FITNESS MOBILE APPLICATION REPORT

Part 1: Design Documentation

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Introduction

Our fitness app's main aim is to motivate its users to be more active and healthier. This pupose is achieved by implementing design principles and the app being user-friendly. Frank Chimero said, "People ignore design who ignores people"[1], so we asked our potential users in a previouly conducted survey about the ways in which we can motivate them to be more fitter.

Based on the results from the survey, we have come to a realisation that there are four main features that users seek to have in a fitness app. These features include: "Track and record exercises", "Customize and personalize fitness plans", "Set timers for each exercise", "Social/Friend System". We will seek to implement these four features in a way that will hopefully motivate more users into exercising regularly, in order to create a world with healthier mindsets.

The typical user groups are identified as: People who do home fitness, people who do gym fitness and people who do sports fitness, as shown in the table below.

Through this document, we wish to place ourselves into the user and document their potential interactions with the fitness app, which will be developed on the Android platform. The hypothetical users created will be put into a context scenario in which we will envision their typical interaction with each main feature described, as well as documenting their typical day including the use of the application. Just envisioning it isnt enough, so a wireframe model will be created which will give us the full picture of how the application will perform, and the various interactions of the main features. Finally, a list of the various design principles that work in tandem with the application, which describes the reasoning in the various design choices will be included at the end of each Keypath.

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[1] https://careerfoundry.com/en/blog/ux-design/15-inspirational-ux-design-quotes-that-every-designer-should-read/

User Groups

Group 1: Home Fitness	Group 2: Gym Fitness	Group 3: Sports Fitness
Professional level: Low to High Age: 5 -64[2] Average age: 40[3] Reason to do at home[4]: • Working out at home saves time • Save your expenses • Wear whatever you want • Exercise in confidence • Schedule your time • Avoid the waiting time in gym • Motivate family towards fitness • Avoid unwanted interaction at outside • Refuel yourself instantly To do exercises at home is more flexible and casual. People could do exercises any duration in any time. Doing exercises at home normally take 30 to 60 minutes.	Professional level: Medium to High Age: 25 - 54[7] Average age: 40[8] 51.1% of people are men[9] 48.9% of people are women Reason to go gym[10]: • To participate in bodybuilding competitions • To feel better about themselves • Look better • To lose fat/weight • Passion (Social goals) Goes to gym 5 – 7 days a week Regular to intense workout 1.5 hours to 3 hours' time spend in the gym Very concise about their methods and routines Most popular 5 gym equipment user use[11]: 1. Treadmill 2. Free weight 3. Elliptical Trainers 4. Recumbent Stationary Bikes 5. Strength Machines Social Network: • Have a personal trainer • Have friends and relatives who are into fitness and go to gym • Follows couple of mentors (who are also does gym fitness) on social media	Professional level: Medium to High Age: 17 - 40[12] Average age: 26[13] (mode) Reason to engage in sports[14]: • To stay fit • Love for the sport • To be a winner • To experience adversity • Teambuilding Education: Wide range, some quit to focus on sports, others engage in them during their tertiary studies Lifestyle: Conscious of what they eat, in order to maintain their best performance level, work out regularly Social status: Active due to being in teams or groups Area of living: Urban or suburban, rarely outskirts, average to strong network connections, can easily travel to destination for the sport (e.g local basketball court) App user requirements: constant data connection for

[2] https://www1.health.gov.au/internet/main/publishing.nsf/Content/health-pubhlth-strateg-phys-act-guidelines
[3] https://qz.com/536568/exercising-when-youre-40-may-be-the-most-important-time-to-slow-aging/
[4] https://fitnessabout.com/reasons-to-workout-in-home/
[7] http://www.fitnessforweightloss.com/gym-statistics-members-equipment-and-cancellations/
[8] http://www.fitnessforweightloss.com/gym-statistics-members-equipment-and-cancellations/
[9] http://www.fitnessforweightloss.com/gym-statistics-members-equipment-and-cancellations/
[10] http://www.fitnessforweightloss.com/gym-statistics-members-equipment-and-cancellations/
[11] https://www.sportsrec.com/87254-nordic-track-vs.-treadmill.html
[12] https://www.businessinsider.com.au/most-dominant-athletes-ages-2017-8?r=US&IR=T
[13] https://www.businessinsider.com.au/most-dominant-athletes-ages-2017-8?r=US&IR=T
[14] https://athletesinaction.org/underreview/thirteen-reasons-why-we-should-play-sports

Most people think that Yoga is a good choice to practice at home.[5] Exercise (Without Equipment)[6]: • Jump Rope • Stair Stepping • The Plank • Dancing • Lunges • Water Bottle Weights • Jumping Jacks • YouTube Workouts	• Watches training videos, and reads guides for better efficient exercising Lifestyle: • Almost all days on diet and drinks a lot of protein shakes • Highly motivated to exercise, but can get demotivated time to time due to their social life • Usually wears a tracking device and measure it weight before and after a workout session • Would spend money to improve their health and fitness Location: • Urban to suburban areas • Average to strong network/internet connections • Lives approx. within 1km of a gym	browsing, easy to use in-app functions that saves time Dependency: Can engage in sports solo, or with a team, or casually with friends Proficiency level: Most likely experienced in the sport they practice Spendings: Would spend money on equipment and gear (shoes, clothes, accessories)

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[5] https://www.doyou.com/why-do-more-people-prefer-to-practice-yoga-at-home-versus-studio-10228/
[6] https://www.moneycrashers.com/indoor-at-home-exercises-without-equipment/

Personas

1. Kanao Tsuyuri

Background: 19 years old. 2nd Year into studying Bachelor of Arts at RMIT University. Kanao is an international student who transferred to Melbourne from Osaka, Japan to commence her tertiary studies, as such, she doesn't know the Melbourne area too well, but over the two years she has slowly been exploring and learning the Melbourne metropolitan area.

Kanao enjoys drawing and painting in her free time, but such an activity usually means long periods of sitting. Due to this, she has decided that she would regularly exercise to maintain a healthier lifestyle.

Needs and Goals:

- Wants to keep fit, especially in this time of quarantine
- Due to quarantine, she has more time to exercise, so she goes for walks outside more often, but doesn't want to get lost
- She hopes to see progress in her fitness journey
- Wants to maintain a healthy lifestyle

Skills:

- Can speak 2 languages, Japanese and English
- Well versed in using technology

2. Robert Willison

Background: 24 years old, studying Masters of Marketing at RMIT University. Robert is semi-fitness freak. He is very active and he is always finding new ways to be healthier. He does a morning walk for 45 minutes. He believes that a morning walk is very refreshing and makes his day much more enthusatics. Later in the evening after his work and studying he goes to do a workout at gym for 2 hours.

Moreover, Robert is very active on social media. He likes to share his workout videos and progresses every couple of days. He also follows a couple of fitness mentors on instagram. Every couple of weeks, he asks and gives fitness advices in fitness groups on reddit.

Needs and Goals:

- Wants to be active and healthier
- Wants to motivate others in the community
- Wants to the exercising precedures

Skills:

- Good with andriod phones and applications
- A visual learner
- Intermidate are fitness
- Has a lot of information about fitness and diet plans

3. Kris Wu

Background: 27 years old, graduated Bachlor of information system at RMIT University. Kris is a single male and living in Dockland alone. He once participated in the university basketball league 2009 and won the championship of the year on behalf of the university. He has a habit of running along the beach every morning. Kris is a good controller of life and healthy . He has many sports hobbies like basketball basketball football and so on .He wants to keep the healthy life style and record it.

He has 7.2K follower in social media ,He like to use phone and computer to post and share him daily training .

Needs and Goals:

- Wants to training muscle
- Wants to join some training community
- Wants to have a schedule training plan

Skills:

- Flexible to use mobile application
- Understand the map
- A sports fan

4. **Ellie Hill**

Background: 26 years old, graduated in media and communication from Monash. She is currently engaged in self-media of makeup and fashion. Due to her interest and work, Ellie is eager to have a better body shape and fitness habit. When she was in college, Ellie had received good fitness training, so she knows how to exercise and what kind of exercise is needed.

Also, Ellie has a wide range of hobbies, such as photography, crafting, cake making, etc. So she is often distressed that she is unable to complete her daily plan by the inability to reasonably arrange work, fitness and hobby time.

Needs and Goals:

- Wants to stay in slim shape
- Form a better habit of exercise
- Able to balance her diet, work and life

Skills:

- Basic skills of software using
- Strong communication skills
- Superb technology of makeup

Context Scenarios

Scenario 1 – Robert Willison

Task: Social/Friend System

It's the last day before the weekend starts, Robert wakes up early in the morning and goes outside for a morning walk. About 30 minitues in walking, he opens his fitness app in this smartphone and records his walk (i.e. 2.5 km and 30 minitues). After updating his walk, he checks on his friend's fitness progress. Some of his friends have already jogging for an hour, and by looking at this, Robert feel very motivated and goes for another 30 mins of jogging. At the end of his morning fitness routine, he feels very energetic and realises that he would not have done the extra 30 minutes if he did not see how much his friends have done it. At 5:00 pm, he comes back from work, eats dinner, rests and then studies for his master's degree. As daily around 9:00 pm, it is his time to go gym. However, he feels tired and lazy beause of heavy work load from work and university. So, he decides to skip gym for a day. Although he feels guilt not going to gym, but does not have any motivation to go to gym. He suddenly remembers that how he was able to jog more in the morning and again he checks his friends fitness progress in a fitness application on his smartphone. Robert sees one of his friend's information and realizes are as passinate as him in fitness and this gives Robert a burst of motivation which leads him to go gym.

Scenario 2 – Kanao Tsuyuri

Task: Customize and personalize fitness plans

Kanao has just finished her last class, and is heading home. It is currently 4:30pm and it is a brightly lit, warm and sunny Thursday. As she feels a zephyr brushing her arms, she suddenly has the determination to do some exercising on this day. Once she changes into her workout outfit, she heads outside and opens up the fitness app on her smartphone. The current default fitness plans shows workouts such as: 20 pushups, 1 minute plank, 50 arm raises. These workouts are more specialized for arms and are done indoors. Since Kanao would like to do more outdoor activities due to the nice weather, she decides to change the plan. She switches the pushups to a set of stretches, the plank to a 30 minute run, and finally the arm raises to a 30 minute walk. She has switched each activity to more cardio focussed activities suited for outdoors. It is 6:30pm, she has arrived home and showered. Now it is time for relaxation as she pulls out her sketchbook, 2B pencil and begins sketching away.

Scenario 3 – Ellie Hill

Task: Set timers for each exercise

When Ellie woke up in bed at seven in the morning, she remembered that today is the release date of the new issue of the fashion video, but due to the reasonable arrangement of work, Ellie has already done most parts of the video contents, She only needs to integrate the videos and upload it before five o'clock. Therefore, Ellie could leisurely integrate the video after eating her nutritious breakfast and uploaded the video at 12 o'clock. Follow her plan, she started to

do aerobic training which is jogging at outside at 3pm. She has set timers for 5 minutes run with 1 minnte rest in total moving time of 1 hour. And then, she went to do her yoga training at 4:30pm in gym with her coach, each small training spend 5 minutes and 1.5 hours in total. A lot of aerobic exercise and flexibility training make her feel healthy and enjoyng. Ellie took a few photos of herself and placed them behind the set timer, and shared them on her Facebook profile. Friend‘s LIKES and encouragements make her happy, so she is prepared to reward herself with a cake after the satisfying day.

Scenario 4 – Kris Wu

Task: Track and record exercise

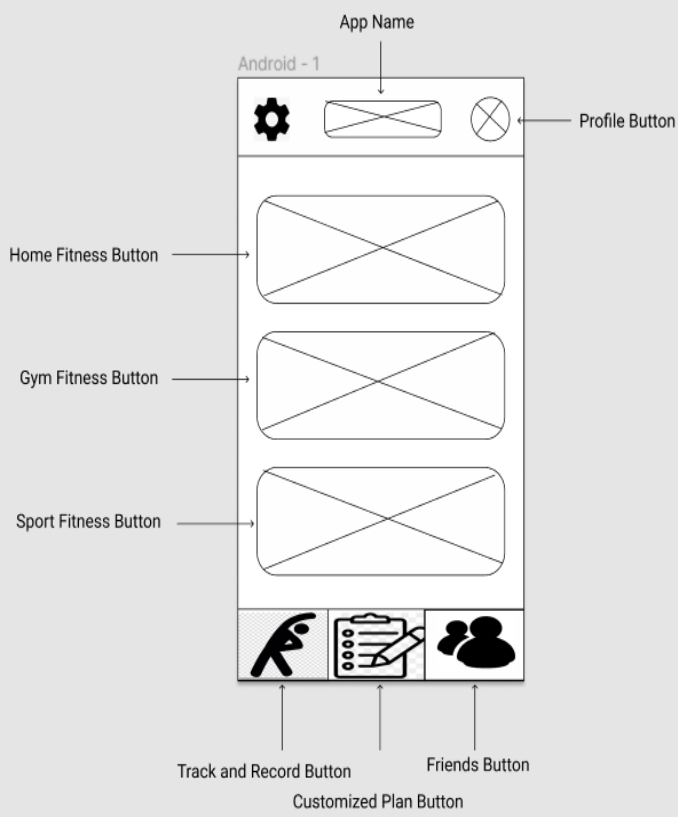
Kris Wu woke up at his home in dockland. Today is March 30 at 6 am. Kris Wu looked at his phone and read messages from fans on social media. Most of the messages were happy about his running record yesterday. At 7 o'clock Kris Wu had put on his sports shoes and sports clothes and prepared for his exercise this morning at the seaside in Dockland. He turned on the fitness software on his mobile phone, started to locate his current position and started his jogging exercise record. At 8 o'clock, Kris Wu checked the fitness software on his phone again and it showed the length and route of today's jogging. He looks at the map of fitness application and he finds a seaside coffee shop which shop is nearby. He is going to buy a cup of coffee in the coffee shop and then publish his workout record to his social media, he is very satisfied with the phone's fitness software.

KeyPaths

KeyPath A: Viewing friends fitness progress

	Social/Friend System (Robert Willison)	
	User Actions	System Response
A1	Robert clicks on the fitness app icon in his home screen on his phone	The home screen of the app is shown
A2	Robert clicks the friends icon at the bottom right corner	A new page is shown from right to left transition. The page shows a grahical representation of friends fitness progress by a default period of a monthly
A3	Robert changes the period from monthly to daily	The grphical represention is changed based on the daily period
A4	Robert clicks one of his friends to see more details about his fitness	A new page is show from right to left transition. The page shows the selected friend's profile and what exersices they have done in a day, a day before and their favourite exercises.
A5	Robert presses the home button on his smart phone	App closes (but still is running in the backgroud) and return to home screen of the phone

A1: Home screen of the app

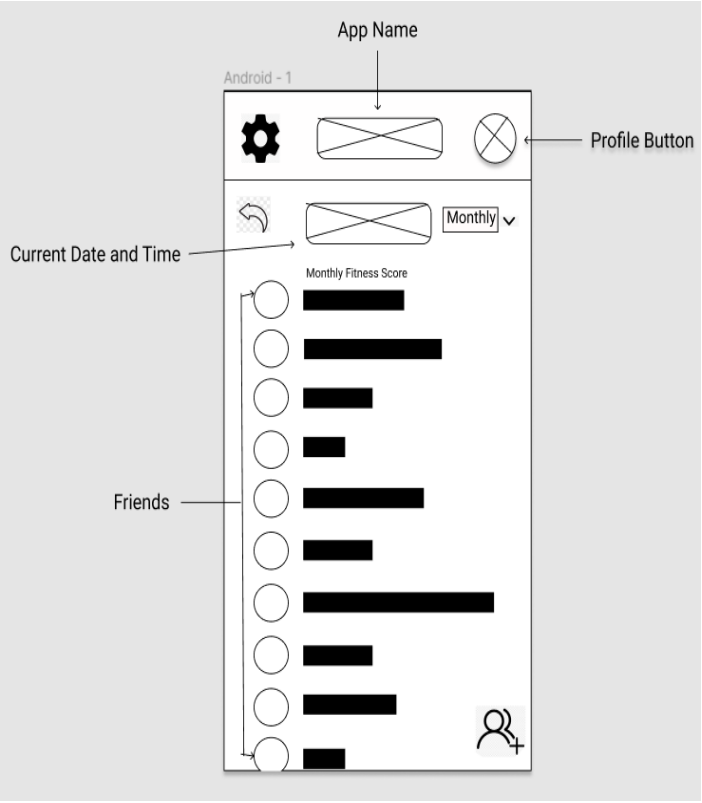


Design Principles and Heuristics

Fits Law: Fitness buttons are large in size and relatively close to each other. This increases the user's accuracy while navigating

Match between system and real-world: using a standard setting icon, making it easier for user to know what button is for what

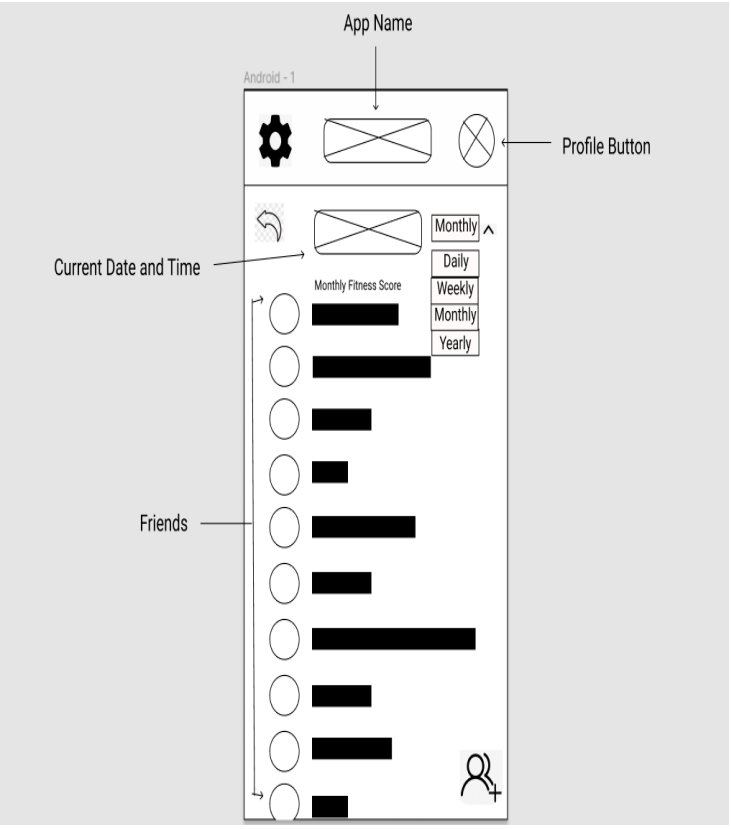
A2: Friends page of the app



Design Principles and Heuristics

User control and freedom: A “back” page button (escape hatch) is giving a user the freedom to go to the back page anytime without any extended dialogue

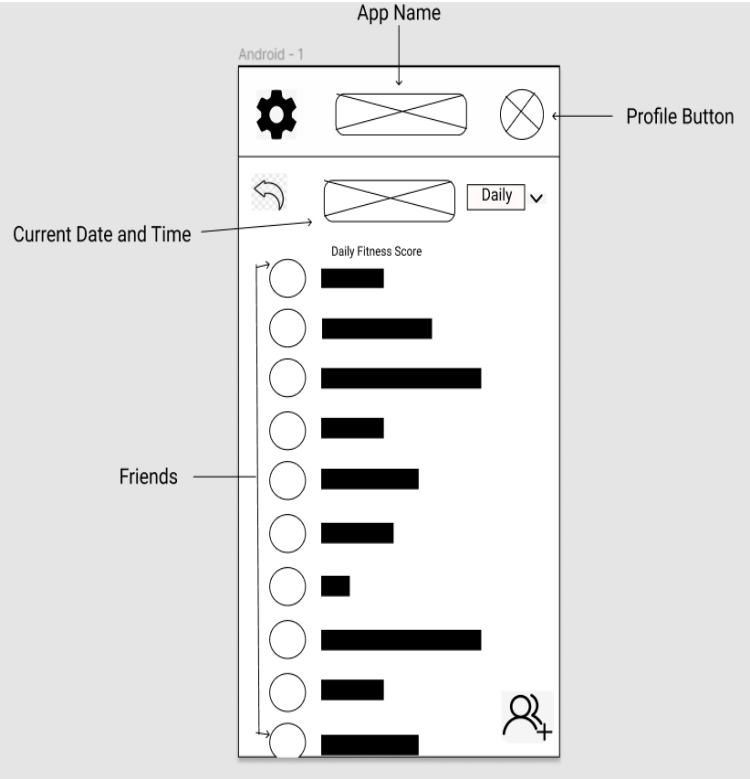
A3: Changing the time period



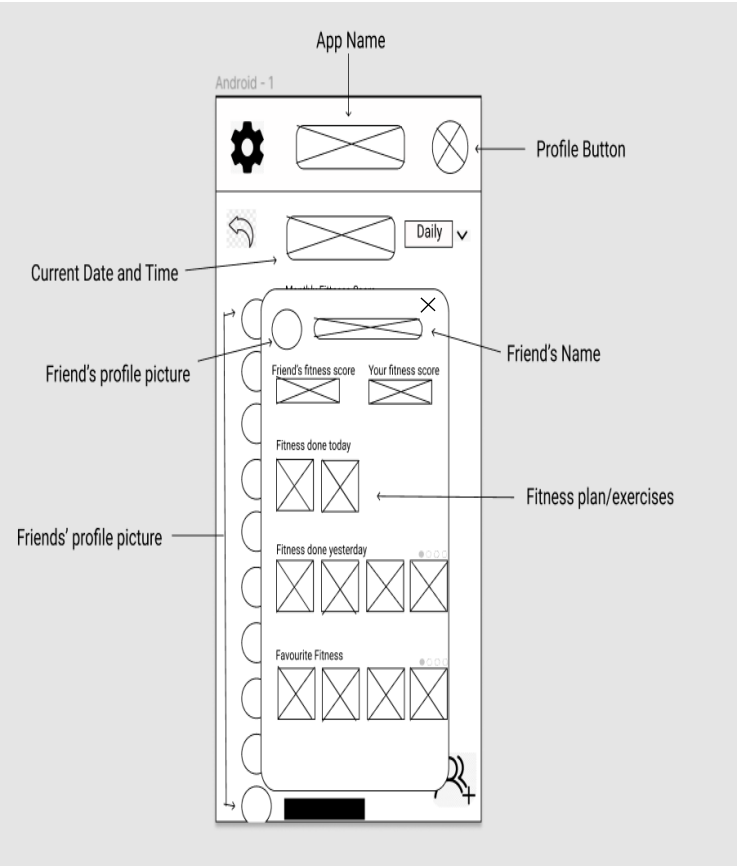
Design Principles and Heuristics

Consistancy and Standard: A convential way of a drop down menu is implemented, reducing the efforts of users to learn the app

A4: Friends' page of the app



A5: A single friend's fitness page



Design Principles and Heuristics

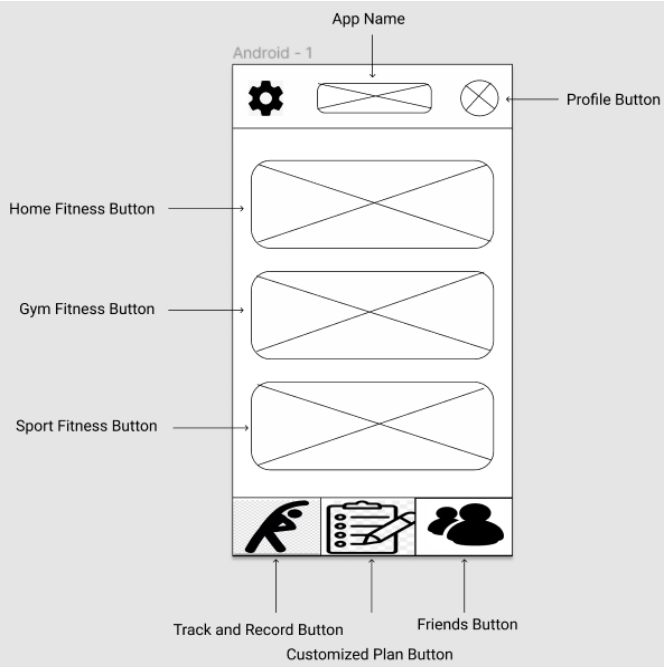
User control and freedom: A close button (escape hatch) at top right corner of the friends' page is giving a user the freedom to go to the close the page anytime.

Principle of proximity: The exercises are grouped together giving an user a perception of items being as once category

KeyPath B: Customize and Personalize Fitness Plan

Customize and Personalize Fitness Plan (Kanao Tsuyuri)		
	User Actions	System Response
B1	Kanao clicks on the fitness app icon on her phones' home screen.	The home screen of the app is shown.
B2	Kanao presses the "Customized Plan" feature icon at the bottom middle.	A new page is shown from right to left transition. The page reveals all the pre-set plans that are available to the user.
B3	Kanao presses the "+" icon on the top right of the page.	A new page is shown from right to left transition. The page shows all the possible different types of workouts, which she could add or subtract from the plan as she wishes. When an exercise is added or removed, the number besides indicates it.
B4	Kanao presses the "+" icon which is on the right of every exercise available.	Whichever exercise she presses "+" on, it is added towards a custom fitness plan.
B5	Kanao presses the "-" icon which is on the right of every exercise available.	Whichever exercise she presses "-" on, it is removed from the custom fitness plan.
B6	Kanao presses the "Confirm" button at the middle bottom.	A popup is shown, asking user to finalise the plan and confirm to save the workout plan.
B7	Kanao reads through the exercises she just added, and presses "Yes" button.	Custom plan is saved into the system.

B1 - Home screen of the application

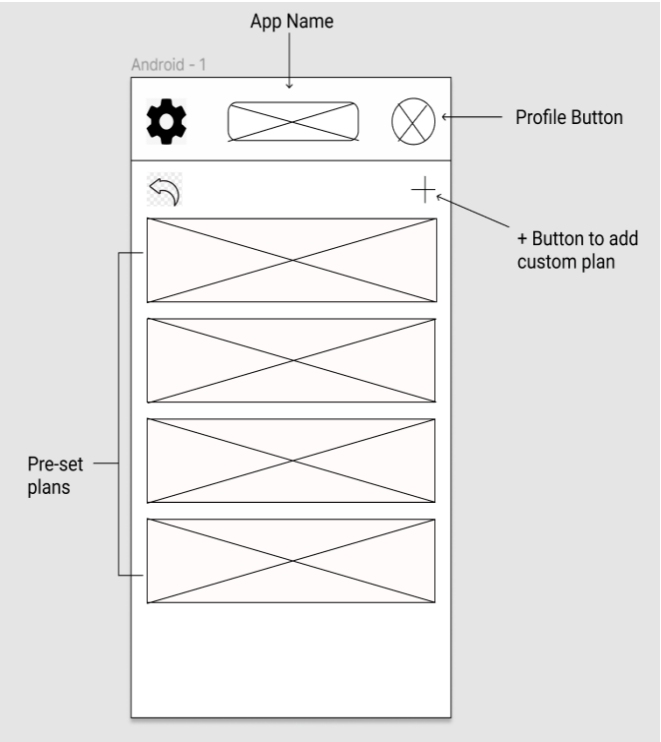


Design Principles and Heurisitics

Fitts Law: The buttons on this page is relatively scaled to just the right size so that user accuracy when navigating the page will increase

Match Between System and Real World: The gear icon is used which is conventionally known for being the "Settings" icon.

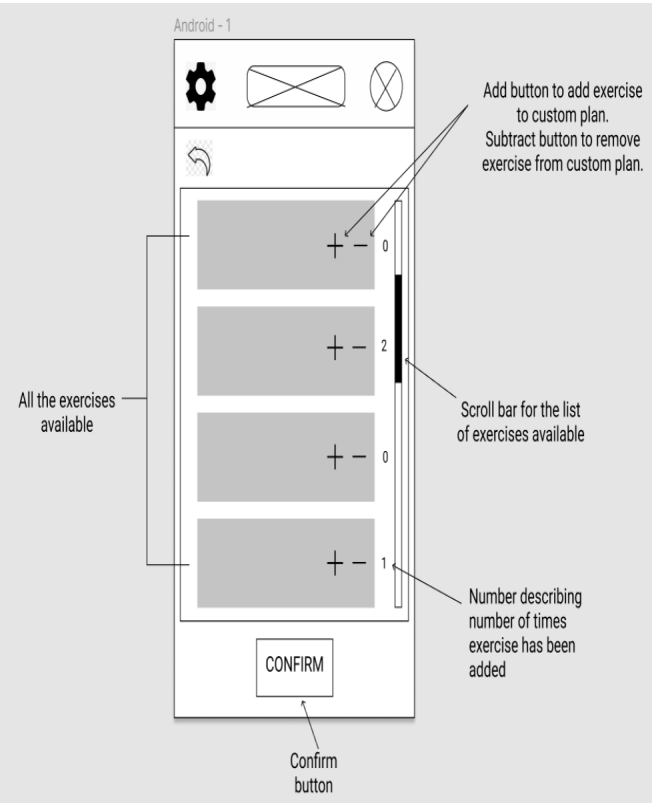
B2 - System bringing up new page when pressing "Customized Plan" button on B1



Design Principles and Heuristics

User control and freedom: A "back" page button (escape hatch) is giving a user the freedom to go to the back page anytime without any extended dialogue

B3/B4/B5 - B3: System interaction when pressing "+" icon on B2, B4/B5 - add/remove exercise, shown through the number beside it

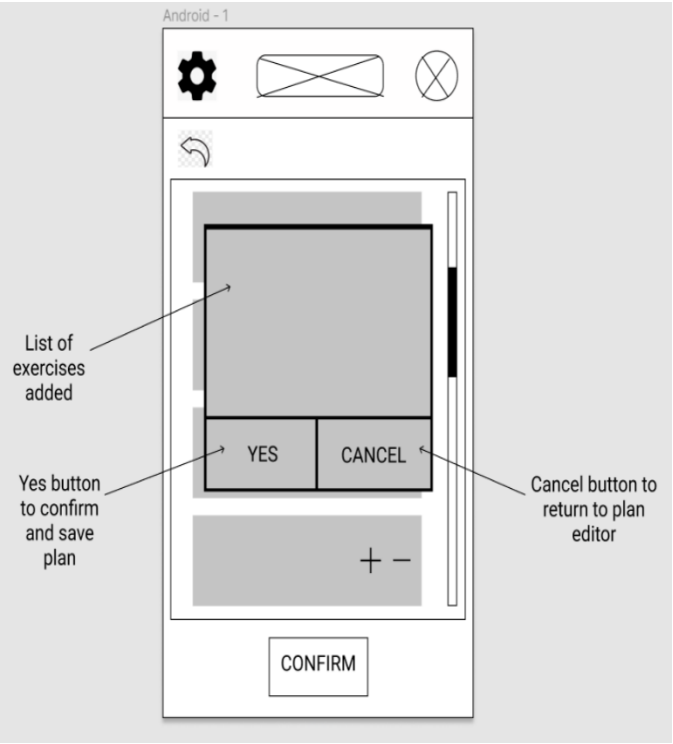


Design Principles and Heuristics

Aesthetics and Minimalist Design: All required elements are implemented onto this page, whilst keeping a clean and simple design that's easy on the users' eyes

Visibility of System Status: The numbers beside each exercise on this page indicate how many exercises the user has added

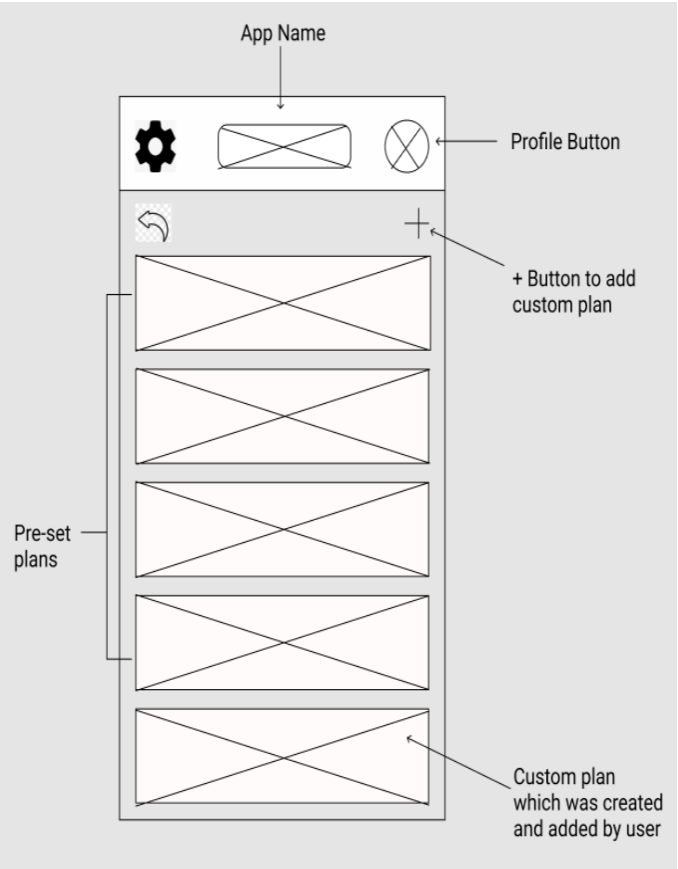
B6 - System interaction when pressing "CONFIRM" button in B3



Design Principles and Heuristics

Error Prevention: Popup to make sure once more after the user presses the "CONFIRM" button, that they would like to finalise their plan

B7 – Custom plan added by user



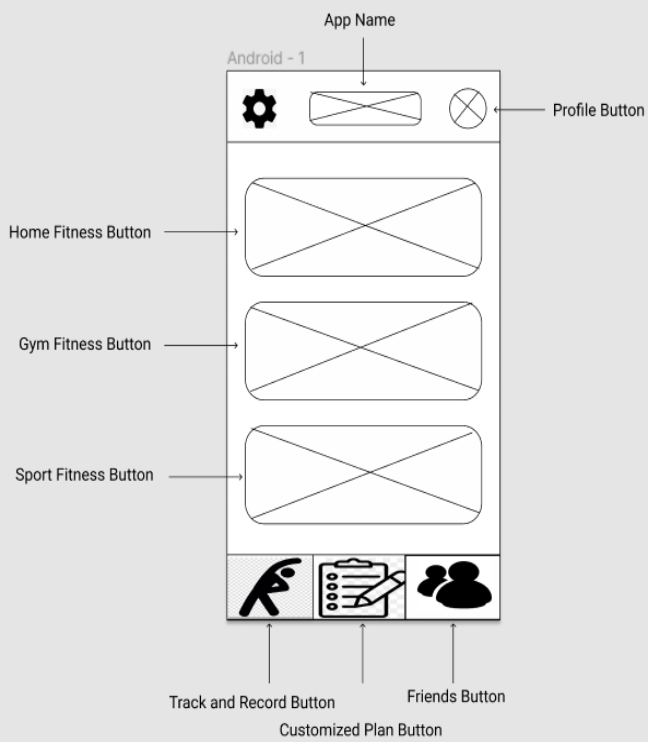
Design Principles and Heurisitics

Recognition Rather than Recall: The custom plan created is added to the plans page, instead of a new separate page, so that users will know instantly instead of having to search for it.

KeyPaths C: Set up and reset/stop timers

Set up and check timers (Ellie Hill)		
	User Actions	System Response
C1	Ellie enters to the main interface of the fitness application.	The home screen of the app is shown.
C2	Ellie clicks on the home fitness botton.	A new page is shown from right to left transition. The page shows various home fitness exerciese.
C3	Ellie selects one of the exercise.	A new page pop-ups asking the user for the number of frequency and how long is the duration.
C4	Ellie inputs 30 seconds of the duration and 2 for frequency.	A new page is shown. This page shows a clock with start, stop, reset and sound buttons.
C5	Ellie clicks on the sound button to change the sound to her suitability.	A new page is shown with a list of sounds.
C6	Ellie selects the sound which she likes.	A sound page is closed and the timer page is shown.
C7	Ellie clicks on the start button to start the timer.	The timer starts for 30 seconds and then a 15 second timer starts for some rest and then another 30 second timer starts. After each time the timer ends to produces a chosen sound.
C8	Ellie clicks on reset because she wants to do the exercise one more time.	The timer is reset.

C1: Home Screen of the fitness app

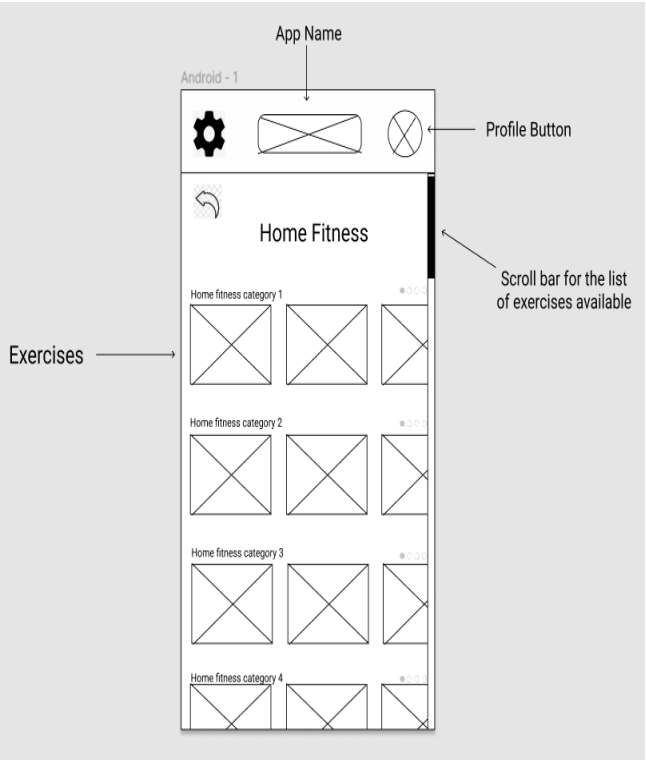


Design Principles and Heuristics

Fits Law: Avalible selectable buttons are in large size and relatively close to each other. This increases the user's accuracy while navigating.

Match between system and real-world: using a standard setting icon, making it easier for user to know what button is for what.

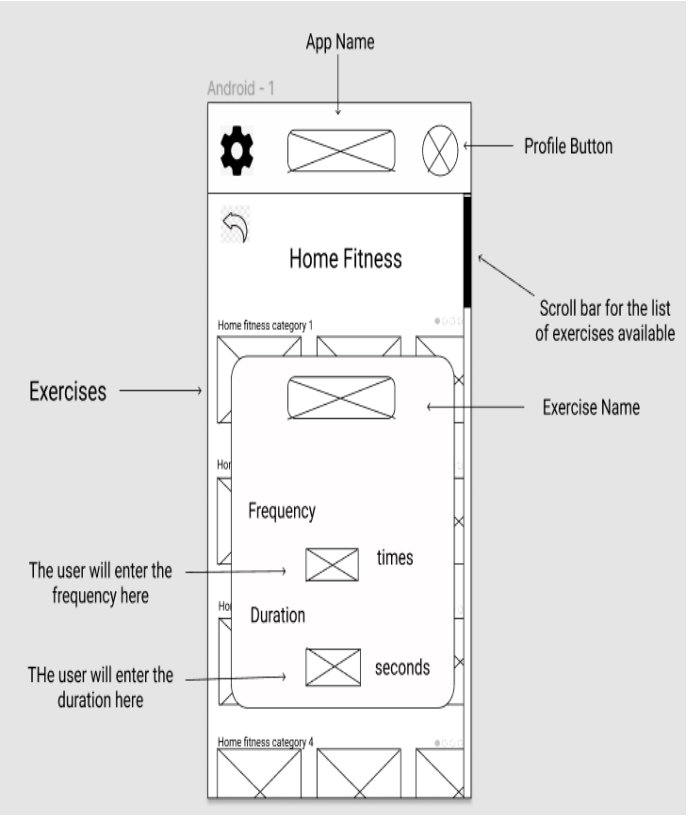
C2: List of exercises on home fitness page



Design Principles and Heuristics

Recognition rather than recall: The created exercises are saved and listed at here, users don't need to fill the exercise projects in a blank page again.

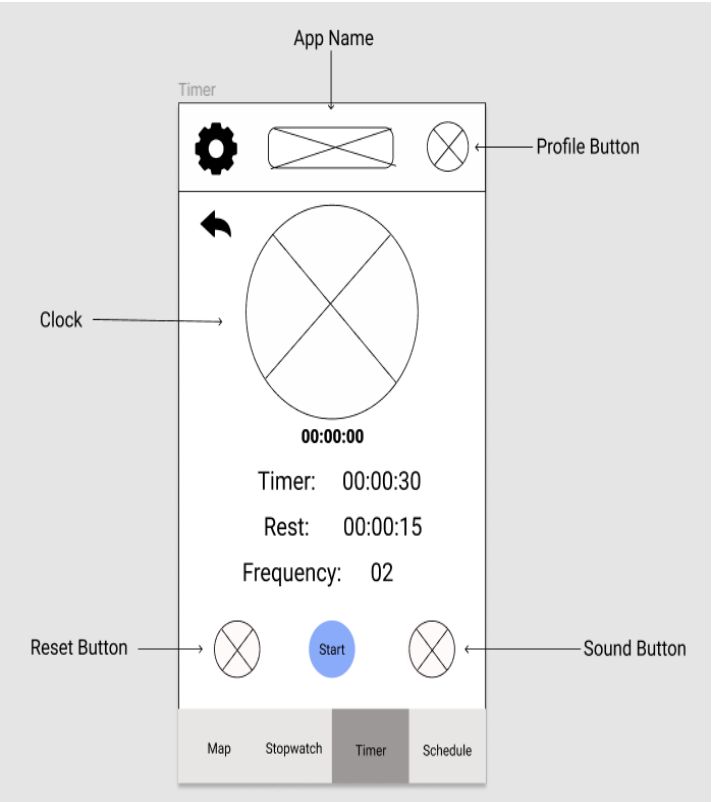
C3: Asking user for the frequence and duration page



Design Principles and Heuristics

Consistancy and Standard: Using a unified pop-up setting interface allows users to experience clearly and skillfully.

C4: Timer Page to set up timer, rest time and frequency

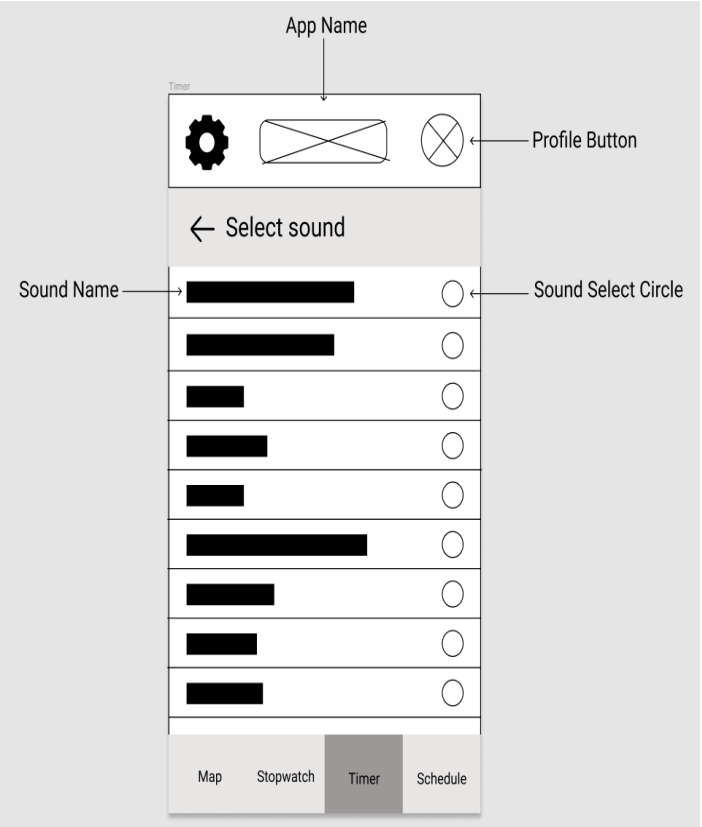


Design Principles and Heuristics

Aesthetic and Minimalist Design: The content is centered, and only the necessary settings are available for selection. The setting process is from top to bottom, so that the page looks neat and uncluttered which is convenient for users to use.

Match between system and real-world: The standard digital time setting allows users to set the time more intuitively.

C5: Sound selection page to pick the prompt sound

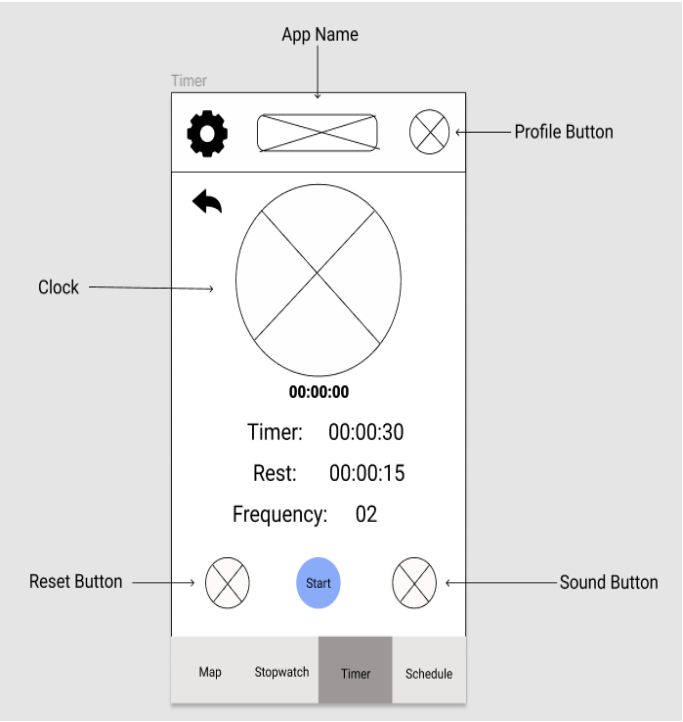


Design Principles and Heuristics

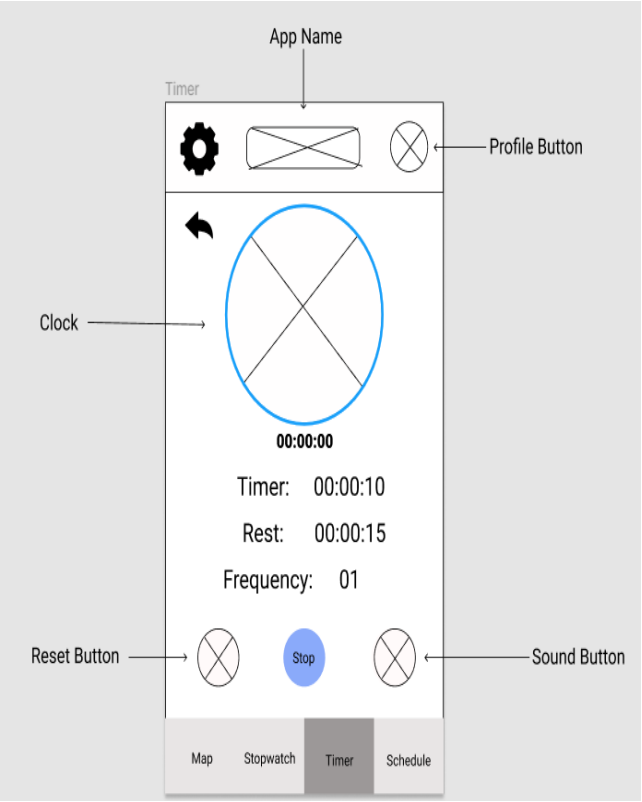
User control and freedom: A “back” page button (escape hatch) is giving a user the freedom to go to the back page anytime without any extended dialogue.

Consistancy and Standard: The conventional top-down sound selection interface and standard circular operation area allow users to make selections naturally.

C6: Go back from Sound to Timer page



C7: Timer page when timer is start to running

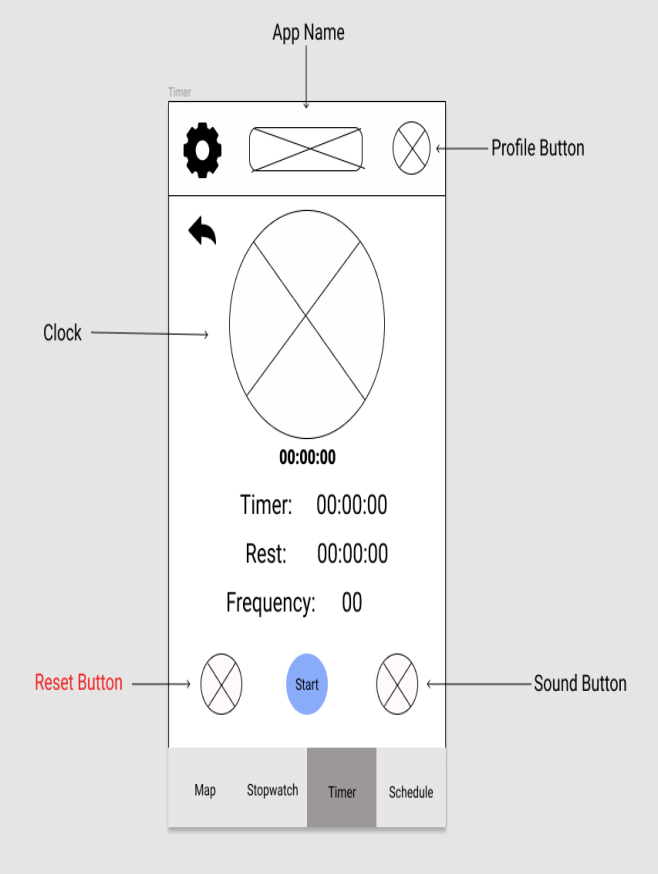


Design Principles and Heuristics

Visibility of System Status: The user can clearly observe the state of time digital changes.

Match between system and real-world: The standard stop and reset button and their position makes user don't have to spend time for searching the target option.

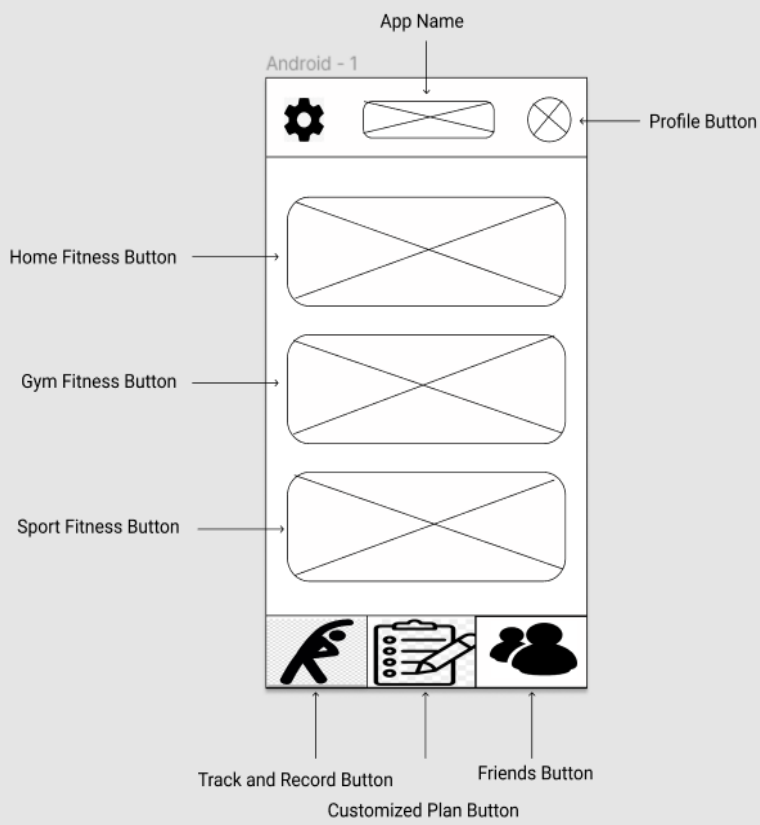
C8: Timers page when timer is finished or reset by user



KeyPaths D : Track and record exercise

	Track and record exercise (Kris Wu)	
	User Actions	System Response
D1	Kris clicks the Fitness app icon.	The home screen of the app is shown.
D2	Kris clicks on the Track and Record icon at the right-middle bottom.	A new page is shown from right to left transition. The page shows various exerciese.
D3	Kris clicks Runicon of the exercise list	A new page is shown from right to left transition .The page shows a map for current location .
D4	Kris click on the Record icon.	System will start to record the step,distance and time untill the end.
D5	Kris click on the End icon.	Display a page show the detaild about the record.

D1: The home screen of the app is shown.

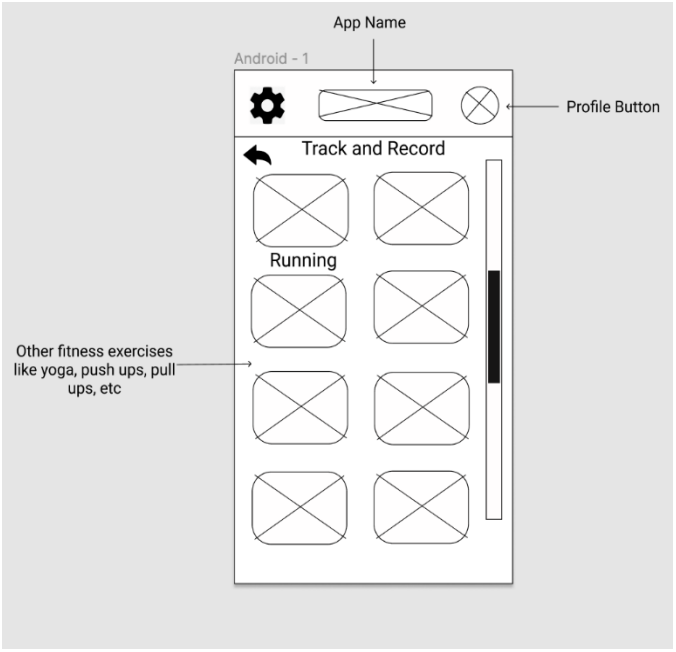


Design Principles and Heuristics

Fits Law: Fitness buttons are large in size and relatively close to each other. This increases the user's accuracy while navigating

Match between system and real-world: using a standard setting icon, making it easier for user to know what button is for what

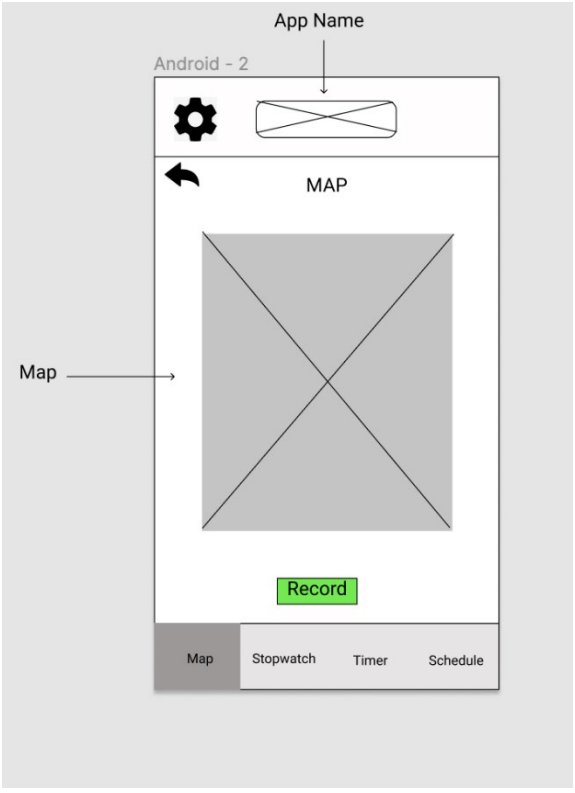
D2: The page shows various exerciese for tracking and Recording.



Design Principles and Heuristics

User control and freedom: A “back” page button (escape hatch) is giving a user the freedom to go to the back page anytime without any extended dialogue

D3: The page shows a map for current location .

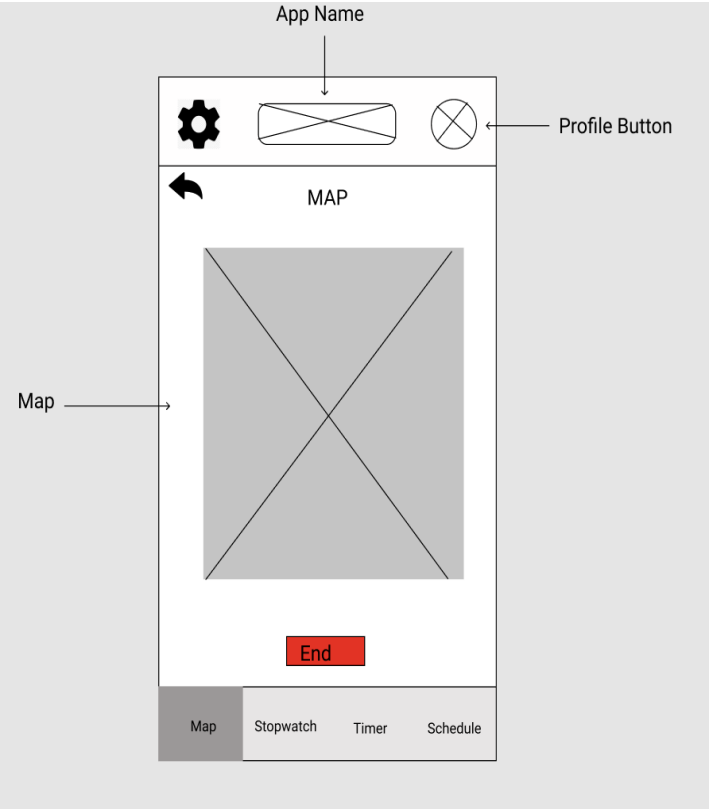


Design Principles and Heuristics

Match between system and real world: Displaying the current location of the user. Users are exepected to see their current location when ever they turn on a map

Color Contrast: The current tab the user is in (i.e. Map) is colored in a darker color, creating a contrast between the current tab and other tabs. This allows users to know in which tab they are in.

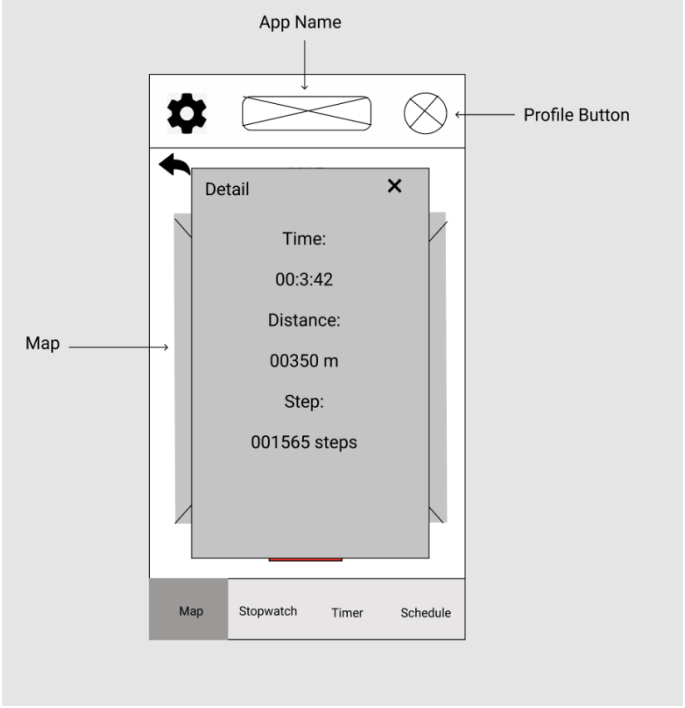
D4: Starting to record the exercise



Design Principles and Heuristics

Visibility of system status: user can view the location change by moving

D5: After clicking the End botton ,the applicaton display a page about the detail



Design Principles and Heuristics

User control and freedom: A “close” button (escape hatch) is giving a user the freedom to go to the back page anytime without any extended dialogue

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Application Feature

The main feature of the application which are in focus are: Social/friends system, creating customized fitness plans, setting timers, and tracking and recording workouts.

Social/friends system

According to the survey reports, some of our user liked the idea of having the feature to see theor friends fitness progress. This is why we have focused on having our users to add friends and able to see their fitness report. We have developed this feature by implementing a score system to users and their friends, creating a competitive envirnoment between them. “Compeition can be a form of extrinsic motivation”, said by Liza Evans, a report on mental and phyicsal [15]. She reports that competition increases motivation in people. This is why we implemented a social/friends system into our fitness application, competition leads to movtivation which achieves the purpose of the application, making users active and fitter by motivating them.

Customize and Personalize Fitness Plan

Taking the survey results into consideration, a majority of the votes for wanted features within a fitness app goes to the ability to be able to customize and personalize a fitness plan. That is why a feature that allows just that will be a major focus in our fitness app. This feature will be developed, by allowing users to create a completely empty fitness plan. Following that, a full list of the various available exercises will be displayed, to which the user has the option to either add or remove the exercise from the custom plan. This feature may be a major source of motivation for users to exercise, as undoubtedly there will be users that would rather do some exercises over others, or the preset plans are not to their likings due to it being too easy, or too difficult. So, the freedom to be able to do whatever exercise you’d like will in turn motivate users to exercise. Hence, the application is able to achive its purpose

Set timers for each exercise

Based on the survey results on application feature preferences, most users believe that being able to set timers freely according to their personal preferences and fitness plan is an essential feature of an excellent fitness application, some of the users suggested that it would be a good idea to time a exercise and rest times as intervals. Therefore we have a timer for users with a high degree of freedom and simplicity. This feature allows users to set the time for fitness and rest, and the number of cycles according to their own schedule. In the same way, they can apply their favorite prompt sounds on the sound page and reset the timer at any time. Setting such a timer for different exercise can make users feel relaxed and joy, so as to better focus on fitness and exercise. Hence, the purpose of the application is being fulfilled.

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[15] https://www.fastcompany.com/90240826/this-is-how-competition-affects-your-brain-motivation-and-productivity

Track and record exercise

Through the tracking and recording exercise function, users are able to generate a record and a list of their exercising behaviours. Exercises vary from home fitness to gym fitness and sport fitness. Within the tracking and recording function, users can receive full on information about the time taken, distance travelled and steps made during their exercise. Therefore, through this function, users are furthermore motivated and able to feel fulfilment regarding to the goals they have accomplished. In addition, through this function, users are able to find their upmost potential in exercising and aim to go beyond their comfort level, boosting their inner endurance to benefit the body's cardiovascular system and respiratory system to work more efficiently.