



# eat it!

Recommendation-based  
Grocery Shopping Service

TEAM #2   노미래   김영중   문호   이재봉   장천하   장호

# Contents

- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development
- 6 Expectancy Effects

# Background

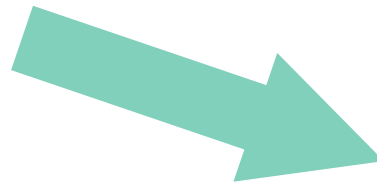
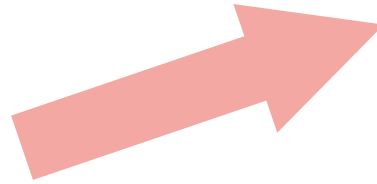
- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development
- 6 Expectancy Effects

# 1

# Background



Grocery Shopping



Offline Store



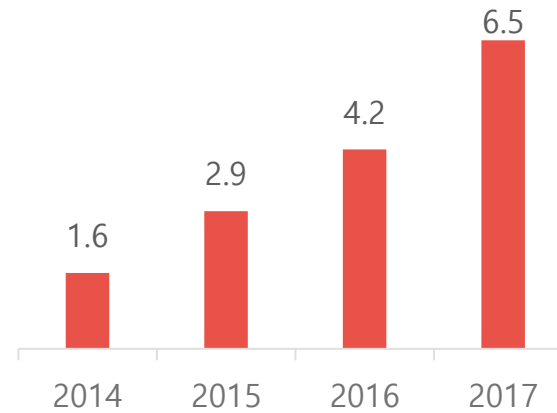
Online Store

## 1

# Background

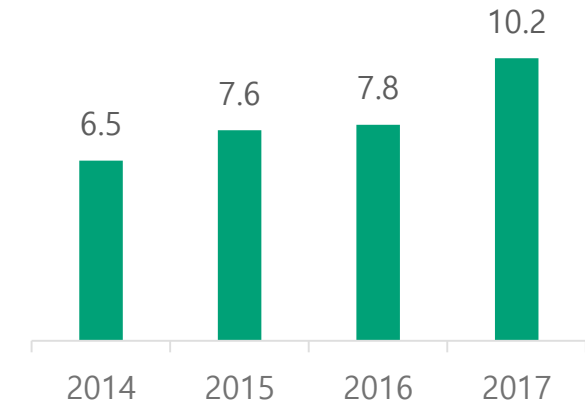


## Online Grocery Shopping Market Growth



국내 음/식료품 연간 온라인 거래액

\* 단위 : 조원 \* 자료 : 국가 통계 포털



국내 농축수산물 연간 온라인 거래액

\* 단위 : 천억원 \* 자료 : 국가 통계 포털

# Background



## Online Grocery Shopping Market Growth

### 신선식품 온라인 '큰 장' 선다...유통업계 '무한경쟁'

매일경제이 전상현 기자  
2017.03.31 04:42

의견 남기기

네이버 채널 구독자에게  
봄맞이 선물을 드립니다!

패션·여행 등 50배 이상 커지는 동안 17.1배 성장, 이제 온  
전문 업체 도전

#### 주요 상품군별 온라인 거래액 변화



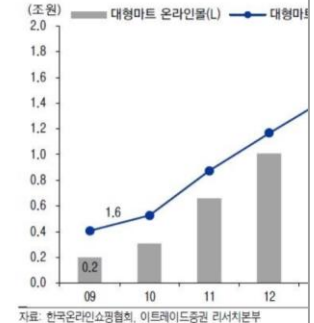
과일, 채소, 고기, 해산물 등 신선식품에 대한 온라인 소비  
인 화력을 신선식품에 집중하고 있다. 패션, 여행 등 이미  
들에 비해 성장 속도나 시장 잠재력이 훨씬 크기 때문이다  
와 전국적인 물류 인프라를 갖춘 대형마트들의 아성에 온  
업체들이 잇따라 도전장을 내밀고 있다.

### 'e-Grocery' 열풍...한국에도 상륙했다

美 '아마존 프레스' 성공 .. 이마트, 홈플러스 등

기사입력 : 2014-03-19 18:11 (최종수정 2015-02-27 00:17)

#### 대형마트의 온라인을 매출액 및 전체



[글로벌이코노믹=윤경숙기자] 올해 대형마트 '온라인 식료  
품' 시장이 급성장할 전망이다.  
높은 스마트폰 보급률과 1~2인 가구 및 맞벌이 가구의 증  
가, 그리고 높은 인구 밀집도라는 좋은 환경이 형성되고 있  
기 때문이다.

### 2조원 온라인 신선식품 시장 두고 치열한 경쟁

김태현 기자 2018.06.04. 14:41

#### 국내 농축수산물 연간 온라인 거래액



© Money today 2조원 온라인 신선식품 시장  
두고 치열한 경쟁

◇편의점까지 가세한 온라인 신선식  
품=BGF는 4월 SK플래닛의 자회사인  
헬로네이처와 신주인수계약을 체결  
하고 경영권을 인수했다. BGF가 헬로네이처의 유상증자(50.1%)에 참여  
하는 방식이다. 온라인 신선식품 업체인 헬로네이처를 JV(합작법인) 체  
제로 전환하여 운영하고, BGF가 대표이사를 지명한다.

헬로네이처는 2012년 유기농 친환경 제품을 산지와 소비자 간 직접 연  
결해 주는 서비스를 론칭했다. 업계 최초로 온라인에서 전날 자정까지  
주문하면 다음날 새벽까지 배송해 주는 새벽 배송 서비스를 선보였다.  
현재 가입자 수 50여만명, 제휴 생산 네트워크 1000여개를 보유하고 있  
다. 지난해 105억6000만원의 매출을 기록해 처음으로 연매출 100억원  
을 넘겼다.

# 1

## Background

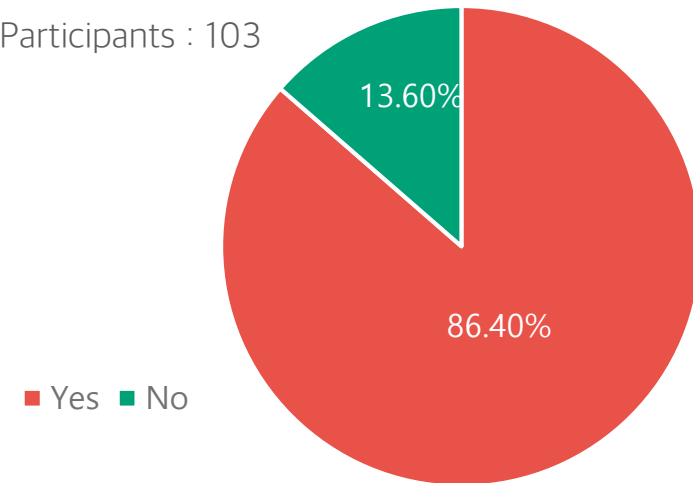


Online Grocery Shopping  
**Market Growth**

## Our Survey

Have you ever bought groceries online?

\* Participants : 103



Most of people  
have been brought groceries online!

# 1

## Background

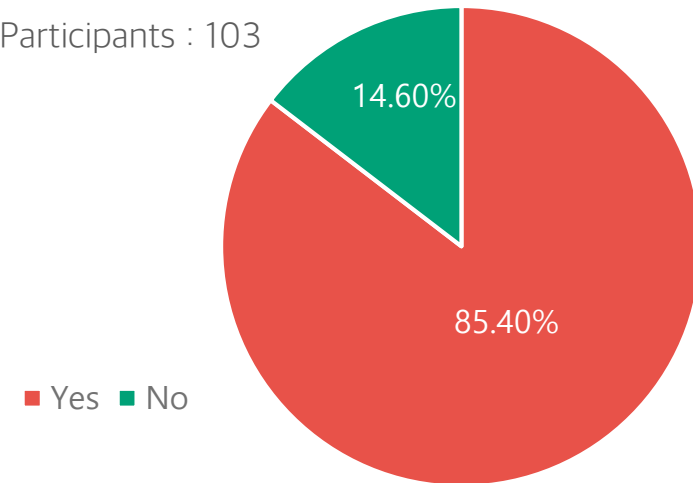


Online Grocery Shopping  
**Complaints**

## Our Survey

Have you ever been bothered  
because you have to pick up each item and buy it?

\* Participants : 103



The user **have to pick every single item**



# 1

## Background

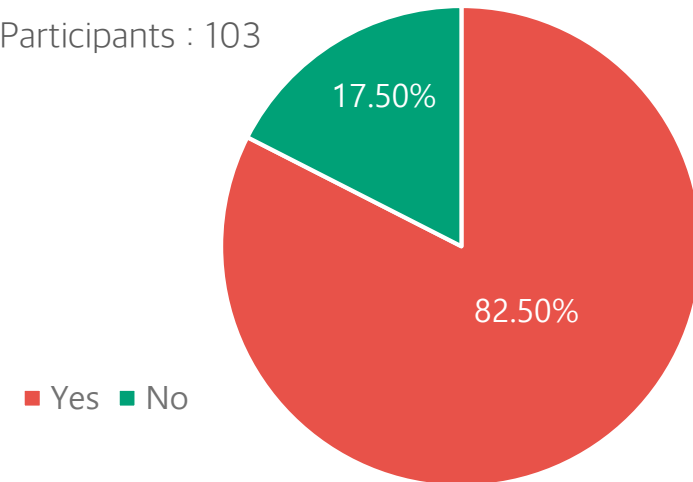


Online Grocery Shopping  
**Complaints**

## Our Survey

Have you ever wondered  
what to cook or what ingredients to use?

\* Participants : 103



The **user don't know** what to eat  
and what ingredients to use!

# 1

# Background

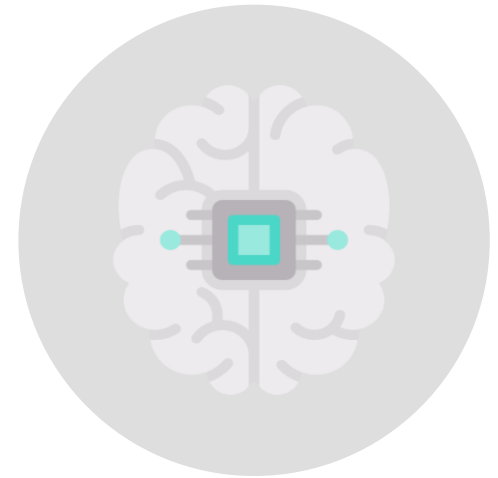
## Our Suggestion



Recommendation-based  
Grocery Shopping Service



Online Grocery Shopping



Machine Learning

# 1

## Background

### Our Suggestion

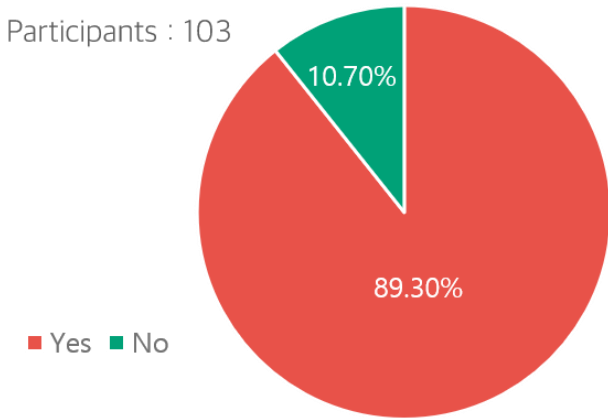


Recommendation-based  
Grocery Shopping Service

### Our Survey

Would you like to use a grocery shopping service  
that recommends you what to eat for you?

\* Participants : 103



■ Yes ■ No



People **would like to use**  
food recommendation shopping service!

# Objectives

- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development
- 6 Expectancy Effects

# 2

## System Objectives



### Personalized Recommendation

Our project's main goal is to implement a personalized recommendation system based on Machine-Learning. A new user evaluates given data set of menus so that system analyzes the user's taste. When the user want to receive a menu recommendation, the system will recommend menus that the user highly like to prefer. The system analyzes user's taste again if the user evaluates the purchased product.

# 2

## System Objectives



### Provide exactly what users want

According to our survey, most users don't know what to eat and how to cook. Therefore our service will provide effective filtering function and recipes appropriate for selected food. If the user doesn't want to cook, he can simply select already cooked food. If he wants to cook with ingredients, the service provides required ingredients and a recipe of the menu.

## 2

# System Objectives



## Easy to approach, easy to use

People don't want to consume a lot of time for getting foods, and that's why they use online grocery shopping service. That is, accessibility and easy user experience are essential to our service. We firstly implement our service in Android environment for accessibility. Also, we're going to analyze similar grocery shopping services and apply their convenient functions to our application for improving user experience.

# Related Services

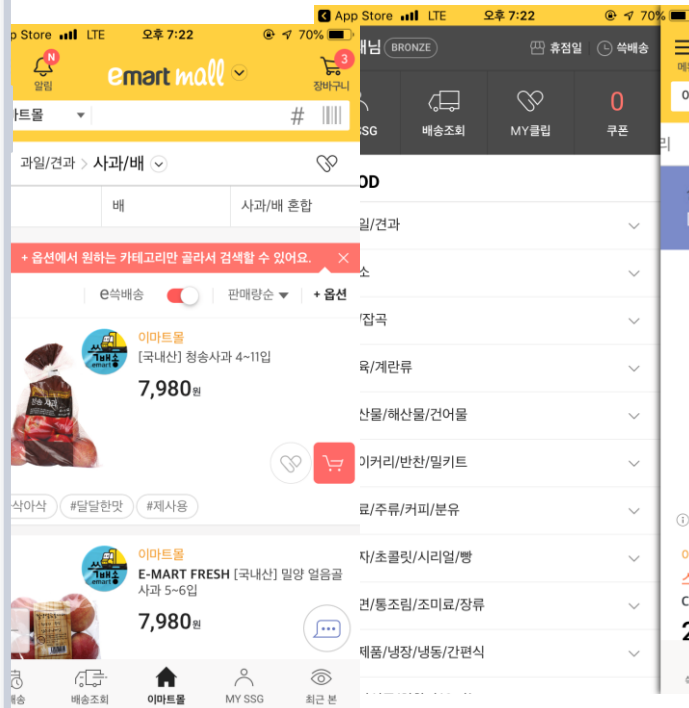
- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development
- 6 Expectancy Effects



# 3

## Related Services

### Emart Mall



### Checklist

- ☐ Personal Recommendation
- ☐ Provide menus' recipes
- ☒ Single ingredient shopping
- ☒ Food filtering by cooking type

# 3

## Related Services



Hyfresh

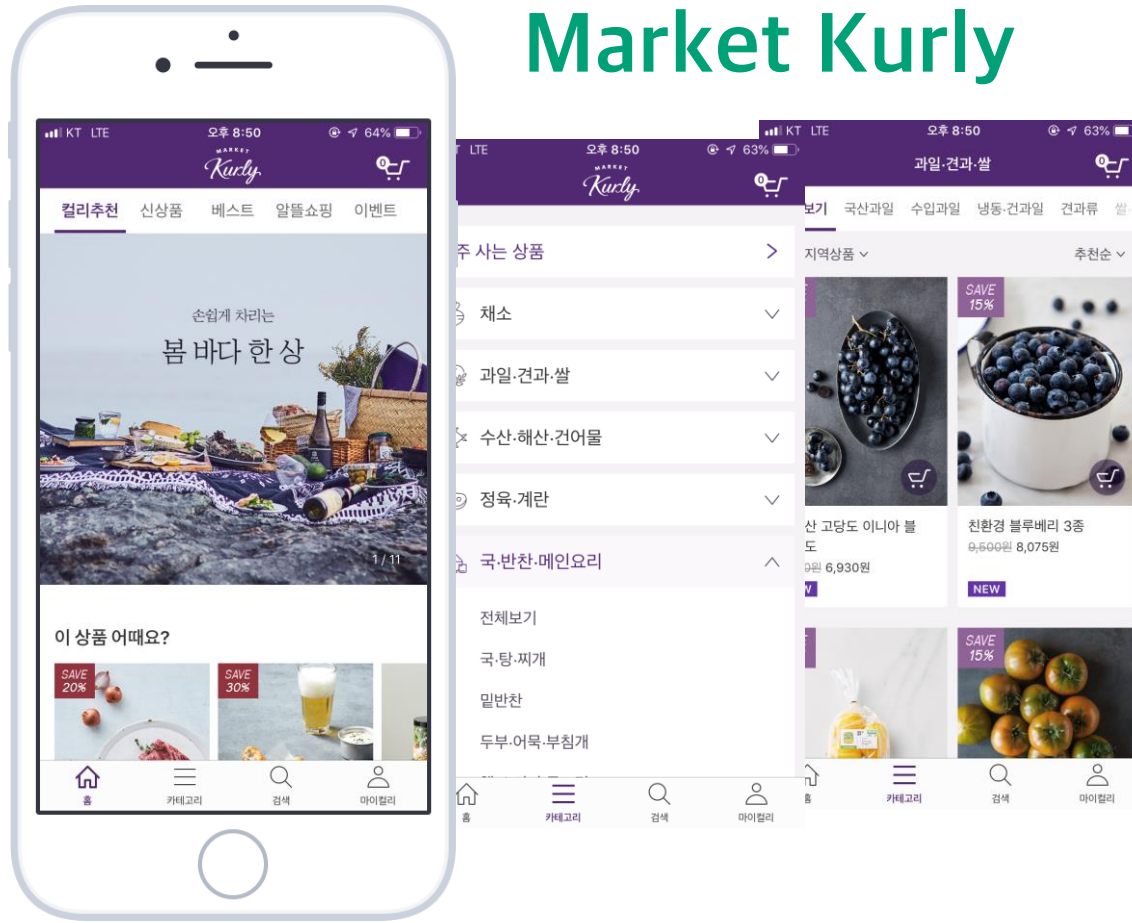
## Checklist

- ☒ Personal Recommendation
- ☒ Provide menus' recipes
- ☐ Single ingredient shopping
- ☐ Food filtering by cooking type

# 3

## Related Services

### Market Kurly







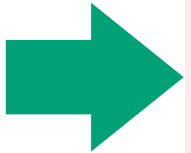
### Checklist

- ☐ Personal Recommendation
- ☒ Provide menus' recipes
- ☒ Single ingredient shopping
- ☐ Food filtering by cooking type

## 3

## Related Services

	Personal Recommendation	Provide Recipes	Single Ingredient Shopping	Filtering by Cooking Type
	X	X	0	0
	0	0	X	X
	X	0	0	X
	0	0	0	0



# Technical Background

- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development
- 6 Expectancy Effects

# 4

## Technical Backgrounds

Front-End



Android Studio

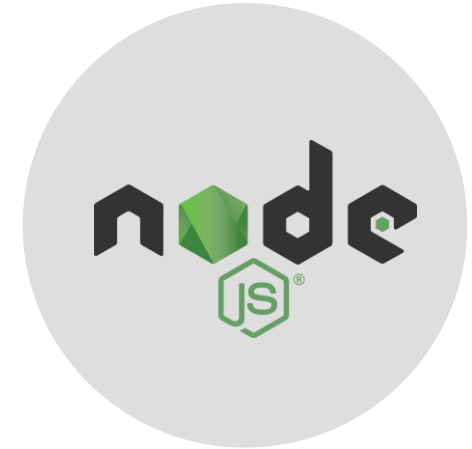
Front-end development

Back-End



MySQL

Database for our system



Node.js

Server for our system

# 4

## Technical Backgrounds

Machine Learning



TensorFlow

Machine-Learning Framework



Firebase ML Kit

For running TensorFlow in Android

APIs



Naver & Kakao

For quick register and login

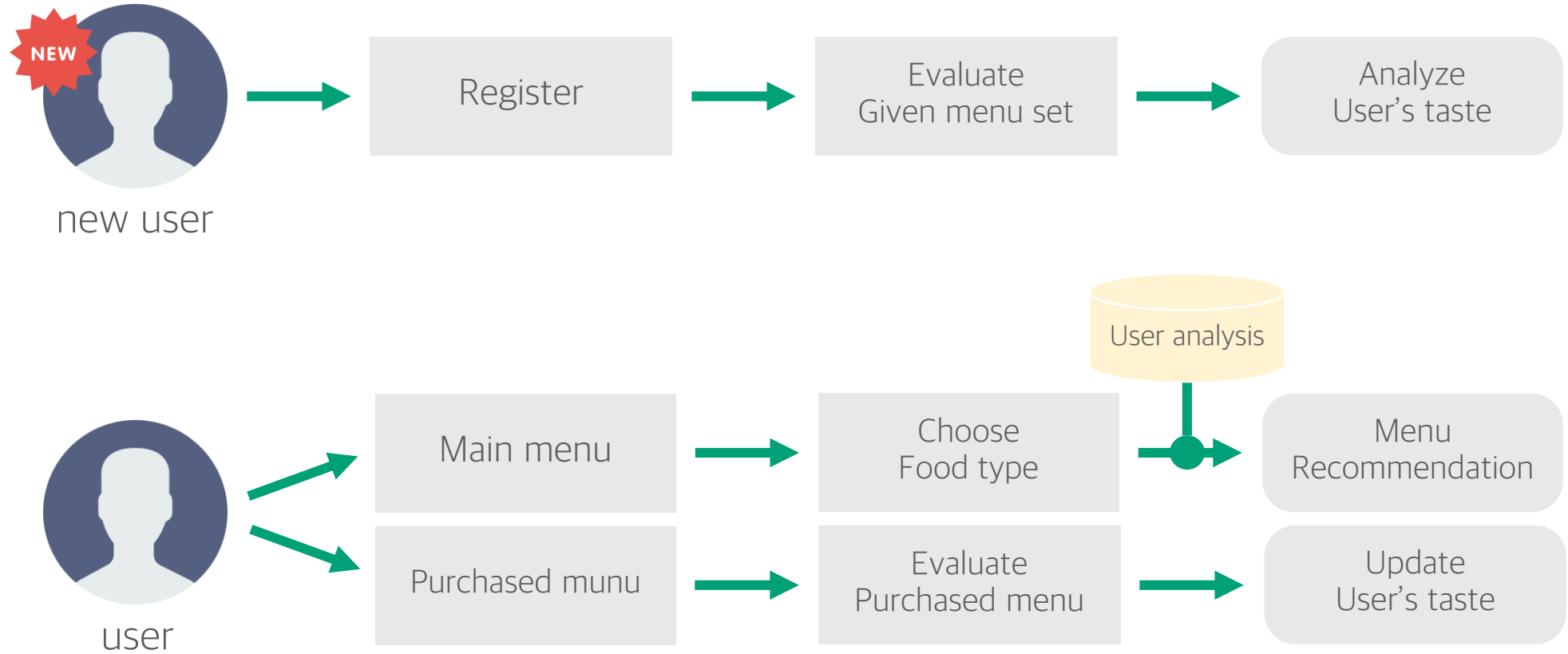
# Development

- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development**
- 6 Expectancy Effects



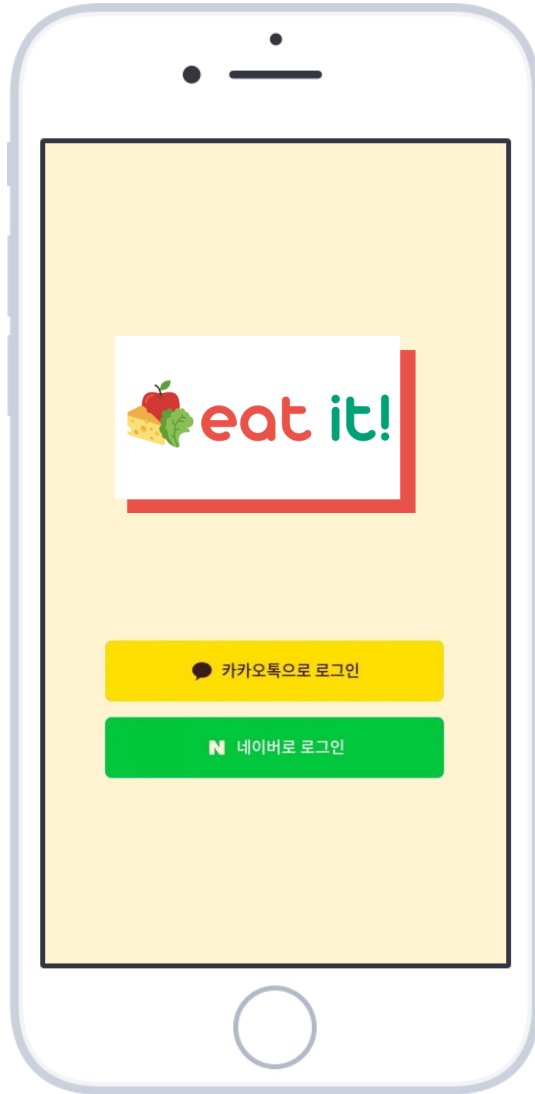
## 5

## Flowchart



# 5

## UI Prototype



### Start Page

We provides quick login service through kakao and NAVER.

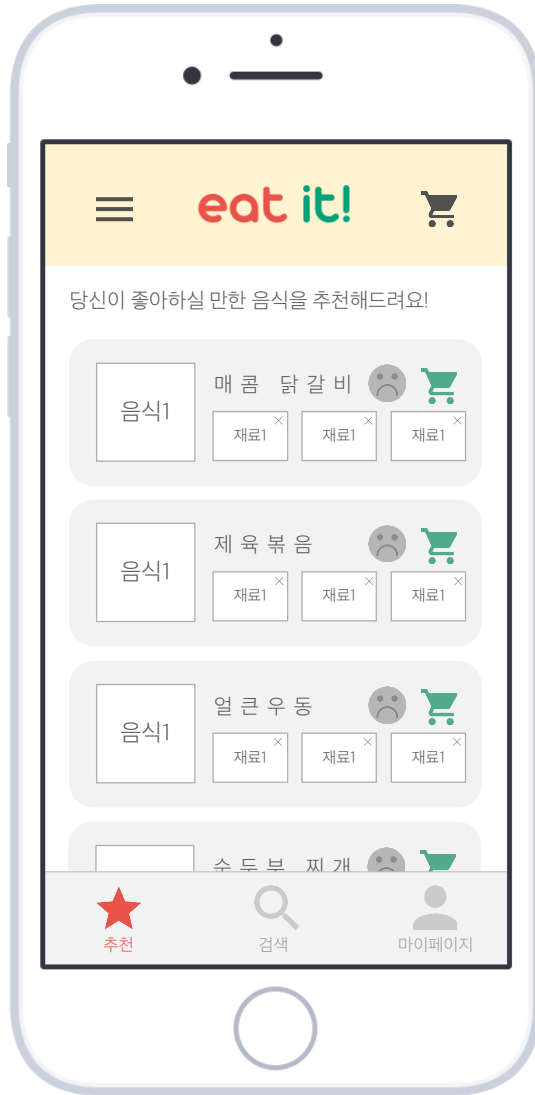


### First Evaluation

A new user have to evaluate given menus for taste analyzing.

# 5

## UI Prototype



### Main Menu

We suggest menus that the user will like. The user can see the menu and its ingredients. The user can pick item to cart.

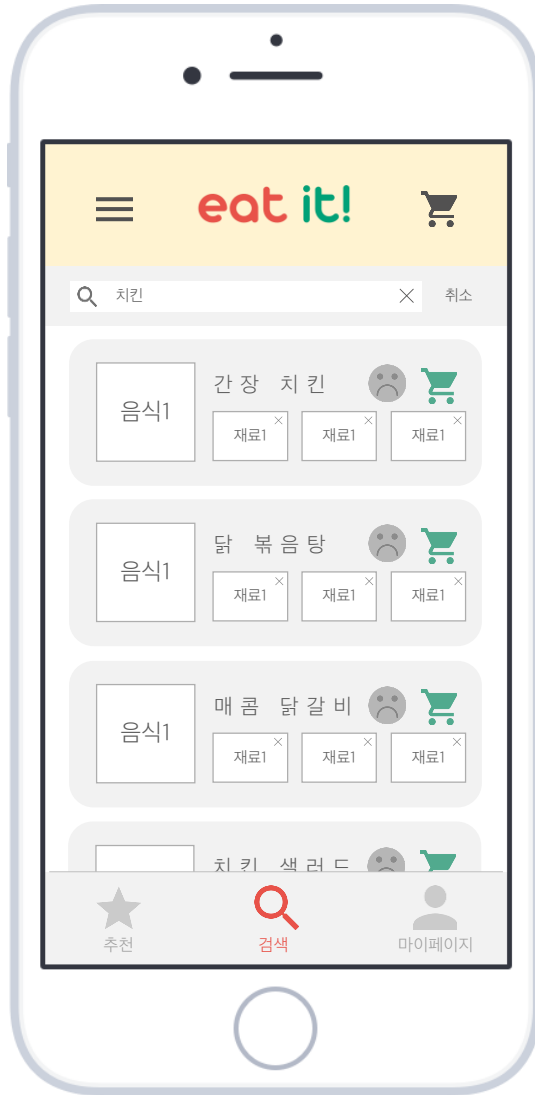


### Cart

Users can see what they picked. They can check whole price and press order button to order them.

# 5

## UI Prototype



### Search

Users can see what they exactly want to buy through search tab.



### Post Evaluation

After the users get and eat the food, they can evaluate purchased products. The result affects the taste analysis system.

# Expectancy Effects

- 1 Background
- 2 System Objectives
- 3 Related Services
- 4 Technical Background
- 5 Development
- 6 Expectancy Effects

# 5

## Expectancy Effects



### Resolving Customer's Worries

User do not have to pick every food for grocery shopping. Our service provides every recommendation. They just have to pick!



### Personalized Solution

Taste analyzing done by machine learning system provides not universal recommendation, but personalized recommendation.

# 5

## Expectancy Effects



### Convenience

Users do not have to go through bothering processes to get food. The service provides easily accessible environment and convenient user experiences.



### One Service Providing Everything

Users do not have to search recipes and ingredients for preparing single meal. The service provides all ingredients and the recipe when the user pick suggested menu.

# Thank you!

## References

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