



# UI OF A FITNESS WATCH

SAVVY GUPTA (20BIT0364) /SCHOOL OF INFORMATION TECHNOLOGY (SITE)

## INTRODUCTION

A fitness band/watch is a wearable device with sensors embedded in it. A wrist-worn device that help an individual in self-monitoring their activities. An app is to be installed on the phone to track or log fitness activities. There are a number of options in the app. It is easy to use and very convenient to measure different parameters. Any typical fitness tracker comes with around 16 sensors inside. A 3-axis accelerometer, a gyroscope, a compass, light sensor and an optical heartbeat sensor are some basic ones.

## SCOPE OF THE PROJECT

To develop a user-friendly and easy to use UI of a fitness watch for people of all ages. The scope of this project is also to gather the user requirements, analyse the requirements and conduct task analysis, usability testing and heuristics evaluation. Implementation of this project is beyond our scope.

## PROBLEM STATEMENT

People often find difficulty in using the fitness app to its fullest because of its complex UI design. To understand the working capacity of a fitness watch in terms of it's interface and to be able to use it accordingly. Exploring features it has to offer and which work best in which kinds of situations in real life also thus becomes crucial to understand. project is also to gather the user requirements, analyse the requirements and conduct task analysis, usability testing.

## REQUIREMENT

As a user I need:  
An easy-to-use interface with minimalist design.  
A direct exit option in mobile app to leave the application if required.  
A compass, light sensor and an optical heartbeat sensor.  
Sensors required: The 3-axis accelerometer counts your steps. This sensor allows us to determine the frequency, duration intensity, and patterns of your movement.  
A gyroscope senses rotational motion and any changes in orientation.  
The optical heartbeat sensor is a pulse sensor.  
The light sensor changes colors as the blood flows through your wrist

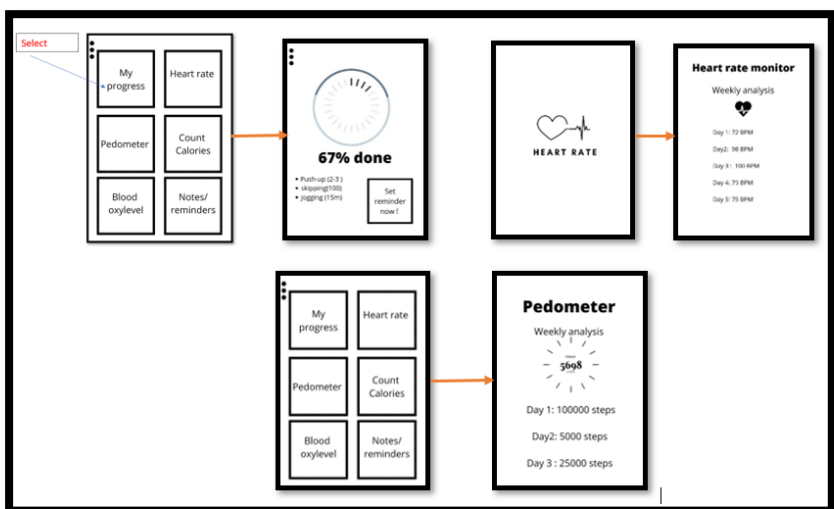
## FEATURES

1. Counting Steps – Pedometer
  2. Monitoring heart rate
  3. Counting Calories a) Burned calories b) Consumed calories
  4. Monitoring other physical activities like swimming, skipping, jogging
  5. Determining blood oxygen level.
- Haptic feedback for every input. A good and easy UI to understand

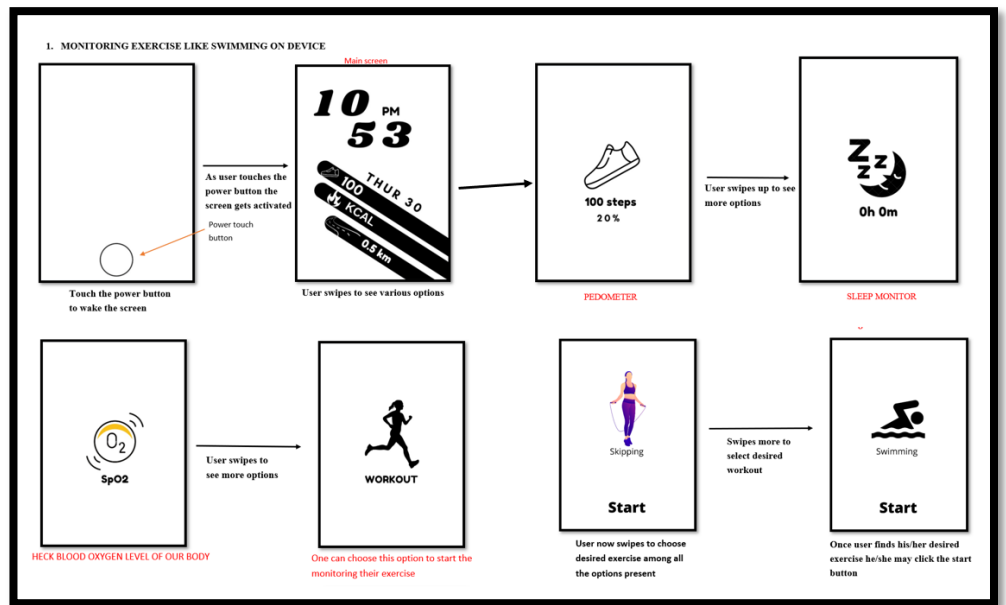
## PERSONAS

User characteristics	Fitness watch user characteristics by group	
	Working adults	Middle age to senior citizens
Age	25-45	45-60
Sex	All genders	All genders
Physical limitations	May have some physical limitations for example- hearing or sight.	May have some physical limitations for example- hearing or sight.
Educational background	May have minimal educational qualifications. No educational qualifications as such are required other than being able to understand English and how health and fitness aspects.	May have only minimal educational qualifications
Computer IT use	May have some prior experience of computer or It USE	May have no experience at all.
Motivation	Could be very motivated to use the watch as people in these age group are more health conscious and will use the device to fullest.	Could be motivated to use the device but they may only limit their activities to check heart rate, oxygen level, no. of steps walked
Attitude	Attitudes may vary over the functionalities offered and the expectations as well as the amount time one takes to learn it or get used it to depending on the experience they've had with similar devices.	Attitudes may vary over the functionalities offered and the expectations as well as the amount time one takes to learn it or get used it to depending on the experience they've had with similar devices.

## PROTOTYPE



## NAVIGATION MAP



## TASK ANALYSIS

1. TASK ANALYSIS FOR CHECKING STATUS OF YOUR GOALS	
Goal/output	To check status of your daily workout using mobile app interface.
Input	<ul style="list-style-type: none"><li>• The mobile application should have a stable internet connection.</li><li>• The mobile and the fitness watch should be connected through Bluetooth.</li><li>• The both should have adequate battery to function.</li></ul>
Assumption	<ul style="list-style-type: none"><li>• User should know how to use the device.</li><li>• User should know all the functionality it does.</li><li>• User knows the required steps to check the his/her status.</li></ul>
Steps	<ol style="list-style-type: none"><li>1. Get your phone</li><li>2. Switch the phone on.</li><li>3. Open the app.</li><li>4. Go to “My progress” tab.</li><li>5. Go to activity you want to check.</li><li>6. Close the app.</li></ol>
Time for experts	3-4 minutes
Instructions	Make sure to connect both device and the app before your workout, so that the app will collect your data.
Notes	Closely observe the outcome of the process

2. TASK ANALYSIS FOR LOGGING A TASK ON DEVICE	
Goal/output	To start your fitness band in order to log a task on device.
Input	<ul style="list-style-type: none"><li>• The device and the mobile app should be connected via Bluetooth.</li><li>• he device should have adequate charge so that it doesn't get run out of battery during your workout.</li></ul>
Assumption	<ul style="list-style-type: none"><li>• User should know how to use the device.</li><li>• User should know all the functionality it does.</li><li>• User knows the required steps to check the his/her status.</li></ul>
Steps	<ol style="list-style-type: none"><li>1. Get the fitness band wear it.</li><li>2. Locate the power button and switch the device on.</li><li>3. Swipe through screens to reach workout tab.</li><li>4. Click on “WORKOUT” menu.</li><li>5. Select among various options your desired task.</li><li>6. Touch “START” icon to start.</li><li>7. Click on “SAVE” option to log your activity</li></ol>
Time for experts	Depends upon users. How much time they workout.
Instructions	Make sure to connect both device and the app before you start your workout so that the app will collect your data.
Notes	Pause/resume option is made available to the user for convenience.

## RESULT

An easy-to-use UI is developed. There could be some improvements. It has minimalistic design which are easily interpretable by users of all age groups. the prototype was successfully developed. The system will prove to be much more convenient after the interface is developed.

## REFERENCE

1. <https://www.interaction-design.org/literature/topics/ui-design>
2. <https://www.usability.gov/what-and-why/user-interface-design.html>
3. <https://www.geeksforgeeks.org/software-engineering-user-interface-design/>