

IIDC 2021

Team tutor: Christine Eum

Topic Category: Living/ public

Team Topic: Smart food management system for private/ public areas to reduce food waste. Discuss habit of panic buying, take-out and delivery food.

Brief Description:

Despite continuous efforts to reduce and recycle food waste in South Korea, the use of fertilizer made from food waste cannot follow what amount of food waste made each year. Korea's unique dining culture which accompanies an array of side dishes(bahn-chan) make it difficult to reduce food waste. It is reported that South Korean each generate 130kg of food waste each year which is far more per capita than Europe(95kg) and North America(115kg). The [World Resources Institute](#) note that reducing food waste by half would benefit the environment significantly by reducing the need for land, water, and other resources to grow food. The World Resources Institute state that cutting food waste in half would lower greenhouse gas emissions by **1.5 gigatons** (1.5 billion metric tons) of carbon dioxide equivalent per year by 2050. While each individual can help with this process, governments, corporations, and farmers will need to make significant changes to reduce their waste to achieve these goals. Reducing food waste benefits individuals in many ways, including saving money from buying and wasting less food. Organizing and structuring meals may save a person significant amounts of time in the long run and make a person's eating habits much simpler and more healthful.

How it addresses the UNESCO Sustainable Development Goals:

The expected solutions will help people to be more conscious about responsible consumption and production (SDG #12), climate action (#13), and life on land(#15)

Expected outcome and its aspects

- Industrial design – Design of a smart pantry/ refrigerator/ waste bin, etc.
- Visual/UX/UI design – Design to make the product user-friendly and intuitive
- Service Design – Design of how the monitoring/managing/alerting can better allocate user's resources
- Technology – implementation of IoT, Machine Learning, and AI

****Examples****

* How can we define a solution?

-Measure: make an analysis of household food waste, and purchasing.

-Monitor: implement a system for collecting and reporting food waste data to help make informed decisions and track wastage.

-Manage: set realistic targets and goals to reduce food waste. Make a recycling system or effectively participate in one.

*Possible solutions:

- Build a home monitoring/ managing system for food purchasing/ waste(update actual expiration dates)
- Build a better system for public dining(school/work cafeterias, restaurant food/ delivery, etc.) to reduce food purchasing/ waste

Pre-read

- [How to Reduce Food Waste](#)
- [South Korea has almost Zero Food Waste, Here's How](#)
- [South Korea Recycles Food Waste in Effort to Become Zero-Waste Society](#)
- [UNESCO Sustainable Development Goals](#)
- [The Zero Waste Master Plan](#)
- [Development of Best Practices in Public Space Recycling](#)

Process

Pre-camp kick-off meeting

- Introduction of tutor and team members. Share their interests, specialty, and nicknames. Designate a team leader- team leader's responsibilities include: leading the team to come to a mutual decision, recording the sync meetings and sharing, project managing(with help of tutor). Explain that each member will take turns to take notes for each sync meeting.
- Introduction of team topic and discussion. Tweak the topic as needed.
- Discuss field trip plans and locations – on-line(do a background research on food waste and its zero-waste movements/systems that currently exist. Brainstorm ways to improve/evolve) and on-site(make visits to related places for our topic- private/public, etc.) Interviews can be a great tool for data collecting for a persuasive project scope.
- Discuss group photoshoot plans
 - Assignment: Group photo, field trips, research

Day 1

- Share field trip findings – good and bad exercises
- Formulate the scope of the project. Redirect the project scope if necessary.
 - Assignment: Share your findings in 2-3 paragraphs to share with the team on Slack. Share short feedback for each of your teammate's findings.

Day 2(60 min Zoom sync session)

- Make a mind map(affinity diagram) using online whiteboard to determine the network of issues and pain points(define "How Might We" question)

- Assignments: Discuss and vote to narrow down our scope(possibly down to 2 or 3) and designate R&R for each member. Make conceptual sketches/ scenarios based on our narrowed down scope. Post your work on Slack.

Day 3

- Review of conceptual sketches and scenarios
 - Assignment: Provide feedback for all member's work on Slack. Post your scoped down ideas of solutions.

Day 4 (60 min sync meeting)

- Review all potential solutions. Members will present their sketches, lo-fi mock-ups, and diagrams.
- Discuss how these solutions can meet [UNESCO's 17 Sustainable Development Goals \(SDGs\)](#).
 - Assignment: Make quick and lo-fi mock-ups before coming to the meeting on Day 4 (hand/digital sketches, wireframes, storyboards, etc.) and start thinking about presenting your product persuasively. Share feedback during the sync meeting to set focus for the midterm review.

Day 5

- Refine sketches, lo-fi mock-ups, and diagrams
- Discuss how to integrate the solutions to maximize the impact
 - Assignment: Prepare midterm review materials. At this point, we should have:
 1. Our research findings and the persuasive intro to our project scope
 2. HMW question with solution scope
 3. Lo-fi visual on our product(mock-ups/ sketches/ wireframes/ storyboards etc.)

Mid-term (60-90 min sync meeting)

- Project topic
- Problem definitions(HMW)
- Concept development(research)
- Initial solution including design, technology, service and business(lo-fi visuals/storytelling)

Day 7

- Refine sketches/mock-ups of the final product.

Day 8(60 min sync meeting)

- Further design developments. Share your work on Slack at least 2 hours prior to the team meeting
- Fine-tune final designs with updates based on feedback shared by the team. Discuss holistic storytelling strategies to integrate each product(if there is more than one). Discuss and assign each team member a role for building the final presentation deck.

Day 9

- Build a persuasive final presentation deck, which may include user persona, research findings, HMW, user journey(if any), ideation, final products, etc.
- Refine actual presentation R&R and strategies(who will flip the pages, order of speakers, how we can make the presentation successful, what we're going to wear, etc.)
 - Assignment: Finalized presentation materials including presentation scripts.

Day 10(60-90 min sync meeting)

- Presentation dry-run
- Fine tuning of the presentation

Day 11 Presentation - Showtime!

- Final presentation run- 1 hour before the presentation.