

# Demo Script

## Introduction

Good morning ladies and gentlemen we are from team power rangers. The application we are presenting today is Walkera. Walkera is an application which allows users to clock their daily required steps based on the location set by the user. Walkera also helps to promote a healthy lifestyle.

## Background

Nowadays people are having trouble to keep themselves healthy due to work. Not only that, but people also have lack of guidance on how to integrate exercise into their daily lifestyle.

As you can see from the year 2015 to the year 2035, there has been an increase of 1 obese adult. So if the trends continue, It is predicted that almost 4 in 10 adults are to be obese by the year 2035.

## Purpose of Walkera

Walkera helps to integrate exercise into people daily life despite the busy schedule. The application will guide the users to reach their daily step quota. Walkera will take the user weight and height into consideration to compute the BMI. It will compute daily steps quota for the user according to user age and BMI.

## Usecase

Whenever the user starts Walkera, user able to login to Walkera via Facebook or email. After login successfully, the user can view or update their personal information. Example height, weight and age. Furthermore, Users can plan and select their route based on current or selected location. User can logout at any point in time.

Our main target audience is for smartphone user who wants to integrate exercise into their daily lifestyle.

## Walkera Features

These are the three-page user interact mostly via Walkera. The first page is the landing page which will show the no. of steps walked by the user. The user can swipe to the next page to choose the starting point position and destination to plan the route. In the meanwhile, the user can view his personal information. Also, there will a graph to shown the past walking trend of the user.

Now I will pass to Nicholas to present the live demonstration of Walkera.

### Live Demonstration

Walkera is developed on Android Platform. Now let's fire up Walkera, as you can see there are two register ways which is by email or Facebook. For demonstration purpose, let's go ahead and register via email. There is regular expression control to detect if the input is a valid email. As you can see, when I input an invalid email, it will prompt that the input is not suitable. We also need at least 8 characters for my password.

Now, the application is doing a HTTP POST to communicate with the API. Next, the application will prompt you for your name, age and gender for a better personal experience. Lastly, you will be asked to input your weight and height and the API will calculate your BMI and send it back to the mobile application.

Now, we will be showing your demo video.

The building block of Walkera uses the ever-popular LAMP stack for its developer. For Linux we are using Ubuntu, Apache HTTP Server to host the web API, MySQL DB engine to store the persistent data and PHP language which is the Core of Laravel 5 Web API foundation.

We are using RESTful API to expose your function through URL. As you can see here the URL is [walkera.azurewebsites.net/public/api/user](http://walkera.azurewebsites.net/public/api/user) which data is written into the HTTP body for security purpose. The token is to keep the API session less and for the requesting user to access your API. For government API, we are utilizing the weather, traffic, dengue, walk path data. The Server API will intelligently compute the optimal route which avoids places that are not convenient.

To show your API is really functioning. I will login in to my DB and show that [nicholas@hotmail.com](mailto:nicholas@hotmail.com) is registered. The password is random SALT and hashed it with SHA256 to avoid clear password stealing.

Our team has good practices and utilizes free software like Asana which to collaborate and delegate tasks to your team member and keep track of task progress and deadline. We also utilize Google Drive for our repository which stores the deliverables and files. Lastly, GitHub for version control of our source code.

### Video

Hi, we're Team Power Rangers.

Introducing our Mobile Application, Walkera.

This is Walkera Demo Video.

Sit Back, Relax and Enjoy.

Walkera is an application which allows users to track their daily required steps.

Based on the destination and step counts set by the users, the application is able to route a path for them.

The application uses graphical representation to show the user's daily achievements.

The purpose of the application is to promote a healthy lifestyle.

### Good Practices

Asana – The main purpose of Asana is the dedication of work task and deadline to team member.

Google Drive – It is for repository control

GitHub – It is mainly for version control of our code

### System Design

To make the application more clear, easy and safe to update we used 3-layer architecture and several design patterns. First, to help you have an overview of our application, this is our 3-layer architecture diagram. As you can see, UI is the presentation layer which direct interact with user. Then we have main controllers as Application Logic. User controller take charge of manage user database, while route controller access different data to design a path. And you can see the different partial of database in Persistent Data Layer.

Second, since we need to implement different APIs and want them to be interchangeable. Besides, the specific API class is complicated so we make a simplified interface for all API, which wrap poorly designed a APIs with a single well designed API. Thus, it is much easier to understand. Depend on these two features, we combine strategy and façade pattern as the diagram. The context, strategy and concrete strategy for strategy pattern and Façade interface and packages for façade pattern are labelled. As a result, the implementation for API is easy and safe for upgrade and the overview is clear.

### Sequence Diagram

Then, let me explain our main function-path design in detail. This is the sequence diagram for path design. First, the application need to check the user validation. Route\_controller got the input and check with database. Second, if the user is valid and route\_controller get the BMI of the user. User can input their start and destination point, UI call route\_controller to DesignPath() with given information. After received the call, roue\_controller access GoogleAPI and GovernmentAPI to request path data, traffic and weather condition. Combine all the information route\_controller do a self-call to select a path (walk+public transportation) by a specific algorithm. Pathselection() return a selected path and update it to Userhistory. The selected path is also returned to UI. This the complete flow of DesignPath.

### Test Case

For this function since we know the inter flow, we choose white box testing. Depend on the sequence, we get this Control Flow Diagram. Since there are three binary decision point. 3+1

is 4 basis Path. We choose 1,2,3,5,6,7,8,6,10 as the most important basis path. Then every time we change the result of one decision point. We get the test case table. Compare the expected output and actual output, our application works properly.

### Future Work

For future works, our group firstly plans to include multiple routes for users to select. Using the diagram as an example, there will be multiple routes for the user to select. In addition, the total time taken will also be displayed so that if the user wishes to walk a longer distance, the user can select the route which takes a longer time.

Next, we will integrate with various applications such as Apple health, Samsung Health and Health Promotion Board step challenge. Then, our group plans to have a notification function that informs the user if he or she has not clocked the required steps for that day. In addition, the notification function will include a daily summary of the number steps clocked and calories burned by the user the previous day.

Lastly, we will also want to integrate our application with various smart products such as the Xiao Mi smart shoe, nike+ tracking, and Adidas miCoach.

With that, we have come to the end of our presentation. Thank you.