**CA357 User Interface Design and Implementation**

**Assignment 1: Critique a User Interface**

# Part 1: Chosen Interface, purpose and Task

As part of my assignment for this module, I decided to talk about Wi-Fi LED strip lights. I have 3 sets in my room and one outside my room in the corridor. Users may have the need to decorate their room by adding a more ambient feel to it with LED strips, which provide additional lighting, reduce eye strain if the lights are set up behind a TV/monitor, and it is relatively simple to install with the LED strips being able to stick to areas you want to set them up. Another human needs this interface provides is the ability to dim the lights and control them wirelessly with the mobile app or with Google/Alexa with voice commands. The lights also come with a remote which has different options of choosing colors, color transitions, dimming, and other features, however the mobile app has more features than the remote. In the app, the user can schedule (just like alarm apps) when the lights can power on or off, use the color-picking tool to change between many RBG color combinations, save certain favourite colors, use default or custom made transition effects, music/mic mode (which makes the lights change colors based on the music/sound from mic), and a camera mode which makes the lights change color based on the colors seen on camera. Multiple LED strips can be set up in the app and can be controlled either individually or all of them together. The lights can also have custom names set by the user.

My TV stand setup with lights behind it beaming to wall (lights currently blue)
Lights are stuck to the TV stand via adhesive tape in strip.Different controls available for each LED strip lights.
Colour picker, favourite colours, colour temperature control, functions (transitions), mic, music, and camera. Light switch and alarm feature top right of screen.Main menu of Graphical user interface

My 4 LED lights in app, I named each light (Apollo, Aurora, Stairs, and Tesseract) 
Power button beside each light, can also control all of them at once

Other lights setup around my room (currently orange/red)

Lights plugged in wall socket, and Wi-Fi connector for LED strips. Strips stuck to wall panel 

# Part 2: Ease-of Use

One way in which the interface supports easy task completion is through its ability to control the lights wirelessly. The user can be anywhere around the house, or even away from the house. This makes it quicker for the user to interact with their lights if they are away from home. The lights can be scheduled to power on or off or power on to do different transitions, saving them the worry of going to each room to interact with the lights.

One way in which the interface fails to support easy task completion is from poor internet connection. This can cause the app to function poorly and be less responsive, and this gives major limitations to the interface. Another issue is how some TV remotes can interfere with the LED strips IR receiver and make the lights change colors or power on/off, which can interfere with user experience. Also, if the LED strips are connected via USB to the TV, they can only be used when the TV is powered on, which is a limitation.

# Part 3: Design Principles

Reliability is important for determining how well the interface supports the tasks because things like good internet connection, ensuring the lights are setup properly, and the strips being stuck well to their locations allows the user to have good overall experience with the interface.

Ease of use is another one, as some users may find it difficult to understand how to set up the LED strips wirelessly and may be limited to only using the remote. The app is relatively simple to use with the features being simple and clear, but I believe that setting it up is where non-technical people may not enjoy the experience.

Durability is important for the interface because if the LED’s are damaged, although they can last for a long time, it can reduce the overall durability, and the lights may not perform to their best ability if damaged.

# Part 4: Analysis

The interface design is good for being relatively simple and quick to setup for most people, as all it takes is sticking the lights somewhere, plugging it in, and using the remote, or setting it up wirelessly. That is what makes the interface of the strip reliable due to its ease of use and elegant design with the lighting. The interface is also durable, as LED’s can last up to 100,000 hours (depending on the brand and quality), which gives the user a long-lasting décor for their setup. The setup having wireless access is one of the best features as this makes the interface more accessible.

The design may not always be reliable (wirelessly) due to poor internet connection or router issues and this can cause the lights or certain features in the app unavailable. Also, the LED strips may not stick to the user’s desired location very well if the adhesive is not strong enough. The lights may get signal interference through the IR receivers from other remotes which interferes with user experience and accessibility. Lastly, damaged parts to the interface such as a broken remote can limit the user experience, especially if the interface is not available wirelessly and becomes unusable.