Final Presentation: EZ Order

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Project Overview

1. **Motivation :**

✓ For customers: Provide means for reducing physical queues & being time efficient

✓ For stores: To attract more customers & increase efficiency for order management

2. **Proposed Idea**

✓ Simple ordering and order management app

Project Overview (cont.)

3. Novelty

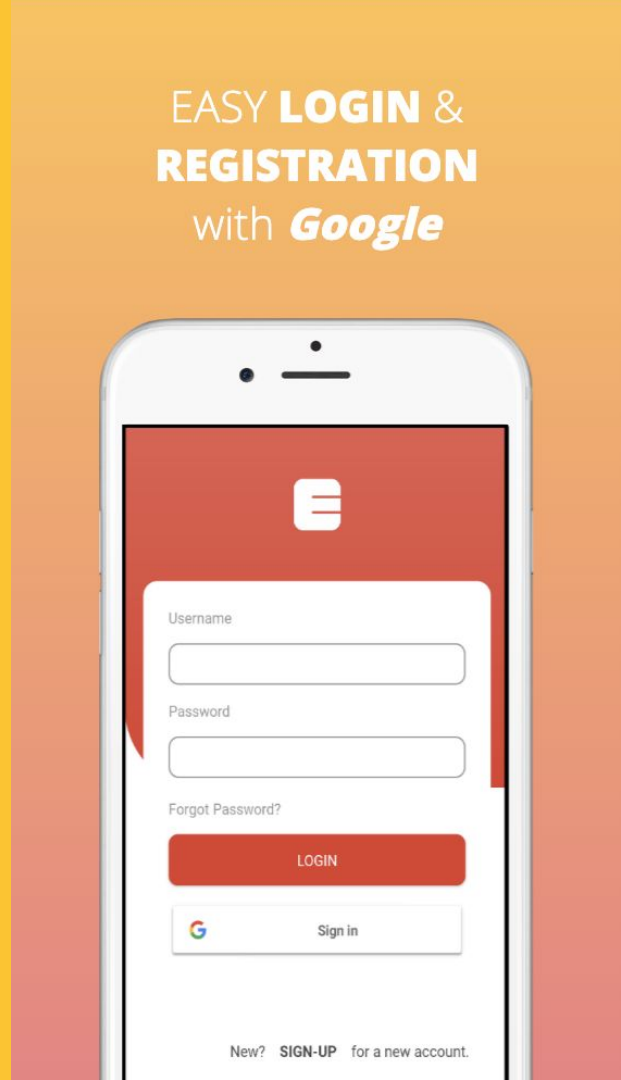
✓ Efficiency based platform for **both** store owners and customers

✓ Any kind of store can use (Stores, Pop-up Stores, …)

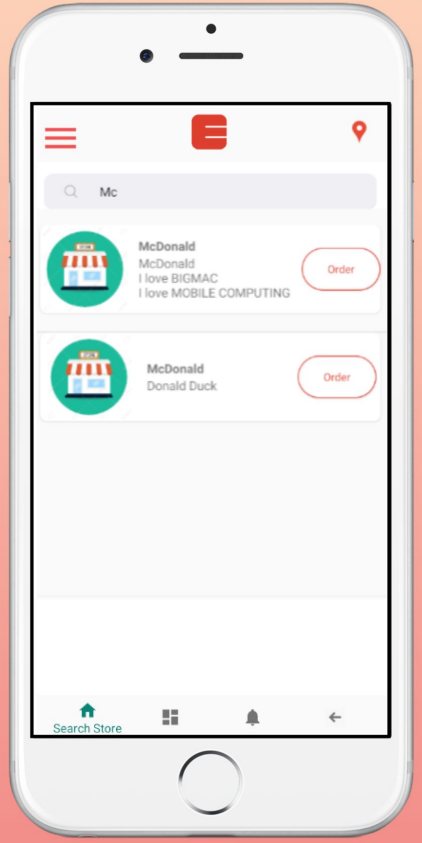
✓ Stores: Order management & Promotion

✓ Customers: Time-efficient purchase of orders

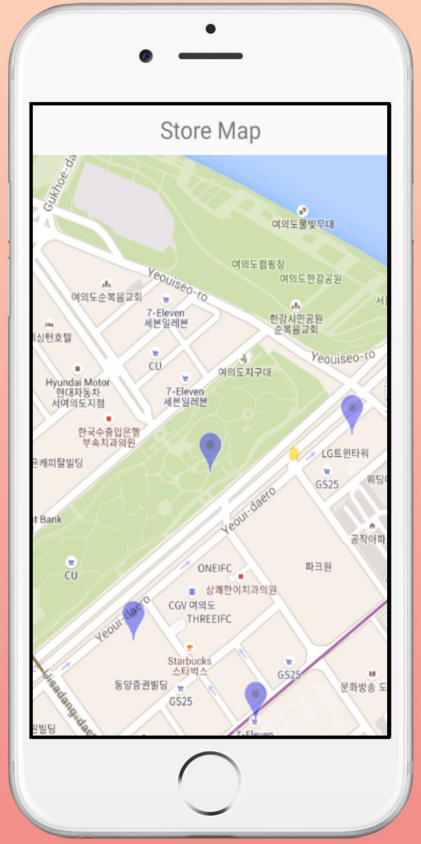
Easy Login & Registration with Google



Various SEARCH Options

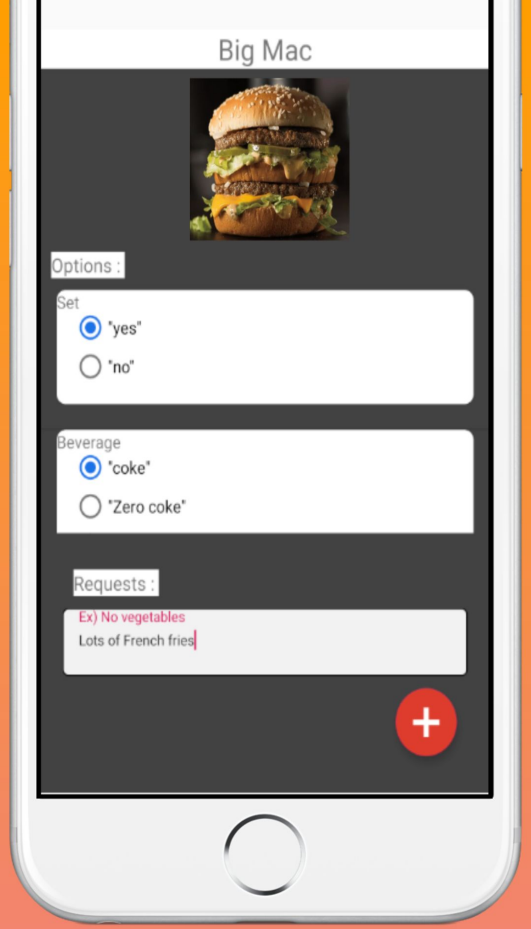


Various **SEARCH** options
1. KEYWORD SEARCH



Various **SEARCH** options
2. LOCATION SEARCH

Super simple Customising of Order

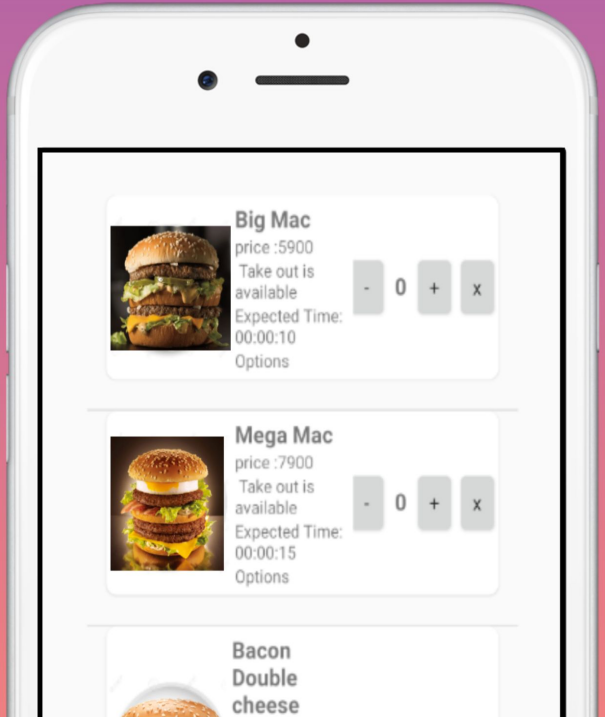


Super simple

EASY ORDER

Make ORDERs & View EXPECTED TIME

Precise & Exact
EXPECTED TIME
for your orders

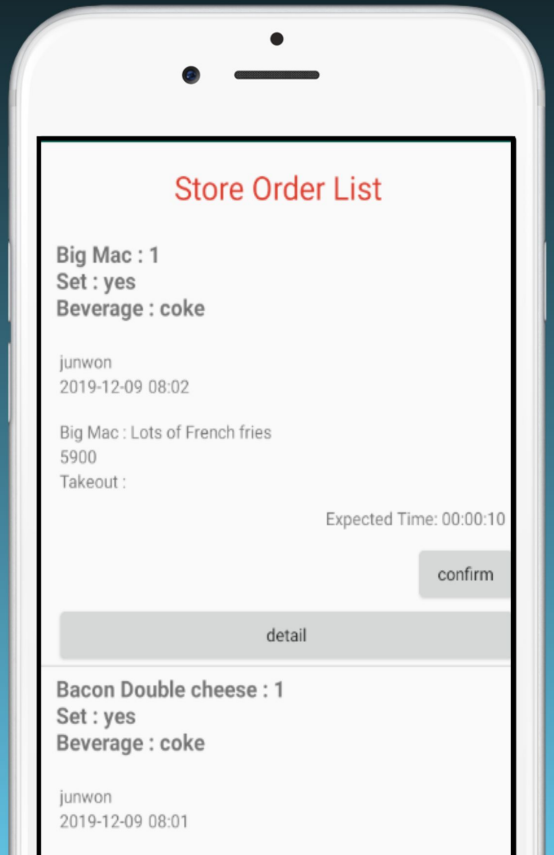


OPEN TO ANYONE & EVERYONE FOR USE

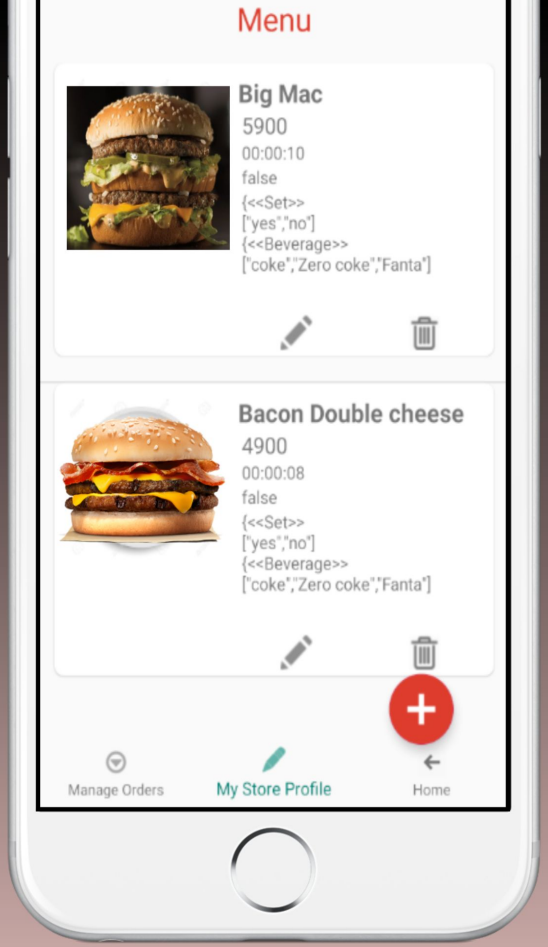
Not only stores and customers, but any situation where ordering is required

[ex) pop-up stores, 장터, 일일호프]

Register your store &
Manage orders easily



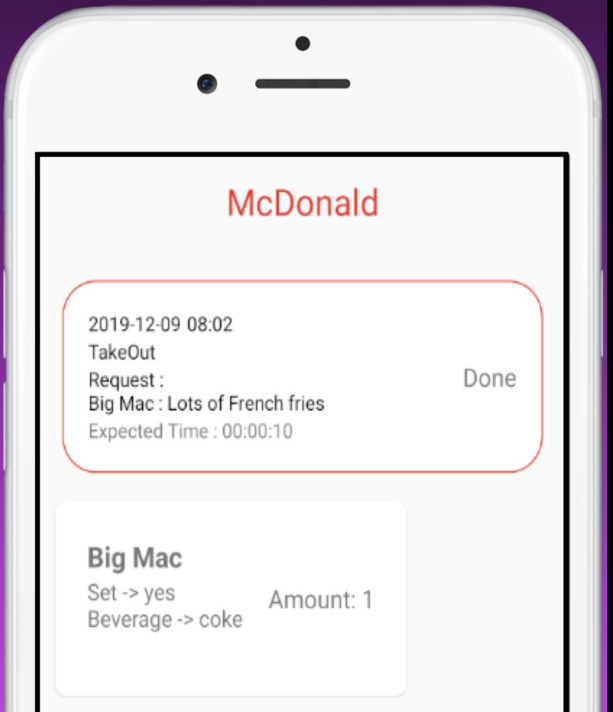
Register your store & Get orders queued efficiently



Add/Edit/Delete
your store menu easily

Add/Delete Menu easily
&
Customise options for each menu

View orders **in detail** with respective **options & requests**

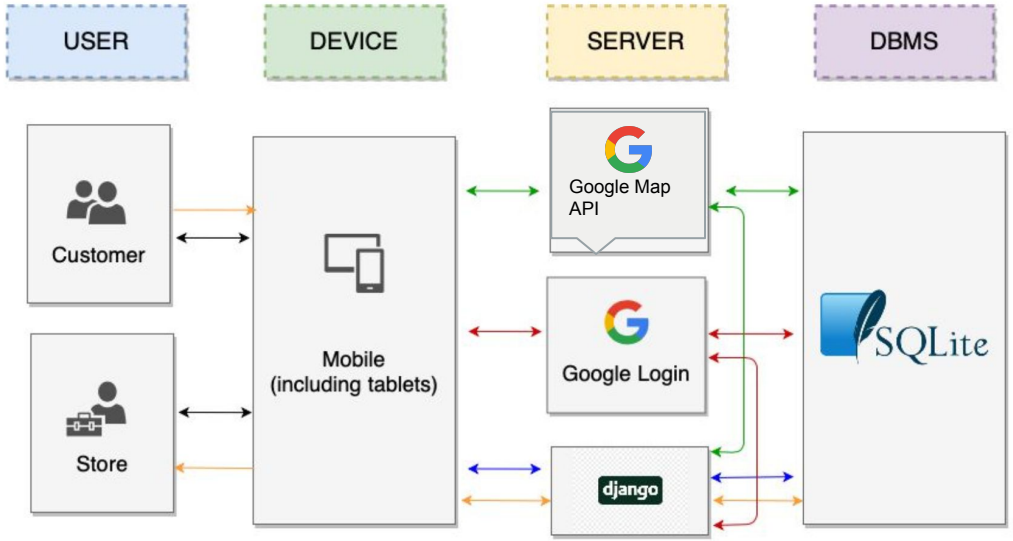


View detailed order of customers

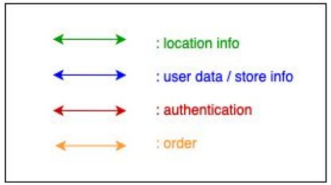
(incl. options and special requests)

Technical Details

- Libraries and tools used
  - Django (Backend)
  - Kotlin (Frontend)
  - Firebase



System Architecture Overview



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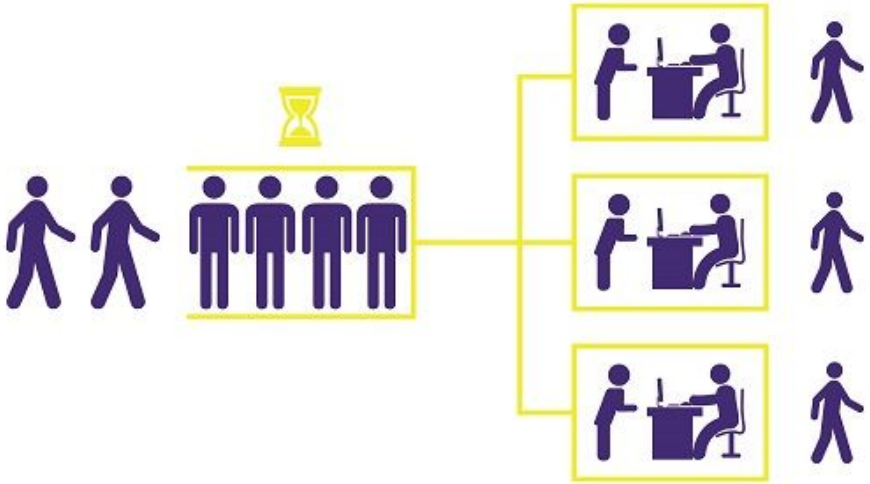
Technical Challenges

1. Queueing System
   - ? How are we going to efficiently queue orders?

2. Expected Time
   - ? How should we calculate the expected preparation time of each order?

Solution Approach : Queueing Theory



- FIFO
- Little's Law

$$L_W = \lambda \cdot T_W$$
$$L_Q = \lambda \cdot T_Q$$
$$L_S = \lambda \cdot T_S$$

- Predict λ
- Expected Time Based on Current Status
- Naive Version

Scope of the Project

Next Things TODO :

- Payment system excluded
  - Cumbersome
  - Payment In-Store is available
- User Authentification
- Review, Rating System

Timeline

1. *Milestone 1 (09.23 ~ 10.07) :*
   - ➢ Discussion and android, kotlin tutorials
2. *Milestone 2 (10.07 ~ 10.21) :*
   - ➢ Backend (django) development
     - i. Model
     - ii. Api
   - ➢ Android
     - i. Interface for store owners and customers

Timeline (cont.)

3. *Milestone 3 (10.21 ~ 11.04) :*
   - Google login
   - Store
     i. See/Add/edit/delete menu & profile
   - Customer
     i. See/Add/edit/delete profile
     ii. Search Stores
4. *Milestone 4 (11.04 ~ 11.18) :*
   - Ordering (with various options)
   - Handling Orders

Timeline (cont.)

5. *Milestone 5 (11.18 ~ 12.09)*
   - ➢ Fancy features
   - ➢ Search by Current location, Map, Keywords
   - ➢ Expected Time
   - ➢ Adding options and special requests to menu
   - ➢ Refine design

Roles and Contribution

Name	Contribution
Jaewon	Backend
Junwon	Android (Search, Google login, Location)
Wookje	Android (Order)
Yun Bin	Design (logo, UI)

DEMONSTRATION