

04-32

**Food Waste - Not good
waste**

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ABSTRACT

Our group aims to encourage the Hwa Chong students to waste less food, in the school compound, and also at home. The student's family can also join in, and play a part to reduce food waste. The website contains information, infographics and videos about food waste, and what can be done to minimize food waste. There is also a platform for donating excess food to organizations, which will distribute them to the needy. With students being more tech-savvy nowadays, they are likely to access most information from their smartphones. Therefore, there is also an app for students to access our products easily.

1. Introduction

1.1 Rationale

We chose to embark on this project, since we realised that food waste is one of the most realistic problems today. Our project is targeting to reduce food waste in the school and Singapore, by educating and encouraging students to donate food. We will make donating food easier through our website, which will be a website, animation and an app.

1.2 Rationale

We aim to improve our society by reducing food waste, through means of educating the society with our product. We also wish to improve the system of raising awareness so that we can spread the message more effectively. We wish to eliminate the myths or common misconceptions regarding food waste, for example, many people think that the best before date is the expiry date, or when a can is dented, the food is inedible. We aim to do all this through our products, which are a website and an app. The app will mainly appeal to users on mobile devices while the website will be used by computer users.

1.3 Target Audience

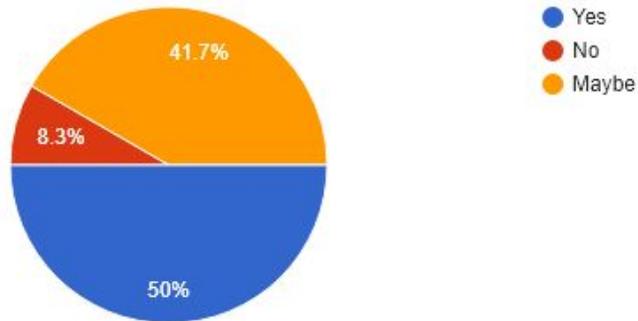
Initially, we wanted the target audience to be the general public. However, we decided to narrow it down to just HCI Students for now, as a lot of food is wasted at the canteen. Furthermore, students can easily convince their parents to do the same. They are more impressionable and hence we can convey more information to them

1.4 Need Analysis

For our needs analysis, we asked students about how much they knew about food waste through a survey. The results showed that people wanted to learn more about food waste, and would be interested in sharing excess food with people who need them more. A majority of the respondents wanted our project to be a card game, website and video.

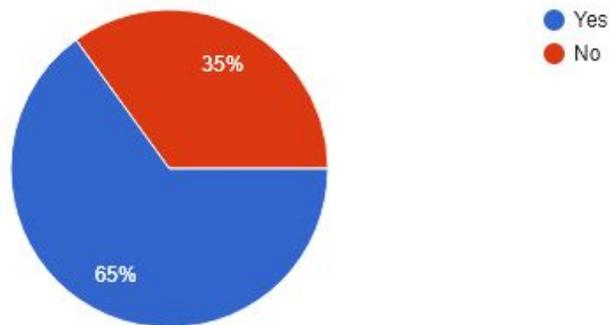
4. Would you be interested in donating your excess or unwanted food to others less fortunate?

60 responses



3. Would you be interested to find out more about food wastage

60 responses



2. Review & Research

We reviewed many sources to look at the common aspects they focused on. Many sources talked about how some people waste food, while others barely have enough food. In Singapore, food Waste accounts for 10% of all waste in Singapore and only 14% of food waste is recycled. Food waste generated in Singapore has increased by 40% over the past 10 years, and is expected to increase further due to Singapore's growing population. Food waste in landfills causes a large amount of methane to be produced. Meanwhile, 1 in 10 Singaporeans are unable to meet basic needs in the form of food, clothing shelter and other essential expenditures. Our project will be useful as we can connect those who have too much food to those who need the food

Year	Food Waste Disposed of	Food Waste Recycled (tonne)	Total Food Waste Generated (tonne)	Recycling Rate (%)
2017	676,800	133,000	809,800	16%
2016	679,900	111,100	791,000	14%
2015	681,400	104,100	785,500	13%
2014	687,200	101,400	788,600	13%
2013	696,000	100,000	796,000	13%
2012	618,100	85,100	703,200	12%
2011	605,800	69,700	675,500	10%
2010	538,100	102,400	640,500	16%
2009	529,400	76,700	606,100	13%
2008	500,000	68,000	568,000	12%

3. Our Products

Our website contains information on food waste and also explains how food decays or rots. We also give tips on how to lengthen the shelf-life of the foods. We also put out interviews on the website. Lastly, we have a section for donations. People can donate food through our app, and it will send an email to the organizations about your donation. Lastly, we have an animation about food waste. It is a quick introduction to food waste. It also includes some statistics and tips to reduce food waste. We made the animation using PowToon.

3.1 Website

We initially tried to use HTML to create the website using the Bulma CSS framework to attach classes to the HTML which aids in the framing of the website. We constructed the website in 6 weeks. After mid-term evaluation, we had to scrape the idea due to its dull colouring and inflexibility to alter the backgrounds, in other words, the format is ruined if we changed the background or background colour. The HTML website had the ability to embed the Google Fusion tables , connected to the app which main purpose was to allow everyone to view donations by the people.

However, due to the Judges comments during mid term evaluation, we decided to scrap the idea and make a more aesthetically appealing website created by wix, as shown below.

Our website has numerous tabs. Our website provides detailed information about food waste, statistics about food waste and also our interviews with the organizations. There is also a page to donate food to the organizations.



[Home](#)

[Food Waste](#)

[Donate Food Now!](#)

[Sources](#)

Food Waste : Not Good Waste

<https://hwachong2022.wixsite.com/wasted>



Interviews

[Food From the Heart](#)

[Food Bank](#)

[Gone Adventurin](#)

3.2 App by MiT App Inventor

Our app was created using the MiT App Inventor. The app we made was complicated as it was linked to a Google API that we had created to take note of places in HCI which had extra leftover food, which was the main purpose of our app. The app consists of a submission form, a table of locations with food in HCI and some basic information with a link to our website. This enables, easy access to information anywhere. And since Hwa Chong Students are constantly on their phones, a phone application is the easiest way to convey our information and inform them of a place in Hwa Chong at that moment with excess food.

3.3 Animation

Our animation is a quick introduction to food waste. It also includes some statistics and tips to reduce food waste. We made the animation using PowToon, as we could not use an advanced program as it would have cost a lot of money, and those programs that allowed users to have a free trial had much lesser tools as well as lesser props. As such at times we had to be creative so we could achieve what we intended to do.

3.4 Pilot Tests

The first pilot test was conducted on 20 classmates. Our classmates will look at the app and the website, and give comments about our products. The students commented that the website (HTML) is not attractive because colours are very basic. The products are creative but improvements can be made to the app, the website layout is organized and neat. However, it needs to be more detailed.

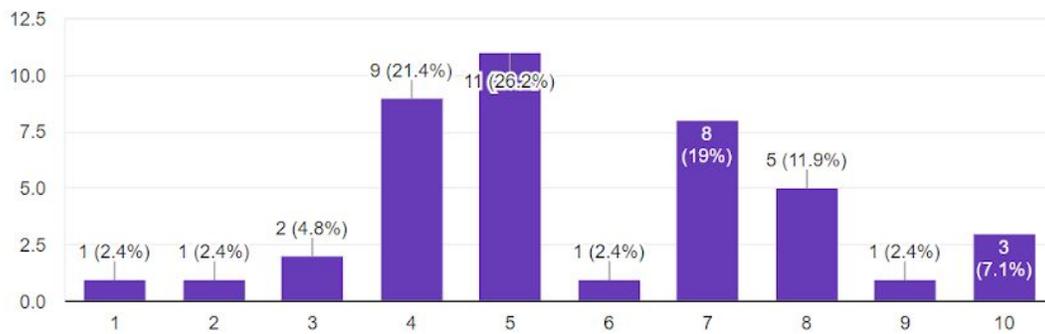


The second pilot test is conducted online through Google Forms. We asked the responders about how much they know about food waste before and after looking through our products. We received a total of 42 responses, as of now.

How would you rate your knowledge about food waste before looking through the website?



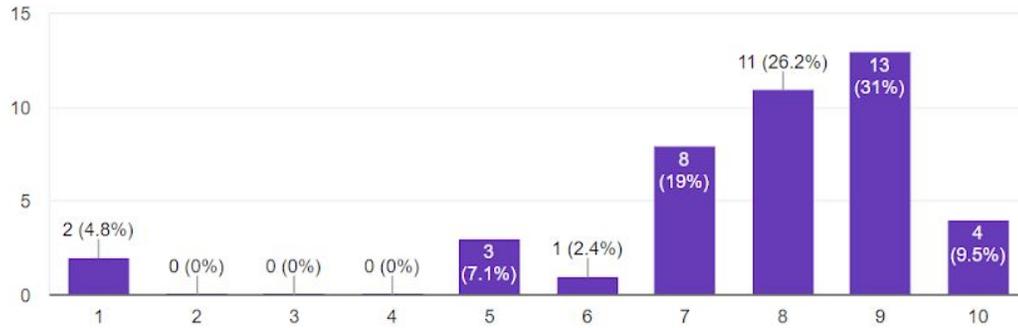
42 responses



How would you rate your knowledge about food waste after looking through the website?



42 responses



3.5 Interviews

The interview with Food From The Heart was on 13 June 2018. We discussed about the areas of focus of the organization, how they receive and distribute food. We also had a tour of the place (Storage, packaging area etc.)



4. Conclusion & Reflection

Through the course of this project, our group learnt the importance of teamwork, and perseverance.

Our group members are all good friends, and we decided to get in a group to do a project on food waste. Soon, we realised our schedule was very tight, as our group members have many afternoon activities. 2 group members are part of the canoeing CCA, and thus they are not free during most of their afternoons. The other group members are also not free during weekdays. Thus, we only had limited number of weekends to schedule meetings. In the end, we met up quite little, and sometimes we cancelled meetings altogether, as we could not fit in the time into our schedules. However, as our teamwork was very good, and the communication between the group members were efficient and effective, the jobs were allocated and done quickly.

We also persevered through a lot of hardship and problems. Our project required us to write emails to different organizations and also ask for an interview. We contacted about 15 organizations that are working on a similar issue as us, and even though we expected some rejection, we did not expect only 3 to accept, while the others did not reply. Furthermore, only 1 organization has agreed to a face-to-face interview, while the other 2 preferred questions to be asked through email. We felt disappointed, as we thought that we can get more interviews.

Furthermore, after the Mid Term Evaluation, we did not get the score that we wanted, and when we read the judges' comments, they commented on the dull look of the website. Our background was a plain colour, with some pictures here and there. Eventually, we decided to scrap the HTML website to make another one on Wix. It was a hard decision, as nobody wanted to just throw away 1.5 months of hard work. We had to scrape the website that we had made, and make another one in time for the Final Evaluation. Our efficiency and flexibility allowed us to change, switch, and allocate roles quickly, getting our product done in just a few weeks.

Marcus, our programmer, who was working on the HTML Website, ultimately managed the app, and the information in our website. Samuel, who originally was

working on the app, gave his role to Marcus the expert programmer and did the Infographics on our website. Hoi Hin tried his very best in arranging interviews, getting organisations to work with us, and doing the web report. Lastly, Keanu looked after and supervised the progression of the project, managed the presentations, and created the website from scratch, adding the aesthetics, and the functions of the website. This system works well, as we all know one another well. Thus, we were able to allocate roles to each person effectively.

Overall, we feel we could have done better for our project. Our team was not always free to meet, and we had CCA during the holidays. Thus, we could not all meet up for an interview. In the end, only 3 members managed to go for the interview.

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