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Weekly: A Design System that Combines Graphic and Interaction Design for Scheduling Student Events

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Title

Weekly: A Design System that Combines Graphic and Interaction Design for Scheduling Student Events

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Abstract

A common need for students is scheduling events efficiently. Students using various methods for scheduling events. Some prefer a physical paper calendar, while others prefer to use a mobile device. Several problems can occur when students schedule events. For example, it may not be clear when a student's free time periods are, especially when trying to meet with a team or group members. Also, user's preferences are different on how they schedule events.

To address the issue of inefficiency in scheduling events, a design system that focuses on print, interaction, and user experience design is created. The design system includes two parts: a printed planner, and an interactive App for smart devices. The users choose the method they want to input events and share their schedule. The Weekly App can also automatically generate the common free time of the team.

The goal of this project is to combine traditional graphic and interaction design for scheduling events simply and efficiently for students. This project takes the form of a prototype. Visual and interaction design principles are integrated and design software is used to produce an efficient design system. The outcome is modified and improved based on research and usability testing to demonstrate the concepts of this project.

Keywords:
schedule events, design system, interaction design, user interface design, user experience design, graphic design, information design, icon design, mobile application, iOS, print design, brand identity

Introduction

Situation Analysis

A common need for students is to schedule events. First of all, they need to have a clear weekly schedule of their free time and scheduled classes. Secondly, they have to add other relevant events to the schedule, such as appointments or group meetings. Thirdly, if they are working in a group, the students need to know their free time, and most importantly, find a consistent free time to meet with the other group members.

Students using various methods for scheduling events. Some prefer a physical paper calendar, thus using a pen and paper to write down their schedules in a planner; while others prefer to use a mobile device, like a smartphone or tablet, to input events by typing. Notebooks have various advantages, such as they have a flexible format, they are quick and easy to use and provide more of a humanize workflow for people to use. However, an App for smart devices has a fixed format, added complexity to input data, mechanized interactions and can be unnatural to use. Notebooks still have some disadvantages like limited space, cannot copy or paste, need to carry with additional things while the App have unlimited space, can be modified easily and users do not need to carry the extra item, just use their phone. Therefore, some people only use the App to schedule events while others use both planners and App as well.

Problem Statement

Several problems occur when students schedule events. Firstly, it wasn't always clear when their free time periods are, especially for a team, which is apparently inefficient. Secondly, the user's preferences are different. For people who prefer handwriting, they would write down things in a planner and input into the App as well, which means taking double time to finish their schedule. This is also a waste of time and energy.

This thesis aims to answer the following questions:

• Is there a more easy and efficient solution for scheduling events that address these problems?

• How can a visual design system help schedule events in an efficient way?

• How can the process of scheduling events be simplified using both traditional graphic design and interactivity?

A design system that focuses on print, interaction and user experience design is created. This thesis combines traditional graphic and interaction design for scheduling events in a simple and efficient way for students. The design system includes two parts: a printed planner, and an interactive App for a smart device. The users choose the way they like to input events. They can just type the detailed information, such as an event into the App. If they prefer handwriting, they could write down the events in the printed planner. To make scheduling more efficient, the planner will be designed to transfer their handwritten events into a digital format that the App can read.

When the user has already input their events to the App, they can easily switch the weekly schedule to the available working time and switch back as well. In addition, if the user is working on a team, all the team members who use this App would be able to create a social group, in which they could share their schedules. Then the App would generate the common schedule between the group members, no matter how many people there are, which will enhance their efficiency and save time in scheduling meetings.

Survey of Literature

Design
Interaction Design

Simple and Usable Web, Mobile, and Interaction Design
By Giles Colborne
New Riders, Berkeley, CA. 2011.

This is a book on the topic of simplicity, which aimed specifically at interaction designers. In a complicated world, products that are easy to use gain favor with consumers. The book shows how to dig down and simplify user experiences when designing digital devices and applications. It starts with describing why simplicity is engaging, explores the laws of simplicity, and presents demonstrated approaches for obtaining simplicity. Remove, hide, organize and displace are guidelines for designers. Readers learn simplicity by studying before and after examples and case studies where the results speak for themselves.

Mobile Design Pattern Gallery:
UI Patterns for Smartphone Apps, 2nd Edition
By Theresa Neil
O'Reilly Media; Second edition, 2014.

The book is a guide for UI designers who create mobile applications. In this edition, user experience professional Theresa Neil walks product managers, designers, and developers through design patterns in 11 categories. It provides more than 90 mobile app design patterns, illustrated by 1,000 screenshots and diagrams from current mobile phone apps, to help readers better understand and use these patterns to address common design challenges while providing out-of-the-box skills and experiences.

Design
Graphic Design

Grid Systems in Graphic Design:
A Visual Communication Manual for Graphic Designers, Typographers and Three Dimensional Designers
By Josef Müller-Brockmann
Niggli; Bilingual edition, 2016.

The book provides the definitive word on using grid systems in graphic design, from a professional for professionals. Although Muller Brockman presented the definition of the grid in 1961, this text is still useful today for designers working in the latest computer-assisted design field. With examples on how to work precisely at a conceptual level and specific guidance for applying different systems (8 to 32 fields), this guidebook provides a clear framework for problem-solving for graphic designers, typographers, and three-dimensional designers.

Color Design Workbook:
A Real World Guide to Using Color in Graphic Design
By Sean Adams, Terry Stone, Noreen Morioka
Rockport Publishers; First edition, 2008.

The book provides readers with the vital information needed, from the meanings behind colors to working with color in presentations, to apply color creatively and efficiently to their design work. Since color is such a vital component of the design field, designers need the most lately and the most fundamental information on the subject to have the tools needed to use color effectively. Readers also receive guidance on communicating and selling color ideas with their clients. The psychology behind color theory is also illustrated in easily understood way, and case studies are involved to show the effects some color choices had on both their clients and consumers.

Subject Matter
Popular Meeting Scheduler Apps and Tools

Rally is a scheduling tool that lets users create a smooth and straightforward poll. Attendees can vote on a specific day for an event that works best for them. Rally also has an open comment section on the meeting page. Thus, users can plan the meeting agenda and discuss details before the event.

Doodle is a scheduling tool where users can pick a specific date and time, and poll a team to see what works best for all of them. Users don't have to sign up for a Doodle account to participate in a poll. Users can also create a public Doodle URL, where individuals can request a meeting with others based on their listed availability. Doodle also cooperates with users calendar.

HubSpot Meetings is a meeting scheduler tool that integrates with both users calendar and HubSpot CRM(Customer Relationship Management[1]). It provides users with a personalized booking link they can share via email to invite people to view their availability and book a meeting time. When someone schedules a meeting, it will automatically be added to users calendar and pushed to the CRM. It gives prospects an easy way to book meetings without the back and forth.

Assistant.to is a meeting scheduler tool that lets users work directly with Gmail and Google Calendar. Users could select available meeting times and share those open slots with the person they're going to schedule a meeting. Besides, users can choose the meeting duration and location. This information is included in an email, allowing the recipient to click on the time that works best for them. Once they've all agreed on a time, the app adds the meeting with all the relevant details to users calendar. Currently, it does not support group scheduling.

[1] Margaret Rouse, customer relationship management (CRM), http://searchcrm.techtarget.com/definition/CRM

Calendly is a meeting scheduler tool that integrates directly with Google or Office 365 calendar and gives users a personalized URL where others can see your availability and schedule times. They offer a basic free plan and a paid premium plan that allows for group scheduling and other additional features. To help users stay organized, the App lets users choose personalized meeting types and durations. For example, “30 Minute Check-In” or “60 Minute Project Review.”

Timebridge is a free tool that provides two ways to schedule meetings. With the “outbound” way, users can show their availability, list the attendees. Then, Timebridge sends out an email to collect everyone’s preferred times. After it’s determined the ideal time for everyone to meet, the app will schedule the meeting for you. With the “inbound” method, Timebridge gives users a personal URL where they can check your availability and request times to meet with others.

NeedToMeet is a meeting scheduler tool that is different from tools like Rally or Doodle. Instead, it allows users to choose their favored date and times, rather than selecting from a list of dates and times that set by the meeting host. It doesn’t require users to sign up for an account to use their service. Users can just enter a brief description of their meeting’s purpose, block off their availability on the calendar, and send the link to others. The free version doesn’t sync with the calendar, but they offer a premium subscription which integrates with Outlook.

YouCanBook.me is a meeting scheduler tool that allows users to customize their booking page with different layouts, colors, and company's logo. The freemium service offers users a custom URL where users can view free spots on their Google Calendar or iPhone Calendar and book time with team members.

Pick is a meeting scheduler tool that automatically scans Gmail calendars of all the members to find open slots, and then presents a list of mutually available times. Users can then send a calendar invite to all attendees directly from the app. All members of the team required to be on Pick to share their availability. The app also provides users with an individual URL so they can share availability with people requesting a meeting.

Clara is a virtual assistant fueled by machine learning who can schedule all users meetings and get acquainted with specific scheduling patterns. Once sign up, users indicate their preferences as to which days and times they are available for meetings and their favorite locations for coffee, lunch, or drinks. If someone requests a meeting, users can CC Clara's email address, which can be customized to users company's domain, and the virtual assistant will determine a time, date, duration, participants, and location for the meeting.

Technology

Moleskine Smart Writing Set is a set of tools to write, draw and work with. Users can create digital text and images and share them right away with their smartphone or tablet.

The Smart Writing Set is a system made up of three objects: the Paper Tablet notebook, the smart Pen+ and a companion App that enables users to edit digitally and share what they have on paper in real-time without taking a photo, uploading files, or scanning documents.

The Paper Tablet feels like a notebook but is purposely designed with extended rounded edges to look like a tablet. The Pen+, a slim, aluminum pen with a hidden camera that traces and digitizes everything the users write. The Moleskine Notes App for iPhone users and Neo Notes for Android users, a place to store notes and sketches that let users share, export, edit and search them too.

Evernote Smart Notebook, Smart Stickers, and Mobile App
The Evernote Smart Notebook designed by Moleskine uses Evernote's Page Camera feature to capture the pages of users notebook with their smartphone or tablet. Evernote Page Camera is available for the current iOS and Android release.

Evernote Smart Notebook features unique "Evernote ruled" and "Evernote squared" page styles with dotted lines designed to guarantee a clean image when digitally capturing users notebook.

Smart Stickers is a Smart Tagging technology. When users capture a page with Evernote App, the Smart Sticker icons become searchable digital tags that make it easy to keep users ideas organized and to keep their digital and analog workspaces synced.

Leuchtturm 1917 Whitelines Link Notebook and Mobile App
The notebook can transfer handwritten notes to the digital version, using a paper-innovation technology called Whitelines. The pages of the notebook have a special ruling. The background is gray, and the lines are white. Handwritten notes can be digitalized when users use the smartphone App with automatic capture. They can then be shared with colleagues and friends via the various platform.

Whitelines is a paper-innovation from Sweden. The paper is grayish uses white lines. This is where the name's derived from, instead of the current dark ruling on regular white paper. The background easily disappears when users copy, scan or fax.

InVision is a design prototyping tool. Users can upload their design files and add animations, gestures, and transitions to transform static screens into clickable, interactive prototypes. Users can test web and mobile product designs, and quickly incorporate user feedback. Hear what real users have to say—and see them interact with the prototype with live video and audio recordings.

Process

The Weekly is a design system that focuses on print, interaction and user experience design. The design purpose was to combine traditional graphic design and interaction design for scheduling events in a simple and efficient way for students.

The development process comprised of the following stages: investigate and analyze the existing meeting schedule tools and technologies; brainstorm the initial design concepts and the design processes; design the following three parts of the design system: brand identity, the printed planner and user interfaces of the mobile application; develop a interactive prototype for user testing; conduct and edit a introductory video; evaluate and modify the design to improve the user experiences. The development process was iterative and changes were made based on user testing and feedbacks.

The elements of the design included the brand identity of the product, the printed planner notebook, and user interfaces and interactions of the mobile application. To showcase the app features and for the user testing, an interactive prototype was supported and developed using InVision (website/iOS App). Besides, to give users a better understanding of how the entire design system works, an introductory video was conducted and edited using Adobe Illustrator, After Effects and iMovie. All the assets were designed in Adobe Photoshop and Adobe Illustrator.

Stage 1
Design Inspiration
and Personal Style

This stage included the initial design inspirations and the thesis candidate's personal style. Plenty of ideas were generated after getting inspired by the existing tools and technologies.

Based on the analysis of 9 meeting scheduler tools[2], it was easy to summarize the common features and the trend of the popular tools: users can pick a date and time options; individuals can request a meeting with you based on your listed availability; clear layouts and colors. Besides, some of the popular tools have their own unique features, which become great inspirations for the design of the thesis project. For example, Rally is a scheduling tool that lets users create a simple, straightforward poll where attendees can vote on a day for an event that works best for them. It also includes an open comment section on the meeting page, so attendees can plan the meeting agenda or discuss details before the event. When someone schedules a meeting, HubSpot Meetings will automatically be added to users calendar and pushed to the HubSpot CRM. It gives prospects an easy way to book meetings without the back and forth.

Based on the research of the existing technologies, like Moleskine Smart Writing Set, Evernote Smart Notebook with Smart Stickers and Mobile App, and Leuchtturm 1917 Whitelines Link Notebook, the initial idea of design a system was generated. The design system includes a printed planner and a mobile application. Users write down the schedules and events on the planner, and then the handwritten events could be automatically transformed into the digital version, which is shown on the App. The idea was to connect physical and digital together to optimize the process of scheduling events, for students who prefer handwriting.

[2] Karla Cook, 9 Meeting Scheduler Tools to Make Your Day More Productive, https://blog.hubspot.com/marketing/meeting-scheduler-tools-more-productive

The design of the planner and the mobile application should be consistent with the brand identity. The visual style of the application should be simple, clear and fit for students. The inner page design of the planner should meet the demands and fit preferences and habits of the target audiences. The color palette should have the connection with the subject matter: scheduling events. Additionally, the candidate's personal style (fig.1) was incorporated into the thesis project to create a unique, minimal and clean design.

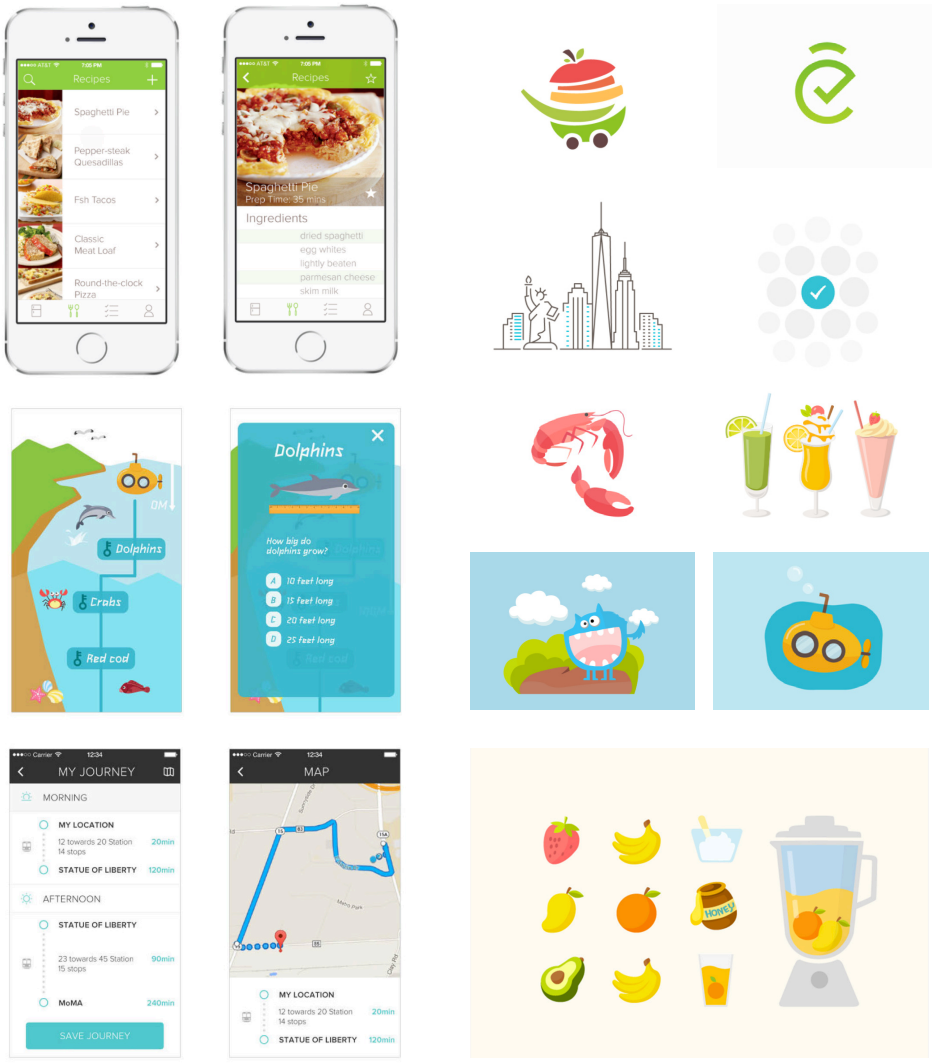


Figure 1: Personal Style

Stage 2
Branding

This stage involved brand identity design for the Weekly design system. The subject matter of the thesis project is scheduling events for students.

Based on the research about the most popular meeting scheduler tools and Apps, the color palette (fig.2) was chosen to match the subject matter and the target audiences (students). White was selected as the primary color of the brand, which represents a simple, clear and minimalist style. Red, dark navy and light gray were chosen to be the primary colors. Red hue represents the things that related to the calendar. Dark navy was chosen instead of the pure black, which is too bold to read. Light gray was chosen as some of the backgrounds to increase the readability of the contents on the screen. The secondary colors were chosen to be several bright colors which stand for different categories of users events. The ideas were generated based on researches of popular class schedule Apps for students.

Primary colors:

Red:
Represents calendar/schedule

Dark navy, Light gray:
Make more contrast between main contents and background

Secondary colors:

Blues, green, yellows, purple:
Represents different categories of events/classes/time frames.

Figure 2: Color Palette of Weekly

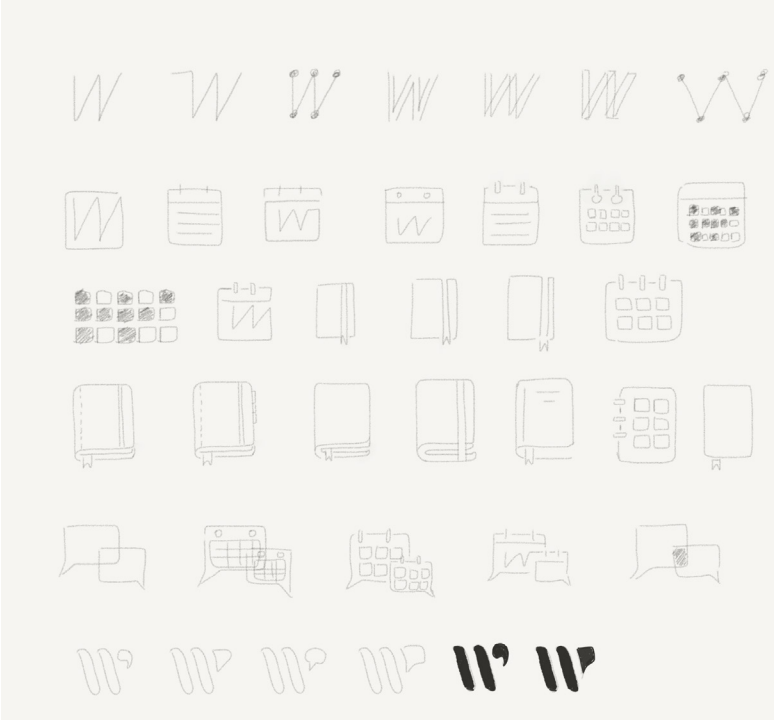
Brandon Text (fig.3) was the selected typeface. Brandon Text works well for both brand logo and mobile user interface text, and it works well in different weight. This typeface is simple, clean, friendly, and well suited for the brand.

Brandon Text Light
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Brandon Text Regular
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Brandon Text Bold
abcdefghijklmnopqrstuvwxyz
ABCDEFGHIJKLMNOPQRSTUVWXYZ

Figure 3: Weekly Typeface Selection



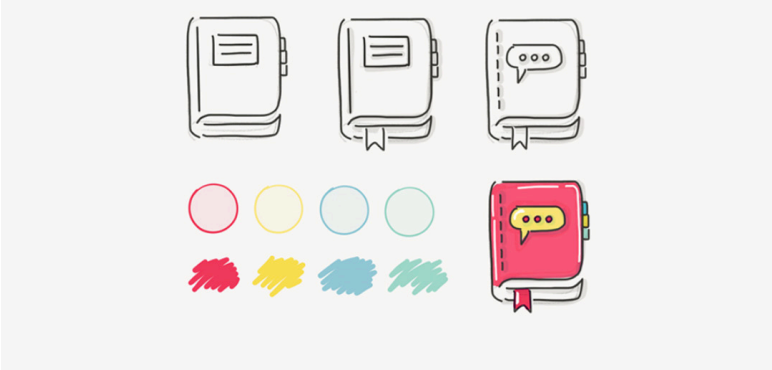


Figure 4: Early Logo Concepts and Sketches

The inspirations for logo design (fig.4):

1. Shape
- A graphical planner
- Connects physical and digital
- Subject Matter: schedule events

2. Color
- Primary color: Red
- Outline: Dark Navy
- Represents calendar

3. Chat Bubble
- Groups/Teams
- People/Social
- Connections

Stage 3
Early Concepts
and Mind Map

Various design solutions were explored and finalized based on users' feedback. The logo (fig.5) was finalized. It was designed in a shape of a graphical planner, which represents the connections between physical and digital world. Moreover, it stands for the subject matter of this project: scheduling events. Red was chosen as the primary color, which represents calendar. The logo contains a chat bubble on the cover of the planner, which mains groups, teams, people, social and connections between people. The selected logo worked well with the engaging interface and overall design of the app.

Figure 5: Final Weekly Logo

A mind map diagram (fig.6) was developed to display initial ideas and thinking processes visually. The goal of the thesis is to combine traditional graphic design and interaction design to create an efficient way for scheduling events. The brainstorm of the mind map helps to organize design, technology and subject matter aspects and collect ideas for the thesis projects.

Figure 6: Mind Map Diagram

Flowcharts

Information Flowchart

An information flowchart (fig.7) was created based on the mind map that helped define the connection between subject matter and design system. The goal was to create a design system that combines traditional graphic design and interaction design for scheduling events in a simple and efficient way for students. This process was iterative and received continual refinements based on user feedback and observations.

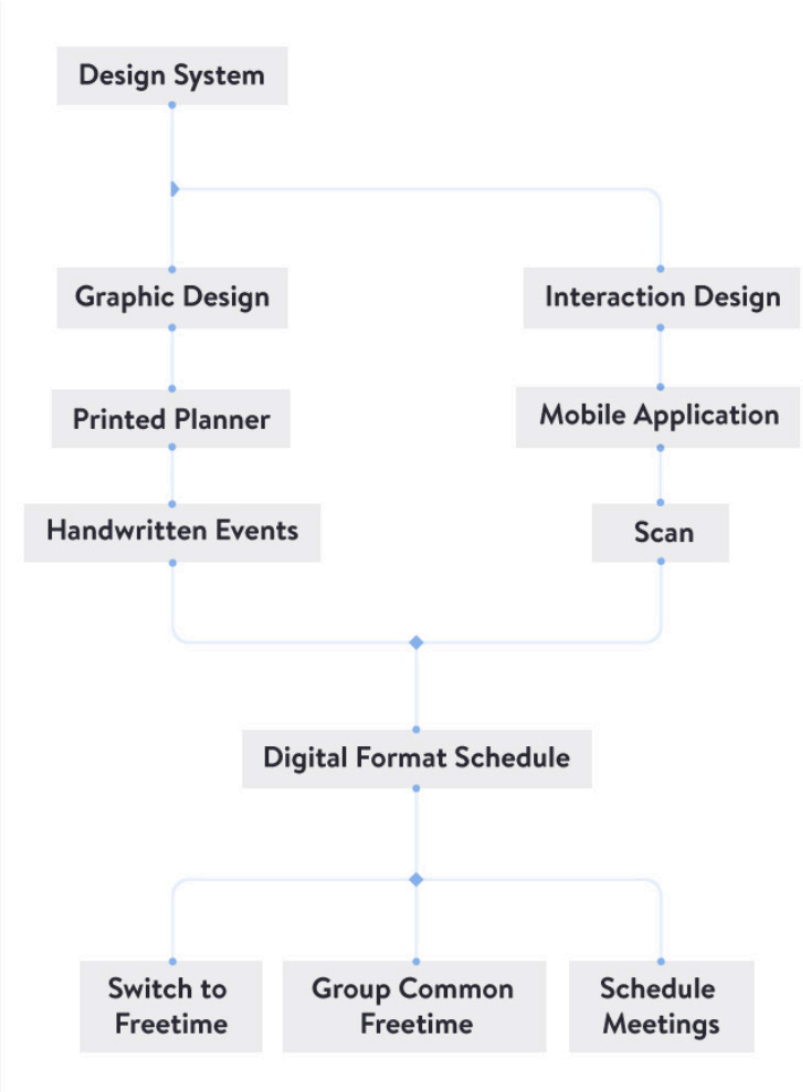


Figure 7: Information Flowchart

There are two parts of the design system:

1. Graphic Design
A printed planner was designed for users to write down their daily events.

2. Interaction Design
A mobile application was designed for users to manage their events in a digital version. They can manage their events, share their schedules with group members, see common free time, and schedule a meeting using the App.

Those two parts are connected when users use the App to scan the handwritten events on the planner. It will be automatically transformed into the digital version. Thus, users could take advantage of the convenience of the App to generate the common free time and schedule the meeting. Users do not need to figure out when it is the right time for everyone, instead, the App takes care of this process. Thus, this process would make the way of scheduling meetings much more efficient.

Process Flowchart

A process flowchart (fig.8) was created based on the research and understanding of user needs. The user workflow diagram visualizes the entire process of tasks and actions required when using the planner and the application.

Figure 8: Process Flowchart

This diagram visualized how many parts were included in the application, and how users schedule events step by step.

After sign up and log in, there are four main parts of the application:

1. Schedules
This part will be an empty page when users use the App for the first time. The first step is to use the App to scan the handwritten events on their planner. After scanning, the App automatically transforms the events into the App, which is shown on the schedule page. Users could switch from schedule mode to free time mode. Additionally, the schedule switches from daily to weekly view when users hold their phone horizontally. The details such as title, date, time and memos will pop up when users press a specific event.

2. Groups
Users can create a group, add members to the group from their contact list, and chat with each other in this section. When a group was created, they could share the select timeframe to share with group members. When all the people in the same group shared their schedules, the App could automatically generate the common free time for them. After that, they could select the time they prefer to set up a time to meet.

3. Meetings
All scheduled meetings were stored in this section. They could check and edit the details of each meeting. Also, a filter was designed to let them see specific meetings for a particular group.

4. Profile
This section is the account center for users. They can manage their account settings, edit their personal information, and set their preferences of scheduling events.

Target Audience

The specific target audience will be students at the high school level or higher who have the needs of scheduling events, prefer to write down schedules on notebooks and use smartphones. Personas were created to simulate users and to design the project to satisfy needs.

Persona One

Name	Vicky Garcia
Age	16 years old
Background	High school student in New York City
Personality	Enthusiastic, outgoing, affable
Interests	Socializing, writing, drawing
Goals	She is responsible for setting up meeting times for her group.
Challenges	It is not easy to find a common free time among all the group members. She wants to find an easy and efficient way to schedule meetings for her group.

Persona Two	**Name**	Stan Gideon
	Age	22 years old
	Background	Senior student in Boston
	Personality	Easygoing, kind, quiet
	Interests	Writing, reading, coding
	Goals	He works in a group with his classmates. They need to meet frequently to do their works together.
	Challenges	Everyone in the group is busy. He wants to find an easy and efficient way to find the common free time for all the group members.

Planner Design

Stage 4
Planner Design and Implementation

There are various notebooks of different shapes and sizes laying around the table. After a comprehensive research and analysis on recent favorite notebooks and journals, a rough page layout (fig.9) was designed.

Based on research of the article “The very best notebooks for getting yourself organized” by Billy Cadden and Amy Schellenbaum, the 5-inch-by-8.25-inch Moleskine is a classic notebook[3]. Other favorite notebooks also measure around 5.5 inches by 8.3 inches. For example, the Ogami Repap Stone Paper Hard Cover Notebook, the Rhodia Black Dot Grid Webnotebook, the Leuchtturm 1917. Besides, based on the interview with the target audiences (students who prefer writing down schedules on paper), most of them use the 5-inch-by-8.25-inch size notebooks and journals. During the interview, a student said that this specific size is a classic size of notebooks, which has enough space to write and also easy to carry. Thus, the 5 inches by 8.25 inches was chosen as the size of the Weekly Planner.

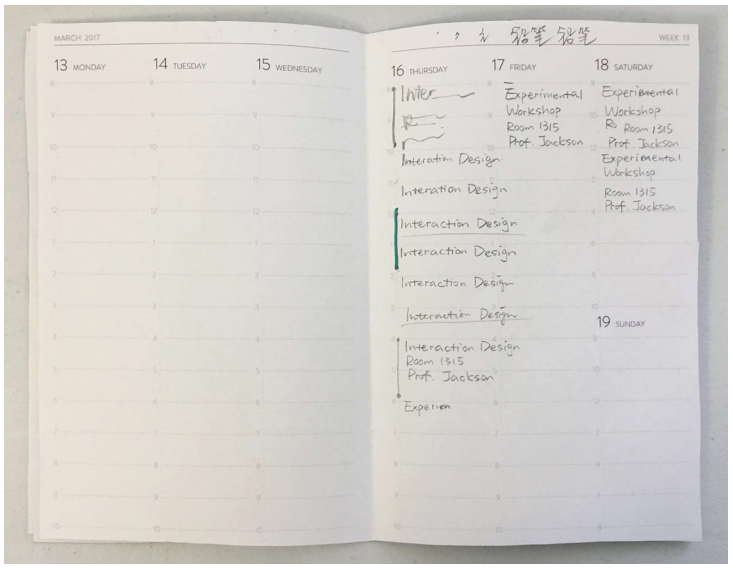


Figure 9: Page Layout Sketch

[3] Billy Cadden and Amy Schellenbaum, The very best notebooks for getting yourself organized, https://www.popsci.com/best-notebooks

After interviewing and user testing of the initial idea, the refined page layout (fig.10) was designed.

To have the consistency of the entire design system, Brandon Text was used as the typeface of the planner inner pages. To make it easier for users to scan their schedules using the App, the spread of the planner was designed in weekly view. In this way, users could scan the spread real quick without turning the pages. Based on the class timetable of students, most of them have classes from 8 am to 10 pm, Monday to Friday. Thus, each day was divided into ten sections, with a two-hour block. There are seven dots in each section, and each dot represents a ten-minutes block. The Saturday and Sunday were placed vertically in the same row because there are no classes on weekends in most circumstances. A specific timeframe was selected by marking two dots and drawing a line between them. Users could write down events during this timeframe. Moreover, they could use a marker pen to give a specific color to the event. To be consistent with the brand identity, the event will be marked with the same color when transferred into the App. Users could classify events by color, which makes it easier for them to recognize different events and get organized.

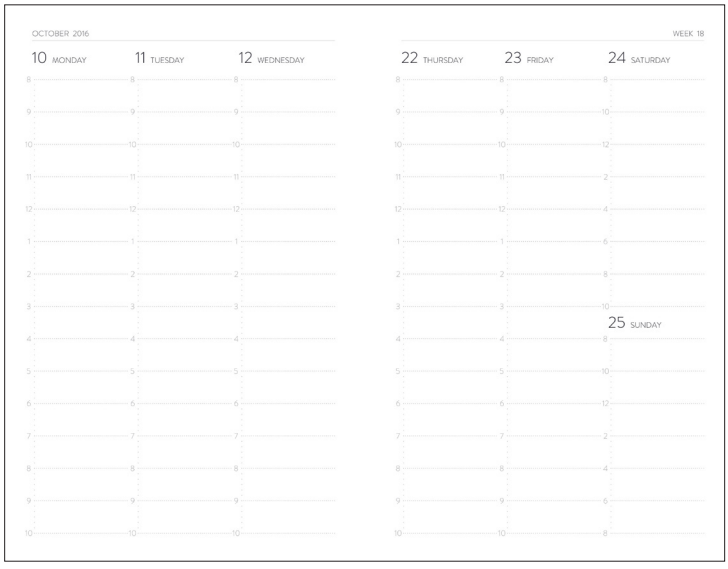


Figure 10: Final Page Layout

It is important always to be consistent with brand identity. Based on the brand color palette, three versions of the cover pages (fig.11) was designed to match the three primary colors.

To fit the clean and minimal style of the brand, there are only two contents on the cover page: the year range and the brand name. The background was filled with single color instead of the combination of various colors. Based on the user testing, the design gives users an organized, clean and tidy feel and a sense of efficacy.

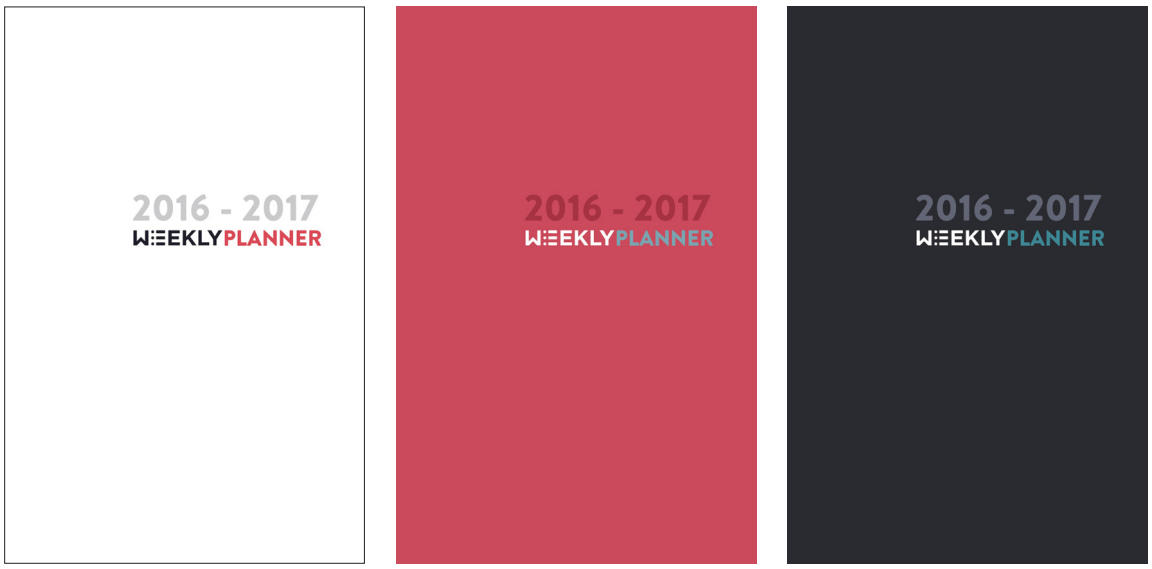


Figure 11: Cover Design

The design process was faced with multiple challenges along the way. The typeface, font size, and the line spacing need to be adjusted for several times to be able to write down the specific amount of events. Moreover, to find the right paper to be the front and back cover for the planner is another big challenge. The paper has to be at a certain weight to be thick enough for a cover, but not too thick to make the planner not suitable to carry-on. To accomplish the task, the thesis candidate had to check with different print shops to have the planner printed in the right effect.

After several versions of refinements, the design of Weekly Planner (fig.12) was finalized and printed out for further interactive prototyping and user testing.

The inner pages were printed on 24lb Standard White paper. The cover page was printed on 60lb Matte Color paper.

Figure 12: Final Planner Design

Wireframes

Stage 5
User Interactions
and Visual Designs

An initial preliminary wireframe (fig.13) was created based on the researches and interviews with the target audiences. To make better use of the space of the mobile phone, the application was designed for both vertically and horizontally use. The hamburger menu was placed on the top left for the first version because of the limited space of the screen.

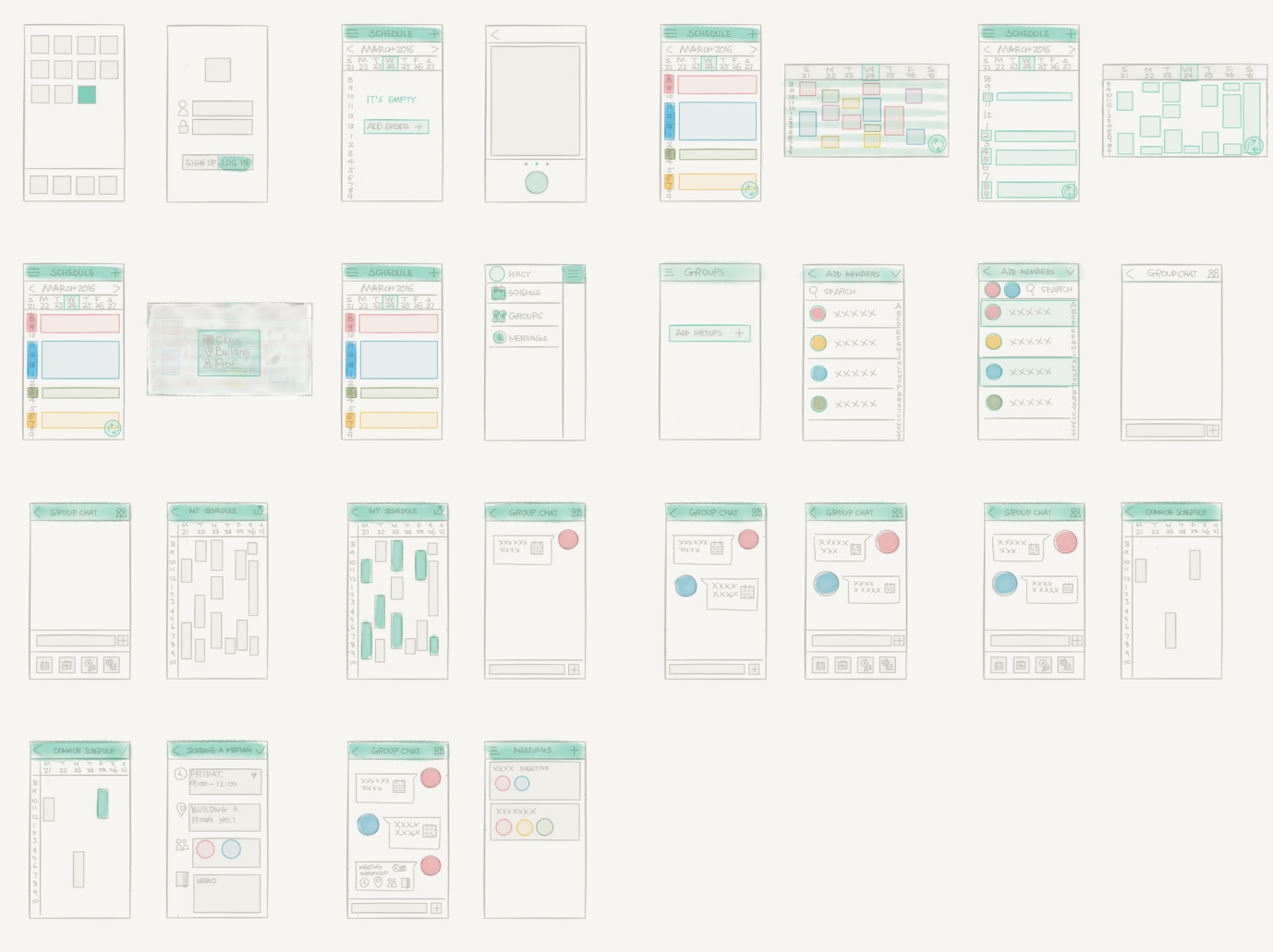


Figure 13: Initial Preliminary Wireframe

After the first version of the wireframe was created, a pilot test was conducted to better understand the layout, navigation, and usability of the application. Based on the result of the test and interview, most people indicated that the hamburger menu on the top left made the App more complicated to use because they need to tap the hidden menu every time they want to switch between different functions. This interaction took more steps than it should should have and reduced the user-friendliness of the App.

Therefore, a revised version of the wireframe sketch (fig.14) was created based on the results of the user test. The navigation bar was moved to the bottom of the screen and stayed at the bottom all the time. Four main functions were placed on the menu bar: schedules, groups, meetings, and profile. This revision changed the method of interaction. Users could quickly switch between each function from the bottom bar.

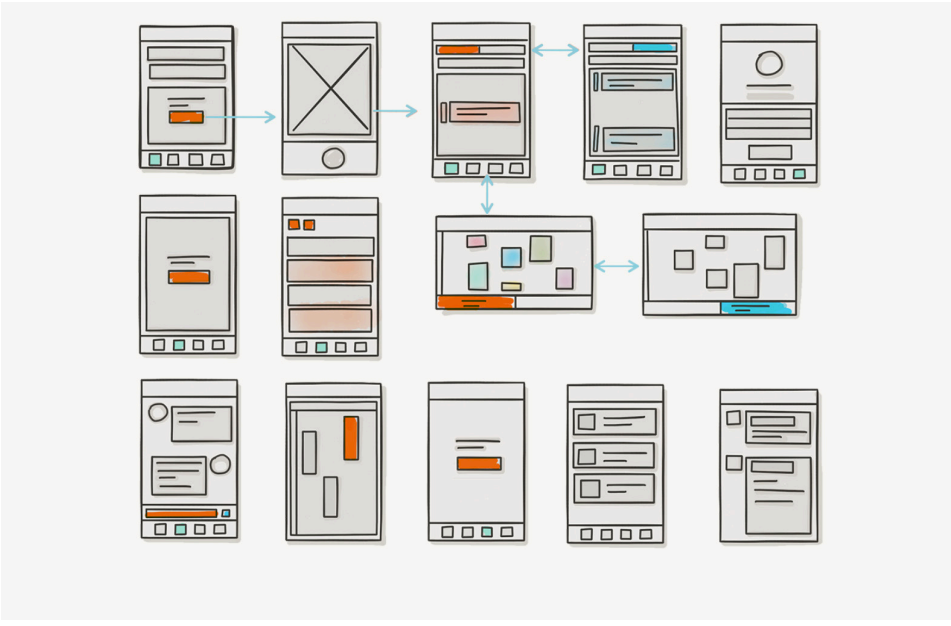


Figure 14: Revised Wireframe Sketch

Workflow

A user workflow (fig.15) was created based on the result of the research and the second version of the wireframe. It helps understand the connections between each user interfaces and demonstrate the process of the interactions. The user workflow visualizes the entire process of tasks and actions required when using the planner and the mobile application.

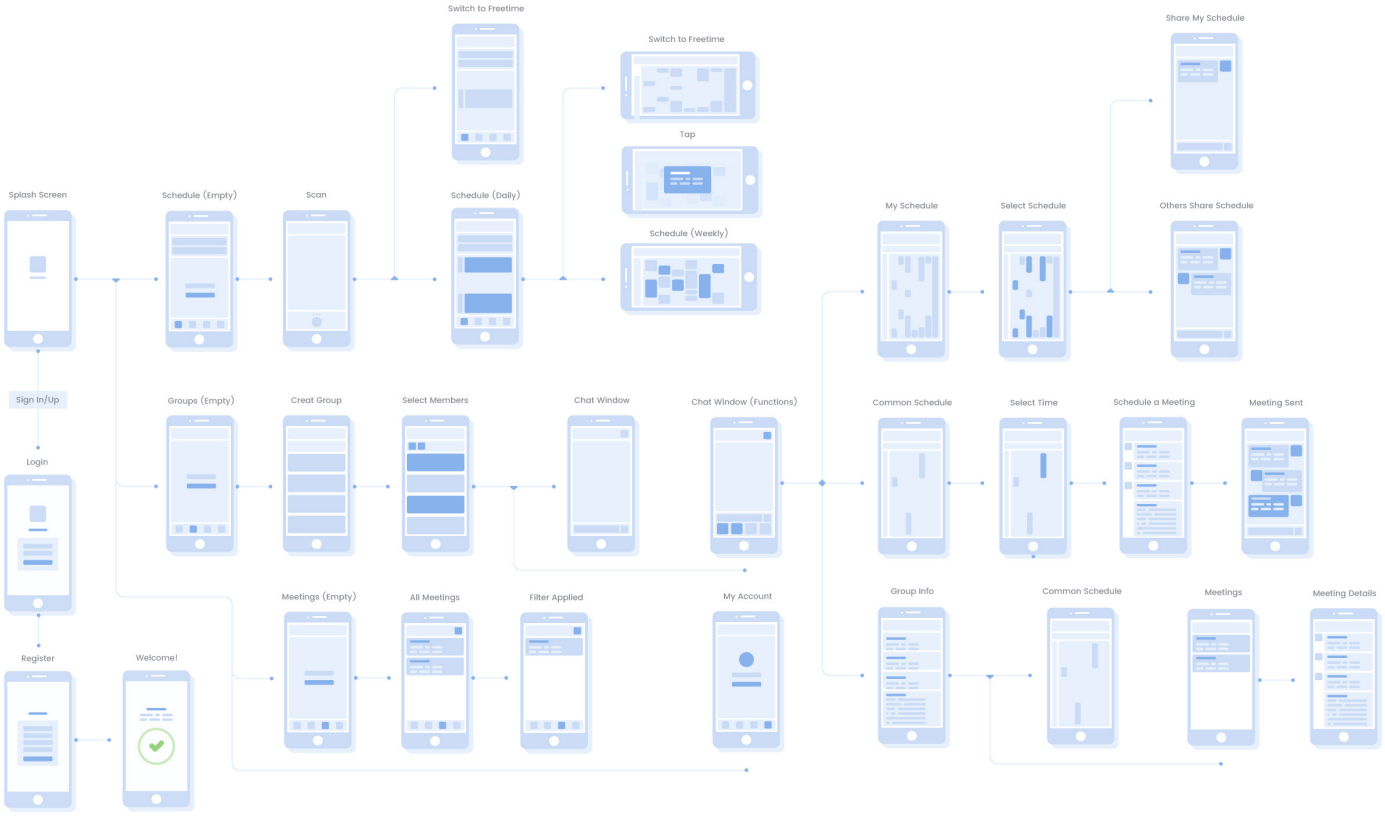


Figure 15: User Workflow

App Interface Design

Stage 6
Hi-fidelity Interfaces

The high fidelity interfaces communicate the design decisions. The final design decisions were made based on research, advisor review, and user testing. The visual style of the App was designed to be simple, clean and minimal to be consistent with the design system and match the subject matter as well. App navigation was designed paralleled to allow quick access. Layout and elements were designed to ensure clarity of the information shown on the small screen.

A four-step splash screen (fig.16) was designed to guide the users to understand the functions and features of the app in advance. Four main features were shown on each screen with illustrations and short paragraphs to help users learn more about the App. Users could also skip the intro section.

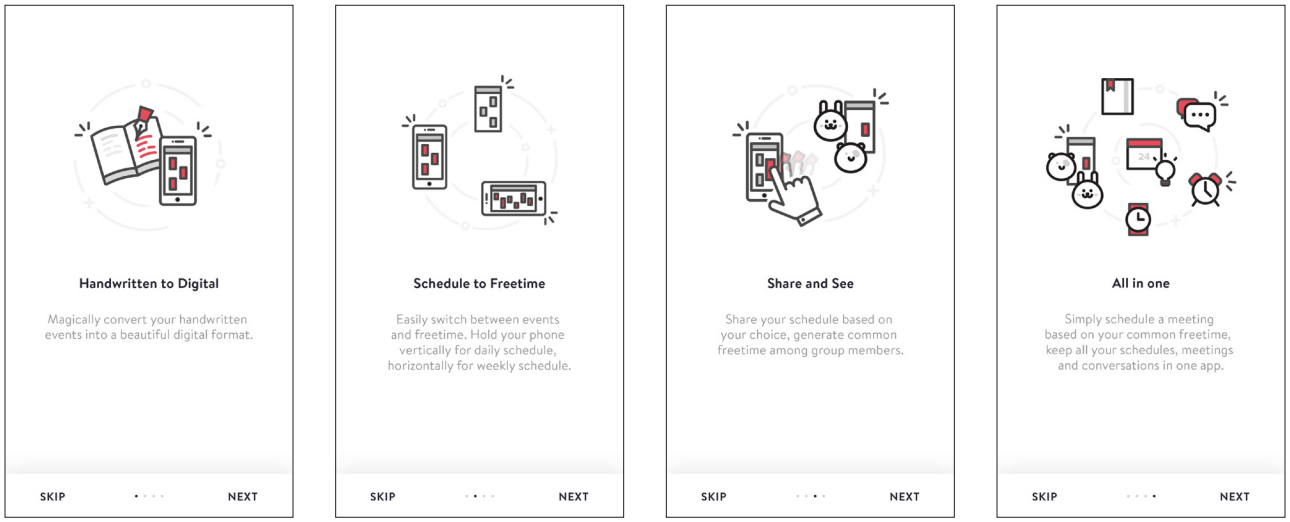


Figure 16: App Splash Screen

First of all, the user needs to login to his or her account. They will need to sign up if it is their first time to use the App (fig.17). After that, the user could start to use the App. Their daily schedule would be the default main screen. It will be empty if it is their first time to use the App (fig.18).

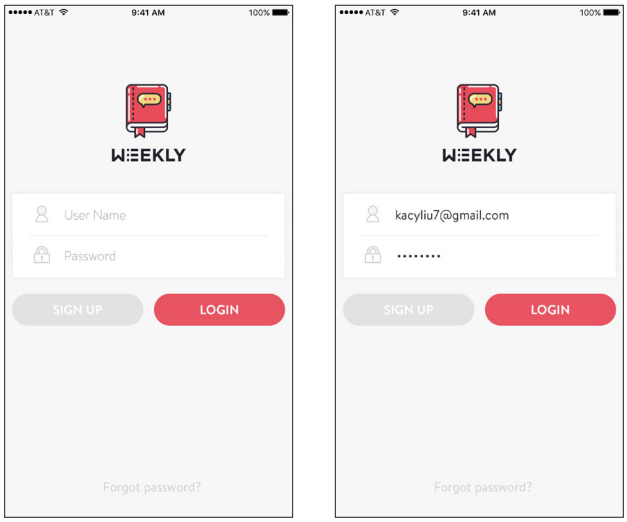


Figure 17: App Login/Sign up

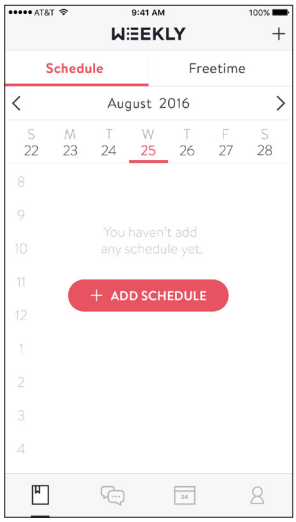


Figure 18: Schedule (Empty)

Users can then add schedules to the Weekly App. After writing down their schedules on the Weekly Planner, users can use the App to access the camera function on the phone to scan the pages. Then, the App could recognize the handwritten events and automatically transform them into digital versions, which will be shown on the home screen (fig.19). Users can swipe left or right to change dates, and scroll up and down to see different events of the same day.

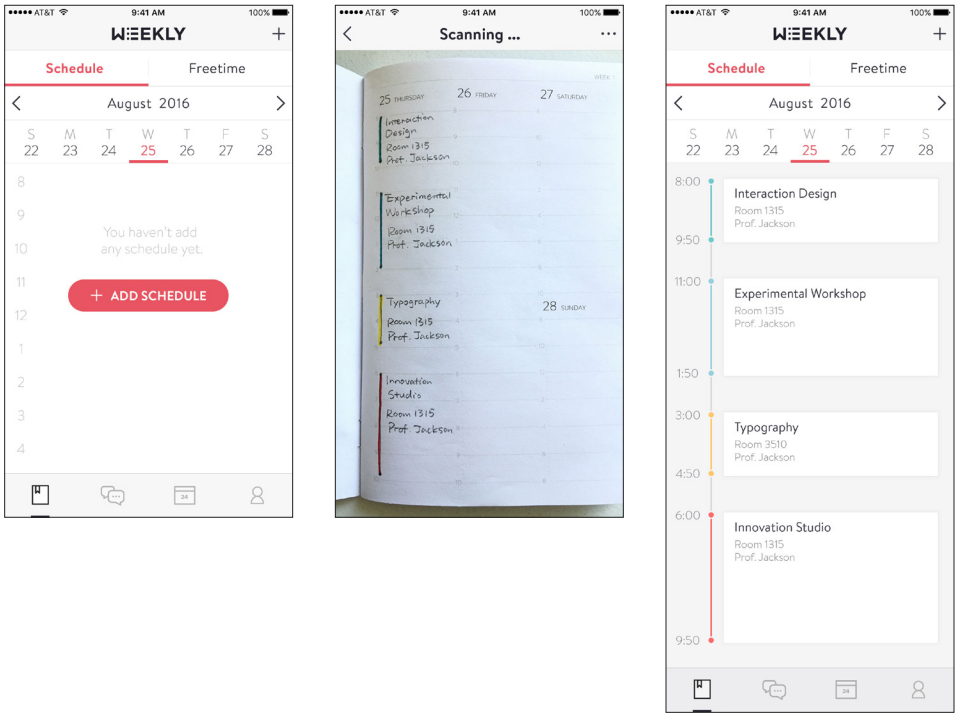


Figure 19: Add Schedules

Users can quickly switch from schedule mode to free time mode (fig.20). Schedules were shown as the daily view when users hold the phone vertically, and it would change to weekly view if they use the phone horizontally (fig.21). This function was designed to make better use the space and features of the mobile phone screen. Besides, users could see their daily events in detail and also have an overall idea of their complete weekly schedule.

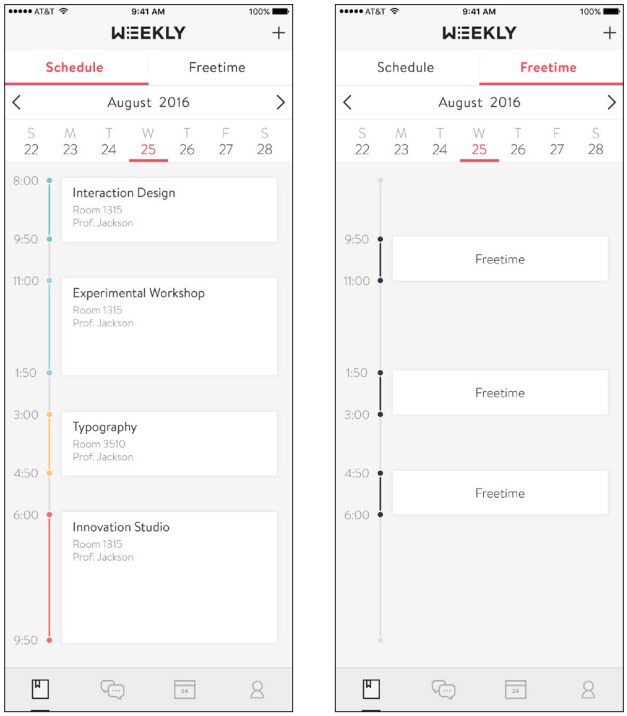


Figure 20: Daily Schedule/Freetime

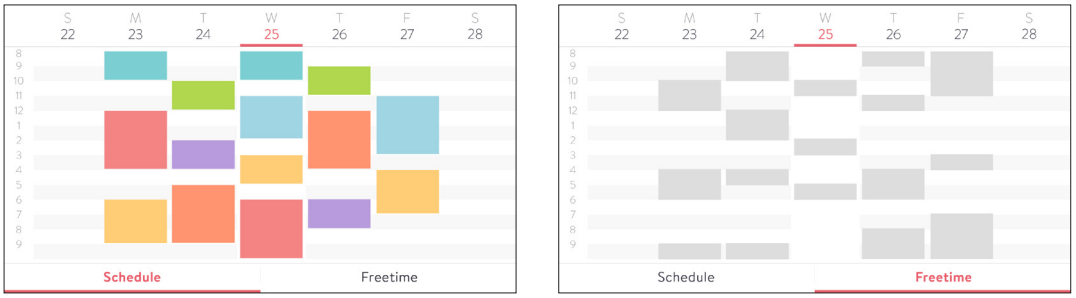


Figure 21: Weekly Schedule/Freetime

When users hold their phone horizontally to see the weekly schedule, they also have access to the details of each event by pressing on one of the color blocks on the screen. The specific details like subject, date and time of the event will pop up for users to have a quick glance (fig.22).

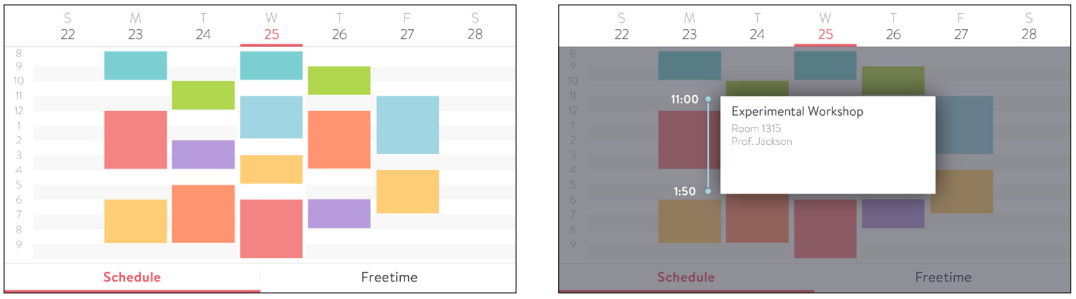


Figure 22: Event Pop Up

The second function on the navigation bar is Groups. It will be at an empty state if it is the first time for users to use the App. Users can create a group from here. They can add group members from the contact book on their phone (fig.23).

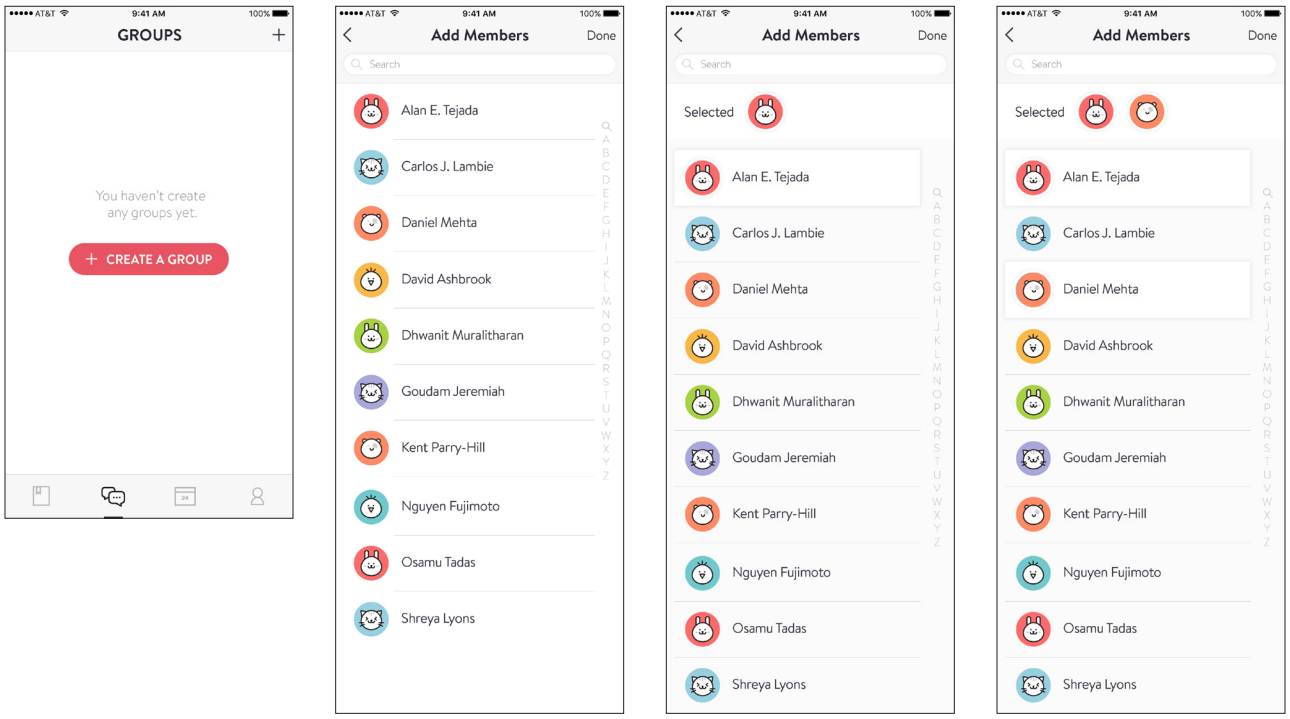


Figure 23: Create a group and add memebers from contacts

After the group was created, users can chat with their team members freely in a group chat room (fig.24). They can not only chat with each other, but share their own free time and set up meetings as well.

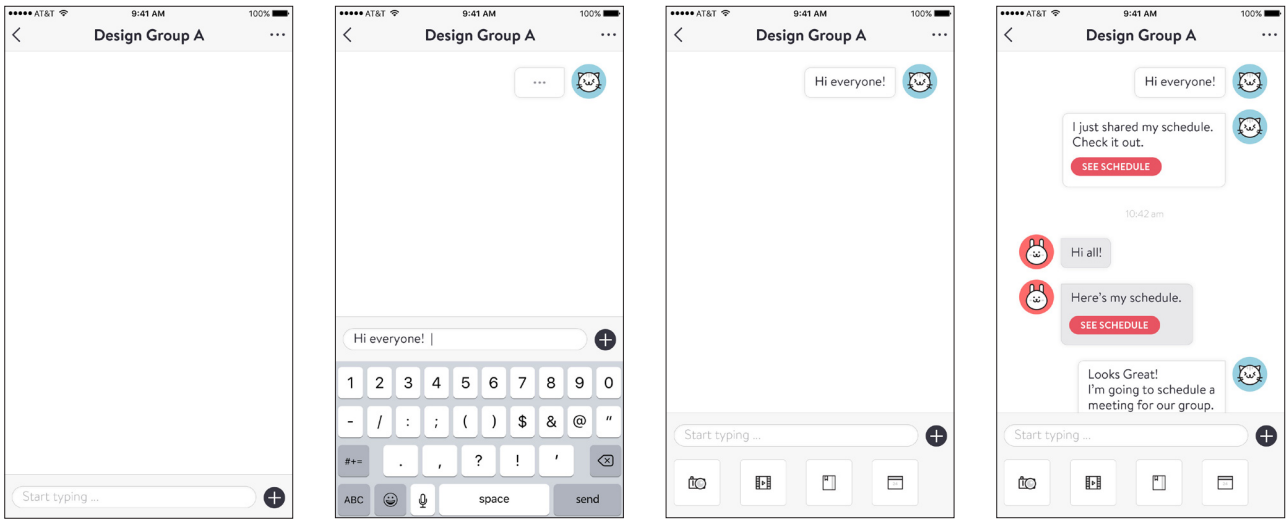


Figure 24: Group Chat Window

To share the free time to the group, users can tap to select all the time periods that they wish to share with their team members instead of the actual schedules shown on their phone (fig.25). Users could have their own preference and privacy not showing all of their free time periods to others.

After all of the people in the group shared their schedules, the App could automatically generate the common free time among the group members (fig.26).

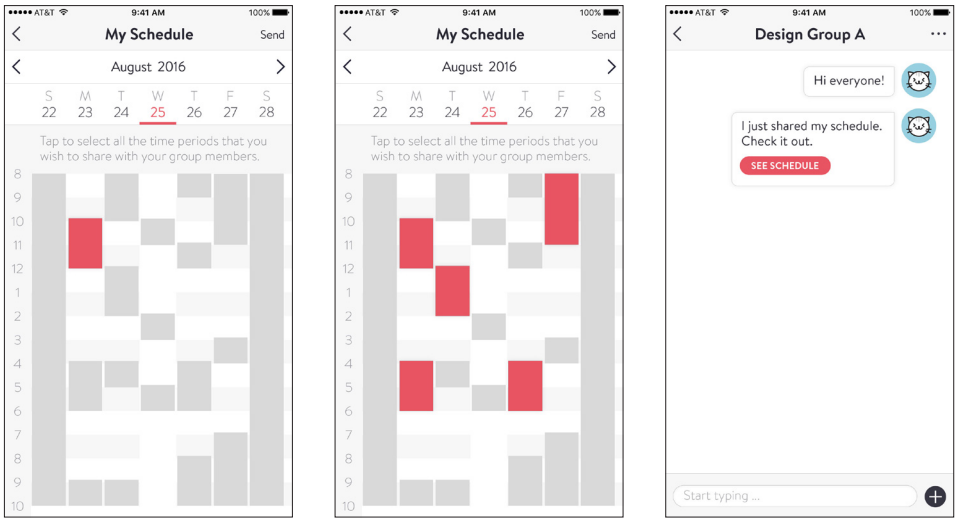


Figure 25: Share Schedule

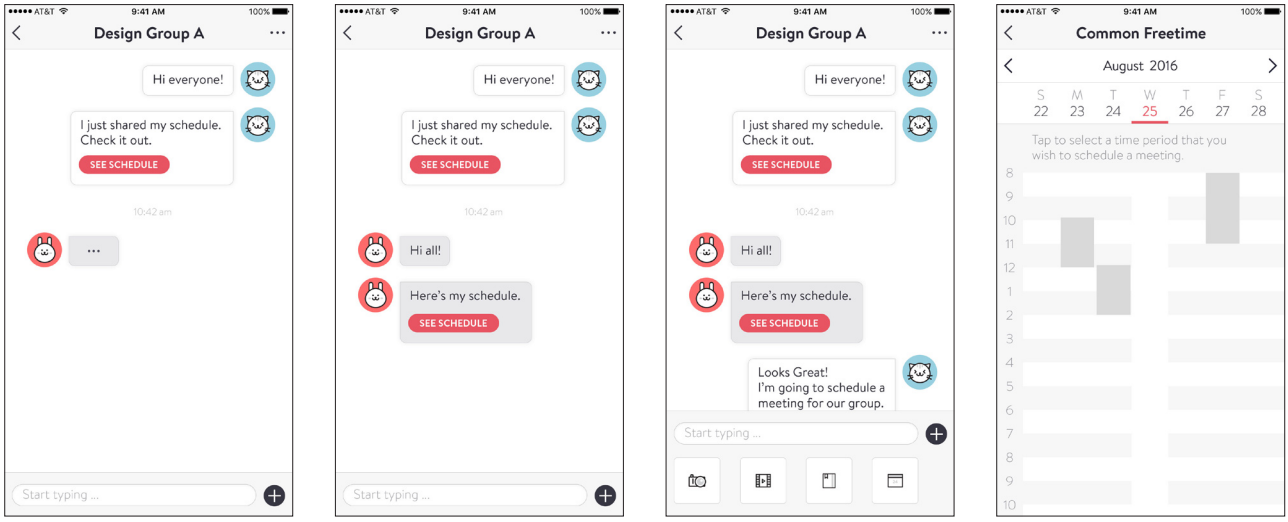


Figure 26: Common Free Time

To schedule a meeting, users can tap the calendar button on the bottom of the chat window to select a period that they wish from the common free time to start. Then, they can add detail information to the meeting, such as the time, location, notification settings, group members, notes, and memos. After that, the details of the scheduled meeting is sent to the group chat (fig.25).

Others could tap to see the details and decided whether they would like to accepted or rejected the posted schedule (fig.26). All of the groups created will be shown in the Groups section. Users can search a specific group by entering the key words (fig.27).

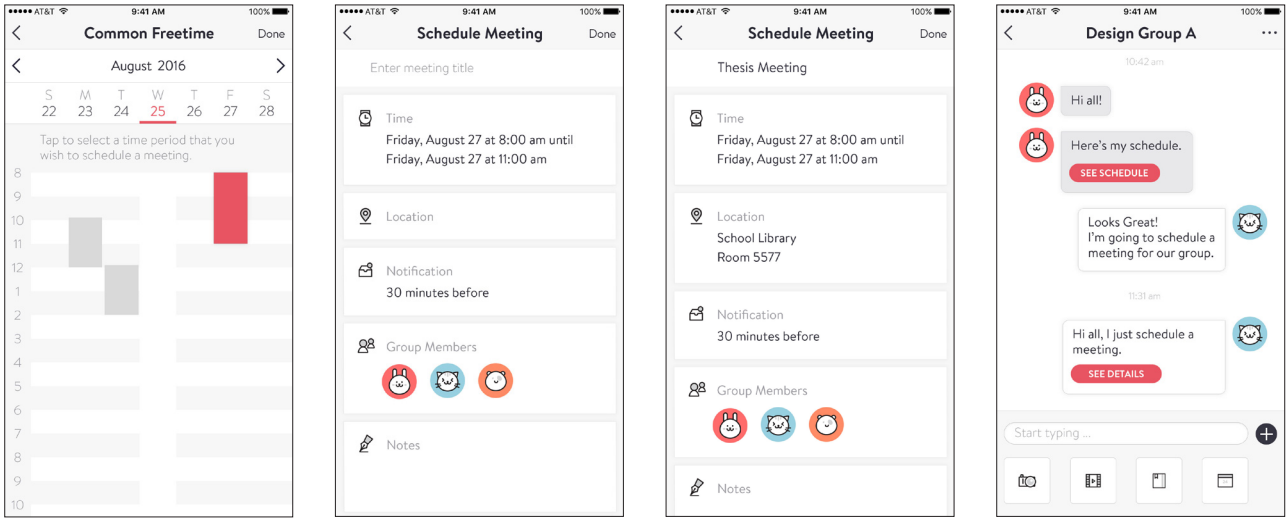


Figure 25: Schedule a Meeting

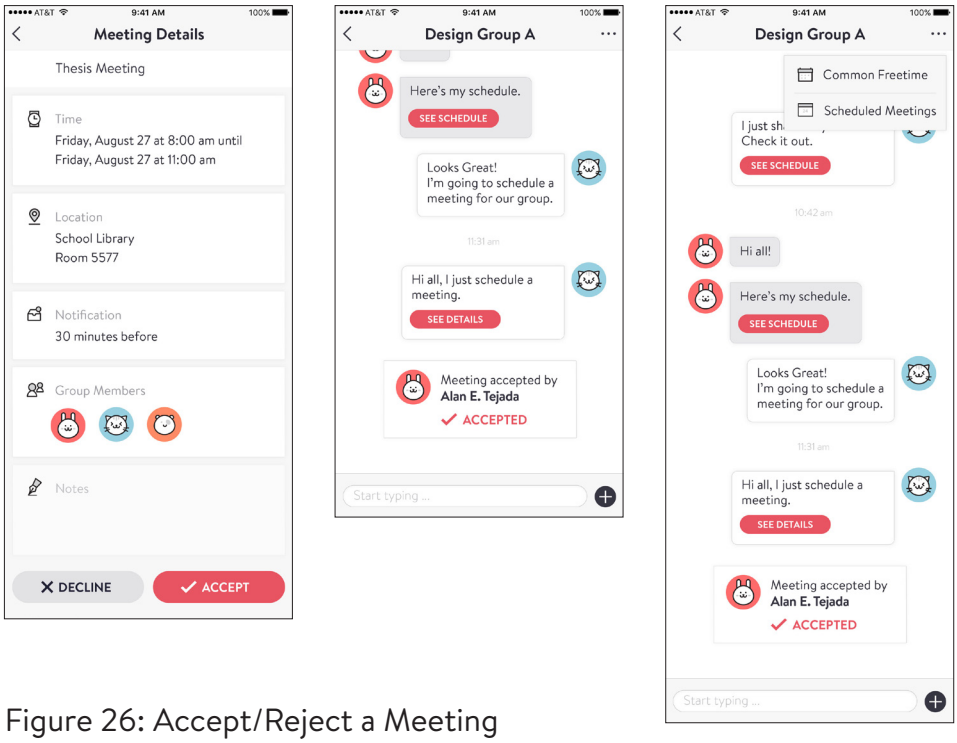


Figure 26: Accept/Reject a Meeting

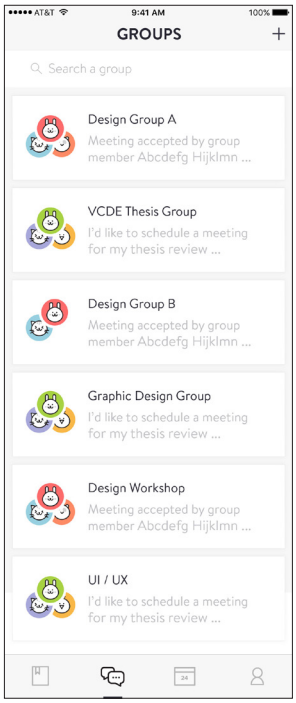


Figure 27: All Groups/Search for Groups

All of the meetings scheduled will be shown in the Meetings section. A filter button was designed on the top. Users can select a specific group to see all the meetings scheduled in the same group. Also, they can switch back to see all meetings for all groups (fig.28).

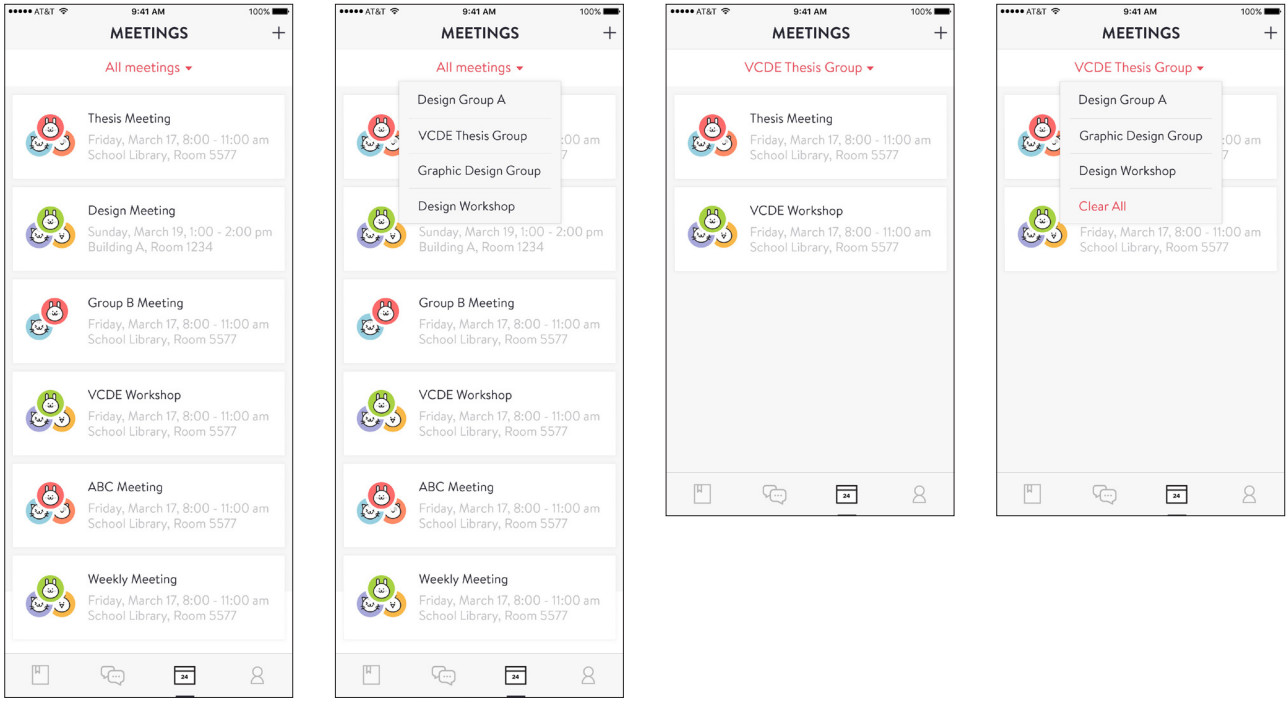


Figure 28: Meetings

The fourth section on the navigation bar is the User Profile. Users can manage their account settings, change avatar, username, and passwords, and set up preferences about their schedules, like whether allowed notifications, schedule sharing and import events from their phone calendar. Moreover, they can sign out and switch to different accounts (fig.29).

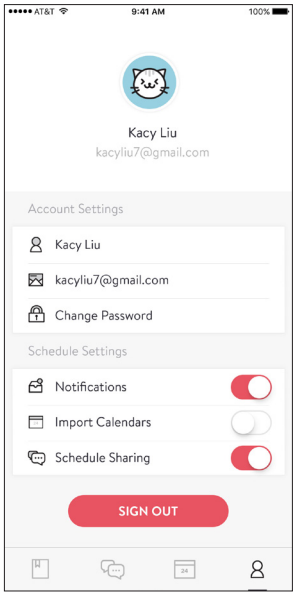


Figure 29: User Profile and Account Settings

Interactive Prototype

Stage 7
Prototype and
Promotional Video

After the user interface design was finalized, the next stage is to create an interactive prototype to show how the App works in reality. The prototype was created to demonstrate all the user interactions and user experiences of the App. Besides, it is also an essential tool for user testing and further evaluation.

The interactive prototype was built with the prototyping application Invision (fig.30). It is a helpful tool for creating a working prototype using the high fidelity designs. It provides various interactions and gestures to make the prototype feels like an actual App. However, it still has it is own limitations and restrictions. It did not allow to have different button states. Besides, the design has many custom inputs and unique interactions. Those are difficult to simulate using Invision App. Thus, to create a functional prototype, various interfaces were created, and numerous states for buttons and other interactive elements were designed (fig.31).

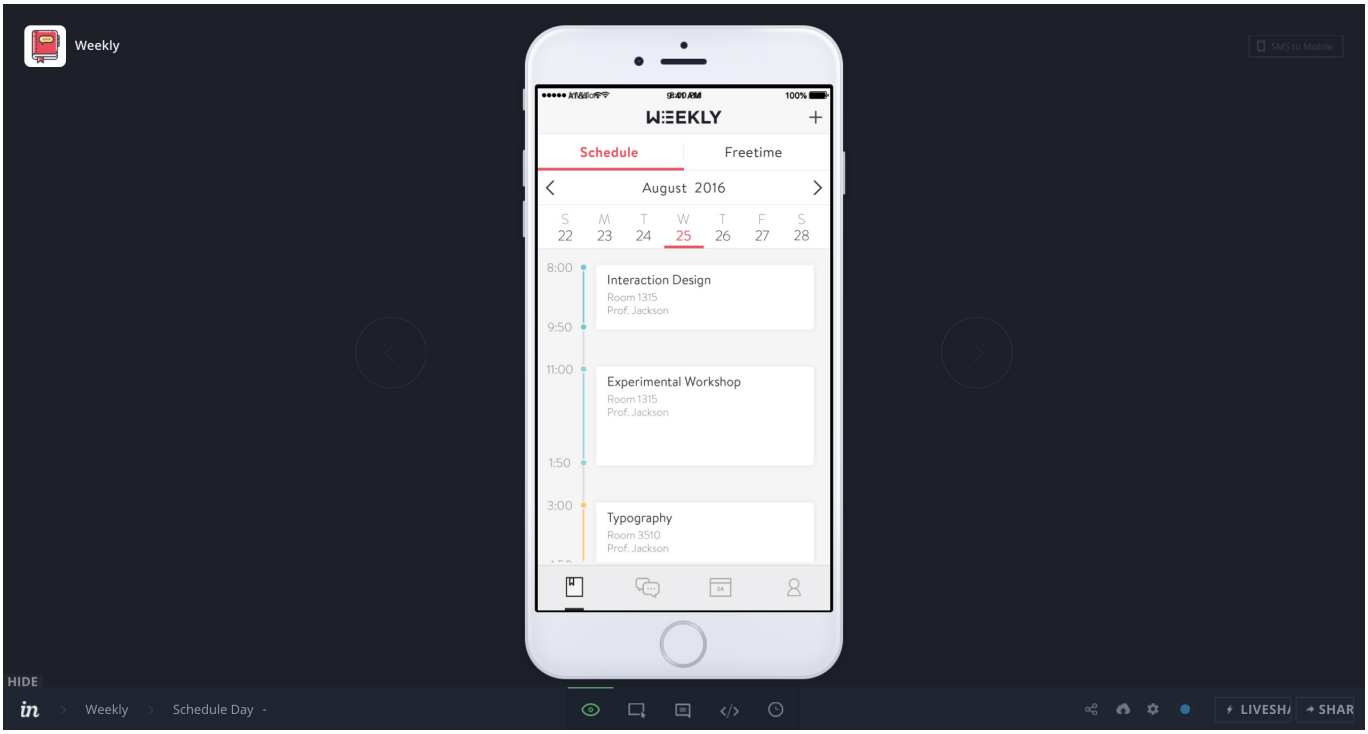
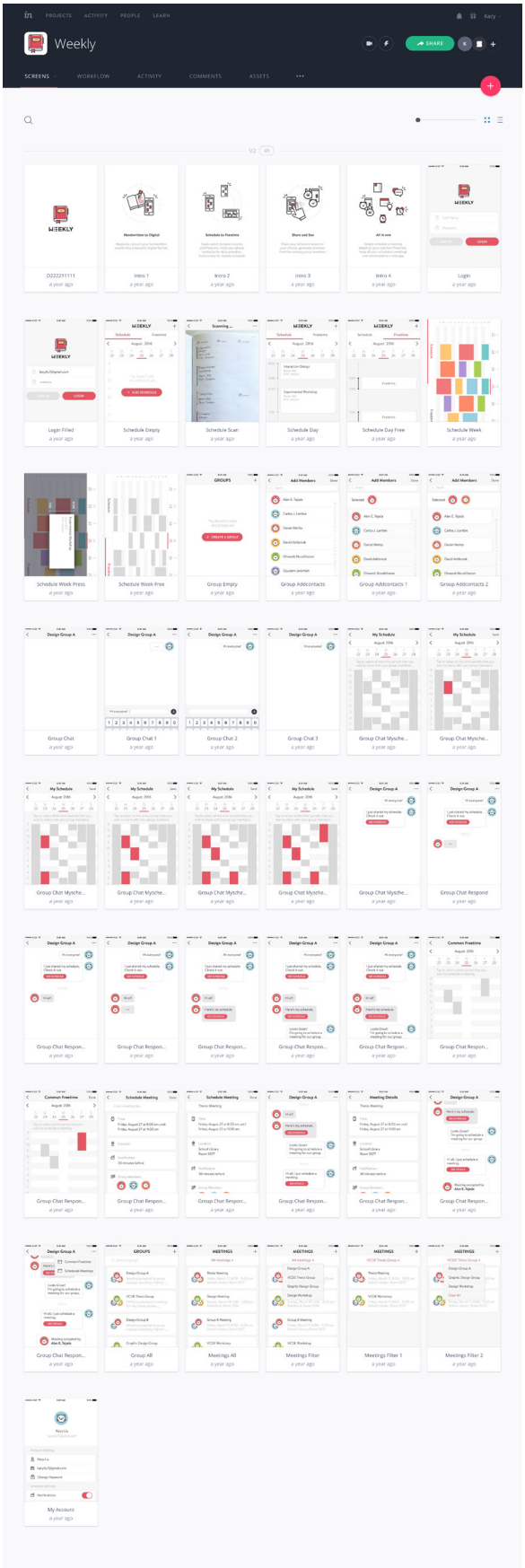
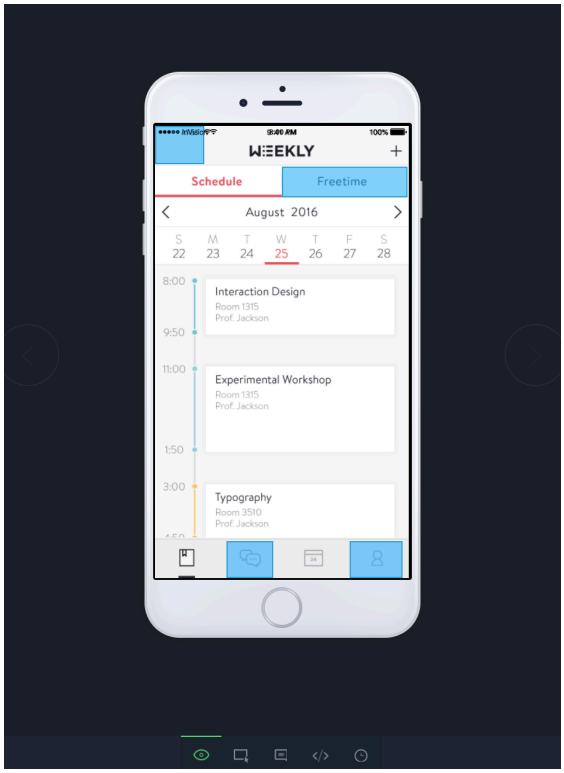


Figure 30: Interactive Prototype





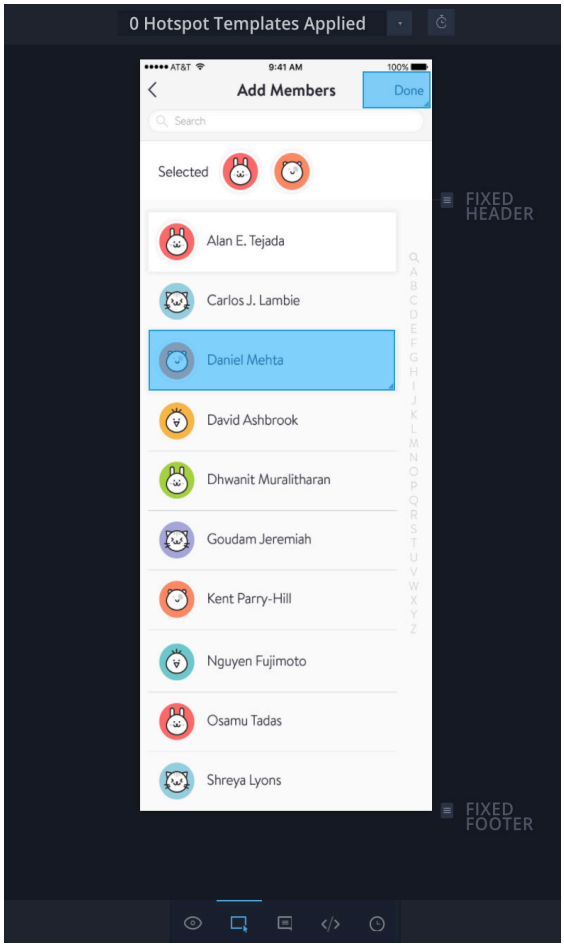
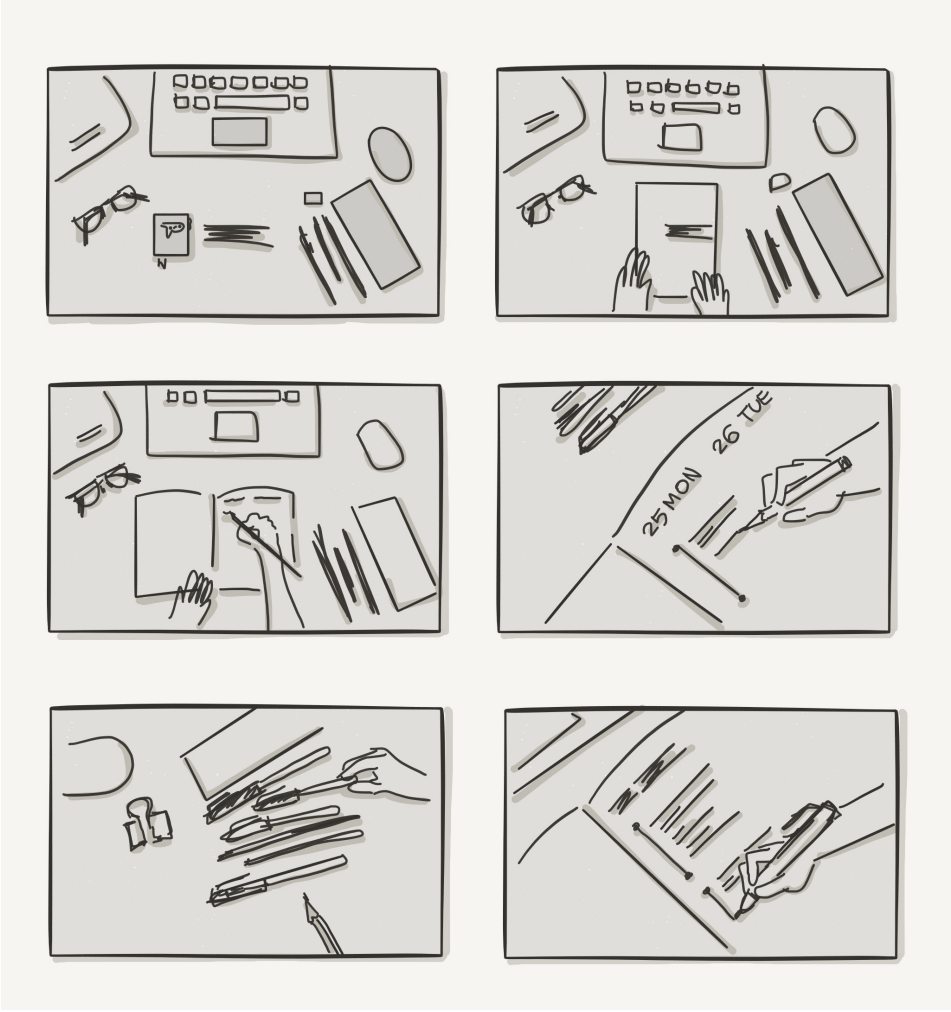


Figure 31: Creating interactive prototype in Invision

Promotional Video

A promotional video was created to show how the design system works in reality, and demonstrate features that could not be simulated in the interactive prototype. Assets for the promotional video were designed in Adobe Illustrator, After Effects and iMovie.

The first step was to create a storyboard (fig.32) to demonstrate the whole story and better understand the requirements of the video. The initial ideas of the storyboard evolved through lots of rough sketches, and they represented a basic visual style of the promotional video and the way of visual storytelling.



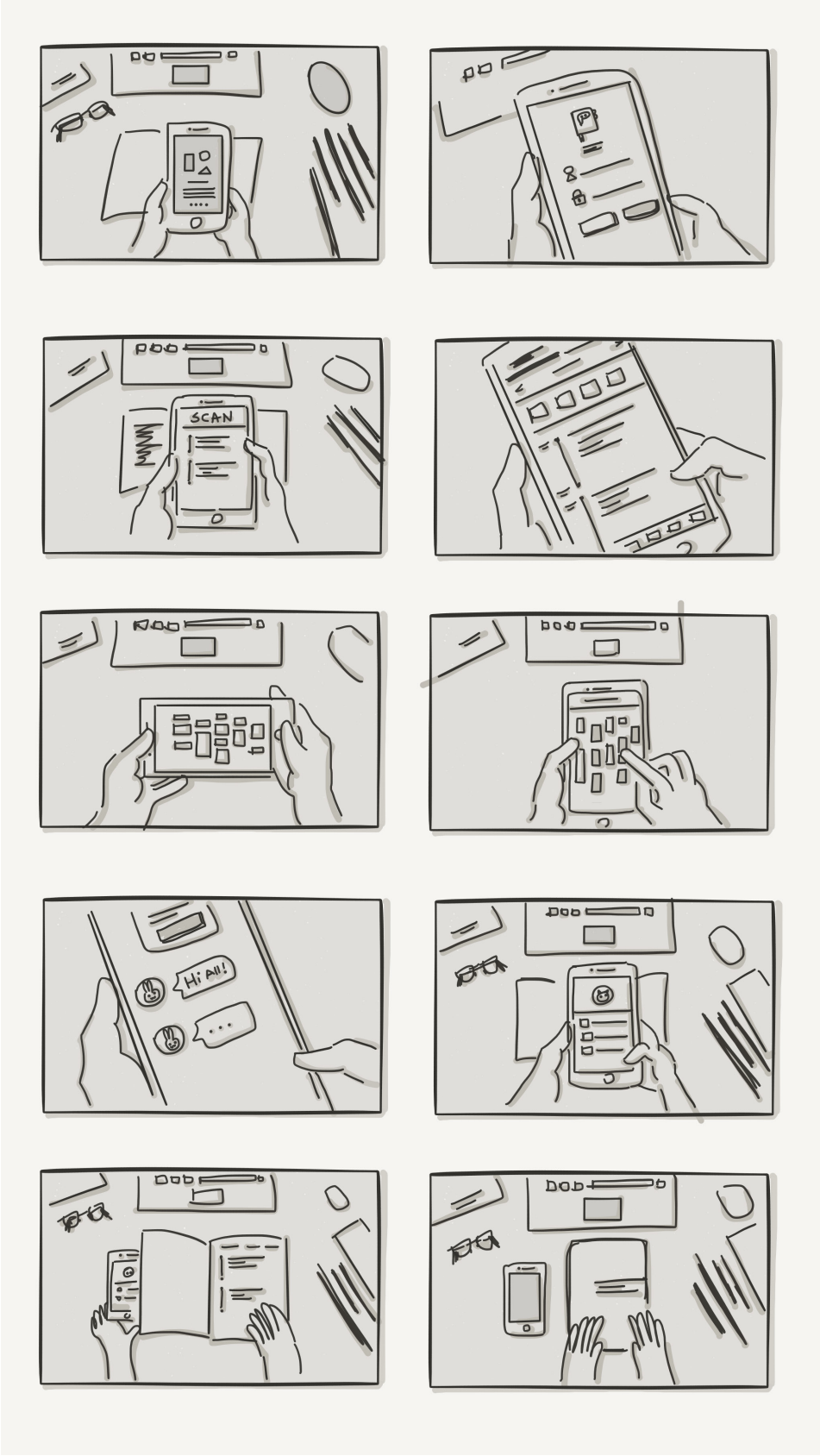


Figure 32: Storyboard

After the storyboard created for all the scenes and scenarios, next step was to shoot the video (fig.33).

The shooting process was faced with several challenges along the way. When shooting the video, an accident ocurred that led to all film source materials to be overexposed, resulting in more that 70 videos becoming invalid and useless. After receiving help from advisors and classmates, the camera settings were double checked, reset to correct parameters, and appropriate shooting angle. Eventually, all the videos were re-shot successfully.

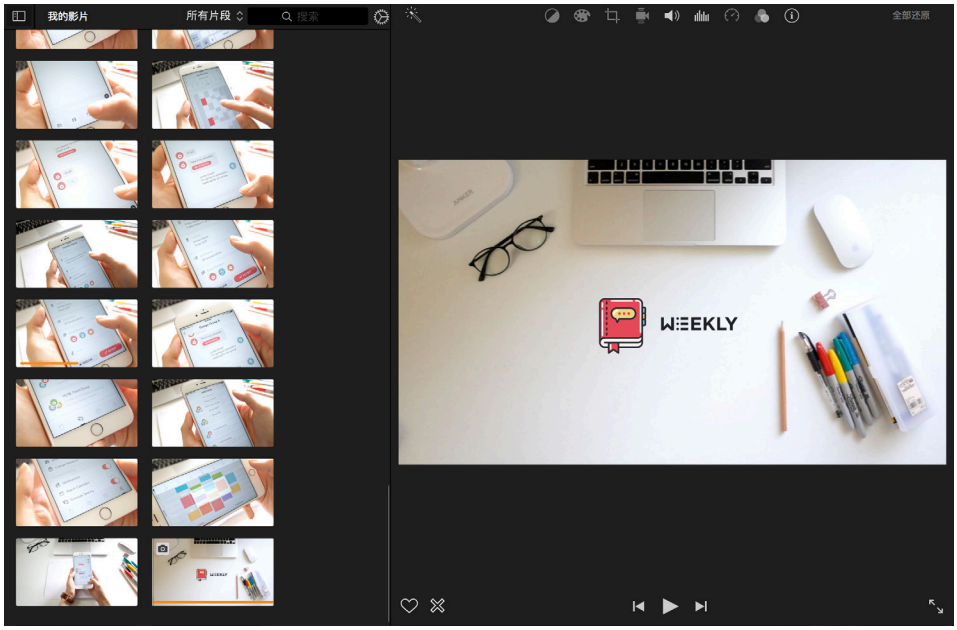


Figure 33: Videos shot by the thesis candidate

Once the videos were shot, the next step is to combine and edit the video. All the videos were edited, combined and animated in iMovie (fig.34).

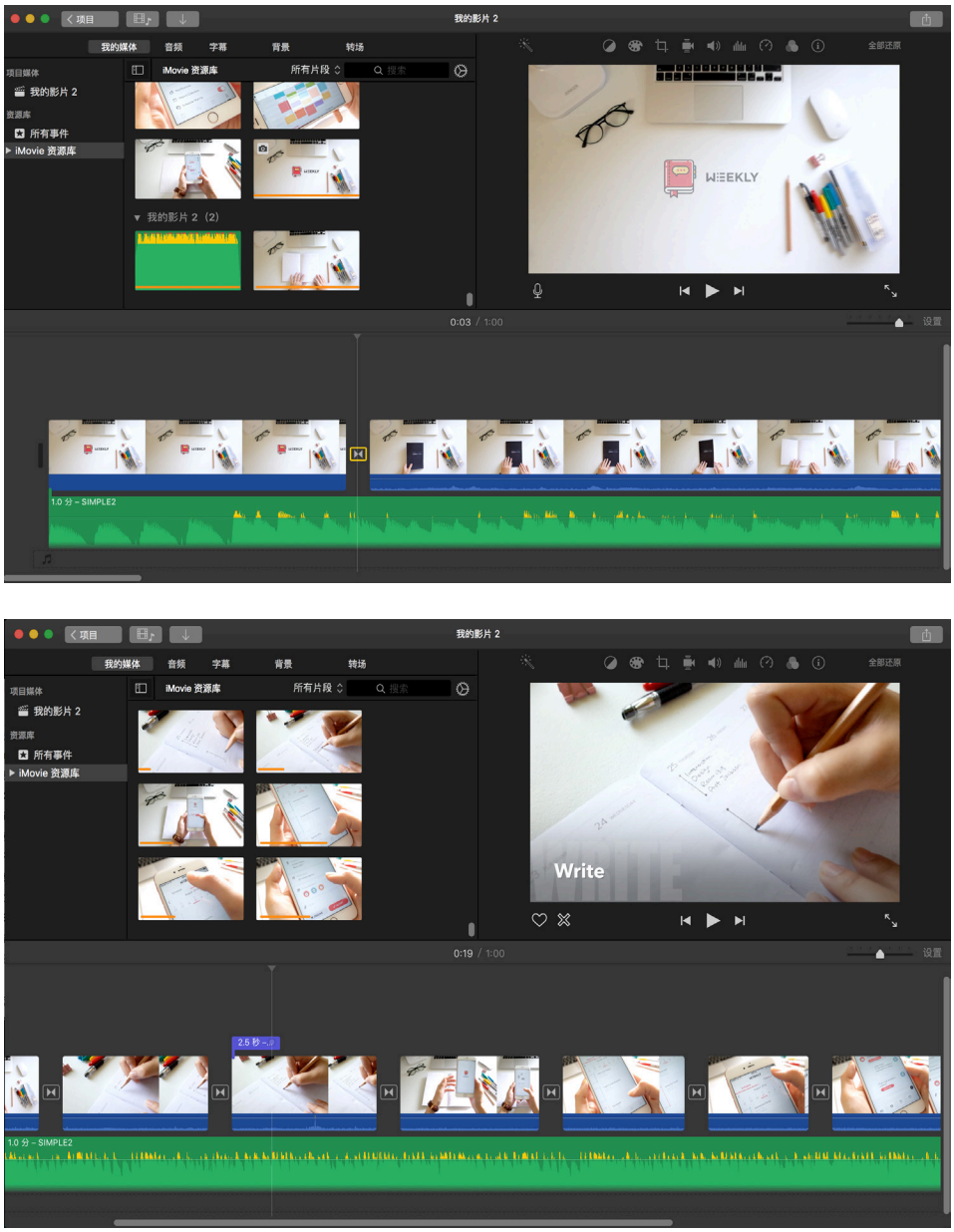


Figure 34: Video Implementation Process

The video was created in iMovie. It showcases a complete process on how the design system works in reality and shows the entire user experience to the target audience. Also, it presents the main features and user interfaces of the mobile application and also shows the interactions between the planner and the App (Fig.35).

Figure 35: Video Implementation

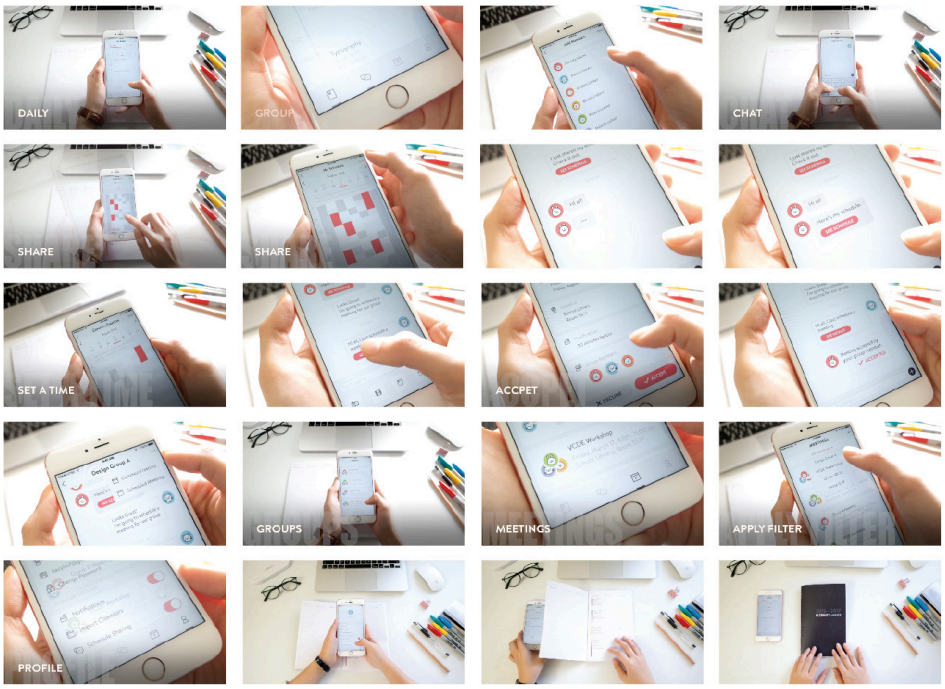


Figure 35: Video Implementation

Usability Testing

Stage 8
User testing
and data gathering

The evaluation process and feedback plays a crucial part of the thesis project. Feedback was collected throughout the process. The testing and evaluation process included thesis advisors, peers, and RIT students from different backgrounds. Two methods were applied for the user testing: a face-to-face interview with the students and surveys from the MFA Thesis Show in May 2016. Three tests were conducted at various stages of the design process. Each of the tests had a different approach and aimed at achieving multiple goals.

The first user study aimed to understand the needs and preferences of the target audiences. It consisted of a face-to-face interview and had ten participants between the ages of 16 – 40 years from different major and had various backgrounds. The interview investigated the habit of how they schedule events, commonly used notebooks or planners, online tools and mobile applications for scheduling.

Participates were asked to answer the following questions based on the interview survey form (fig.36):

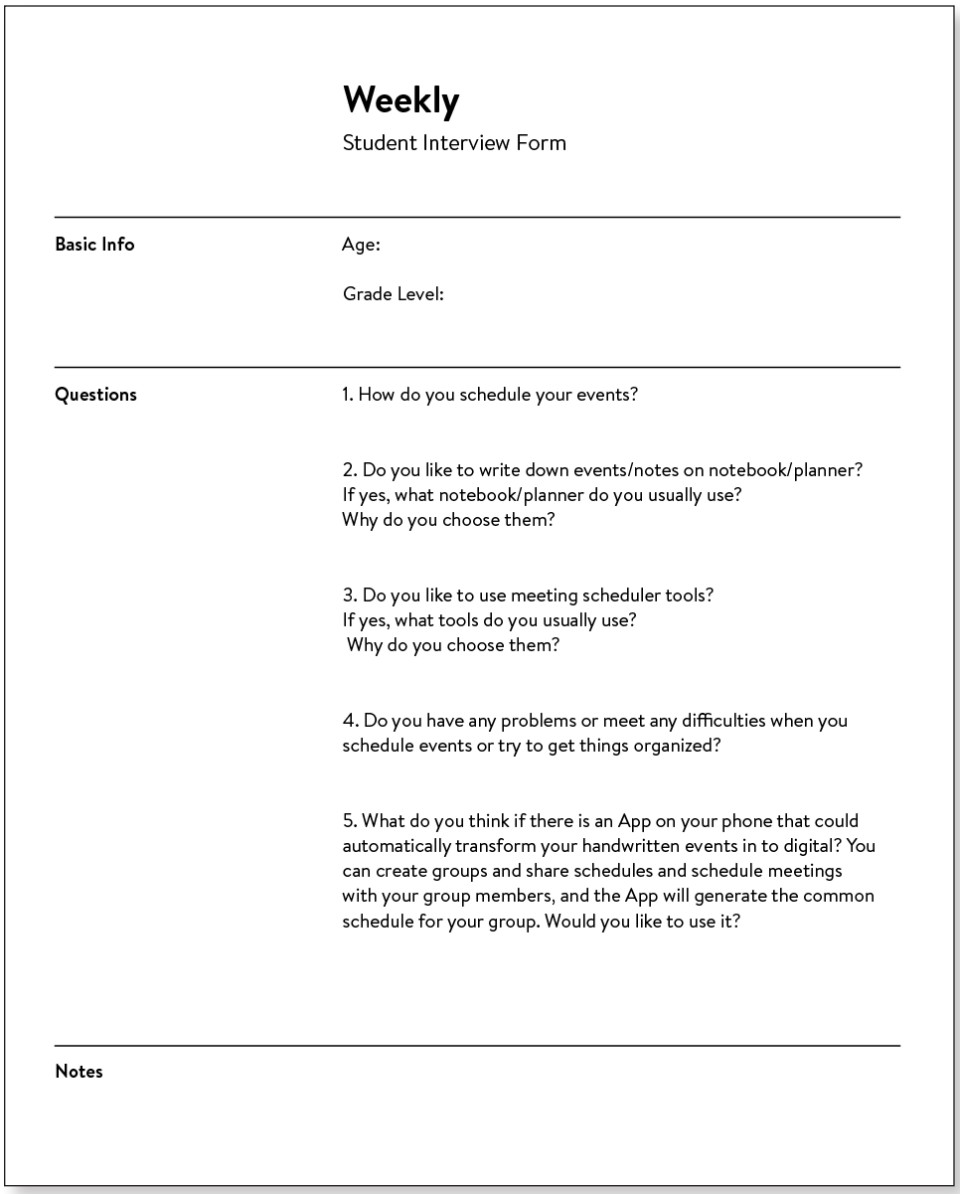
1. How do you schedule your events?

2. Do you like to write down events/notes on notebook/planner?
If yes, what notebook/planner do you usually use?
Why do you choose them?

3. Do you like to use meeting scheduler tools?
If yes, what tools do you usually use?
Why do you choose them?

4. Do you have any problems or meet any difficulties when you schedule events or try to get things organized?

5. What do you think if there is an App on your phone that could automatically transform your handwritten events in to digital? You can create groups and share schedules and schedule meetings with your group members, and the App will generate the common schedule for your group. Would you like to use it?



Weekly

Student Interview Form

Basic Info

Age:

Grade Level:

Questions

1. How do you schedule your events?

2. Do you like to write down events/notes on notebook/planner?
If yes, what notebook/planner do you usually use?
Why do you choose them?

3. Do you like to use meeting scheduler tools?
If yes, what tools do you usually use?
Why do you choose them?

4. Do you have any problems or meet any difficulties when you schedule events or try to get things organized?

5. What do you think if there is an App on your phone that could automatically transform your handwritten events in to digital? You can create groups and share schedules and schedule meetings with your group members, and the App will generate the common schedule for your group. Would you like to use it?

Notes

Figure 36: Interview Form

The results of the interviews provide information on the different methods students use to schedule events, their unique preferences and the pros and cons of the current popular scheduling tools. From the result of the interviews, nine out of ten people appreciated the idea and would like to use the App. The feedback was collected by taking notes by the thesis candidate while interviewing with the target audience. All users were asked to provide basic information about themselves and their handwritten related habits. This interview process helped in understanding the target audience and evaluating the initial idea of the thesis project.

The second user study was conducted to evaluate the first version of the user interfaces. Ten students participated in the user testing. They were given the following six tasks and asked to complete them:

1. Write down your schedule for this week.
Import your schedules to the App.

2. Find your daily and weekly free time.

3. Create a group and share your schedule.

4. Find the common free time for your group,
and schedule a meeting.

5. Find scheduled meetings for a specific group.

6. Manage your account settings.

After finishing the test, participants were asked to evaluate the following elements of the Weekly product (fig.37) and fill out a user test survey form (fig.38):

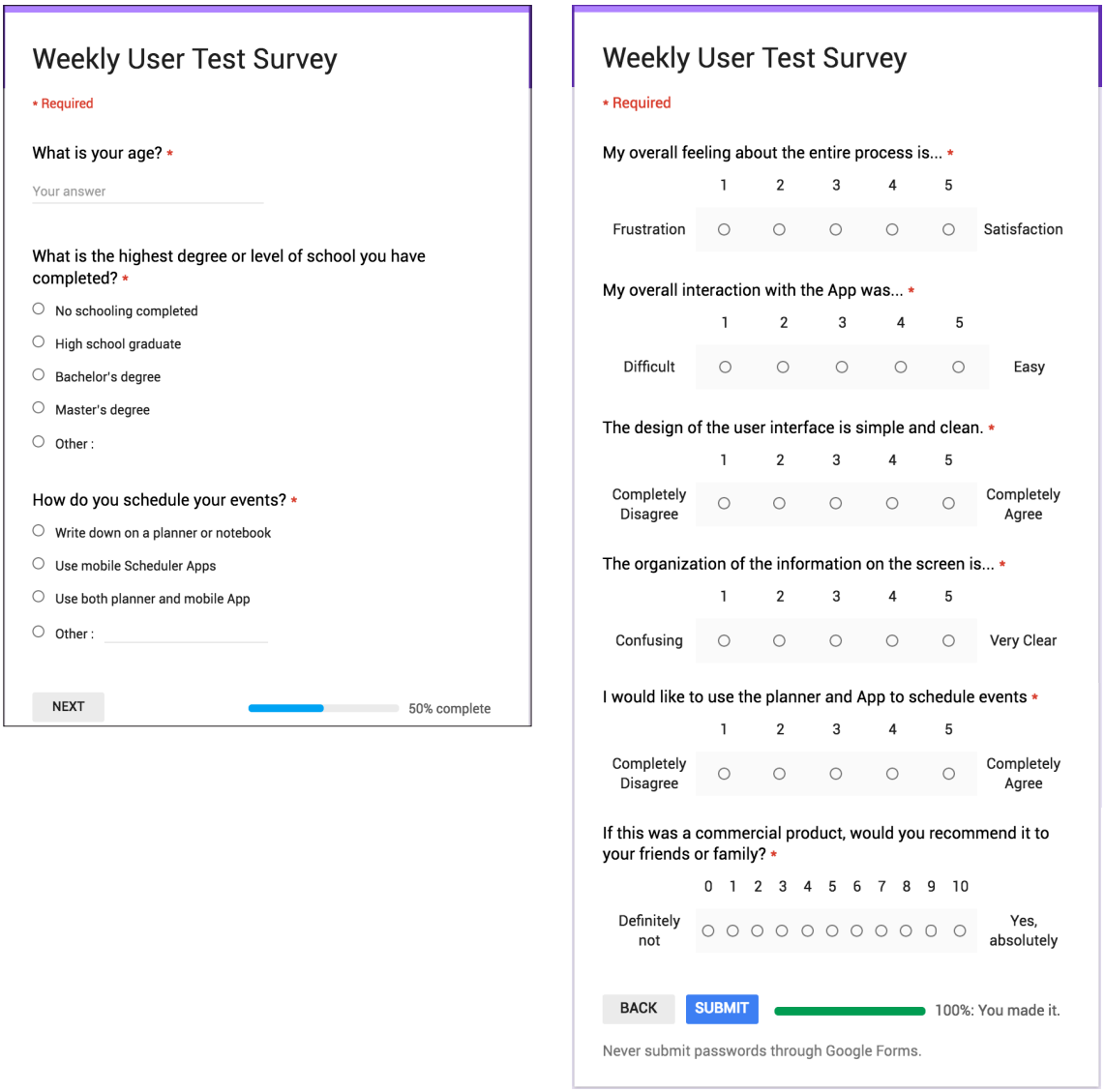
1. Visual style
2. Planner layout
3. Clarity of information
4. Navigation
5. Usability
6. Overall impression of the product
7. Commons and suggested improvements

Weekly Survey

Please circle your answers

Basic Info	**Age**	15-20	21-25	26-30	31-35	35+		
	Grade Level	Undergraduate		Graduate student				
Design Evaluation	**Visual Style**	Effective	1	2	3	4	5	Ineffective
	Planner Layout	Effective	1	2	3	4	5	Ineffective
	App Clarity of Information	Effective	1	2	3	4	5	Ineffective
	App Navigation	Effective	1	2	3	4	5	Ineffective
	App Usability	Effective	1	2	3	4	5	Ineffective
Commons and Suggested Improvements	**Likes:**			**Suggested Improvements:**				

Figure 37: Evaluation Form



Weekly User Test Survey

* Required

What is your age? *

Your answer

What is the highest degree or level of school you have completed? *

- No schooling completed
- High school graduate
- Bachelor's degree
- Master's degree
- Other :

How do you schedule your events? *

- Write down on a planner or notebook
- Use mobile Scheduler Apps
- Use both planner and mobile App
- Other :

NEXT 50% complete

Weekly User Test Survey

* Required

My overall feeling about the entire process is... *

	1	2	3	4	5	
Frustration	○	○	○	○	○	Satisfaction

My overall interaction with the App was... *

	1	2	3	4	5	
Difficult	○	○	○	○	○	Easy

The design of the user interface is simple and clean. *

	1	2	3	4	5	
Completely Disagree	○	○	○	○	○	Completely Agree

The organization of the information on the screen is... *

	1	2	3	4	5	
Confusing	○	○	○	○	○	Very Clear

I would like to use the planner and App to schedule events *

	1	2	3	4	5	
Completely Disagree	○	○	○	○	○	Completely Agree

If this was a commercial product, would you recommend it to your friends or family? *

	0	1	2	3	4	5	6	7	8	9	10	
Definitely not	○	○	○	○	○	○	○	○	○	○	○	Yes, absolutely

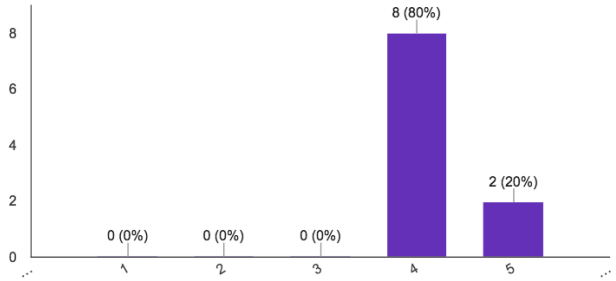
BACK SUBMIT 100%: You made it.

Never submit passwords through Google Forms.

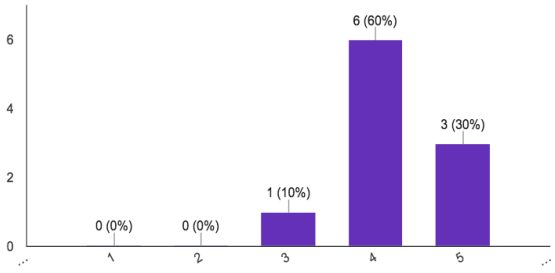
Figure 38: User Test Survey Form

Results from the user test demonstrated that the overall idea and visual design worked for the target audience. The participants were asked to rate the overall feeling about the entire process on a scale of 1 (frustration) to 5 (satisfaction), 80% of them chose the level 4. 60% of the participants would like to use the planner and the App to schedule events. 50% of people thought the interaction with the App was easy, while 40% of them thought the overall interaction with the App was not easy enough and 10% of them thought it was a little bit difficult to use.

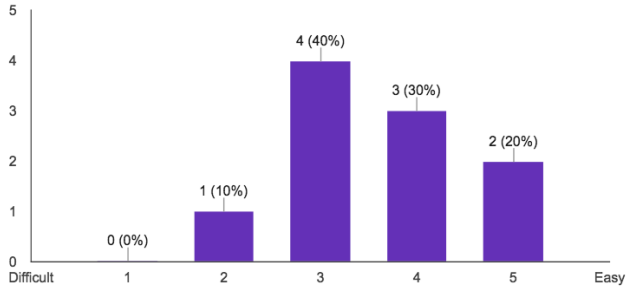
My overall feeling about the entire process is... (10 responses)



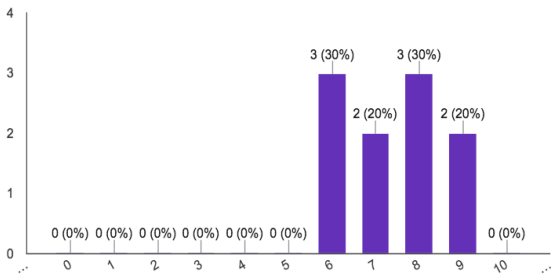
I would like to use the planner and App to schedule events (10 responses)



My overall interaction with the App was... (10 responses)



If this was a commercial product, would you recommend it to your friends or family?
(10 responses)



Meanwhile, some comments and improvement suggestions were proposed from the users.

Likes:
“This App is great! It makes schedule events much more easier.”
“I hope this could be real!”
“That is exactly what I need!”

Problems:
“The way to switch from schedule to free time is not very clear.”
“Side menu is too complex when switching between different functions.”
“The color of the top bar is too bright and takes too much attention.”
“Timeline too condensed.”
“How to confirm scheduled meetings?”
“Can’t see meetings for a specific group.”

Those comments and suggestions from participants during the user testing were of great value to the thesis project. Based on the feedback, the details of the visual design were revised and the interactions were rethought. After taking all the problems into consideration, the second version of the design was created.

Stage 9
Evaluation and Refinements

Based on the results of the user testing, several changes were made for the second version of the project.

All users suggested the need for a walkthrough to explain the various components of the app. Therefore, a splash screen (fig.39) was added before the login screen to guide the users to understand the features ahead.

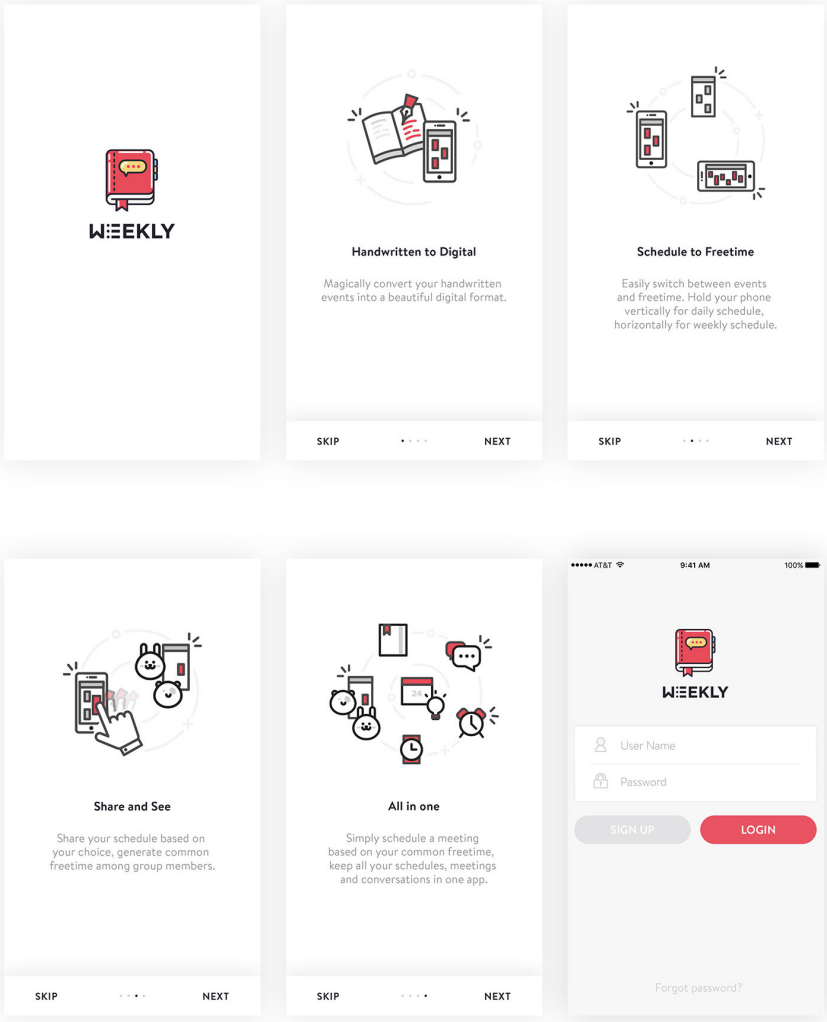


Figure 39: Splash Screen

Navigation was moved to the bottom. A switch tab was added instead of the original button, making it clearer for the users to switch between schedule and free time.

The color of the header bar changed from the red to a light grey to make the users pay attention to the schedule and buttons instead of a bold top bar (fig.40).

Add more ways to input events: scan, type and voice control (fig.41).

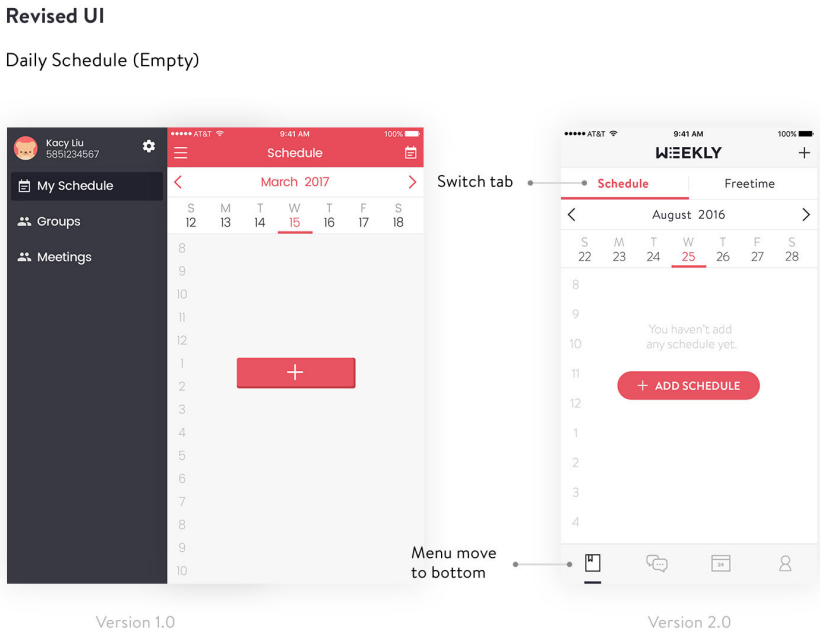


Figure 40: Revised UI (Daily Schedule Empty)

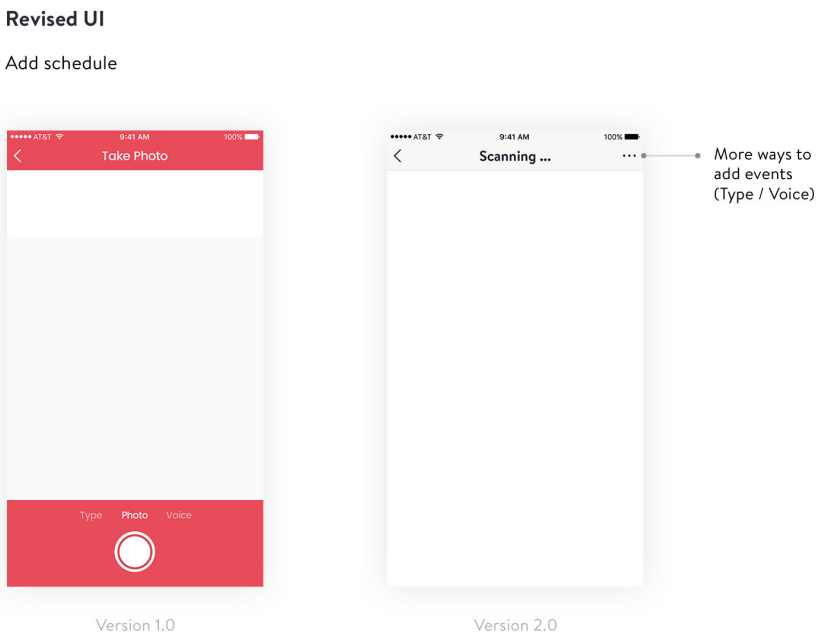


Figure 41: Revised UI (Add Schedule)

Changed to a more extended timeline to show more details of the events. Changed the background color darker to make the events or free time periods stand out. (fig.42, fig.43).

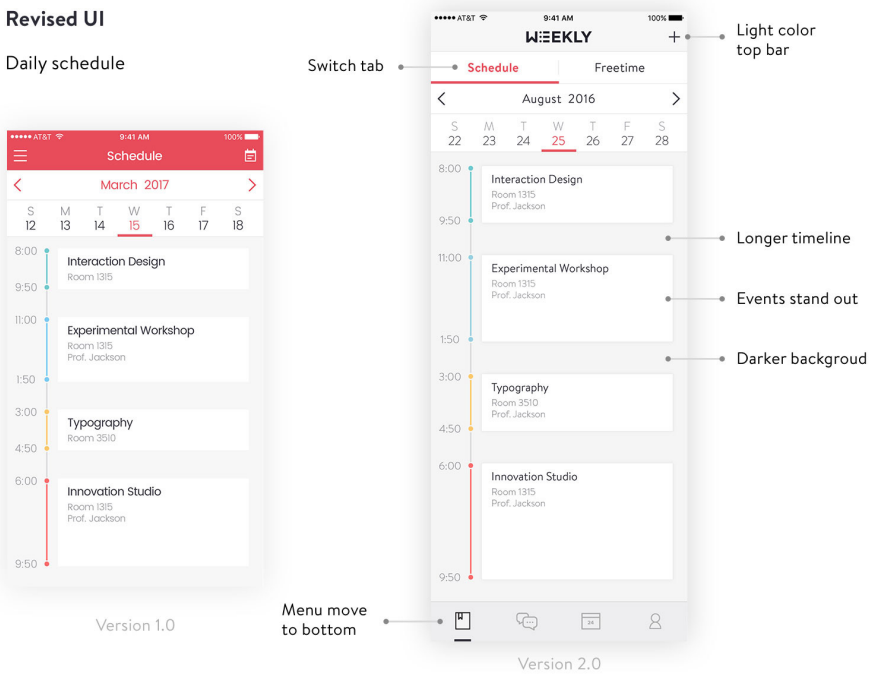


Figure 42: Revised UI (Daily Schedule)

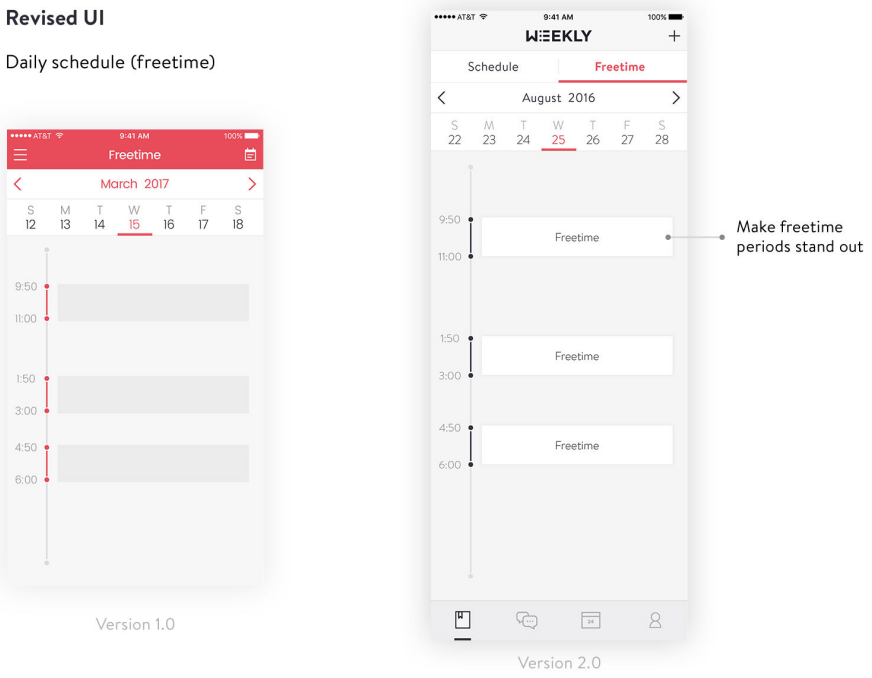


Figure 43 : Revised UI (Daily Schedule Freetime)

Revised weekly schedule (fig.44). Making it easier for users to switch between schedule and free time. Changed the background color darker to make the schedule stand out and clearer.

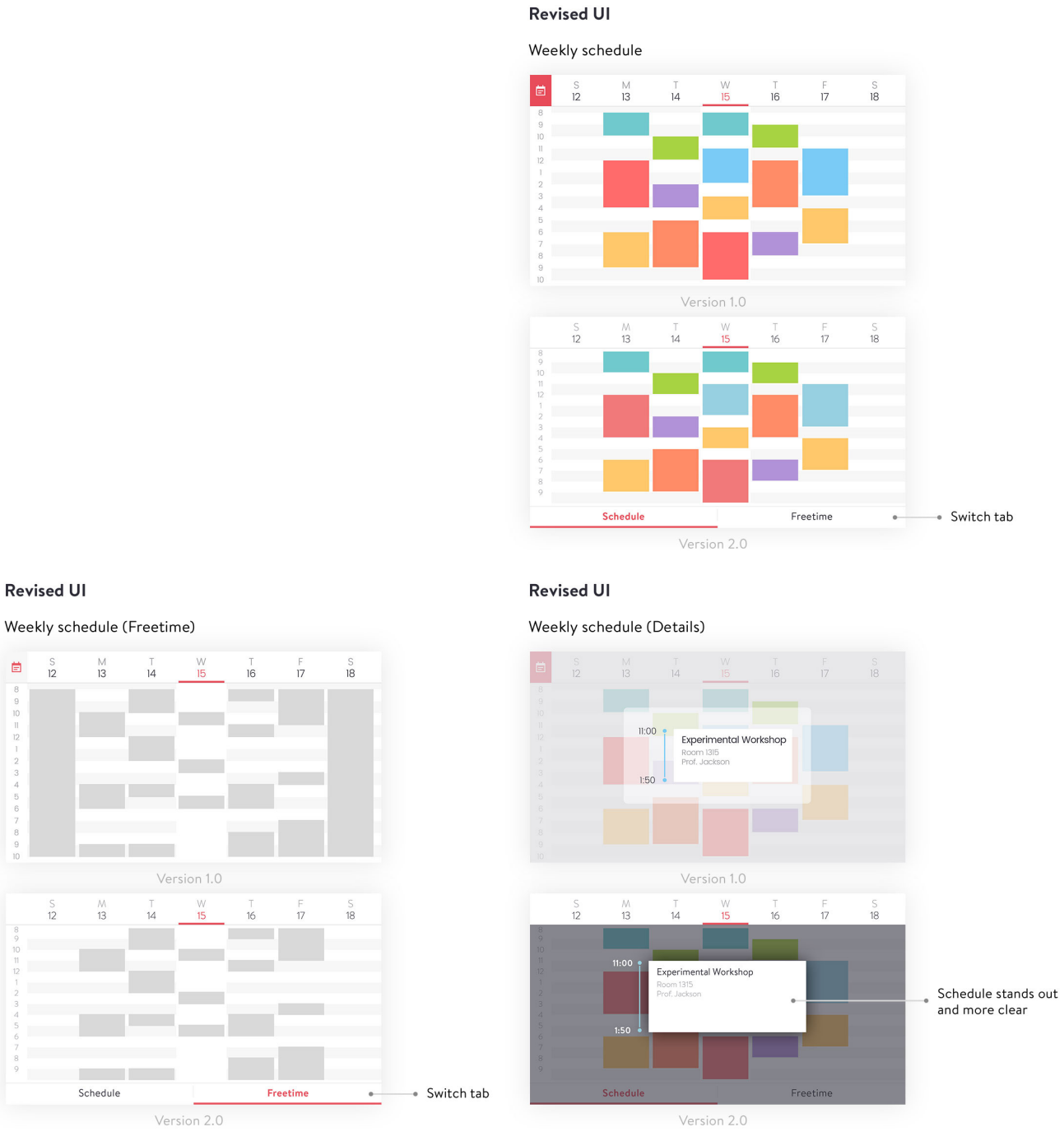


Figure 44: Revised UI (Weekly Schedule)

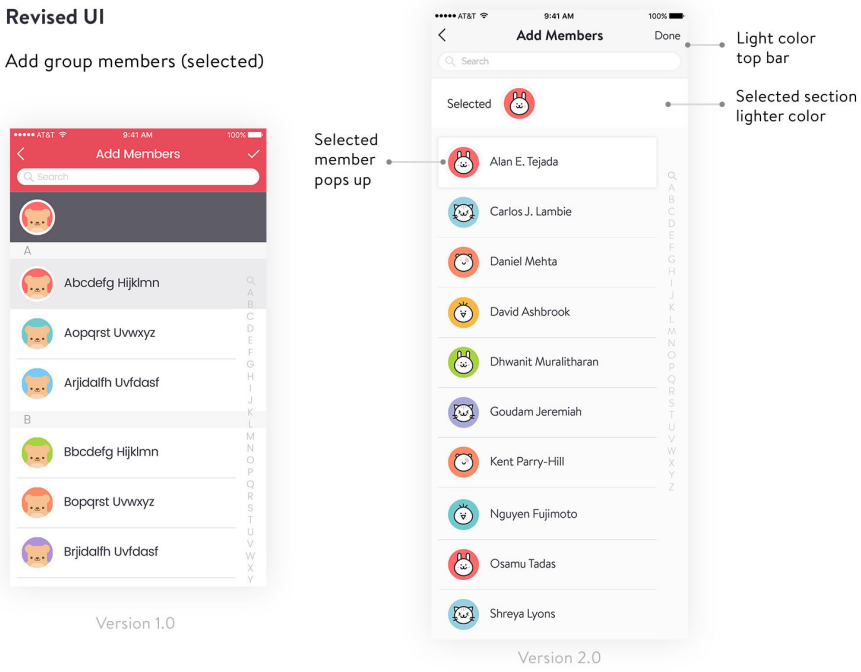


Figure 45: Revised UI (Add Members)

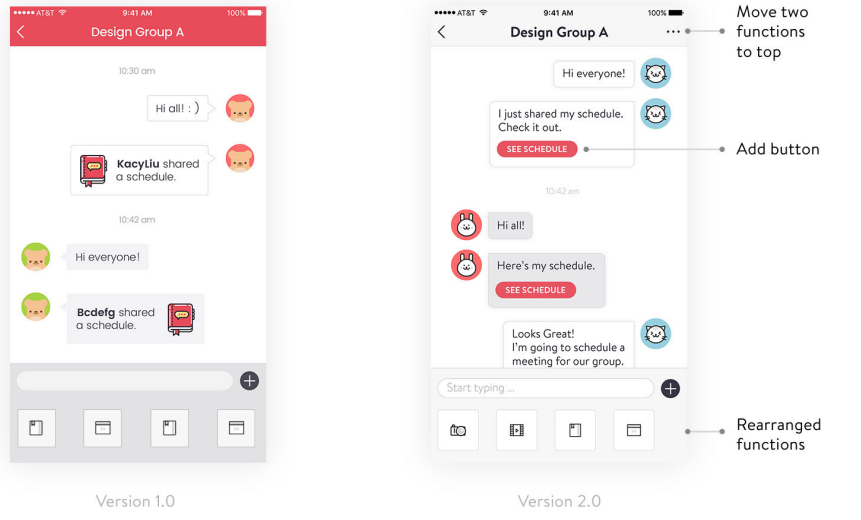


Figure 46 : Revised UI (Group Chat)

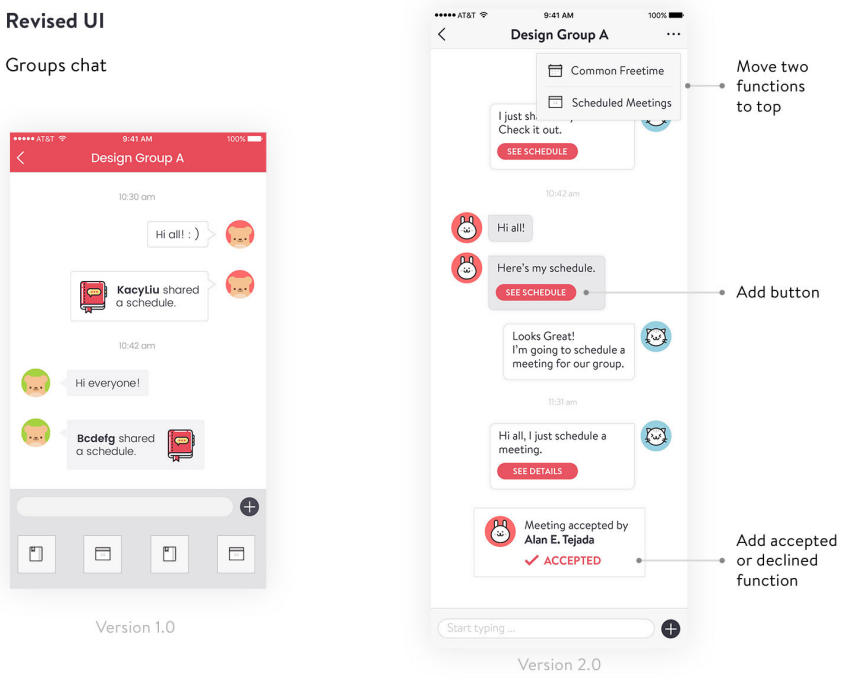


Figure 46: Revised UI (Group Chat)

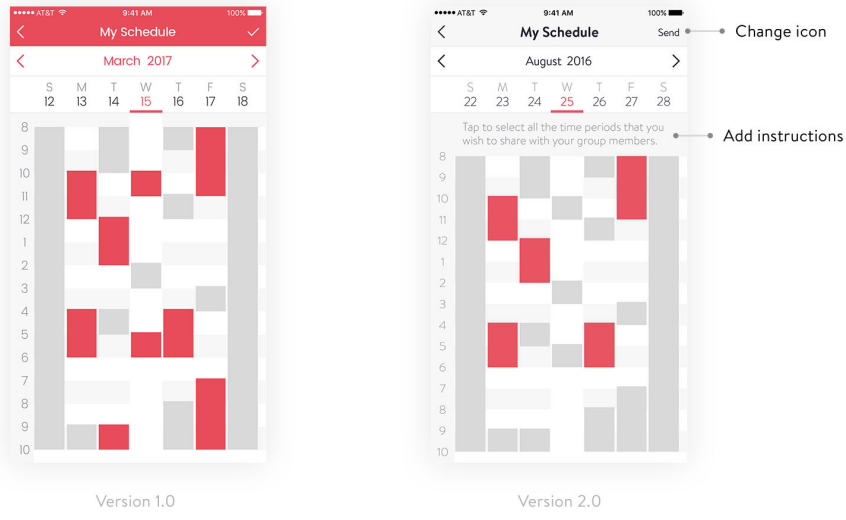


Figure 47 : Revised UI (Share Schedule)

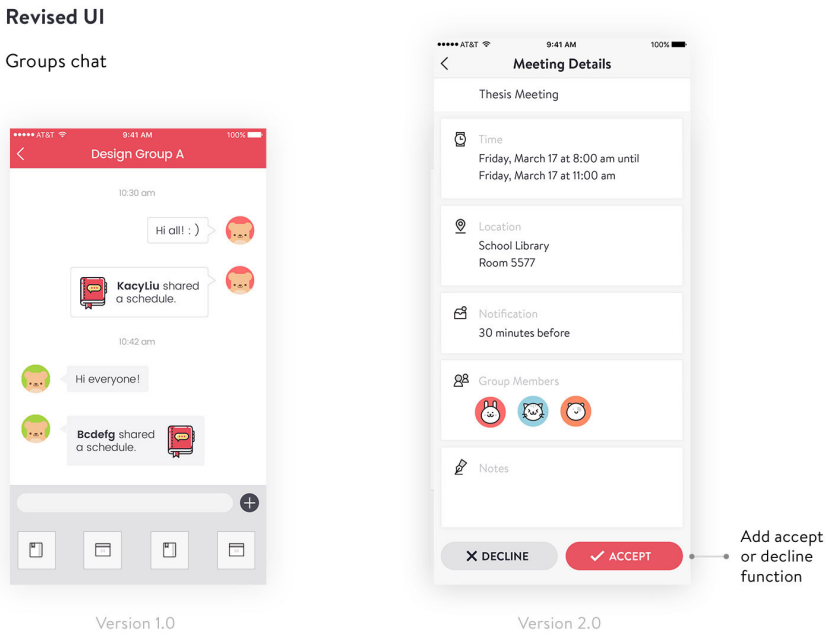


Figure 48: Revised UI (Group Chat)

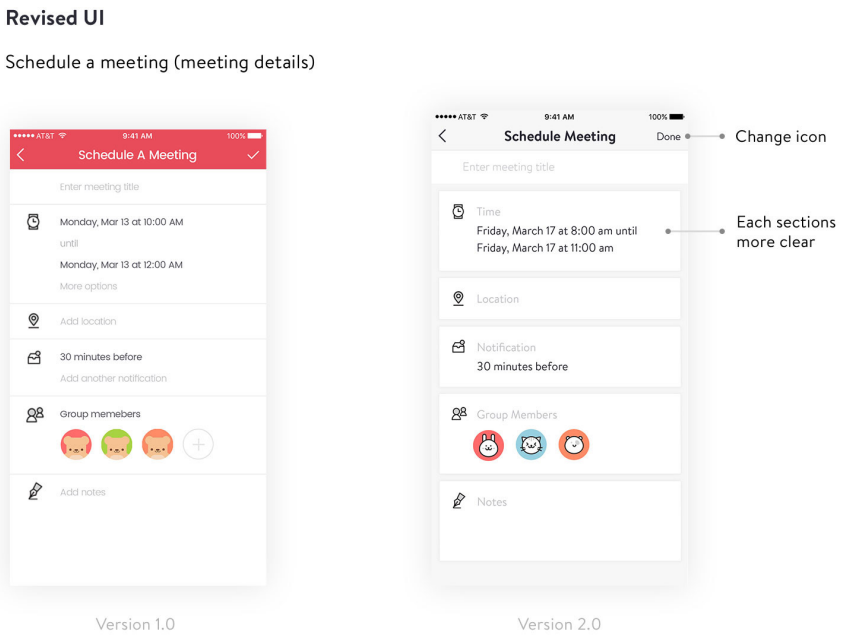


Figure 49 : Revised UI (Meeting Details)

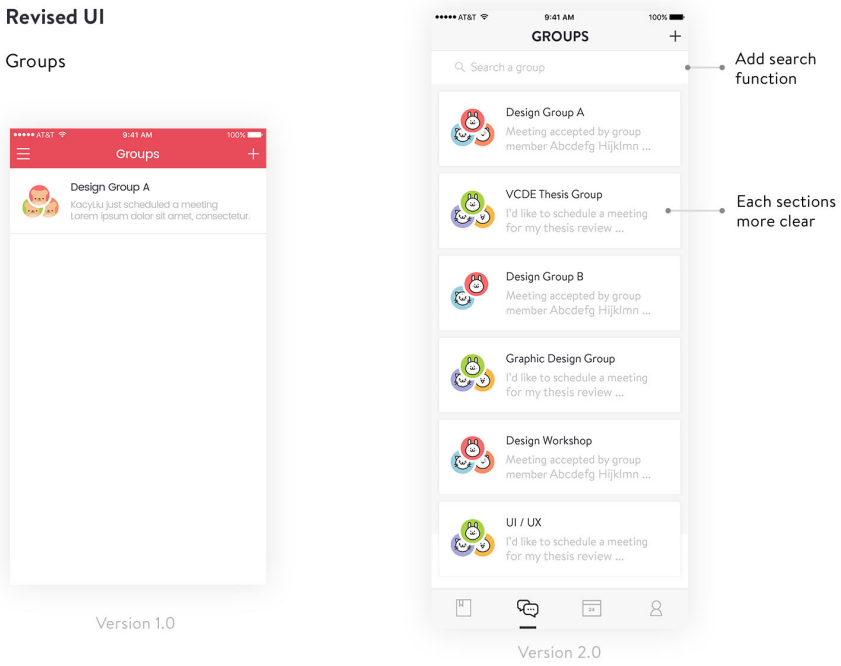


Figure 50: Revised UI (Groups)

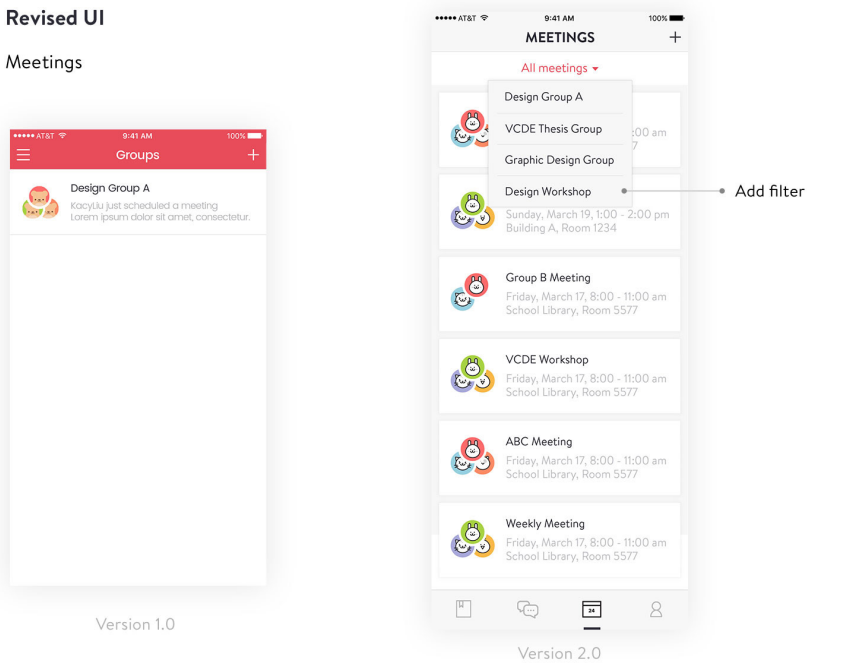
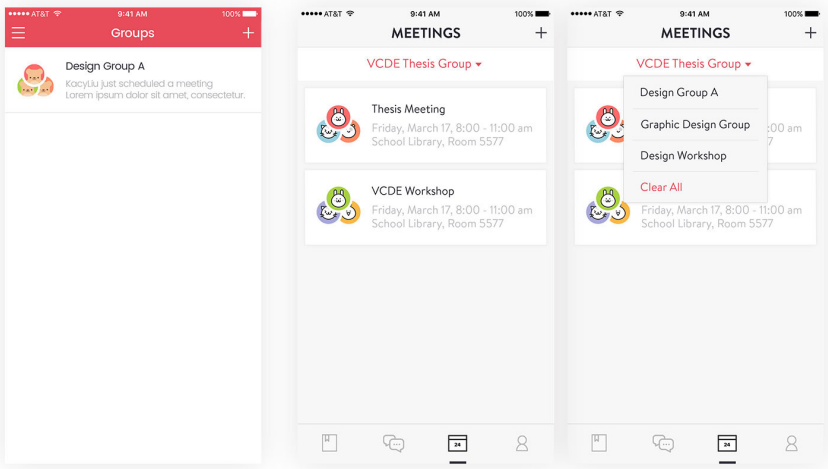


Figure 51 : Revised UI (Meetings)

Revised UI

Meetings

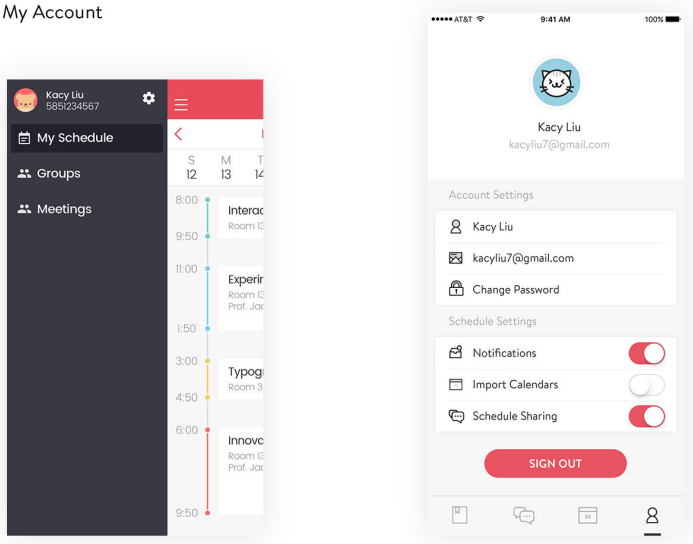


Version 1.0 Version 2.0

Figure 48: Revised UI (Meetings)

Revised UI

My Account



Version 1.0 Version 2.0

Figure 49 : Revised UI (My Account)

The third user testing was employed to to better understand the users and evaluate the revised design. It was conducted during the thesis show on May 19th in the Visual Communication Design lab (fig.50). For this method, a random group of people was selected. They were asked to complete a survey (fig.37) about the visual, content, and usability after using the Weekly interactive prototype.

Results from the thesis show demonstrated students liked the overall idea of the project. The visual style, layout, clarity of information, navigation and usability of the revised design was effective. They thought both the prototype and the demo video were efficient and functional. Nine out of ten users responded that they would like to use the application in the future.

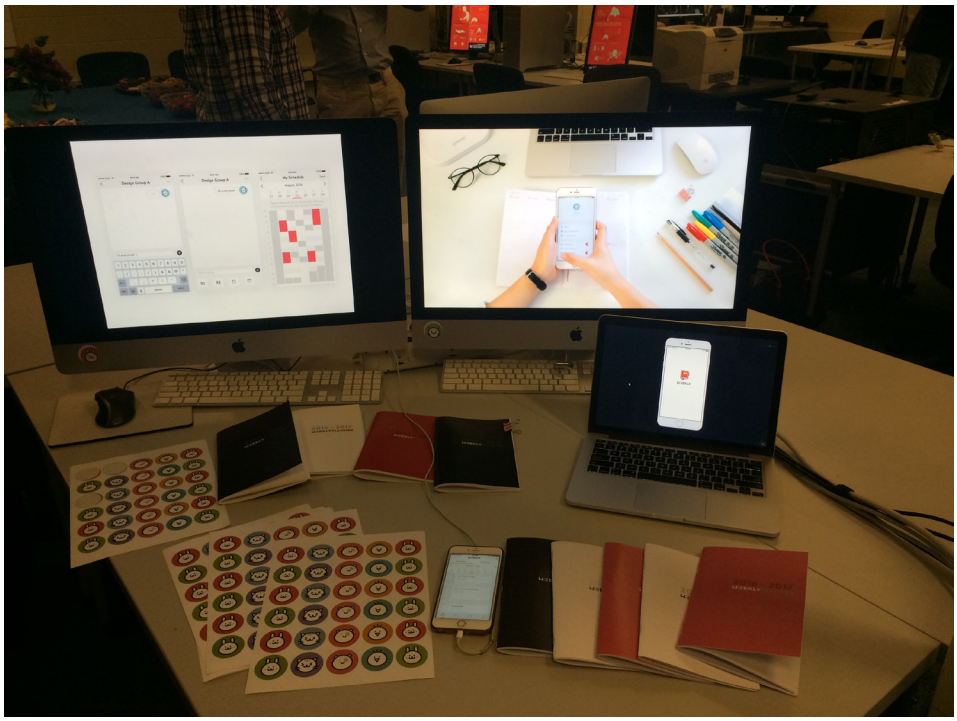


Figure 50 : MFA Thesis Show

User Testing Conclusion

In conclusion, the results and feedback from the interview and user testing were informative. The visual style of the final design was attractive, and the functions were effective. Almost all the participants were pleased with the new ways to schedule events. Most of them thought the design would help them to get things done more efficiently. This entire project has a potential for future development and may come into reality based on the development of current technology.

Conclusion

Project Conclusion

The thesis project achieves the goal of combining traditional graphic and interaction design for scheduling events simply and efficiently for students. This project generates a unique idea and a new way for students to get things organized. The design system solves the problems that could occur when student schedule events. With this project, students can save much time when scheduling events, setting up meetings, and have better communications and connections with other team members.

The Weekly project provided the author with great experiences on graphic and interaction design. While working on this project, personal visual style and design skills were enhanced, and problem solving skills were improved. Moreover, the implementation of the thesis made the author realize the importance of user testing and learned how to apply research, design thinking, and systems to the whole process. Furthermore, the experience taught the author how to use the design skills to solve problems, and how design can help make things easier.

New Research Inquires

The thesis project has great potential for further development. The next steps of the thesis are focusing on the following aspects:

1. Continue to improve the whole project based on the feedback of user testing.
2. Apply interactive effects to the entire application and finish the complete interactive prototype.
3. Achieve responsive design for the application to be used not only on the mobile devices but tablets and desktop as well.
4. Conduct more user tests during the further development to gather more data.
5. Polish the project from feedbacks.
6. Research about the technical aspects and try to find the suitable technology to make the design come true.

Appendices

A Original Thesis Proposal
B Interview Record Form
C User Survey with Results

Appendix A
Original Thesis Proposal

Schedule It!

A design system that combines graphic and interaction design for scheduling student events

Kaige Liu
Thesis Proposal for the
Master of Fine Arts Degree

Rochester Institute of Technology
College of Imaging Arts and Science
School of Design
MFA Visual Communication Design
October 20, 2014

Thesis Committee Approval:

Chief Thesis Adviser: Chris Jackson, MFA Visual Communication Design

Signature of Chief Thesis Adviser | Date

Associate Thesis Adviser: Nancy Ciolek, MFA Graphic Design

Signature of Associate Thesis Adviser | Date

Associate Thesis Adviser: Shaun Foster, MFA 3D Computer Animation

Signature of Associate Thesis Adviser | Date

MFA Thesis Candidate: Kaige Liu

Signature of MFA Thesis Candidate | Date

Abstract

A common need for students is scheduling events efficiently. Students schedule their events differently. Some prefer handwriting while others prefer to use a mobile device. There are several problems that can occur when students schedule events. For example, it may not be clear when a student's free time periods are, especially when trying to meet with team or group members. Also, user's preferences are different in terms of how they schedule events.

I'm creating a design system that focuses on print, interaction and user experience design. My thesis combines traditional graphic and interaction design for scheduling events in a simple and efficient way for students. The design system includes two parts: a printed notebook/planner, and an interactive App for smart device. The users choose the way they want to input events and can switch from a weekly schedule to the view available free time.

The user interface and interactivity will be prototyped for an iOS smartphone and a printed planner will be mocked up. Instead of full app development, a demo animation will showcase the application, user interaction, and the major functions of the design system.

Keywords: schedule events, design system, mobile application, interaction design, UI design, UX design, graphic design, brand, identity, print, mockup, demo, animation

Situation Analysis

A common need for students is to schedule events. First of all, they need to have a clear weekly schedule of their free time and scheduled classes. Secondly, they have to add other relevant events to the schedule, such as appointments or group meetings. Thirdly, if they are working in a group, the students need to know their free time, and most importantly, find a consistent free time to meet with the other group members.

Students schedule their events differently. Some students prefer handwriting, thus using a pen and paper to write down their schedules in a planner; while others prefer to use a mobile device, like a smart phone or tablet, to input events by typing. Notebooks have various advantages, such as they have flexible format, they are quick and easy to use, and provide more of a humanize workflow for people to use. However, an App for smart devices has a fixed format, added complexity to input data, mechanized interactions and can be unnatural to use. Notebooks still have some disadvantages like limited space, cannot copy or paste, need to carry with additional things while the App have unlimited space, can be modified easily and user does not need to carry extra things, just using their phone. Therefore, some people only use the App to schedule events while others use both planners and App as well.

Problem Statement

There are several problems that occur when students schedule events. Firstly, it wasn't always clear when their free time periods were, especially when working on a team, which is obviously inefficient. Secondly, the user's preferences are different. For people who prefer handwriting, they would write down things in a planner and input into the App as well, which means taking double time to finish their schedule. This is also a waste of time and energy.

My thesis aims to answer the following questions:
• Is there a more easy and efficient solution for scheduling events that address these problems?
• How can a visual design system help schedule events in an efficient way?
• How can the process of scheduling events be simplified using both traditional graphic design and interactivity?

I'm creating a design system that focuses on print, interaction and user experience design. My thesis combines traditional graphic and interaction design for scheduling events in a simple and efficient way for students. The design system includes two parts: a printed notebook/planner, and an interactive App for a smart device. The users choose the way they like to input events. They can just type the detailed information, such as an event into the App. If they prefer handwriting, they could write down the events in the printed planner. To make scheduling more efficient, the planner will be designed to transfer their handwritten events into a digital format that the App can read. Moreover, they could also be able to sync the data from the Google calendar.

When the user has already input their events to the App, they can easily switch the weekly schedule to the available working time and switch back as well. In addition, if the user is working on a team, all the team members who use this App could be able to create a social group, in which they could share their schedule, and the App would generate the common schedule between the group members, no matter how many people there are, which will enhance their efficiency and save their time in scheduling meetings.

Survey of Literature

Interaction Design Books

The Design of Everyday Things

Norman, Donald. *The Design of Everyday Things*. United States: ISBN, 1988.

The author does a terrific job explaining the design discipline as a means to approach human problems and find solutions that make things simple and straightforward. He provides clear explanations of concepts that originate from fields like cognitive psychology and human behaviour studies and “translates” them to your everyday language. This book is one of the rarest that explains in plain English that design is a way to make sense of the world, by observing it and by asking the right questions to find out what’s the real issue to solve.

Sketching User Experiences
getting the design right and the right design

Buxton, William. *Sketching user experiences getting the design right and the right design*. Amsterdam: Elsevier/Morgan Kaufmann, 2007.

Sketching User Experiences approaches design and design thinking as something distinct that needs to be better understood-by both designers and the people with whom they need to work in order to achieve success with new products and systems. So while the focus is on design, the approach is holistic. Hence, the book speaks to designers, usability specialists, the HCI community, product managers, and business executives. There is an emphasis on balancing the back-end concern with usability and engineering excellence with an up-front investment in sketching and ideation. Overall, the objective is to build the notion of informed design: molding emerging technology into a form that serves our society and reflects its values.

Survey of Literature

Interaction Design Books

Designing Interfaces

Tidwell, Jenifer. *Designing interfaces.* Beijing: O'Reilly, 2006.

This book is could help me navigate through the maze of design options. By capturing UI best practices and reusable ideas as design patterns, designing Interfaces provides solutions to common design problems that I can tailor to the situation at hand. This updated edition includes patterns for mobile apps and social media, as well as web applications and desktop software. Each pattern contains full-color examples and practical design advice that I can use immediately. I can use this guide as a sourcebook of ideas.

The essential guide to user interface design
an introduction to GUI design principles and techniques

Galitz, Wilbert O.. *The essential guide to user interface design an introduction to GUI design principles and techniques*. 3rd ed. Indianapolis, IN: Wiley Pub., 2007.

Bringing together the results of more than 300 new design studies, an understanding of people, knowledge of hardware and software capabilities, and the author's practical experience gained from 45 years of work with display-based systems, this book addresses interface and screen design from the user's perspective. I will learn how to create an effective design methodology, design and organize screens and Web pages that encourage efficient comprehension and execution, and create screen icons and graphics that make displays easier and more comfortable to use.

Survey of Literature

Graphic Design Books

Thinking with type:
a critical guide for designers, writers, editors, & students

Lupton, Ellen. *Thinking with type: a critical guide for designers, writers, editors, & students*. New York: Princeton Architectural Press, 2004.

This book is the definitive guide to using typography in visual communication, from the printed page to the computer screen. This revised edition includes forty-eight pages of new content, including the latest information on style sheets for print and the web, the use of ornaments and captions, lining and non-lining numerals, the use of small caps and enlarged capitals, as well as information on captions, font licensing, mixing typefaces, and hand lettering. Throughout the book, visual examples show how to be inventive within systems of typographic form—what the rules are and how to break them.

Making and breaking the grid: a graphic design layout workshop

Samara, Timothy. *Making and breaking the grid: a graphic design layout workshop*. Gloucester, MA: Rockport Publishers, 20052002.

This book is a comprehensive layout design workshop that assumes that in order to effectively break the rules of grid-based design, one must first understand those rules and see them applies to real-world projects. Text reveals top designers' work in process and rationale. Projects with similar characteristics are linked through a simple notational system that encourages exploration and comparison of structure ideas. Also included are historical overviews that summarize the development of layout concepts, both grid-based and non-grid based, in modern design practice.

Survey of Literature

Websites

Evernote
https://evernote.com/?noredirect

Moleskine
http://www.moleskine.com/en

Evernote Planner By Moleskine
http://www.moleskine.com/us/news/evernote-planner

Ideas to Help You Design Your Own Notebook
http://boundforanything.com/help/idea_room

Better Living Through Design
http://www.betterlivingthroughdesign.com/category/accessories/desk-accessories/journals-planners

Apps

Evernote / Moleskine / EverMemo / Pad & Quill / OneNote / WeicoNote
Taking notes

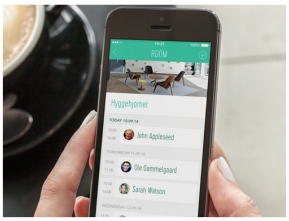
Wunderlist / Todoist / Planner Plus / Timetable / Timeful / 24me / Tempo / Canary / Agenda Lite / Skedule / P.Schedule
Making plans, events, to do list

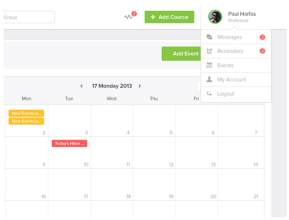
Google Calendar / CalenMob / Cal / Caleido / Gathr
Calendar

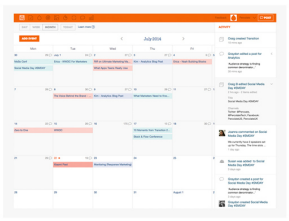
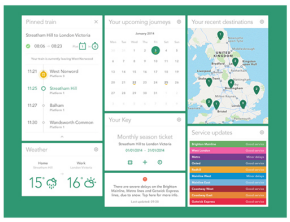
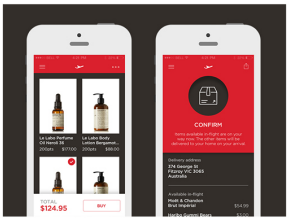
ClassBox / CHS Planner / OOHLALA
Curriculum schedule, syllabus

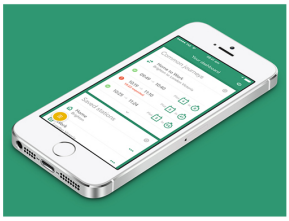
Design Ideation

Mood Boards







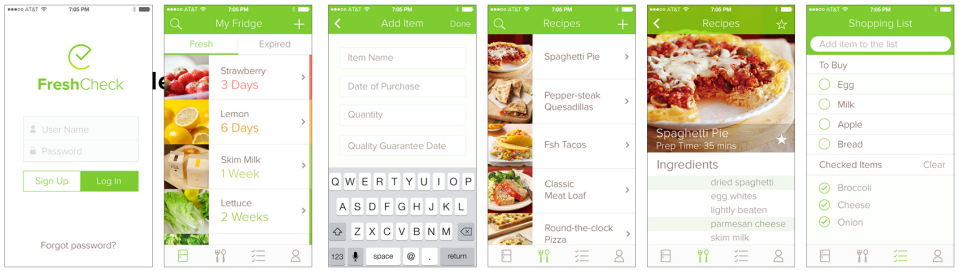

Design Ideation

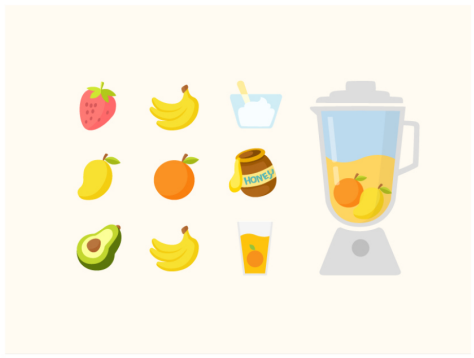
Mood Boards






Design Ideation



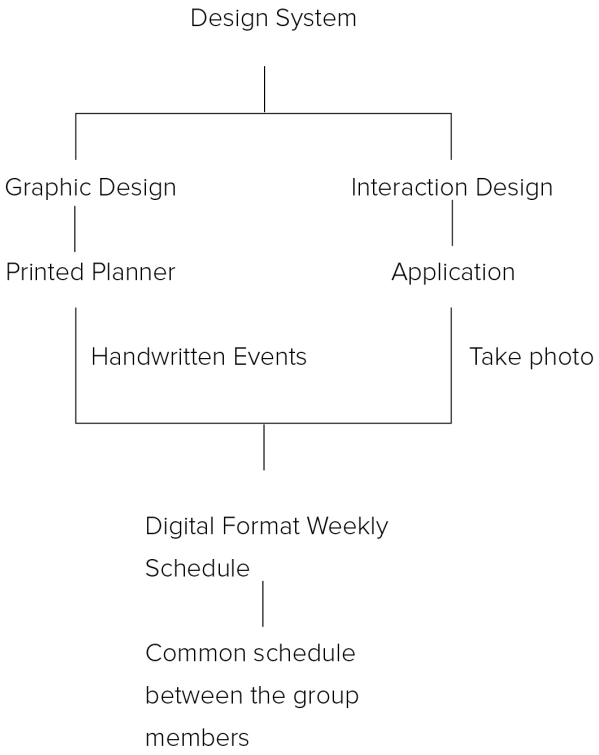


Design Ideation

Personal Style

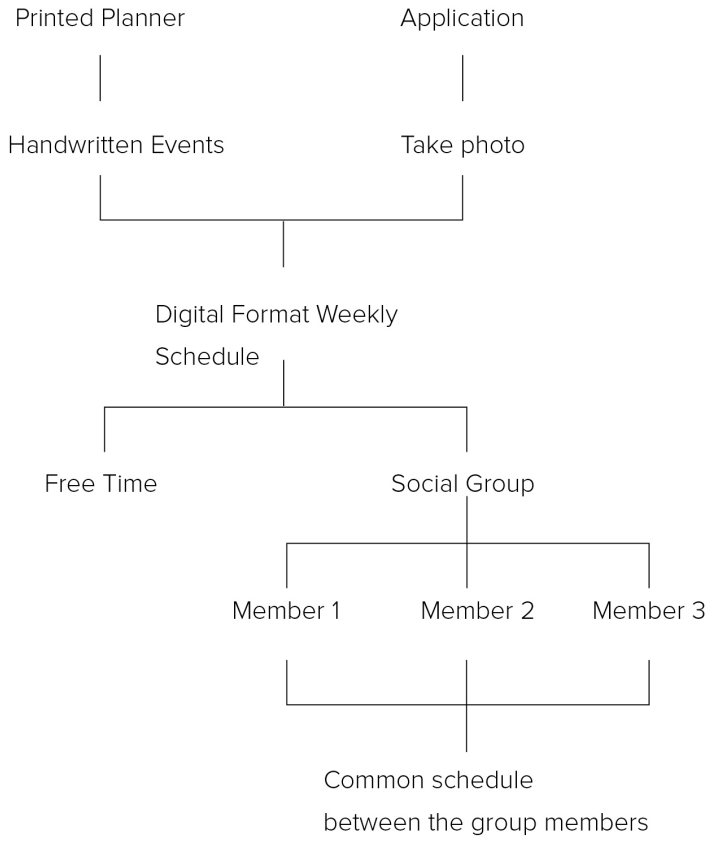
Design Ideation

Information Flowchart



Design Ideation

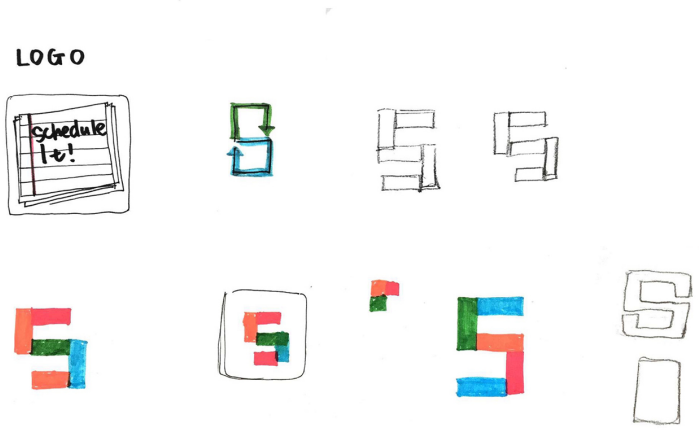
Process Flowchart



Design Ideation

Sketches

Brand Logo



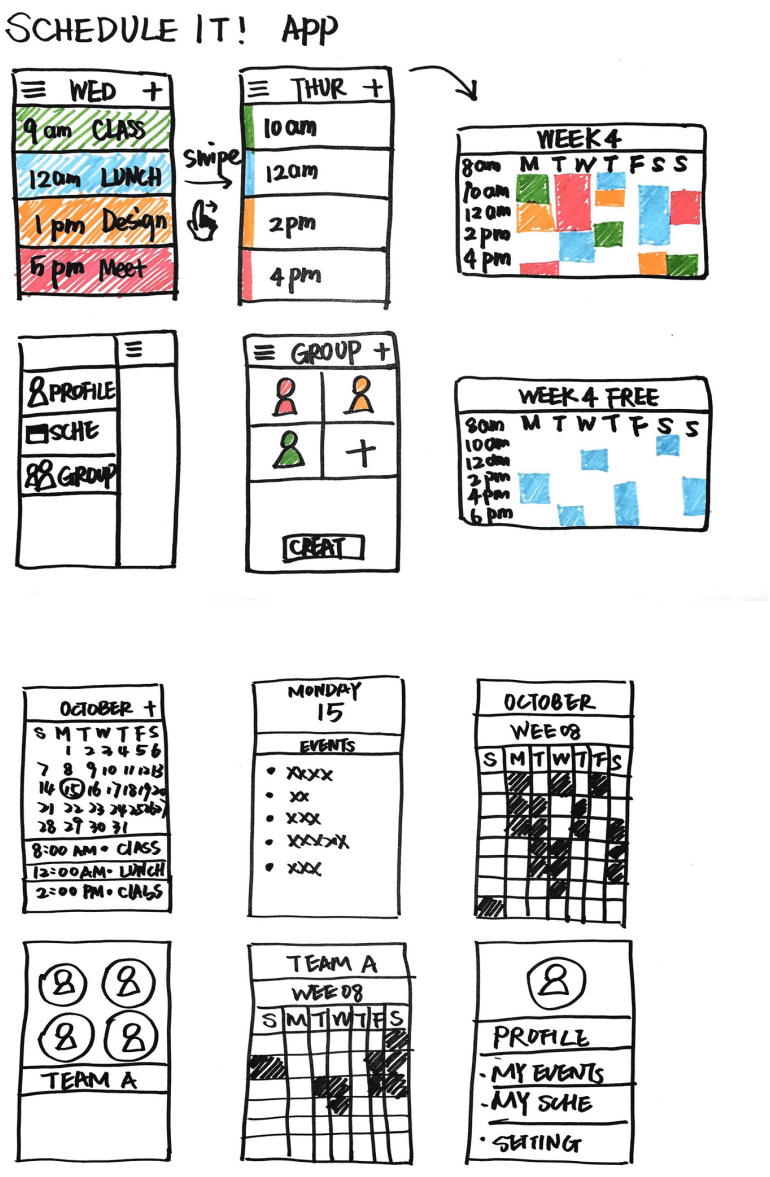
Design Ideation

Sketches

Printed Planner

Design Ideation

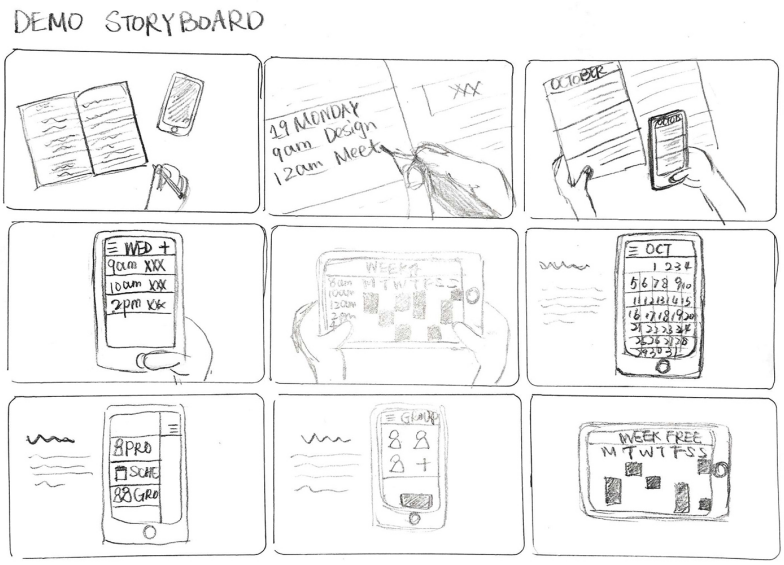
Sketches **App**



Design Ideation

Sketches

Demo Storyboard



Design Ideation

Asset List

Branding & Identity

Logo of the design system

Printed Planner

Cover Page

Inner Page Layout

Grid System

Interactive Application for iPhone

Icon

UI Elements

Wireframe

Workflow

Information Architecture

User Interface

Mockup

Motion Graphics Demo

Shows how the design system works in reality

Duration: 1 min

Methodological Design

Objective

I'm creating a design system that focuses on print, interaction and user experience design. My thesis combines traditional graphic and interaction design for scheduling events in a simple and efficient way for students.
The design system includes two parts: a printed notebook/ planner, and an interactive App for smart device. The users choose the way they like to input events and switch the weekly schedule to the available working time and switch back as well.

Target Audience

The specific target audience will be students at the high school level or higher who have the needs of scheduling events and use smartphones.

Software

Adobe Creative Suite

- InDesign
- Illustrator
- Photoshop
- After Effects

Methodological Design

Approach

Research

Research existing graphic and interaction design processes, observing people's behavior on scheduling events and their habits and format, as well as planner notebook formats, layouts and grid structures. Also look at the existing mobile Apps that are designed for scheduling events.

Collect & Reflect

Take all of the research and information and take some time to think about how it all can be combined and integrated within one another. This will lead me to the brainstorming phase of the new process in figuring out how traditional graphic and interaction design can be interconnected within one design system to create a better user experience.

Brainstorm

Brainstorm steps of the new design process for each facet of design information, user interface,user experience, branding & identity, print.

Implement

Design the visual style of the design system. Create the brand logo. The layout of the planner and the wireframe, flowchart, information architecture, user interface and prototype of the App.

Usability testing

Usability testing and collection of feedback. Evaluate and push further.

Final product

Design system: Planner and App

Presentation and further dissemination

Presentation and thesis show.

Implementation Strategies

This thesis requires graphic, user interface and user experience design skills. The scope of my thesis is to achieve a final prototype of the design system. However, a fully developed App will be considered after the thesis dissemination to continue the process, personal time permitting. I will use Adobe InDesign, Illustrator, Photoshop, and After Effects to build my thesis.

Dissemination

To promote my thesis project, I will upload it to major blog sites like Wordpress. Also, It will be posted on video sharing web sites like YouTube and Vimeo. I will also submit my finished project to major design competitions such as

HOW Interactive Design Awards
July, 2011

Computer Arts Interactive Competition
August, 2011

American Design Award: Student Annual Design Contest
TBA

ID Magazine Annual Design Review
TBA

Evaluation Plan

Main Research Questions

• What is the participant's impression of the user interface look/feel?
• What is the emotional character of the user experience?
• Would participants use my App? In what contexts would they use it?

Participant Profile

The specific target audience will be students at the high school level or higher who have the needs of scheduling events and use smartphones.

• Pilot Test: 1 Participants
• Regular Test: 9 Participants

Procedure

Participants will be given a task scenario to perform tasks by using the app.

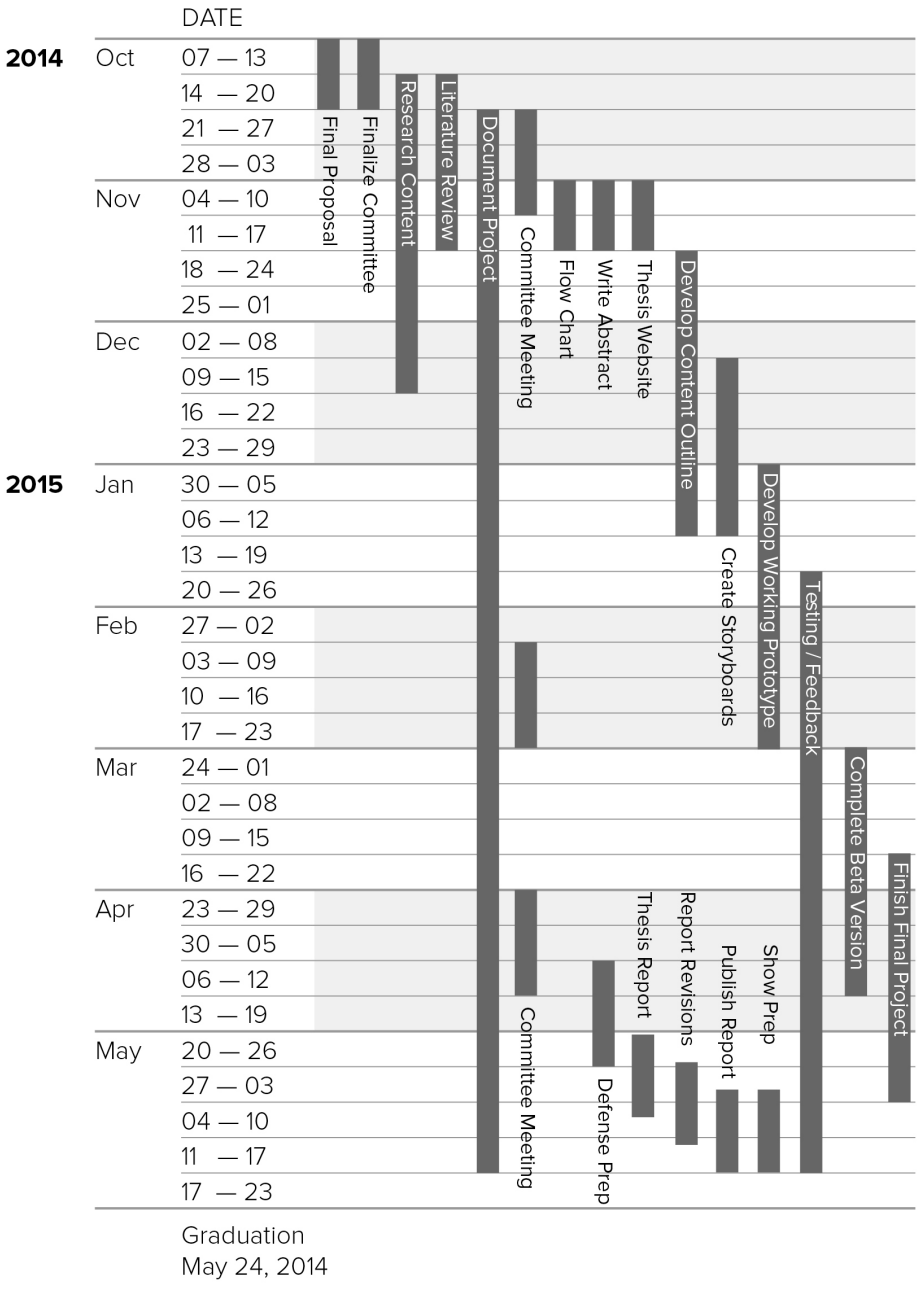
As they perform the tasks, they will be asked to think aloud. Finally, participants will complete a post-task questionnaire, and then I will do a quick debrief and interview them about their thoughts on the app and its experience.

Pragmatic Considerations

Budget	**Thesis Show** Print Materials, Planner Notebook	$450
	Dissemination Submitting final thesis research to magazines and competitions	$250
	Publishing Proposal (2) Final Bound Copies (3)	$100
	Total	$800

Numbers are an estimation of what I can
expect to spend throughout my project.
All expenses are subject to change.

Timeline


DATE
2014
Oct
07 — 13
14 — 20
21 — 27
28 — 03
Nov
04 — 10
11 — 17
18 — 24
25 — 01
Dec
02 — 08
09 — 15
16 — 22
23 — 29
2015
Jan
30 — 05
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13 — 19
20 — 26
Feb
27 — 02
03 — 09
10 — 16
17 — 23
Mar
24 — 01
02 — 08
09 — 15
16 — 22
Apr
23 — 29
30 — 05
06 — 12
13 — 19
May
20 — 26
27 — 03
04 — 10
11 — 17
17 — 23
Final Proposal
Finalize Committee
Research Content
Literature Review
Document Project
Committee Meeting
Flow Chart
Write Abstract
Thesis Website
Develop Content Outline
Create Storyboards
Develop Working Prototype
Testing / Feedback
Complete Beta Version
Finish Final Project
Committee Meeting
Defense Prep
Thesis Report
Report Revisions
Publish Report
Show Prep
Graduation
May 24, 2014

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http://boundforanything.com/help/idea_room
http://www.betterlivingthroughdesign.com/category/accessories/desk-accessories/journals-planners

Appendix B
User Interview Record Form

Weekly

Student Interview Form

Basic Info

Age:

Grade Level:

Questions

1. How do you schedule your events?

2. Do you like to write down events/notes on notebook/planner?
If yes, what notebook/planner do you usually use?
Why do you choose them?

3. Do you like to use meeting scheduler tools?
If yes, what tools do you usually use?
Why do you choose them?

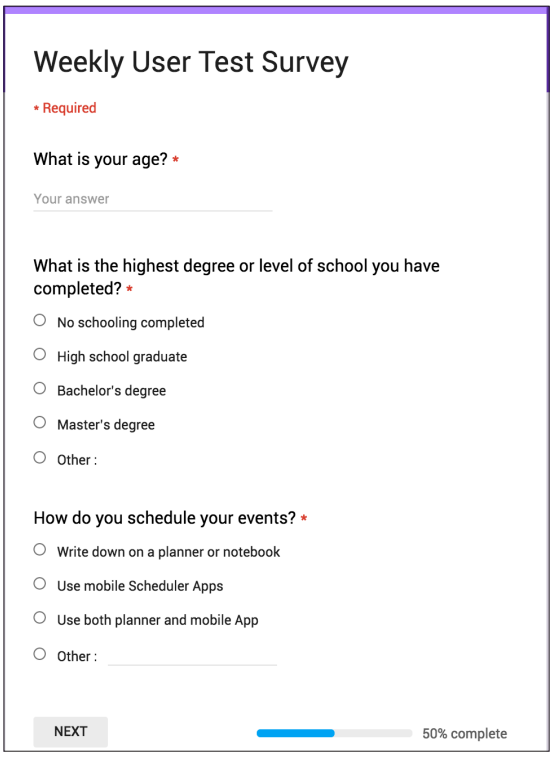
4. Do you have any problems or meet any difficulties when you schedule events or try to get things organized?

5. What do you think if there is an App on your phone that could automatically transform your handwritten events in to digital? You can create groups and share schedules and schedule meetings with your group members, and the App will generate the common schedule for your group. Would you like to use it?

Notes

Appendix C

User Survey with Results



Weekly User Test Survey

* Required

What is your age? *

Your answer

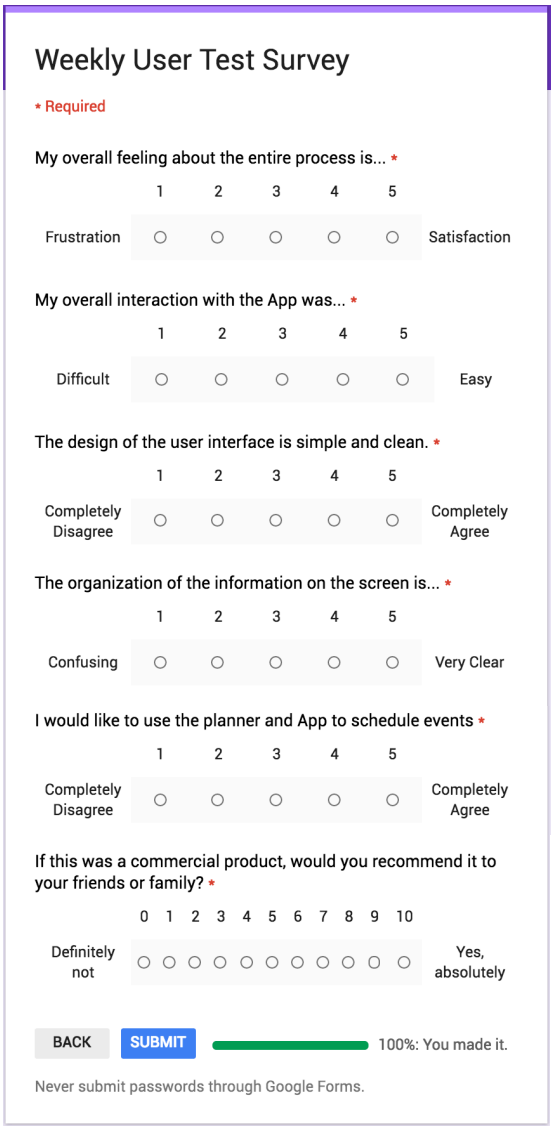
What is the highest degree or level of school you have completed? *

- No schooling completed
- High school graduate
- Bachelor's degree
- Master's degree
- Other :

How do you schedule your events? *

- Write down on a planner or notebook
- Use mobile Scheduler Apps
- Use both planner and mobile App
- Other :

NEXT 50% complete



Weekly User Test Survey

* Required

My overall feeling about the entire process is... *

	1	2	3	4	5	
Frustration	○	○	○	○	○	Satisfaction

My overall interaction with the App was... *

	1	2	3	4	5	
Difficult	○	○	○	○	○	Easy

The design of the user interface is simple and clean. *

	1	2	3	4	5	
Completely Disagree	○	○	○	○	○	Completely Agree

The organization of the information on the screen is... *

	1	2	3	4	5	
Confusing	○	○	○	○	○	Very Clear

I would like to use the planner and App to schedule events *

	1	2	3	4	5	
Completely Disagree	○	○	○	○	○	Completely Agree

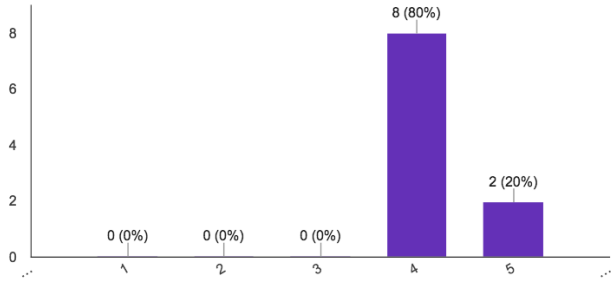
If this was a commercial product, would you recommend it to your friends or family? *

	0	1	2	3	4	5	6	7	8	9	10	
Definitely not	○	○	○	○	○	○	○	○	○	○	○	Yes, absolutely

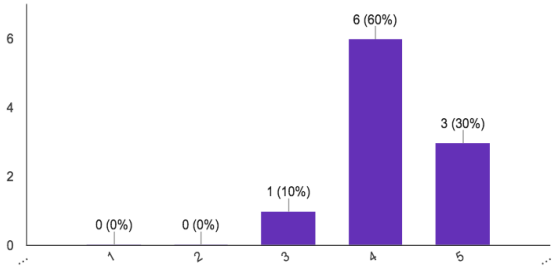
BACK SUBMIT 100%: You made it.

Never submit passwords through Google Forms.

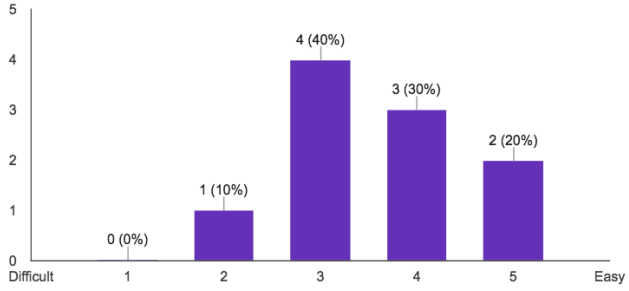
My overall feeling about the entire process is... (10 responses)



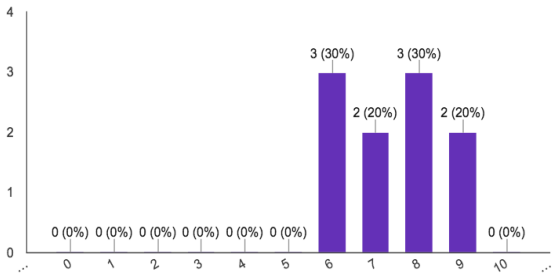
I would like to use the planner and App to schedule events (10 responses)



My overall interaction with the App was... (10 responses)



If this was a commercial product, would you recommend it to your friends or family?
(10 responses)



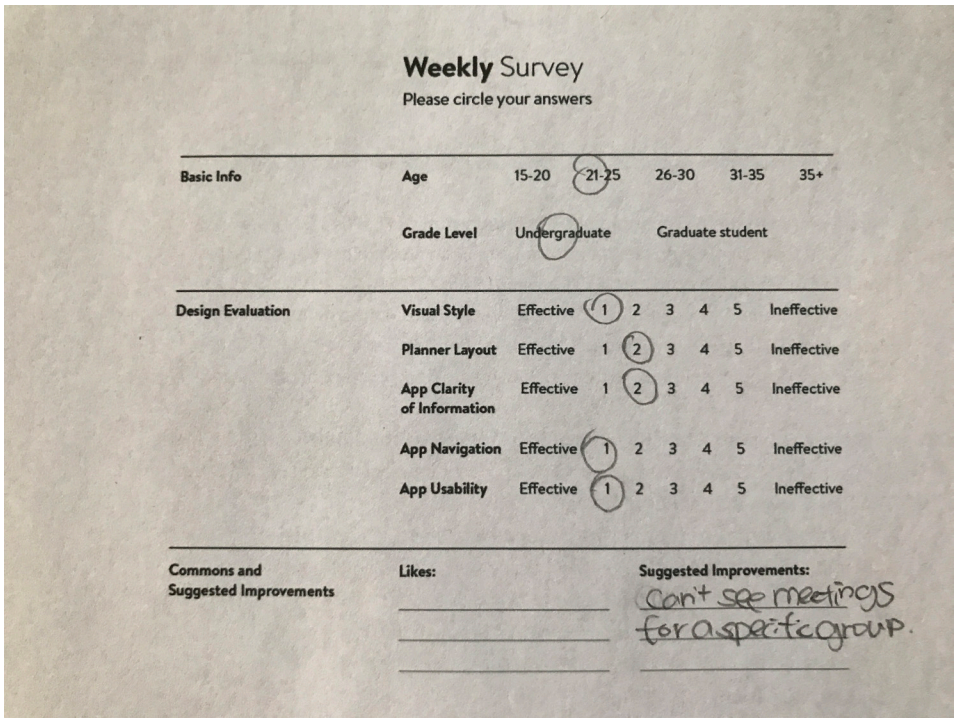
Appendix C
User Survey with Results

Weekly Survey

Please circle your answers

Basic Info	**Age**	15-20	21-25	26-30	31-35	35+		
	Grade Level	Undergraduate		Graduate student				
Design Evaluation	**Visual Style**	Effective	1	2	3	4	5	Ineffective
	Planner Layout	Effective	1	2	3	4	5	Ineffective
	App Clarity of Information	Effective	1	2	3	4	5	Ineffective
	App Navigation	Effective	1	2	3	4	5	Ineffective
	App Usability	Effective	1	2	3	4	5	Ineffective
Commons and Suggested Improvements	**Likes:**				**Suggested Improvements:**			

Appendix C
User Survey with Results



Weekly Survey
Please circle your answers

Basic Info	**Age**	15-20	(21-25)	26-30	31-35	35+	
	Grade Level	(Undergraduate)		Graduate student			
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	Planner Layout	Effective	1	(2)	3	4	5 Ineffective
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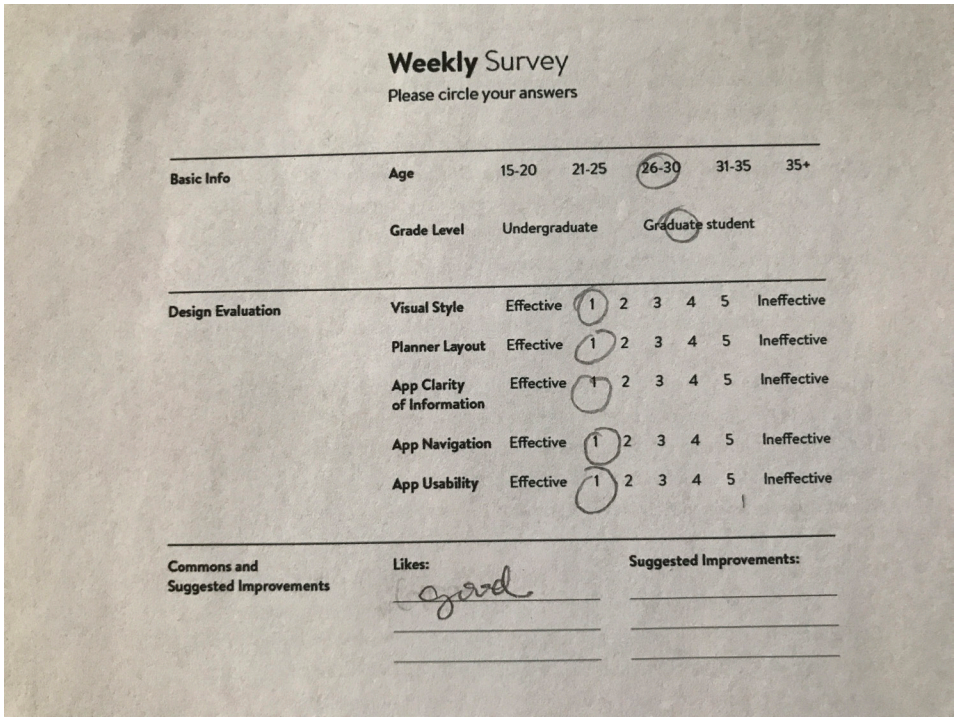
	App Navigation	Effective	(1)	2	3	4	5 Ineffective
	App Usability	Effective	(1)	2	3	4	5 Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements:
Can't see meetings for a specific group.



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Please circle your answers

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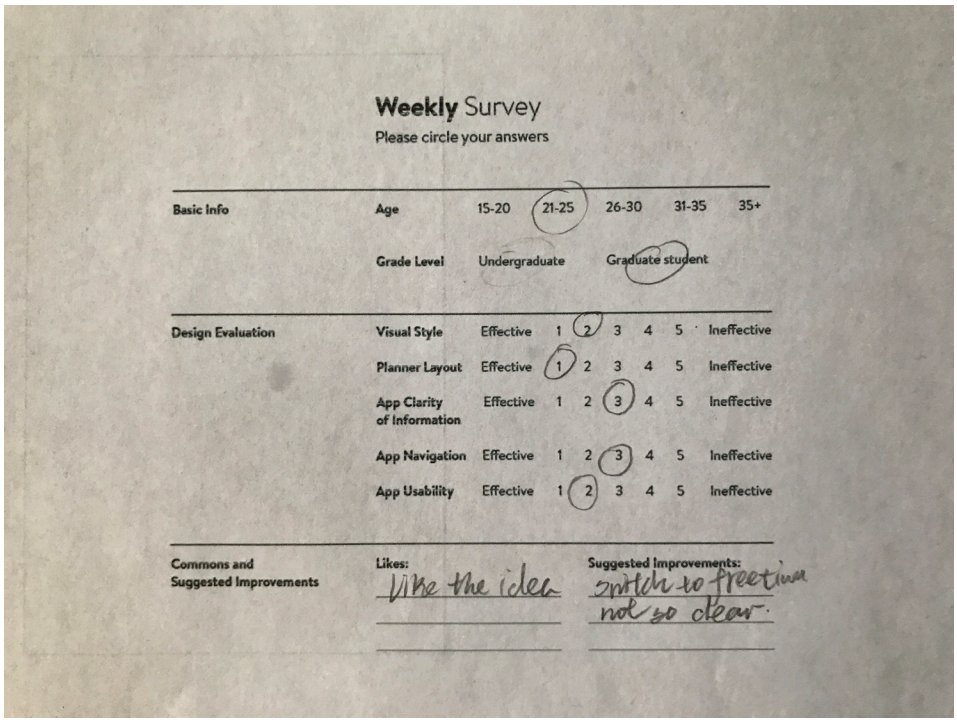
	App Navigation	Effective	(1)	2	3	4	5 Ineffective
	App Usability	Effective	(1)	2	3	4	5 Ineffective

Commons and Suggested Improvements

Likes:
good

Suggested Improvements:



Weekly Survey

Please circle your answers

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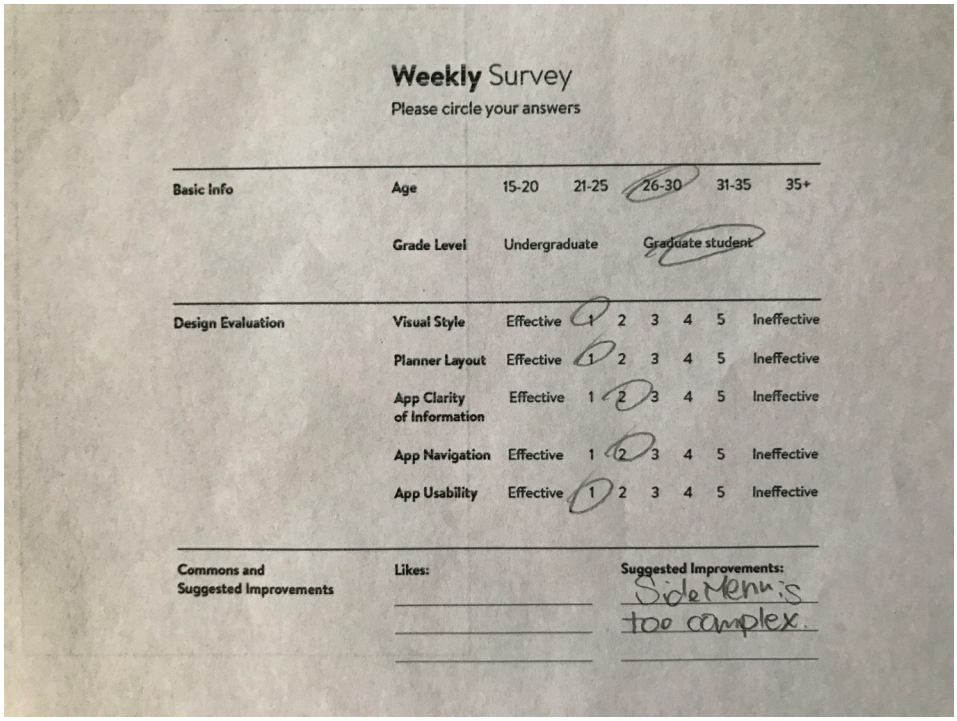
	App Navigation	Effective	1	2	(3)	4	5 Ineffective
	App Usability	Effective	1	(2)	3	4	5 Ineffective

Commons and Suggested Improvements

Likes: like the idea

Suggested Improvements: switch to freetime not so clear.



Weekly Survey

Please circle your answers

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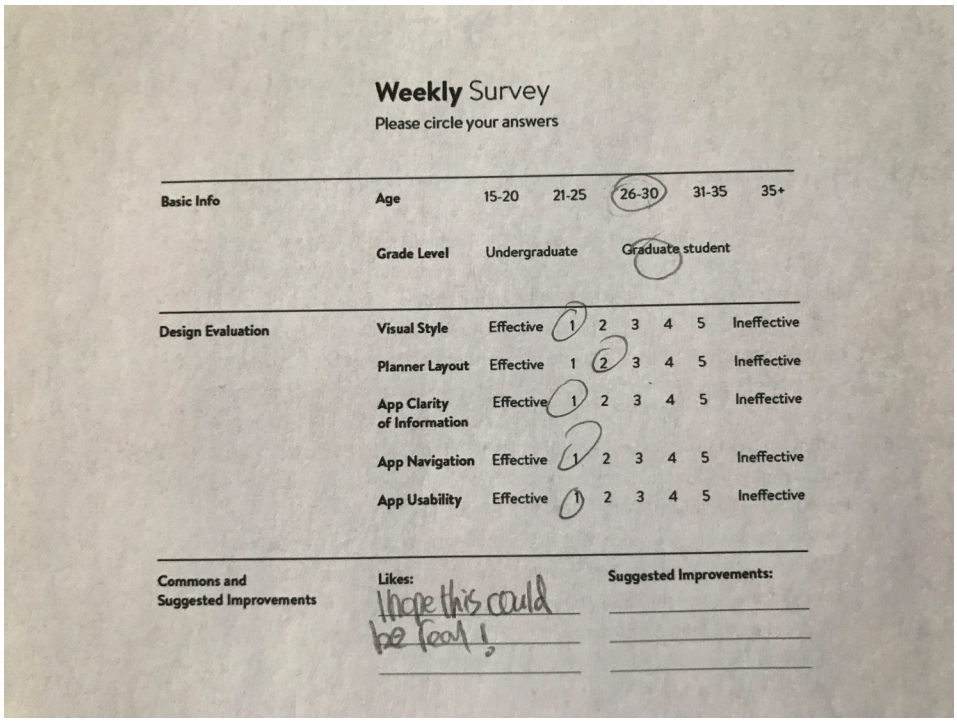
	App Navigation	Effective	1	(2)	3	4	5 Ineffective
	App Usability	Effective	(1)	2	3	4	5 Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements: SideMenu is too complex.



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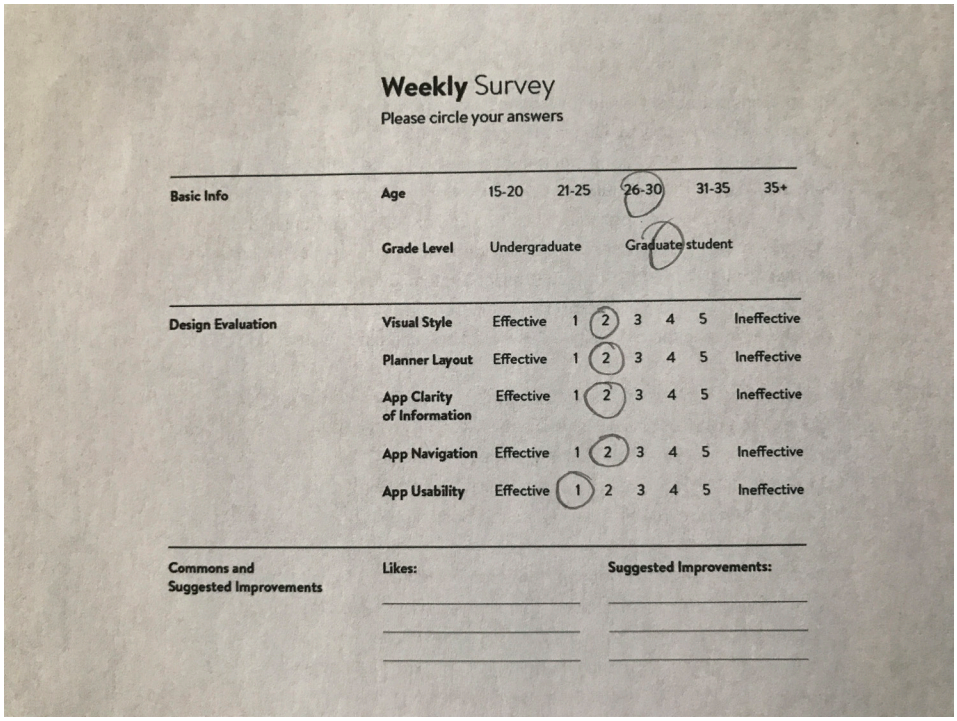
	App Navigation	Effective	1	2	3	4	5	Ineffective
	App Usability	Effective	1	2	3	4	5	Ineffective

Commons and Suggested Improvements

Likes: I hope this could be real!

Suggested Improvements:



Weekly Survey

Please circle your answers

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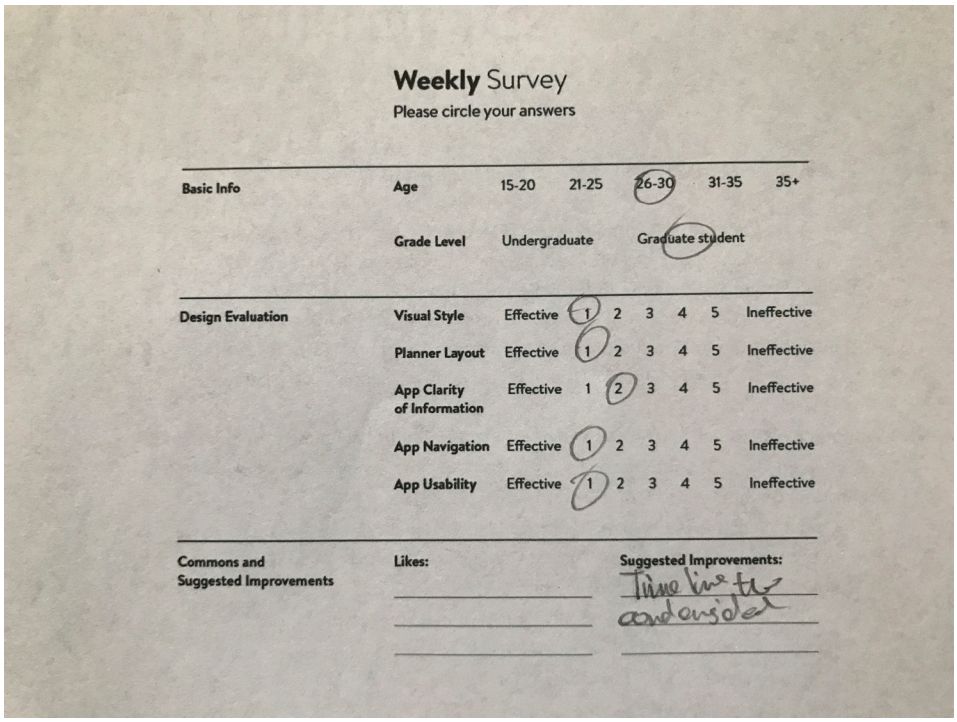
	App Navigation	Effective	1	2	3	4	5	Ineffective
	App Usability	Effective	1	2	3	4	5	Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements:



Weekly Survey

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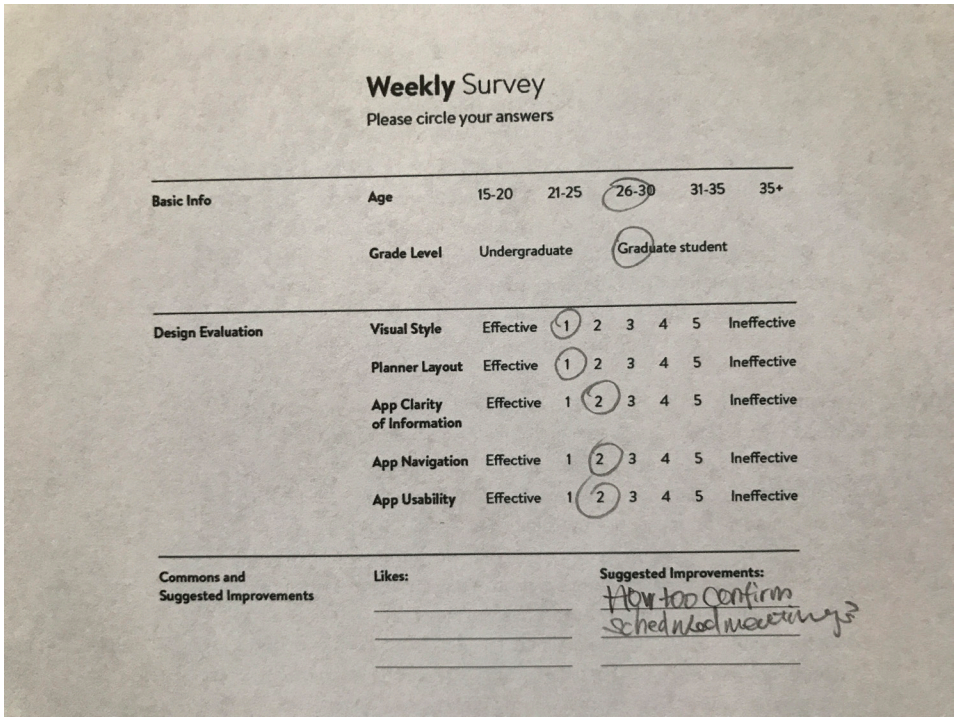
	App Navigation	Effective	(1)	2	3	4	5 Ineffective
	App Usability	Effective	(1)	2	3	4	5 Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements:

Time limit to be considered



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Please circle your answers

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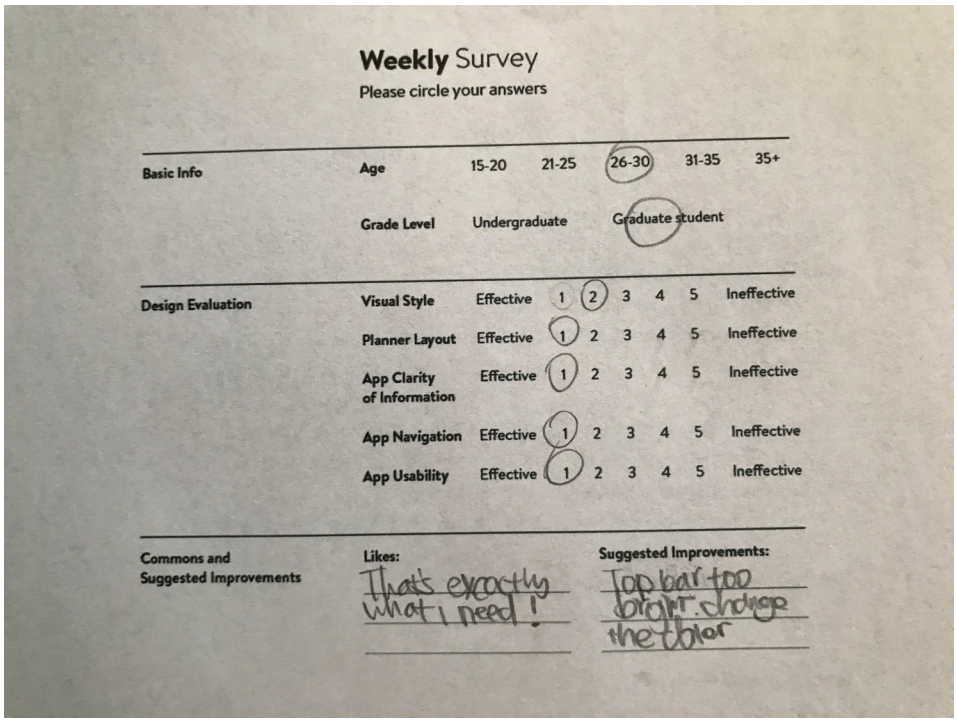
	App Navigation	Effective	1	(2)	3	4	5 Ineffective
	App Usability	Effective	1	(2)	3	4	5 Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements:

How to confirm scheduled meetings?



Weekly Survey

Please circle your answers

Basic Info

Age 15-20 21-25 (26-30) 31-35 35+

Grade Level Undergraduate (Graduate student)

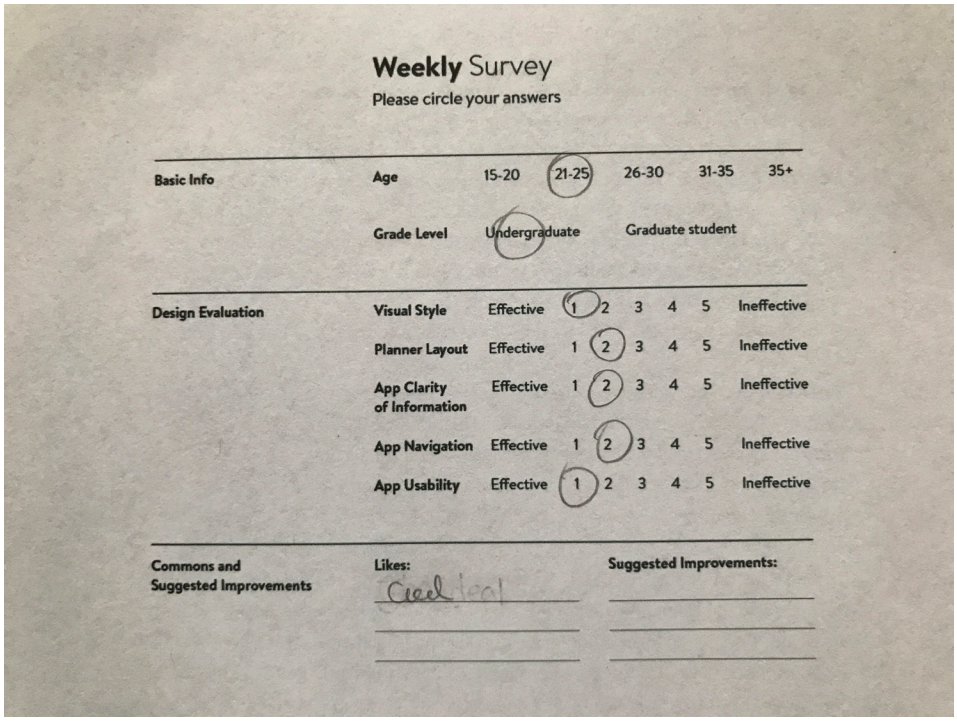
Design Evaluation

Visual Style	Effective	1	(2)	3	4	5	Ineffective
Planner Layout	Effective	(1)	2	3	4	5	Ineffective
App Clarity of Information	Effective	(1)	2	3	4	5	Ineffective
App Navigation	Effective	(1)	2	3	4	5	Ineffective
App Usability	Effective	(1)	2	3	4	5	Ineffective

Commons and Suggested Improvements

Likes: That's exactly what I need!

Suggested Improvements: Top bar too bright. change the color



Weekly Survey

Please circle your answers

Basic Info

Age 15-20 (21-25) 26-30 31-35 35+

Grade Level (Undergraduate) Graduate student

Design Evaluation

Visual Style	Effective	(1)	2	3	4	5	Ineffective
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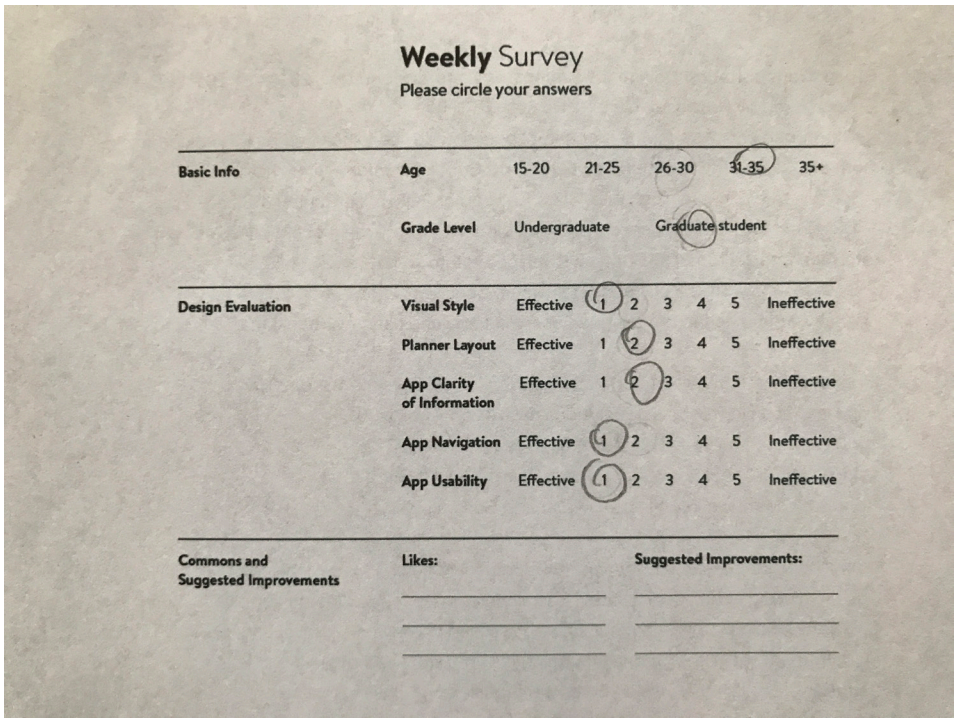
App Navigation	Effective	1	(2)	3	4	5	Ineffective
App Usability	Effective	(1)	2	3	4	5	Ineffective

Commons and Suggested Improvements

Likes: Cool tool

Suggested Improvements:



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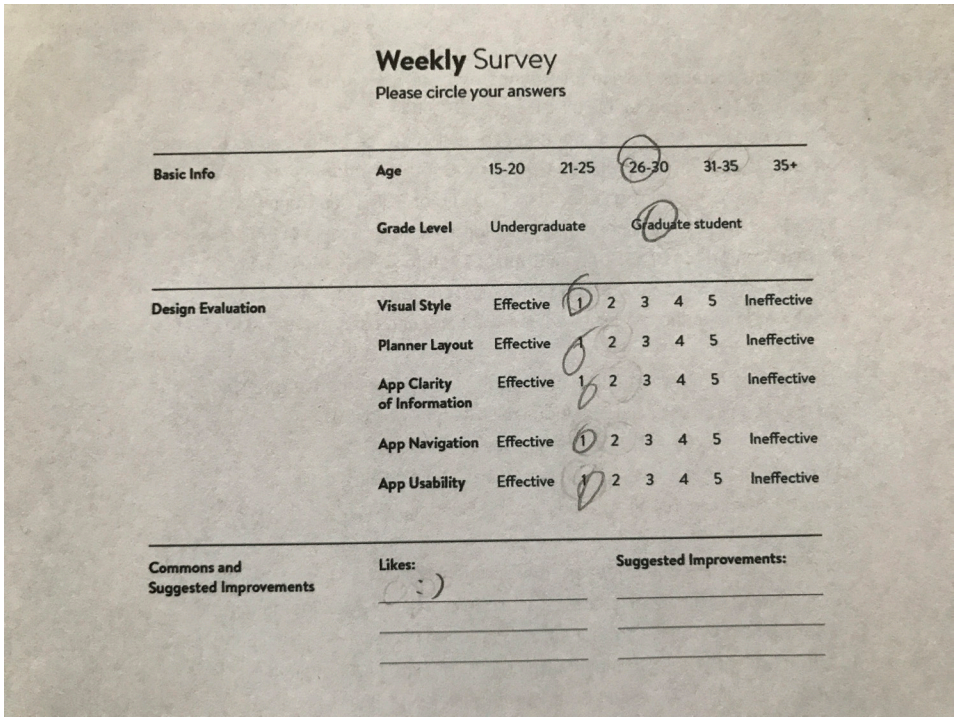
	App Navigation	Effective	1	2 3 4 5			Ineffective
	App Usability	Effective	1	2 3 4 5			Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements:



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	App Navigation	Effective	1	2 3 4 5			Ineffective
	App Usability	Effective	1	2 3 4 5			Ineffective

Commons and Suggested Improvements

Likes:

Suggested Improvements:

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