

# A Comprehensive Information Platform for Dual Major Options for Sungkyunkwan University Students (SKKU-DM)

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**Abstract.** This project aims to develop a mobile application-based online platform for students at Sungkyunkwan University who are pursuing or considering a double major. During this process, cloud computing services will be utilized to provide fast service to users, and a serverless deployment model will be implemented. This will allow us to gain experience and knowledge in operating next-generation application environments.

## 1 Introduction

Our team, composed entirely of double majors in Software Engineering, has experienced firsthand the difficulties in obtaining information related to double majoring in software. With this in mind, we aim to develop a software platform that provides relevant information and resources not only for software double majors but also for students pursuing double majors in other fields. Given the abundance of community-based platforms in the market, we recognized the need to introduce unique features that have not been available before.

Firstly, the required credits vary by department once students begin a double major. Although related files are uploaded to the university's website each year, there is no service that organizes this information in a user-friendly way. To address this, we've included a feature that visualizes the credit requirements for easy viewing. Additionally, we provide a service that recommends other double majors in similar situations, enabling users to connect and communicate. Another feature allows for mock applications, where users can compare their standing against other applicants pursuing the same double major, giving them a better sense of their competitive position.

In Chapter 2, we explain the motivation and need for this project. Chapter 3 introduces existing applications in this domain. Chapter 4 details the key features of our application, while Chapters 5 and 6 outline the project plan and team role distribution.

## 2 Motivation and Objective

### 2.1 Motivation

When SKKU students double major, they should investigate various informations. The requirements for graduate might be changed such as writing a paper or doing a project. They should search for joining a new club. They might want to know the roadmap for their new major. Some of them would be interested in the future plan for their career. Unfortunately, those informations are spread out, so it is hard to collect them all for their own. We want to resolve this problem.

### 2.2 Objective

We are willing to make a mobile application to resolve those problems. We come up with an idea from the LC policy of SKKU. It groups freshmen randomly so that they can easily get used to the campus life. Our goal is to make a community for double majoring students.

## 3 Related Works

### 3.1 Everytime

Everytime is one of the most popular community among SKKU students. Unfortunately, that makes more difficult to get useful informations about double majoring. The community is too broad; they deals with lots of topics such as campus life, hobby, getting jobs, etc. But there is no room for double majoring students.

## 4 Proposed Solution

We are proposing an mobile application to make a community of double majoring students. Here are some detailed explanations about its functionalities.

### 4.1 Requirement for graduation

The university offers the file that explains the requirements of graduation, but it might be changed irregularly. For example, department of Mathematics integrated the sections into a single section of credit requirements. We are going to give these requirements to users up to date. Main page would be hard-coded based on the user's information, while sudden changes would be posted via reports from users.

## 4.2 Community(bulletin board)

All of the users would share a single bulletin board rather than divide under a standard. Since each user has different original/double majors, we are going to give a filtering options. All posts should contain tags that match their content. We will provide some basic tags such as the department and the type of the information. Users can also add their own tags. This allows users to save and search tags that suit their interests easily.

It will also support the ability to save the posts that they like so that they can be easily found later. Comments and likes will help the writer and other users interact. It will also support the ability to sort the posts according to the criteria such as tags and the number of scraps or likes.

This would help users who are double majoring or hope to doing so easily get the information of their interests.

## 4.3 Square

Inspired by the LC system, the square is a function that we intend to provide. To solve the problem of lack of opportunities for interaction among multiple major students, we would like to help create meetings among users. They can create new meetings to gather people with common interests or participate in existing meetings. Based on the information on the profile, we will also support the function of recommending users who seem to match the meeting they created and allowing them to be invited.

## 4.4 Mock apply

Students who are not double majoring yet but interested to doing so often curious about the cutline for applying double majoring. For these users, the number and top percentage of applicants for the major will be provided based on the GPA users entered. It is not the purpose of analyzing accurate prediction information, and it will be held as an event for the inflow of double majoring students every semester.

## 4.5 Register and personal information protection

The information of users will be used only for service provision purposes. The service can be used only after being authenticated by email from SKKU(g.skkku.edu or skku.edu). Information on users' student number, major, and (supposed) double major must be entered. In addition, in order to revitalize the community, all users have to post information related to their original majors. Unless, they will not be able to access the posts from the community.

To ensure anonymity, users can use a nickname. Other information can be viewed through the profile, and we will support setting to choose the range of information sharing.

## 5 Schedules

The overall project schedule is shown in the table below.

**Table 1.** Weekly schedules

Week	Schedule
1 to 4	Project Topic Refinement and Proposal Writing
5 to 11	Application Development
12	Testing
13	Application Deployment And Preparing Final Presentation
14 to 15	Final Presentation

## 6 Roles

The roles of each team member are shown in the table below.

**Table 2.** Member roles

Kind	Description	Members
Backend	Building an application server	Jaehyeon Kim, Jisoo Park
Frontend	Building a mobile application	Woojin Kwon, Chaeun Lee
Deployment	Publishing Mobile App and Server	Jisoo Park