

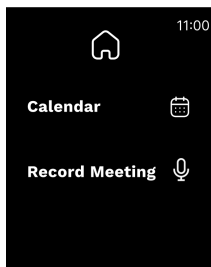
## Project Milestone 5: Final Prototype and Process Book

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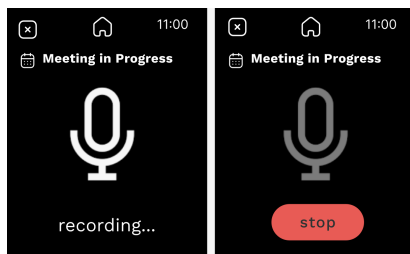
### Final Prototype

#### Watch Interface - allowing the user to schedule on the go (more mobility)

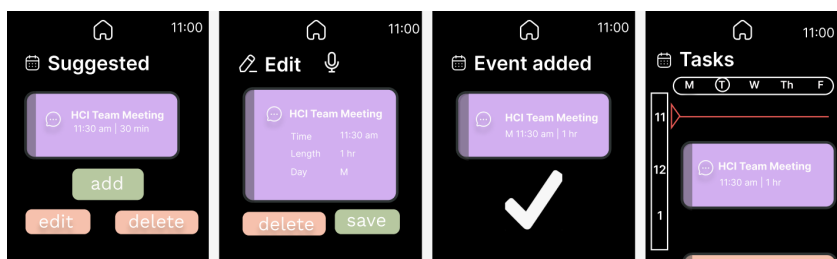
Home page: Users can either view the calendar or record a meeting. The user can return to the home page from any screen by pressing the home icon at the top of the screen



Recording page: User selected record meeting. Tapping on the microphone pauses the recording and the option to stop appears. If the user presses stop, they are taken to the home page again. This is a shortcut for the full recording functionality which can be accessed from the phone. This is intended to make starting and stopping easily accessible.



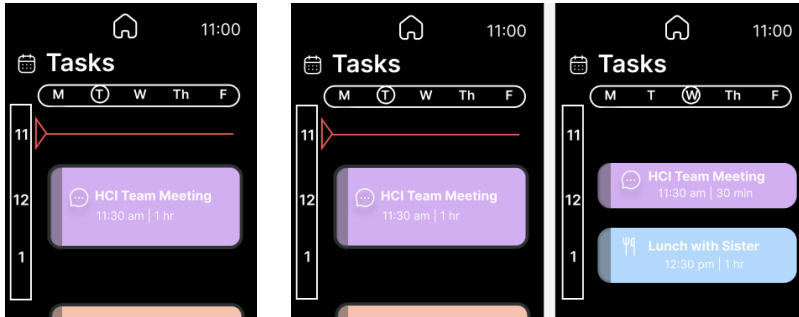
Suggested tasks: If the system picks up on a new event to add to the calendar, either through text



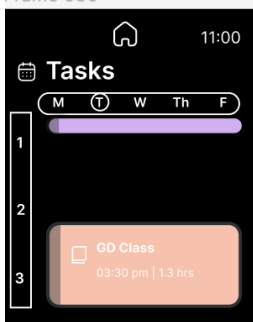
or a recorded meeting, the system will suggest an event to add to the calendar. The user can either add, edit, or delete the task. If the user chooses to edit, they can select the voice icon to voice change the details. Once

saved, the system will show a confirmation screen then automatically return to the calendar view.

Calendar view: The user can swipe right to left to view upcoming days. The user can also scroll down to view tasks later in the day. The red line shows the current time of the day. Pressing one of the tasks will take the user back to the edit screen as seen in the previous prototype flow.



Swiping example

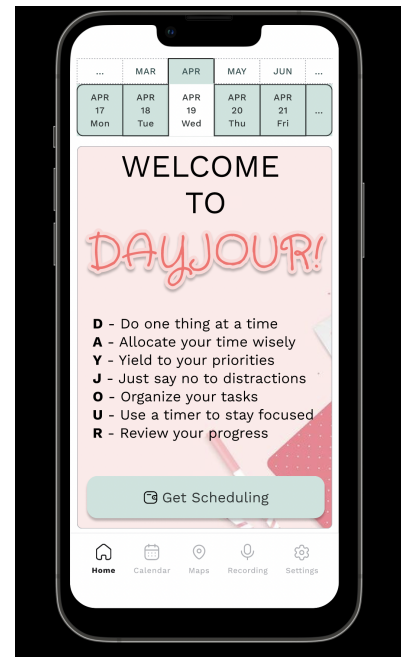


Scrolling example

## Mobile App

### Feature 1 (First time import from other educational platforms or calendars):

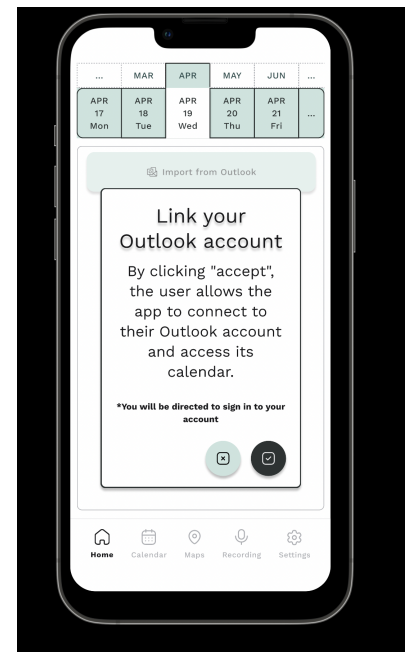
1. Welcome page: The first time that a user accesses *DayJour*, they will be greeted with the following screenshot. To engage the users and to remind them of the app's goal, we have created goals for each letter of *DayJour*. As this is the first time the user is accessing the app, they will be presented with a 'Get Scheduling' button as indicated below. Upon clicking on it, the user will be directed to step 2.



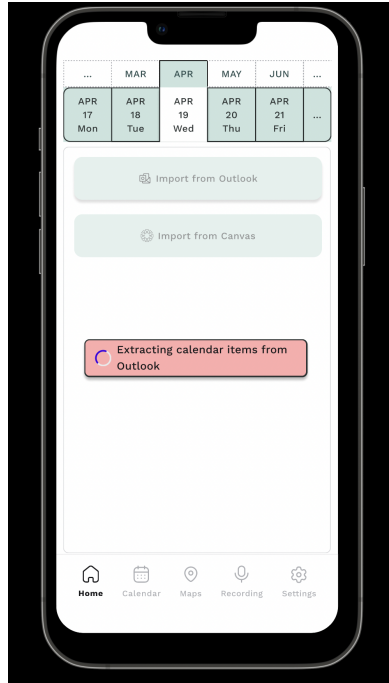
2. The user will then be given two options (as of now) to import their existing calendars from Outlook or Canvas. In the future, we aim to add more import options here as from Apple Calendar, Notion, OneNote and more. For prototype purposes, we have shown from Outlook and Canvas. One of the pain points of our core stakeholders was having multiple calendars and the confusion that stemmed from it. To address this, we have included this feature where **DayJour** becomes a one-stop place for all their scheduling needs. From the evaluation feedback, we found that users needed a place to edit this import and add more calendars. We have added a section in settings to address this need. This screen is for initial setup.



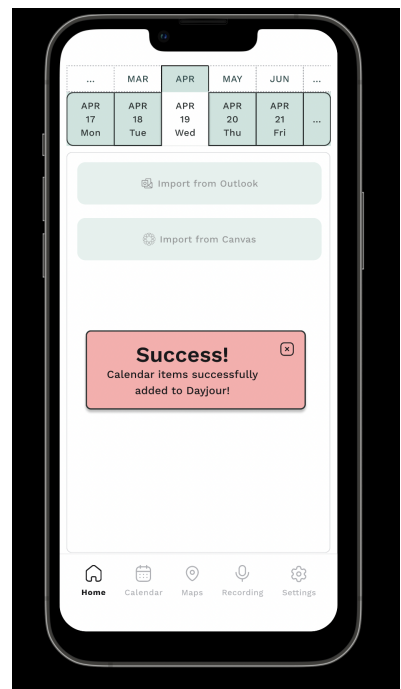
- a. If the user clicks on 'Import from Outlook', a pop-up will be visible. The pop-up details that upon accepting the terms and conditions, their Outlook account will be linked to the **DayJour** app for continuous integration of any events that might be added to this app. As per the privacy concerns, that was one of the themes of our feedback, the user will always be given an option of accepting or rejecting linking their account.



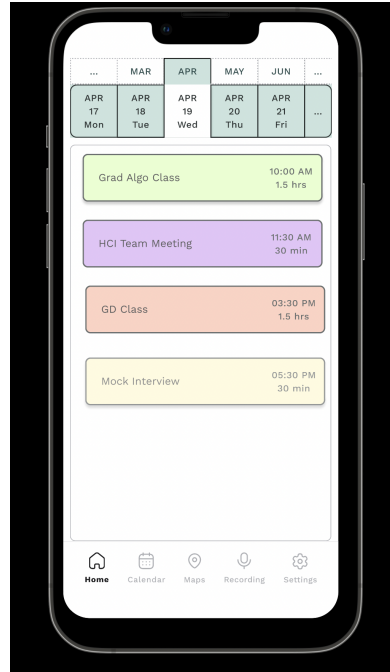
1. If the user accepts the conditions, the main part of the page will be grayed a little and a progress bar pop-up will be shown to the user. The user won't be able to change tabs or click outside the pop-up and this is why the main part of the page is grayed out. According to Nielsen Normans 10 design heuristic, visibility of the system is one of the design features. To account for this, we made sure to display a progress bar and a brief explanation of the process happening behind the scenes.



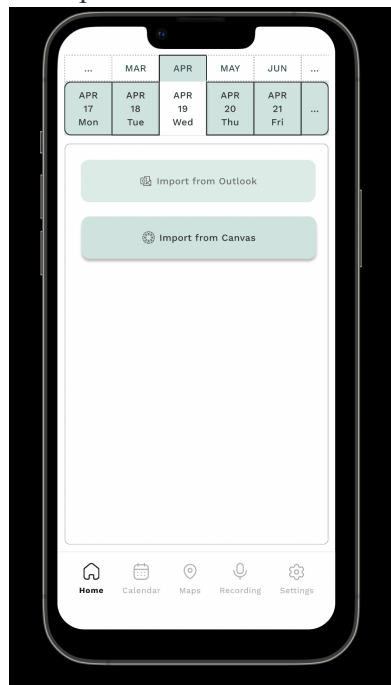
2. Once the calendar items have been extracted and populated accordingly, a Success popup is displayed to the user. This helps the user understand that the action that was being performed was completed successfully.



3. Clicking on the cross sign on the pop-up above will redirect the user to the current day's schedule. In the following screenshot, we can see that 4 schedule items were populated from the Outlook calendar. The top two slidebars of the application allow user easy control over changing month and day for the user to view their schedule.



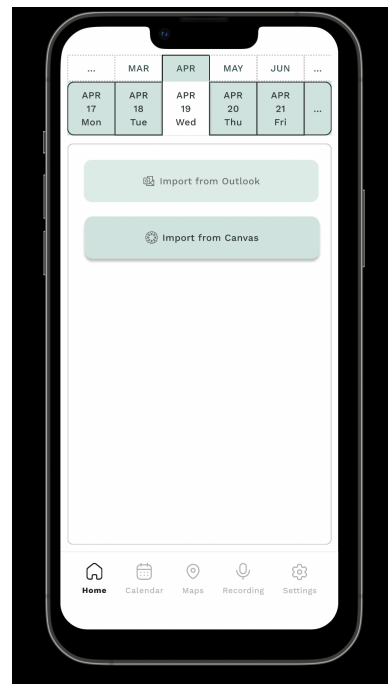
- b. Let's say the user now wants to import calendar items from Canvas. We can see in the following screenshot that 'Import from Outlook' is grayed out as the Outlook account is already linked. This allows the user to visualize from this page the imports that have already been performed.



1. In a similar fashion as above, terms and conditions about linking the Canvas account will be presented to the user with the options of accepting and rejecting this.

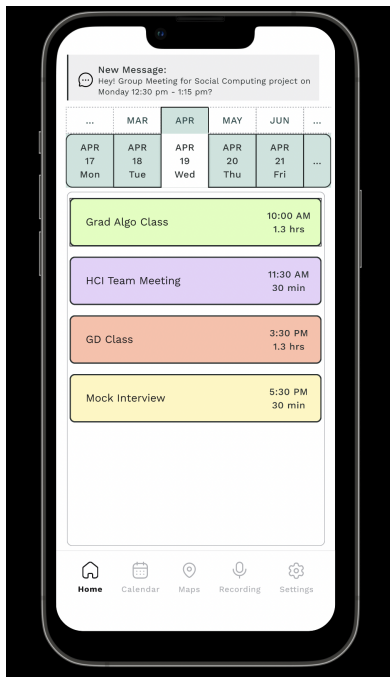


2. If the user decides to reject linking the account in this case, the screen will go back to the home page where the import activity can be completed. In this prototype feature, we have only shown either importing from Outlook or Canvas but not both. Ideally, if even one of the imports is completed, the home page will indicate the scheduled items exported accordingly. The user will still be able to import other calendars by going to Settings → Sync Settings → Accessibility Usage.



## Feature 2 (Adding to scheduler from conversation - free slot):

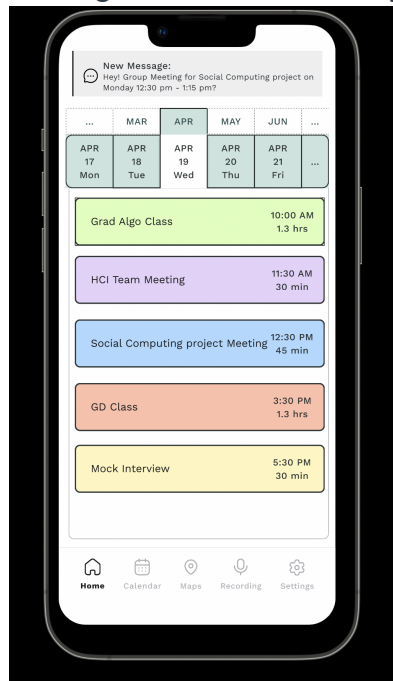
1. The next feature that we implemented in our prototype was picking up possible schedule items from conversations. In this example, we show identifying schedule items from conversations. One point to note is that in Settings → Privacy Settings, the user has the complete control to approve or deny access to the app to read the messages or record a conversation. If these controls are not turned on by the user, the application will not analyze or listen in on conversations to detect scheduled items and the user will still be able to manually enter the details. Coming back to this example, if the user clicks on the message, the next pop up will be visible on the app screen.



2. Upon clicking on the message, a pop up appears. All the pop ups that have been created have consistent standards. They will have a white background with the primary button being 'Accept' and the secondary button being 'Reject'. We have also utilized icons to allow for easier understanding between the user and app. These adaptations to the application were made by understanding the Consistency and standard design point from Nielsen Normans 10 design heuristics. Font weight is being used to indicate the critical information bits from the pop-up. Additionally, at the bottom, the user gets a view into whether they are free or busy during the time slot indicated. This was one of the pain points from the interviews that we conducted with our core stakeholders which is why we made sure to decrease user's time in finding whether they are available during a time slot.

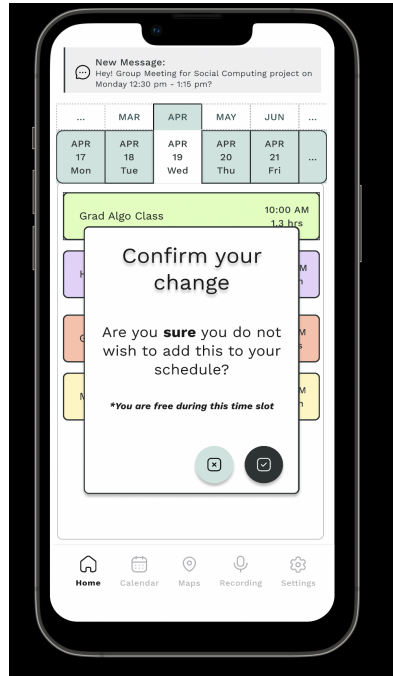


- a. Upon accepting the changes, the user will be redirected to the day that the new schedule item has been added and we can see that 'Social Computing Project Meeting' has been successfully added to the schedule.

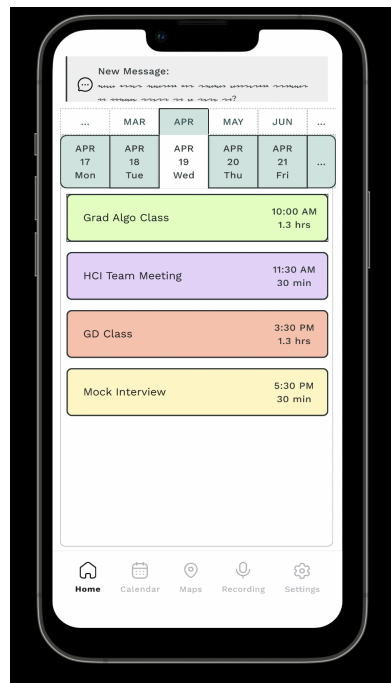


- b. If the user decides that they do not wish to add this to the schedule and they click on the 'X', a confirmation message pops up to make sure that the user is aware of the action they are about to perform. This was designed by keeping in mind the Error prevention design from Nielson Normans 10 design heuristics.





1. If the user continues to confirm their change to not add the item to the schedule, they will be taken back to the main page where we can see the schedule hasn't changed.



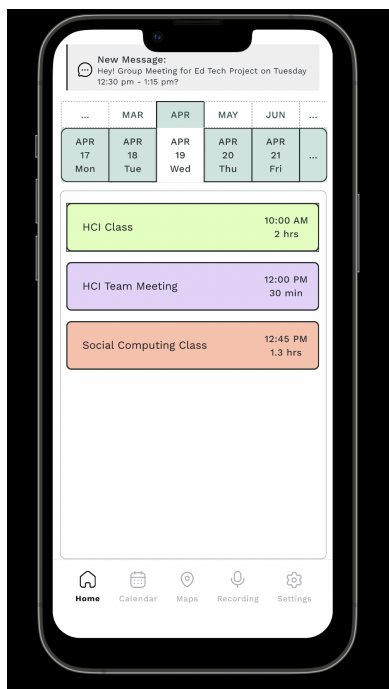
2. If the user recognizes that they might have clicked on the 'X' by mistake or they might want to now go ahead and add the item to their list, they can click 'X' on the confirmation pop up. This will take them back to the pop up where a new scheduled item is detected and the user can proceed accordingly. The white color for the pop up was used for accommodating

for the aesthetics and minimalist design which is also one of Nielsen Normans 10 design heuristics

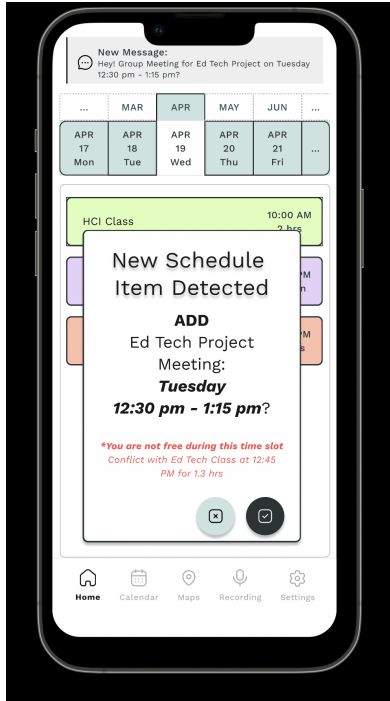


**Feature 3 (Adding to scheduler from conversation - busy slot):**

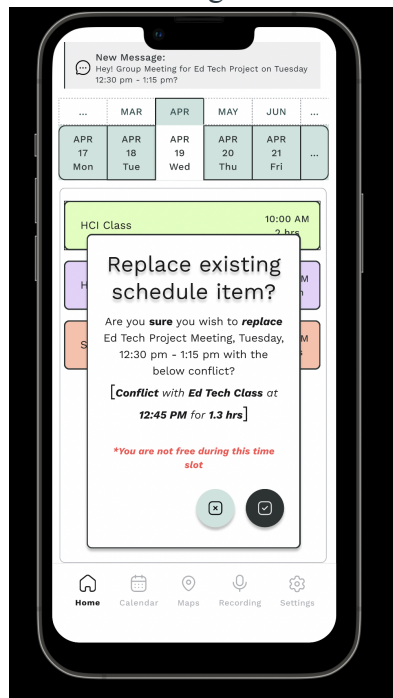
1. This feature covers the example of taking an instance of adding a schedule item when the user already has another activity scheduled during the same time. The following screenshot indicates a new message notification.



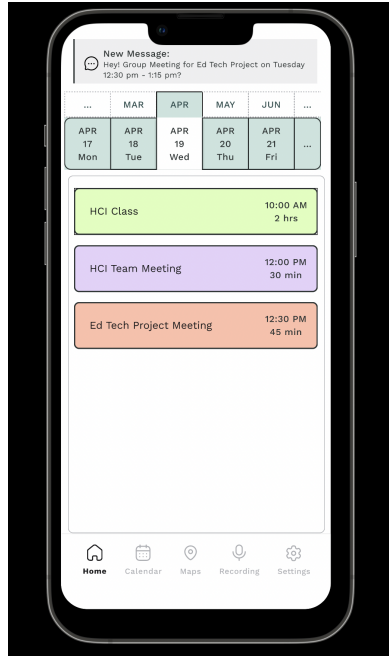
2. On clicking on the message, a familiar pop up is shown where a new schedule item is detected. But if we look at the footnote which is highlighted in red so that the user's attention gets diverted towards it. The highlighted portion indicates that the user is not free during the time slot of the meeting and gives a brief description of the activity scheduled during the same time slot.



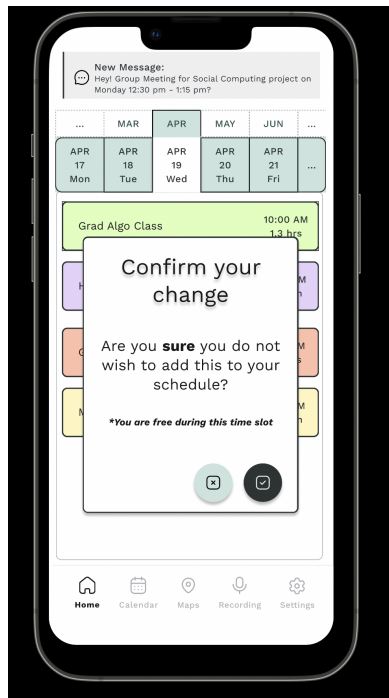
- a. If the user accepts adding this item to the schedule, a new pop up message confirms from the user that the new item will replace the existing activity that is scheduled during that time slot.



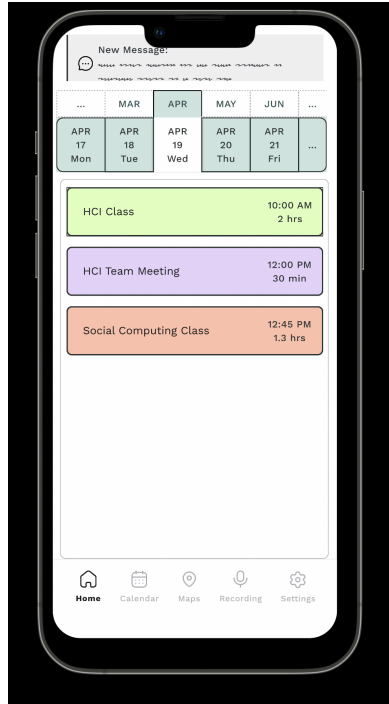
1. If the user accepts this change, we can see that Ed Tech class is now replaced with the new schedule item that is 'Ed Tech Project Meeting'.



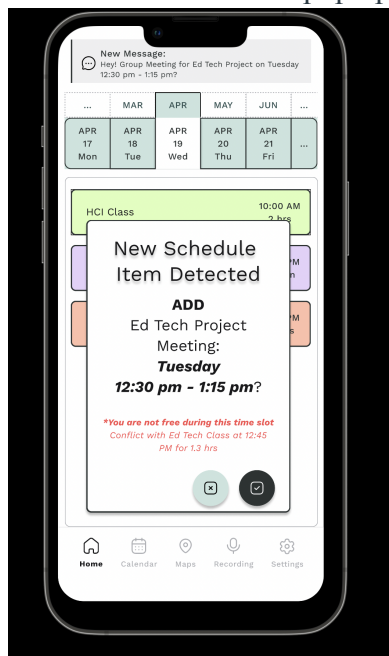
- b. If the user does not want to replace the existing schedule item, they can click on 'X'. This will take the user to the confirmation pop up to make sure that the user understands that the new item will not be added to the schedule.



1. If the user confirms this change, the schedule will not be changed as seen below.



2. If the user is not sure and does not want to lose adding the new schedule, they can click on the 'X' button and this will take them back to the new schedule item detected pop up.



#### **Feature 4 (Location Schedule - Pre-Defined Events):**

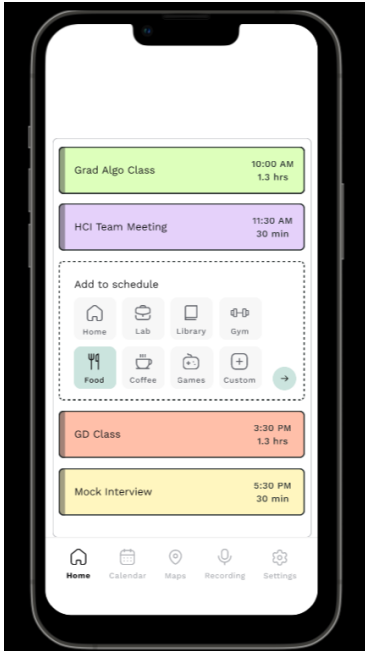
1. When the user long presses over any free time in their schedule, they are given the option to add an item to the schedule in that time. The app also provides details of how much free time they have.



- When they decide to add an item to a schedule, the app gives them a set of options of the kind of event they want to add to their schedule. The app learns the most common activities that the user does and shows them as options to the user.



- The user can select events in the order that they want to do them. For example, first they can select Food. If the user decides to not do an event, they can click again to remove it.



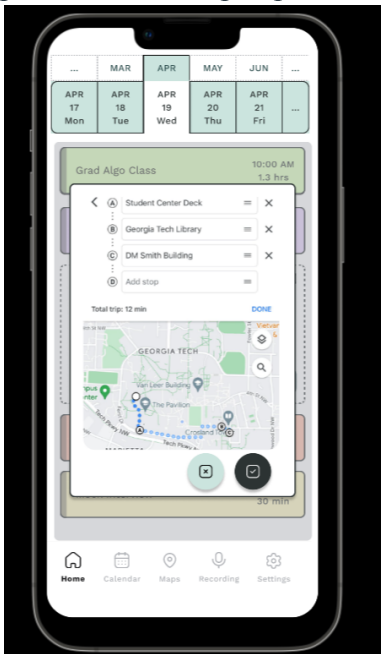
- When the user selects multiple options, the order of the items is shown so the user can arrange one item after the other. The user can rearrange the order by deselecting and re-selecting the schedule items.



- When the user specifies the order in which they want to do their work, the app then suggests locations to do the activities based on minimum transit time.



- At this step, if the user has a preference of a location where they want to perform a certain activity, they can select that location (Say, Chick-fil-a) and edit it to match their preference. A map is provided to help them plan their route better.

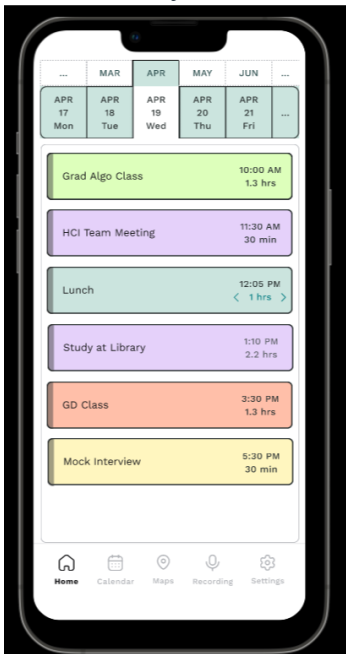


- Once the user is happy with the new route, they can go ahead to the next step and decide the time they want to spend doing each activity.

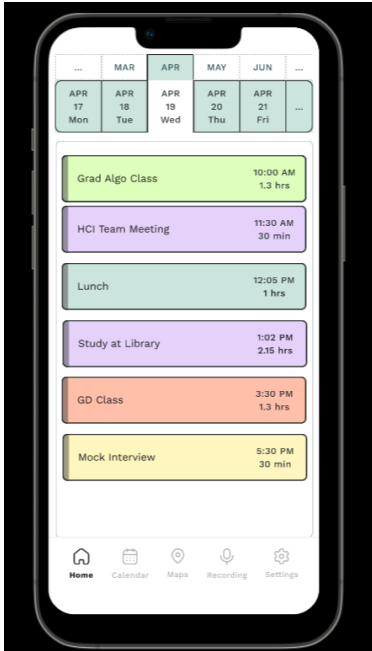




8. The arrows on the right lets the user edit the time they want to spend doing one activity and adjusts the other activities accordingly. The user can increase or decrease this time and when they are satisfied with it, they can click the finalized time to go ahead.



9. The final schedule is then shown to the user.

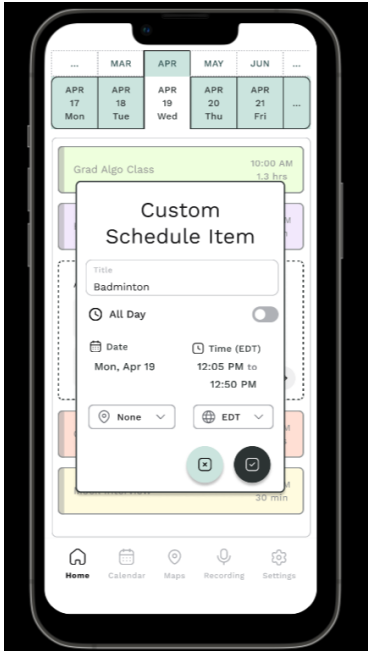


### Feature 5 (Location Schedule - Custom Events):

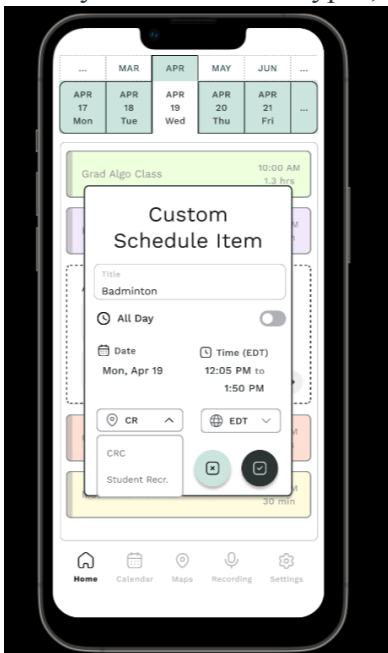
1. Similar to the previous flow, the user is also given the option of making custom events.



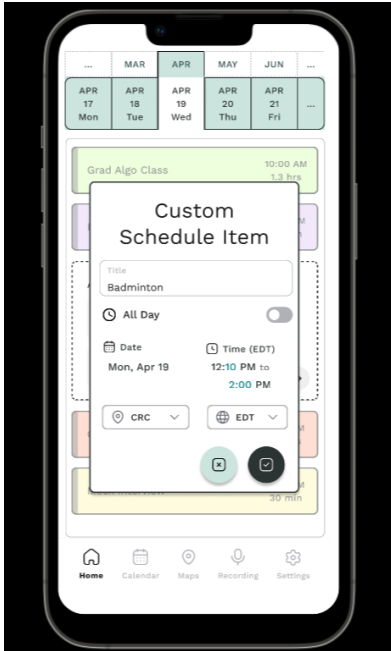
2. When the user decides to create a custom item, they are provided the option to name the type of activity, the date, the time and the time zone according to which they want to add to the schedule. The default time zone is set to the current location's time zone.



3. The user is also provided an option to select the location where they want to do the activity. When the user types, the system suggests nearby locations.



4. When the user selects a location, the app automatically calculates the transit time and updates the time. The user is also given the option to choose 'None' if they don't want to plan based on location or if they don't want to enter a location.



5. When the user is satisfied with this new event they can go ahead and confirm it.

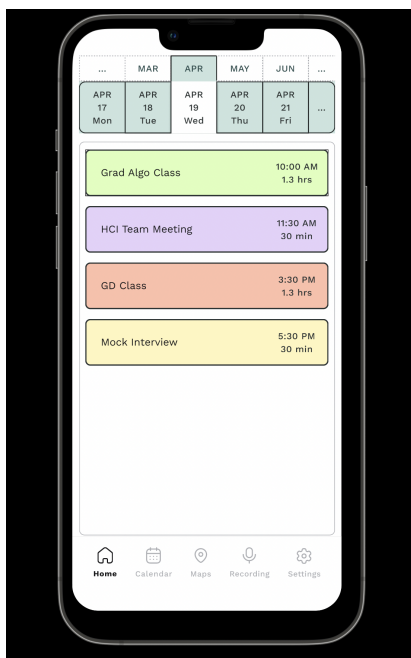


6. In addition to the custom event, they can also add other events to the schedule like with the previous flow.

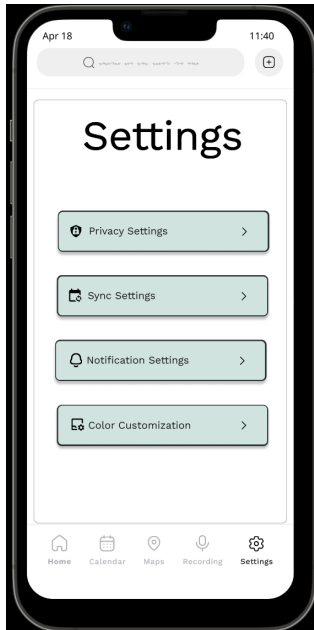


### **Feature 6 (Privacy Settings):**

1. One of the feedback that we received during our poster feedback revolved around privacy. We made sure to address and accommodate for this as privacy is an integral part of any application. On the application home screen, at the bottom the user can see the navigation tabs. The bottom right shows the setting tab. The user can identify which tab they are currently on as it is highlighted and the rest of the tabs are grayed out.



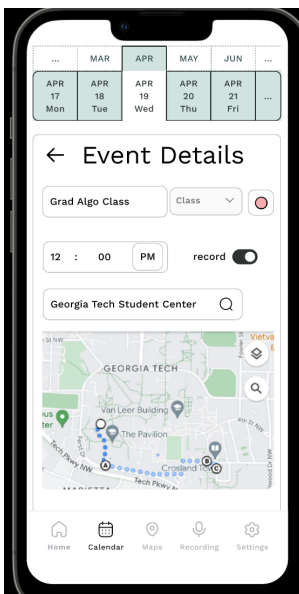
2. On clicking on the settings tab, the user will be able to select a sub-menu item from the settings tab: privacy settings, sync settings, notification settings, and color customization. As required, other setting features can be added here accordingly.



3. On clicking on the privacy tab, few of the features that are shown to the user are as follows. We wanted to build an app that gives complete transparency to the user. The first setting item in privacy is access to the camera. By toggling the access to on, the user grants access to identify new schedule items from the photos the user has. Similarly, access to the microphone can be turned on by sliding the toggle. A thing to note here is that the user can also go to a respective schedule item on the 'Home' tab and give access to specific events only. Furthermore, another menu item on the Privacy screen is allowing for notification to be shown on the lock screen. At times, users might not want to display their schedule notifications on the home screen and this could be managed from here.



4. As discussed above, if the user only wants to give access to recording for a specific schedule item, they can click on a schedule item, and a screen for event details will appear. This will be discussed in detail further, but for privacy the user can choose whether to record this event when it begins using the toggle button, and give permissions or revoke permission accordingly.



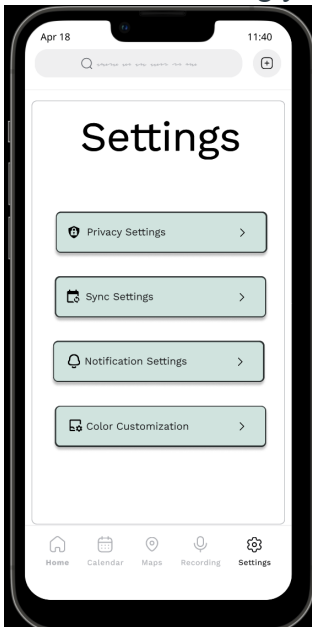
### **Feature 7 (Sync Settings):**

1. One of the pain points of our core stakeholder was the lack of synchronization across various devices that they owned. To address their concern, we made sure to include sync

settings for our users. We started our design approach with a wearable technology such as AR goggles but due to the response we received, we decided to keep our primary device as mobile phone and use watches (which are becoming predominantly common in college students) to illustrate the wearable technology portion for our goal which was making scheduling easier and stress free for Georgia Tech students.



2. On clicking on the settings tab, the user will be able to select a sub-menu item from the settings tab: privacy settings and sync settings. As required, other setting features can be added here accordingly



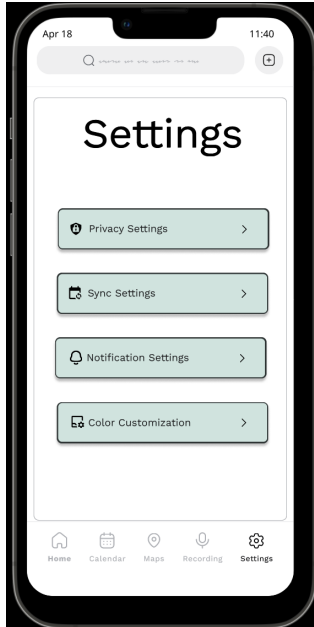


- When the user clicks on the sync sub-menu, few of the menu items are displayed below. An important piece of information that the user should be allowed access to is the devices that have access to their schedule. This helps them identify which devices are currently using their schedule and delete any devices they might not have anymore. All this information is contained under accessibility usage. Auto sync is a feature that the user can decide to turn on for the application to automatically update the changes made to schedule. But if the user does not want this, they will have a manual action of syncing all the devices that will sync the data across all devices when manually clicked. An item not shown in this feature is importing calendar items from other applications. The user will be able to import from other calendars they might not have linked from the same sub-menu.

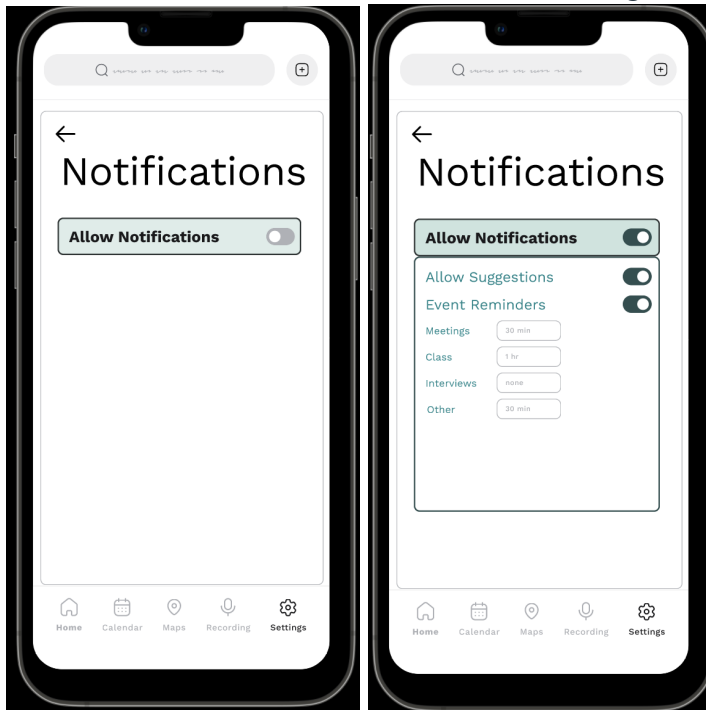


### **Feature 8 (Notification Settings):**

Based on our evaluation feedback as well as the heuristic evaluation, we decided to incorporate a notification setting so that the user can personalize the occurrence of notifications. From the settings screen, the user will be able to press the notifications tab.



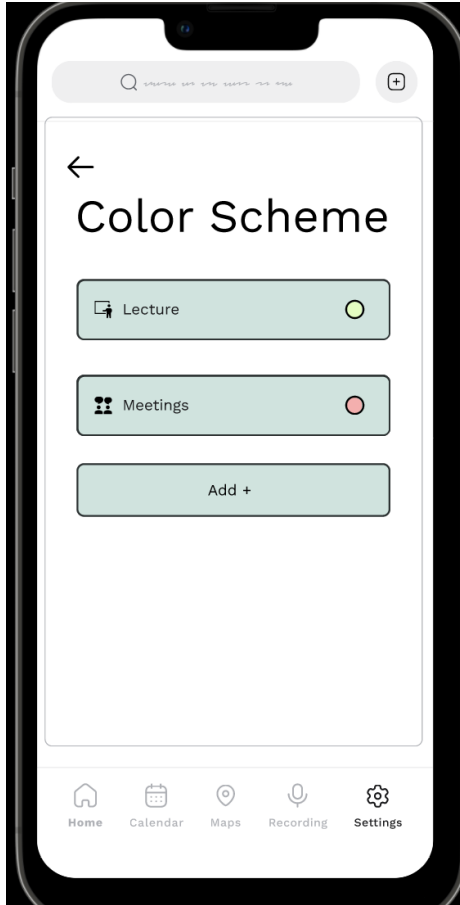
This will then take them to the notification setting screen:



If the user allows notifications, a drop down of settings will appear. This includes: allowing the suggestion notification as well as setting event reminders. The user has the ability to turn each notification off, or customize the notification.

### **Feature 9 (Color Settings):**

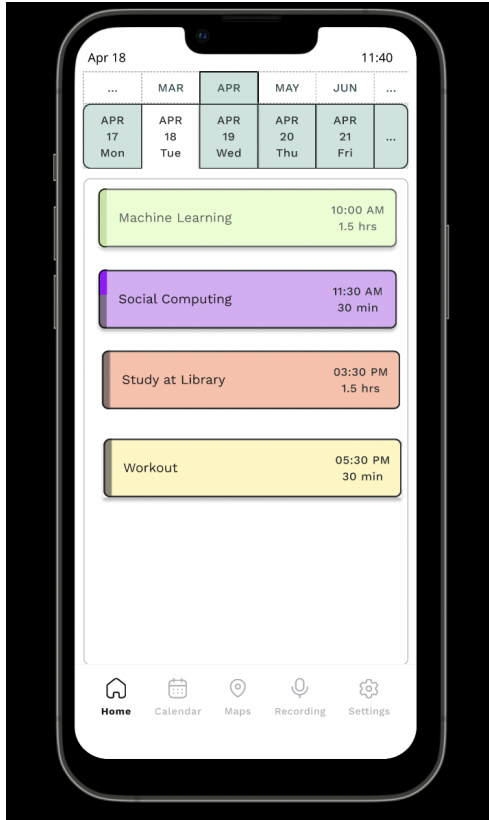
Lastly, in settings is the color customization setting. This was our most popular feedback from the heuristic evaluation, the final evaluation, as well as the studio feedback. In the color customization settings tab, the user will be able to set a color for each type of task as well as add a type of task.



By selecting on the task, the user is then given options for the color of that type of event. The system will then automatically assign that color to that type of task throughout the calendar. For example, the user could add an interview category and assign it the color purple. The user can also edit the color and type of task when editing the task (which will be discussed further later).

#### **Feature 10 (Focus on the ongoing task):**

As per the feedback from our stakeholders, this new feature enhances the readability of application. It comprises of dim effect for completed tasks and a timeline that displays the percentage of task completion. The timeline appears gray for tasks that haven't started yet. This functionality will enable users to easily differentiate between completed, ongoing, and upcoming tasks, enhancing their overall experience.

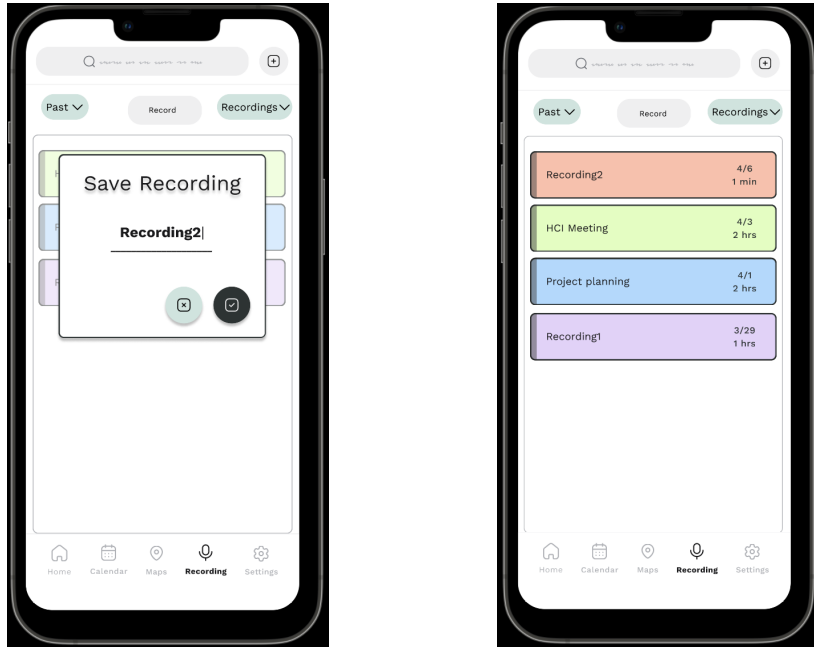


**Feature 11 (recording meetings):**

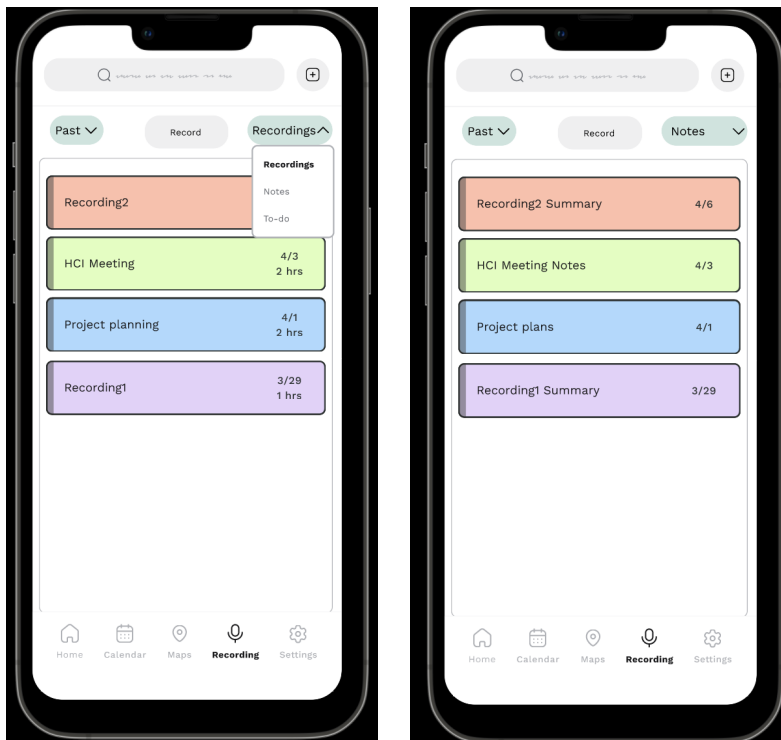
This feature is for the recording meetings, and it is the place where the auto generated notes and to-do list will be created from the recordings. If the user has a meeting that they want to be recorded, the application will automatically begin recording (as shown previously, this is a feature that can be turned off). To show that the meeting is being recorded, the red banner will appear at the top of the application. However, if the user presses record at any time, the app will begin recording.



When the user is done recording, they can press the recording button again, and a pop-up will ask what the recording will be named. If the user does not want to save the recording, they can press the X.

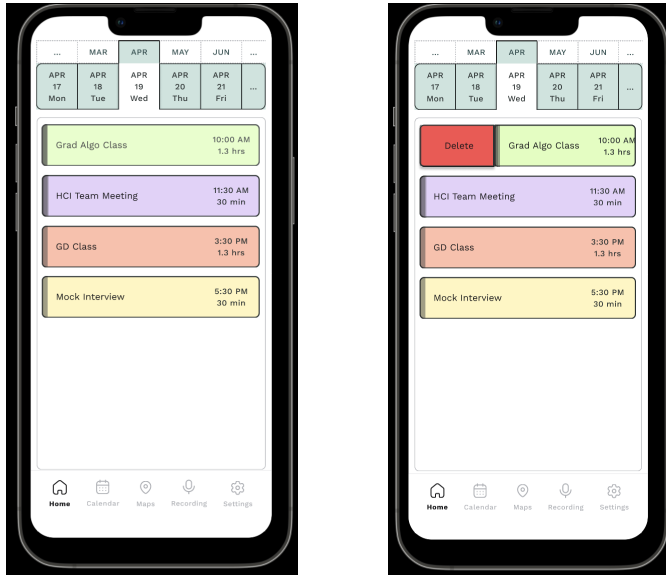


The user can use the pull down at the top right to view options for the recordings, notes, and to-do list. By selecting notes, the user can view notes generated by the AI that processes the recording.



## Feature 12 (editing events/ easy undo):

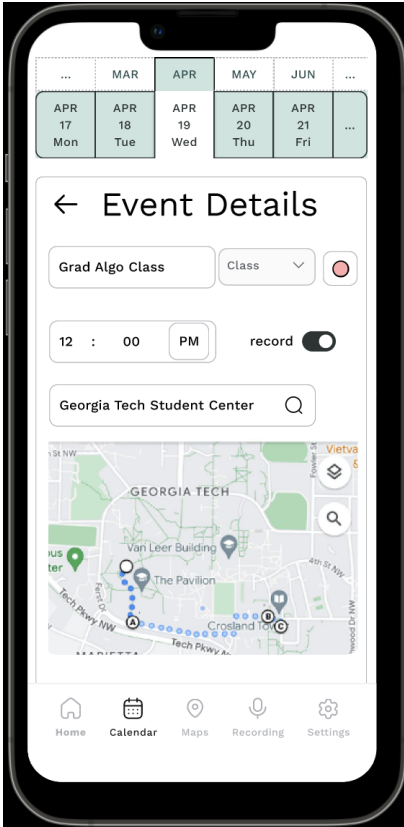
As made obvious in our studio feedback as well as user evaluation, the user needs to be able to easily delete and edit tasks in their list. These features are meant to support these interactions so that the user can undo mistakes. First, if the user swipes right on a task, this is a shortcut for deleting that task.



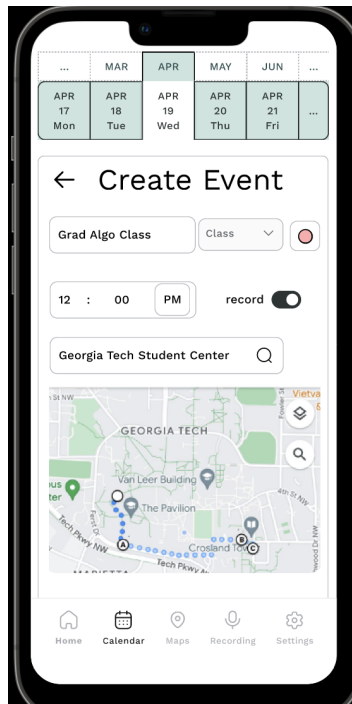
Next, is the press and hold feature, where the user can press and hold a task to enter the edit mode. Once in edit mode, the user can drag and drop any task, click on the time or length to change it, click on the text to rename it, or press the x at the top right to delete the task.



The most major editing feature that we added in response to the final feedback is the ability to click on an event to enter view/ edit mode. By clicking on the event, the user can see the date of that event at the very top, the name, type and color of the event, and other details such as time, recording settings, and location. The user can also easily change or edit these details with this view. This is meant to allow mistakes to be easily fixable, and gives the user a more comprehensive place to view and edit the details of a singular event. There is also a back button (such as the one below) implemented on almost any page that requires the action to be undone.



Additionally, the user can use the + button at the top right of the home page to create a task completely from scratch. When pressing that + button, this screen appears.



The user can create an event from scratch without any intervention of AI if that is easier for their use.

Lastly, the issue of being able to undo actions was addressed. Throughout the prototype, we added back buttons and confirmation messages to reduce the instances of errors. In the case of errors, the back buttons are meant to give the user an easy way to go back on their action. This implementation can be seen throughout the screens on the prototype above.

## Feedback:

### Evaluation feedback

#### AR1

Incorporate bus timing - **We did not see this feature as necessary in this stage of the prototype. We agree that this would help the user, but it does not enforce our primary goal of helping the user schedule and organize their day. For this reason, we did not implement this in the prototype.**

Importing calendar conflicts - **We added this feature into feature 3 where conflicting events will give the user a warning, but it is possible to have overlapping events. When initially setting up the app, if there are conflicting events they will both appear on the home screen and the user can decide which to keep.**



Customizing app colors - **This issue was addressed in feature 9. We created a setting for color customization where the user can assign certain colors to different kinds of tasks on the map.**

DA1

Adding meetings back to original apps - **Our calendar does not add meetings back to the original calendar since our calendar grabs data from the other sources and not the other way around. This could be an extension of the app, but for our purposes and goals, this is not necessary at this stage.**

DA2

Having a user account - **The user does have an account since they sync their apps with the account. This is personal and only they can access those calendars.**

Making single dial for data and month - **We changed our presentation of month and day to our current style because of this feedback:**

Mon	Tue	Wed	Thu	Fri	...
-----	-----	-----	-----	-----	-----

The dates were displayed as static text near the days of the week. Based on this feedback, we changed it to:

...	MAR	APR	MAY	JUN	...
APR 17 Mon	APR 18 Tue	APR 19 Wed	APR 20 Thu	APR 21 Fri	...

Customize notifications - **We created notifications settings in the settings tab as shown by feature 8. The user can now change the ability to be notified as well as the frequency of the notifications.**

PP1

Adding time bar to show completion - **We implemented this feedback as shown in feature 10. A progress bar on the tasks shows what has been completed, and what is in progress to help the user focus on unfinished tasks.**

KJ1

Clicking out of mistakes - **We implemented back arrows in almost any scenario that we could, and when that was not possible, we added a confirmation message to make sure the user knew what they were confirming. This is to help reduce errors and minimize impact of mistakes.**

Create an editing task screen - **We created a way to easily edit the task by tapping on the event in the calendar. This feature is shown in feature 12. This gives the event details and editing screen all in one, easily accessible screen.**

Create a task without any additional input - **This feature is also shown in feature 12. The user is able to click the + button at the top right of the screen to create a new event. This does not give the user any input and allows the user free control of creating the event.**

Studio Feedback

Feedback	Response
Love the whole idea of the prototype. I really like the UI design of your prototype. I would love that the color scheme could be more consistent.	We created a customization setting within settings so that the user can set the color scheme to their preferences. This can be seen in <b>feature 9</b> .
Location scheduling is great! It would be nice to include travel history in regard to every participant's location. The prototype is really well made. The color scheme could be better if you use more contrasting color for the delete button. It would also be nice to have more error preventing functions, such as undo buttons.	We do not think the value of adding travel history in this prototype would help achieve our original goals, but in the future, this might add to the overall app experience in terms of personalization. We have also added more undo buttons for these functionalities in feature 12 and any screen that allows for a back button.
Love the detailed prototype screens and the watch interface. Very high interactivity and well done. The location scheduler is something unique and useful especially for the user group of Tech students. How is the color coding done on the schedule items? Currently do not see an option on customizing item colors, an option for user to customize would be good. Also more intuitive and methods for undoing actions for mistakes prevention would be good.	We implemented a way to customize the colors based on preferences, and also implemented into functionalities, seen in features 9 and 12.
I think this application has a lot of potential and I'm excited to see what else you add to the features!	
i like the ui and nice presentation. i wonder if there is like an rollback / undo item features in the prototype	We have implemented the undo actions for these features as discussed in feature 12..
Very well-structured screens and especially liked the watch interface. Sounds like there are many features, so I think a tutorial that everyone can easily follow should be provided. What is the color coding scheme?	We added a color customization setting (feature 9).

<p>How will modified or deleted meetings be updated? Also, I agree with some of the actions/gestures suggested from the Think Aloud to make it more in line with industry standards. I do think the changes to the colors and notifications are a good change, curious to see how that will look like.</p>	<p>Modified or deleted meetings are automatically deleted from the calendar since this calendar is in sync with the others. We have updated the prototype to include the notifications and color settings (features 8 and 9).</p>
<p>I like the UI of the application, and think the location feature is definitely unique compared to other scheduling abilities. One thing I would add is that I think a web application would be helpful here, allowing to visualize calendars on a bigger screen. I agree that it'd be cool if you could edit the colors of the items on the schedule based on categories - I think having customizable colors is the best option to approach that. Also, for adding/deleting meetings - does this update the outlook (or whatever other connected calendar) as well? Allowing for connection to google calendar would also be helpful, since I personally use it more.</p>	<p>This app is synced across all devices, but we developed the watch and the phone application in order to promote mobility in scheduling. We have added the color customization tool (feature 9). Deleting meetings would not update on outlook as well since the calendar pulls data from outlook and not the other way around. Deleting on outlook would be outside of our current scope.</p>
<p>Not always clear how to change items such as schedule items, recordings, etc.. Although I can see that the functionality exists, it's not always intuitive how to edit/add/delete these items.</p> <p>Do you plan on building a screen recorder into the app or some other kind of meeting recorder? Seems to be a much larger undertaking that's not an important part of schedule management. Additionally, it would require a ton of space and additional complexity.</p>	<p>The recording is only a voice recording that can summarize notes and suggest further task creation. This is not intended to capture visuals.</p>
<p>I like the location scheduling feature- it's great for filling gaps in your schedule based on your preferences. Is there an undo for deleting items? Does adding or deleting items change this on other platforms too (like canvas/ outlook)? How does this work if it's a shared calendar like canvas? I was confused about the colors as well so I think adding color categories is a good idea.</p>	<p>We have added undo functionality for these features (discussed in feature 12). It does not affect other platforms.</p>

<p>I really like the location scheduling feature -- I do not believe that current applications account for travel time which may be helpful for people who do not know the distances between places well / new areas. I like idea to include customizable colors rather than predefined colors. The conflict detection is a good idea. I have an apple watch and it's very easy to accidentally hit a button. Perhaps an undo button (that eventually goes away automatically) after accepting or not accepting the event would be helpful</p>	<p>We have changed the apple watch interface so that pressing on a task automatically takes the user to the edit screen where there is an obvious delete button. This was the easiest way we could think of to allow quick access to editing on the watch that is not overwhelming.</p>
<ol style="list-style-type: none"> <li>1. I really like the thorough prototype, including the accepting policies for the canvas.</li> <li>2. I love the integration of the map feature into the task management app. I like that this app integrates multiple features, but I think it is also important not to crowd too many features, as people might become overwhelmed.</li> <li>3. In terms of color, I think it could use more contrasting colors. The delete feature is intuitive.</li> <li>4. Recording might not be necessary since each phone has a recording app that has a shortcut.</li> </ol>	<p>The recording feature uses AI to process the information. This is not simply a recording tool, it is a way for the system to create notes and additional tasks within the app. The colors are now customizable in the settings. Since this is the first time that someone has said the feature might be overwhelming, we did not address this note.</p>
<p>I really like the UI and interactions you show in your prototype. How do you plan to differentiate your product from other task tracker platforms? What exactly does connecting to Outlook mean - is it connecting to your email or connecting to your Outlook calendar?</p>	<p>Our platform integrates all calendars, offers shortcuts for planning the day, and uses AI to process meetings. From these aspects it is different from other task tracker platforms. It is connecting to the outlook calendar and adding those events to our calendar.</p>
<p>The location scheduling is such a cool idea! And your prototype is very well-organized already, with so many different capabilities. Custom color coding is a great way to improve user freedom for better organization.</p>	<p>We added the custom color coding in settings.</p>

## **Process Book**

### **Motivation**

#### **Research Problem:**

Our aim is to investigate and develop an effective solution that addresses the needs of college students in terms of managing/ consolidating their schedules and reducing stress levels.

#### **Goals:**

Goal 1: Increase accessibility by customizing the number and style of tools that students use to organize their work and ensuring all education-related information is readily available.

Goal 2: Assist students in planning their day by taking into consideration information on times and locations.

Goal 3: Mitigate instances of missed deadlines, late arrivals to classes, and overloading by taking student preferences into consideration, as sometimes being late or requesting an extension on a deadline can be a necessary strategy.

### **Overview**

When we consider a Georgia Tech student, scheduling is an important aspect of their life as it assists with time management, goal accomplishment and balancing a healthy work-life balance. Moreover, it also impacts their all-round development. During the initial stages in a student's college journey, they are still getting accustomed to building their habits, priorities and routines. This is why having a properly planned and organized schedule can help students who are our core stakeholders in developing positive habits and working efficiently. To add on to this, students face challenges such as managing heavy workloads during semester along with handling their academic and extracurricular activities and navigating the social dynamics of the peer group. Designing and building a solution that alleviates these pain points along with inculcating better habits of creating and adhering to a schedule can assist students in facing these challenges and fosters their overall well-being.

As mentioned above, this was our primary reasoning behind choosing students as our core stakeholders. We will further categorize them according to their status as a commuter,

whether they are employed as a teaching or research assistant (GTA/GRA), their daily activities and more. As learnt in the class, our secondary stakeholders will be professors and teaching assistants as they play a vital role in the life of our primary stakeholders. Through the use of interviews followed by contextual inquiries and a follow up interview regarding our high fidelity prototype, we were able to drill down and identify the overarching pain points that currently exist for Georgia Tech students. Identifying these pain points helped us come up with design features for our prototypes along with the goals that we have mentioned above.

### **Empathize - Amruta & Disha**

~~Reflect on how your team structured survey and/or interview questions to investigate the research questions/goals.~~

- ~~● List at least three survey/interview questions that elicited insightful answers and explain "why" those were the good questions. - Amruta~~
- ~~● List questions that failed to elicit answers relevant to your research goals. Explain why those were NOT good questions and how you would change the questions. - Disha~~

Below are the interview questions that we used as a guide to understand from our core stakeholders the pain points that they face with regard to scheduling.

### **Interview Questions List:**

1. What does a typical college day look like for you?
2. Do you create a plan for the day? If yes, How?
  - a. Do you have a to-do list?
3. What tools do you need to effectively plan assignments/ tasks
4. What notes or online platforms do you reference to plan your day (where do you view your assignments, tasks to do that day)
5. What would make gathering that information easier
  - a. Would you prefer it if this information was decentralized or would you like to have it all in one place?
  - b. OR In what format would you like to consume this information?
6. Do you use any planner apps?
7. Which platforms do you use to track your assignments and deadlines?
8. What design features of current apps do you appreciate or use often?

9. Are there difficulties with the current layout of planning apps?
10. What frustrations do you encounter when organizing your tasks
11. Which platforms do you use to track your assignments and deadlines?
12. How often do you use canvas and what do you like/ dislike about it?
13. Which platforms do you use to communicate with your professors?
14. Are there benefits to using different platforms for communication?
15. Does communication (with professors or peers) affect your planning or ability to plan?
16. Does your current location affect how you plan or schedule? (ie. library, home, lab, etc)

Supplementing this questionnaire, we made sure to inquire with follow-up questions to gain better insights about our interviewees scheduling habits. Also, contextual inquiry was conducted with each participant to gain a deeper understanding and examine in more detail the scheduling practices and preferences of the students. We received feedback on the first milestone stating that we need to provide more clarity in our reasoning for selecting contextual inquiry as our mode of communication. By using contextual inquiry, we are able to observe the detailed planning steps of students, which they may forget to mention in a survey. During the interview, we requested the interviewee to walk us through the sequence of steps they follow to collect assignments that are due on a weekly or daily basis, based on their responses to our initial questions. We also delved deeper into the various platforms and applications they use for scheduling, and examined their approach to contacting faculty and staff. These inquiries allowed us to gain a better understanding of the subtleties that may not be evident in their interview responses but can be observed through their actions. Amruta's inquiry revealed a preference for using the Canvas web application instead of the mobile app. In Disha's two interviews, we learned that students rely on sticky notes and Notion to stay organized, and that navigating through different discussion platforms on Canvas can be challenging, making it difficult to keep track of all assignments. Pooja's contextual inquiry presented a different situation, where the mobile app was preferred for Canvas, and students appreciated the partial To-Do list, which eliminated the need to search for assignments. In Katie's inquiry, we discovered that Canvas calendars are not easily customizable to meet students' needs, highlighting issues with accessibility. These findings contributed to our understanding of the broader goals we discussed earlier.

One of the questions that assisted us in understanding the pain points of our core stakeholders was ‘What design features of current apps do you appreciate or use often?’. Through this question we were able to identify which features are a success and the reasoning behind how they assist students to schedule their day. Similarly, a follow up question to above, ‘Are there difficulties with the current layout of planning apps?’ helped us identify a list of features that could be designed and implemented in our high fidelity prototype as our main goal is also to alleviate stress for college students. Lastly, the contextual inquiry portion of our interview gave us a deep insight into the features that students appreciate in a scheduling application and their frustration with other features. These could not be explained through face to face communication but rather needed to have a contextual inquiry to understand it better. In such a way, along with the above paragraph detailing the responses we received, these were the top three interview questions that encouraged us to design and implement a scheduling application that took into context the pain points of college students.

While these questions gave us insights into the user’s problems there were some questions that did not add much to our understanding of the user’s struggles. One of them was ‘Does communication (with professors or peers) affect your planning or ability to plan?’ This question did not give us many insights on how to solve the problem of forgetting to note down meetings from conversations. A lot of the info that led us to communication-based planning came from the second question about how they create a plan for the day, the tenth question about frustrations, and the contextual inquiry. This question just added redundant data to the interview script. Another such question was the one about likes and dislikes of working with Canvas. Most of our interviewees had the same pattern of checking information on canvas and then noting it down on other platforms. As canvas isn’t an application meant to help with planning, it did not really give us any insight on how to help. The contextual inquiry showed us how students usually use canvas. Lastly, the question ‘Are there difficulties with the current layout of planning apps?’ gave us very little data. This question would usually lead the user down an imaginative path where they would ask for features or things unrelated to planning - like note-making. Furthermore, this question had the same answers as the tenth question about frustrations. Even though these questions did not give us any new insights, they helped us ensure that we had received all the data from the user through repeated answers which usually means that we have received all the information the user has.



## **Define the Problem - Amruta**

### **Pain points discovered during the user research:**

#### 1. Centralizing notes and resources:

Our research into the experience of college students revealed a common frustration - the lack of a centralized platform for viewing notes and assignment information. During her interview with a student (DA1), Disha discovered that the student expressed frustration regarding the lack of accessibility, stating that "due to different email ids, some things don't get added to my other calendar." This highlights one of the potential challenges that students may encounter. Likewise, a student (KJ1) whom Katelyn interviewed expanded on this idea and commented, "If that was integrated into the planning platform I'm using, it would automatically add events from my calendar or the Canvas calendar to my to-do list, so that I don't have to worry about forgetting something or misreading it." This underscores the convenience of consolidating all information in a single location for students.

It became clear that students were required to access multiple platforms for each course, such as Ed Discussion and Piazza, leading to missed deadlines and incomplete assignments. This prompted us to consider a key feature for a new platform - consolidation of all relevant information onto one interface. In addition to the need for a one-stop platform, students also expressed concerns about synchronization across multiple devices. They often reported discrepancies in their schedules, sometimes resulting in missed deadlines or attendance at incorrect classes. All our low fidelity and high fidelity prototypes shared a common goal - to create a centralized platform that provided easy access to all course-related information. We sought to integrate features that would allow students to seamlessly access and sync information across all their devices, ensuring that they never missed an important assignment or updated schedule. Our research revealed that the need for a centralized platform was the most frequent user complaint. Through feedback from students and careful consideration of their needs, we sought to create a platform that streamlined the student experience and provided easy access to all course-related information. We remain committed to designing innovative solutions that meet the ever-changing needs of students in a fast-paced academic environment.

#### **Evidence (Persona):**



**Bella Johnson**  
**Social**  
 "Planning allows me to have more time with friends."

Primary stakeholder

<p><b>Bio &amp; Demographics</b></p> <p>Bella is 20 years old college student and lives on campus at her sorority house. Bella is an undergraduate student studying Biology.</p>	<p><b>Behaviors</b></p> <p>Bella spends the majority of her time doing extracurricular activities outside of school. Most of these include philanthropy events or other events with greek life. In addition to this, she takes school very seriously. She makes sure to prioritize her assignments and grades.</p>
<p><b>Goals</b></p> <p>Bella's primary goal is to make sure her week is structured so that she can both invest in her community and friends and succeed in school. She hopes to follow her daily schedule so that she can balance her time between academics and extracurricular activities. She also strives to be organized in order to remember all her commitments.</p>	<p><b>Pain points</b></p> <p>Often, her plans are made through various different apps used for communication. There are groups in groupme, slack, discord, and text groups. It is easy to miss plans or notifications.</p> <p>She also has trouble coordinating availability with friends.</p>

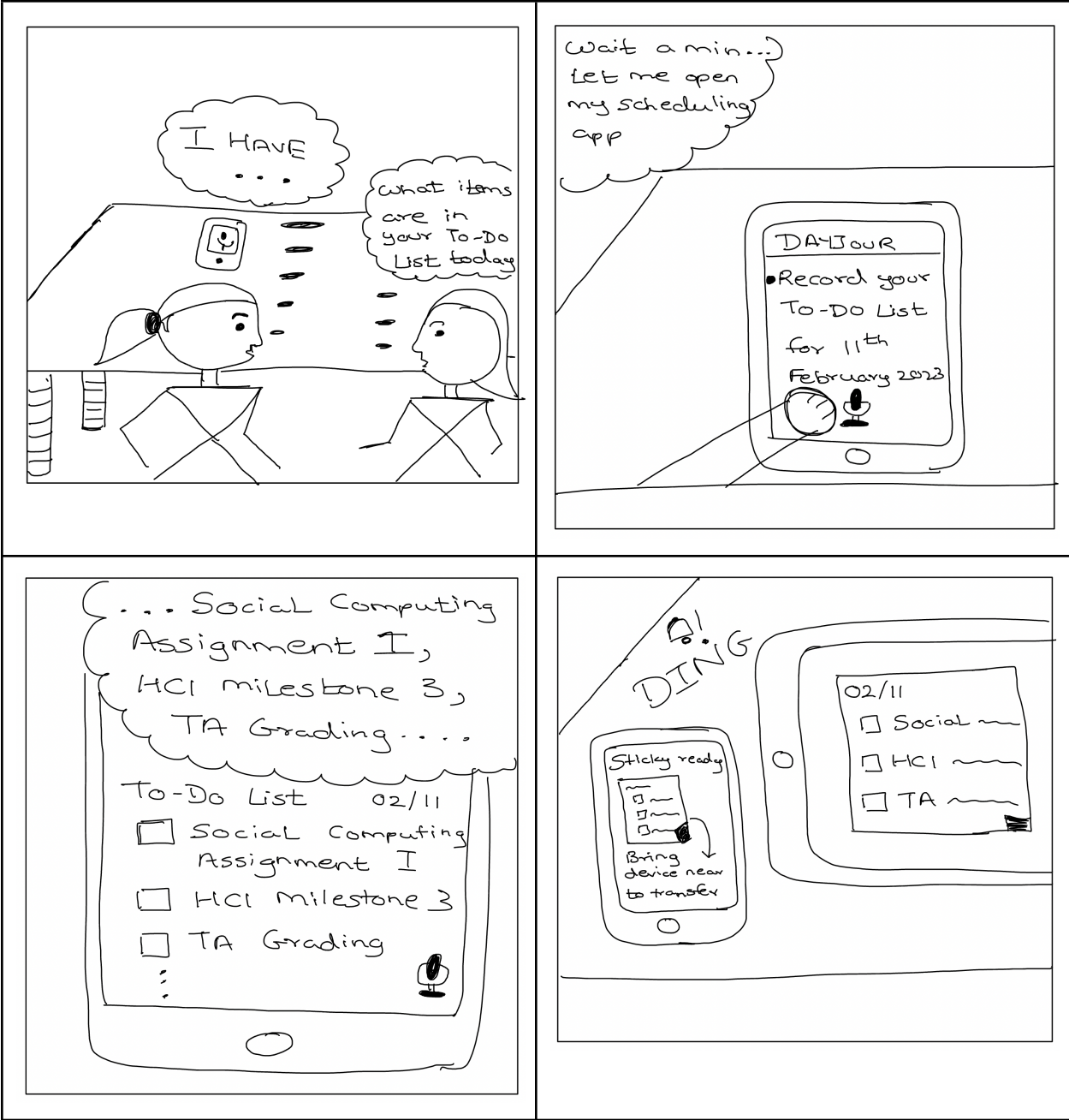
2. Considering the various locations that students visit in their daily lives and the different time slots that they schedule their activities:

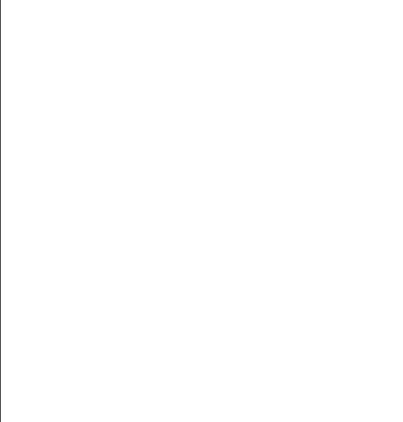
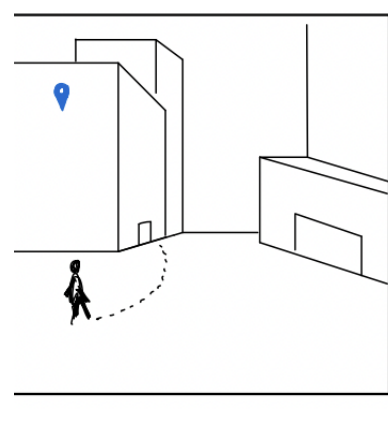
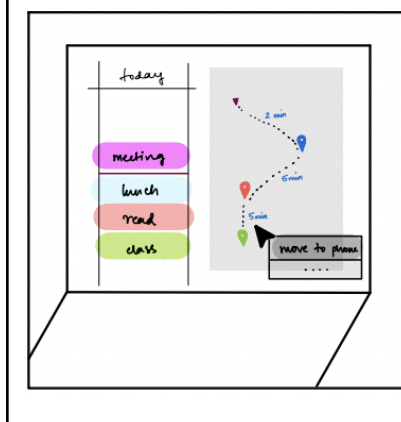
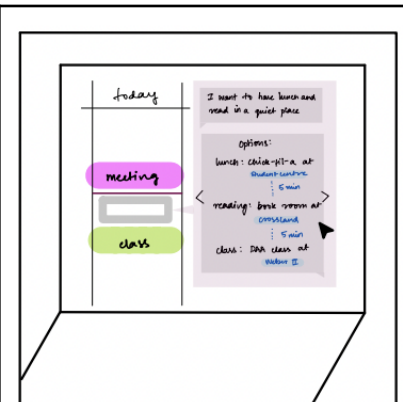
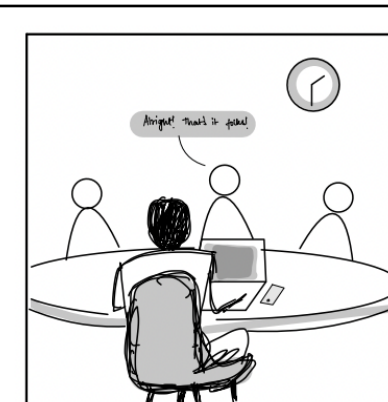
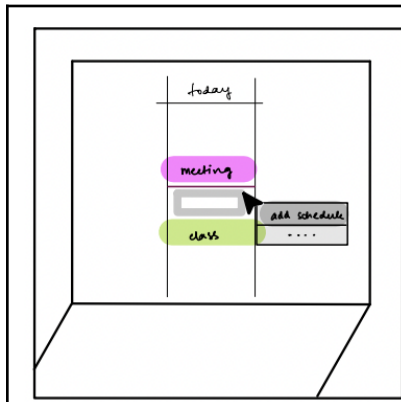
A student (AR1) that Amruta interviewed mentioned that he plans his week every Sunday, stating that "I plan my entire week on Sunday, and I stick to the plan most of the time. But if there is anything out of the ordinary that I have to do, like an emergency, that will be added to the to-do list at that time," suggesting that, for this student, the most suitable time and location to organize their to-do list is at home, once a week. Our inquiries revealed that students often use locations such as their homes, libraries, student centers, and labs to plan their schedules. This insight helped us understand why certain locations and their environments can assist students in feeling more comfortable with the often daunting task of planning. In support of this, a student (PP1) whom Pooja interviewed noted that "Sometimes, if the library is loud, I go to the quiet rooms to plan my to-do list. But mostly, planning my to-do list in the comfort of my home, either in the morning before I start working on my assignments or at night just before I sleep, is my most preferred time and location for scheduling," which indicates that students' comfort is a crucial factor in consolidating their schedules.

**Evidence (Scenario and Low-fidelity Prototypes from Milestone 3):**

Scenario 1 that we mentioned in the previous milestones covered this pain point. Based on our research, we found that students feel most comfortable and relaxed creating their schedules from the comfort of their own homes. However, we also discovered that carving out dedicated time to create a schedule can be challenging. Through our solutions, we wanted to create a way to make organized schedules easy. This means that a student does not have to create time specifically for planning and scheduling. The prototype that we devised was on similar lines to a text-to-speech application. These technologies allow users to easily navigate through different locations and provide a more immersive experience.

Additionally, utilizing downtime or periods when students are not engaged in academic work can contribute to a more efficient planning system without interfering with their allotted time for completing assignments and projects. The text-to-speech assistant which supports the functionality of remote scheduling can also facilitate multitasking. Prototype 1, Prototype 2, Prototype 4, Prototype 8, Prototype 10, Prototype 11 were constructed from this scenario in mind. Some examples of these are provided below.







3. Incorporate buffer time in scheduling to prevent missed deadlines or overloading:

During our interviews, a student (AR1) mentioned that they dislike the constant bombardment of emails about assignments in Canvas, highlighting it as one of the platform's drawbacks. Other interviewees also identified several limitations of Canvas, including a lack of notification for upcoming assignments (AR1, DA1, PP1), inadequate calendar functions that don't display a student's available times

during the day (DA1), and the platform not serving as a comprehensive application for all of a student's academic needs (KJ1, PP1).

**Evidence (Persona):**



**George Burdell**  
**focused**  
 "Failing to plan is planning to fail"

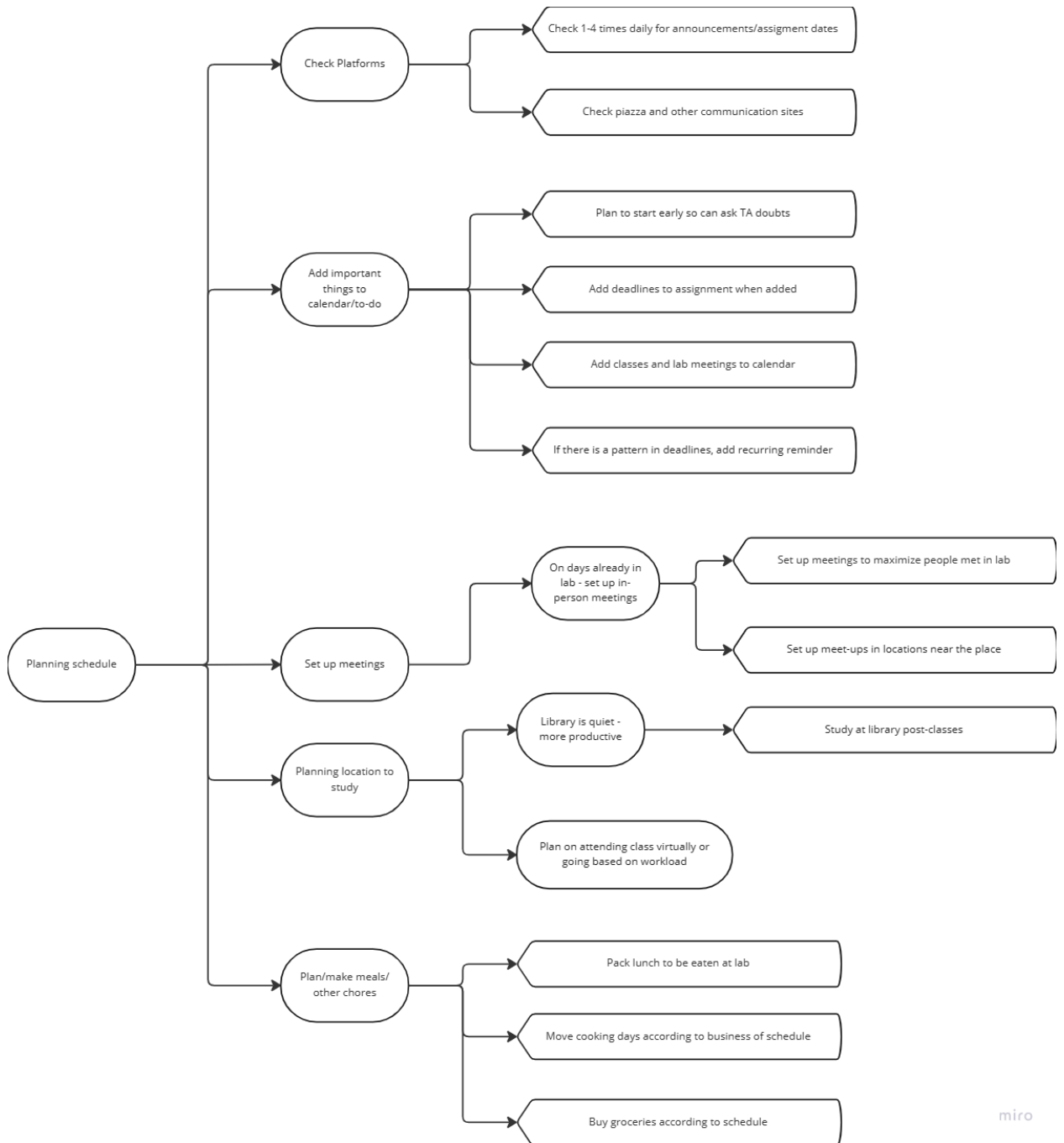
Primary stakeholder

<p><b>Bio &amp; Demographics</b></p> <p>George is a 21 year old college student at Georgia Tech who is taking 14 credit hours and works as a research assistant.</p>	<p><b>Behaviors</b></p> <p>George studies 4 courses per semester, stays off-campus. He cooks and eats at home and works in a research lab. He likes working out at night and studying in the library. George tends to schedule each event of his day. He is very particular about time management and planning.</p>
<p><b>Goals</b></p> <p>George's goals are to adhere to creating a schedule at the start of each day/week to be aware of any upcoming deadlines. The primary goal for George is to be manage his schedule better and keeps track of his activities in a given day /week</p>	<p><b>Pain points</b></p> <p>His research lab decides its weekly meeting the day before, he often misses lunch or gets late to the meeting if there is a class before it.</p> <p>He likes to plan ahead but changing schedules throw him off track.</p>

4. Social Calendar:

Many students complain about finding a way to include social time into their schedule and calendar. Students are very busy with classes and group meetings at all different times of the day. It is difficult for students to coordinate free time with their friends because of inconsistent events for both people throughout the day. With the prototype mentioned below in evidence, there is a solution to this issue. Abby is trying to schedule a time to catch up with Kate. Using the social calendar, Abby becomes friends with Kate, and is able to view Kate's schedule. The calendar fills in Kate's activities over Abby's to highlight what times are available for both of them. Abby is then able to request a date and time on Kate's calendar. She can also request to edit/ change existing events between them, or delete events. This calendar has included all events from each of the calendars that are used by each of them, and they are instantly able to create time for one another without the hassle of guessing a time that might work for both of them.

**Evidence (Task Analysis and Low-fidelity Prototype):**



# my calendar

calendars

mine

Jamie

sam

Luke

John

Kate

search...?

sun	mon	Tues	wed	Thurs	Fri	Sat

- edit
- add
- remove
- .....

# Jamie's calendar

calendars

mine

Jamie

sam

Luke

John

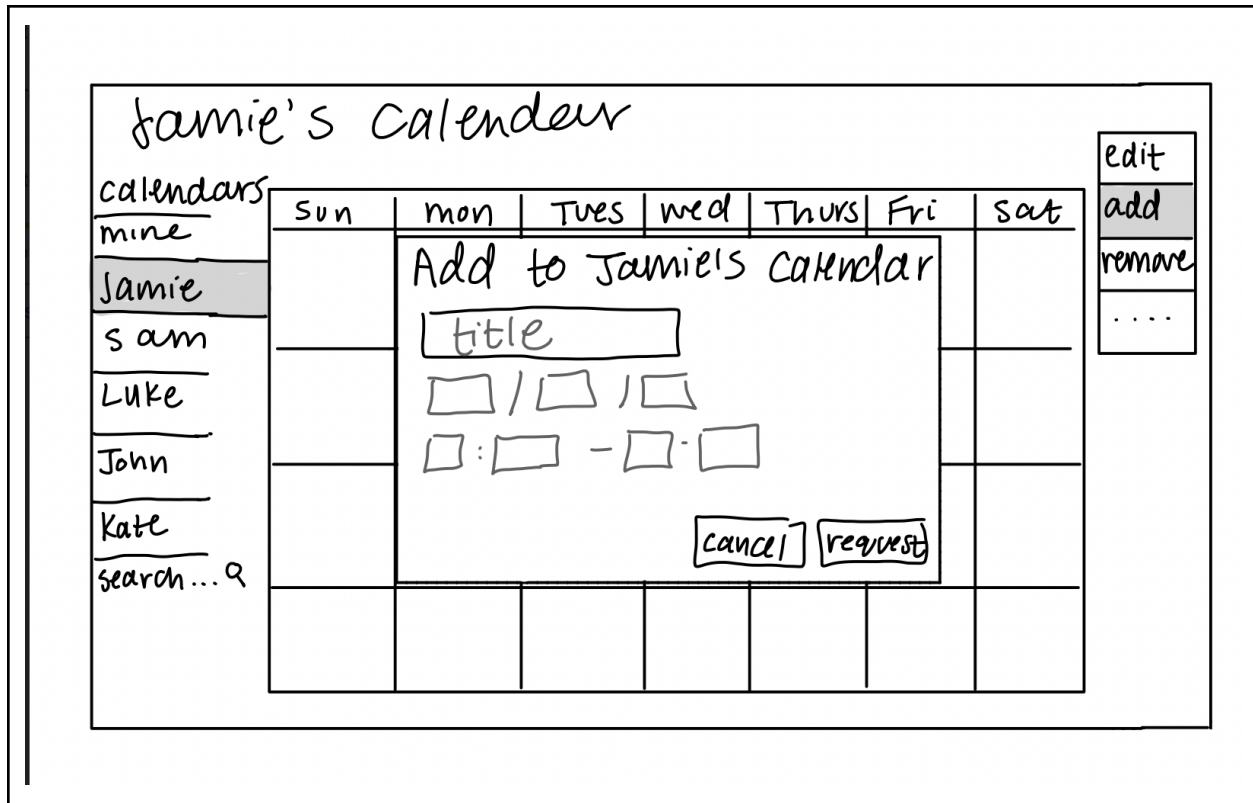
Kate

search...?

sun	mon	Tues	wed	Thurs	Fri	Sat

- edit
- add
- remove
- .....





### Prototype - 1st Iteration Process - Pooja

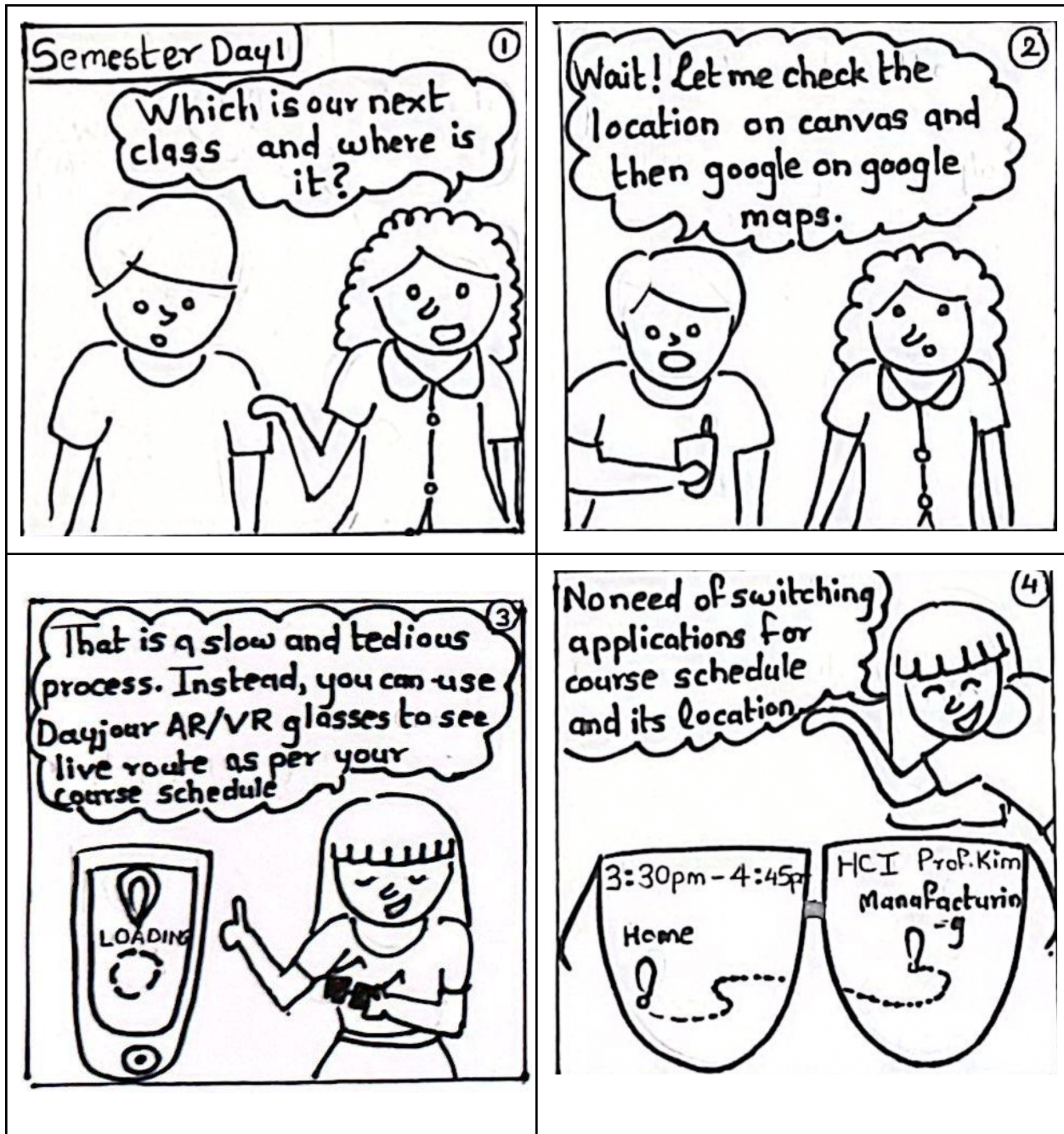
Explain your prototype design rationale and iteration process:

- Include the screenshots of your top three **low-fidelity prototypes** and add a brief description about how each feature of your prototype was specifically designed to address users' pain points.

Based on the user pain points and current innovative technology our top three low-fidelity prototypes were as follows: Pooja

#### A. AR glasses

One of our top three prototypes is illustrated by the narrative of two Georgia Tech students who are employing Canvas and Google Maps to find their class. During their search on Google Maps, they come across a fellow student who is seamlessly maneuvering around the campus by utilizing AR/VR glasses, without the need to switch between different applications. This prototype was regarded as one of our top three choice due to its novelty, innovative idea and enhanced usability.



## B. Digital Calendar

Our second choice for low fidelity prototypes was a social calendar. This social calendar is a form of social media where friends can find each other and connect. Friends can see each other's calendars and request to add events to others calendars. This makes coordinating times with friends much easier. We chose this prototype as it was something unique and which connected the users efficiently.

# my calendar

calendars

mine

Jamie

sam

Luke

John

Kate

search...?

sun	mon	Tues	wed	Thurs	Fri	Sat

- edit
- add
- remove
- .....

# Jamie's calendar

calendars

mine

Jamie

sam

Luke

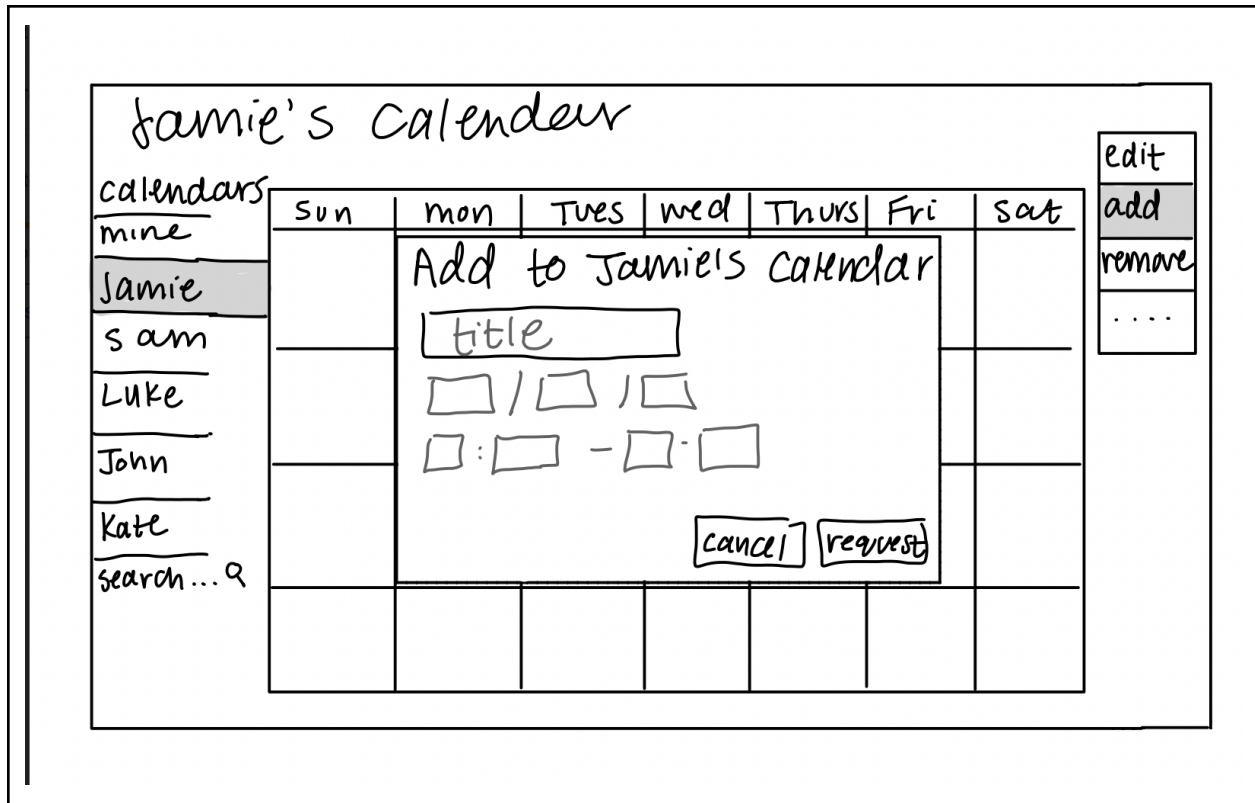
John

Kate

search...?

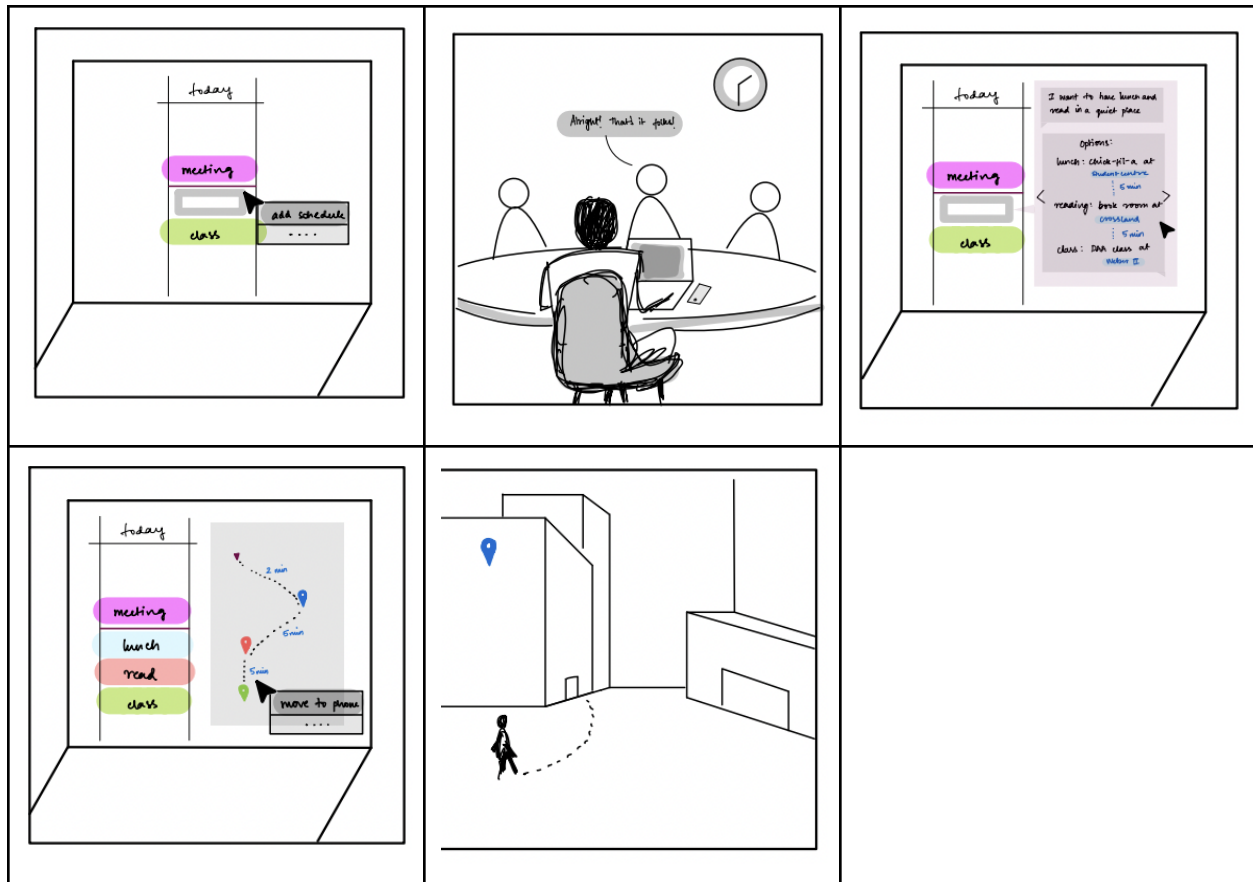
sun	mon	Tues	wed	Thurs	Fri	Sat

- edit
- add
- remove
- .....



### C. A Location Aware Planning App

Our third low fidelity prototype was location aware planning app. This prototype allowed the user to select free periods of time, choose what kind of activity they would like to do and have the app suggest the nearest and quickest ways to do it. In the example, the user wants to have lunch and then study for a bit before the next class. The app automatically looks up the nearest places to have lunch and looks for quiet places to study. We also intend for the app to understand user preferences - like if they prefer to read in a library or at home and so on. The reason for selecting this prototype was the wide availability of mobile devices, user convenience, and familiarity with the type of technology or device being used.

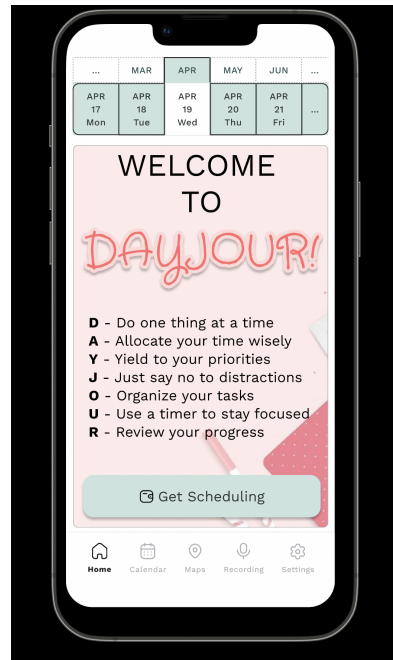


Amongst the three low fidelity prototypes, we finalized AR glasses as our first prototype during the first iteration. One possible reason for selecting AR glasses was the unique and innovative interface it offered which could differentiate our product in the market from other similar offerings. Another factor that contributed to the selection of the AR glasses prototype was its convenience, as users could easily use them while on the move. Moreover, we thought that AR glasses might engage and excite users due to the novelty of technology and the ability to offer unique features or experiences as compared to Social calendar and Mobile based location aware planning app.

After receiving feedback, we made changes to our prototype and developed a new version that users found easy to use and understand. The revised prototype was a scheduling app that combined all the features of the previously selected prototypes, and was cost-efficient due to its mobile-based design, taking advantage of the ubiquity of mobile devices. The app's interface was designed to be clear and uncluttered, making it easy for users to view their schedules. Additionally, privacy concerns were more efficiently addressed through the use of a mobile app. Feedback about users' discomfort with using AR glasses also contributed to the decision to develop the scheduling app as the revised prototype.

**Feature 1 (First time import from other educational platforms or calendars):**

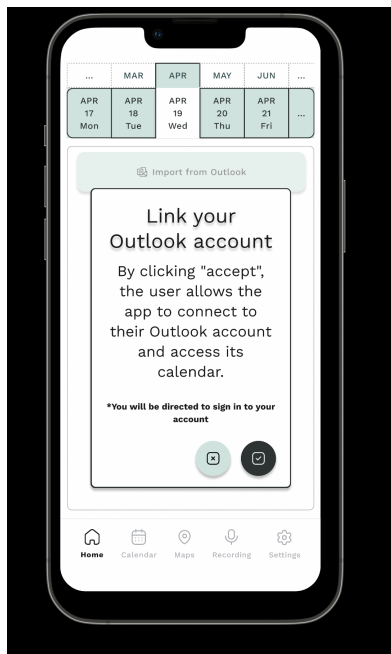
1. Welcome pageThe first time that a user accesses *DayJour*, they will be greeted with the following screenshot. To engage the users and to remind them of the app's goal, we have created goals for each letter of *DayJour*. As this is the first time the user is accessing the app, they will be presented with a 'Get Scheduling' button as indicated below. Upon clicking on it, the user will be directed to step 2.



2. The user will then be given two options (as of now) to import their existing calendars from Outlook or Canvas. In the future, we aim to add more import options here as from Apple Calendar, Notion, OneNote and more. For prototype purposes, we have shown from Outlook and Canvas. One of the pain points of our core stakeholders was having multiple calendars and the confusion that stemmed from it. To address this, we have included this feature where *DayJour* becomes a one-stop place for all their scheduling needs.

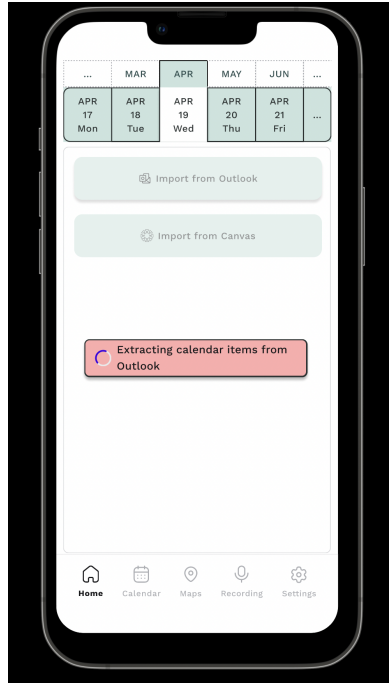


- a. If the user clicks on 'Import from Outlook', a pop-up will be visible. The pop-up details that upon accepting the terms and conditions, their Outlook account will be linked to the *DayJour* app for continuous integration of any events that might be added to this app. As per the privacy concerns, that was one of the themes of our feedback, the user will always be given an option of accepting or rejecting linking their account.



1. If the user accepts the conditions, the main part of the page will be grayed a little and a progress bar pop-up will be shown to the user. The user won't be able to change tabs or click outside the pop-up and this is why the main

part of the page is grayed out. According to Nielsen Normans 10 design heuristic, visibility of the system is one of the design features. To account for this, we made sure to display a progress bar and a brief explanation of the process happening behind the scenes.



2. Once the calendar items have been extracted and populated accordingly, a Success popup is displayed to the user. This helps the user understand that the action that was being performed was completed successfully.



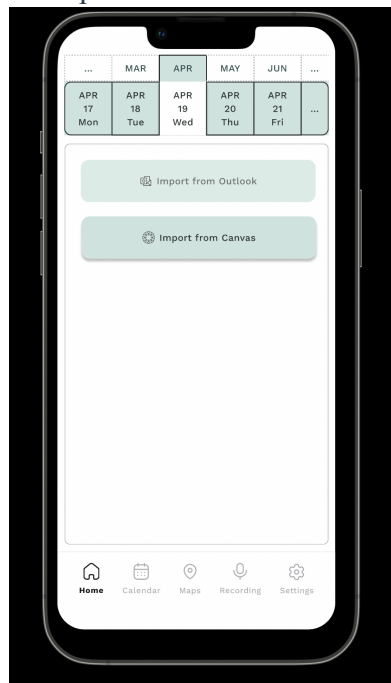
3. Clicking on the cross sign on the pop-up above will redirect the user to the current day's schedule. In the following screenshot, we can see that 4



schedule items were populated from the Outlook calendar. The top two slidebars of the application allow user easy control over changing month and day for the user to view their schedule.

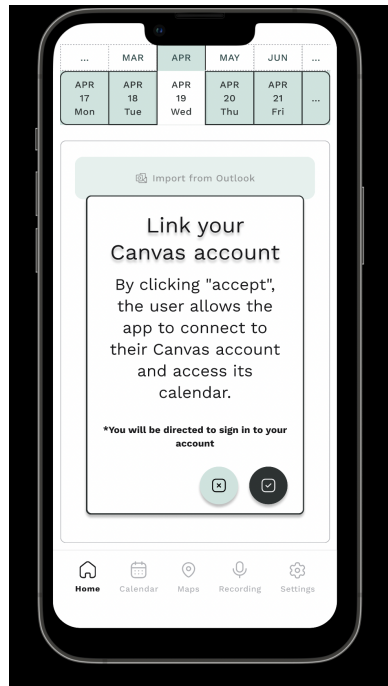


b. Let's say the user now wants to import calendar items from Canvas. We can see in the following screenshot that 'Import from Outlook' is grayed out as the Outlook account is already linked. This allows the user to visualize from this page the imports that have already been performed.



1. In a similar fashion as above, terms and conditions about linking the Canvas account will be presented to the user with the options of accepting and rejecting

this.

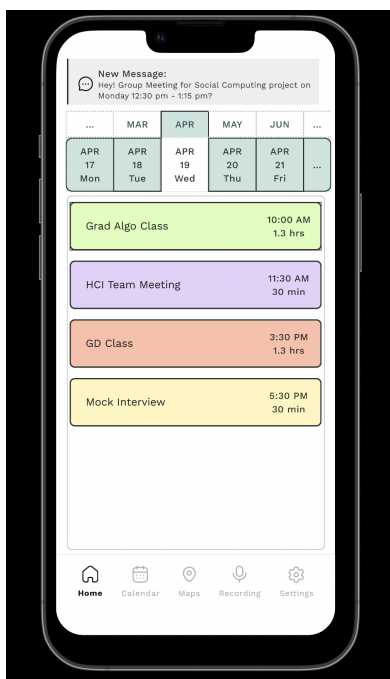


2. If the user decides to reject linking the account in this case, the screen will go back to the home page where the import activity can be completed. In this prototype feature, we have only shown either importing from Outlook or Canvas but not both. Ideally, if even one of the imports is completed, the home page will indicate the scheduled items exported accordingly. The user will still be able to import other calendars by going to Settings → Sync Settings → Accessibility Usage.



## Feature 2 (Adding to scheduler from conversation - free slot):

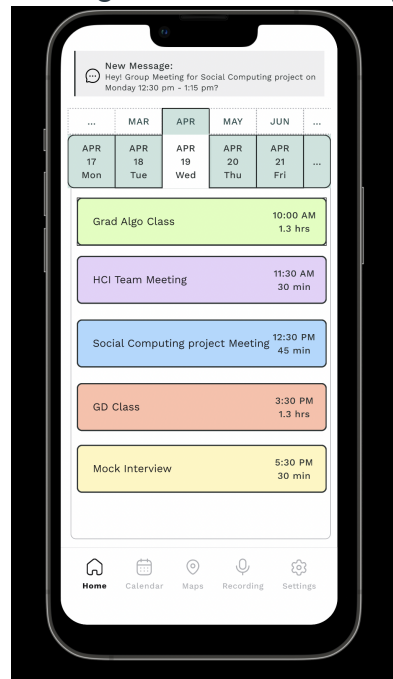
1. The next feature that we implemented in our prototype was picking up possible schedule items from conversations. In this example, we show identifying schedule items from conversations. One point to note is that in Settings → Privacy Settings, the user has the complete control to approve or deny access to the app to read the messages or record a conversation. If these controls are not turned on by the user, the application will not analyze or listen in on conversations to detect scheduled items and the user will still be able to manually enter the details. Coming back to this example, if the user clicks on the message, the next pop up will be visible on the app screen.



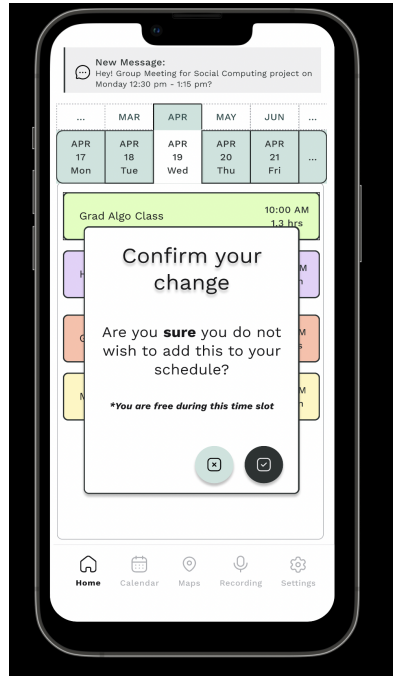
2. Upon clicking on the message, a pop up appears. All the pop ups that have been created have consistent standards. They will have a white background with the primary button being 'Accept' and the secondary button being 'Reject'. We have also utilized icons to allow for easier understanding between the user and app. These adaptations to the application were made by understanding the Consistency and standard design point from Nielsen Normans 10 design heuristics. Font weight is being used to indicate the critical information bits from the pop-up. Additionally, at the bottom, the user gets a view into whether they are free or busy during the time slot indicated. This was one of the pain points from the interviews that we conducted with our core stakeholders which is why we made sure to decrease user's time in finding whether they are available during a time slot.



- a. Upon accepting the changes, the user will be redirected to the day that the new schedule item has been added and we can see that 'Social Computing Project Meeting' has been successfully added to the schedule.



- b. If the user decides that they do not wish to add this to the schedule and they click on the 'X', a confirmation message pops up to make sure that the user is aware of the action they are about to perform. This was designed by keeping in mind the Error prevention design from Nielson Normans 10 design heuristics.



1. If the user continues to confirm their change to not add the item to the schedule, they will be taken back to the main page where we can see the schedule hasn't changed.



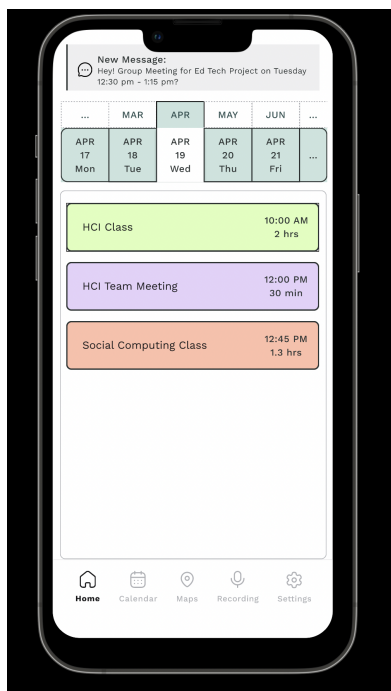
2. If the user recognizes that they might have clicked on the 'X' by mistake or they might want to now go ahead and add the item to their list, they can click 'X' on the confirmation pop up. This will take them back to the pop up where a new scheduled item is detected and the user can proceed accordingly. The white color for the pop up was used for accommodating

for the aesthetics and minimalist design which is also one of Nielsen Normans 10 design heuristics

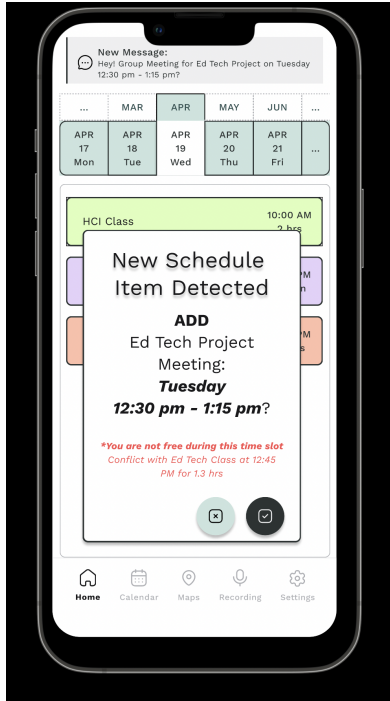


**Feature 3 (Adding to scheduler from conversation - busy slot):**

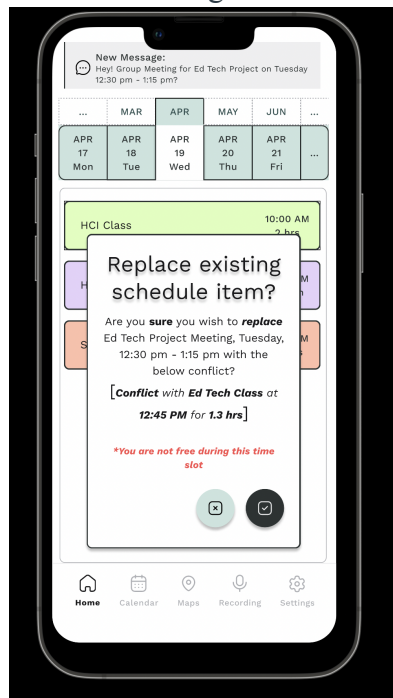
1. This feature covers the example of taking an instance of adding a schedule item when the user already has another activity scheduled during the same time. The following screenshot indicates a new message notification.



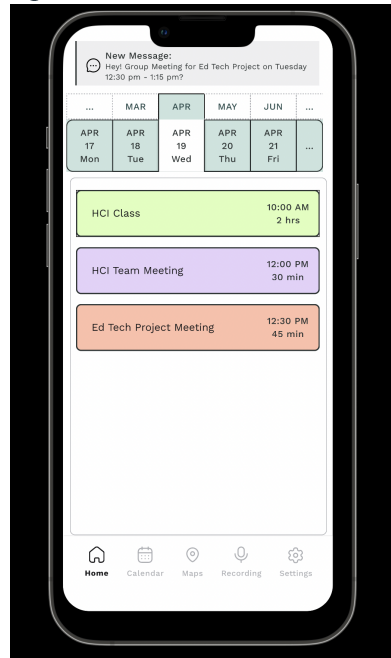
2. On clicking on the message, a familiar pop up is shown where a new schedule item is detected. But if we look at the footnote which is highlighted in red so that the user's attention gets diverted towards it. The highlighted portion indicates that the user is not free during the time slot of the meeting and gives a brief description of the activity scheduled during the same time slot.



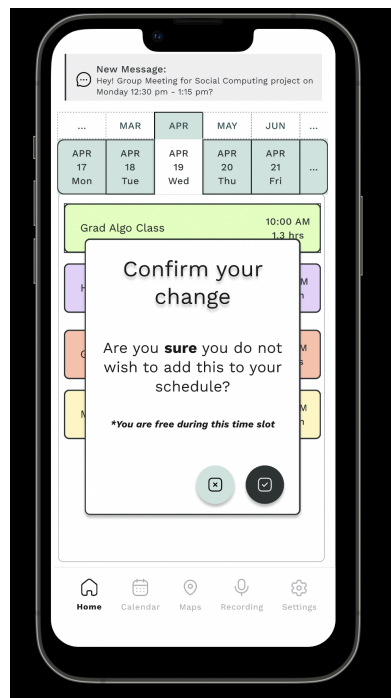
- a. If the user accepts adding this item to the schedule, a new pop up message confirms from the user that the new item will replace the existing activity that is scheduled during that time slot.



1. If the user accepts this change, we can see that Ed Tech class is now replaced with the new schedule item that is 'Ed Tech Project Meeting'.

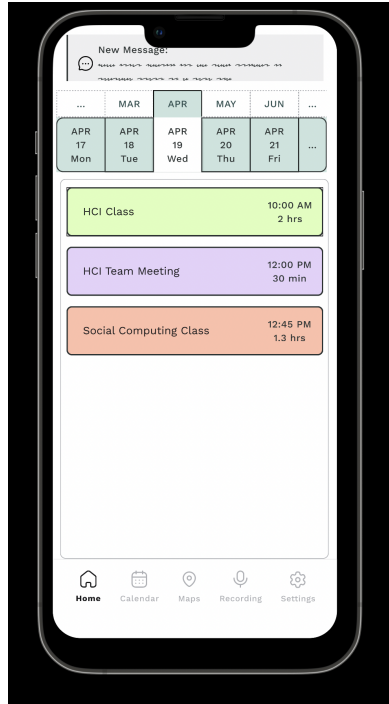


- b. If the user does not want to replace the existing schedule item, they can click on 'X'. This will take the user to the confirmation pop up to make sure that the user understands that the new item will not be added to the schedule.

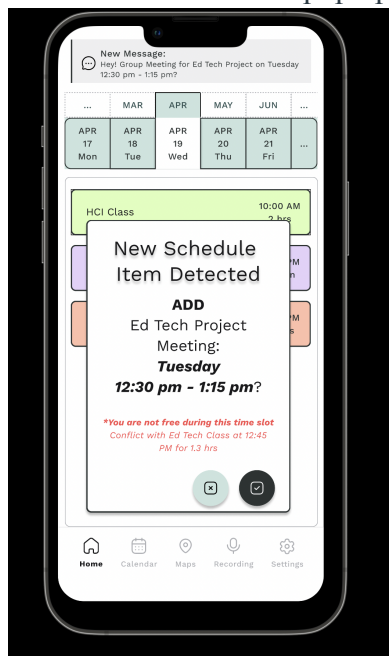


1. If the user confirms this change, the schedule will not be changed as seen below.





2. If the user is not sure and does not want to lose adding the new schedule, they can click on the 'X' button and this will take them back to the new schedule item detected pop up.



#### **Feature 4 (Location Schedule - Pre-Defined Events):**

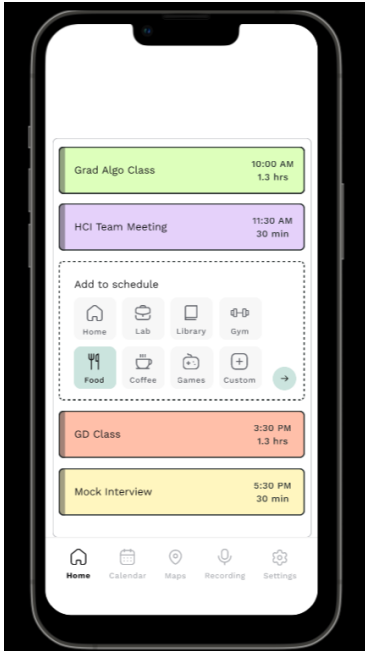
1. When the user long presses over any free time in their schedule, they are given the option to add an item to the schedule in that time. The app also provides details of how much free time they have.



- When they decide to add an item to a schedule, the app gives them a set of options of the kind of event they want to add to their schedule. The app learns the most common activities that the user does and shows them as options to the user.



- The user can select events in the order that they want to do them. For example, first they can select Food. If the user decides to not do an event, they can click again to remove it.



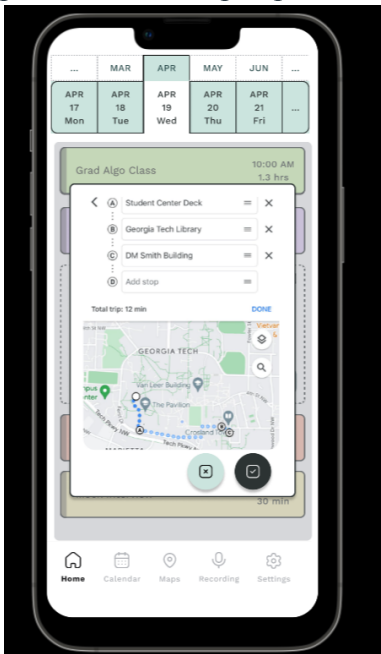
- When the user selects multiple options, the order of the items is shown so the user can arrange one item after the other. The user can rearrange the order by deselecting and re-selecting the schedule items.



- When the user specifies the order in which they want to do their work, the app then suggests locations to do the activities based on minimum transit time.



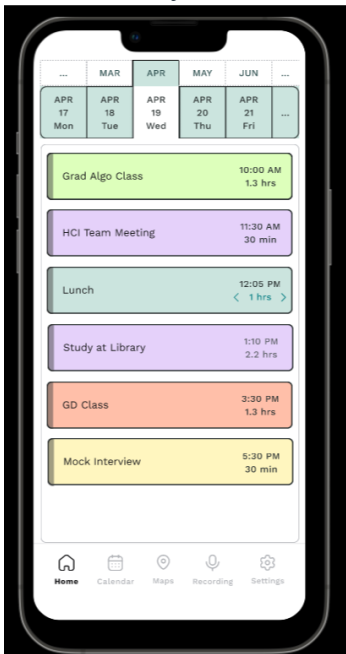
- At this step, if the user has a preference of a location where they want to perform a certain activity, they can select that location (Say, Chick-fil-a) and edit it to match their preference. A map is provided to help them plan their route better.



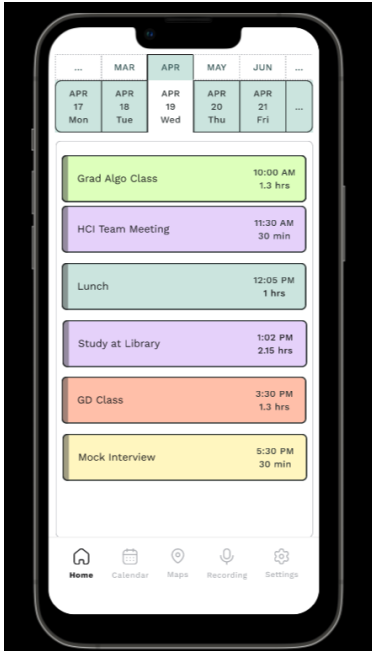
- Once the user is happy with the new route, they can go ahead to the next step and decide the time they want to spend doing each activity.



8. The arrows on the right lets the user edit the time they want to spend doing one activity and adjusts the other activities accordingly. The user can increase or decrease this time and when they are satisfied with it, they can click the finalized time to go ahead.



9. The final schedule is then shown to the user.

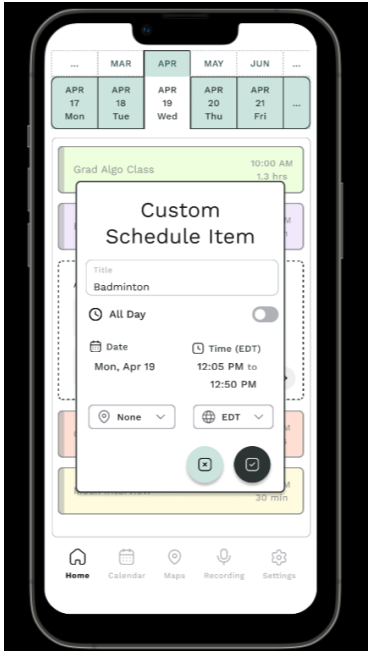


**Feature 5 (Location Schedule - Custom Events):**

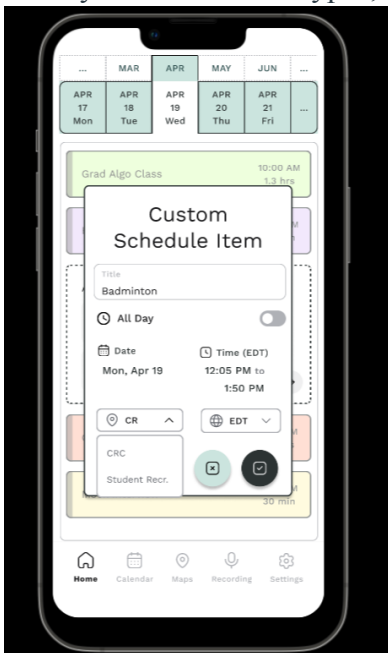
1. Similar to the previous flow, the user is also given the option of making custom events.



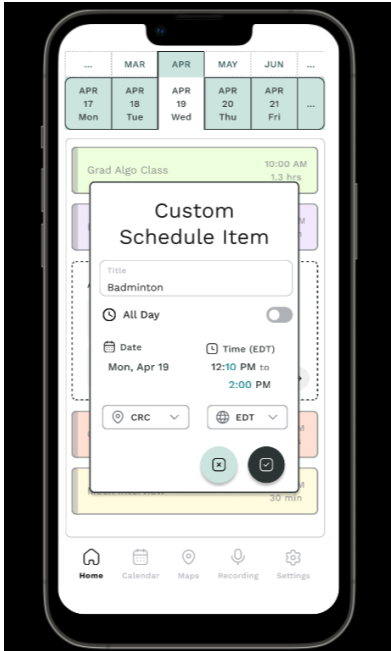
2. When the user decides to create a custom item, they are provided the option to name the type of activity, the date, the time and the time zone according to which they want to add to the schedule. The default time zone is set to the current location's time zone.



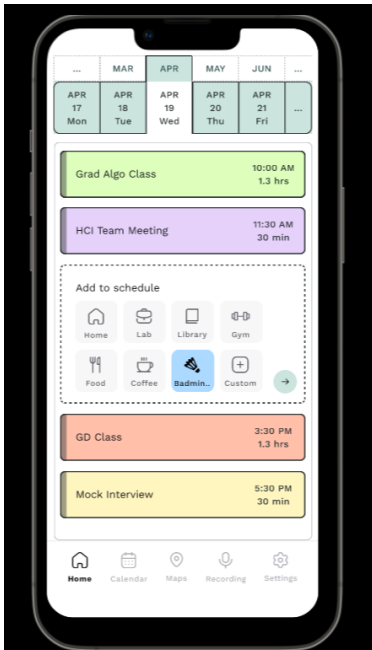
3. The user is also provided an option to select the location where they want to do the activity. When the user types, the system suggests nearby locations.



4. When the user selects a location, the app automatically calculates the transit time and updates the time. The user is also given the option to choose 'None' if they don't want to plan based on location or if they don't want to enter a location.



5. When the user is satisfied with this new event they can go ahead and confirm it.



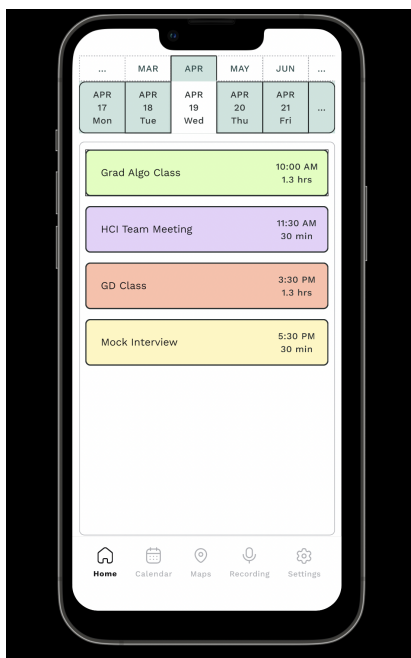
6. In addition to the custom event, they can also add other events to the schedule like with the previous flow.



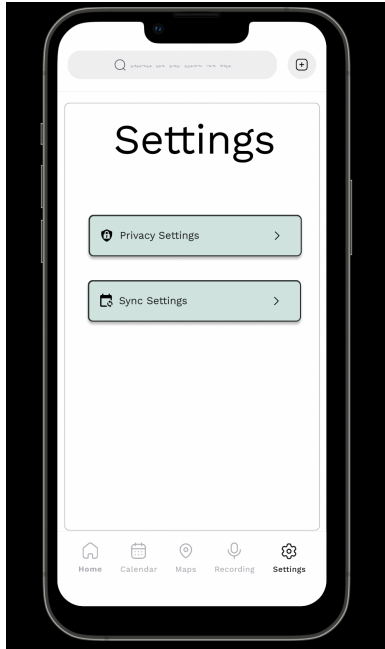


### **Feature 6 (Privacy Settings):**

1. One of the feedback that we received during our poster feedback revolved around privacy. We made sure to address and accommodate for this as privacy is an integral part of any application. On the application home screen, at the bottom the user can see the navigation tabs. The bottom right shows the setting tab. The user can identify which tab they are currently on as it is highlighted and the rest of the tabs are grayed out.



2. On clicking on the settings tab, the user will be able to select a sub-menu item from the settings tab: privacy settings and sync settings. As required, other setting features can be added here accordingly.



3. On clicking on the privacy tab, few of the features that are shown to the user are as follows. We wanted to build an app that gives complete transparency to the user. The first setting item in privacy is access to the camera. By toggling the access to on, the user grants access to identify new schedule items from the photos the user has. Similarly, access to the microphone can be turned on by sliding the toggle. A thing to note here is that the user can also go to a respective schedule item on the 'Home' tab and give access to specific events only. Furthermore, another menu item on the Privacy screen is allowing for notification to be shown on the lock screen. At times, users might not want to display their schedule notifications on the home screen and this could be managed from here.



4. As discussed above, if the user only wants to give access to recording for a specific schedule item, they can click on a schedule item and give permissions or revoke permission accordingly.



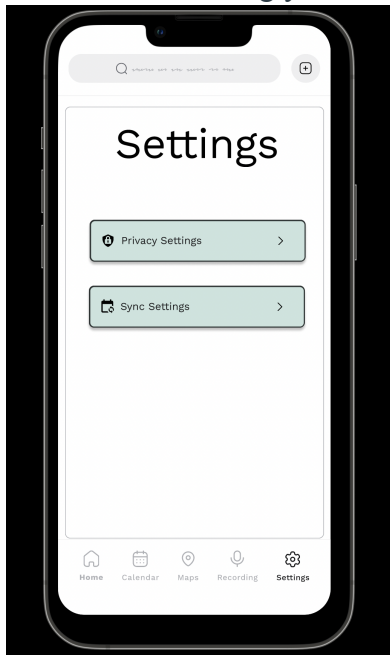
### **Feature 7 (Sync Settings):**

1. One of the pain points of our core stakeholder was the lack of synchronization across various devices that they owned. To address their concern, we made sure to include sync

settings for our users. We started our design approach with a wearable technology such as AR goggles but due to the response we received, we decided to keep our primary device as mobile phone and use watches (which are becoming predominantly common in college students) to illustrate the wearable technology portion for our goal which was making scheduling easier and stress free for Georgia Tech students.



2. On clicking on the settings tab, the user will be able to select a sub-menu item from the settings tab: privacy settings and sync settings. As required, other setting features can be added here accordingly

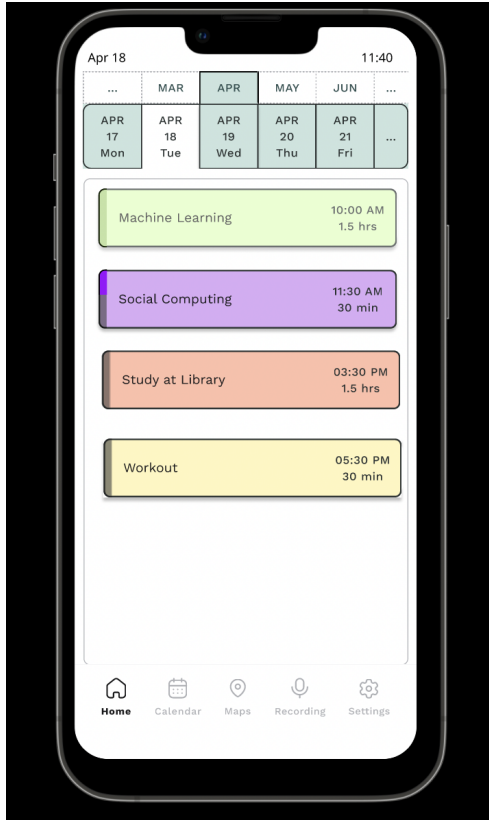


- When the user clicks on the sync sub-menu, few of the menu items are displayed below. An important piece of information that the user should be allowed access to is the devices that have access to their schedule. This helps them identify which devices are currently using their schedule and delete any devices they might not have anymore. All this information is contained under accessibility usage. Auto sync is a feature that the user can decide to turn on for the application to automatically update the changes made to schedule. But if the user does not want this, they will have a manual action of syncing all the devices that will sync the data across all devices when manually clicked. An item not shown in this feature is importing calendar items from other applications. The user will be able to import from other calendars they might not have linked from the same sub-menu.



### **Feature 8 (Focus on the ongoing task):**

As per the feedback from our stakeholders, this new feature enhances the readability of application. It comprises of dim effect for completed tasks and a timeline that displays the percentage of task completion. The timeline appears gray for tasks that haven't started yet. This functionality will enable users to easily differentiate between completed, ongoing, and upcoming tasks, enhancing their overall experience.



### Feature 9 (Syncing across iWatch):

This feature emphasizes consistency and synchronization. When a schedule is added via the mobile phone, the top two current tasks can be viewed on the iWatch. The design of the iWatch is minimalist to enhance readability and aesthetics and prevent clutter.



Whenever any changes are done on the mobile device the corresponding changes will be reflected on the iWatch.



The users can also edit their schedules via the iWatch interface.

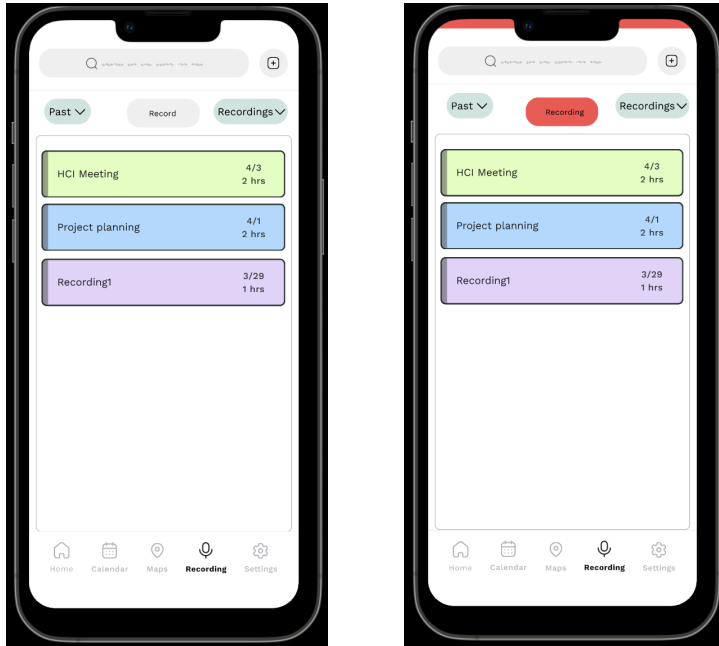


Moreover, just like the mobile interface, the user will also be able to record the meetings.

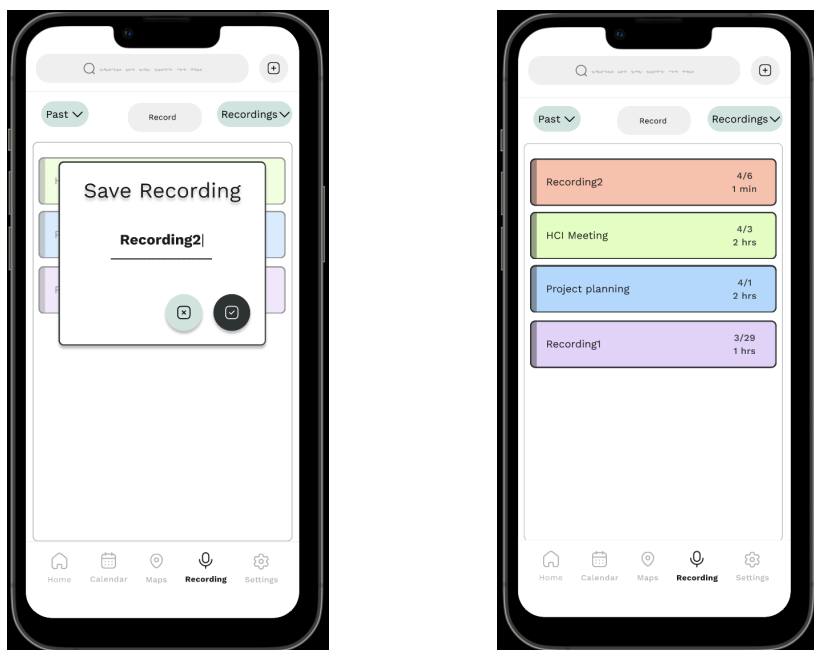


## Feature 10 (recording meetings):

This feature is for the recording meetings, and it is the place where the auto generated notes and to-do list will be created from the recordings. If the user has a meeting that they want to be recorded, the application will automatically begin recording (as shown previously, this is a feature that can be turned off). To show that the meeting is being recorded, the red banner will appear at the top of the application. However, if the user presses record at any time, the app will begin recording.

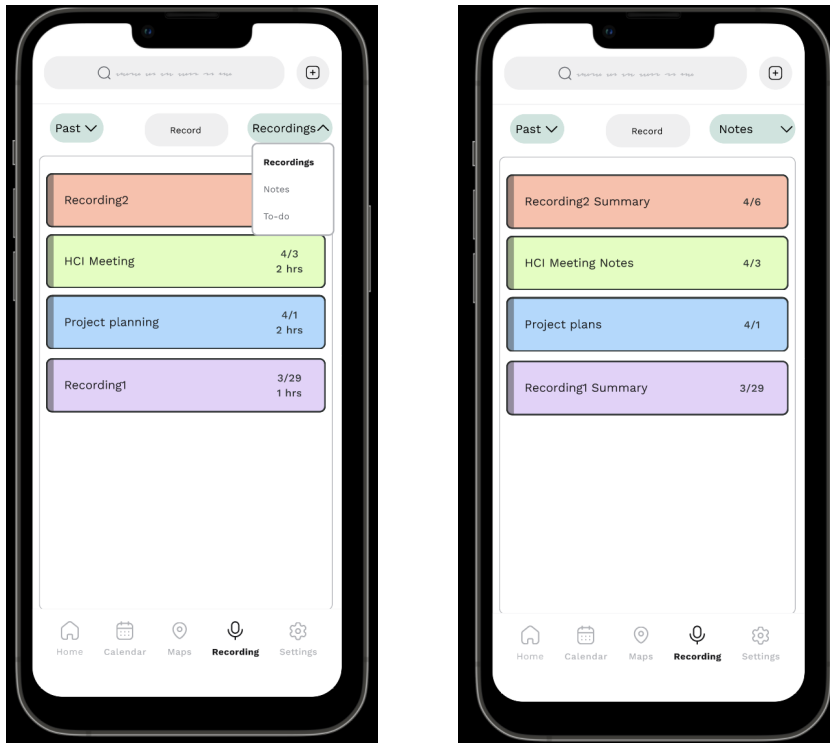


When the user is done recording, they can press the recording button again, and a pop-up will ask what the recording will be named. If the user does not want to save the recording, they can press the X.





The user can use the pull down at the top right to view options for the recordings, notes, and to-do list. By selecting notes, the user can view notes generated by the AI that processes the recording.



**Feature 11 (editing events):**

The user needs to be able to easily delete and edit tasks in their list. These features are meant to support these interactions so that the user can undo mistakes. First, if the user swipes right on a task, this is a shortcut for deleting that task.



Next, is the press and hold feature where the user can press and hold a task to enter the edit mode. Once in edit mode, the user can drag and drop any task, click on the time or length to change it, click on the text to rename it, or press the x at the top right to delete the task.



The experts had some interesting and thoughtful insights while experimenting with our high fidelity prototype during Heuristic Evaluations class activity. The following are the pain points which we identified based on the insights we received from the experts:

#### **A. Customizable color palette :**

Being able to customize which schedule types correspond with which color was an option that experts felt will be a good addition. The experts also suggested to add icons for event types.

#### **B. Focus on currently active item:**

Another suggestion that experts had for us was a way to highlight to show which schedule item is currently in motion.

### **C. Quick Delete Functionality**

The experts also recommended adding a quick delete functionality.

### **D. Far fetched events**

A feature recommendation by the experts was that some of the items picked up from conversation could be too far in the future for the users to decide immediately.

### **E. Transparency in privacy settings**

One important feature that the experts enquired about was the privacy settings and we walked them through how those would be implemented. The experts added that noting the privacy policy on the application will be helpful so that the user is aware of it and including a popup when they start using *DayJour* for the first time will assist the users too.

In order to address the above pain points we addressed each of the pain points as follows:

#### **A. Customizable color palette :**

To address this concern, we decided to focus on ways this could be achieved in the iteration phase of the project. Some of the impending hurdles that we saw with this were to categorize each schedule item to one category. Moreover, we also had to think about if the user would be able to recognize a color and know which category it is linked to as it ties to the 'Recognition and Recall' category of Nielson Normans 10 design heuristics. Further, we also added different icons for different event types.

#### **B. Focus on currently active item:**

To address this, we have shown a dim light effect for scheduled items which have been finished according to the current time. Moreover, to indicate how much of an ongoing schedule item is completed, we have added a bar on the left hand side to illustrate to the user the percentage of the schedule time finished. Along with this, we will also research and implement using font weights to help users in identifying the ongoing schedule item.

#### **C. Quick Delete Functionality**

We added a quick delete functionality based on the experts' suggestions where the user can simply slide the particular schedule button and delete the item from schedule list.

#### **D. Far fetched events**

We thought that this required user input before implementation. In our final iterations, we asked the users if such a feature would be useful to them.

### **E. Transparency in privacy settings**

We reiterated the importance that we, as designers, have places on transparency with our ideas and answered any questions that they might have had. To account for the privacy concerns, we decided to dive deeper into this in our iteration phase but the first approach to implement the privacy settings as described in Feature 6 above.

### **Poster Feedback:**

Major themes that were gathered from the students' feedback during poster session were:

#### **1. Privacy concerns and data management practices**

<b>Feedback</b>	<b>Response</b>
"There is also the matter of privacy concerns. People might not like them being recorded even if they're discussing dinner plans."	In response to the privacy concerns that were expressed, we made sure to adapt the prototype accordingly. We included a privacy settings tab in the settings tab, which allows for full transparency between the user and the application. The privacy settings tab provides the user with various options, such as access to the camera, microphone, and allowing notifications to be shown on the home screen of their phone. Furthermore, users can have more control over the device by being able to toggle the recording feature on or off for any schedule item on the home screen. These measures were taken into account to address the privacy concerns that were raised during the feedback session.
"I worry that this could lead to missed appointments. For example, if you're just walking down the hallway and someone invites you to a seminar tomorrow (which isn't recorded by your design), but the user is used to relying on it so they don't make a manual note."	
"Interesting, but I have some concerns about cost and usability. First of all, AR glasses can be expensive, so college students may not have the money to purchase a device like this. Also, if it listens in based on your schedule, I may not want it constantly grabbing information during my meetings and distracting me by trying to schedule things; that feature should just be manually togglable."	

"Have you read into the relevant privacy regulations about listening through a microphone?"	In the upcoming iterations we also plan on adding documentation on data usage.
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## 2. Usability and user adoption

Feedback	Response
"Consider how you can make some of this data decision making process transparent."	We analyzed the feedback that it will be difficult to fit everything within the small space of AR glasses. Besides, some users may not be comfortable wearing glasses. Therefore, we concluded that mobile devices will be the satisfactory solution to resolve the usability issues.
"Also, wearability and convenience of use for such glasses throughout the day might be a concern."	
"It would be easier to stomach if data management practices were addressed."	
"The actual usability of the UI will have a huge impact on user adoption."	

## 3. Cost and accessibility

Feedback	Response
"This technology is also expensive, so what is the likelihood of GT students being able to afford this?"	In response to this, we changed our device from AR glasses to a mobile device and iWatch which is ubiquitous. Additionally, the users will have an option to sync the data across all the devices. For instance, if the user uses iWatch frequently, then he can access Dayjour via iWatch also.
"AR glasses can be expensive, so college students may not have the money to purchase a device like this."	

## 4. Integration with existing calendars and apps

Feedback	Response
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<p>"Would it Integrate with existing calendars i.e importing/ exporting events."</p>	<p>To handle this, we have added two additional buttons which will sync the schedule from outlook and canvas by importing the events. Along with scheduling, the application had other goals like location scheduling, recording meetings, and harmonization, therefore rather than a browser plugin, it would be beneficial to have a dedicated standalone application. Moreover, a dedicated application gives better control over security and privacy rather than a plugin. Additionally, browser plugin may face certain limitations like operating system or a particular application should be installed.</p>
<p>"Instead of a dedicated app the form factor can be skimmed down to maybe browser plugins that work in coordination with current calendar apps."</p>	

### 5. Customizability and user-driven functionalities

<b>Feedback</b>	<b>Response</b>
<p>"It may be useful to add more user driven functionalities for adding an assignment instead of just listening to meetings/class."</p>	<p>In order to enhance accessibility, we switched our prototype from AR glasses to mobile device/ iWatch which is prevalent, affordable, and accessible. Additionally, we have also added a recording feature which can add an assignment directly to the schedule by extracting schedule-related information from the meetings/lectures with the help of NLP.</p>
<p>"It may be beneficial for a way for users to set configurations about their glasses outside of the glasses (website or app for privacy, website preferences, etc.)"</p>	

### 6. Suitability for different user groups and scenarios

<b>Feedback</b>	<b>Response</b>
<p>"Couldn't really follow how the user groups are defined. I am not sure why the stakeholders are only composed of those who live away from home and partly are TA/RAs."</p>	<p>This feedback was very helpful because after analyzing different options for our prototypes, mobile devices appeared to be the best one to host our scheduling application. Moreover, the current prototype comprises all the users (those who live nearby, far, those who are</p>

<p>"I would also be curious as to how the 'smart glasses' prototype won over other prototypes for scheduling tasks."</p>	<p>TA/RAs, those who aren't TA/RAs, undergraduates, graduates). Our primary stakeholders are students at Georgia Tech.</p>
<p>"I would imagine the user would always carry a phone and a phone might be a better medium to track the user's location and a smart watch could make quick amendments on the schedule."</p>	

**TA Feedback:**

In Milestone 3, TA suggested that our goals in milestone 2 and 3 varied and that we should adhere to scheduling as our end-goal. Therefore, we decided to focus on our main goal which is efficient scheduling, in order to mitigate late arrivals to class. Scheduling is our primary feature. Additionally, we have incorporated other secondary features like location-scheduling, schedule customization, and modification of the schedule by detecting the schedule from the audio recording. Furthermore, the TA also suggested finding a solution rather than using AR glasses which will take into account “travel time and tendency to miss scheduled events”. To address this issue, we changed our prototype to a mobile device which can very easily allow the user to adjust the travel time as well as account for missed scheduled events.

Overall, there were many valuable points made in feedback that all shaped our design decisions for our final prototype. The most significant change we made was leaving the AR glasses and switching to the mobile app paired with the iWatch. Many students brought up concerns about headaches and feasibility of glasses. Our main goal with the glasses was to make scheduling ubiquitous, so we decided to include iWatch as a significant feature in the design of the mobile application. Many students also had concerns with privacy because of the recording feature. The concerns were about whether it is obvious the meeting is recorded and what happens with the recordings. To address this, we created a privacy settings feature within the app where the user can customize the recording feature. Users can choose to have the recording feature never on unless directly turned on. Additionally, we added a red bar across the top of the app that indicates when the app is recording.