The University of Queensland

# SMART LIGHT STRIP

# Helping university students get relax during their bedtime

## Problem space:

Based on the results of user research, it has been found that many university students experience significant anxiety as their exams or assignment deadlines approach. This anxiety not only affects their sleep quality but also makes it challenging for them to fall asleep. As the result, students often experience loneliness and exhaustion when they have insomnia, which affects their energy levels and overall mood the following day. Therefore, we aim to design a prototype that can help them relax and improve their well-being when they want to fall asleep, as well as enhance their overall health.

### Week 5-6

**Team formation**

During weeks 5 and 6, we formed a team named Antonia based on a shared interest in the problem space of university students' sleeping issues, and we presented a project presentation.

### Week 7

**Desk-top Research**

After processing the feedback we received from the presentation, we began conducting desktop research on how musics contributed to better sleep quality find evidence that supports our design.

### Week 8

**User research**

After conducting desktop research, we created a user research plan, interviewed 12 target users, and placed probes in the central library to gather user insights for our project's design.

### Week 9

**Prototyping**

Using the results of the user research (aka. users' values and users' needs), we finalised the design of the main project features and created prototypes in Figma.

### Week 10

**User Evaluation**

We initiated user evaluations based on the Figma prototypes. We predefined tasks for the users and conducted interviews once they had completed these tasks

### Week 11-12

**Implementation and second user evaluation**

From week 11 to week 12, we improved our designed based on the result of user evaluation, implemented all the main features using HTML, CSS, and JavaScript. After completing the implementation, we conducted a second user evaluation to further enhance our design.

## HOW PROTOTYPE WORKS

### Audio library:

The prototype allows users to access an audio library, which are all **white noise music**. Users can also add their white noise favourite music to a personal playlist. This feature can help individuals create a **customized and soothing** audio environment for sleep. The ability to s**hare music with friends** adds a social element to the experience.

### Social feature:

Users can connect with their friends through the prototype. They can **view their friends' sleep conditions,** which could include information about their sleep patterns, duration, and quality. The messaging feature allows users to **send reminders to their friends** to encourage healthy sleep habits.

### Mode adjustment:

Users can set up different modes on the homepage. These modes are tailored to **specific situations or preferences**, such as "pre-exams," "holidays," and "weekdays." This feature makes it easy for users to customize their sleep environment based on their current needs and routines.

### Light adjustment:

Users can **adjust the color** of the lighting equipment in their bedroom. This feature can help create a more relaxing and sleep-inducing atmosphere, as different lighting colours can affect a person's **circadian rhythm** and help them fall asleep more easily.

### Applied mobile concepts:

**context-specific and location specific**

## UNIQUENESS

Our project is a multifunctional approach to enhancing the sleep experience. By combining the following features :

- **Customizable lighting,**
- **An extensive audio library**
- **Social integration**
- **Adaptable modes for various scenarios**

We have created a versatile and user-friendly application. it allows users to customize their sleep environment, connect with friends to support healthy sleep habits, and adapt to different lifestyle needs. In comparison to sleep-enhancing applications, our project provides a comprehensive and personalized solution.

## INNOVATION

The innovation in this multifunctional sleep-enhancing prototype shines through its **unique social feature**. By facilitating connections with friends, users can not only **view their friends' sleep conditions** but also **send thoughtful reminders** to promote healthier sleep habits within their social circle. This emphasis on social connectivity adds a novel dimension to the device, which fosters a supportive sleep community and makes it a standout innovation in the realm of sleep-enhancing technology. There are no similar functions currently available on the market, making this social feature a distinctive and pioneering aspect of the prototype.