High-Fidelity Prototype and Project Report

Team Information

- **Team Number**: 37
- **Team Members**:
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  - Krish Patel
  - Shazim Rahman
  - Mohamad-Hassan Bahsoun

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1. High-Fidelity Prototype

1.1 Prototype Overview

The high-fidelity prototype was developed using **Figma** to represent our app's finalized design visually and interactively. It consolidates feedback and user insights from all previous milestones to create a functional and user-friendly interface tailored to first-year McMaster University students.

Figma Link:
https://www.figma.com/proto/9F72U2E2ies43fsDNkcYeC/MacSync?node-id=30-810&node-type=canvas&t=DgvMqnus7j2gQFlO-1&scaling=min-zoom&content-scaling=fixed&page-id=0%3A1&starting-point-node-id=14%3A525

Key Features:

Home Page

- Central hub for navigating app features.
- Includes a search bar, carousel for decision categories, and quick access to key functionalities.

Settings Page

- Allows users to customize preferences, including notification settings and account details.

Academic Calendar

- Displays deadlines, class schedules, and academic events in an organized format.
- Allows integration with existing university platforms for seamless updates.

Wellness Dashboard

- Points-based system to incentivize daily wellness activities.
- Includes reminders for hydration, mindfulness, fitness, and relaxation tasks.
- Tracks progress and provides motivational feedback to enhance user engagement.

Academic Dashboard

- Provides an overview of academic performance, including GPA tracking, assignment deadlines, and study suggestions.

MacFriends

- Connects students with peers for study groups, shared interests, and campus activities.
- Includes a search function and suggested matches based on interests and courses.

McMaster Compass

- Interactive campus map for room-specific navigation and route planning.
- Includes real-time updates for events and construction detours.

Notifications

- Keeps users informed about updates, upcoming deadlines, and activity on their decisions.
- Organized in a clear, chronological list with direct links to relevant pages.

1.2 Prototype Screenshots

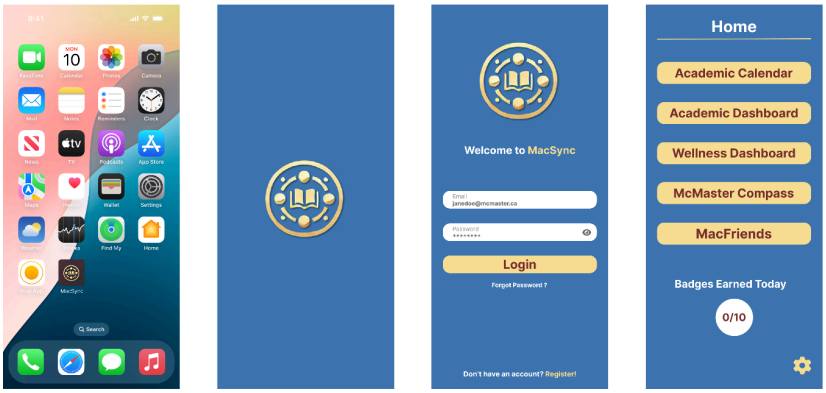

Figure 1: Login, Main Page

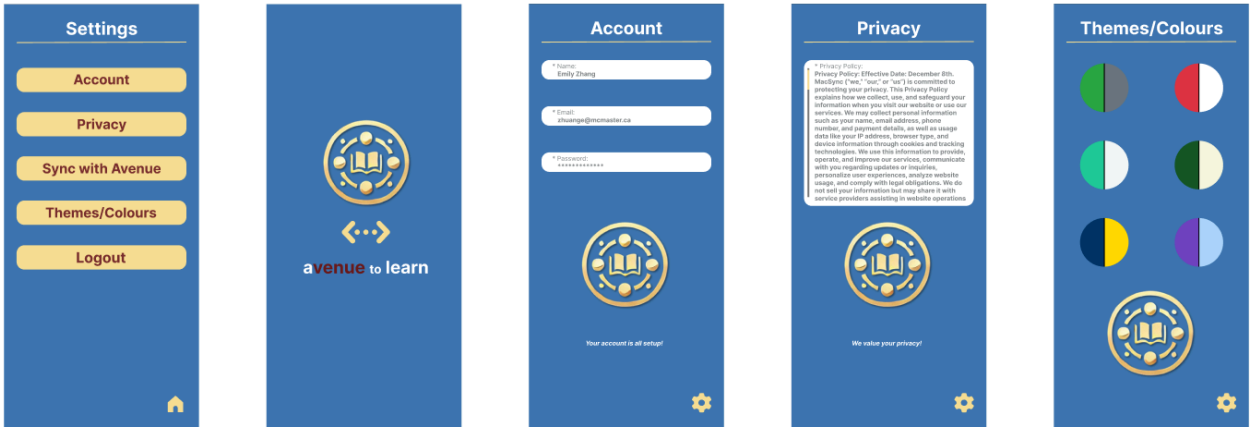

Figure 2: Setting & Subsequent Pages

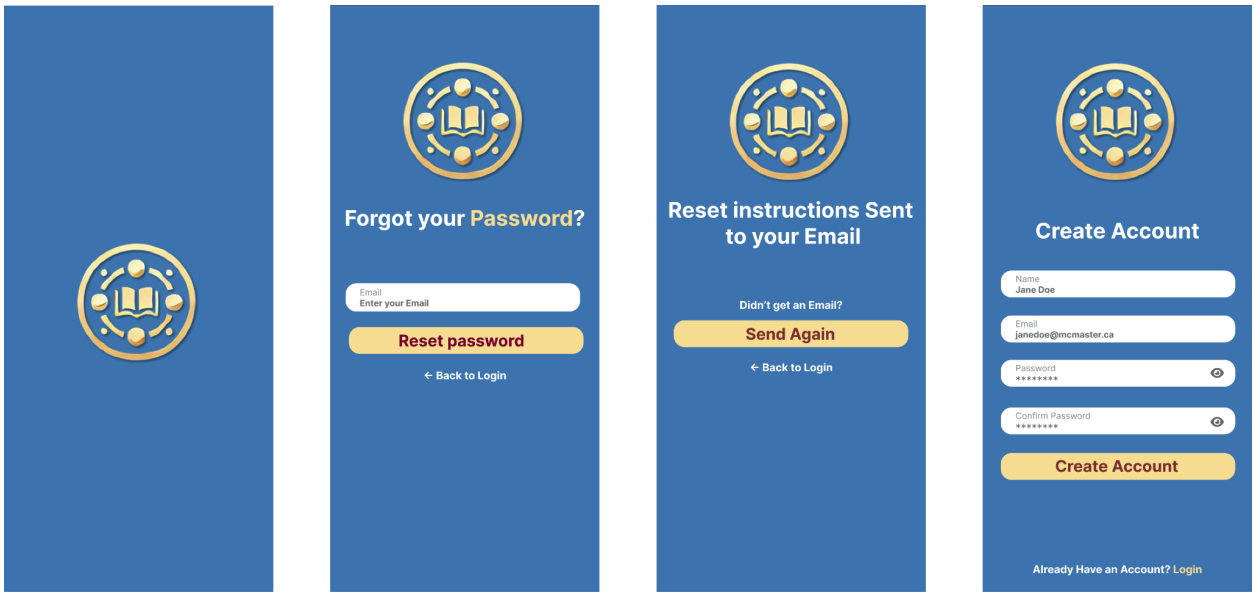

Figure 2: Alternative Login Workflow

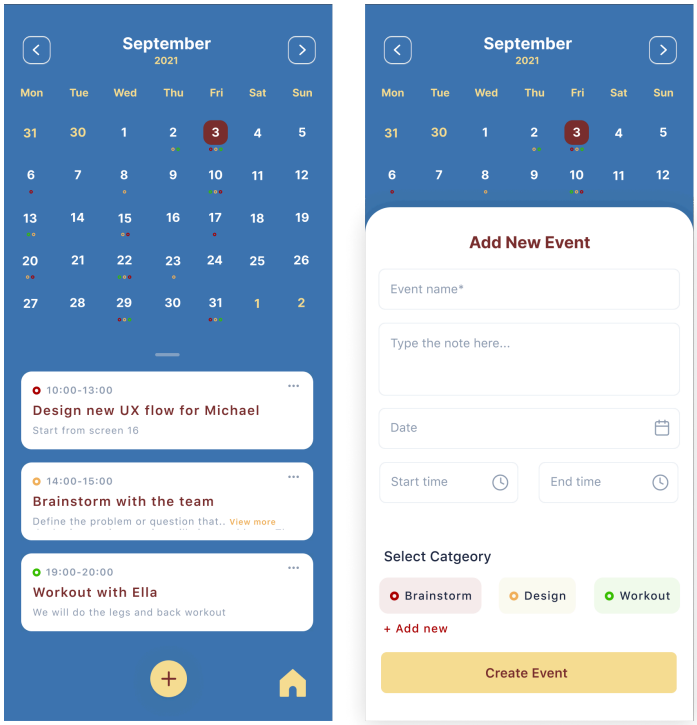

Figure 3: Academic Calendar Workflow

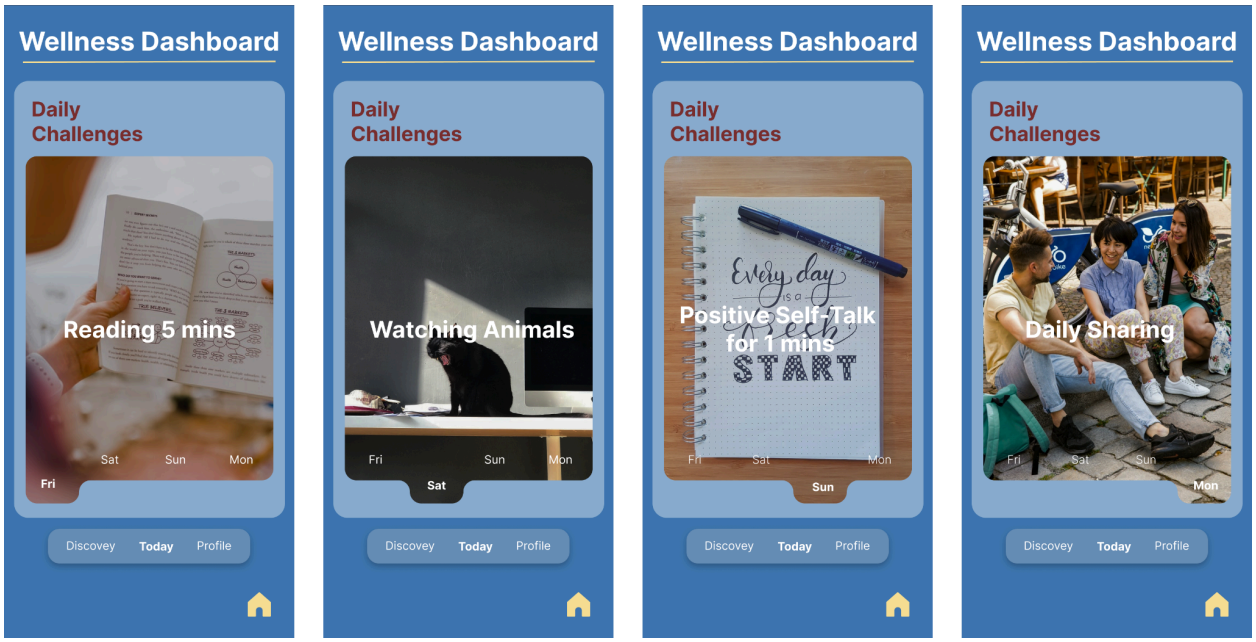

Figure 4: Wellness Dashboard Workflow

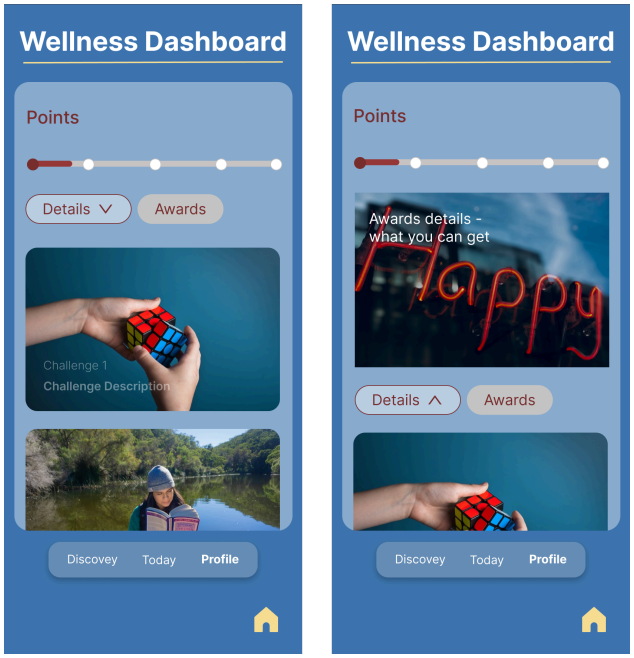

Figure 5: Wellness Dashboard Points Page

Figure 6: MacSync Notifications

Figure 7: McMaster Compass - AR Campus Navigation

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2. Iterative Design Process

2.1 Design Evolution

The app design evolved iteratively through user feedback, heuristic evaluations, and team brainstorming sessions. Starting from initial ideation in **Milestone 1**, we refined our understanding of user needs in **Milestone 2** and built foundational layouts in **Milestone 3**.

- **Milestone 1**: Brainstorming generated the idea of combining academic and wellness tools into a single platform.
  - Proposal
  - Team Contract
- **Milestone 2**: Surveys and interviews identified major pain points, such as managing multiple deadlines and navigating campus.
  - Milestone 2
- **Milestone 3**: Low-fidelity prototypes validated core features, enabling us to refine layouts and workflows for clarity and usability.
  - Milestone 3

Key refinements include:

- Simplified navigation for the interactive campus map based on feedback about cognitive load.

- Enhanced visual clarity in the academic-social dashboard by prioritizing essential information.
- Improved accessibility with larger text options and customizable notification features.

2.2 Incorporating Feedback

- **Survey Insights**:
    - 70% of respondents highlighted the need for integrated scheduling and navigation tools.
    - Many users emphasized the importance of reminders for deadlines and events.
- **Heuristic Evaluations**:
    - Identified areas for improving consistency and minimizing memory load.
    - Highlighted the need for clearer error prevention and recovery features.
- **Participant Feedback**:
    - Suggested adding wellness-related notifications and goal-setting tools.

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3. Evaluation Protocol

3.1 Methodology

- **Participants**: Five first-year students representing our primary user group.
- **Tasks Evaluated**:
    1. Navigating to a class using the campus map.
    2. Setting reminders for an upcoming assignment.
    3. Reviewing academic and social balance on the wellness dashboard.

3.2 Results

1. **Positive Outcomes**:
    - 80% of participants rated the app as intuitive and visually appealing.
    - Wellness features were commended for promoting motivation and reducing stress.
    - The campus map was praised for its detailed room-specific navigation.
2. **Improvement Areas**:
    - Requests for more options to customize themes and fonts.
    - Suggested adding live traffic updates to the campus map.

3.3 Key Takeaways

- Heuristics like **“Recognition Rather than Recall”**, **“Aesthetic and Minimalist Design”**, and **“Consistency and Standards”** were critical to the app's success.
- Feedback emphasized the importance of integrating academic and wellness tools seamlessly.

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4. Evidence of Connection to Previous Milestones

4.1 Integration with Milestones

- **Persona and Scenarios**:
    - Emily, our primary persona, influenced features like room-specific navigation and academic-social dashboards.
    - Story scenarios validated workflows for reminders, scheduling, and navigation.
- **Survey Insights (Milestone 2)**:
    - Identified pain points directly informed design decisions, such as the need for reminders and wellness notifications.
    - 60% of respondents used Google Calendar, suggesting the need for familiarity in the app's interface.
- **Low-Fidelity Prototypes (Milestone 3)**:
    - Prototypes laid the foundation for high-fidelity designs, guiding decisions on layout, navigation, and feature prioritization.

4.2 Connection to UCD Principles

The app reflects core user-centered design principles by:

- Prioritizing user needs identified in Milestone 2.
- Incorporating iterative feedback at every stage.
- Ensuring the design remains accessible, intuitive, and relevant to first-year students.

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5. Reflection on UCD Process

5.1 Team Contributions

Bahsoun

- Home Page
- Login Workflow
- Create Account Workflow
- Forgot Password Workflow

Krish

- Settings Page
- Account, Privacy, Sync with Avenue, and Themes/Colours Pages

Jawad

- Academic Calendar
- Wellness Dashboard

Shazim

- Academic Dashboard
- MacFriends

Rafey

- McMaster Compass
- Notifications

5.2 Challenges and Resolutions

Challenge: Balancing feature-rich designs with simplicity.

- Developing an app that combines diverse tools for navigation, wellness, and academic scheduling posed a risk of overloading the interface. Users might find it daunting if too many features were presented without clear categorization.
- **Resolution:** The team adopted modular layouts, grouping functionalities into distinct pages (e.g., Wellness Dashboard, Academic Calendar) to ensure users only interact with relevant tools. User testing during the prototype phase helped refine workflows, focusing on the most critical features for the MVP (Minimum Viable Product).

Challenge: Addressing diverse user preferences.

- Users' feedback highlighted varying preferences for features like notifications, navigation tools, and academic tracking, creating the need for flexible customization without over-complicating the app.
- **Resolution:** Introduced customizable options such as notification settings and theme preferences to allow users to personalize their experience. These enhancements were informed by heuristic evaluations and incorporated based on iterative user feedback.

Challenge: Integrating user feedback effectively.

- Ensuring that all critical feedback, especially from surveys and usability tests, was addressed without deviating from the initial scope was challenging.
- **Resolution:** Feedback was prioritized based on the frequency of requests and alignment with the core user needs outlined in Milestone 2. Features like room-specific navigation and wellness reminders were prioritized, while advanced options were reserved for future iterations.

5.3 Strengths and Weaknesses

Strengths:

- **Unified Platform:** Combines academic, wellness, and navigation tools into a cohesive app tailored for first-year university students, addressing a broad range of pain points identified in Milestone 2.
- **Ease of Use:** Modular layouts and an intuitive interface ensure users can easily navigate between features, reducing cognitive load and improving the onboarding experience.
- **Personalization Options:** Customizable notifications and theme preferences cater to diverse user needs, enhancing user engagement and satisfaction.
- **Room-Specific Navigation:** The McMaster Compass feature minimizes stress for first-year students unfamiliar with campus, providing real-time directions and updates.
- **Wellness Integration:** The points-based system in the Wellness Dashboard promotes healthy habits by gamifying daily wellness tasks, aligning with the app's mission to improve academic and personal well-being.

Weaknesses:

- **Limited Advanced Customization:** While the app supports basic customization, users seeking advanced features (e.g., detailed analytics for wellness progress) may find the functionality limited.
- **Limited Accessibility Features:** Although the app incorporates larger text options and modular layouts, it lacks comprehensive accessibility tools such as screen readers or haptic feedback, potentially excluding users with specific impairments.

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6. Conclusion

The final high-fidelity prototype represents a culmination of extensive research, iterative design, and collaborative efforts to address the specific needs of first-year McMaster University students. By integrating academic, wellness, and navigation tools into a single, cohesive platform, the app provides an accessible and user-friendly solution for managing the complexities of university life.

Building on the insights from Milestones 1, 2, and 3, the design reflects a deep understanding of user challenges such as time management, navigation, and balancing academic and personal well-being. Features like the Academic Calendar and the Wellness Dashboard were carefully crafted to reduce cognitive load, provide clear guidance, and promote holistic development. The inclusion of functionalities like room-specific navigation, customizable notifications, and a points-based wellness system ensures that the app is both practical and engaging.

Key strengths of the prototype include its emphasis on user-centered design principles, such as simplicity, feedback, and consistency. The seamless navigation and intuitive layout were praised during evaluations for promoting accessibility and reducing the learning curve for new users. The ability to manage decisions, set reminders, and track wellness progress directly supports the goal of helping students thrive academically and socially.

While the current version of the app effectively meets the minimum viable product requirements, opportunities for future improvement remain. Enhancing customization options, integrating live updates into navigation features, and expanding compatibility with other university platforms are areas to explore in subsequent iterations. Addressing these enhancements will ensure the app continues to meet the evolving needs of its users and provides an even greater value to the McMaster community.

Overall, this prototype demonstrates the potential of combining robust functionality with thoughtful design to create a meaningful and impactful tool for student success. It serves as a testament to the importance of user feedback and iterative development in achieving design excellence. By focusing on the real-world challenges faced by students, this app not only offers practical solutions but also fosters a supportive and motivating environment for their university journey.