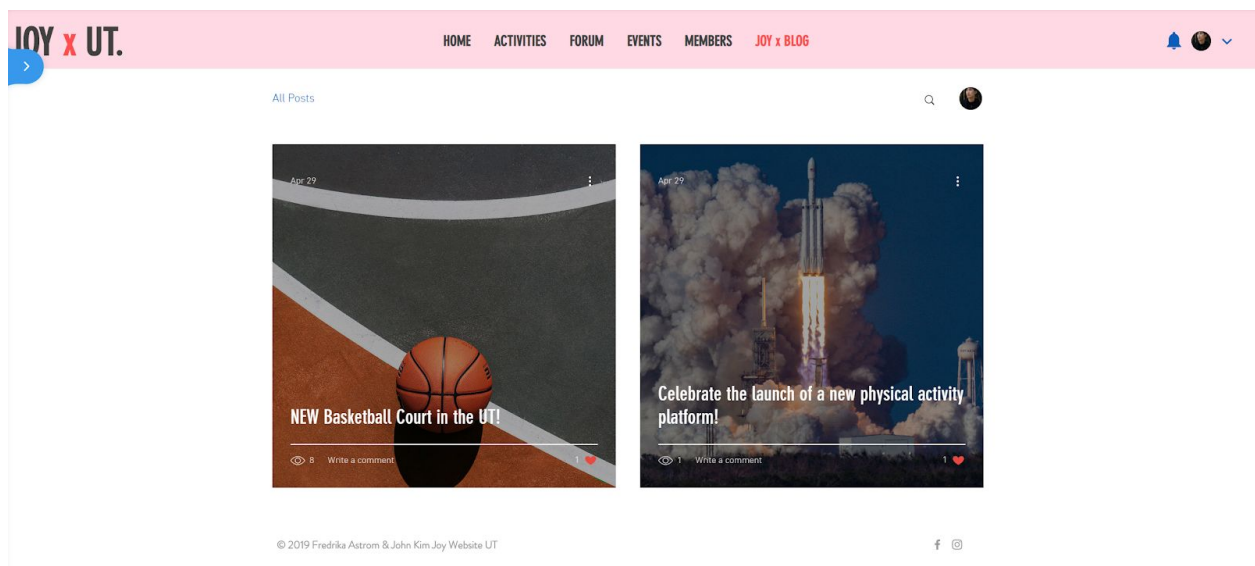
Figure B1.7. Blog page
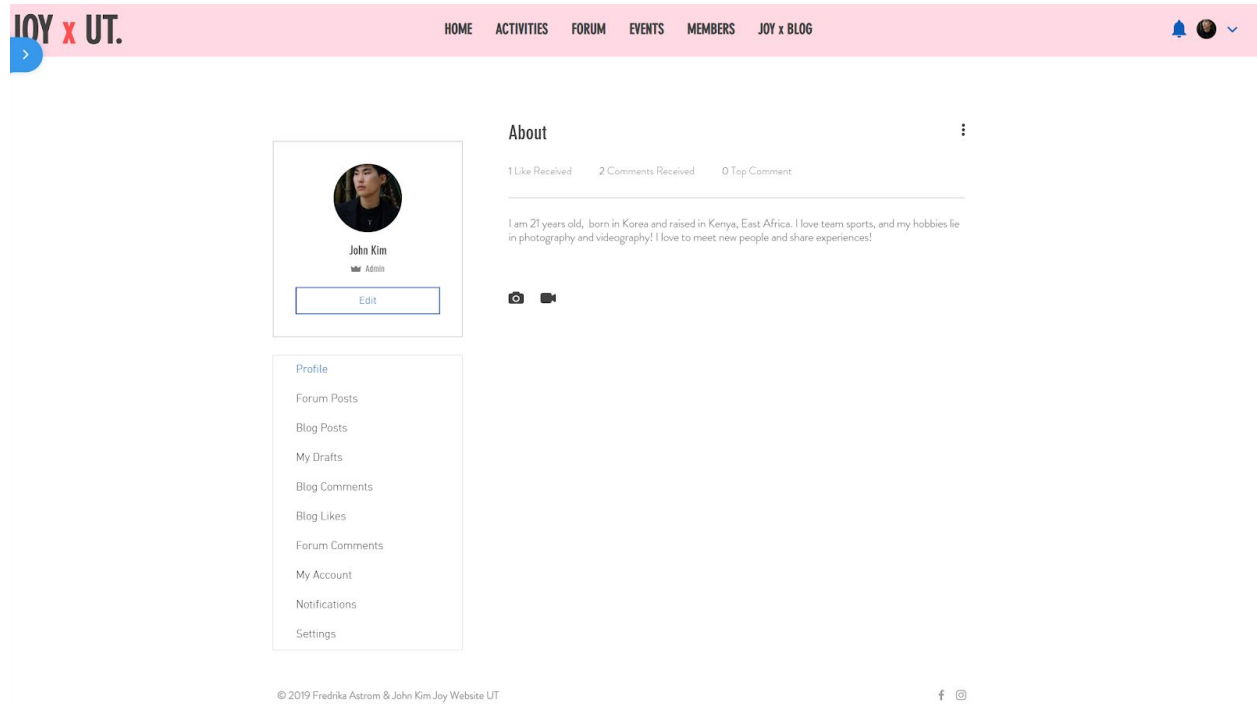
Figure B1.8. Profile page

B2. Platform version 2
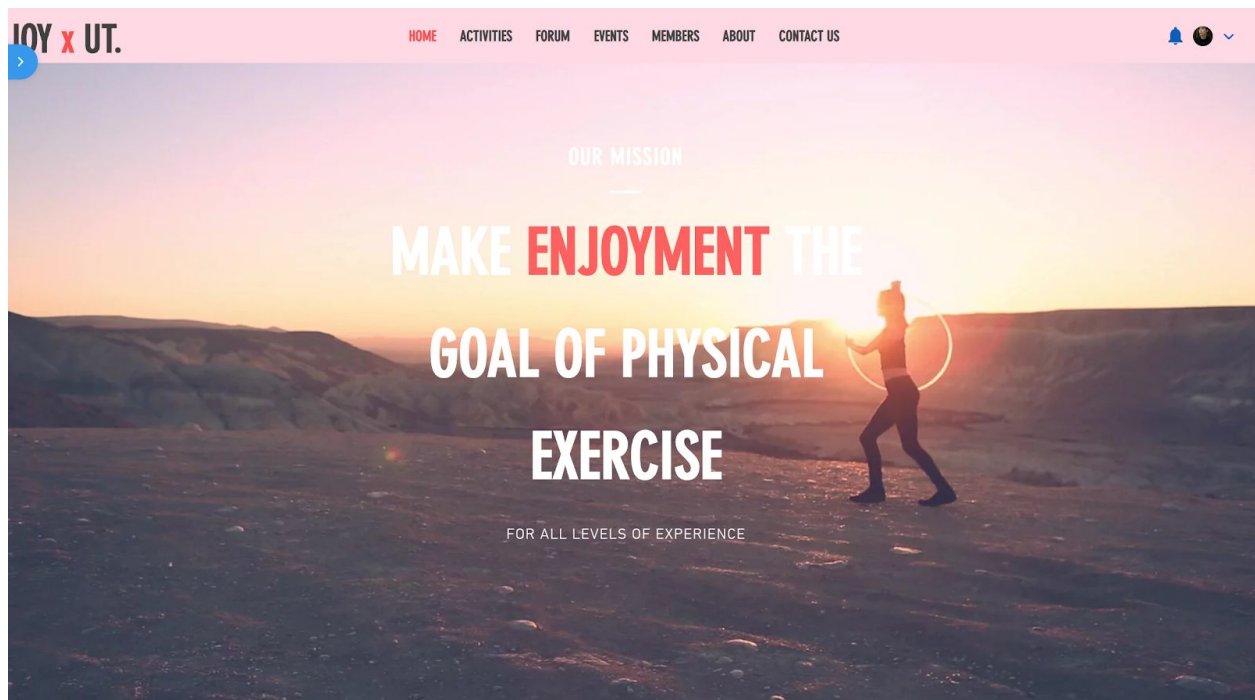
Figure B2.1. Homepage page
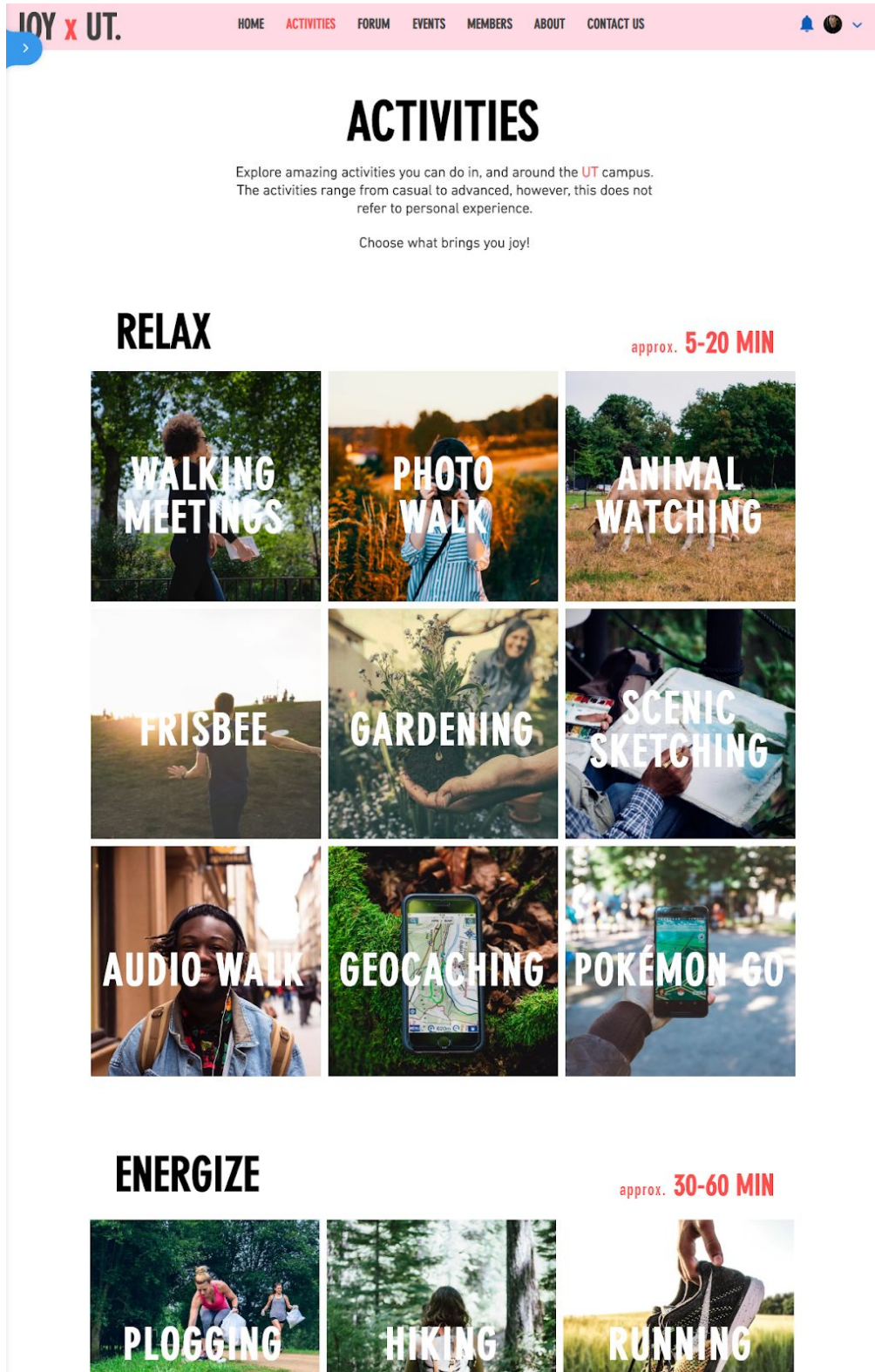
Figure B2.2. Activities page.
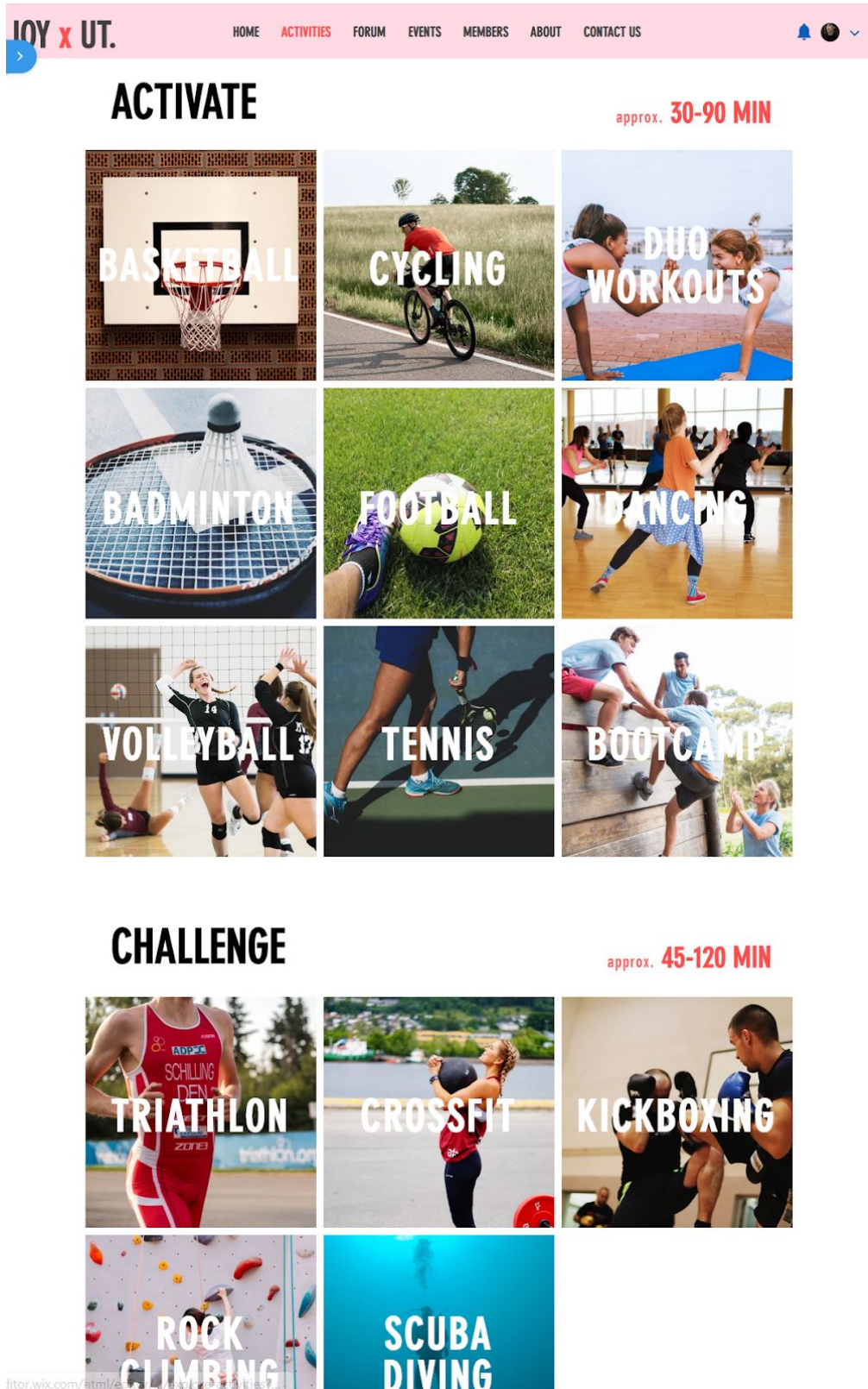
Figure B2.3. Activities page

FIRST STEP

FIRST RUN IN A WHILE, OR MAYBE EVER?

Sounds great! Just remember to not over do it. Set a small goal that you can achieve today, and then increase it. Over time, you will be able to cover longer distances.

JOYFUL RUNNING TIPS

1. Start running slower than you normally walk

2. Over the course of the run, slowly pick up the pace

3. Run with a friend

4. ... or listen to a podcast or some of your favourite music while you run!

FIRST STEP

RUNNING IS FOR EVERYONE.

If you are curious of how running can become a part of your lifestyle, give it a try! As long as you set your own goals, run on your own terms, and make it enjoyable, there is nothing you can't achieve!

Figure B2.4. Running First Step

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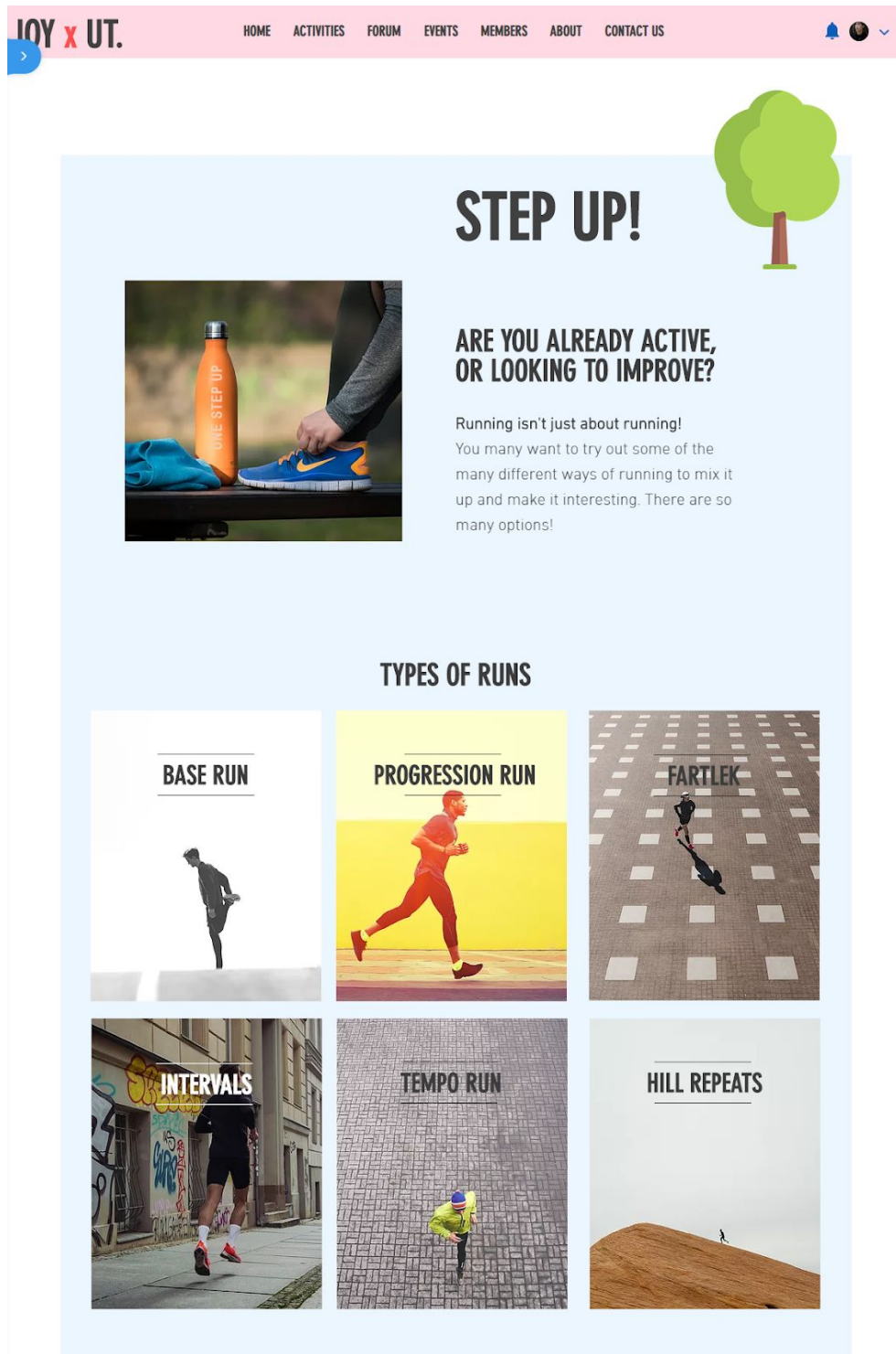
Figure B2.5. Running Step Up

Figure B2.6. Running Step Up

Figure B2.7. Running Information

Figure B2.8. Forum page

Figure B2.9. Events page

Figure B2.10. Members page
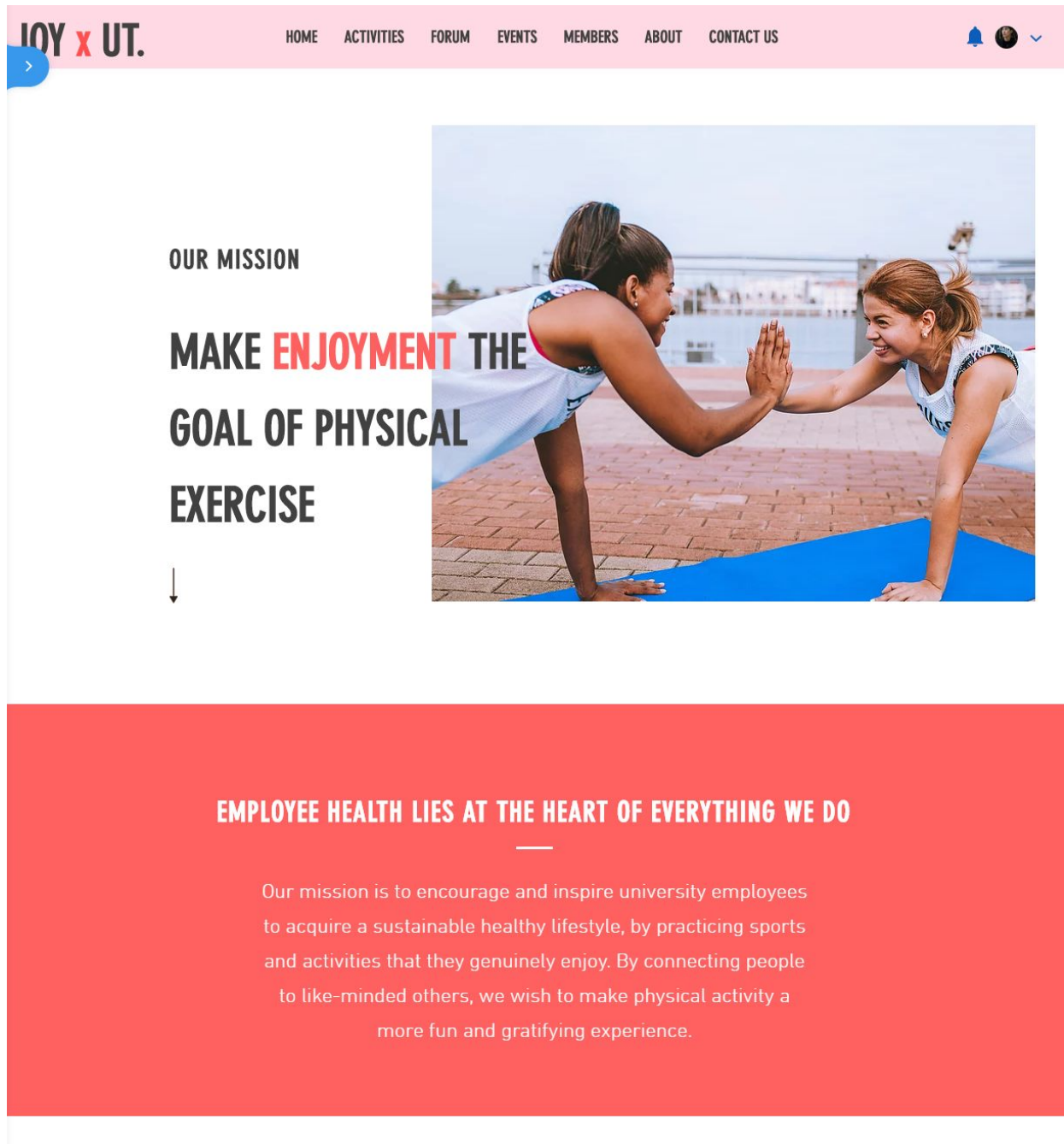
Figure B2.11. About: Our Mission page

OUR VALUES

ENJOYMENT

One of the most important predictors of continued health behaviour, is the level of positive emotion experienced during the exercise. Focusing on physical activities that brings you joy is a guiding value for our service.

SUSTAINABLE HEALTHY LIFESTYLE

Our goal is to encourage lifestyle changes that are not just temporary, but that are sustained over time. Each individual's journey is different, but what will make them more likely to succeed is doing what they enjoy.

SOCIAL

Sharing experiences, thoughts and ideas with others is the foundation of what we do. We believe that positive emotion is amplified when it is shared!
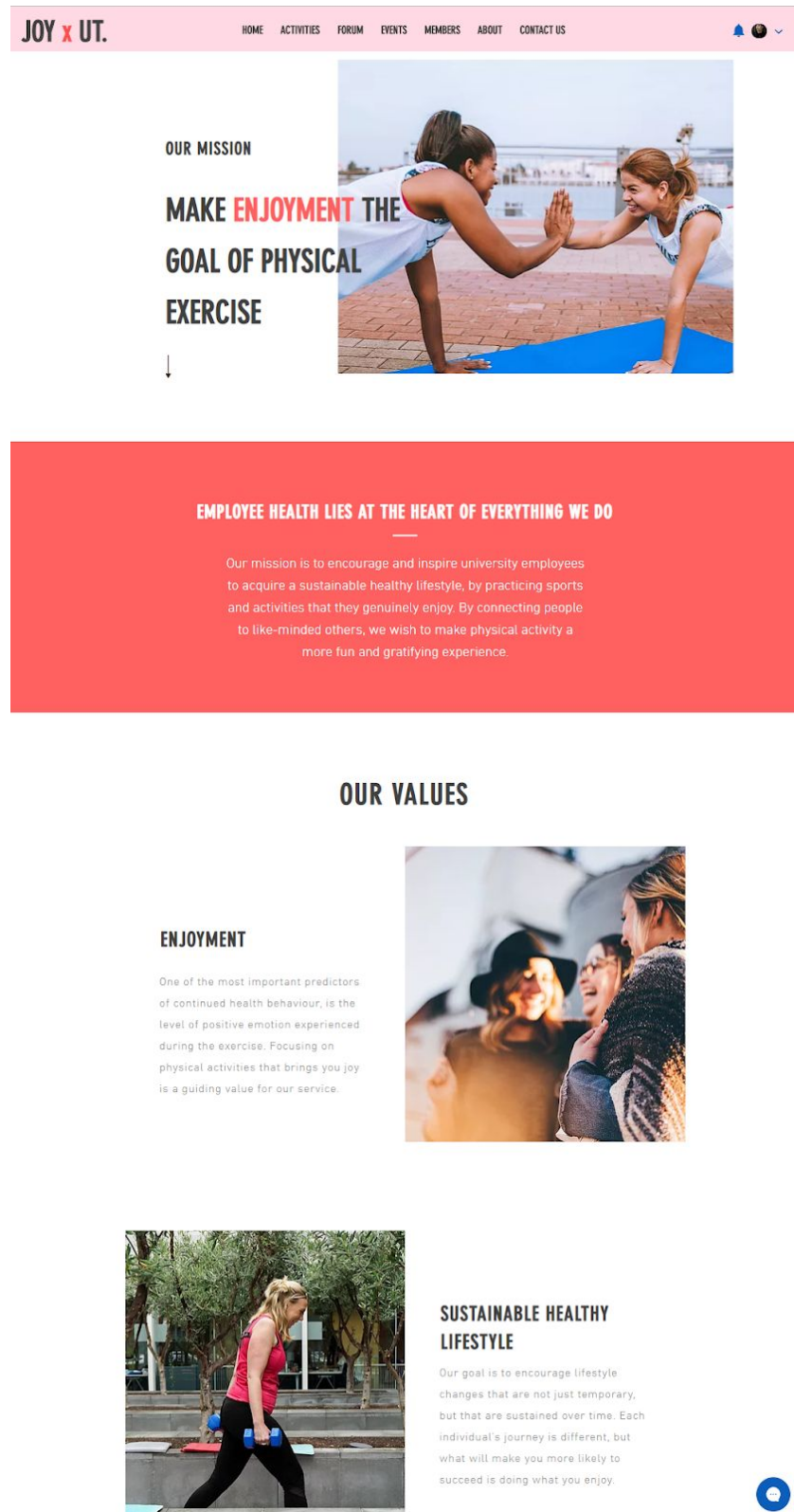
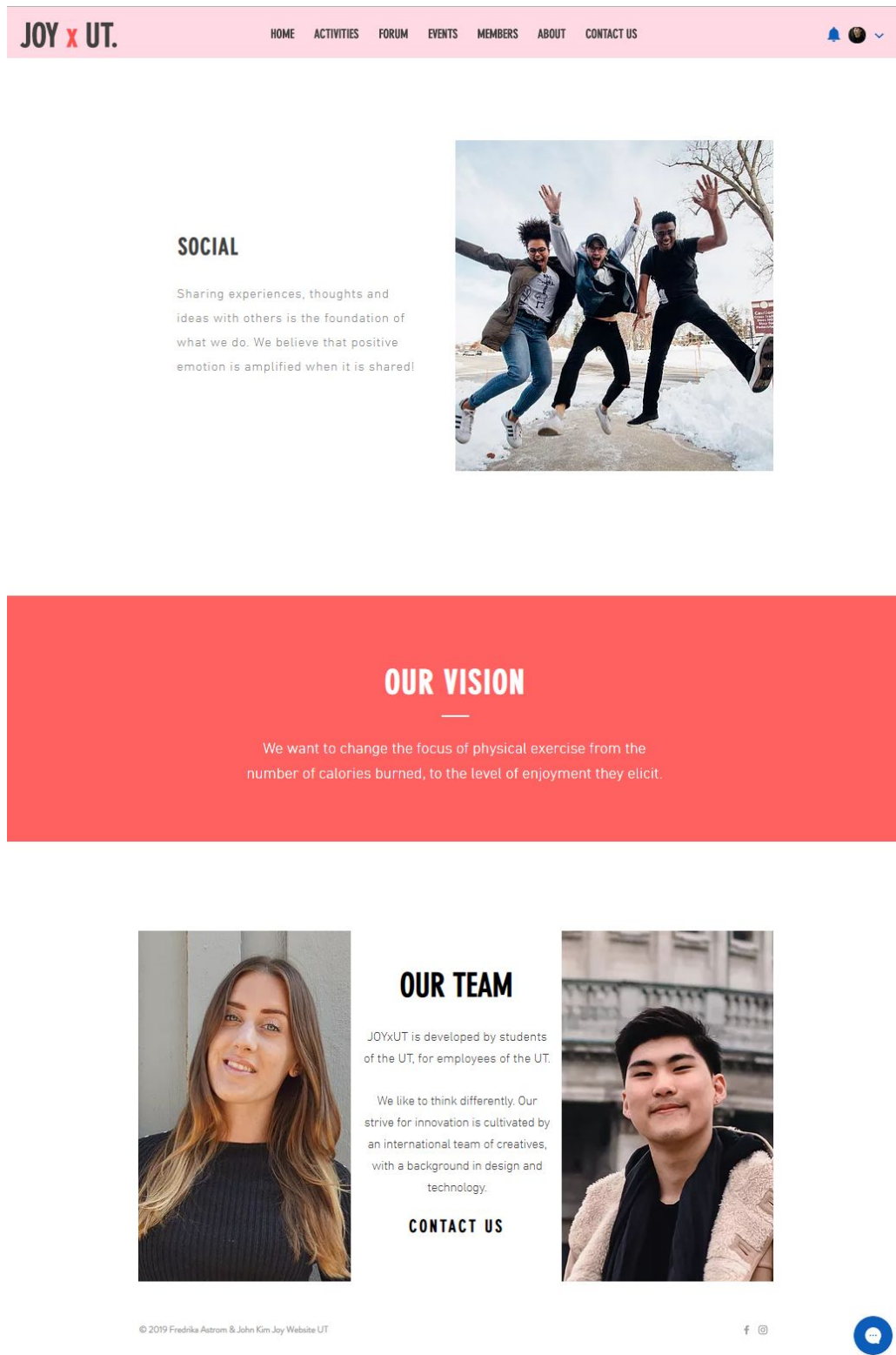*Figure B2.12. About: Our Mission page*

Figure B2.13. About: Our Mission page

Figure B2.14. About: Our Inspiration page

Figure B2.15. About: Our Inspiration page

Figure B2.16. Contact Us page

JOY x UT.

HOME   ACTIVITIES   FORUM   EVENTS   MEMBERS   JOY x BLOG
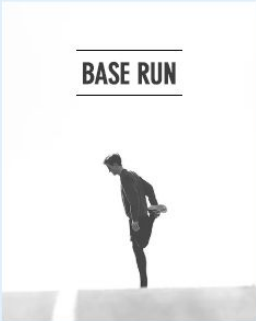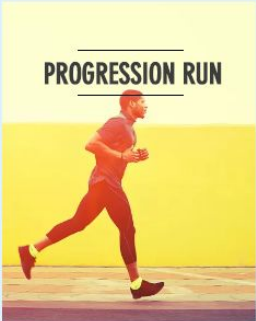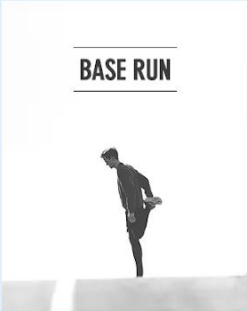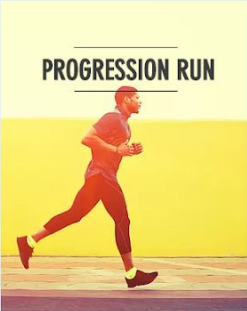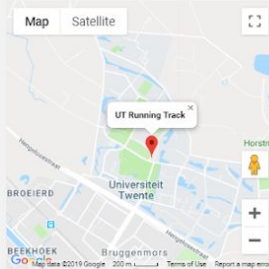
About   ⋮

1 Like Received   2 Comments Received   0 Top Comment

I am 21 years old, born in Korea and raised in Kenya, East Africa. I love team sports, and my hobbies lie in photography and videography! I love to meet new people and share experiences!

📷 🎥

John Kim
👑 Admin

Edit

Profile
Forum Posts
Blog Posts
My Drafts
Blog Comments
Blog Likes
Forum Comments
My Account
Notifications
Settings

f ⓘ

Figure B2.17. Profile page

B3. Platform version 3

Figure B3.1. Homepage page

Figure B3.2. Activities v2

Figure B3.3. Running page

Figure B3.4. Running: First Step

Figure B3.5. Running: Step Up

Figure B3.6. Running: Step Up

Figure B3.7. Running: Step Up

Figure B3.8. Running: Information

Figure B3.9. Forum page

Figure B3.10. Events page
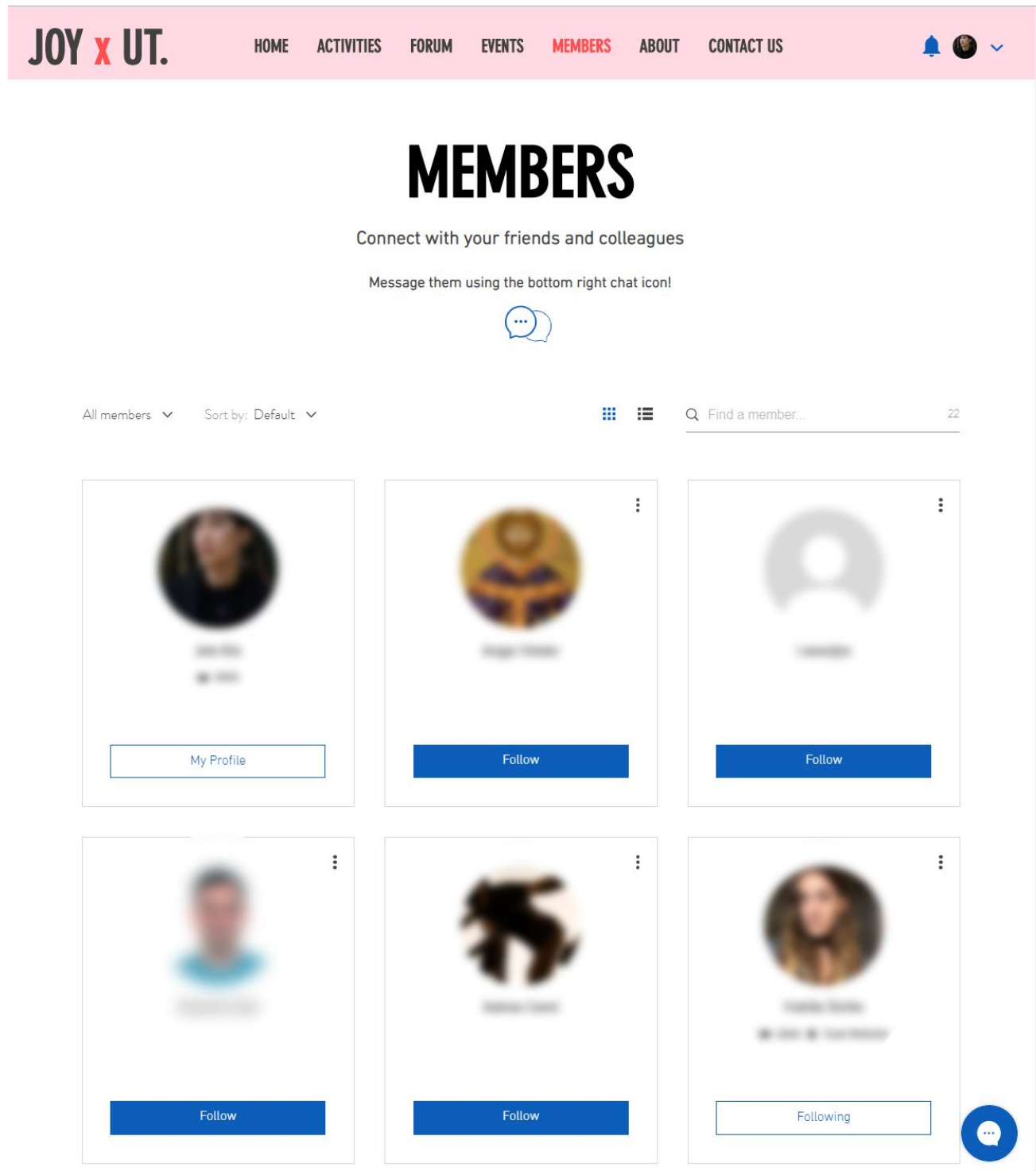
Figure B3.11. Members page

Figure B3.12. About: Our Mission page

Figure B3.13. About: Our Mission page

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OUR INSPIRATION

THE UPWARD SPIRAL THEORY OF LIFESTYLE CHANGE

Van Cappellen et al., 2017

THE UPWARD SPIRAL THEORY OF LIFESTYLE CHANGE

The scientific community is yet to reach consensus on the topic of which behavior change technique is the most efficient in producing healthy behavior change. However, one theory that focuses on encouraging long term behavior change is the *Upward Spiral Theory of Lifestyle Change*, initially outlined by Fredrickson (2013), and further developed by Van Capellen et al. (2017). This theory sheds light on how positive affect, or emotion, plays an important part in acquiring a more active lifestyle. Even though it can be difficult to make changes to your lifestyle, by doing something you enjoy, it can become a bit easier.

The more positive emotions an activity elicits, the more likely we are to repeat it.

Figure B3.14. Our Inspiration page
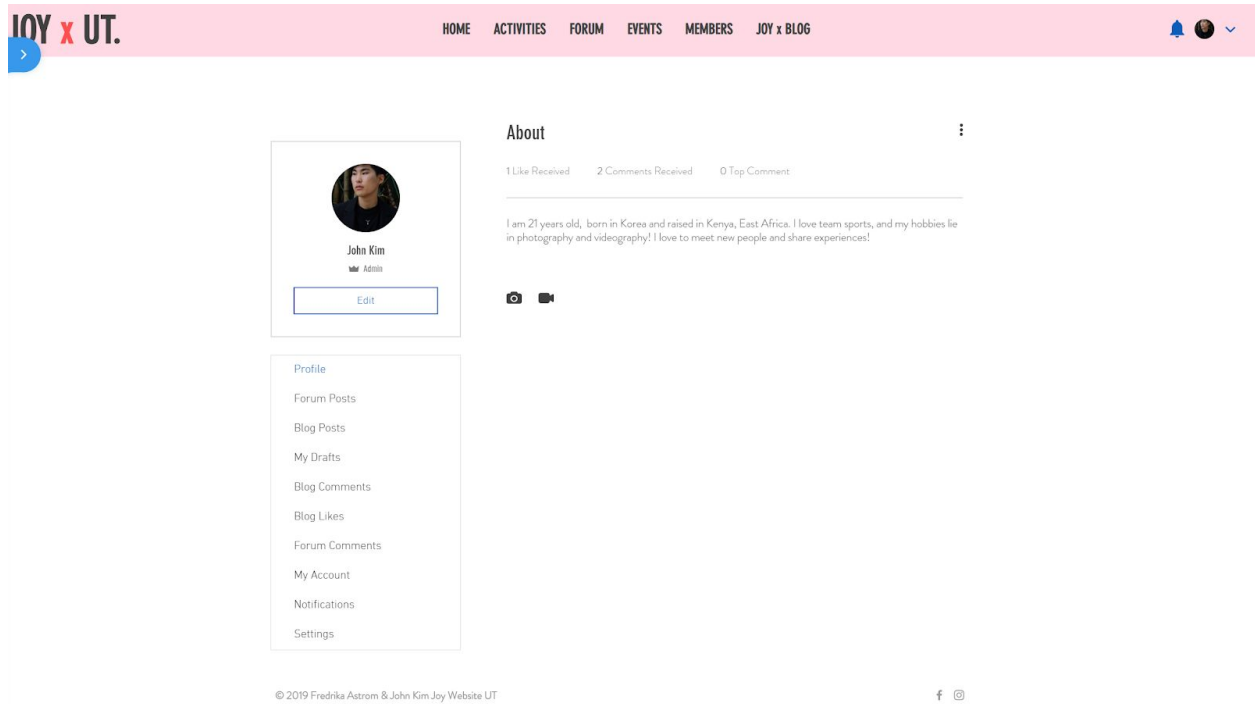
156

Figure B3.15. About: Our Inspiration page

Figure B3.16. Contact Us page

158

Figure B3.17. Profile page