

# Deco3200 Portfolio

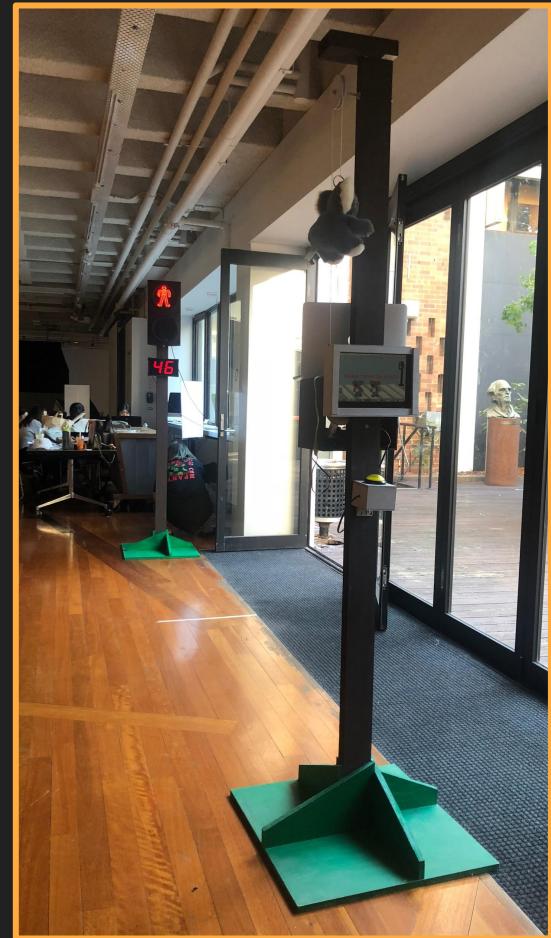
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## Introduction

The problem we discovery is the experience of the pedestrian button is frustrating. We want to improve the experience when pedestrians waiting for traffic lights. Our final concept is a koala game and a button connection. It includes koalas, pulleys, a display, and a button. When the red light is on, the game will display on the screen. When the pedestrian presses the button, the value of the progress bar in the interface will increases. Besides, the koala will be raised by the motor and pulley when the user presses the button every 5 times. This is like a game of speed measurement. When the user presses the button continuously, the value of the progress bar will continue to grow. If the value of the progress bar reaches 100% within the predetermined time, the user will win. The page will show you won and play music. The limited-time is based on the duration of the red light. If the countdown ends and the value of the progress bar does not reach 100%, the screen will display a failed screen. At the same time, the koala will drop to the starting point. At the same time, the interface on the screen will display Time To Cross.





## Team Structure

Task	Contributors
Background research	All members
Building the low & high-fidelity prototype of the previous concepts	All members
User testing	All members
Purchasing	All members
Building the model in Dmaf	All members
Arduino and processing Coding	Siying Ma, Jiayu Ye
Designing the screen interface of the final prototype	Mengyu Li, Yiqi Liu
Filming the video	Siying Ma
Editing the video	Siying Ma
Report	Jiayu Ye, Yiqi Liu, Mengyu Li
Visual design	Siying Ma

Our group name is MYJS.  
Our group has 4 members,  
Siying Ma, Jiayu Ye, Yiqi Liu  
and me.

For the team structure, we  
made a table.



## Team Structure

For our previous Concept Proposal, Jiayu and I were mainly responsible for design research. Siying and Yiqi are mainly responsible for Visual Communication.

For user testing, we estimated the amount we need to reach each round of testing. After that, we distribute these jobs equally to each team member.

For our final concept, Yiqi and I are mainly responsible for the interface part. Jiayu and Siying are mainly responsible for the code part. For the brackets and traffic lights, we chose to work together.





## Contributions



When we identified our design theme, we began to research the problems that pedestrians have. We use a variety of research methods in this process. In this part, I am mainly responsible for the observation, and part of the interview. I observed pedestrians behave at Broadway and City Rd & Cleveland Rd at six different periods. In the process, I took a lot of photos and videos and calculated the duration of the red and green lights at different intersections. After that, I summarized the phenomena discovered during the observation process and some of the problems faced by pedestrians.

For the interview, I interviewed a UTS student and a USYD student. I asked them about some of the experiences of waiting for the traffic lights and their ideas about the current Sydney traffic lights.

Based on these I made the persona. After that, we organized and discussed the problems found in the research and designed our three concepts.





## Contributions

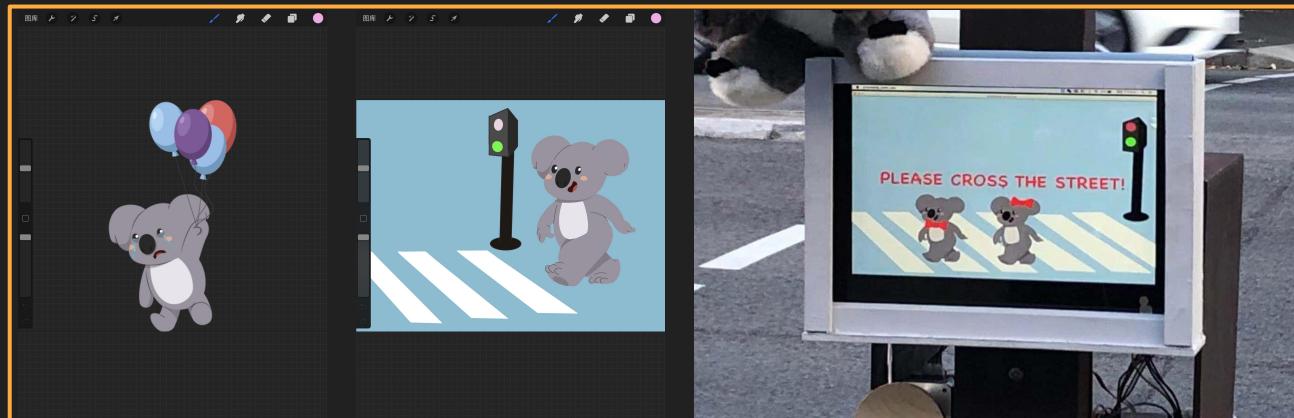
For our three concepts, we conducted user testing and interviews. We had 40 interviews in the first round. Each completed 10 interviews. After that, we summarized the data. Based on this feedback, we improved the concept to two. For both concepts, we each completed another 10 user tests. For our final concept, we did 10 interviews for each person again. In the process, we obtained enough data.





## Contributions

For our final concept, we first discussed the parts that we need to buy and prepare. After we bought part of the equipment, we installed the bracket part of the model together. For the software, Yiqi and I are responsible for the interface part. I drew part of the interface. For our final prototype, we did some user testing. After that, we shot the video.



# Challenges

When we started our work, our main challenge was to determine the main direction of our design. We need to find out the problems that pedestrians have. In this regard, we obtained information through online search, questionnaires, observation, and interviews. After that, we collated the information. Finally, we identified the problem we were going to solve.

Questionnaire

Will you press the button on your own initiative? (n=810)

Response	Percentage
No	71%
Yes	25%
Don't know	4%

Do you know the function of the Sydney pedestrian traffic button? (n=810)

Response	Percentage
Yes	70%
No	29%

What do you do when you are waiting for the green light? (n=810)

Action	Percentage
Walking the street	40%
Waiting for the green light	38%
Chat talking	21%

Will you choose to pass when the red feather appears? (n=810)

Response	Percentage
No	60%
Yes	30%
Don't know	10%

Have you ever waited the green light for a long time because nobody pushed the button? (n=810)

Response	Percentage
Yes	38%
No	61%

Will the flashing red light make you anxious? (n=810)

Response	Percentage
Yes	30%
No	69%

Observation-City Rd & Cleveland Rd

Observation-Broadway

Coefficient

Pressing habit

Waiting without instruction

Sound prompt

Average Waiting red light

Waiting habit

Cognition of button

Shape of button

Observation notes and analysis for each category (Coefficient, Pressing habit, Waiting without instruction, Sound prompt, Average Waiting red light, Waiting habit, Cognition of button, Shape of button) are listed below the respective headers.

## Challenges

In the second phase of our work, the main problem we have was how to get more authentic and effective user feedback. This will have a great impact on our future design and improvement. For this problem, we chose the second floor of the Wilkson building. There are always some students and teachers who have a rest, as well as people who come to enjoy the exhibition of former students' works. In addition, we checked the schedules of students from different majors. We chose a day when most people have classes. This ensures that there are enough people. When we see someone who is interested in our model, we invite them to test it. We also ask people who sit on the sofa if they have time for tests and interviews. Through our efforts, we finally collected enough user feedback.

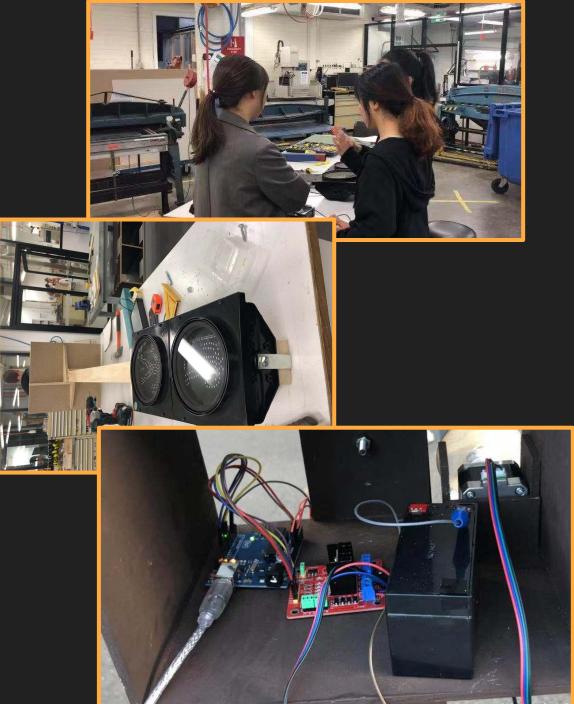




## Challenges

We had a lot of problems with our final work. The first problem is the traffic light model. We met with difficulties in making the pole. We consider the purchase channel firstly. After that, we learned that DMAF had materials that could be made. Our next question was what kind of material would make the pole stable and easy to handle. Considering the stability of the rod when pressing buttons, we want to use iron in the beginning. Then, we thought about the handling and we chose wood. For stability, we installed four small brackets at the bottom of the model.

In addition, the code was a challenge for us. The first is the voltage between the motor and the Arduino motherboard. We solved this problem by using the L298N dual motor driver. In addition, there are various problems in writing the code, and the function is difficult to implement. To solve these problems, we look up online video, to ask teachers and classmates, and repeating changes. Eventually, the expected functionality of concept is implemented.



## Final Reflection

For our work, everyone works hard to make it better. Everyone spends a lot of time. For final prototype, if we could improve on its appearance and functionality, it would probably get better. For example, we can add a light strip above the button. When the button is pressed, it will lights up. This may enhance its visual effect. After that, we'll probably continue to work on the prototype further. We will discuss the project.

# Bibliography

Norman, D. (1999). Affordance, conventions, and design. *Interactions*, 6(3), 38-43. doi: 10.1145/301153.301168

Does the pedestrian button do anything?. (2019). Retrieved 8 November 2019, from <https://www.news.com.au/lifestyle/real-life/have-you-been-wasting-your-time-by-pushing-the-pedestrian-button/news-story/b87735fb87ad862c7e6fee6206510edc>