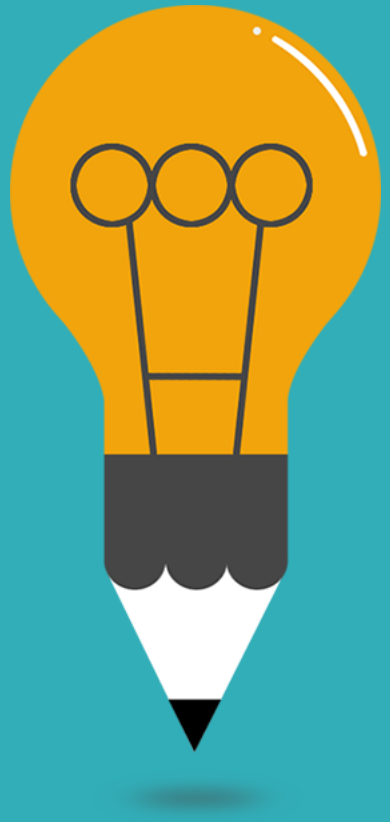


Music Bubbles

Yangsong Ou

Introduction

Problem Statement

"**Phone zombie**" has become a common phenomenon nowadays, some pedestrians play their mobile phone even when they are walking on the street. From our previous research, we found that usually pedestrians **can not notice** the change of **traffic signals** when they are focusing on their mobile phone, especially when they are waiting for the traffic lights alone.

So we aim to improve pedestrians' **waiting experience**, let pedestrians use our product to replace the behavior of playing mobile phone at the traffic light waiting area and **remind them of the change of traffic lights**.

Final Prototype

The final product is called "Music Bubble", it's a decompression game on a touch screen which placed on the traffic light pillar.

Clicking moving bubbles on the screen to randomly play different keys of instrument sound, there are three choices of instrument. Also, there is a countdown function of traffic lights. Both of visual and audio reminding features appear when it's time to cross, audio reminding is clapping sound.

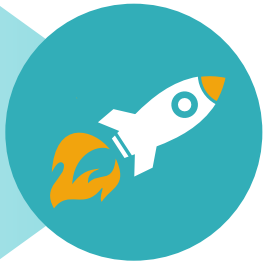
Team Structure

Yangsong Ou — Programmer — 01

Jingzhu Lin — Documenter — 02

Liangyi Wang — Documenter — 03

Sen Deng — Programmer — 04



Anti-programming programming club

My Responsibilities

“I’m the **programmer** in my team and Sen Deng is also the programmer, so my responsibility was **developing the coding** of my team project with Sen Deng. My job was trying to **carry out all the functionalities** of the project by coding and **iterate the coding** based on feedbacks from user evaluation. Also, borrowing the **physical device** and **test the coding** on it was my job. As a whole group, I did **data research** and **user evaluation** with all my team members in order to share opinions and improve our project, I also **shared the changes** to my group members every time I iterated the coding for gathering their opinions.”

Yangsong Ou
programmer

Team Working Process

Research and Ideation

I did some **secondary data research** and **contextual observation** about the problem. I also provided **one of the initial concept** and developed it.

Concept Development

I did **user evaluations** of initial concepts with my group members. I was **responsible for the concept I came up with** and discussed the results with other group members to **confirm the final concept**.

High-fidelity Prototype

I **created low-fidelity prototype** of my concept for evaluation. After it was eliminated, I participated the **evaluation of the final concept** and **iterated it** with my group members.

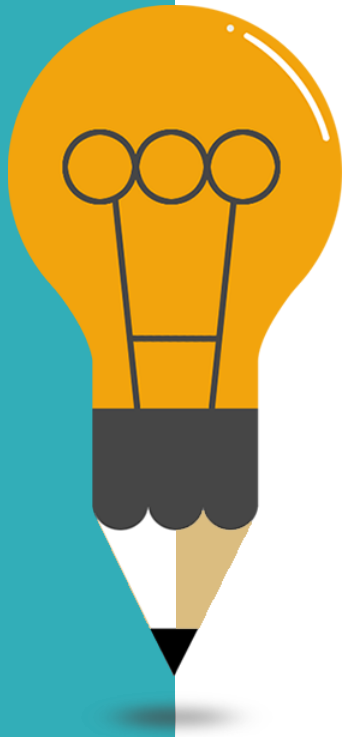
User Testing and Refinement

I was **programming** at this stage, carrying out the project's functionalities by coding, and **iterating the coding** to **add features** after every working prototype was evaluated.

High-fidelity Working Product

I **tested the coding** on device at this stage, also made some final **iterations on coding** after user testing. Furthermore, I **created auxiliary props** and **set exhibition** with my group members.

Key Challenges

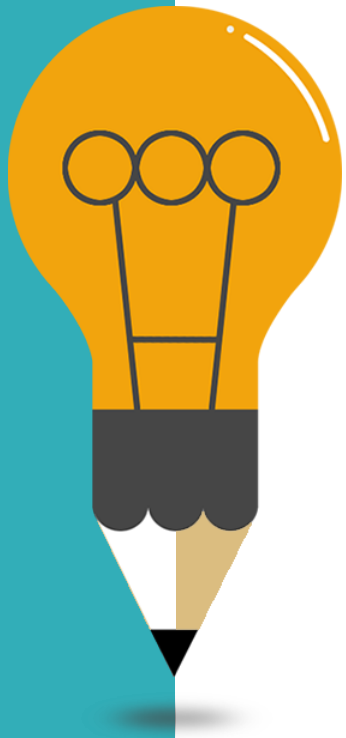


01 The divide of opinions

The first challenge was the divide of opinions through whole working process. Especially when we had **bias on our own working results**, this led to **argument** between group members sometimes.

Solution: we gathered further **opinions from our peers and tutors** in order to made the final decision. More feedbacks from different people revealed the **negative and positive aspects** clearly and every group member could be convinced.

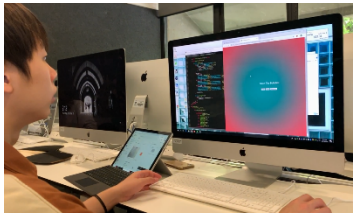
Key Challenges



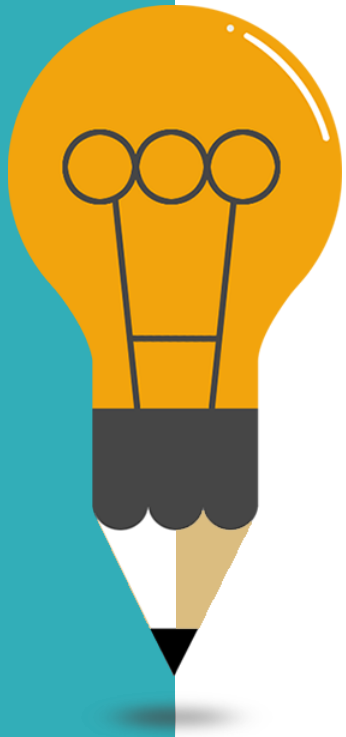
02 Technical Problems

The second challenge was that I met many technical problems when I was **coding**. Actually, there are **no advanced programmer** in my team, I am a **beginner of programming** as well as Den Seng. **Implementing the functionalities** of the project by coding made us stuck many times and cost us much time. Also, I also met some technical problems when **creating the props** in DMAF lab like knocking in nails.

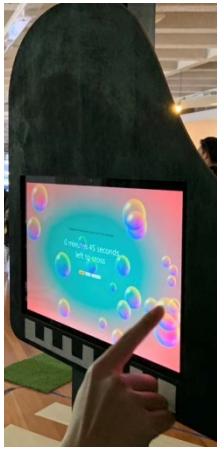
Solution: When I met programming technical problems, I **searched online** first to find the solution, tutorials on websites like **W3schools** were very helpful. If I still can not find the solution, I asked **tutors and my friends** who are **advanced programmer** for help. In DMAF lab, **university staffs** helped me a lot on manufacturing work.



Key Challenges



03 User Preference



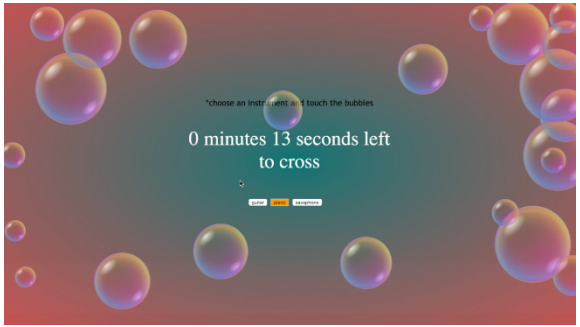
The third challenge was that the **feedback** from user testing and evaluation was very **diverse and even totally opposite**. The organization of user feedbacks was difficult and outcomes made us **confused to make iterations**.

Solution: When the feedbacks from different users were conflicting, we would **figure out** which **aspect** of our project these feedbacks reflected and **evaluated this aspect by ourselves again**. If we were still indecisive to make final decision, we would **test this aspect with more users** to find iterated direction for **satisfying general user preference**.

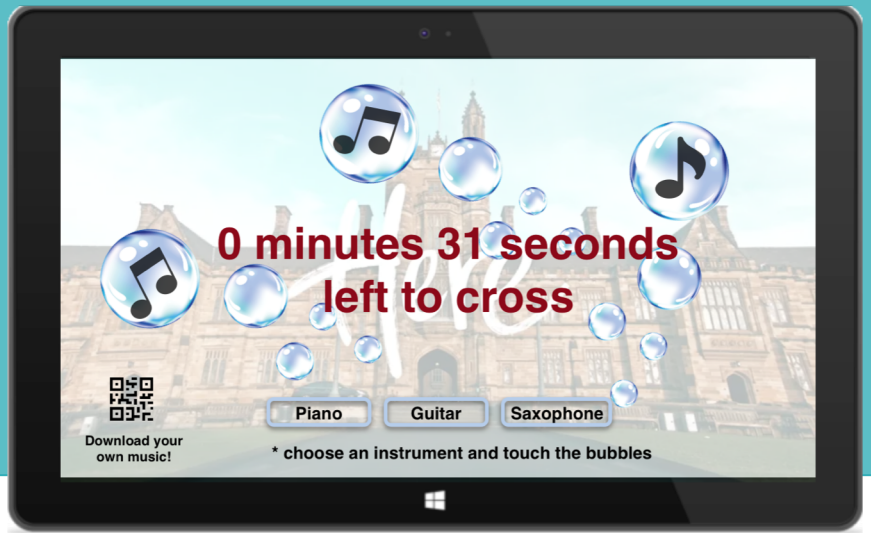
Final Reflection

Overall, I worked well with my team members this semester and the final product achieved the desired effect. My group members all worked very hard and we helped each other as a team, working efficiency was relatively high. My programming work was painful but I still handled it down.

However, I still have room for improvement. As a programmer, I could plan my time to learn related tutorials early before I coding because it would mess my schedule when I had no idea how to implement certain functions. Furthermore, I could use more methods to test my project for more comprehensive feedbacks. Finally, controlling the emotions when group working was significant and I might need to improve more.



Future Version



01

Recording

The pedestrian can **record** in the b ubbles, and the **next pedestrian** co uld **hear** the audio by touching the **recorded bubble**.

02

Interface

The **background image** will change to the **surrounded buildings** due to the **location**.

03

Download

The pedestrians can scan the **QR co de** to **download** the mp3 file of the **melody** which they just **played**.

Thank you