

Design Project Milestone 2: User Requirements Elicitation & Definition

SFWRENG 4HC3

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Date: November 21, 2024

1. Ideation

1.1 Summary for Ideation Session

- Clearly describe the information for the ideation session, including session information (session date and time, facilitator, attendees), session setup (ideation techniques used, ideation prompts), and session results (a summary of all ideas generated from the session)

1.1.1 Ideation Session - Time Management and Scheduling

Date and Time: October 29, 2024, 1:30pm - 2:20pm

Facilitator: Krish Patel

Attendees: Rafey Malik, Muhammad Jawad, Krish Patel, Shazim Rahman, Mohamad-Hassan Bahsoun

Techniques Used: Brainstorming

Prompts/Topics Used:

- What features could help students better manage and prioritize their academic tasks and deadlines?
- How could an app encourage students to establish a study routine?
- What tools would help students reduce stress around multiple overlapping deadlines?
- What notification types or styles would be most effective for reminders (e.g., push notifications, emails, SMS)?
- How might the app track or analyze a student's productivity and suggest improvements?

Summary of All Ideas Generated:

1. **Integrated Academic Calendar:** Sync with university schedules to automatically import class times, assignment due dates, and exam schedules into the app's calendar. It may also read course outlines for other necessary information.
2. **Progress Tracking Visuals:** Use progress bars or percentage completions to visually represent how much of a task has been completed.
3. **Habit Tracking and Streaks/Gamification:** Implement a habit tracker that rewards students for maintaining consistent study patterns, using streaks or achievement badges.

4. **Study Analytics:** Provide insights into study habits, such as average study duration, most productive times of day, and consistency metrics.
5. **Workload Visualization Dashboard:** Present all upcoming tasks and deadlines in a clear, consolidated view to help students see the big picture (e.g., Calendar, sequential...etc.)
6. **Adaptive Notification Tone:** Vary the urgency and tone of notifications based on the proximity of deadlines. Use a variety of email, phone, or SMS notifications based on user preference.
7. **Productivity Reports:** Generate insights on completed tasks, study durations, and peak productivity times.

1.1.2 Post- Session Ideas Review - Time Management and Scheduling

Idea #1 Selected: Integrated Academic Calendar

- It is essential to know academic deadlines and other important reminders. It is also tedious to manually input all deadlines so streamlining this process with limited user need is essential to the success of the student and the app. It also promotes planning ahead since they have a method to view all deadlines immediately.

Idea #2 Selected: Progress Tracking Visuals

- Being able to track your work progress is a great way to understand how much progress you have made. It helps motivate the student and encourages a consistent effort rather than a long session to get the work done the day before. It can also be a way to help students break down a large task into multiple sub-tasks that can be completed over the assignment deadline

1.1.3 Ideation Session - Campus Navigation and Orientation

Date and Time: October 29, 2024, 2:30pm - 3:20pm

Facilitator: Rafey Malik

Attendees: Rafey Malik, Muhammad Jawad, Krish Patel, Shazim Rahman, Mohamad-Hassan Bahsoun

Techniques Used: Brainstorming

Prompts/Topics Used:

- How could the app simplify campus navigation, especially for locating hard-to-find rooms or buildings?
- What could help new students familiarize themselves with campus faster?
- What information layers could be added to a campus map (e.g., quiet study spots, student services, cafes)?
- How might the app help students find essential but less obvious campus resources, like printers or lockers?
- What real-time updates could be added to a campus map (e.g., building closures, crowd density)?

Summary of All ideas Generated:

Simplifying campus navigation ideas:

1. **Interactive Campus Map:** It uses the user's location to tell them where to go to find a particular room. This map should be able to give room location in addition to merely building location.
2. **AR Directions:** Similar to the apple maps feature where you can use AR and the app will point you where to go.
3. **Detailed Map Buildings:** Students can see a detailed map for every building including where all of the rooms are located.
4. **Downloadable Campus Map:** Students can download the pre-existing campus map to have a birds eye view of campus.

Familiarizing new students with campus:

5. **Virtual Campus Tour Video:** Include a virtual video tour that lets students explore the campus on their own times.
6. **Checklist to Explore Different Places on Campus:** Include a step by step checklist that lets students know where they visited.
7. **Scavenger Hunt Feature:** Students have to travel to various places on campus to access something, which will encourage them to discover new areas on campus.

Real-time features:

8. **Real Time Crow Density and Busy Times:** Display real time crowd density and busy times at locations that the user requests
9. **Alert Notifications:** Give notifications about building closure or construction

Post- Session Ideas Review

Idea #1 Selected: Interactive campus map that uses the user's location to tell them where to go to find a particular room.

- It was clear from the survey that first year's sometimes or often got lost and had trouble finding places on campus. Having an interactive campus map integrated within our app can make it clear and easy for them to locate where they need to go, saving time and anxiety.

Idea #2 Selected: AR directions: similar to the apple maps feature where you can use AR and the app will point you where to go.

- Same reason as Idea #1, but at a more room-specific level. Sometimes, first years have no problem finding a building, but actually locating a specific room within the larger building is its own challenge. This AR direction feature will make it easy to locate where to go to find a room, in addition to locating the building itself.

1.1.4 Post- Session Ideas Review - Campus Navigation and Orientation

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1.1.5 Ideation Session - Personalization and Customization Idea

Date and Time: October 30, 2024, 8:30 am - 9:20 pm

Facilitator: Mohamad-Hassan Bahsoun

Attendees: Rafey Malik, Muhammad Jawad, Krish Patel, Shazim Rahman, Mohamad-Hassan Bahsoun

Techniques Used: Brainstorming

Prompts/Topics Used

- What customization options might make the app feel more personal and effective for each user?
- What kinds of custom reminders could users set?
- How might the app suggest features or reminders based on a student's habits or activities?
- What themes or modes could the app offer to improve accessibility?
- How might the app allow students to prioritize certain types of notifications?

Summary of All Ideas Generated:

1. **Custom Color Schemes:** Users can select from a range of colors to personalize the app, making it visually appealing and reflective of their preferences.
2. **Custom Reminders:** Options to set specific/custom reminders such as "Study Breaks," "Hydration Reminders," "Weekly Reviews," and "Exam Preparation Alerts."
3. **Adaptive Notifications:** The app learns from user activity and sends personalized reminders, like suggesting breaks during extended study periods or encouraging focus ahead of deadlines.
4. **Theme and Mode Options:**
 - o Dark Mode for reduced eye strain.
 - o "Exam Mode" which minimizes non-academic notifications and emphasizes productivity-focused alerts.
 - o High-Contrast Mode for visually impaired users.
- **Notification Prioritization:** Custom settings where users can prioritize notifications (e.g., academic alerts over social ones)
- **Weekly Habit Tracker:** A feature that helps users monitor their consistency in activities like studying or exercise and provides data-driven suggestions for better productivity.

1.1.6 Post-Session Ideas Review - Personalization and Customization Idea

Idea #1 Selected: Adaptive Notifications and Custom Reminders

- These features align well with students' needs for motivation and personalized task management, as identified in the user research. Custom reminders for study breaks and health activities can help maintain productivity and well-being.

Idea #2 Selected: Theme and Mode Options (Dark Mode, "Exam Mode")

- Accessibility and adaptability are key for user engagement. Offering visual customization like dark mode and functional modes like "Exam Mode" supports various user preferences and needs, making the app more user-friendly and inclusive.

1.1.7 Ideation Session - Academic and Social Balance

Date and Time: October 30, 2024, 9:20 am - 10:30 pm

Facilitator: Shazim Rahman

Attendees: Rafey Malik, Muhammad Jawad, Krish Patel, Shazim Rahman, Mohamad-Hassan Bahsoun

Techniques Used: Brainstorming

Prompts/Topics Used (e.g., brainstorming, sketching):

- How could the app encourage students to balance their academic and social activities effectively?
- What features might help students stay connected with friends while managing their workload?
- How could the app help students find social or academic events relevant to their interests?
- What tools could facilitate organizing and prioritizing both academic and extracurricular commitments?
- What reminders or suggestions would help students make time for both studying and socializing?

Summary of All ideas Generated:

- 1) **How could the app encourage students to balance their academic and social activities effectively?**
 - a) Personalized Timetable Suggestions: Based on the student's academic schedule, the app could suggest times to socialize or take breaks to avoid burnout.

- b) Goal Setting and Rewards: Allow students to set both academic and social goals, rewarding them with points or badges for achieving a balanced schedule.
 - c) Academic-Social Dashboard: A feature that visually balances academic and social activities, offering students a way to see where they're spending most of their time and adjust accordingly.
 - d) Balance Notifications: The app could send gentle nudges to encourage students to take breaks or participate in social activities if they've been focusing solely on academics for an extended period.
- 2) What features might help students stay connected with friends while managing their workload?**
- a) Study Buddies: A feature that helps students find friends or classmates available to study together, either virtually or in person.
 - b) Real-Time Status Sharing: Allow students to share their availability for socializing or studying with friends in real-time, indicating if they're "studying," "free to hang," etc.
 - c) Social Break Reminders: Notifications that remind students to check in with friends after a certain amount of solo study time.
 - d) Shared To-Do Lists: Groups of friends could have shared to-do lists for study goals, making academic work feel more collaborative and connected.
- 3) How could the app help students find social or academic events relevant to their interests?**
- a) Interest-Based Event Recommendations: Based on the user's profile and interests, the app could suggest social or academic events happening around campus.
 - b) Event Reminder System: Notifications for upcoming events that align with the user's interests, along with an RSVP feature.
 - c) Calendar Sync with University Events: Integrate the app with the university's event calendar, so students receive updates on relevant academic and social gatherings.
 - d) Peer Events Feature: Students can create and share their own events or gatherings, making it easy to connect with friends with similar interests.
- 4) What tools could facilitate organizing and prioritizing both academic and extracurricular commitments?**
- a) Priority Planner: A tool for prioritizing tasks based on urgency and importance, so students can allocate time efficiently between academics and extracurriculars.

- b) Weekly Recap and Planning Session: A weekly feature that encourages students to review their commitments and plan a balanced week ahead, setting academic and social goals.
 - c) Time-Blocking Feature: An integrated tool to allocate specific blocks of time for both academics and social activities, promoting a balanced approach to time management.
 - d) Progress Tracking for Both Academics and Extracurriculars: Visual indicators for both academic progress and extracurricular engagement, helping students maintain an equilibrium.
- 5) **What reminders or suggestions would help students make time for both studying and socializing?**
- a) “Take a Break” Notifications: Encouraging students to take breaks at optimal times and suggesting quick social activities, like grabbing coffee with a friend.
 - b) Smart Notifications Based on Calendar: Analyzing the student’s schedule to provide reminders before or after classes to either study or socialize.
 - c) Suggested “Balance Days”: Designated days within the app that encourage a mix of both study and social activities to prevent overloading on one side.
 - d) Encouraging “Unwind” Periods: Periodic notifications suggesting fun activities or relaxation time during exam seasons or intense study periods.

1.1.8 Post-Session Ideas Review - Personalization and Customization Idea

Idea #1: “Balance Smart” – Academic and Social Time Manager

Features:

- Academic-Social Dashboard: This dashboard will visually balance academic and social activities. It will allow students to see a pie chart or progress bar showing the proportion of time they spend on academics versus social activities. They can adjust their time allocation as needed to promote a balanced lifestyle.
- Personalized Timetable Suggestions and Balance Notifications: Using the student’s academic schedule, the app will suggest ideal times for socializing, taking breaks, or studying based on free time between classes or after major academic deadlines. If a student is heavily focused on academics without taking breaks, gentle nudges will remind them to recharge with a social activity.

Objective:

- To encourage students to maintain an optimal balance between academics and socializing by giving them insights into their time allocation and providing personalized suggestions for managing their activities.

Value:

- This solution would help prevent burnout by encouraging students to take social breaks. Additionally, it promotes self-awareness about how their time is divided, making it easier to adopt healthier habits.

Idea #2: “Study Sync & Social” – Collaborative Academic-Social Network

Features:

- Study Buddies and Shared To-Do Lists: This feature will let students create collaborative to-do lists with friends, helping each other stay accountable for study goals. They can form study groups, set shared milestones, and track their group's progress together.
- Real-Time Status Sharing and Social Break Reminders: A feature for sharing real-time status with friends, where students can indicate if they're “studying,” “open to chat,” or “free for a break.” The app will notify them if friends are available for quick social interactions or study breaks, promoting both connection and balance.

Objective:

- To create a seamless integration between academic and social life by helping students find study partners while keeping them connected with friends.

Value:

- This solution encourages collaborative study while allowing students to socialize, supporting their well-being and productivity through structured peer connections.

1.1.9 Ideation Session - Motivation & Well-being

Date and Time: November 1, 2024, 1:30pm - 2:20pm

Facilitator: Muhammad Jawad

Attendees: Rafey Malik, Muhammad Jawad, Krish Patel, Shazim Rahman, Mohamad-Hassan Bahsoun

Techniques Used: Brainstorming

Prompts/Topics Used:

- How could the app help maintain students' motivation throughout the semester?
- What tools could encourage students to take breaks, relax, or manage stress effectively?

- How might the app integrate wellness features, like reminders for hydration, exercise, or mindfulness?
- What could help students reflect on their productivity or academic progress each week?
- How could the app recognize and celebrate milestones or achievements (e.g., assignment completion)?

Summary of All Ideas Generated:

1. **Weekly Wellness Check-In:** Students receive a prompt each Sunday to rate their stress level, set wellness goals for the week, and reflect on achievements from the past week.
2. **Milestone Celebration and Rewards:** Mini-badges for completing assignments, meeting study goals, and taking wellness breaks. Badges could be shared with friends or kept private.
3. **Mindfulness Reminders:** Daily notifications with suggestions for short mindfulness exercises or breathing techniques.
4. **Wellness Dashboard:** A dashboard in the app where students can see their progress in both academics and wellness (e.g., hydration goals, completed breaks, sleep tracking).
5. **Hydration and Exercise Reminders:** Optional reminders every few hours for water intake, stretching, or light exercise.
6. **Weekly Reflection Prompts:** Prompts encouraging students to log reflections on productivity, well-being, and academic progress.
7. **Break Scheduling Feature:** A scheduling tool for breaks between study sessions, with suggestions for relaxation or activities.
8. **Goal Setting for the Week:** A section to set academic and personal goals for the week, with reminders and progress tracking.
9. **Gratitude Journal Feature:** A journal that prompts students to log positive moments or achievements to encourage mindfulness and reduce stress.

1.1.10 Post-Session Ideas Review - Motivation & Well-being

Idea #1 Selected: Wellness Dashboard with Goal Setting and Progress Tracking Description:

- This feature combines a **Wellness Dashboard** with a **Goal Setting** section that allows students to set weekly wellness and academic goals. The dashboard would show progress on wellness metrics like hydration, exercise, and breaks, as well as academic metrics like completed tasks or study hours. Each week,

students can view a summary of their productivity and wellness, along with a gentle prompt to set goals for the upcoming week.

Reasons for Selection:

- Addresses both academic and wellness goals, helping students manage both in one platform.
- Encourages consistent engagement with the app by offering weekly progress updates.
- Directly supports user needs for time management and well-being.

Idea #2 Selected: Milestone Celebration and Mindfulness Reminders

Description:

- This idea features **Milestone Celebration Badges** for achievements such as assignment completion and successful week completion, combined with **Mindfulness Reminders** that encourage students to take mindful breaks. Badges can be earned for academic tasks, completing set study hours, or taking wellness breaks, offering a simple and rewarding experience. Mindfulness reminders would encourage activities like short breathing exercises, stretching, or gratitude reflection.

Reasons for Selection:

- Provides motivation and positive reinforcement by celebrating accomplishments.
- Encourages regular breaks and wellness activities through gentle reminders, which helps reduce stress.
- Aligns with the app's focus on student well-being and engagement throughout the semester.

2.2 Summary for Post-Session Ideas Selection

- Clearly describe the two selected ideas from the ideation session; Provide justifications for each idea's selection with relations to the **gathered requirements and UCD**

The two version of the app collect the components that we found were crucial.

App Version #1

Description:

This version of the app focuses on features that help students manage their academic and social balance while maintaining their overall wellness. Key features include:

1. **Wellness Dashboard:** A hub for tracking hydration, breaks, exercise, and other wellness metrics.
2. **Goal Setting and Progress Tracking:** Allows students to set weekly academic and personal goals with visual trackers to monitor progress.
3. **Interactive Campus Map with Room-Specific Navigation:** Provides precise directions to specific rooms and buildings.
4. **Academic and Social Time Manager:** Helps students allocate time for academics and social activities effectively.
5. **Academic-Social Dashboard:** Visualizes how time is spent between academic and social activities to encourage balance.
6. **Personalized Timetable Suggestions and Balance Notifications:** Generates schedule suggestions and sends notifications to balance academic and social commitments.
7. **Adaptive Notifications, Custom Reminders, and Theme/Mode Options:** Offers personalized and adaptive notifications along with themes like Dark Mode.
8. **Integrated Academic Calendar:** Syncs directly with university systems for automatic updates of schedules, deadlines, and events.

Justification:

1. **Addresses Critical Needs:** This version aligns with user feedback indicating the need for better time management tools and wellness support. The **Integrated Academic Calendar and Time Manager** directly address pain points around handling overlapping deadlines and maintaining a balance between commitments.

2. **UCD Relevance:** Features like the **Wellness Dashboard** and **Goal Setting** focus on holistic student well-being, supporting both academic success and personal health.
3. **Reduces Stress:** The **Interactive Campus Map** and **Personalized Timetable Suggestions** reduce the anxiety of navigating campus and managing time.
4. **Enhances Accessibility:** Theme options and notifications cater to diverse user needs, ensuring the app is inclusive and user-friendly.
5. **Fosters Self-Awareness:** The **Academic-Social Dashboard** empowers students to make informed decisions about their time allocation, promoting healthier habits.

App Version #2

Description:

This version prioritizes social and collaborative elements, alongside enhanced academic tracking and mindfulness features. Key features include:

1. **Campus Notifications for Construction or Busy Areas:** Provides real-time alerts to improve campus navigation.
2. **Collaborative Academic-Social Network:** Enables students to find study buddies, join groups, and share to-do lists.
3. **Study Buddies and Shared To-Do Lists:** Facilitates collaborative study and accountability for academic tasks.
4. **Real-Time Status Sharing and Social Break Reminders:** Allows students to share availability with friends and encourages breaks.
5. **AR Campus Navigation (Room-Specific):** Uses augmented reality to provide precise directions to specific rooms or buildings.
6. **Custom Color Schemes:** Offers customization to make the app visually appealing and tailored to user preferences.
7. **Integrated Academic Calendar & Progress Tracking Visuals:** Combines academic scheduling with visual progress trackers for tasks.
8. **Milestone Celebration Badges:** Rewards students for completing tasks and maintaining streaks, fostering motivation.
9. **Mindfulness Reminders:** Encourages students to take breaks and practice mindfulness techniques.

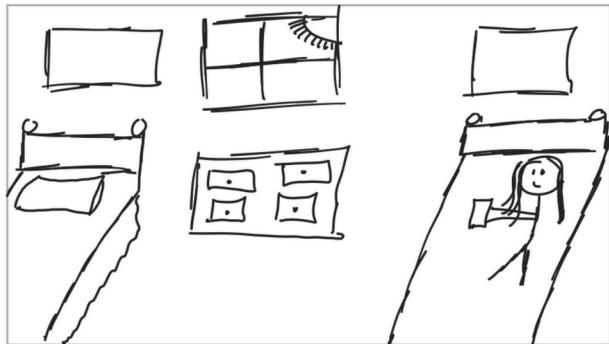
Justifications:

1. **Collaboration Focus:** This version reflects the importance of fostering connections among students. The **Collaborative Network** and **Study Buddies** cater to user needs for peer interaction and shared accountability.
2. **Encourages Social Balance:** Features like **Real-Time Status Sharing** and **Social Break Reminders** help students balance academic tasks with social interactions, promoting mental health.
3. **UCD Alignment:** Mindfulness and gamification elements, such as **Milestone Celebration Badges** and **Mindfulness Reminders**, align with user-centered design principles by reducing stress and enhancing motivation.
4. **Technological Integration:** The use of **AR Campus Navigation** adds an innovative, tech-forward element that appeals to tech-savvy students.
5. **Enhanced Navigation and Awareness:** Real-time **Campus Notifications** and **AR Directions** make navigation more efficient, addressing key concerns of new students.
6. **Customization:** **Custom Color Schemes** and **Visual Progress Tracking** make the app more engaging and interactive, ensuring sustained user engagement.

2. Storyboard

After selecting our two ideas, we created the following two storyboards to map out how our persona, Emily Zhang, would use the app.

2.1) Storyboards for Selected Idea #1



Emily, in her dorm, sets academic and wellness goals in the wellness dashboard.

She sets goals like "complete Chemistry Assignment 2", "drink water", and sets 3 breaks.

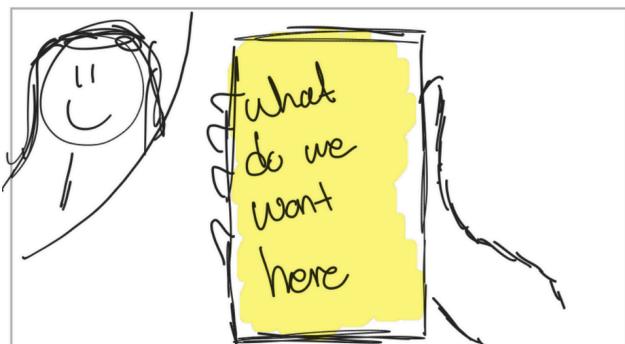
Figure 1, Panel 1



Emily uses the campus map feature on the app.

The AR directions reduce her anxiety as they help her find her specific room.

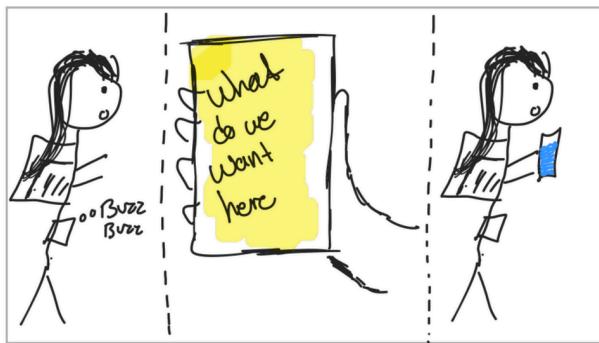
Figure 1, Panel 2



After her tutorial Emily checks her Academic social dashboard.

It suggests her to have a coffee break with some friends.

Figure 1, Panel 3



Emily gets a notification
the app reminds her to
drink water, and to study
Soon, Emily acknowledges the notification
and is feeling supported

Figure 1, Panel 4

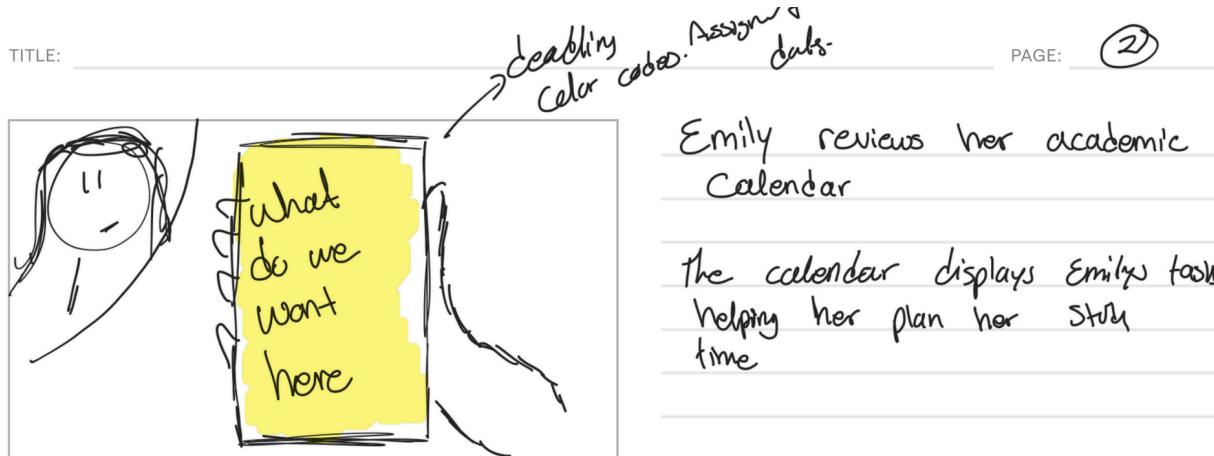


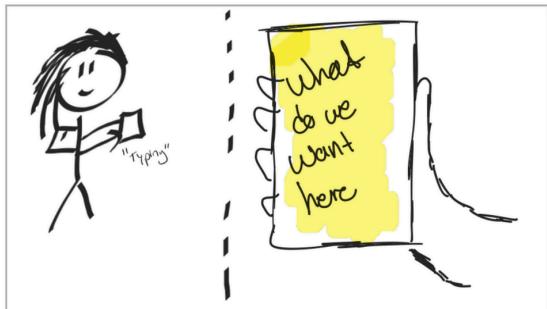
Figure 1, Panel 5



at the end of her day
Emily checks her wellness
dashboard and sees she has
met her daily goals, she's feeling
accomplished and ready to set
tomorrow's goals

Figure 1, Panel 6

2.2) Storyboards for Selected Idea #2



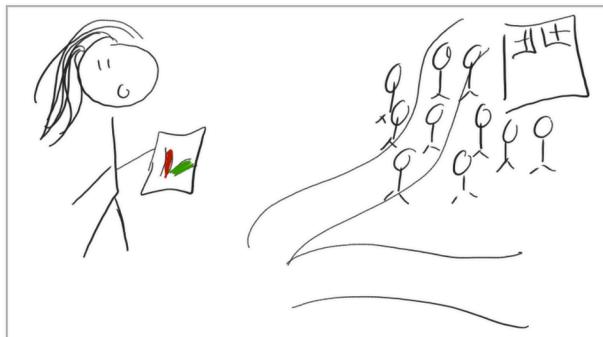
Emily sets her status to "Looking for a study Buddy".

Figure 2, Panel 1



Another student receives a notification that Emily is looking for a study buddy.

Figure 2, Panel 2



Emily receives a notification about a crowded area and the app suggest an alternate route.

Emily no longer worries that she won't make it to class on time.

Figure 2, Panel 3



Emily holds up her phone
and uses the AR Navigation

This helps her navigate to her
study spot, Emily no longer
feels lost

Figure 2, Panel 4



When Emily meets with
her study buddy, they
check at their shared to-
do list. This keeps
them motivated and focused

Figure 2, Panel 5



When ever Emily and
her study buddy complete
a task on their to do list
they both receive a Milestone
badge

Emily's motivation is through
the roof

Figure 2, Panel 6



when Emily gets home
she gets a mindfulness reminder
for quick breathing exercises

Emily also checks her progress
for the week.

Figure 2, Panel 7

3. Low-Fidelity Prototype

See section 3.5 for the low-fidelity prototype.

3.1 Iterative Prototyping Process

The MacSync application underwent an iterative prototyping process that involved creating two distinct prototypes based on selected ideas from our ideation sessions. Instead of performing user testing, our approach emphasized exploring alternative designs to determine the most effective features and functionality.

Prototype A: This version focused on academic and wellness integration. Key features included an academic dashboard with progress tracking, a wellness dashboard for goal setting, and a navigation feature for locating specific campus rooms.

Prototype B: This version prioritized social and collaborative elements. It featured a Study Buddies tool, shared to-do lists, and AR-based campus navigation.

After evaluating both prototypes, we selected elements from Prototype A that aligned with academic and wellness goals while incorporating some collaborative elements from Prototype B. This iterative process allowed us to refine the final prototype by balancing user-centered design goals with practical functionality.

3.2 Prototype Features and Functionalities

The selected prototype reflects a combination of core academic, wellness, and social features. These include:

- Login and Authentication: A streamlined interface supports McMaster ID or email credentials, ensuring security and accessibility.
- Academic Calendar: Syncs with McMaster schedules to display lectures, deadlines, and exam dates, aiding in time management.
- Academic Dashboard: A to-do list organizes tasks by priority (e.g., “To Do Today” and “To Do This Week”), with options to add, track, and complete goals.
- Wellness Dashboard: Encourages healthy habits by tracking hydration, exercise, and mindfulness goals.
- Navigation System: An interactive campus map helps users find buildings and specific rooms, with optional AR guidance for added precision.
- Customization Options: Includes theme changes (e.g., dark mode) and personalized notifications, ensuring the app feels user-centric and adaptable.

This functional set addresses user needs for academic productivity, wellness tracking, and efficient navigation.

3.3 Prototype Information and Content

The low-fidelity prototype effectively communicates information through intuitive, clear, and user-friendly labels, ensuring a seamless user experience. It features concise labels, such as "View Completed Goals" and "Sync with Avenue," which use straightforward language tailored to student needs. The layout is well-organized, with each page dedicated to a primary function, such as the Academic Dashboard for tracking tasks and the Wellness Dashboard for personal goals. Guided interactions are supported by clear instructions on pages like the login and MacFriends screens, providing ease of use (e.g., "Pick Your Course, Pick Your Time"). Additionally, visual cues like color-coded elements in the calendar and progress bars enhance clarity, enabling users to differentiate deadlines and task statuses effortlessly. This focus on clarity ensures that users can navigate and use the app with ease, without requiring additional guidance.

3.4 Prototype Interaction and Task Flows

The prototype effectively demonstrates seamless transitions between user tasks, providing an intuitive and user-friendly experience. Key task flows include the login process, where users transition from the startup screen to the login page, enter credentials, and access the home page, with an option to recover forgotten passwords if needed. Task management is streamlined through the Academic Dashboard, allowing users to add tasks, set priorities, and track completion status, with completed tasks stored under "View Completed Goals" for future reference. Campus navigation is made simple with an interactive map, where users can input a starting point and destination to receive precise directions. Wellness goals are supported through the Wellness Dashboard, enabling users to add tasks like drinking water or meditating and track their progress throughout the week. Customization options in the settings allow users to adjust themes and preferences, making the app adaptable to diverse needs. Each task flow is thoughtfully designed to help users achieve their objectives, from managing academic responsibilities to navigating campus efficiently.

3.5 Prototype

The following low-fidelity prototype showcases the selected design, highlighting key features and functionalities such as academic and wellness dashboards, interactive campus navigation, and customizable settings. This prototype represents the culmination of an iterative process, balancing user-centered design goals with practical functionality.

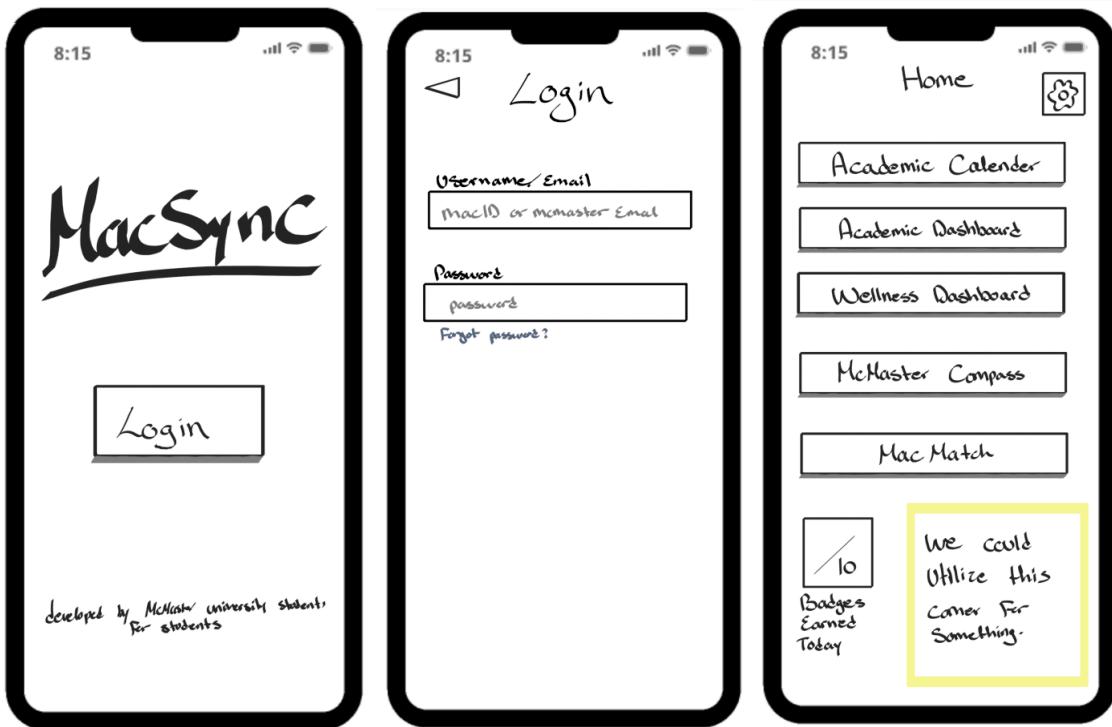


Figure 3.1, 3.2, 3.3: Startup page (3.1), login page (3.2), and home page (3.3).

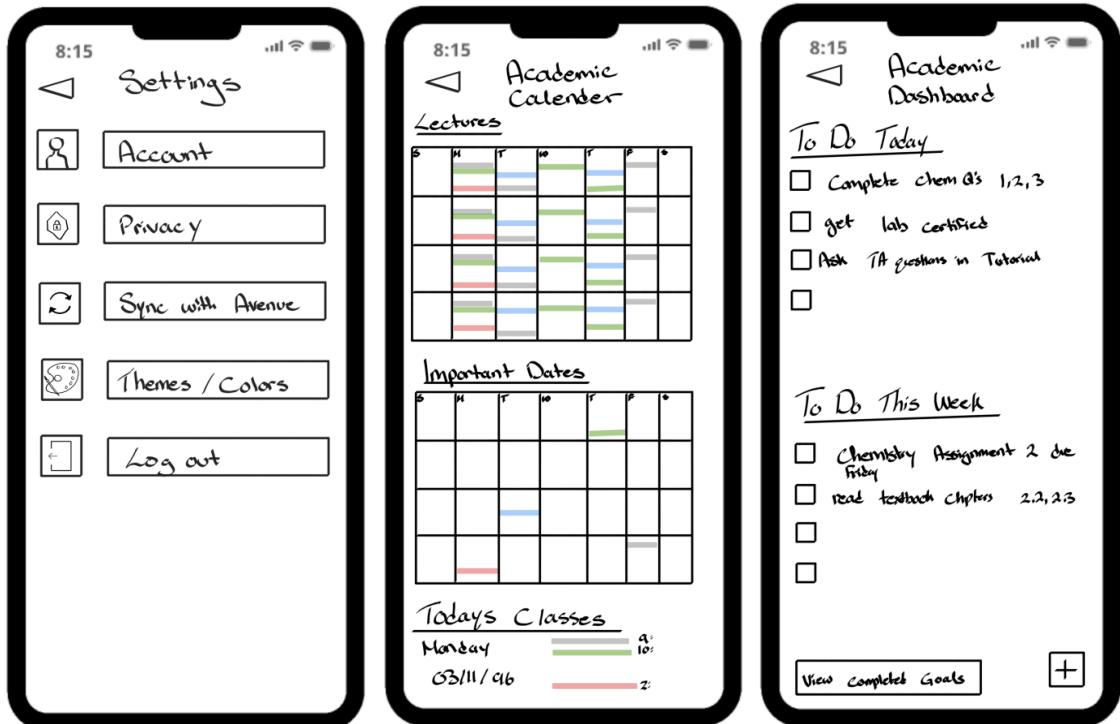


Figure 3.4, 3.5, 3.6: Settings page (3.4), calendar page with all tasks and due dates (3.5), and the academic dashboard with all academic tasks (3.6).

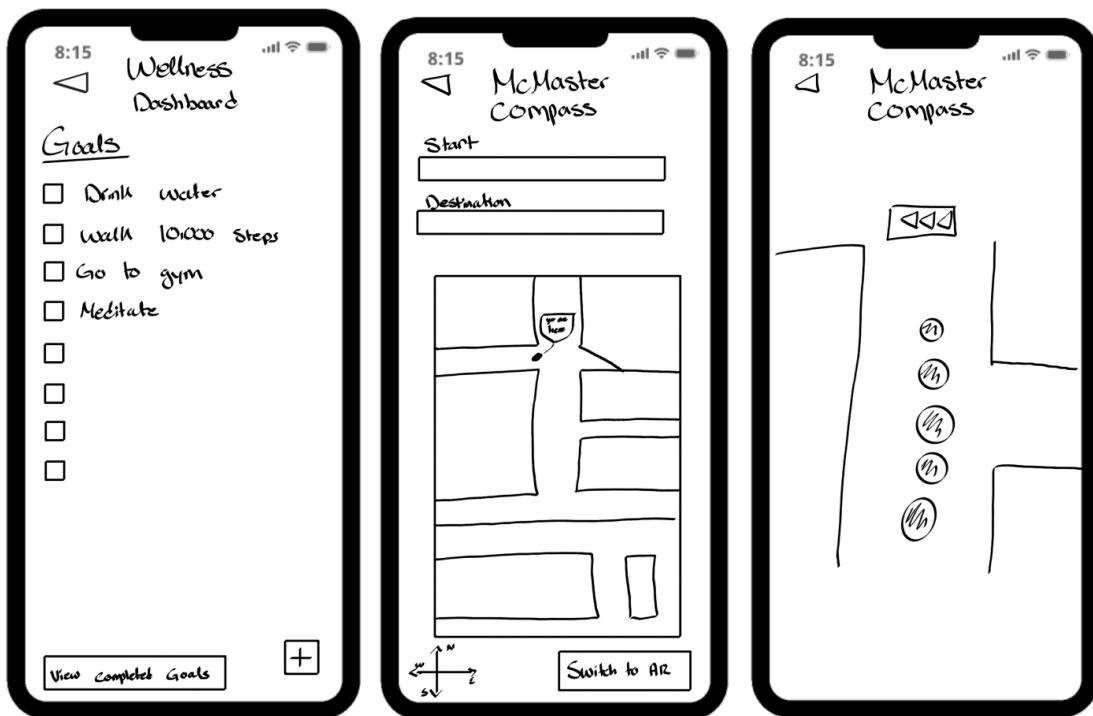


Figure 3.7, 3.8, 3.9: Wellness dashboard with all wellness tasks (3.7), navigation page to direct to locations on campus (3.8), and home page (3.9).



Figure 3.10, 3.11: Macfriends page to find and link up with others in your courses (3.10), and custom notifications (see top of phone screen) (3.2).

4. Peer Evaluation with Low-Fidelity Prototype

4.1 Evaluation Instrument

We designed an evaluation protocol to assess the usability, functionality, and user satisfaction of our low-fidelity prototype. The evaluation focuses on the following aspects:

Scenario Description

Participants are presented with a scenario: "You are a first-year student at McMaster University using the app for the first time. You need to organize your schedule, track assignments, and navigate to your next class using the app. Perform the tasks listed below."

Task Descriptions

1. Access the app to check your schedule and reminders for today.
2. Locate the classroom for your next lecture using the campus navigation feature.
3. Track your progress on an ongoing assignment and set a reminder for its due date.
4. Explore the wellness dashboard and set a hydration reminder.

Pre-Evaluation Questions

- Have you used academic or wellness apps before?
- How do you currently track assignments, schedules, and wellness?

Post-Task Questions

- How easy was it to complete each task on a scale of 1-5 (1 = very difficult, 5 = very easy)?
- Were the labels and instructions clear for each feature?
- Were any features confusing or difficult to use?

Post-Evaluation Questions

- Would you recommend this app to a friend? Why or why not?
- What one feature would you improve to make the app more effective?

4.2 Summary of Evaluation Process

Setup and Participants

We conducted evaluations with five participants who fit our target user demographic: first-year university students. The sessions were held in a quiet study room to minimize distractions, and each session lasted approximately 30 minutes. Participants were briefed on the purpose of the evaluation and provided consent before starting.

Evaluation Objectives

- Assess the clarity and ease of use of the prototype's features.
- Identify potential usability issues or pain points.
- Gather feedback on the relevance and effectiveness of the features.

Session Flow

1. Introduction and explanation of the scenario.
2. Participants performed the listed tasks using the prototype.
3. Participants completed the post-task and post-evaluation questionnaires.

4.3 Evaluation Results: Key Insights

Ease of Use

- Most participants rated the app as easy to navigate (average score: 4/5).
- The navigation feature received positive feedback for its clarity and functionality.

Clarity of Features

- Participants found the labels on the wellness dashboard intuitive.
- Some confusion arose with setting reminders, as the process was less intuitive than expected.

Feature Relevance

- The academic-social dashboard was praised for its visual representation of time allocation.
- Wellness reminders were appreciated but considered secondary to core academic functions.

Usability Issues

- The interactive campus map lacked sufficient detail for room-level navigation in some scenarios.
- The reminders feature needs a more streamlined setup process.

4.4 Evaluation Results: Takeaways

Improve Navigation

- Add more detailed room-level directions to the campus map feature to better assist students.

Streamline Reminders

- Simplify the steps for setting reminders to make them quicker and more intuitive.

Enhance Dashboard Customization

- Allow users to customize the academic-social dashboard further, such as adjusting time allocation visuals or adding personalized categories.

Additional Features

- Introduce a tutorial or onboarding process to guide users through the app's functionalities on their first use.

Refinements to Visuals

- Use more consistent iconography and color schemes to improve clarity and ease of use.