



2023 Software Engineering Project

MagiCool

*: Keeping food fresh
for early morning deliveries!*

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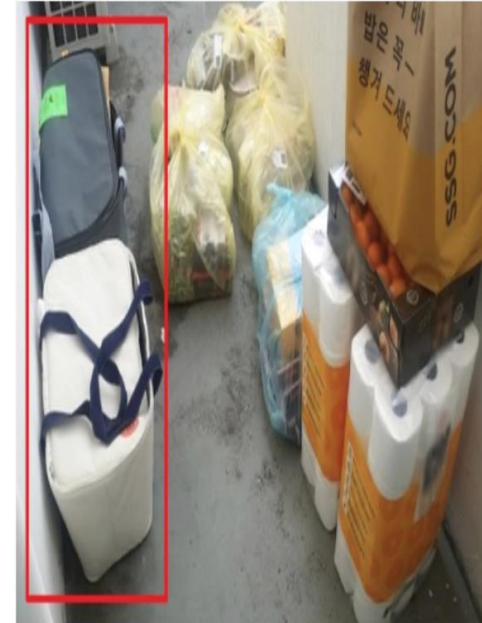
1-1. Problem Statement

Demand for dual appliances



- The era of "one household, one appliance" has come to an end, and the era of "one activity, one appliance" has begun. Instead of using a single appliance for a variety of activities, the trend is to purchase additional appliances for specific purposes.

Early morning delivery generates a lot of garbage.



Eco-friendly shipping bags that are not reclaimed by businesses



Leaving personal items in the hallway in front of the front door is dangerous.



- Companies like SSG.com, Coupang, and MarketCurly offer eco-friendly recycled bags for early morning delivery customers, or packaging made from eco-friendly materials.

However, the amount of waste used for packaging and the amount of waste generated by households after delivery is complete is increasing every day.

➔ Refrigerators can keep things cold for 24 hours

1-2. Product Analysis



Space scalability _ we need built-in !!



Milk dispenser at the front door of an apartment building



Yakult Shipping System



Portable fridge for camping



Ice Bag



Company Trends



멋진 디자인의 미니 포터블 전자렌지



사건=쿠쿠 '포터블 제빙기', 님스 제빙기
유니맥스의 '꽃클린 발 선풍기', SK매직 '스테인리스 휴대용 제빙기'



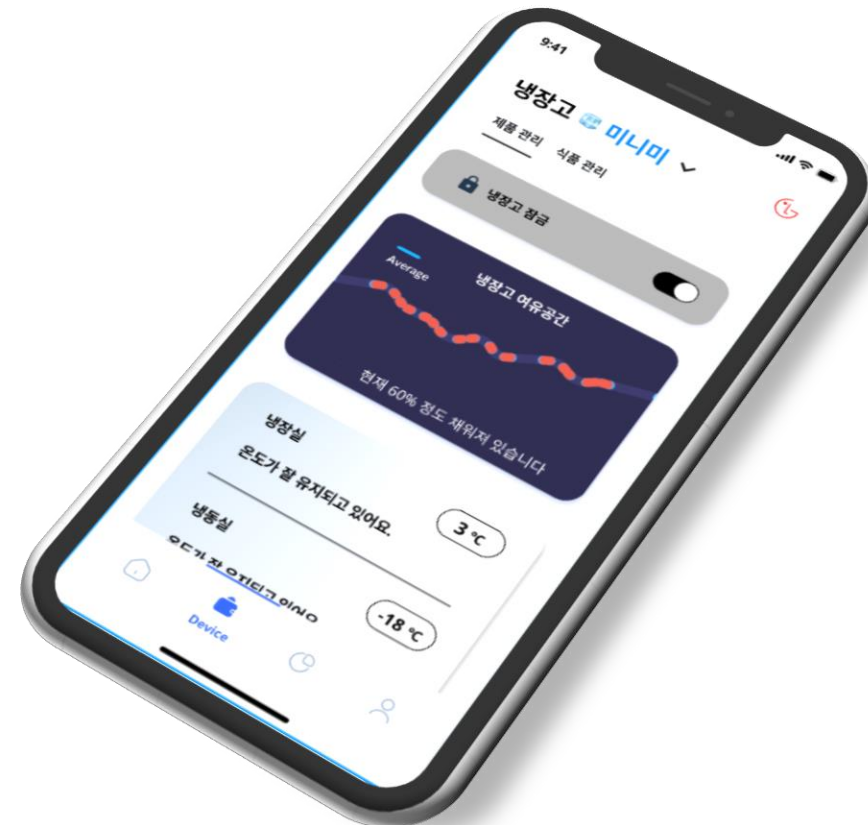
In line with LG's "portable appliances" and "Built-in furniture" trends, Our team plans to propose new software to help consumers with their refrigerators.

Get an idea of problems to solve

1. We want to solve the problem of leaving packages unattended or not receiving them on time.
2. Leaving personal items in apartment entrance hallways is generally prohibited.
3. Early morning deliveries can be inconvenient, as people may need to receive a delivery in the early hours of the morning, which may disrupt their sleep, or they may need to go outside to pick up their package.

=> To solve this inconvenience, our team propose a built-in refrigerator, a "place" to receive refrigerated deliveries, and a smart home solution that works with it.

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LG's futuristic built-in refrigerator



With the great technology of LG refrigerators, the mini fridge near the front door we propose should have the following features.

- Locking features
- Individual temperature control of the refrigerator and freezer compartments
- automatic door opening
- built-in light detection sensor
- ...



Android / iOS APP

- ✓ Can be connected to LG's refrigerator to utilize various functions.

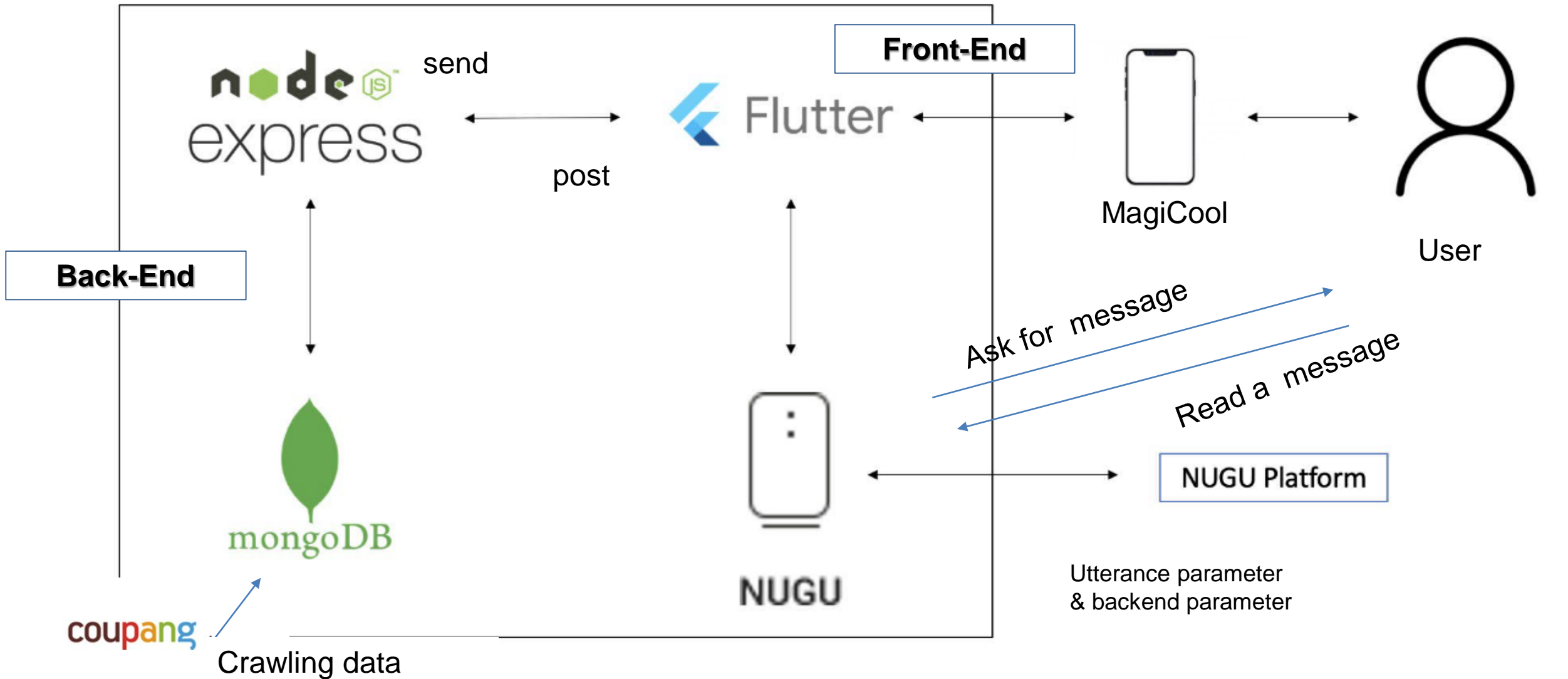
Main Target : People who use early morning delivery service

- It's convenient for people who order in small batches every day and make breakfast with ingredients delivered at dawn.
- If you receive a delivery of fresh produce and it's left out for too long, it's at risk of spoiling. If you're in a hurry to get out the door on a busy morning and forget to put it in your main fridge, no problem!

Main function

- New Food Delivery Alerts
- Fridge Health Check
- Suggest healthy alternatives with generative AI

2-2. Application Architecture



User guide & Demo Video

<https://www.youtube.com/watch?v=TaX72o63OdU>

Scenarios with speaker (Use cases)

<https://youtu.be/pLBYtROjgso>

3-1. Conclusion & Future Plan

Conclusion

- As delivery and courier services will continue in the future, a mini built-in refrigerator appliance attached to the front door will enable sustainable choices.
- It will also solve the problem of unattended packages in apartment hallways.
- Building on this idea, if LG were to develop a refrigerator model with built-in wheels in the future, we'd love to see it become portable enough to target campers and glampers as well.

Review

- Initially, functions such as connecting with LG's main refrigerator and connecting to a smart home were considered, but it could not be carried out due to the project period.
- We need to utilize APIs to read other companies' product information or orderers' item lists, we couldn't get the data we needed to read the product information from the speaker, so we crawled it, but it was limited to storing it in an arbitrary DB.
- There are lessons our team has learned in terms of team project during this project, such as the importance of clear task distribution between team members or getting a sense of group software development. It has been hard and confusing time progressing this team project but it is meaningful that our team has experienced a team project related to service development.

| In the Future .. |

How About **LG Portable Collection?**

With XBOOM GO (XL7S) – Wireless vPortable Speaker, LG Gram Plus View – Portable Monitor, StandbyMe Go - Portable Screen ...

Like the LG Objects collection, the refrigerator designs proposed by our service, as well as existing LG appliances, allow you to pursue a new lifestyle.

Life's Good.

E.O.D



DEPARTMENT OF
INFORMATION SYSTEM



LG Electronics