User Interface Design Document

IWAC Conference Application for Heather Falconer

PenUltimate

Brett Palmer, Monica Agneta, George Pitt, Rebecca Sonnemann, Ben Caras

3 December 2025

Table of Contents

1 Introduction

This capstone project is being completed in partial fulfillment of the requirements for the B.S. in Computer Science degree for the University of Maine (UMaine). The client for this project is part of the Association for Writing Across the Curriculum (AWAC), which organizes the International Writing Across the Curriculum Conference (IWAC), a multi-day event that hosts both educators and researchers. In 2027, UMaine is hosting this conference. The client is interested in having a mobile conference application that can be repurposed for future conferences. The client noted having issues with last year's application, such as having to scroll through too many events and being unable to filter through them (Whova, 2025). The client also mentioned that when a previous app was used on mobile devices, it opened up a web page that was not optimal (LineUpr, 2025). The problem that the client is trying to solve is finding an effective way to allow in-person attendees to navigate the session schedule and find the info they need, as well as creating a way for virtual attendees to have a more interactive conference experience.

1.1 Purpose of This Document

The purpose of the User Interface Design Document (UIDD) is to define and describe the user interface for the IWAC Conference Application, developed for the client, Heather Falconer, as part of the International Writing Across the Curriculum Conference (IWAC). This document specifies how attendees will interact with the application and provides a detailed overview of all visual components and interface behaviors. This document also provides all diagrams, interface standards and screen walkthroughs needed to guide implementation. The UIDD serves as the reference for the design and layout of the application, ensuring that there is a consistent understanding of the system's appearance and functionality.

1.2 References

Association for Writing Across the Curriculum. (2025). *IWAC 2025*. https://iwac2025.lineupr.com/iwac-2025/

LineUpr. (2025). *The Event application solution to boost your event communication – LineUpr*. LineUpr GmbH. https://lineupr.com/en

React Native. (2025). *React Native · A framework for building native apps using React.* Meta Platforms, Inc. https://reactnative.dev/

Supabase. (2025). *The Open Source Firebase Alternative*. Supabase Inc. https://supabase.com/

Whova. (2025). *Whova: Award-winning Event Apps and Event Management*. Whova, Inc. https://whova.com/

Wireframe.cc | The go-to wireframing tool. (2025). Wireframe.cc. https://wireframe.cc/

2 User Interface Standards

This section details the key user interface standards throughout the IWAC Conference Application. It includes a low-level screen layout of the homepage, the common UI components that will be used across screens, the overall navigation structure for users, and the general error-handling logic. These standards establish a clear and cohesive framework for how the UI will be developed.

2.1 General Layout and Common Components

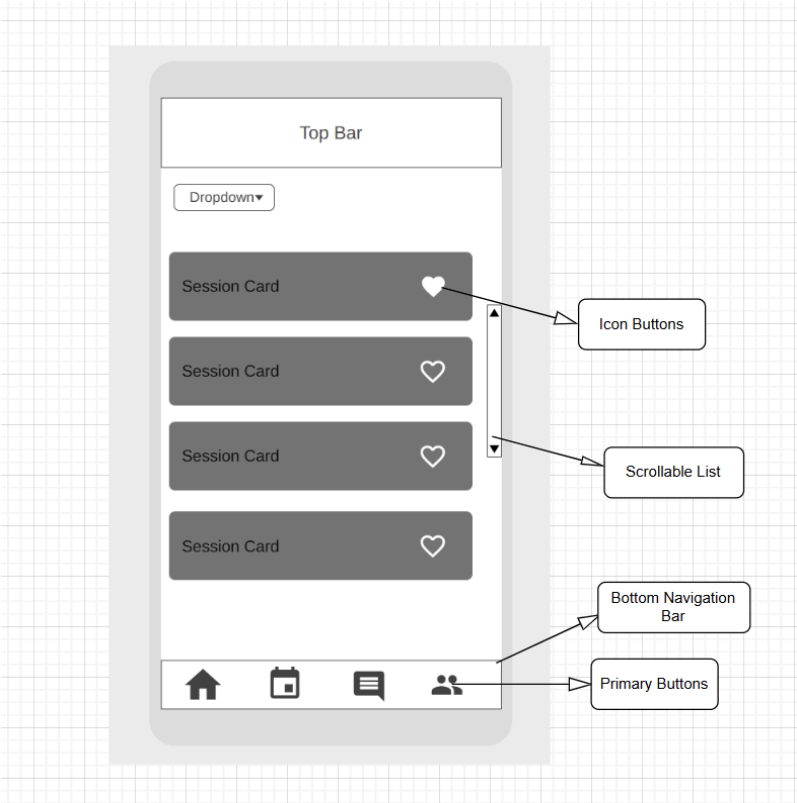

Figure 2.1.1 - Home Screen Layout (Wireframe.cc, 2025)

The home page layout of the IWAC Conference App has several key features that are listed in Table 2.1 and diagrammed in Figure 2.1. The very top of the page will consistently be the Top Application Bar which remains fixed and provides the page title along with a back button on secondary pages. Directly below that is the filter area that contains a dropdown menu for users to choose which conference sessions they would like to have shown on the home page. The center area of the screen is the vertically scrollable section that displays all the session cards. On the initial view of the session cards, the session name, time, and a favorite button is displayed. The session details are available by clicking on the session cardsThe bottom of the

screen includes the Bottom Navigation Bar, another fixed feature that holds the icons of Home, Schedule, Messages, and People pages all of which can be easily navigated to with a click. This screen layout keeps the main content of the conference sessions the highlight of the page and ensures simple navigation to the other application features.

Table 2.1.1 - Common Components

Component	**Description**
Bottom Navigation Bar	Persistent tab at bottom of page that allows user to navigate to the corresponding main page.
Top Navigation Bar	Persistent bar at top of page that displays page name and back button in left corner.
Session Cards	Cards that contain session title, time, and “favorite” button, located on the home page and schedule page.
Primary Buttons	Main buttons on pages for major actions such as sending messages; will be rounded rectangles.
Icon Buttons	Small buttons containing icons that will be shown on the bottom navigation bar.
Scrollable List	Main feature on home page and schedule page to allow users to scroll through vertical content.
Dropdown	Component that allows the user to choose multiple options from the list; used for filtering the home page.

Furthermore, Dr. Falconer provided an AWAC Social Media Kit that will be referenced to maintain a consistent style throughout the IWAC application. Her document included the official AWAC logo, hex codes for preferred colors, and a set of fonts. These elements will be implemented into the IWAC application to ensure uniformity within the mobile application and to uphold consistency with other AWAC content.

2.2 Navigation

Navigation through the application will be based on the bottom navigation tab for all primary pages as well as stack-based navigation to other features within the pages. For example, a user will be able to click on a session to view the session details and attend the session. When

in attendance, the user will be able to leave comments under the session that get sent to the presenter. From the messages page, users will be able to see their chat thread and from there can view the profiles of the users they message. Users will always be able to return to the home page by using a back arrow that will be in the left side of the header. This will ensure that users can move through the application smoothly.

2.3 General Error Handling

The IWAC conference application will clearly communicate errors to the user through concise pop-up messages that explain what went wrong. For example, if a user attempts to create multiple accounts with the same email, the system will prevent the action and display a message that says “An account already exists with this email. Please log in or choose a different email.” The error messages will appear near the related input fields. For system related errors such as network failure, the app will display a banner with the necessary information. Errors will also be logged on the backend for developers to diagnose issues.

3 User Interface Walkthrough

The User Interface Walkthrough section displays user interface (UI) diagrams of all major screens and describes how the user would utilize them. All of the mockups were built with React Native (2025), so they serve as the first prototype of the IWAC application’s UI. Each section covers a main feature such as login, account creation, and event viewing. The image of each screen is accompanied with an explanation of the screen’s purpose and how a user can interact with its buttons, text boxes, and other components to achieve their goal.

3.1 Create Account

When users first open the IWAC application, they will need to create an account in order to access the system's features. Figure 3.1.1 shows the user interface for creating an account; users will be able to enter their name, email address, and password. The user's name will be shown to other users. Users will be able to navigate to the log in screen by clicking the “Already Have an Account? Go to Login Screen” text at the bottom of the screen.

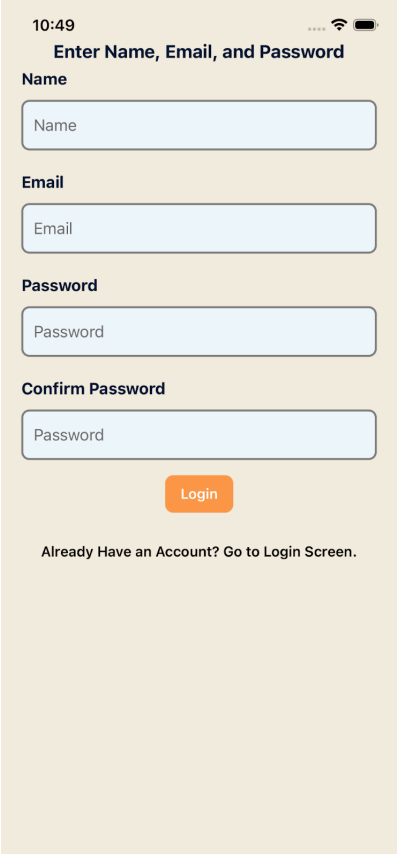

Figure 3.1.1 Create Account Screen

3.2 Login

When users open the IWAC application after creating an account they will be able to subsequently login to their account. Figure 3.2.1 represents the login screen where users will be able to enter their email address and password. Users will be able to navigate to the create account screen by clicking the “Not Registered? Create Account” text at the bottom of the screen.

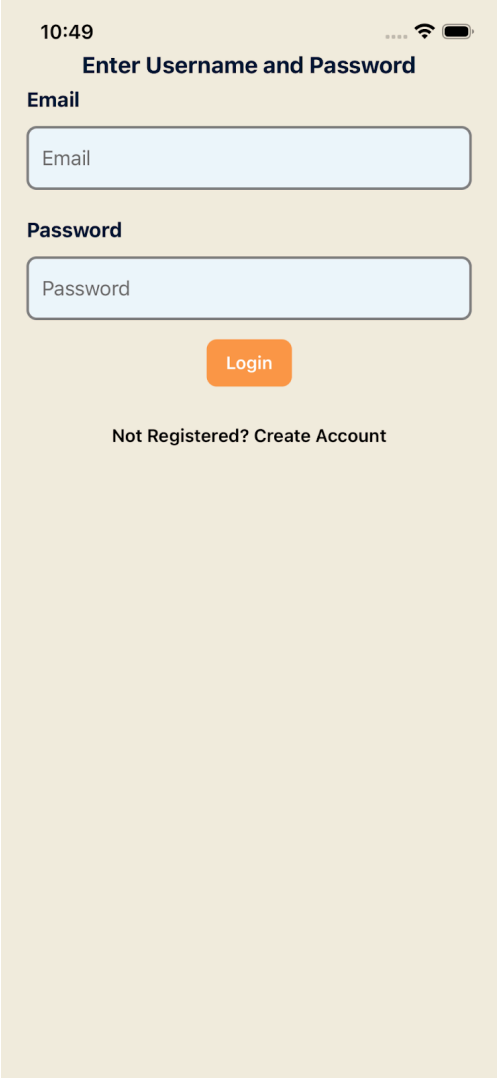

Figure 3.2.1 Login Screen

3.3 Events

The Events screen shown in Figure 3.3.1 provides an interface for users to browse and filter different conference sessions. The main Events screen includes a search bar at the top, allowing users to find sessions by title, topic, or speaker. A filter panel, shown in Figure 3.3.2, is accessible from below the search bar, which allows users to filter results by the theme. Each event has a heart icon on the top right to add the event to your itinerary.

Below the filter panel, the system displays a list of all matching events in a list. In Figure 3.3.1, it shows a few example sessions. Each event card includes the event's topic tag(s), session title, scheduled date and time, location, and the lecturer. Selecting an event card opens the full event details page, shown in Figure 3.3.3, where users can view more information about the event and add the session to their itinerary using the heart in the top right corner. From the Events screen, users can also navigate to their Itinerary, Messages, Profile, and Notifications.

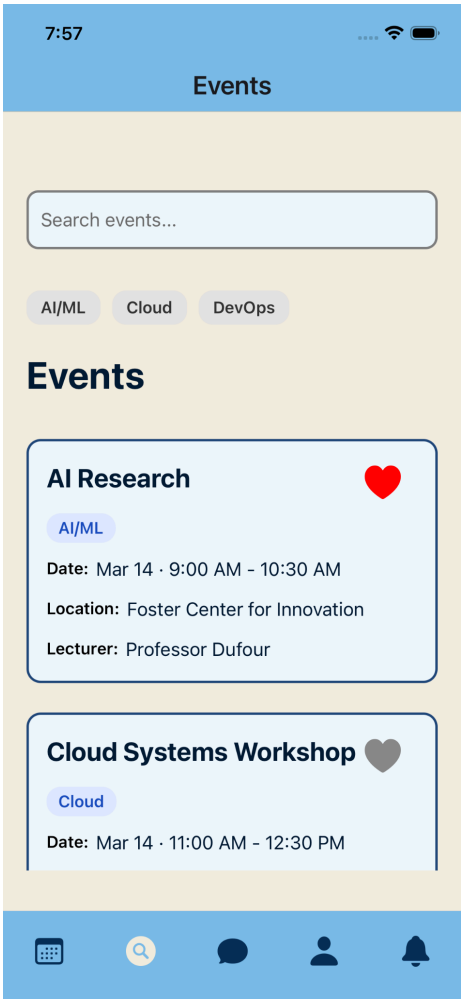

Figure 3.3.1 Events Page

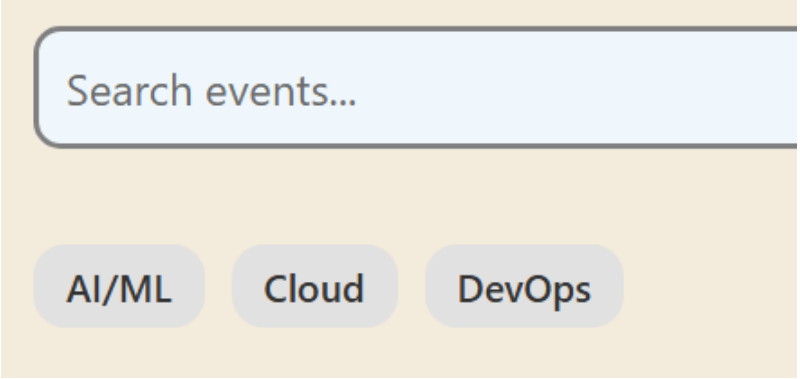

Figure 3.3.2 Filtering Panel

Figure 3.3.3 Event Details

3.4 Itinerary

After adding events to your itinerary, you can view the full list of events you have saved by clicking on the Itinerary button on the bottom navigation bar, represented by a calendar icon. The event cards saved to the user's Itinerary display the session time, location, and presenter. Users can easily remove events from their itinerary by clicking on the red "x" icon in the right hand corner of each event card, shown in Figure 3.4.1. Clicking on any event will open the full event details. In the top right corner of the Itinerary page, there is a "Browse More Events" button which takes the user to the Events page, where they can add events to their itinerary.

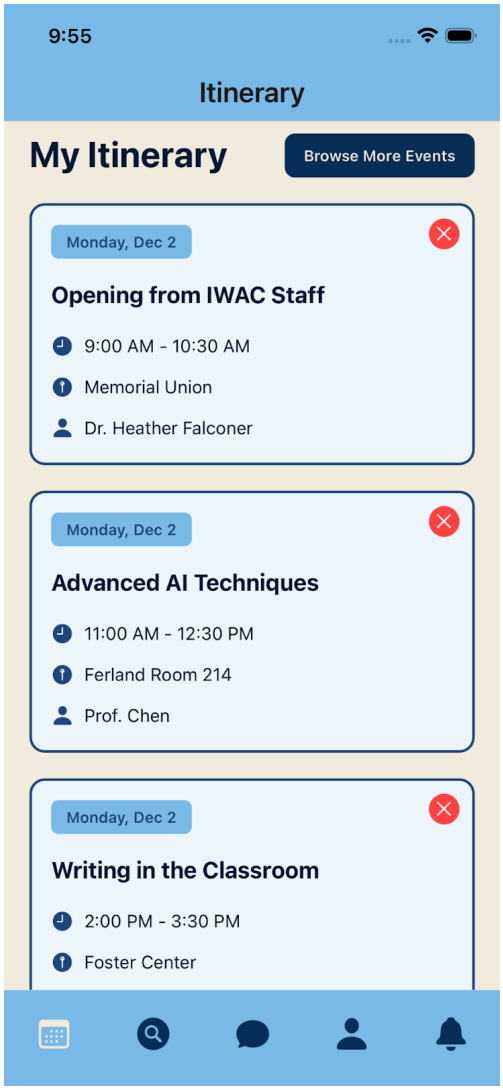

Figure 3.4.1 My Itinerary Screen

3.5 Profile & Edit Profile

Figure 3.5.1 shows the user's profile page, along with their information, including name, a short biography, interests, an "about me" section, and a profile picture. Edits to these details can be made by clicking on "Edit Profile" on the top right corner of the screen.

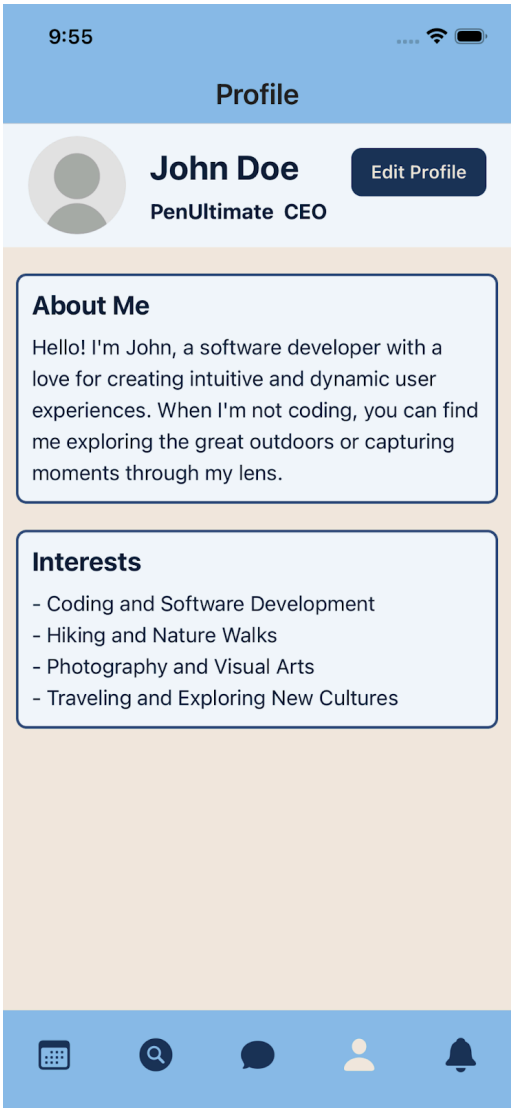

Figure 3.5.1 Profile Page

Selecting “Edit Profile” opens the Profile Settings screen, shown in Figure 3.5.2, where users can update and manage their personal information. The Profile Settings page includes fields for the user’s name, biography, interests, and an “about me” section.

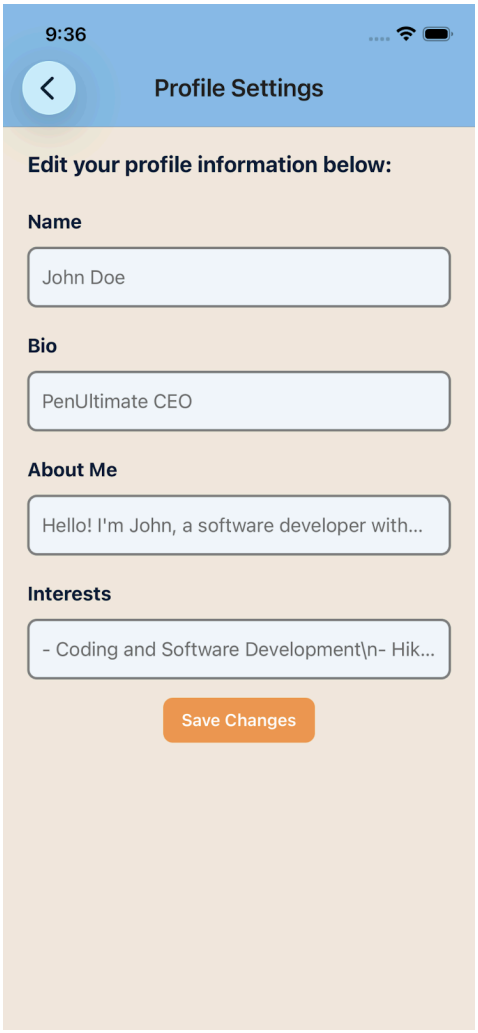

Figure 3.5.2 Profile Settings

3.6 Messages

The screens shown in Figure 3.6.1 provide a clear interface for users to view and manage direct conversations with other conference attendees. The main Messages screen displays a list of existing message threads, each showing the recipient's profile picture, full name, and a preview of the most recent message. Selecting any thread opens the corresponding Conversation screen.

At the top of the Conversation screen, a header shows the recipient's full name. The main area shows the conversation history in chronological order. Users can compose messages using the input field at the bottom of the screen and send them with the adjacent "Send" button.

From the main Messages screen, users can tap the plus icon to open the Search Users modal. They can enter a recipient's name or email into the search field. A list of matching users then appears below, with a profile picture and full name for each user. Choosing a given name launches a new Conversation screen for the recipient, allowing the user to begin a conversation.

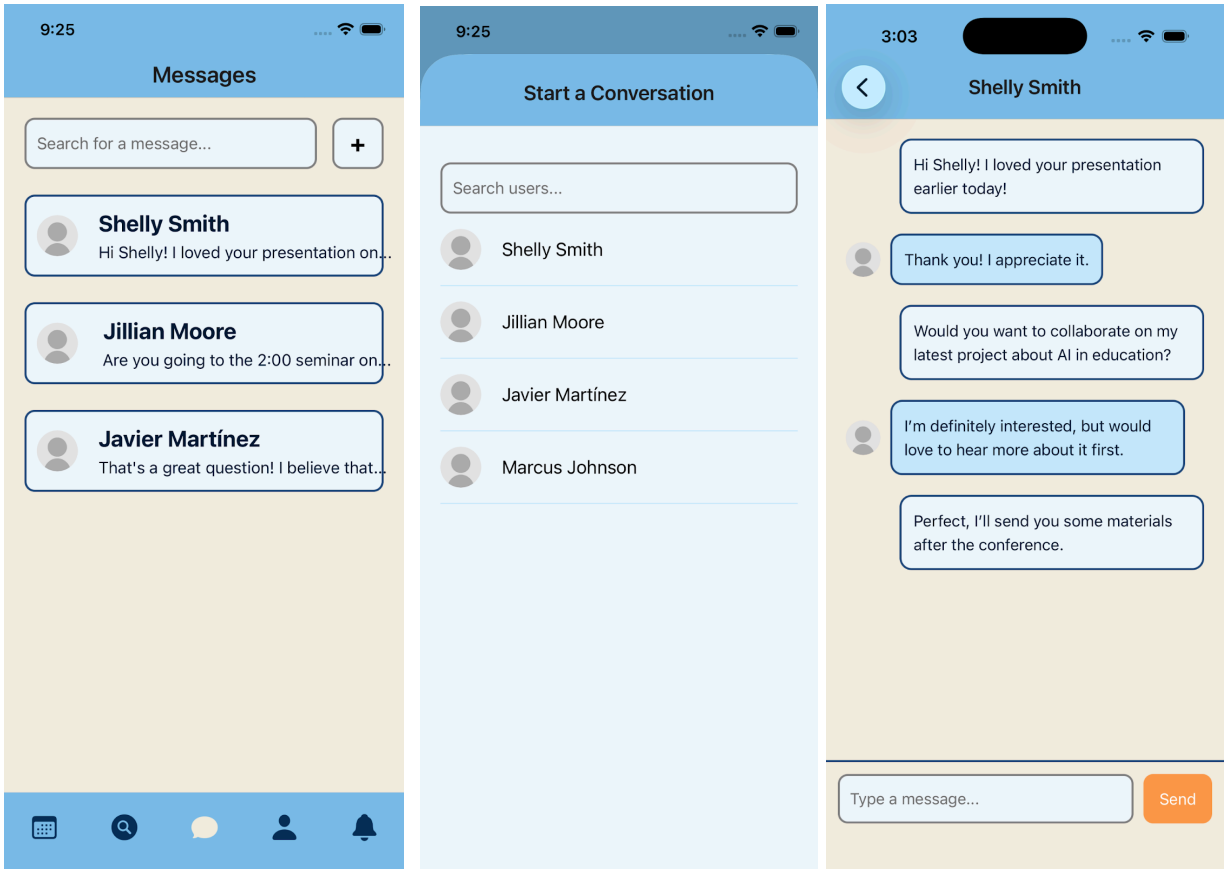

Figure 3.6.1 Messages, Conversation, and UserSearch Screens

3.7 Notifications & Manage Notifications

The Notifications screen shown in Figure 3.7.1 displays a chronological list of notifications that the conference administrator has sent to all participants. Notifications appear from most recent to oldest, and each entry shows the time elapsed since the notification was sent out. Unread notifications are emphasized with a bold text, and are marked as read once the user taps them. By default, each notification preview is limited to three lines, but users can tap any notification to expand it and view the full content.

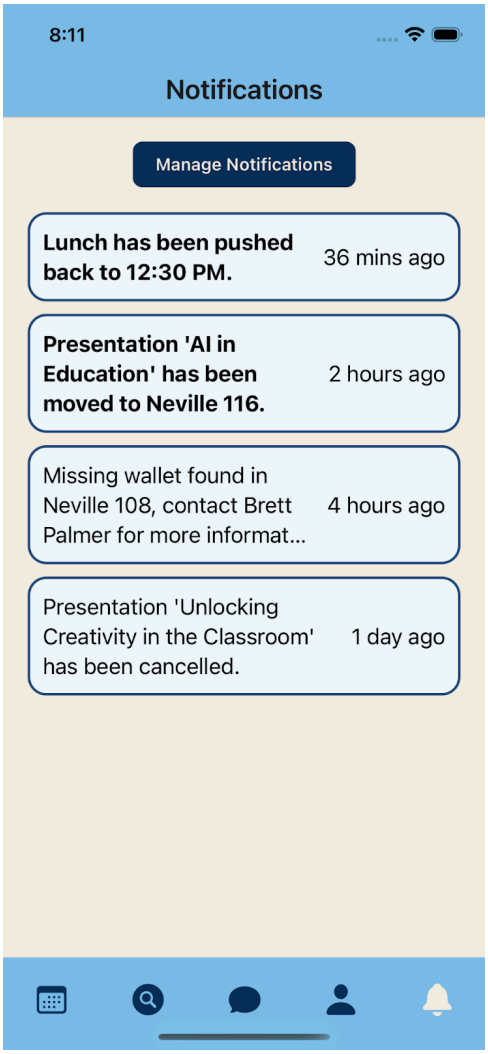

Figure 3.7.1 Notifications Screen

Selecting the “Manage Notifications” button opens the Manage Notifications screen, which allows users to adjust how they receive alerts about events, schedule changes, messages, and emails. As shown in Figure 3.7.2, the user is able to toggle whether they would like email notifications, push notifications, or SMS notifications, with checkboxes available to toggle each of these settings on or off.

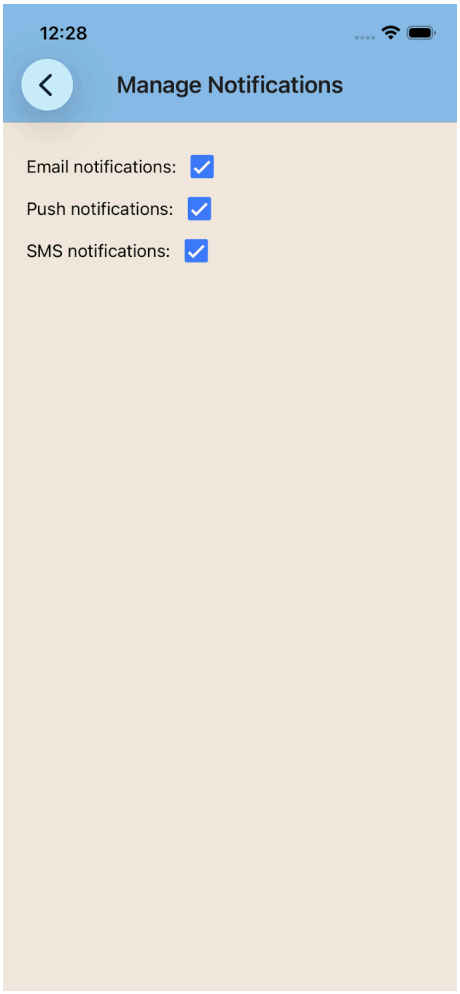

Figure 3.7.2 Manage Notifications Screen

4 Data Validation

This section describes how data is entered and validated in the IWAC application to ensure consistency, accuracy, and security. Data validation rules are applied at both the database and application levels. This section distinguishes between data entered by administrators and data entered by end users.

4.1 Administrator Data Entry

For information entered by administrators, we will hold a training session with Dr. Falconer to demonstrate how to upload and manage data directly through Supabase, as well as to review supporting documentation for future reference. Dr. Falconer expressed a preference for a web-based spreadsheet interface rather than entering information directly through the mobile application. Supabase provides an intuitive interface for managing tables, which makes it a suitable choice for Dr. Falconer to fill in the Conference, Event, and Presentation tables as diagrammed in our SDD. All data constraints such as required fields, data types, and maximum lengths will be defined within the database schema in accordance to the rules established in the SDD. Figure 4.1 illustrates an example of the Supabase user interface using the Events table of the IWAC Application.

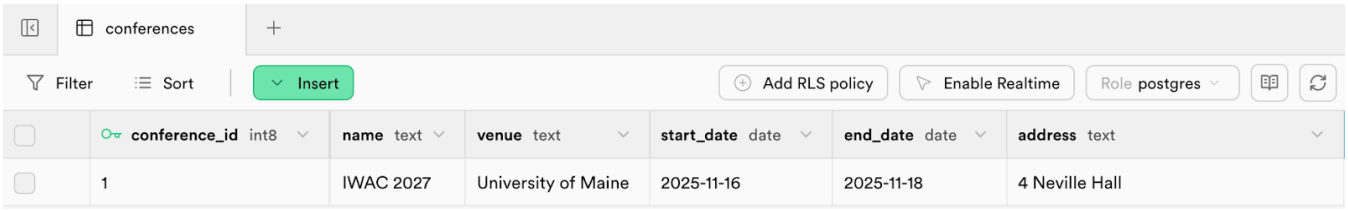

Figure 4.1 Supabase User Interface (Supabase, 2025)

4.2 User Data Entry

This section defines all data items that users can enter through the IWAC application interface. Each item is mapped to its corresponding field in the database schema, specifying the data type, size, format requirements, and validation rules enforced by the system. Table 4.2 summarizes these inputs and constraints that ensure data integrity and consistency across the application.

Table 4.2 Data Validation

Data Item (Screen & Name)	**Database Item (Table & Field)**	**Data Type & Size**	**Format & Constraints**	**Validation Rules**
Registration email_input	Users email	VARCHAR(100)	Standard email format, e.g. “username@domain.tld”	Required; Unique; Exists in IWAC Registration;
Registration password_input	Users password	VARCHAR(255)	Length from 8 to 64 characters; At least one uppercase, lowercase, 1 digit	Required; Stored as salted hash of up to 255 characters
Profile first_name_input	Users first_name	VARCHAR(50)	Letters, hyphens, apostrophes, and spaces only	Required
Profile last_name_input	Users last_name	VARCHAR(50)	Letters, hyphens, apostrophes, and spaces only	Required
Profile affiliation_input	Profiles affiliation	VARCHAR(100)	Free text	Optional
Profile bio_input	Profiles bio	VARCHAR(500)	Free text	Optional
Comment comment_input	Comments content	VARCHAR(1000)	Free text	Optional
Messaging message_input	Messages content	VARCHAR(1000)	Free text	Optional

Appendix A – Agreement Between Customer and Contractor

The PenUltimate team is responsible for developing the application as outlined in this User Interface Design Document. The development includes application features, user interface requirements, user and administrator actions, data storage, and database management. The development can be done using open source software to base our work off of, and future developers will have access to our code and the database to be able to update it in the future as needed, as our involvement with building this application will end after May 2026.

Should either party wish to make changes to this document, both parties must meet ahead of time and mutually agree on said change. If Heather Falconer is the party requesting these changes, they should reach out to our client liaison, Monica Agneta, with their requests. Similarly, should we request any changes to this document, Monica will reach out to Heather with our requests.

Signature: _____ Date: 11/17/2025

Signature: _____ Date: 11/17/2025

Signature: _____ Date: 11/17/2025

Signature: _____ Date: 11/17/2025

Signature: _____ Date: 11/17/2025

Signature: _____ Date: 11/18/2025

Appendix B – Team Review Sign-off

All team members have signed to acknowledge they have reviewed this document and agreed on both its content and format. If team members have minor disagreements, they may state them in the comments area.

Rebecca Sonnemann

Signature:  Date: 12/03/2025

Comments: _____

_____

Brett Palmer

Signature:  Date: 12/03/2025

Comments: _____

_____

Monica Agneta

Signature:  Date: 12/03/2025

Comments: _____

_____

Ben Caras

Signature:  Date: 12/03/2025

Comments: _____

_____

George Pitt

Signature:  Date: 12/03/2025

Comments: _____

_____

Appendix C – Document Contributions

Brett

Brett wrote the section 3 introduction, section 3.6, and section 4, including Figure 4.1 and Table 4.2. He set up the React project for the UI and coded the Messages, Conversation, Search Users, and Notifications screens. Brett estimates that he did 20% of the work for this document.

Monica

Monica wrote the introduction paragraph, section 2, created figure 2, and Appendix A. She also coded the Itinerary screen and wrote 3.4 for it.

Monica estimates that she did 20% of the work for this document.

George

George wrote sections 3.5 and 3.6, and created the related pages for the prototype. George estimates that he did 20% of the work for this document.

Rebecca

Rebecca wrote section 3.3 and 3.4, as well as created the figures for those sections. Rebecca also wrote the purpose of the document. Rebecca estimates she did 20% of the work for this document.

Ben

Ben wrote section 3.1 and 3.2 as well as created the figures for these sections. Ben wrote the introduction paragraph for section 3. Ben estimates that he did 20% of the work for this document.