



# SKKU-GPT

SKKU-GPT - Improved SKKU Chatbot



# Contents



**1**

**Motivation**

**2**

**Project's Goal**

**3**

**Result / Demo**

**4**

**Test Plan**

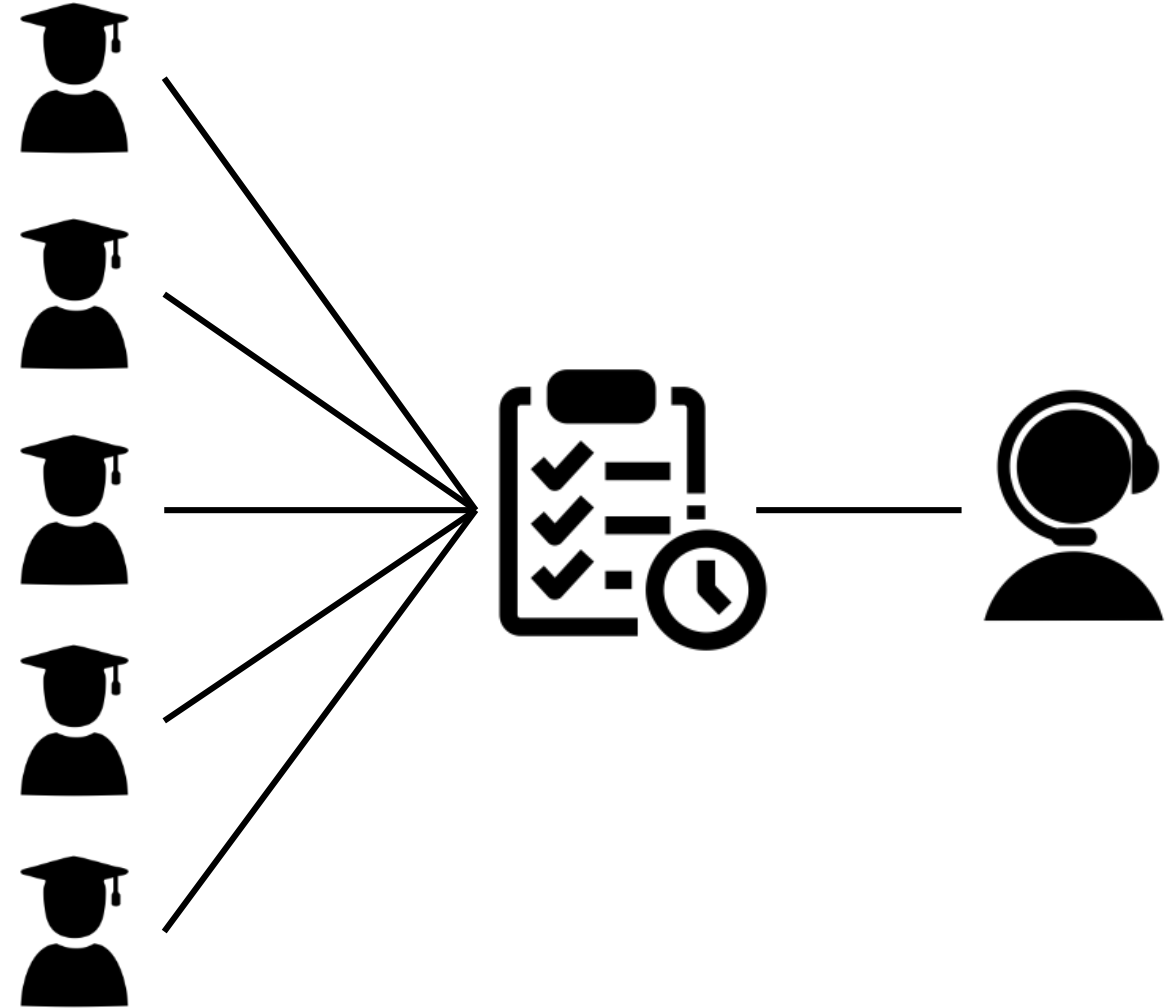


# Part 1

# Motivation

# Motivation

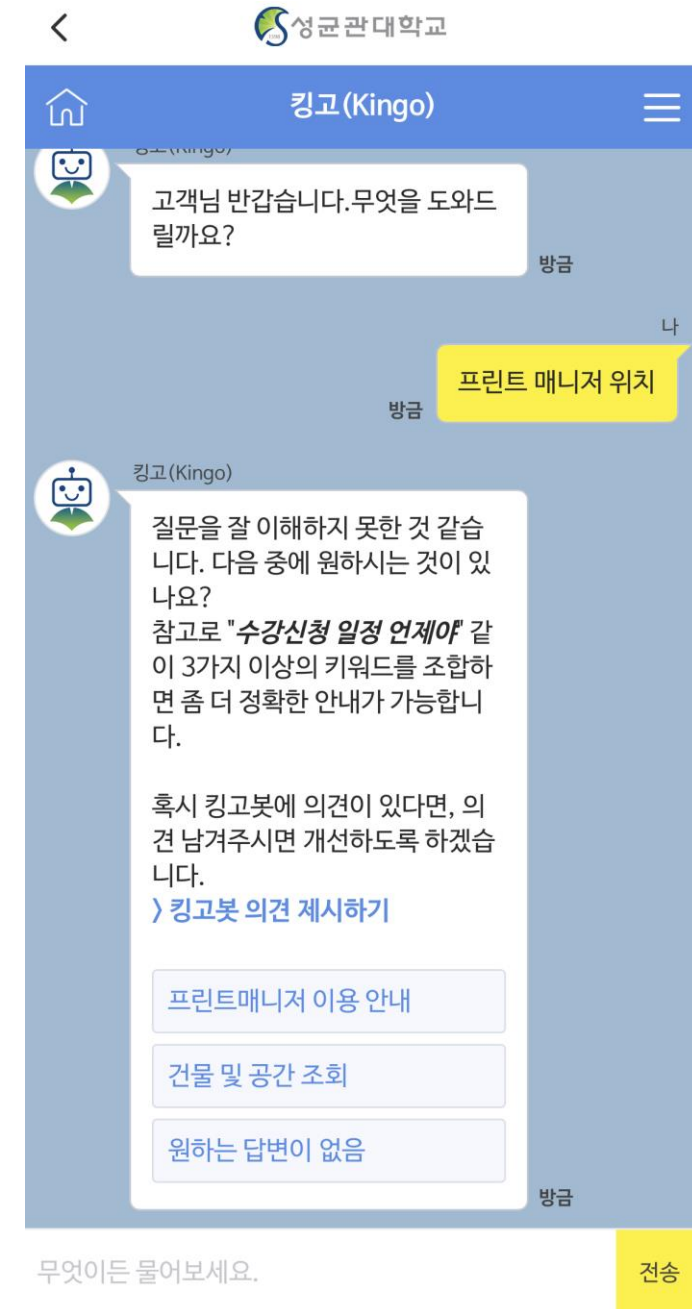
- Administrative office repeatedly handle tasks for a large number of students, such as graduation requirements, scholarships, and course registration
- There is a lot of work burden because the administrative office has to give the same answer to a large number of students
- Finding related school rules on the school website is quite time-consuming and inconvenient work
- Some students find it difficult to call the administration directly



# Motivation

## Students are able to use chatbot via KINGO-M Application

- Though questions are simple, sometimes, chatbot cannot make appropriate answer
  - Increasing user's input
  - Cannot receive useful answer by multiple questions
- Application has to be restarted because of short session time
- Chatbot doesn't learn about new notice

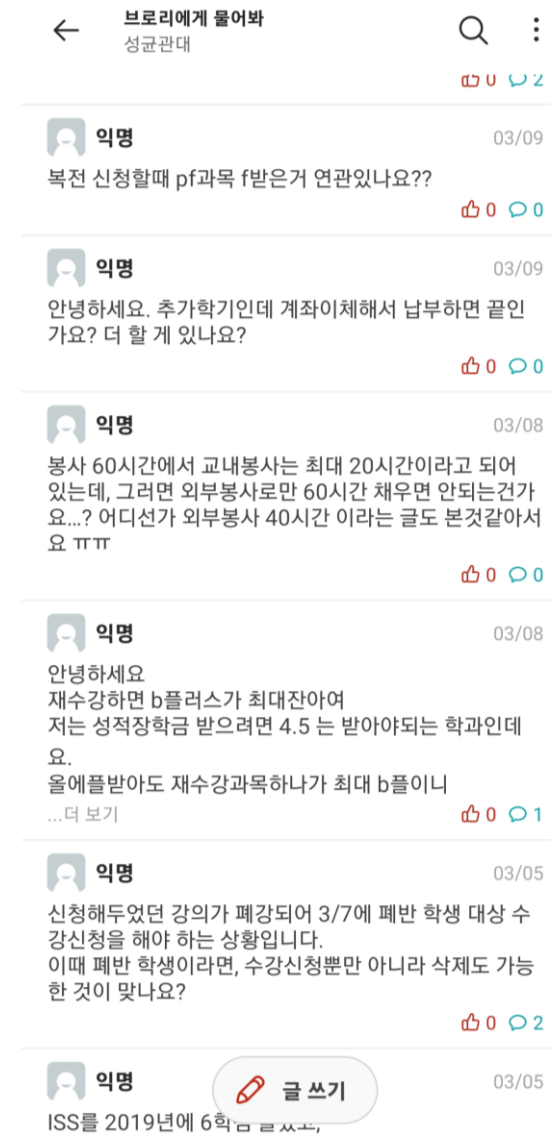




# Motivation

## Students can get information at university community (e.g., Everytime)

- Students who have difficulty calling to administration ask question to community
- Many students ask questions via community, however many of those questions can't get answer
- Reliability of answer at community is not ensured



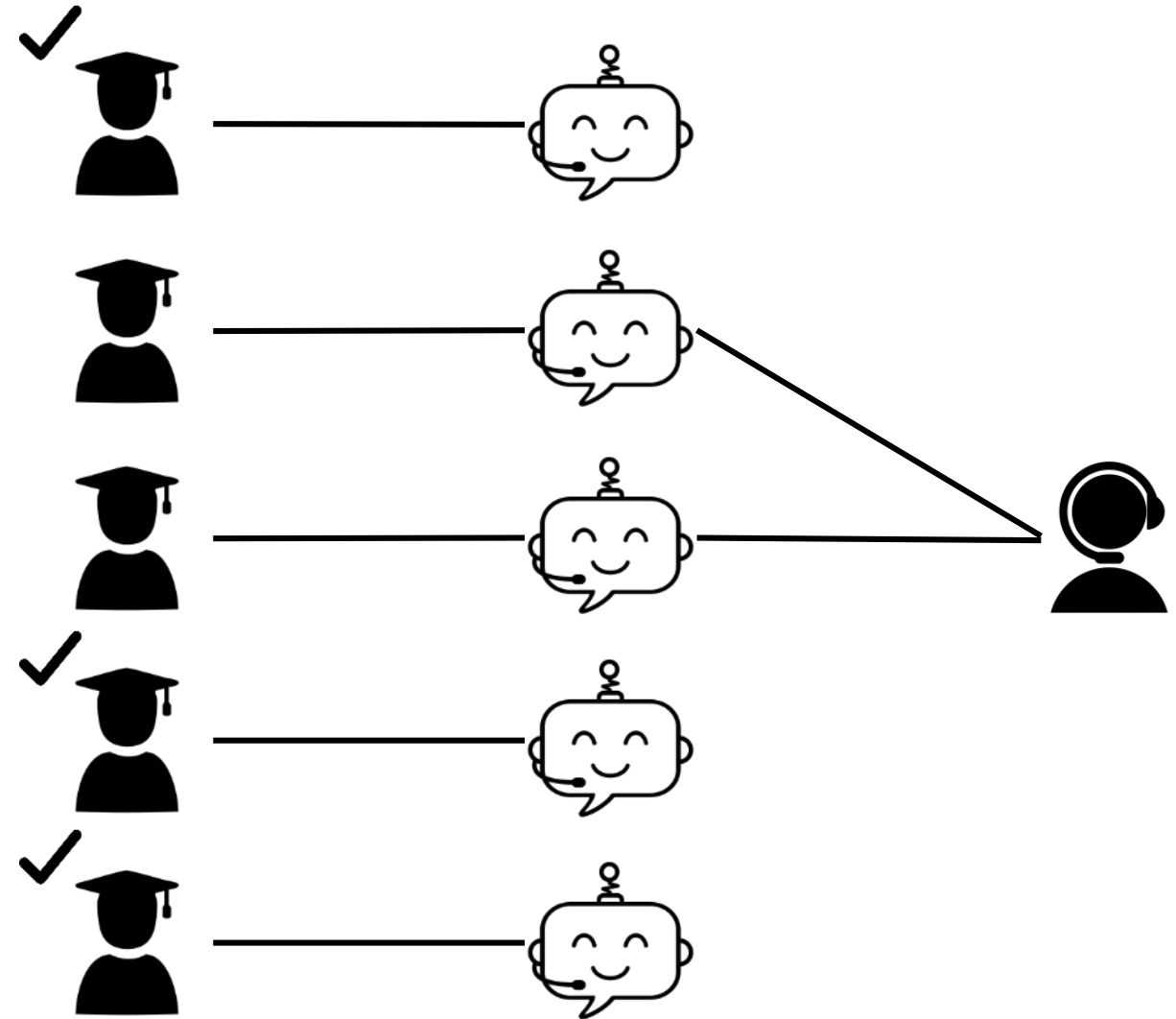


# Part 2

## Project's Goal

# Project's Goal

- By improving the shortcomings of existing chatbot, students can use SKKU-GPT more conveniently
- Students can get administrative answers faster
- Students can get more accurate answers than the community
- Students can receive relevant answers outside of administrative office hours
- Reduce the burden on administrative offices





# Project's Goal

**Large language models, such as ChatGPT, tend to tell untrue content as if it were true (Hallucination)**

- Therefore, in order to improve the reliability of the answer, documents such as announcements, school rules, etc. are included with questions
- Suggest a way to provide it to ChatGPT, allowing models to view documents and answer questions
  - At this time, it is necessary to find a document related to the question (=search engine)



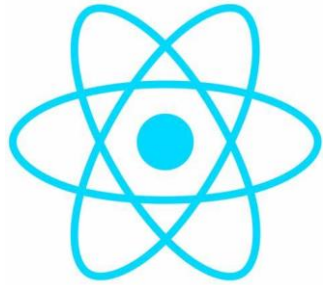
# Part 3

# Implementation / Demo

# Environment

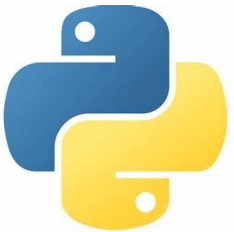
## Frontend

### JavaScript



React Native

## Backend



python™



Flask

## Document Search



Elasticsearch

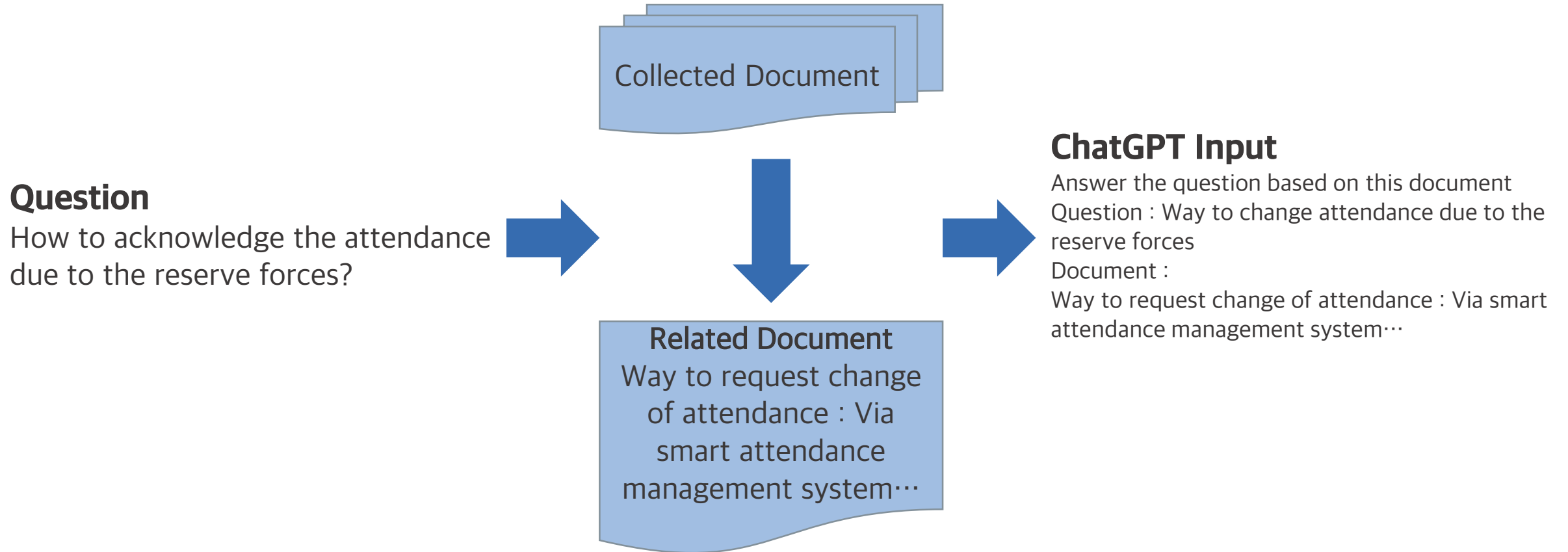
## Generating Answer



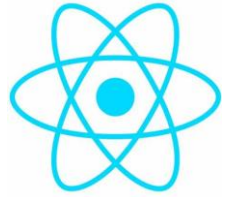
ChatGPT API



# Implementation Plan



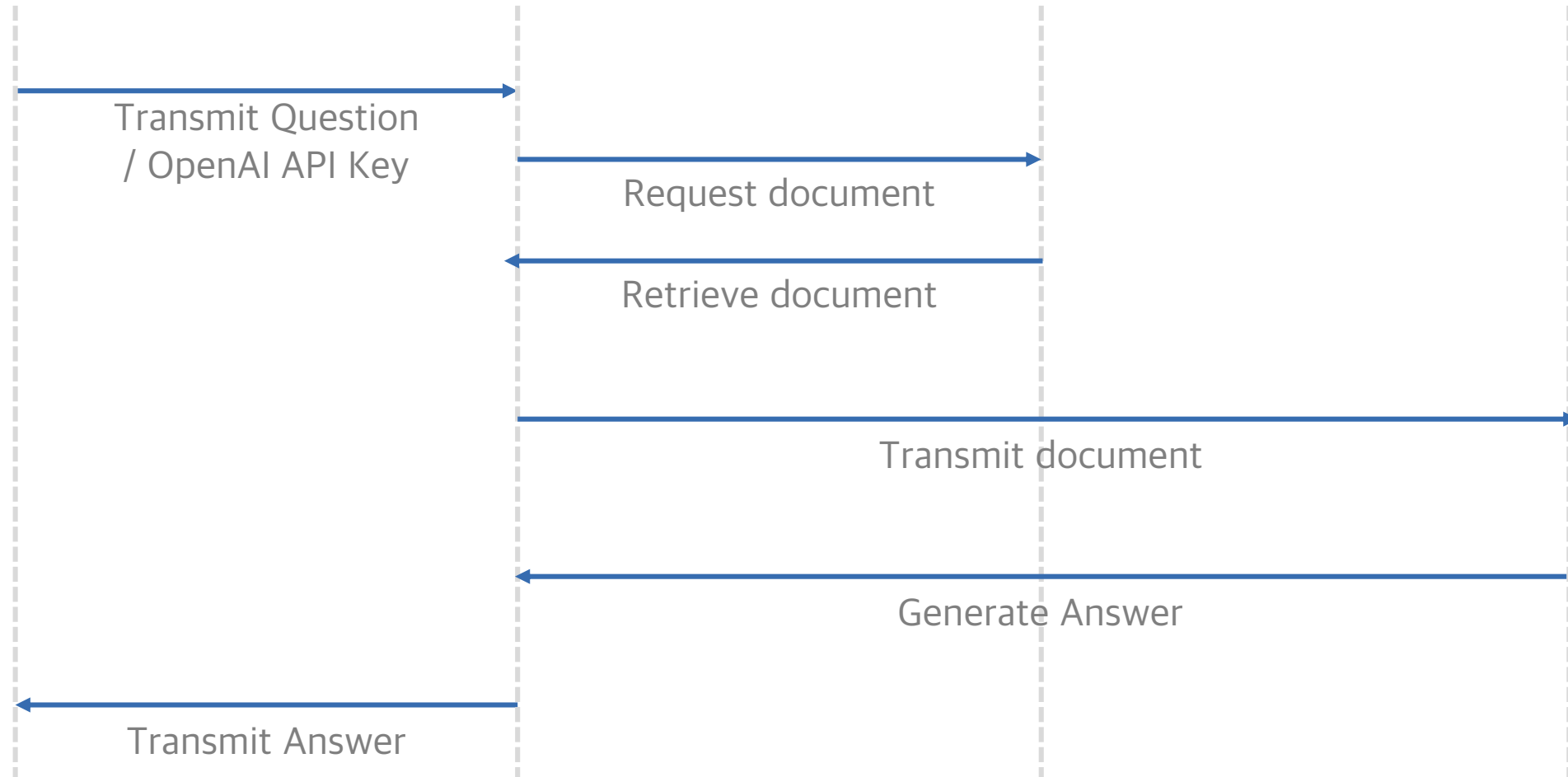
# Implementation Plan



React Native



Flask



# Implementation Plan

- We have generated documents on department notices, academic policies for the past five years in the form of JSON
- Elasticsearch generates index automatically using JSON document
  - By generated index, we can get document based on question's words

```

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4      "title": "[미래형자동차] 「HL Klemove」취업 설명회 홈페이지 공지 요청",
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25     "document": "CSI연구실 (지도교수: 우흥욱)의 논문이 인공지능 분야 우수학회인 ICML 2023 (Fortie
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45     "document": "실감미디어공학과/인간AI인터랙션 BK사업단 전문가 초청 세미나\n 일시: 2023년 05월 0
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51   },

```



# Demo



# Part 4

# Test Plan

# Test Plan - Login

- **Login Success**

: Checking that login is executed when ID and password is registered

- **Login Failed (Password)**

: Checking that login is failed when password is different with registered user's password

- **Login Failed (Unregistered user)**

: Checking that login is failed when ID and password is not registered

- **Logout**

: Checking that logout is executed successfully when logged-in user tries to logout.



# Test Plan - Chat

- **Answer Generation**

: Checking that system generate valid answer related to academic policies

- **Answer Generation Time**

: User should be able to receive answer within 5 seconds

- **Answer Generation Repeatability**

: Application should be able to generate answer when user transmit question repeatedly

- **Support Multi-Language**

: Application should be able to generate answer in Korean and English

# Test Plan - Interface

- **Elasticsearch**

- : Checking that Elasticsearch can return valid document related to user's question
- : Checking the case that there is no appropriate document related to user's question

- **OpenAI API**

- : Checking that system can communicate with OpenAI server successfully
- : User's question must not longer than 120 characters
- : User's question must follow terms of use
- : When OpenAI server doesn't make response, exception handling should be executed

**More details in Test Plan Specification**



**Thank You**