

Ding Dong - Community App for Circles

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Abstract—Circles are essential activities for university students. In Korea, about 80% of university students participate in circles. Also, There are many students who participate in more than 1 social activities. For these students, managing circle schedule and keeping track of necessary information of dozen circles is not easy. Ding Dong is a mobile application for circle members. It helps users manage circle activities and to be in touch with other members more easily.

Index Terms—mobile app, community board, circle

I. INTRODUCTION

This document is about our project Ding Dong. It explains how we came up with the idea, functions of the app and how we progress to develop our final outcome.

A. Motivation

Our motivation began with the problem that team members actually suffer from. All three members of the team are participating in several circles. We found it very inefficient how the circles use group chats or alternative social services such as 'Facebook', or collaborative tools such as 'Slack' and 'Discord' to share schedule and notifications. because these services are not made for circle management, there exists several inconvenience. Especially when a person participate in more than one circle. Keeping track of notifications becomes more complicated because the information you need is not well organized. Thus, we came up with the idea of a mobile app that allows circles to organize and handle notices and schedules.

B. Problem Statement

Circle members suffer from following notification and circle schedules using unorganized, decentralized group chats or group pages. Also for circle executives, it is hard to manage the members efficiently. For instance, it is difficult to check who have read the notices, and whether the member is active member or not. Thus we decided to develop a mobile app focused on providing these functions necessary for circle activities.

C. Related Software

"Band" is the most famous community board mobile app in South Korea. "Band" is an app for groups, including circles. It provides useful services for group members and leaders

to use. Currently, "Band" is the most similar mobile app out in the market to our service. However, band is more about communicating between band members freely rather than managing notices and schedules. This differentiates our service from theirs. Other social services such as "Kakao Talk", "Facebook" and collaborative tools such as "Slack", "Discord" are also widely used for social circles.

TABLE I
ROLE ASSIGNMENTS

Roles	Name	Task description and etc.
User	Kyung Rok, An	Predict current discomfort from the user's point of view. Also, look for alternatives.
Customer	Kyung Rok, An	Research the functions that the customers need. In addition, Consider how customers will continue to use this application.
Software developer	Chang Hui, Yun	Compose an overall app view that can satisfy users. Implement various functions. Create data base. Manage data I/O.
Development manager	Jun Seub, Lim	In charge of the project, Develop and implement a development plan. Calculate the cost. Pursue communication of each role.

II. REQUIREMENTS

A. functional requirements

1) Sign up and Log In

- Signing up: Sign up requires user's nickname, email, password
- Log in: log in via email and password.
- Log out: log out by pressing log out button
- Password Reset : Password Reset view using mail authentication.
- Auto Login : Once login is successful, login is not required for execution unless separate logout is performed.

- 2) Group Page: Each circle owns a single page. A page is where executives can create boards for specific purposes(i.e notices).
 - a) Create a Page: Circle executives can create a page by providing the name, thumbnail(optional), and a brief explanation.
 - b) Delete a Page: Circle executives can delete a page, when all executive members of the circle agrees.
 - c) Modify a Page: Circle executives can modify a page, changing the name, the thumbnail and the explanation.
- 3) Members and Executives: The members of the page are divided into two groups: executives and members. They have different authorities.
 - a) Appointing Executives: The creator becomes the president of the page. He/She can appoint members as executives of the circle.
 - b) Executives: The executives have authorities such as creating a board, control access to each boards, invite new members and dismiss members from the page.
 - c) Members: The members do not have any special authority.
 - d)
- 4) Community Board: Boards are used to post notices, schedules and any other things to share with the group members.
 - a) Create a Board: Executives can create boards, each for any specific purposes.
 - b) Manage a Board: Executives can grant members permissions for each board. The permissions are as following:
 - Read: A member can read the posts.
 - Write: A member can create, modify, delete posts.
- 5) Posts: Posts must include a title, body text and can include circle functions(which will be explained), and images.
 - a) Create a Post: Only members with permissions to the board can create a post.
 - b) Modify a Post: Only the owner of the post can modify the post.
 - c) Delete a Post: Only the owner of the post can delete the post.
 - d) Comment to a post: Any members who have access to the board can comment on a post.
- 6) Circle functions: circle functions are useful functions for circles to use. These functions can be included in posts.
 - a) Voting function: Members can vote on a item.
 - b) Ladder game: Members can participate on a ladder game.
 - c) Lottery: Members can participate on a lottery game.
- 7) Calendar function: Calendar shows users schedules for each or all circles.
 - a) Choose circle: Users can choose the circles the calendar to show schedules of. (box button)
 - b) Detailed Schedule: Users can click on a specific date to see the detailed information about the schedule.
 - c) Manage a Schedule: Executives can create, modify, delete schedules.
- 8) Invitation function: for inviting new members of the circle.
 - a) Invite new members: Executives can send KakaoTalk message that includes a link that will allow new member to join the group. Or users can search for circles in the app and send request to the executives.
 - b) Accepting request: Executives can accept requests from new members to join the page.
- 9) Alarm function : To notify members when new notice is posted on the board.

B. service requirements

- simple, easy-to-user mobile UI for users.
- Database: database to manage circles, members, posts and etc.