

# CO-EATER

## TEAM 3

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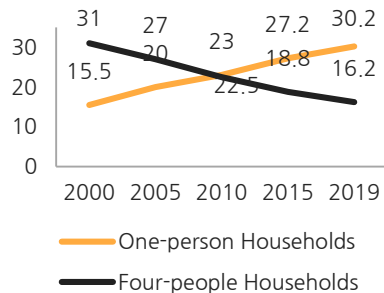
# OVERVIEW

| Summary of  
the Project

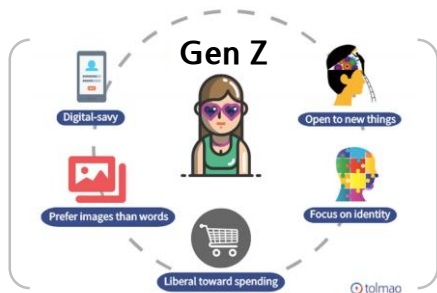
# Summary of the Project

## Motivations

### Incensement of single-person households



COVID-19 and social distancing



Existing Solution

Formal

Random Matching

Service that delivers **FUN DINING EXPERIENCE** so that people can keep close relationship and build good memories

Our Service

with Close Relationships

Enjoy Contents

The background of the slide is a solid orange color with a faint, light-colored technical drawing or blueprint overlaid. The drawing includes various lines, rectangles, and some text like '580' and '500'. A pen or pencil is also visible in the upper right corner, pointing towards the center.

# TECHNICAL DETAILS

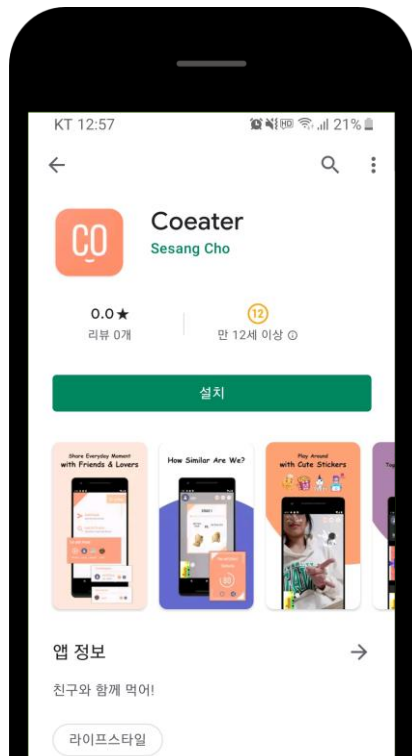
| Use Cases

| System Architecture

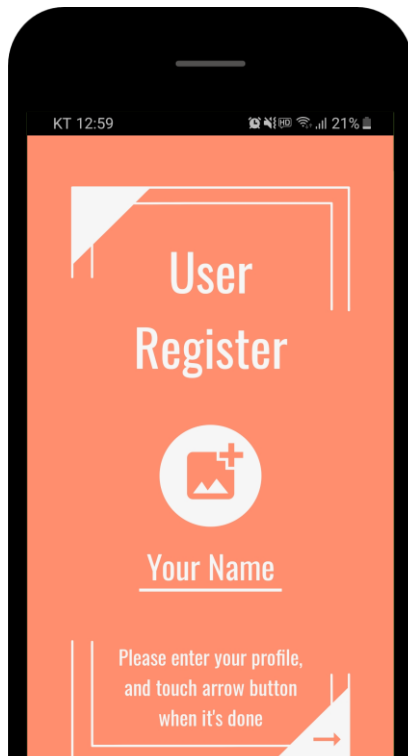
| Technical Challenges

# Use Cases 0. Overview

## STEP 1 Download

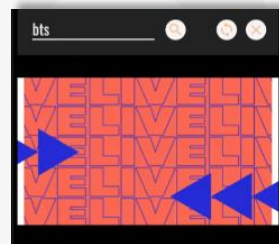


## STEP 2 Initialize Profile



## STEP 3 Have Fun from Co-eating!

1 Watch Youtube together



2 Play simple game



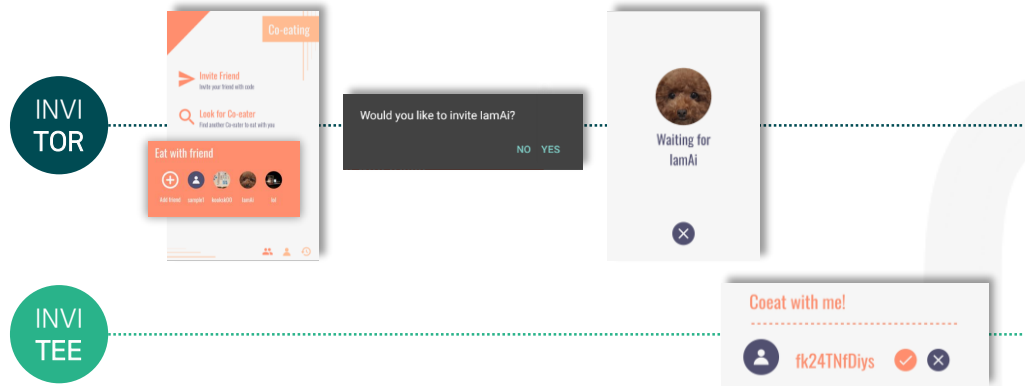
3 Decorate with stickers



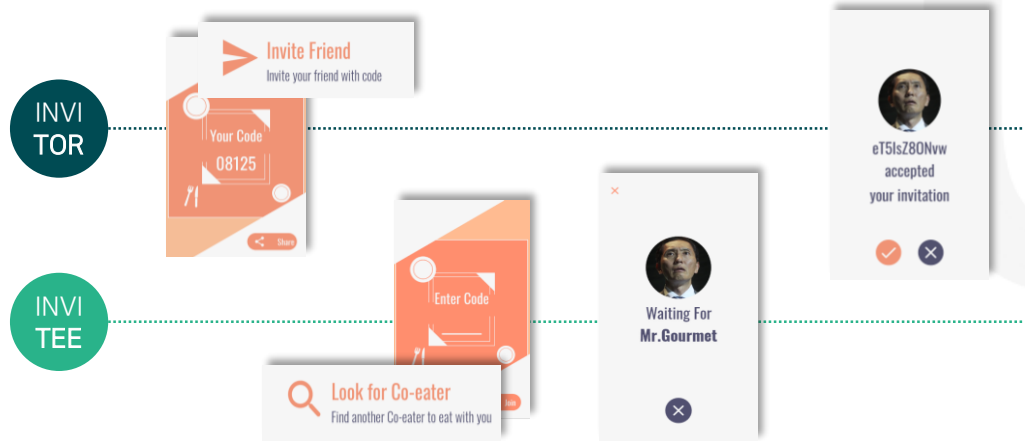
# Use Cases

## 1. How to co-eat?

### with Friend



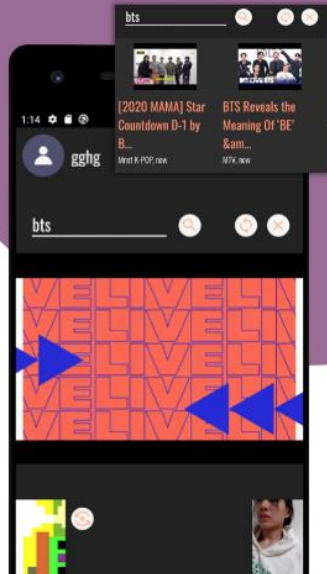
### with Invitation





## Use Cases 2. What to enjoy

Watch Youtube  
Together, at the Same Time



How Similar Are We?



Play Around  
with Cute Stickers

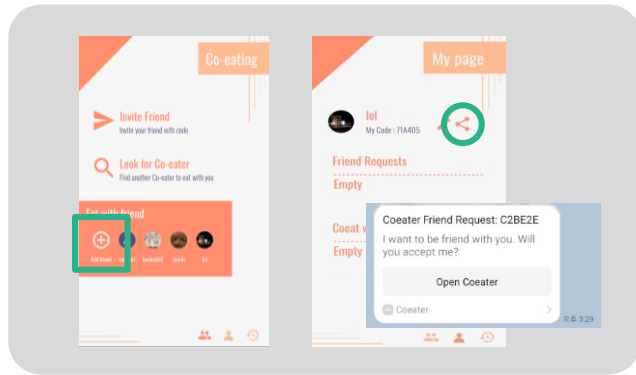




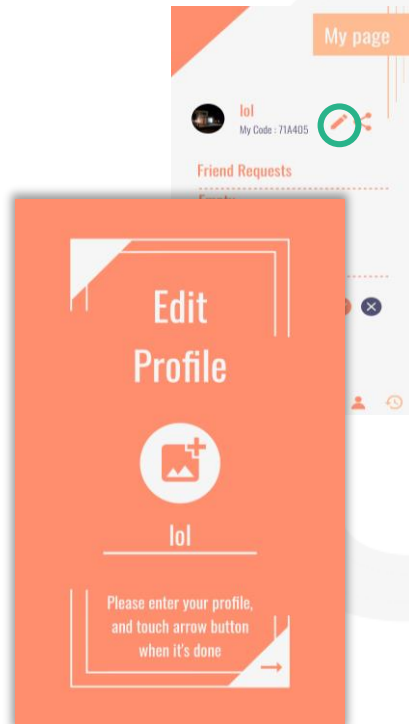
# Use Cases

## 3. User features

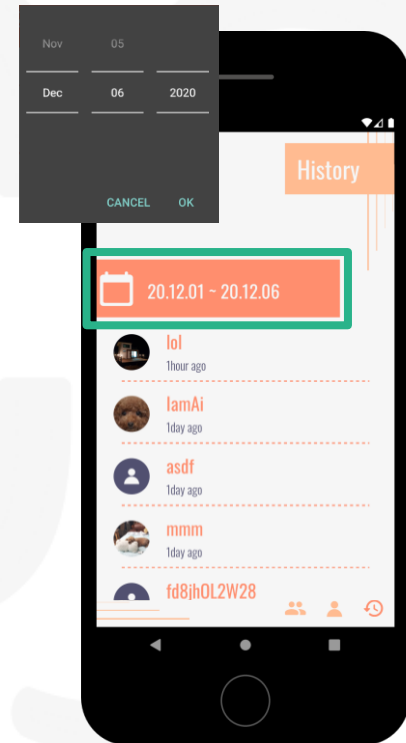
### Add Friend



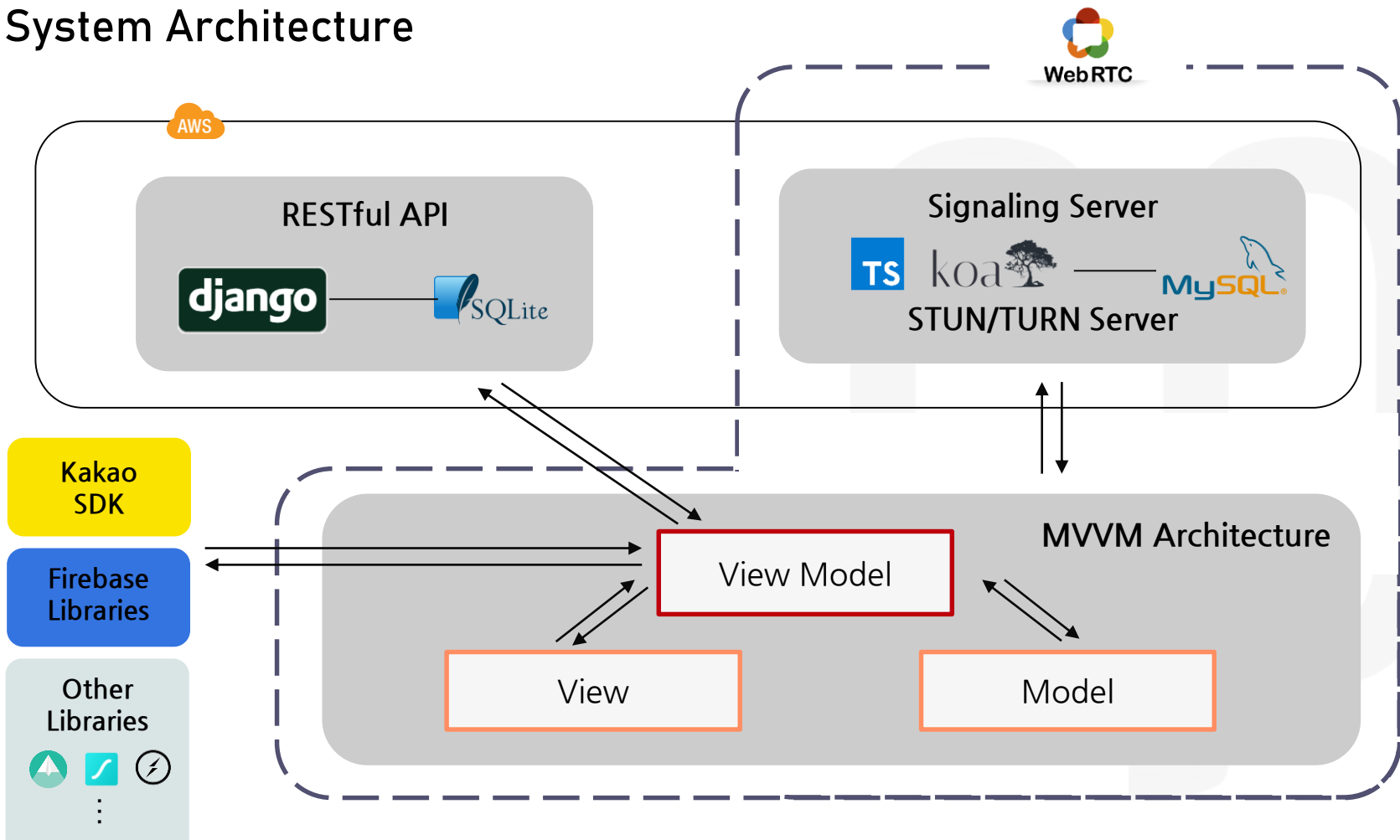
### Edit Profile



### History



# System Architecture



# Technical Challenges

## 1 Heavy, complicated client



Business logics



- ❗ Code gets complicated
- ❗ Simultaneously communicate with watching Youtube, sending emoji and game contents
- ❗ Memory overload - activity stops when using the emulator which has small memory size

## 2 Time & labor constraint compared to features needed



## 3 Runtime errors and layout distortions

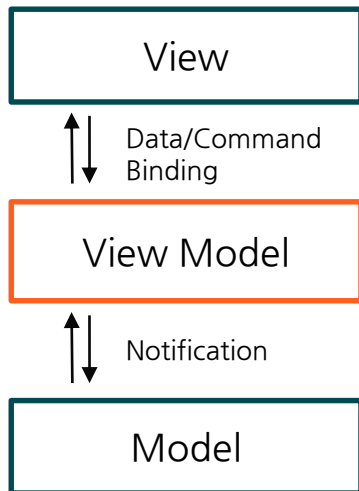
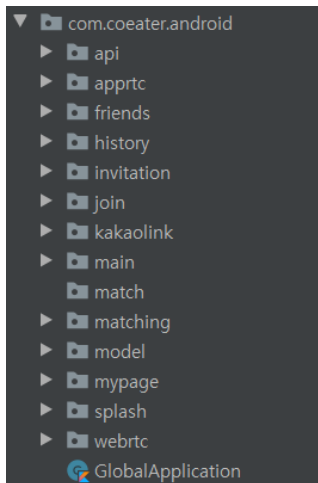
- ❗ Difficulty determining the cause of the error during QA
- ❗ Layout distortions due to many types of Android devices

# Technical Challenges Solutions

## 1. Heavy, complicated client

### Complicated Code

- Separate Features
- MVVC Architecture



### Simultaneous Communication



### Memory Overload

- Minimized image network communication Architecture
- Save resized image file on the server
- Store emoji as a json file, on client side  
→ Play by parsing the file using library

# Technical Challenges Solutions

## 2. Time & labor constraint

Use proven libraries if possible

### Architecture Components

VideModel  
LiveData

### Permission

(Syntactic sugar)

TedPermission

### Supportive



### Network



### Image



*“Don't reinvent the wheel”*



- ✓ Productivity 
- ✓ Syntactic sugar for architecture makes business logic more readable



- ✓ When a needed feature is not supported from the library, it rather takes more time to understand low implementation

WebRTC implemented as a way to modify the open source program AppRTC, which has much more features

➔ Communication structure btw. signaling server and client became unreadable

# Technical Challenges Solutions

## 3. Runtime errors and layout distortions

### Runtime Error



Firebase Crashlytics

#### A lightweight, real-time crash reporter

that helps to track, prioritize, and fix stability issues that erode the app quality

→ Enabled to fix bugs relatively easily  
by **showing lines of code that are causing crashes** in groups

### Layout Distortions



Modified through  
multiple fingering test



# PROJECT MGMT.

- | Final Deliverable
- | Project Management
- | Roles & Contributions



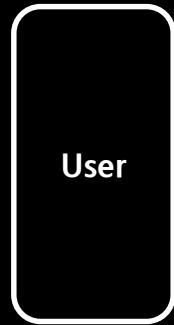
# Final Deliverable



**Videotelephony app which  
enhances relationship by offering  
Fun Dining Experience**

# Final Deliverable

- Refined project scope



- ☒ Initialize nickname and thumbnail
- ☒ Profile page and edit profile
- ☒ Add friend by searching and delete
- ☒ Eat with friend

Deprecated :

low priority and lack of time



- ☒ Simple real-time games
- ☒ Face recognition + Animoji

Substituted :

low performance of face recognition  
→ Implement emoji stickers instead

+ Watch Youtube together

# Final Deliverable

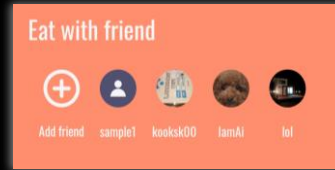
## - Evaluation & success criteria

### Latency

< 1s

For pleasant user interaction, latency should be significantly low

### In-app Participation



Offer functionality that leads to co-eating inside the app (other than sharing the link)

### User Experience



Carefully design UI/UX to deliver pleasant experience



Add enjoyable features

# Project Management

## Development

- ✓ Two track strategy to meet the deadline
  - Challenging feature (face recognition) & Functional features
  - Flexible role distribution of design / server / client jobs
- ✓ While allocating programming responsibilities equally, we also tried to fix the bottlenecks ASAP when problem occurred

## Meetings

- ✓ Non-face-to-face meeting until mid-term exam period
- ✓ As the complexity of the app increased, face-to-face meeting was held monthly.

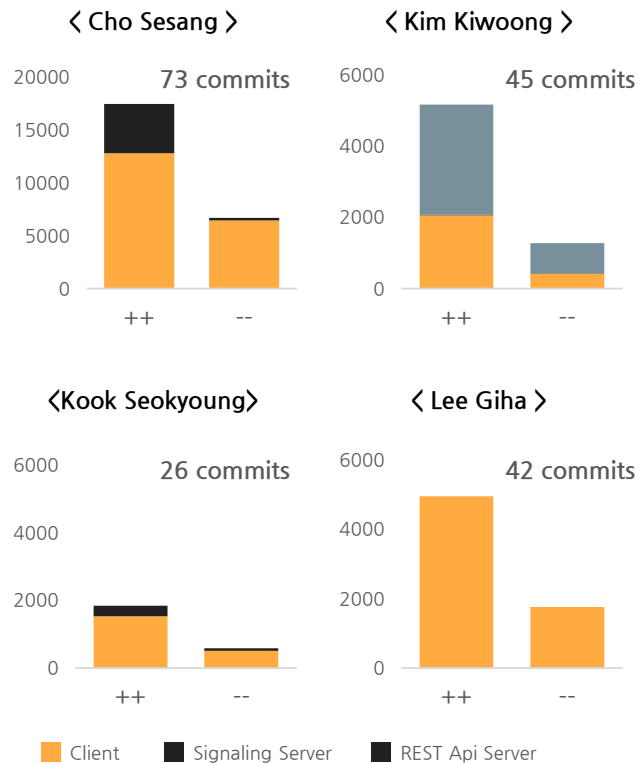
## Tools



## Project Management Timeline

[illegible]

# Roles & contributions



## Git Usage Stats

Server	REST Api	Kim Kiwoong
	STUN/TURN	Cho Sesang
	Signaling	Kook Seokyoung, Cho Sesang, Kim Kiwoong,
	AWS	Cho Sesang, Kook Seokyoung
Client	Overall Structure & WebRTC Settings	Cho Sesang
	KakaoTalk Share	Cho Sesang
	User Features (Profile, Friend, History)	Lee Giha, Cho Sesang
	Matching Activity (Invitation, Join, Match)	Kim Kiwoong, Kook Seokyoung, Cho Sesang
	Matching Activity (Eat with Friend)	Kook Seokyoung, Cho Sesang
	Call Activity	Cho Sesang
	Game Features (Youtube, Game, Emoji)	Kim Kiwoong, Cho Sesang
General	Project Management	Cho Sesang
	Planning & Presentation	Everyone
	UI/UX Design	Kim Kiwoong, Kook Seokyoung
	Prepare Presentation Material	Kook Seokyoung

# Lessons & Reflections



Rather than trying technically challenging things, I focused on usability due to a limited amount of time. Although I devoted considerable efforts in design or ideations, I regret not taking a technical risk.



Due to time and resource constraints, and unfamiliar development environment, much of original plan were deleted, added, or edited. I was able to experience a lot about the mobile development and the difficulties of development in practice



Do iOS development rather than Android



Learned a lot from first android project, and feels little shame that I was lack of prior knowledge at the same time. Also it was gracious to meet such a nice team.





*THANK YOU*