SWEN 303 Assignment 2 Report

This demo web application is a prototype of the Victoria Viewer. The screen resolution is 1000 x 480 in which the screen ratio is adjusted with the possible size of wearable glasses in reality. The background in this prototype is pretended to be the view of outside world. The status bar is on the top of the screen with the height 20 pixels. The status bar shows the current time, which is actually running and the viewer information, such as the battery and the connections. To improve the simulation, this program is able to notice what connections are available. For example, if the configuration in the JSON file has the flight mode turned on, then the program will disable the Wi-Fi. This feature can also be used to simulate the apps that affect network connections. Furthermore, all the screen, including the apps' will be transparent to make the user able to see the outside view.

The application also has slider menu which receives key inputs from the user. This application does not support any mouse input because the viewer, because in reality the inputs are expected more from sensors and buttons, which is easier and more convenient. User is supposed to use his motion on the sensor to move the app highlight up or down. In this application, user can use right or up arrow key to move the highlight up and left or down key to move it down. The name of the app will only appear on the bottom of the app that has larger icon, so the user still has a clear view of the outside world. To run the app, user can press 'enter' key when highlight position in the menu is on the desired app's icon.

On the other hand, the program works by firstly loading the JSON file containing the information about the screen size, connections, layout, and the apps installed. Having gained the data, the program renders the interface on the screen and responsive to the user inputs. Furthermore, this applications in the future can be easily added with new applications and more type of connections by simply modifying the configuration file. User who wants to simulate new apps can add its values in the 'apps' sub-tree stored in the JSON file, and put the app icon inside the apps folder with its associated data folder. The folder name and the icon name should be exactly the same as the value added in the JSON file.

Currently, there are only two magic apps that can be executed. Each app simulates the user interaction for specific environment. Forex Chart is an app that allows user to see the condition of the NZD/USD exchange rate. This app is actually targeted for business user who wants to know the currency ratio value from time to time. The program loads the data from .csv file in the main directory and presents the line chart shown on the screen. Having seen the graph, user can close the app by pressing 'Esc' key.

The second app is called Space Shooter game in which this game does not require a lot of time and address to people who wants entertainment at home or during lunch time in school. The objective of this game is to kill all the enemies. The user controls the craft by pressing arrow keys and should not collide the aliens. In the reality, user is expected to use the sensors on both left and right of the viewer. User can also shoot missiles by pressing ‘space’ key. When an enemy hit the player, the craft will be destroyed and the user will lose the game, while the player wins when all enemies are killed. The game over screen will appear when the player either lose or win the game, show the message on the screen for 2 seconds, and return to the game menu. If the user want to stop playing during the game, user can simply go back to game menu by pressing “Esc” key. Several ways can be used to quit from the game, such as pressing ‘exit’ menu or also using the “Esc” key. These multiple implementations is intended to make the app easier to use.

When the user select the app, the program will find the script in a specific folder and attach it with the html page. The app program itself is actually a script file containing an “App” function, in which it will be created as an object when running this app. Such parameters such as the width, height, pointers to SVG and data from JSON in the main thread will be passed when creating the object. Having finished using the app, the all the shapes drawn on the screen will be removed and the app script will be detached. The submission also contains an app template in which it may be useful for the future development of this simulator.