

# User Interface Design Document

IWAC Conference Application for Heather Falconer

PenUltimate

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# 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. 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 more of an 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.

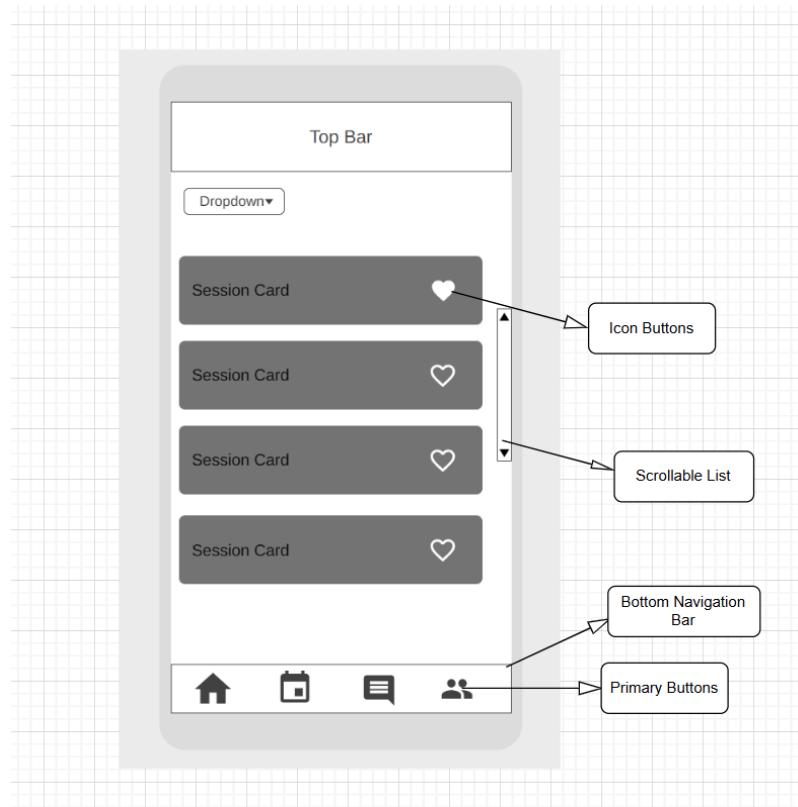
## 1.2 References

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## 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 - 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 and diagrammed in Figure 2. 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. Each card shows the session time, includes a favorite button for the user to toggle, and the session details are available by clicking on the session cards. The bottom of the screen includes the Bottom

Navigation Bar, another fixed feature that holds the icons of Home, Schedule, Messages, and People pages all which can be easily navigated to on 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 - Common Components**

Component	Description
Bottom Navigation Bar	Persistent tab at bottom of page that allows user to navigate to any 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, on 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.

## 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 should 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 should appear near the related input fields. For system related errors such as network failure, the app should display a banner with the necessary information. Errors should also be logged on the backend for developers to diagnose issues.

# 3 User Interface Walkthrough

The user interface walkthrough section provides mockups of all major screens, details, and features, as well as basic navigation between these screens. The mockups include login, creation of an account, event list, profile settings, and messaging. For each of these sections there is a screenshot of the mockup; as well as a description. The description details how the user will interact with buttons, text boxes, and other components on that screen; describes the purpose of each screen as well as functionality.

## 3.1 Profile

Figure 3.1.1 shows the user’s profile page, along with their information, including name, email, profession, interests, and a profile picture. Edits to these details can be made by clicking on Settings on the top right corner of the screen. In the future, we plan on adding an “edit profile” button to the profile page itself.

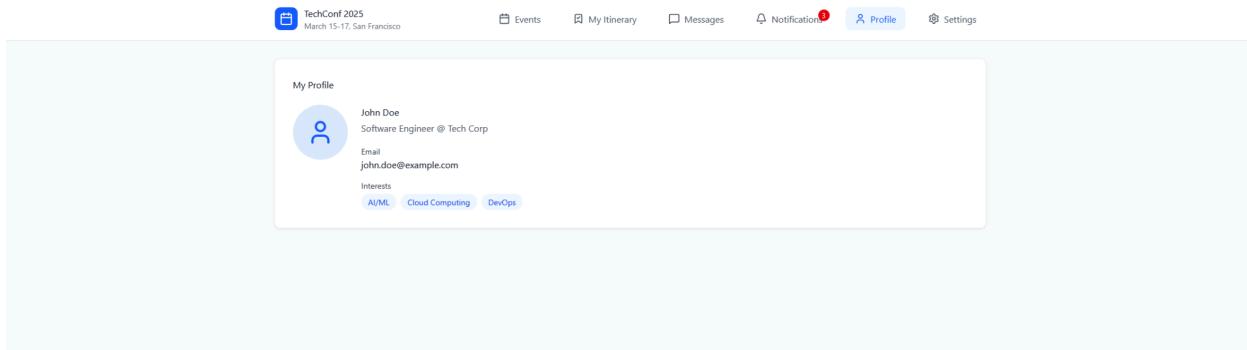


Figure 3.1.1 Profile Page

## 3.2 Notifications

The Notifications screen shown in picture 3.2.1 provides the user with a list of previous notifications, with unread ones at the top. You can access this screen by clicking the Notifications button at the top, which also displays the number of unread notifications, as shown in picture 3.2.2.

Notifications may include buttons leading to the associated message or event for more information. Alternatively, users may click the “mark all as read” button to remove all notifications.

The screenshot shows the Notifications page for TechConf 2025. At the top, there is a header with the conference logo and name, followed by navigation links for Events, My Itinerary, Messages, Notifications (which is the active tab), Profile, and Settings. A 'Mark all as read' button is located in the top right corner. The main content area is divided into two sections: 'New' and 'Earlier'. The 'New' section contains three notifications:

- Event Starting Soon**: The Future of AI: Trends and Predictions starts in 1 hour at Main Hall A. (45 minutes ago) - [View Event](#)
- New Message from Dr. Sarah Chen**: Thanks for your interest in the AI session! (2 hours ago) - [View Message](#)
- Event Added to Itinerary**: Cloud-Native Architecture Masterclass has been added to your itinerary. (3 hours ago)

The 'Earlier' section contains four notifications:

- Schedule Change**: DevOps Best Practices for 2025 has been moved to Hall C. (5 hours ago) - [View Details](#)
- Tomorrow's Schedule**: You have 2 events scheduled for tomorrow. Building Scalable APIs with GraphQL at 9:00 AM and UX Design Principles for Developers at 11:00 AM. (1 day ago) - [View Itinerary](#)
- Welcome to TechConf 2025**: Get ready for three days of amazing talks, workshops, and networking opportunities! (2 days ago)
- Event Reminder**: Cybersecurity in the Modern Age starts tomorrow at 2:00 PM in Main Hall A. (1 day ago)

Figure 3.2.1 Notifications Page



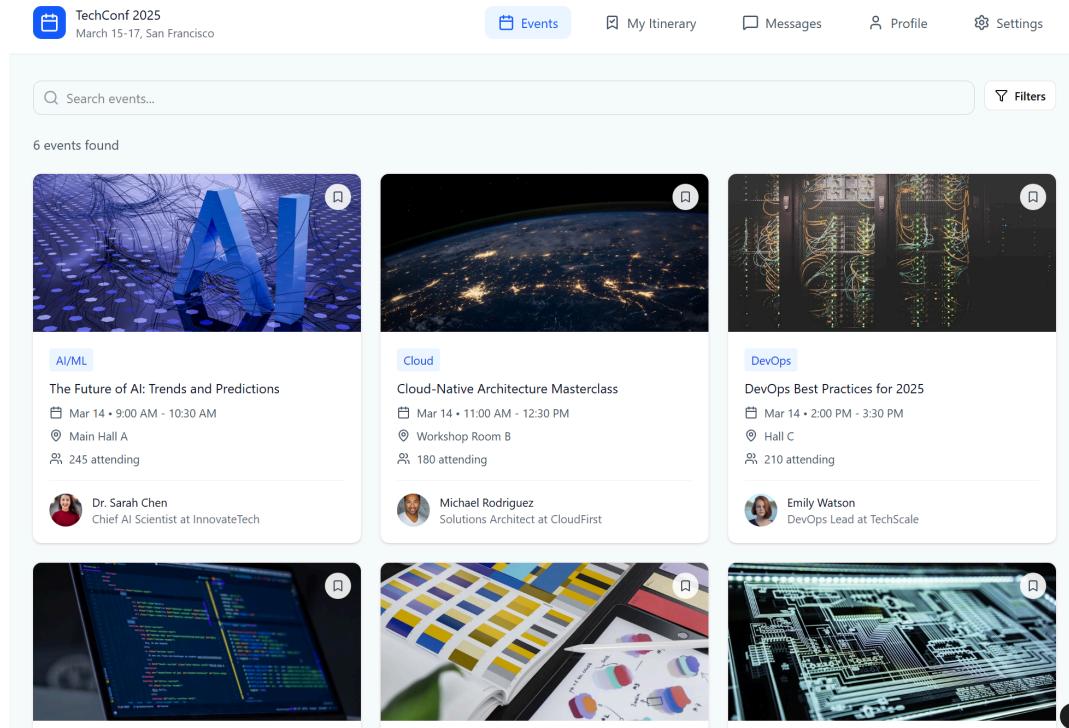
Figure 3.2.2 Notifications Icon

## 3.3 Events

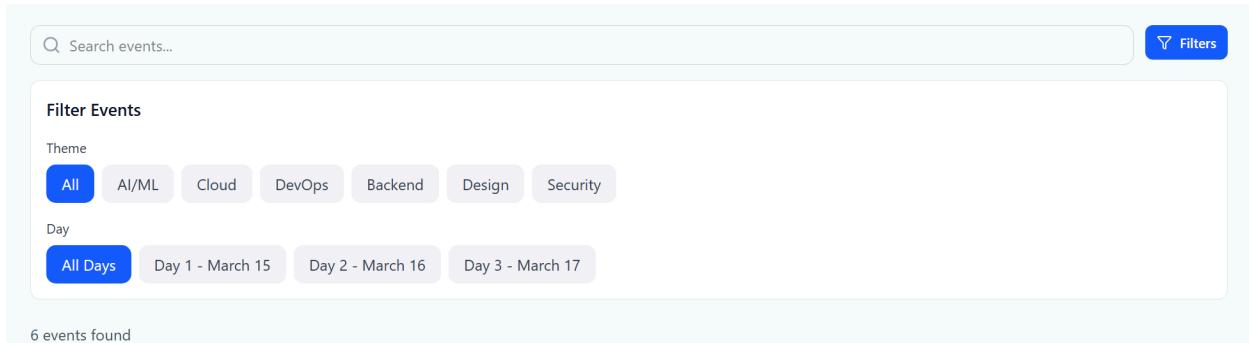
The Event screen shown in Figure 3.3.1 provides an interface for users to browse and filter different conference sessions. The main Events screen includes a search bar at the top, allowing users to find sessions by title, topic, or speaker. A filter panel, shown in Figure 3.3.2, is accessible from the upper-right corner, which allows users to filter results with options such as theme and day.

Below the search bar, the system displays a list of all matching events in a grid layout. Each event card includes a banner image, the event’s topic tag, session title, scheduled date and time, location, number of attendees, and a small preview of the speaker’s profile. Selecting any event card opens the full event details page, where users can view more information and add the

session to their itinerary. Figure 3.3.1 shows the main Events page with several example sessions. From the Events screen, users can also navigate to their Itinerary, Messages, Profile, as well as settings.



**Figure 3.3.1** Events Page



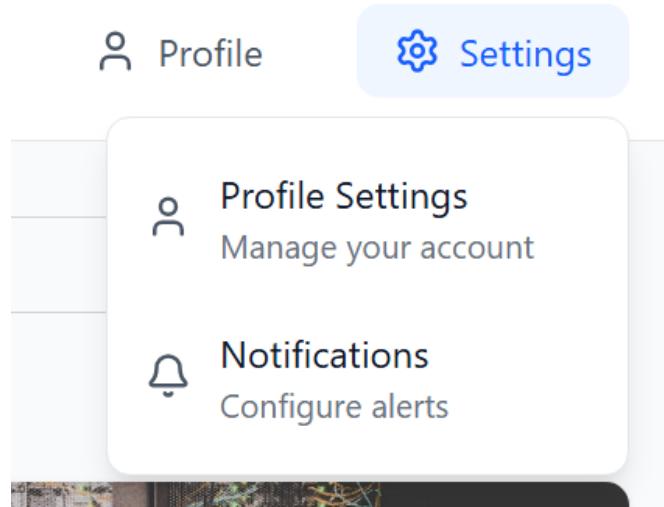
**Figure 3.3.2** Filtering Panel

## 3.4 Settings

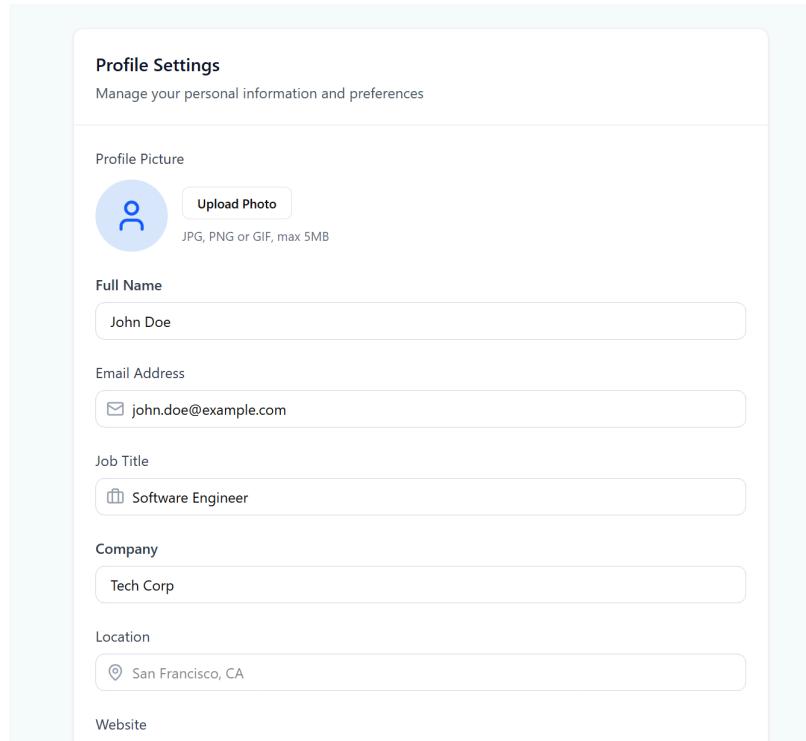
The Settings menu shown in Figure 3.4.1 allows users to access personal settings options through a dropdown menu. The Settings button in the top navigation bar opens a menu with two options, Profile Settings and Notifications.

Selecting Profile Settings opens a screen where users can update and manage their personal information. As shown in Figure 3.4.2, the Profile Settings page includes fields for the user's name, email address, job title, company, location, website, and profile photo.

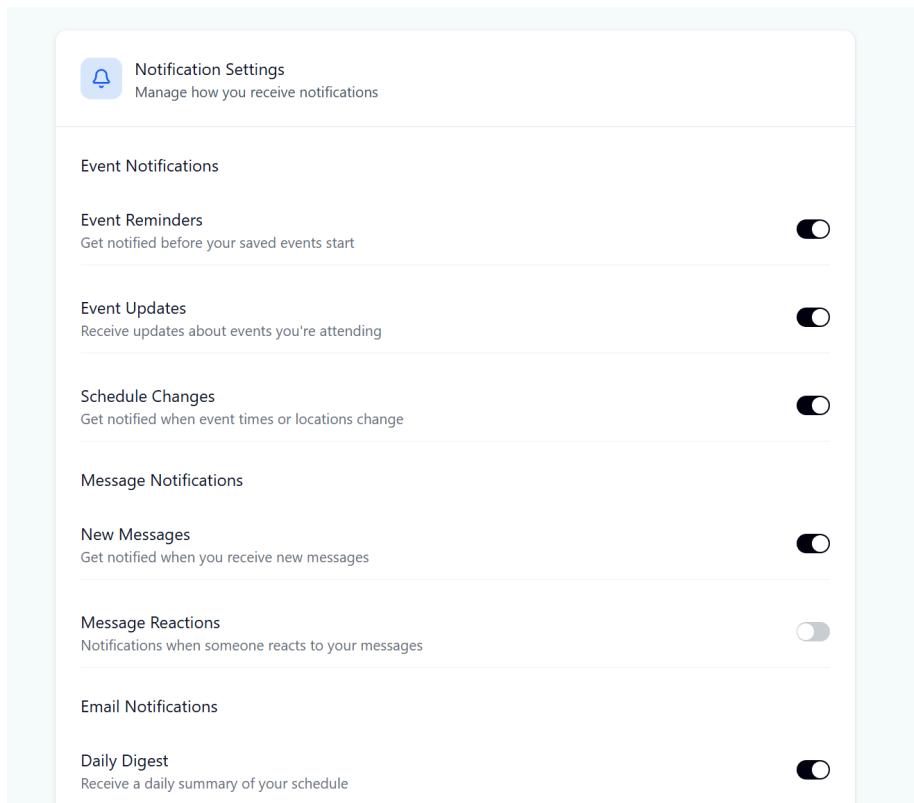
Selecting Notifications opens the Notification Settings page, which allows users to adjust how they receive alerts about events, schedule changes, messages, and emails. As shown in Figure 3.4.3, the page is divided into categories such as Event Notifications, Message Notifications, and Email Notifications. Each setting includes a toggle switch, enabling users to turn individual alert types on or off.



**Figure 3.4.1** Settings Drop Down



**Figure 3.4.2** Profile Settings

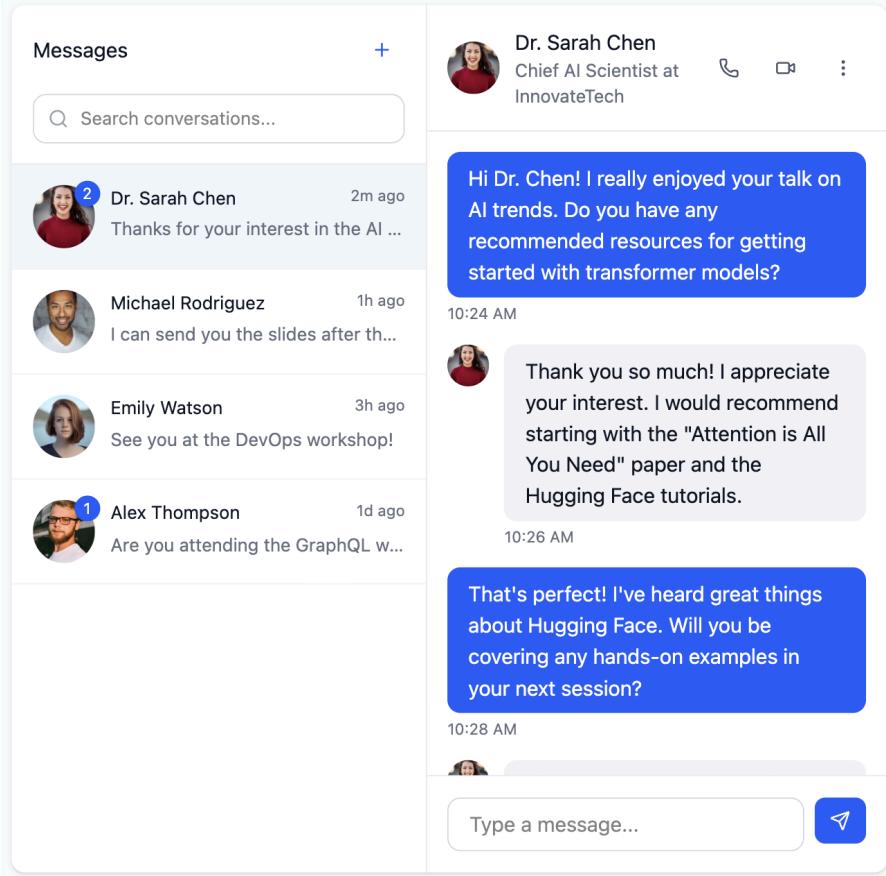


**Figure 3.4.3** Notification Settings

## 3.5 Messages

The Messages screens shown in Figure 3.5.1 provides a clear interface for users to view and manage direct conversations with other conference attendees. The main Messages screen presents each user with a list of any existing messaging threads, each showing a preview of the recipient's profile picture, full name, and a preview of the most recent message. Selecting any thread opens the corresponding chat. At the top of the inner chat screen, a header shows the recipient's profile picture, full name, and organizational affiliation. The center of the screen shows any previous messages in chronological order. Users can compose messages using the input field at the bottom and send messages via the neighboring airplane icon.

From the outer Messages screen, users can start a new conversation by selecting the plus icon. They are prompted to enter the recipient's name or email into an input field, and matching profiles appear below. Choosing a correct profile launches a new chat screen with that user, allowing the conversation to begin.



**Figure 3.5.1** Messages and Chat Screens

## 3.6 Itinerary

After adding events to your itinerary, you can view the full list of events by clicking on the “My Itinerary” button on the top, as shown in figure 3.6.1 below. Users can easily remove events from their itinerary by clicking on the red banner to the right, also shown in figure 3.6.1. Clicking on any event will open the full event details. Should the user have no events added to their itinerary, a “Browse Events” button will appear, which takes the user to the Events page, where they can add events to their itinerary.

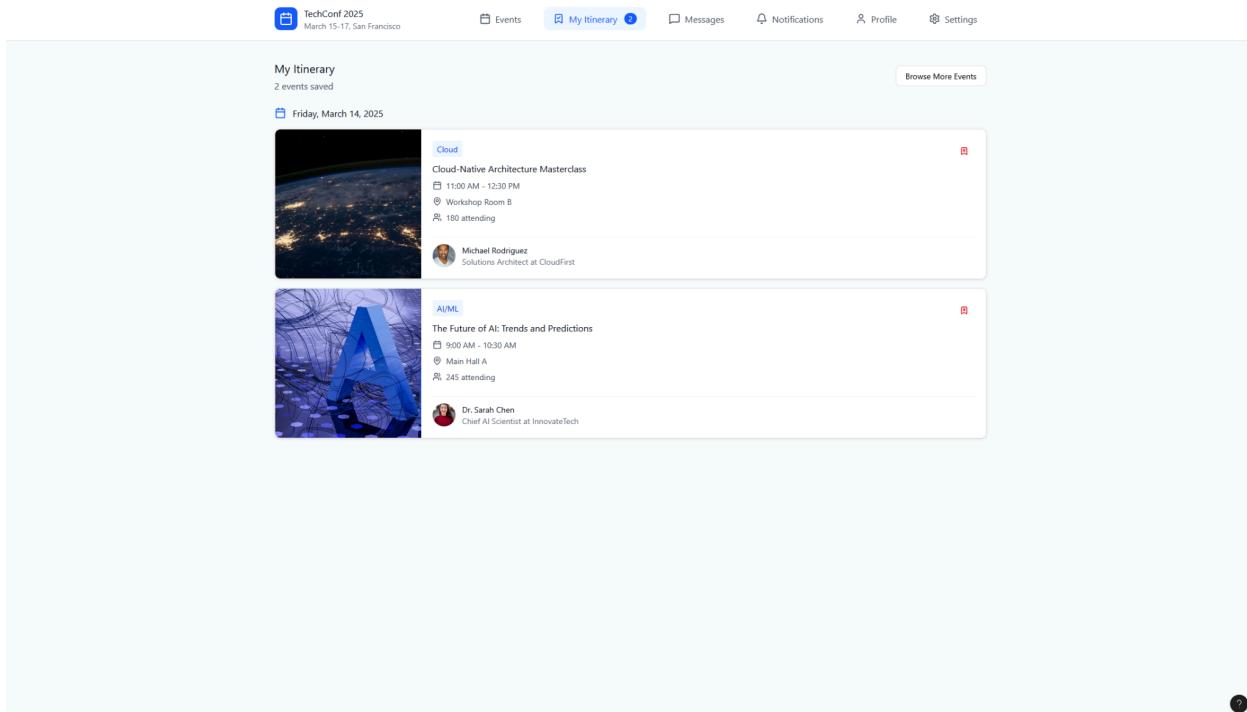


Figure 3.6.1 My Itinerary Screen

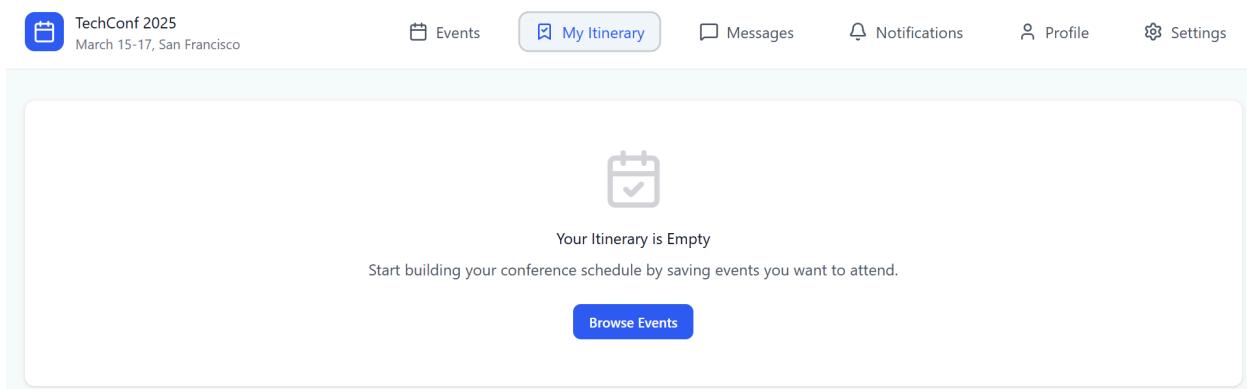
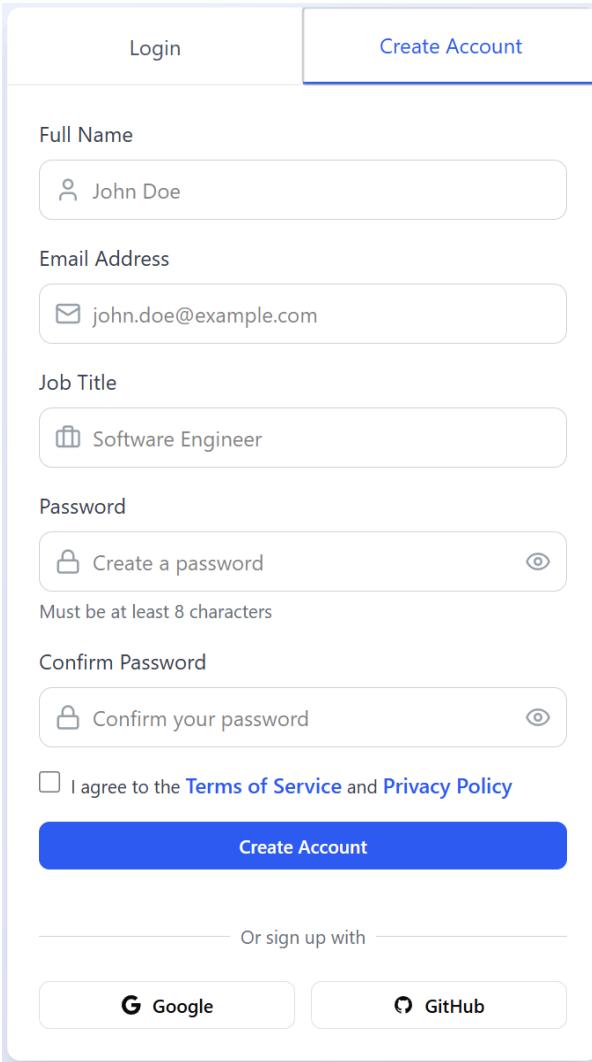


Figure 3.6.2 My Itinerary Screen (empty)

## 3.7 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 3.7.1 shows the user interface for creating an account; users will be able to enter their name, email address, job title, and password. The user's name and job title will be shown to other users.



The figure shows a user interface for creating a new account. At the top, there are two buttons: "Login" on the left and "Create Account" on the right, with a blue underline indicating it is the active tab. Below these are five input fields:

- Full Name:** A text input field containing "John Doe".
- Email Address:** A text input field containing "john.doe@example.com".
- Job Title:** A text input field containing "Software Engineer".
- Password:** A text input field with a placeholder "Create a password" and a visibility toggle icon (eye) to its right.
- Confirm Password:** A text input field with a placeholder "Confirm your password" and a visibility toggle icon (eye) to its right.

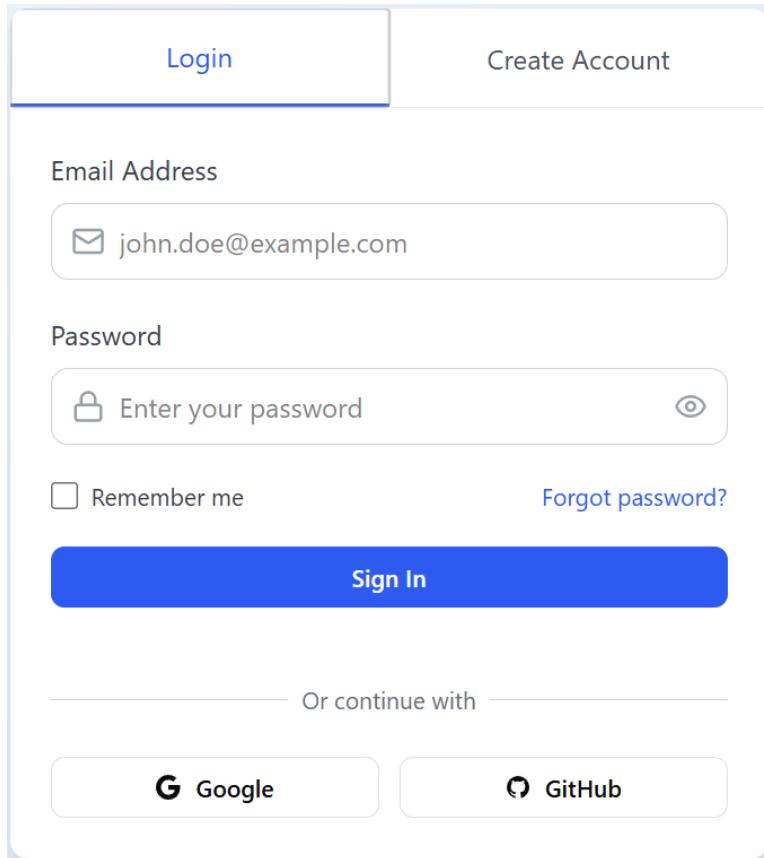
Below the password fields, a note says "Must be at least 8 characters". Underneath the "Confirm Password" field is a checkbox labeled "I agree to the [Terms of Service](#) and [Privacy Policy](#)". At the bottom of the form is a large blue "Create Account" button. Below the button, a horizontal line with arrows at both ends contains the text "Or sign up with". Underneath this line are two social media login buttons: "Google" and "GitHub".

**Figure 3.7.1 - Create Account Screen**

## 3.8 Login

When users open the IWAC application after creating an account they will be able to login to their account. Figure 3.8.1 represents the login screen where users will be able to enter their email address and password. Users will be able to select the “remember me” box which will save their email address and password for subsequent login attempts and will not have to enter

the email address or password. Users will also be able to click “forgot password” which will allow them to enter in their email address in order to reset their password.



**Figure 3.8.1 - Login 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.

The screenshot shows the Supabase user interface for the 'conferences' table. At the top, there are buttons for 'Filter', 'Sort', 'Insert' (which is highlighted in green), 'Add RLS policy', 'Enable Realtime', 'Role postgres', and a refresh icon. The table has columns: conference\_id (int8), name (text), venue (text), start\_date (date), end\_date (date), and address (text). A single row is visible: conference\_id 1, name 'IWAC 2027', venue 'University of Maine', start\_date '2025-11-16', end\_date '2025-11-18', and address '4 Neville Hall'.

**Figure 4.1** Supabase User Interface (Supabase, 2025)

## 4.2 User Data Entry

**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.

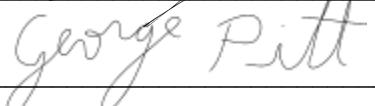
Should either party wish to make changes to this document, both parties must meet ahead of time and mutually agree on said change. If Heather Falconer is the party requesting these changes, they should reach out to our client liaison, Monica Agneta, with their requests. Similarly, should we request any 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: 11/17/2025

Comments: \_\_\_\_\_

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**Brett Palmer**

Signature:  Date: 11/17/2025

Comments: \_\_\_\_\_

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**Monica Agneta**

Signature:  Date: 11/17/2025

Comments: \_\_\_\_\_

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**Ben Caras**

Signature:  Date: 11/17/2025

Comments: \_\_\_\_\_

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**George Pitt**

Signature:  Date: 11/17/2025

Comments: \_\_\_\_\_

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## Appendix C – Document Contributions

### Brett

Brett wrote section 3.5 and section 4, including Figure 4.1 and Table 4.2. 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. Monica estimates that she did 20% of the work for this document.

### George

George wrote sections 3.1, 3.2, and 3.6.

### 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 3.7 and 3.8 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.