

StyleReserve

- LG Styler Reservation Service that protects your Styler usage, clothes for special occasions, and your own style -

1 st Kim TaeHyeon Dept. of Information System Hanyang University Seoul, Republic of Korea kimtahn@hanyang.ac.kr	2 nd Park SeEun Dept. of Information System Hanyang University Seoul, Republic of Korea seunplayer@gmail.com	3 rd Lee SeungHo Dept. of Information System Hanyang University Seoul, Republic of Korea all100v@hanyang.ac.kr	4 th Heo JeongYoon Dept. of Information System Hanyang University Seoul, Republic of Korea jyheo8221@gmail.com
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Abstract—Our team - Dressing Sauce - wants to focus on the Styler-using environment inside the family and workplaces on the expansion, and plan to develop first, a Reservation System that helps to reduce conflict in the process of using the Styler. On top of that, a Calendar-based function that helps to reserve what I want to wear in advance, which helps to prepare clothes the day before appointment.

The "StyleReserve - LG Styler Reservation Service" came to our mind as we thought about ways to solve problems we can face in our daily lives, such as differences in time of returning home, or when we have urgent appointments. Based on the type of clothes you want to wear, the functionality of the Styler you use, and the reservation time, family members can save time and effort by using the Styler together and can provide more people with the opportunity to wear neat clothes. In addition, 'StyleReserve' can provide a seamless experience of using an LG Styler after workplace attendance or after dinner during overtime to help people in the company to use it fairly and efficiently.

We also wanted to create a service that provides a "notification" so that users can "book their clothes in advance" and use the Styler the day before the appointment. For example, in the case of sisters living together, we found out that they often share their clothes together. In this situation, if there is a system in which one can reserve clothes for his or herself in advance on the calendar, then it will prevent small conflicts because of the cases when two people have to wear the same clothes on the same day.

Furthermore, if the system can send a notification the day before the user has a special appointment in order to encourage him or her to use the Styler, it will be able to help users to go out nicely.

Our team expects to further enhance user satisfaction by offering a calendar-based reservation system to provide solutions to the situations that families may experience while using the Styler and to further enhance the functionality of existing Styler to help them dress neatly.

Index Terms—Styler, Reservation System, Calender, Mobile Application, Clothes

I. ROLE ASSIGNMENT

Below is the table of role descriptions. Due to the small members in the team, some roles are distributed to the same person in order to harmoniously progress the project.

Name	Roles	Role Description
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Kim Tae Hyeon	Development Manager	A Development Manager is responsible for managing the overall project. He ensures that the project is progressing well on schedule, that the functions are being implemented well, and that the overall software engineering process of development, UI/UX design, and prototype testings and supplementation are going smoothly. In addition, he continuously monitors whether team members are communicating smoothly and completing the project together.
Park Se Eun	Customer, Product Designer	A Customer thinks about what features they want to add when using the product. For example, in the process of using an LG Styler, after experiencing the moment when it becomes difficult to use because others are already using it, the customer soon reach to a need for the function in these kinds of situations, and intends to use this idea in the process of developing the LG Styler using environment later. A Product Designer is responsible for designing applications to provide the most efficient interface from the user's point of view. She works with developers to think about how to reflect users and deliver functions most efficiently to them.
Lee Se-ung Ho	Software Developer	A Software Developer is responsible for developing software. Based on the needs of Users and Customers, he plan the details of the services that will be effective for them. In addition, these plans are developed later so that they can be realized through code implementation. Moreover, he keeps track on the function by continuously checking whether these codes are operated effectively based on feedback from users and consumers.
Heo Jeong Yoon	User	A User considers the need for new services based on various phenomena that can be experienced in everyday life. For example, in the process of living with her sister and sharing her closet together, she often encountered situations where she had to wear the clothes her sister wanted to wear on the same day. She soon had a need for the existence of a service that could solve this problem. Her needs were positively received by the team, who were considering LG Styler's innovative functions. Since then, she has consistently contributed to the completeness of the service by continuously testing the application, delivering and reviewing feedback on what is lacking and to be supplemented.

II. INTRODUCTION

A. Motivation

1) Consumer Trend Analysis

- Increased external activities due to the easing of COVID-19: Many people are enjoying outside life such as festivals and dinners again due to the lifting of distancing due to the easing of COVID-19, and interest in "ui", which is the basis for enjoying outside and out-of-home life, is growing. According to the accounting data, consumption stagnated in 2020, with bags and clothes falling 32.1 percent and 17.4 percent respectively, with 38.1 and 15 percent, respectively, which are interpreted as those who prepared to go out buying bags and clothes to decorate.
- Spreading demand for convenience and hygiene: Based on the convenience trend that convenience is considered a premium, clothing managers that can easily manage clothes at home without going to a laundry are also attracting consumers' attention. In addition, as consumers' sentiment to keep their clothes clean spreads due to the influence of COVID-19 and fine dust, the clothing manager market is rapidly growing, and the clothing manager itself is becoming a home trend.
- Predicting a Continuous Increase in Demand for Clothing Managers: According to the "Home Appliance Trend Report 2022" released by market research firm Open Survey, Clothing Managers are listed as the No. 1 home appliances they hope to purchase within the next year. In addition, according to a survey by the 20th Institute of University Tomorrow, a Korean research institute, both Generation Z and Millennials selected "clothing managers" as household appliances that MZ Generation wants to purchase and replace in the future, and they are highly willing to buy stylers within Generation Z. This was judged to be a long-term part, not a short-term, positive demand for clothing management. In the process, we decided that stylers, who were in high demand for suits and other clothing, will be loved by Generation Z, and as a team with Generation Z's eyes, we thought about how the product can provide attractive functions to all members of society.

2) Company analysis

- Expanding Artificial Intelligence: LG Electronics is adding a large number of new AI services to LG ThinQ applications (apps) this year and is trying to provide innovation in customer experience to consumers by systematically designing AI development strategies.
- UP home appliances: LG Electronics is developing a variety of software with the aim of providing a more advanced smart home experience and an upgrade experience that allows users to receive good services

without buying home appliances.

3) Product analysis

- LG Styler History: LG Styler, the flagship of the nation's clothing appliances, is the first clothing management device launched in 2011, and is loved by many for providing a system that can manage clothes at home without much time and labor. In particular, as the concentration of fine dust in Korea has recently increased and the need for cleanliness has increased due to COVID-19, interest in Stylers is growing more explosively.
- Consumers' Advantages of Styler: Based on four patents, it provides effective clothing management that differentiates itself from other brands.
- Consumers' Disadvantages of Styler: As Samsung, a latecomer in apparel management, tries to gain the upper hand by focusing on software features, there is a regret in terms of providing additional features for LG Styler.

브랜드	삼성전자	LG전자
Wi-Fi	○	○
스마트진단	○	○
조용해 기능	○	○
아이 울프징	●	○
종료시간 예약가능	1~24시간	3~19시간
물 보충/비밀 알림	○	○
장갑(어린이보호)	○	○
내부라이프	○	○

Fig. 1. Comparison of Clothing Management Functions of LG and Samsung

As a result, the team wants to propose a new software from a consumer perspective that reflects the trend of LG Electronics' "UP home appliances" that LG Electronics is currently pushing for, and solves even minor inconveniences for consumers using LG Stylers.

B. Problem Statements

First of all, we were able to hear the story from an acquaintance of Generation Z and an Internet post that she was angry because her sister wore her clothes on the day when she planned to wear for the special day in advance. This case was frequently confirmed in a house with sisters or in a family where sisters live together.

In response, we thought of a system that uses a pre-built closet database within a styling calendar to restrict others from wearing clothes on the same date if someone booked clothes on a specific date already. On top of that, we thought of a function to induce users to wear neat clothes the next day by sending a notification of the use of an LG Styler the day before the scheduled date.

Furthermore, a total of five clothes can be put in the Styler and the functions of the Styler that are executed vary depending on the type of clothes takes as long as 30 minutes to

as much as 2 hours. Our team focused on the limited number of clothes that can be put in the Styler and the commuting time, and reached to the point that there is not much time to use the Styler at home.

We felt that we had to use the LG Styler urgently within the family unit, but it could cause problems such as other people are already using it, and that users could put the same line of clothes into the Styler together, but since there was no communication, they had to activate the Styler twice, wasting time and power. As a result, our team came to think of a reservation system that allows other family members to use the Styler together by taking clothes from a pre-built closet database and booking the use of the Styler if there are any seats left. The application also shows a timeline for using the Styler, so the user can conveniently check and take the time zone when the Styler is available.

From this point of view, the problem that occurs in offices that share Styler is more clear. More people use it together than using a Styler at home, which sometimes causes multiple people to flock at the same time. In addition, the Styler is very likely to operate inefficiently when used by multiple individuals, as the capacity of the Styler is limited while the course execution time of the Styler is fixed. Our Styler reservation system can solve these problems intuitively and clearly. If such a function is provided in the future, the use environment of the Styler can be expanded not only at home but also to public places such as offices.

In addition to the main functions mentioned above, we would like to create an LG Styler service as a true stylist that helps with styling A to Z, considering the ultra-personalized customization service that recommends clothes for users.

C. Research on Any Relative Software

- Space cloud: The Space Cloud application provides the ability to freely reserve, share, and use the space you need on a hourly basis. Users can select the desired space among various categories (meeting/practice/shooting/shared office, etc.) in real time, enter the scheduled time, number of people or purposes to use together, and reserve a place rental. On the reservation history page, you can see the status of your reservation at a glance. However, the reservation details are not visible to the people who are planning to use the space together, so there is a regret that the reservation person has to inform the reservation details in another way.
- Naver Calendar: The service created by Naver provides a function to set my schedule and display it on the calendar. In addition, various additional functions such as attaching stickers, decorating colors, and setting goals are provided, so the demand is high for Generation Z who prefer to decorate their own diary.

Above all, the web and mobile environment are highly interconnected, so the schedule created on the mobile can be synchronized immediately and checked on the PC. You

can also mark the weather forecast for a week on your calendar for reference.

- To-Do Mate: To-Do Mate is an application that combines scheduler and SNS(Social Network Service) functions and provides the ability to share and communicate one's schedule with others. By organizing the checklist and completing the daily schedule or checklist, users can express empathy and praise with emojis such as "Like", and can see the progress of their schedules and routines at a glance, providing motivation effects. In particular, it also provides an alarm function to remind you if you have an important or forgotten schedule.

III. REQUIREMENT ANALYSIS

A. The ability to log in or create an account

If the application is not logged in, family members who use the Styler together can create their own account and log in. Social login is also possible through KakaoTalk.

- Sign up: You can log in by setting your email and password or through KakaoTalk account.
- Sign in: Move to the main page.

B. Linking with Styler

A logged in account can add an LG Styler to its own account using the Styler's QR code and password. Several people can register as users in the same Styler, so the service is available for families or small members. When you click on the Styler icon, the styling calendar is displayed on the screen.

C. Closet database construction function

Closet databases can be organized for each LG Styler. When you take a picture of your clothes in the application, you remove the background and send it to the server's database. Since one Styler provides only same databases, people who use the same Styler will use the same closet database. When you select a clothing type when registering clothes, a small icon is automatically assigned, and this icon is displayed on the calendar. You can click on the calendar entry to see pictures of clothes taken with a camera.

D. Database duplication protection

When adding clothing to a closet database, it checks whether the same clothing is already stored to prevent duplicate data from being stored. If the system determines that it is the same garment, the user is asked whether to really add the data by showing the existing garment data as a picture. If the user responds that it is okay to add it because it is not duplicated, the clothing can be added to the closet database as it is.

E. Styling Calendar Feature

Individuals can register their clothes by date on their own calendar. Clothes can be taken from a shared database and added to the calendar. If one user adds clothes to the calendar, another user who uses the same Styler cannot add the clothes to the calendar on the same day.(Prevention of Duplicate) You can see the use of clothes in real time when you import clothes from the closet database. Send a notification the day before the appointment to induce the use of a Styler if the clothes are not well organized.

- If there are clothes you are wearing today in your personal calendar, we recommend you to put them in the Styler as a push alarm.(Recommended to make a reservation if there are any reserved seats left)
- On your personal calendar, make sure that you can see the clothes and the time zone you reserved the Styler.

F. Check Other's Calendar

It is necessary to have a function that allows people who use the same closet database to know each other when and what clothes to wear. This feature allows you to check other people's style calendars. Of course, if you set it as private, No one else can't see it. For example, it is possible to leave emoticons of emotion on other people's calendars. The types of emoticons contain simple and clear messages such as "request for clothes concession, heart, joy, sadness, and fun."

G. Styler Reservation Calendar

Users will have two calendars - Styling Calendar and Styler Reservation Calendar - In your personal calendar, you can make a reservation by taking clothes from the closet database. Set it so that no one else can book the same clothes on the same day. You can schedule the use of a Styler in the schedule calendar. From what time to what time one person makes a reservation for the course, and if there are any seats left, other people can also make reservations together. At the time of reservation, the Styler is set and operated as scheduled.

- Styler operation start time may be delayed within the reservation time. For example, if the Styler reservation time is from 10:00 PM to 8:00 AM and the course operation time is 1 hour, it should be operated at 7:00 AM.
- Whenever the Styler starts or stops working during the time period reserved by an individual, it sends a push alarm to the app.
- If you operate the Styler directly without making a reservation, access the calendar from the Styler to add a reservation directly for the selected course.

H. Styler status check function

Styler status check function: The user can check the status of the Styler by clicking the icon on the main page. Shows

whether it is currently working, and if it is, shows the course in progress and the time remaining. It is also possible to check the condition of the drain bucket of the Styler.

IV. DEVELOPMENT ENVIRONMENT

A. Choices of Software Development Platform

Our main development environment is Windows. StyleRe-serve provides a reservation system that adjusts the schedule so that you can use it when you want in an environment where you jointly use LG Stylers such as home and company. As this service is designed to increase convenience in the process of using existing products as part of the function provided by LG ThinQ, we intend to produce it in the form of a mobile application.

In this project, we intend to develop the back-end of applications using Node.js runtime and express.js web framework, and create applications using the React Native library. And the overall UI/UX design of the application is to be carried out using Figma. The overall establishment, execution, and process management of the project schedule utilize Notion, and related documents are shared through Google Drive and the project is carried out.

TABLE I
DEVELOPMENT LANGUAGE AND ENVIRONMENT

Tools and Language	Reason
Javascript(JS)	Javascript was originally used mostly in the front-end field for the purpose of implementing dynamic web pages, but since Google's V8 javascript engine-based node.js runtime was developed to enable javascript to run in a non-browser environment, it has become very scalable. Expanding from the existing front-end field, many fields including back-end and applications can be developed through this language. In this project, we want to build a backend and build an application using node.js runtime. Since javascript has a low entry barrier, it is possible to implement the service without difficulty. Therefore, we chose this language to focus on the design, design, and implementation of the service, regardless of the difficulty of the programming language in this project.

Name	Environment
Heo JeongYoon	Windows 11 Home with 64-bit Operating System, and x64-based Processor
Kim TaeHyeon	Arch Linux 64-bit
Lee SeungHo	Windows 7 Professional K
Park SeEun	Window 10 Pro with 64-bit Operating System, and x64-based Processor

- Cost Estimation: To implement StyleReserve, it is necessary to obtain information from the server while obtaining data from the database or communicating with the server in real time. Therefore, servers that are hosted in real time or multiple APIs are required. However, we tried to secure open APIs and free servers as much as possible in the current project of developing prototypes as students, and in this process, we were able to actively

utilize various tools that were allowed freely for students for a specific period of time.

Currently, free servers are used for prototype development purposes, but if the service has a plan to be officially implemented, problems are likely to arise as server traffic increases and copyright problems arise. Therefore, in the process of official service launch, it is estimated that the need for additional payment will emerge as the payment of paid services is required.

- Using Any Commercial Cloud Platform: This project uses Amazon Lightsail as a backend server and database. AWS Lightsail is a virtual private server service launched by Amazon that provides low prices and vast amounts of traffic. It has the advantage of simple and clear setup screens such as databases and networking, and can control charging time. Currently, students with student certification are given free access to the service for three months, so it has been decided to use it in this project to develop a prototype model.

B. Software in use



Fig. 2. Logo of React Native

1) React Native: It is a JavaScript framework that allows users to build applications running on iOS and Android and is based on React, a library of JavaScript from Meta used to develop web front-end. Most of the written code can be used equally between platforms, so it has a great advantage in that it can develop iOS and Android apps simultaneously using React native. In addition, given that strong developer tools and meaningful error messages are basically included in the framework, we decided to use them because we believed that the app could be effectively implemented in a short time.



Fig. 3. Logo of PostgreSQL

2) PostgreSQL: In this project, the data must have a complex relationship with each other and continue to be modified. Although the NoSQL database shows very good performance compared to RDBMS, we decided to use

RDBMS because we need to ensure the integrity of the data relationship rather than performance in this project. We chose PostgreSQL among RDBMS. PostgreSQL is an open source object-relational database system (ORDBMS). It was developed based on BSD licenses, so unlike commercial DBMS, there is no license fee. As an open source dbms, stability is guaranteed due to its long development period and continuous versioning, and it supports numerous extensions and data types. In particular, it has a great advantage in that it continues to develop because of its steady updates. Currently, the popularity and demand of PostgreSQL continue to increase, and in this regard, we have decided to use PostgreSQL in our project.



Fig. 4. Logo of Node.js

3) Node.js / Express.js: Node.js is a javascript runtime built with Google's v8 javascript engine that provides an environment for javascript code execution in a desktop environment away from the browser. There are several other web frameworks based on this express.js as well as express.js in the web framework running on Node.js runtime. Using the express.js framework, we can build a compact and lightweight RESTful api. Therefore, in this project, we decided to use the express.js web framework, which operates at node.js runtime, for back-end construction.



Fig. 5. Logo of Figma

4) Figma: Figma is a web-based tool that allows anyone to access the same file and exchange feedback with each other with a shared link, regardless of the installation file or OS. Therefore, it was judged as the most effective tool to be used in the project, where everyone had to constantly check the results and share feedback. In addition, as Figma provides convenience in design and color change or shadow effect application, it was judged that it will help a lot in effective UI/UX configuration.



Fig. 6. Logo of Github

5) Github: Github is a storage role of distributed version management system. It is a public code web host management system to effectively manage source code web host management system. As possible to track changes in computer files, it is effective to prevent confusion between multiple users, it serves to prevent confusion in the process of collaboration. The process such as simple file upload and download and downloading the task can be easily through version management tools.



Fig. 7. Logo of Notion

6) Notion: Notion is software that enables users to manage project progress as a whole as well as personal records. The overall concept planning, function planning, and development of this StyleReserve project were managed through Notion by actively utilizing the advantage that all team members can access and modify the contents of the same page using Team Space.

C. Task Distribution

TABLE II
TASK DISTRIBUTIONS FOR EACH MEMBER

Tasks	Name	Description
Front-end Developer	Heo JeongYoon, Park SeEun	The front-end developer is simply the job of developing everything the user sees. Since it is the first part of the customer's search and use of service information, front-end can also be defined as the first impression of the application. We check the responses of customers and users, determine how to find solutions quickly. Front-end developers work on business logic configuration and user interfaces through output and input of data imported from the back-end application programming interface (API). In this respect, the front-end can be seen as serving as a bridge between the back-end and the planning. In general, people who have a lot of experience using services from the user's point of view, such as the web and apps, and who can read and reflect trends are likely to do well.
Back-end Developer	Kim TaeHyeon, Lee SeungHo	The back-end developer is responsible for implementing the overall business logic of all services, analyzing and improving existing systems, and continuing research and learning about new systems. Back-end developers can develop a service's business logic and gain an overall experience with web services through database integration and architecture. With a lot of interest in databases and DB management and system architectures, you can even gain experience to expand your knowledge

		through various platforms, infrastructure, and network experiences. Although risks to Incidents may be born in the process of development, it is judged that risks can be minimized through sufficient development verification, vulnerability check, code review, and CI. In addition, these plans are developed later so that they can be realized through code implementation. Moreover, he keeps track on the function by continuously checking whether these codes are operated effectively based on feedback from users and consumers.
UI/UX Designer	Park SeEun	The UI/UX designer is responsible for service planning and design using methodology, which is the first step in app front development. This job performs an in-depth analysis of the service from the planning stage and repeat steps such as user research, hypothesis verification, and wireframe design to make the service more complete. Before launching the web and app services, flow verification and usability testing using wireframes are conducted, and afterwards, prototypes are produced based on improved flows, and design is carried out in earnest. Distinguish UI and UX design tasks in detail, UX designers are interested in how they feel about the product and try many different approaches to solve specific user problems. The most important responsibility for UX designers is to ensure that the product moves from one stage to the next. Unlike UX designers, UI designers are more interested in how to place products. UI designers are responsible for designing each screen and page so that users can interact properly based on UX, as well as creating a style guide and applying consistent design representations according to the product.

V. SPECIFICATIONS

StyleReserve provides users with a variety of reservation features that they need while using the LG Styler. When a user who is stored in the database accesses the application, three functions can be accessed as follows.

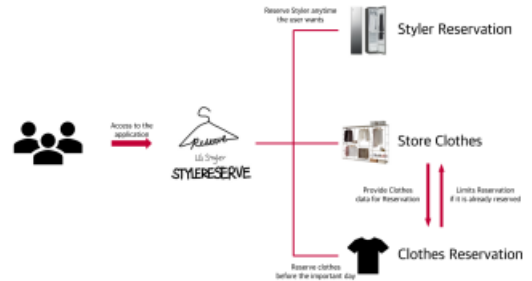


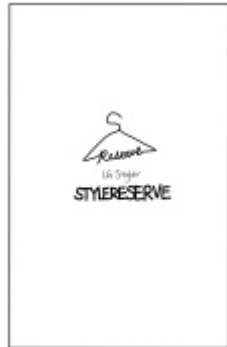
Fig. 8. Overall Process

Even in an environment with multiple people using Styler, the reservation system is operated by receiving some data from users so that they can reserve the Styler at any time they want.

In addition, when the user enters his or her clothing information, the information is stored in the closet database, and informs the user to use the Styler before the scheduled

date if the user set some specific date of wearing specific cloth, inducing the user to wear clean and neatly managed clothes on important days.

A. Entry Page



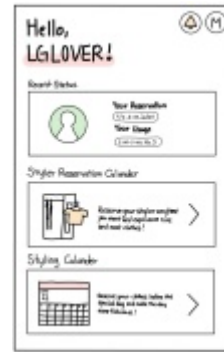
1) Flash Screen: This screen is the page that you see when you first turn on the app. By inserting a lettering hanger design that shows the identity of the app, it allows users to feel more familiar with the app.



2) Login Page: This login screen has a sign in button and a sign up button. The person who uses the styler together can create an account by pressing the sign up button and log in with the ID that you created. You can also log in using social login linked to API by clicking the Naver Kakao Talk Kakao Talk icon.

- When the login button is pressed, the information in the ID and PASSWORD box is transmitted to the back-end, and the back-end checks the user's information in the database to check if it matches and sends a response according to the success of the login.
- If the login is successful, switch the screen to the main page. If the login fails, the message 'ID or PASSWORD is invalid' is displayed.

B. Main Page



Main Page: The main screen turns on after logging in. The main screen has a two main categories. Styler Schedule function and a Styling Calendar function. Main page allow users to select the features they want. To distinguish, the Styler Reservation function is a function that allow users to reserve at any time when multiple people share a single Styler. Styling Calendar is a function that allows users who share clothes to reserve the clothes they want to wear in advance by date and time. There are three functional blocks on the main page.

- When the 'Recent status' block is selected, the user's clothing reservation record and styler reservation record are retrieved from the database and displayed on the main screen
- When user selects the Style reservation calendar block, the screen switches to the 'Styler Reservation Schedule' page
- When user selects the Styling Calendar block, the screen switches to the 'Personal Styling Calendar' page

C. Styler Schedule Reservation

When the user selects the Styler Reservation feature, he or she can view the application for Reservation screen and the Daily Styler Operation Table, which provides a timeline view of the details. Accessing a styler reservation database shared by multiple members at the same time, DB retrieves the date and time that the current user can reserve, and when the user makes a reservation, information is immediately reflected and displayed on the calendar.



1) Today's Reservation: It is expected to be effective to set up a timeline by time to understand the current status of clothes that users are managing at a glance.

- In the 'Status Table Screen', access to the 'Styler Reservation Calendar' DB and retrieve the data of 'Styler Reservation Time Zone / Member Name / Number of Members / Course Type' of the day to display the reservation timeline.
- When user press the 'Go for reserve' button, then screen switch to the Styler Reservation page.



2) Styler Reservation Page: The user can reserve an application for the use of the styler on a desired date and time. The reservation details for each applicant are shown in the time table, so user can refer this and make a reservation. It increases efficiency by preventing overlapping with other users when users try to make a reservation at a specific time or allowing them to manage clothes together if the types of clothes are the same.

- When the user selects a date on the schedule screen, the calendar DB sends the styler reservation information for specific date and the selectable time zone is displayed in the timeline at the bottom
- When the user selects the 'course/ start time /the number of clothes' in the selection box, the user's reservation information is reflected in the date-by-date DB of the styler

D. Styling Schedule Reservation



1) Personal Styling Calendar Page: On the personal styling calendar screen, there is a "Reserve clothes to Wear" button and 'Personal calendar'.

- The red circles on the calender mean status of reserved clothes, and when clicked, the reserved clothes are fetched from the database and displayed information at the bottom. (including other people's clothes.)
 - In the case of clothes reserved by oneself, there is also a "reservation cancellation" button.
 - When the 'Cancel Reservation' button is pressed, the event is deleted from the calendar database.
- If you press the "Reserve clothes to wear" button, the screen turns into a closet page.



2) My Closet: On the closet page, you can see clothes that the user has previously added to the closet database. You can add clothes to the closet by pressing the Add button.

- When a user selects a specific clothing, the location information and photos of the clothing are retrieved from the database where information on the clothing is stored, and displayed in a pop-up window.
- If the user presses the + button, the screen switches to the page where the new clothes are added.



- Click one of the available dates.
- Enter the event title, and enter the contents of the push notification of the previous day.
- Click the Reserve button to complete the reservation.
- Return to Personal Styling Calendar Page.

3) Add Clothes Page: Users can add clothes to the app's wardrobe in two modes. The first is to call up clothes information by entering the item number. The MZ generation buys a lot of clothes from Musinsa, an online editing shop where many brands gather. Reflecting this, it is assumed that the user of this app has a lot of Musinsa clothes. When the user enters the item number of clothes in the closet purchased by Musinsa on the page, it crawls Musinsa's data. This displays key information such as detailed descriptions of clothes, photos and materials, and stores them in the database. The second is the manual input. Not all clothes can be reflected through a item number search, so user can take pictures of clothes and fill in the material of clothes to gather key information and create a database.

- When a user enters the product number of Musinsa's clothing product, it shows the photos and information of the clothes. When the user presses the 'Edit information' button, a window appears that allows the user to modify the information, and the information of the product can be modified.
- If the user wants to fill it out manually, press the "No result? Write" button to create a form that can be filled out directly. After adding data, click the 'Add to my closet' button to add clothes to the closet.



4) Reserve Clothes Page: This is a page that comes over after selecting clothes in My Closet Page. On this screen, you can reserve clothes in the closet by date. You can check the dates when reservations can't be made and the dates when reservations can be made, and you can select a date to make a reservation.