

S-Gether: Web Application for sharing goal

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Abstract. As social distancing is enforced due to COVID-19, direct meetings have become difficult. But many people do the same thing, sometimes competing, to motivate or increase their effectiveness. The goal of this project is to create a platform where can share schedule, record progress on goals, or compete. We made 4 main pages. Info, Feed, Search challenges, My challenges Page. Using those pages, user can list up their goals and share it with friends. Also they can enter or upload challenges that other people can enter and share same goals with each other. After they enter the challenges, they have to check mate's challenge certification picture per day. Depending on success day during challenge period, Winner will be selected and get the reward. Through this project We succeeded in creating a goal sharing platform that we were aiming for.

Keywords: Web Application · Goal · Sharing

1 Introduction

As time goes by, the seriousness of the corona virus, which seemed to disappear quickly, only grows. As a result, social distancing continues without promise, and non-face-to-face video conferences and lectures, which were awkward at first, are becoming accustomed to. But people also want to be with the people around them. People also motivate their goals by showing others their goals or by sharing their progress. The use of apps that share their studies or to-dos, such as Gongstagram, todomate, and the Challengers app, has significantly increased since Corona. However, each application has disadvantages such as lack of social function or lack of motivation.

2 Related works

2.1 Todomate

Todo mate has a to-do list sharing function. User can write down what to do every day and check whether they have completed their success

As you can see in Figure 1, you can see how the things you have done are distributed on the left calendar. For example, you can find out how much you

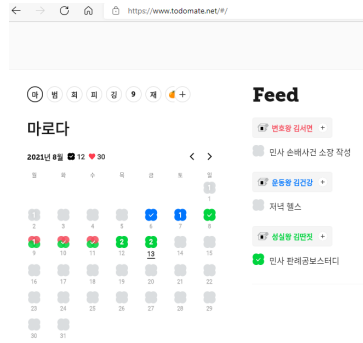


Fig. 1. Todomate.

have done about personal goal by checking how much green(or red or blue) color is distributed on the calendar. In addition, when these tasks are completed, notifications are sent to those who have made friends, so they can respond to the tasks they have completed.

However, the app lacks quantitative evaluation of achievement rate and communication with other people. you can't know how much you have done your goal within the deadline, and when others achieve a specific goal, they cannot leave any other response other than leaving simple emoticons in response to it.

2.2 Challengers

Challengers is an app that allows user to continue their goals for a specific period of time while authenticating them with other people every day when you set a goal. Participants pay participation fees when they enter the challenge. These participation fees are refunded when the goal is achieved. However, if it is not achieved, the participation fee will not be refunded. Participation fees paid by those who fail to achieve these goals are paid in the form of prize money to those who achieve their goals.



Fig. 2. Challengers.

However the biggest disadvantage of the Challengers app is that it can only aim to perform certain task every day. Therefore, complex goals cannot be set. For example, there must be detailed goals to set big goals and achieve them, but such complex goal design cannot be done with this Challengers app. The limitations of the app are clear because there are many such complex goals besides simple goals.

3 Proposed Service

There are three main services that we want to provide through the our application.

3.1 Todo List

We propose system that can add todo list by date and upload related photos.

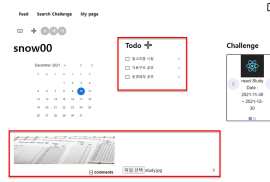


Fig. 3. Add Todo List

3.2 Social Service

User can share feed page with friends, comment on related photos, and communicate.

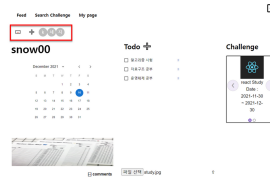


Fig. 4. Social Service

Users can share their todo list and photos with other users who is your friends. Through nickname search, users can make friends and check their own

feeds. It provides communication functions such as posting comments when you cross a friend's feed.

3.3 Challenge

user can participate in various studies with specific goal and motivate them through rewards and penalty.



Fig. 5. Challenge

4 Design

4.1 User Info Page



Fig. 6. MyPage

User Block(left top) : This is the part that user set profile picture and nickname. The user's photo or nickname are elements that can be changed frequently, so they are not included in the Information tab and are separated separately.

Info : This is the part that stores the user's personal information.

Charging History : In here, user can check the balance that the user currently has and the details of charge so far.

Penalty, Reward : User can check the details of payment by penalty and the details of compensation by rewards. Each history is sorted in ascending order and shows the past history in order.

Setting : This is the part that user can set whether to allow users to search their nicknames, receive friend requests, and let others see the list of challenges they are participating in.

4.2 FeedPage

This Page is about Feed per Log in User

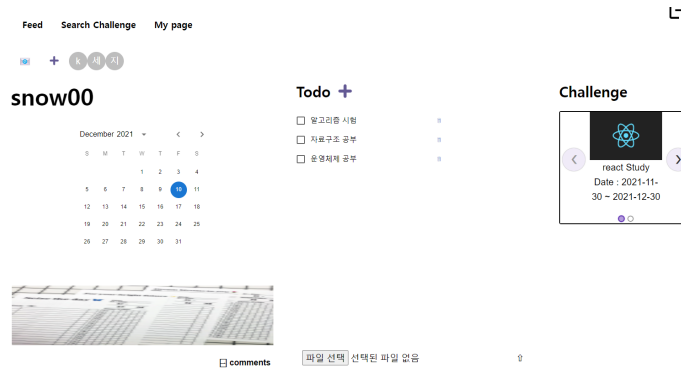


Fig. 7. FeedPage

There is 4 Part in Feed Page

Calender : Calendar was implemented using Localization Provider and StaticDatePicker of "material-ui" library. The day selected in the calendar is stored in the value variable, and the appropriate todo list and image list are retrieved.

ImageList : This component is placed under the calender. An image may be uploaded through an image upload button. Uploaded images are shown using the slider of "react-slick". If the number of uploaded images is three or more, you can flip it to the side through scrolling.

To do List : Beside calender, you can find to do list. There are 3 things you can do in To do list. To create To-do, You can enter the contents of to-do in the Modal window and add them to the to-do list. To delete To-do, press the delete button in the to-do list/ Lastly, When you check what you have done on the to-do list, the checked state is saved in the database, which brings up the saved state even when refreshed or re-logged in.

Friend List : above the calender, you can find friend list. Friend lists is created by Avatar of "material-ui" to show a friend list that displays only the first letter of a friend's nickname. If you click a friend on the friend list, you will go to the friend page. There are 2 Things you can do in this part. First, sending friend request. Enter a friend nickname you want to send a friend request to Model. If the friend nickname entered exists, you can send a friend request. Second, Receiving Friend Request. Friend requests received are displayed on the Request Modal. If you accept the request, a friend is added to the friend list.

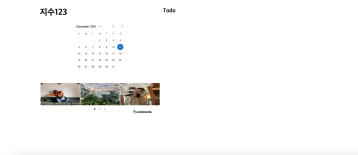
4.3 Comment Page

There are 3 Compoenents in this page. First is Image list. It shows the list of proof photos posted on the corresponding date. It was implemented using a slider

**Fig. 8.** Image List

of "react-slick" in the same way as the image list on the feed page. Second is comment Input. Enter the content to leave a comment and press the OK button to display the comment. Comments can only be pushed on the comment page entered through the friend page, and comment page on the personal, comments can only be checked. Last one is comment list. The nickname and comment content are displayed.

4.4 Friend Page

**Fig. 9.** Image List

It was implemented in the same way as the components of the Feed Page. However, the function of adding things to do, sending and receiving friend requests, and posting proof photos were deleted. Instead, a function to comment when moving to the comment page has been added.

4.5 Search challenge page

You can search the challenge in this page. On the left side, there is my challenge component. You can see challenges that you currently participated in. On the middle, there is hot challenges. It shows challenges that are currently famous. And below that, you can find the list of challenges. You can search the challenges per category. If you click the button in the list, on the right side of it, you can see the challenge card of the challenge that you just click.

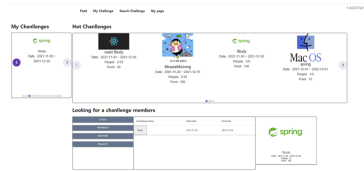


Fig. 10. Search challenge page

4.6 Upload challenge

You can upload the challenges through this page. you can enter this page when you click add challenges in search challenge page. you can choose the category of study and other information of it.



Fig. 11. Upload challenge

4.7 Enroll challenge

If you click the challenge card in search challenge page, you can see this page through pop-up. You can enroll the challenge if you click yes in this page. If you click No, you can return to Search challenge List.



Fig. 12. Enroll challenge

4.8 My challenge Page

As shown in the figure above, on the right side of the feed page, there is a list of challenges in which you are participating. If you click the page you want to check, you will be taken to the info page of the challenge.

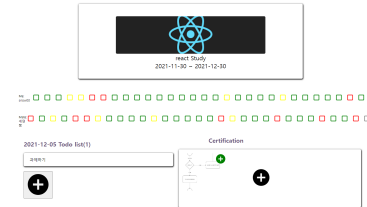


Fig. 13. Challenge-info page.

The challenge info page displays the challenge information you are participating in, the progress of yourself and the mate who needs verification, and todos and certification by date.

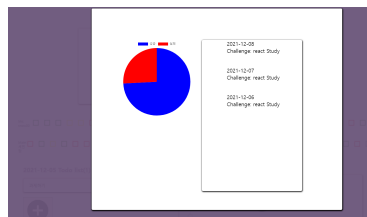


Fig. 14. Pie chart.

Click on a participant's name to view the current progress of that challenge.

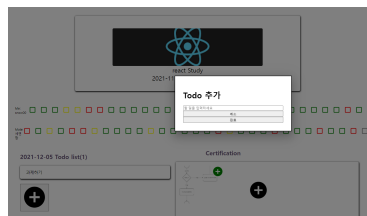


Fig. 15. Add todo popup.

If you click the Add button in the todo list, a corresponding pop-up appears and you can add a task.

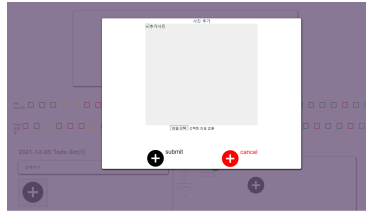


Fig. 16. Add certification photo popup.

If you click the Add button in certification, the corresponding pop-up appears and you can add a certification photo.

5 Implementation

5.1 User Info Page

```
<div className="menu-detail">
  {(function () {
    switch (selected) {
      case 'Info':
        return <InfoContainer />;
      case 'Charge':
        return <ChargeContainer />;
      case 'Penalty & Reward':
        return <PenaltyRewardContainer />;
      case 'Setting':
        return <SettingContainer />;
      default:
        throw new Error('error');
    }
  })()}
</div>
```

Fig. 17. Conditional rendering code

Conditional rendering allows the corresponding component to be rendered according to the value clicked on the menu. Elements such as buttons created one component and used it in a form that could be reused by transferring values to props in certain cases.

5.2 Feed Page

Comments, to-do, and image lists are all implemented as logic to retrieve lists and return the retrieved list elements in the form of components through the map function.

```
<checkbox.onListWrap>  
<div style={display: "flex", alignItems: "center"}></div>  
<-Button onClick={handleOnOpen} style={{ fontSize: "30px" }}></Button>  
</div>  
  
{list.map((list, index) => {  
  <CheckboxList  
    lists={list}  
    key={index}  
    show={['']}  
    loadList=loadList  
    value={format(value, "yyyy-MM-dd")}  
  /> //idx @0??  
})  
</CheckboxListWrap>
```

Fig. 18. Mapping, Load, Add Todo list code Example.

Load Todo List : If you send information such as dates clicked on the calendar and user tokens in dictionary form through api's post method, you will receive a response in the form of an array. Since the received content was in the form of an array, the array elements were received one by one through the map function and the components were returned.

Add Todo List : Whenever a value is added to the database, the list should be retrieved and displayed. Send the content to be added to the database in by api post, and each time you receive a response, the list is updated in the method described above.

5.3 Search challenge Page

Every time when user enroll or upload challenge, the information about it have to be changed. For this, I made 2 API. One is for calling all challenges currently gathering people. Second is for calling my challenge list. For this we send request with cookie to identify user of that request. Both of them we send GET request to Backend Server. If server get request about both of it, server get data from database and pack in arrayList and send it to Front End. Also to show bunch of challenge card, we use Carousel to list up the challenge card

5.4 My Challenge Page

The backend of Challenge Info can be divided into Template, certification, and todolist. Template: Defines the overall component layout. It requests challenge information, user information, and mate information from the server and sends it to certification and todolist. Based on the challenge execution information received from the server, success or failure of each date is judged and displayed in green and red boxes. Click on the name to display the pie chart. certification: Requests all certification photos uploaded by the user to the server. Each time you click on each date, the photo for that date is displayed. If you click the upload photo button and upload a photo, the image is sent to the image storage folder of the server and the path is saved in the DB. If you press the mate's photo and decide success or failure, the server changes the mate-check column of the photo DB. todolist: After saving the information received from the template, each time you press each date, todos for that date are displayed.

If you click the todo upload button and upload a to-do, it is added to the server DB.

6 Limitation and Discussions

6.1 Bank Linkage

When planning the project for the first time, it was planned to enable actual financial transactions. If there was no reward for the challenge, the motivation to participate in the challenge would weaken, so reward was a means of motivation. The planned method of operating the challenge was to pay a deposit when participating in the challenge and to divide the deposit by the number of people who finally won. However, the currently implemented project is in a state where financial transactions are impossible. Therefore, it was changed to a point transaction method rather than an actual financial transaction method. Participate in the challenge using points and distribute the collected points to the winners. However, it is currently meaningless as a point because you can charge as many points as you want. If it is enable to modify financial transactions in the future, it may follow the method of paying the actual amount to participate in the challenge or charging and paying points with the actual amount.

6.2 Web Deployment

The project is a situation in which code is implemented using vscode and uploaded to GitHub. In order to use it as a real page, it is necessary to go one step further and distribute the service in AWS. However, due to project time constraints, the service could not be distributed. In order to actually use the project now, the code on the GitHub must be downloaded and executed on the local computer. This is a part that could not be implemented due to time constraints on the project, and it will be distributed when there is a chance in the future.

7 Evaluation

What our team implemented is a web page, and there are no objective evaluation indicators. If we had developed the web page deployment stage, we would have converted the score by receiving user evaluation. However, due to time constraints, deployment was not possible and user evaluation was not received. Therefore, the project evaluation was replaced by in-team evaluation.

7.1 Implemetation

This is the score for evaluating the implementation rate of the project compared to the proposal. It was implemented as planned. But bank linkage and web deployment were not implemented. So we grade it as 90

7.2 Maintenance

This is the score evaluated for the maintenance of the web. The project was implemented as a react, and the react has a great advantage of component re-usability. However, since the pages were divided and implemented among team members, there are components that cannot be reused and are duplicated even though they are sufficiently reusable. If I could afford it, I would have avoided duplication of components and increased reuse. Instead of implementing components repeatedly, if one component is reused, only one component needs to be modified without having to be modified each component even if a modification occurs. Therefore, the failure to consider reusability is a factor that undermines the maintenance of the project. So we grade it as 75

7.3 UI/UX

UI(User Interface) refers to the design of the service that the user faces. UX(User Experience) feels that a user experiencing a service. This is an score that users try and evaluate the service. The project could not be evaluated by the user because it could not be distributed. Therefore, team members within the team replaced user evaluation through self-evaluation. In the real development field, a designer is included in the team and takes charge of web design, the developer implements functions while maintaining the design. Since the project was conducted on a team basis consisting of only developers without designers, there are some shortcomings in terms of UI. So we grade it as 60

8 Conclusion

Due to the prolonged Pandemic, non face to face study group is increased among the students. So we decide to make a platform that user can easily share their to do list and gather challenge member. For that we made My Feed Page with social Function. In Feed Page User can visit other friend's Page and can leave comment to friend's picture. Also they can list up to do list per day and upload picture about it. To gather challenges we made search challenge Page, where user can easily find the challenges that is currently progress. If they can't found the challenge that they want to enter, they can make challenges easily. After they enter the challenge, they can enter My challenge Page. In that page user should upload to do list and certification picture of it. Also they have to check mate's to do list per day. After the challenge is finished User can get reward or not depending on how many time the user succeed on that challenge. Also User can check their information in My info challenge. Although, our team doesn't have professional designer which makes the rooms for improvement in design and fail to link with bank and deploy web, our goal of creating a platform where we can share our plans and passion for our goals has been achieved.

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