

# **Software Requirements Specification**

**for**

## **Sunland Home School Co-op**

**Version 1.5**

**Prepared by Tater Solutions**

**Jonathan Barfuss**

**Matthew Lattin**

**Rollin Olson**

**Colton Warren**

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## Revision History

Name	Date	Reason For Changes	Version
Rollin Olson	10/29/21	Created	1.0
Colton Warren	11/25/21	Added Terms to Glossary, Non-Functional Requirements, References, Appendix, and Effort Breakdown Table	1.1
Jonathan Barfuss, Matthew Lattin, Rollin Olson, and Colton Warren	11/28/21	Added Use Case, Activity, and Interaction Diagrams	1.2
Rollin Olson	12/7/21	Added Web Application User Interface Storyboards and Prototypes	1.3
Rollin Olson	12/8/21	Added Behavioral State Machine Diagram	1.4
Jonathan Barfuss, Matthew Lattin, Rollin Olson, and Colton Warren	12/11/21	Added potential domain list. Updated all diagrams based on feedback and finalized SRS.	1.5

## 1. Customer Statement of Requirements

Sunland Home School Co-op is a company who organizes conferences that benefit both parents and students of home schooling. Each conference contains multiple elements including Tournaments, Speakers, Workshops, Exhibits, and the sharing of Research. Planning and coordination for this conference is done over the space of many years to find appropriate venues, guest speakers, tournament topics and participants, vendors, etc; which is currently all coordinated with Excel spreadsheets and word of mouth. Conference attendees currently find details for a conference through printed catalogs available at each conference.

This document serves as a blueprint for a software system to help with the organization/coordination of the conference and sharing of information on the conference. This software intends to replace the excel sheets used to store information for each conference and the catalogs to share this information.

The software system will be divided into 2 applications, a web application for employee use and a mobile application for public use. The web application is meant to be a centralized location for all information regarding upcoming (and previous) conferences. Employees will be able to view, edit, and add details for each conference such as the venue, tournament schedule, vendors, workshop leaders, speakers, and more.



Once details for a conference are finalized, they can be published to the public which will make the conference available on the mobile application. The mobile application is meant to be a place attendees can find details for each conference and get tickets for the conference. Conference attendees should be able to find when speakers speak, where workshops are at, what vendors are available, and other miscellaneous details.

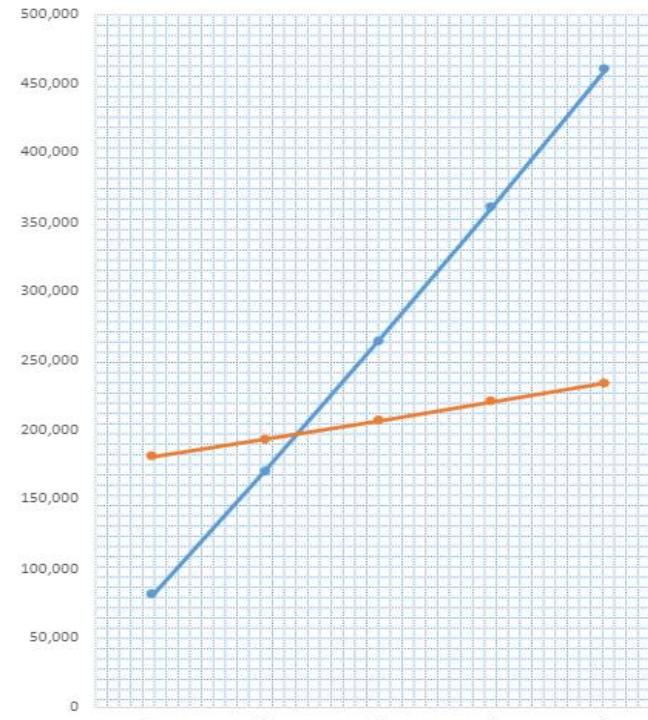
In summary, this new software system serves as a tool for organizing conferences and publishing details for them. Employees will use this system to add details for upcoming conferences and edit existing ones. Conference attendees will use this system to find details and purchase tickets for upcoming conferences and the current conference.

### Feasibility Analysis:

This software is a medium sized project, including 2 new applications that need to be integrated with existing hardware and data. The system will impact multiple parties including: Director of Sunland Home School Co-op, Coordinators for each conference, conference attendees, tournament participants, and any other impacted employees of Sunland Home School Co-op and other conference associates.

One of the risks with this project is helping employees and conference attendees adjust to new systems. This risk can be reduced, however, with a simple user interface that the users would be familiar with. The system is designed to be conference based, meaning information is stored pertaining to conferences. Hopefully, with familiar terminology, a simple user interface, and good documentation, users will have an easy time adjusting to the new system.

The project is calculated to take 3 months to complete, which can increase depending on the complexity and organization of existing conference information. Currently the cost to build the system is calculated to be \$187,619; with an additional \$12,300 per year (increasing with inflation) for technical support, software updates, and licensing. Upon completion of this system, Sunland Home School Co-op can expect to save money from printed catalogs and make more money from increased ticket sales and returning customers. About an increase in \$84,730 the first year is projected to come, which should increase each following year. After 2 years the system should make more money than it costs.



### System Requirements:

1. A coordinator should be able to create a conference
2. A coordinator should be able to add or edit details to a conference including:
  - a. Guest Speakers
  - b. Tournament Information
  - c. Venues
  - d. Vendors
  - e. Workshops and workshop leaders

3. A coordinator should be able to view all the above information for previous conferences as well
4. A coordinator should be able to view a list of previous guest speakers and vendors
5. A coordinator should be able to publish conference details to the public
6. A conference attendee should be able to view upcoming conferences and times
7. A conference attendee should be able to create an account in the system and purchase a ticket
8. A conference attendee should be able to view details of each conference including:
  - a. Guest Speaker times and locations
  - b. Venue map and address
  - c. Vendor locations
  - d. Workshop list and locations
  - e. Published Tournament details
9. A conference attendee should be able to reserve a spot for a workshop
10. The system should release workshop reservations 5 minutes after the workshop starts
11. A tournament participant should be able to view tournament schedule
12. A parent or guardian of a participant should be able to add themselves as a “parent” and gain access to the participant’s tournament schedule

## 2. Glossary of Terms

- **Attendee** - Someone who purchases a ticket to attend the conference.
- **Conference** - Refers to a particular conference run by Sunland Home School Co-Op. Includes all the debates, tournaments, and workshops.
- **Coordinator** - A person whose job is to organize events or activities and to negotiate with others to ensure they work together effectively.
- **Database** - a structured set of data held in a computer, especially one that is accessible in various ways.
- **Debate** - a formal discussion on a particular topic in a public meeting or legislative assembly, in which opposing arguments are put forward.
- **Exhibit** - publicly display (a work of art or item of interest) in an art gallery or museum or at a trade fair.
- **Mobile Application (App)** - A type of application designed to run on a mobile device
- **Sponsor** - an individual or organization that pays some or all of the costs involved in staging a sporting or artistic event in return for advertising.
- **Tournament** - A series of contests between several competitors, who compete for an overall prize.
- **User Interface (UI)** - the means by which the user and a computer system interact, in particular the use of input devices and software.
- **Vendor** - a person or company offering something for sale, especially a trader in the street.
- **Web Application (App)** – An application software that runs on a web server and can be accessed through any web browser with an active internet connection.

- **Workshops** - a meeting at which a group of people engage in intensive discussion and activity on a particular subject or project.

## 3. Functional Requirements Specification

### 3.1 Stakeholders

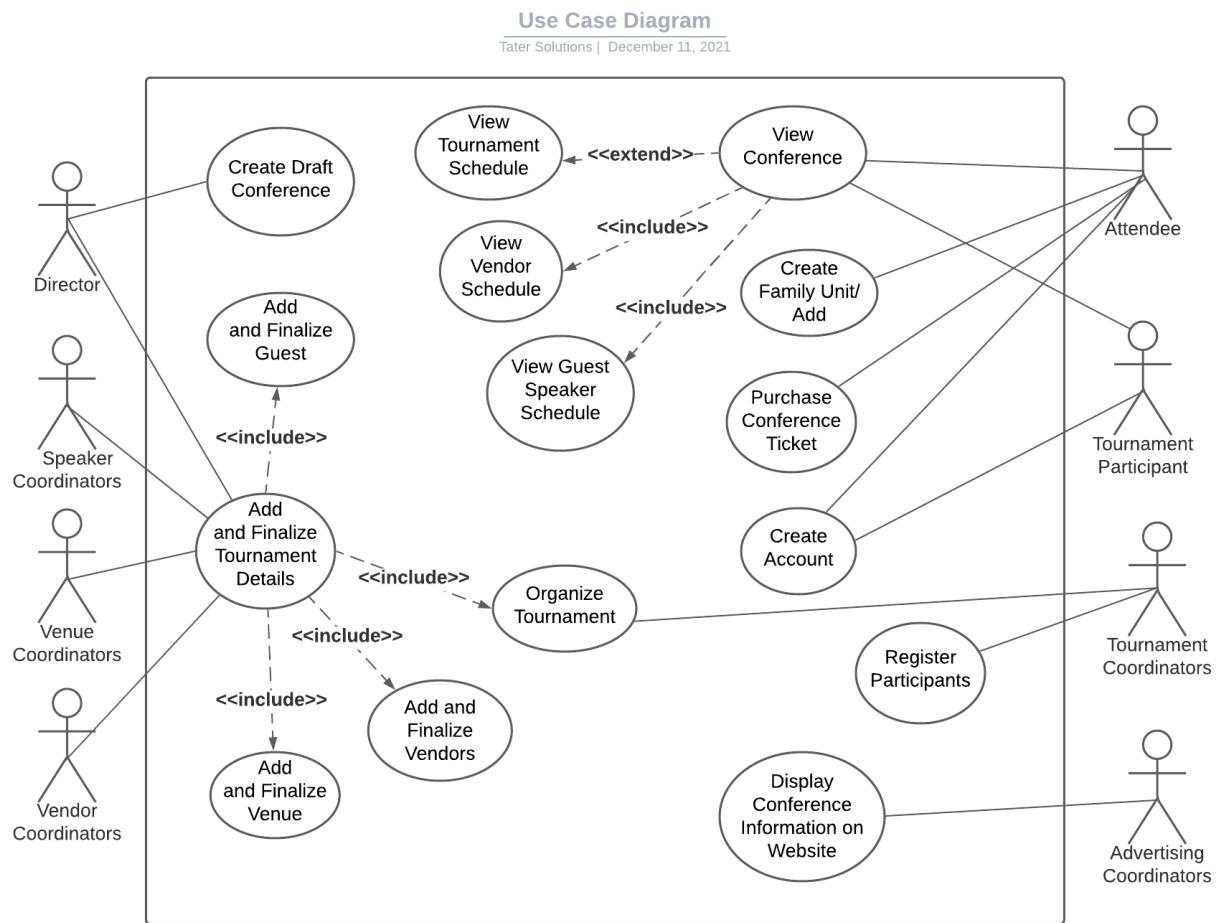
- Champion
  - o Director of Sunland Home School Co+op
- Organizational Management
  - o Director of Sunland Home School Co+op (Medium impact)
  - o Board of Directors (Low impact)
  - o Office Manager (Medium impact)
- System Users
  - o Coordinators for Speakers, Venues, Vendors, etc. (High impact)
  - o IT (Low impact)
  - o Administrative Assistant (Medium impact)
  - o Conference attendees (Medium impact)
  - o Tournament Participants (Medium impact)

### 3.2 Actors and Goals

- **Director** – create draft conferences and finalize them for publishing
- **Workshop/Guest Speaker Coordinators** – add workshops and guest speakers to conferences
- **Venue Coordinators** – add venues for conferences to take place at
- **Vendor/Exhibitor Coordinators** – add vendors and exhibitors to conferences
- **Conference Attendee** – view upcoming published conferences, purchase tickets, view vendors, exhibits, guest speakers, workshops, tournament standings, create family units, join family units, and reserve seats at a workshop
- **Tournament Participant** – view tournament standings
- **Tournament Coordinators** – create a tournament and add participants to it
- **Advertising Coordinators** – Display conference information on website and mobile app
- **Donor Relations Coordinators** – add donors and sponsors to conferences
- **Receptionist/Administrative Assistant** – add applicable information to conferences when coordinators need assistance
- **Office Manager** – add or make changes to applicable information within conferences
- **IT** – create user accounts for employees to utilize the web application

## 3.3 Use Cases

### 3.3.1 Use Case Diagram



This diagram shows which users will be using the system and who will be sharing associated features. The majority of web application features are on the left. The majority of mobile application features are on the top-right.

### **3.3.2 Use Case Descriptions**

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### 3.3.2.1 Add Potential Guest Speakers

Use Case Name:	Add Potential Guest Speakers	ID:	1	Importance Level:	Low			
Primary Actor:	Workshop Coordinator	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Workshop Coordinator – wants to submit information pertaining to potential guest speakers Director – wants to ensure everything is running smoothly for each conference, which involves finalizing all guest speakers.								
<b>Brief Description:</b> This use case describes how we add potential guest speakers to an upcoming conference.								
<b>Trigger:</b> Workshop Coordinator obtains information for a new potential guest speaker and needs to submit that information into the web application. <b>Type:</b> Internal								
<b>Relationships:</b> <b>Association:</b> <b>Include:</b> Add and Finalize Tournament Details <b>Extend:</b> <b>Generalization:</b>								
<b>Normal Flow of Events:</b> <ol style="list-style-type: none"><li>1. The Workshop Coordinator opens the web application.</li><li>2. The Workshop Coordinator logs into their account.</li><li>3. The Workshop Coordinator selects which conference they will be submitting the guest speaker's information for.</li><li>4. The Workshop Coordinator selects the Guest Speaker tab and selects add new guest speaker.</li><li>5. The Workshop Coordinator then fills out all fields with detailed information about the new potential guest speaker.</li><li>6. The Workshop Coordinator submits the form.</li></ol>								
<b>SubFlows:</b>								
<b>Alternate/Exceptional Flows:</b> 2, 1. The Workshop Coordinator enters in invalid credentials and must try to log in again. 3, 2. The Workshop Coordinator selects the wrong conference and must go back. 5, 3. The Workshop Coordinator enters in the wrong information and must go back to edit the information.								

### 3.3.2.2 Add Potential Venue

Use Case Name:	Add Potential Venue	ID:	2	Importance Level:	High			
Primary Actor:	Venue Coordinator	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Venue Coordinator –needs a place to record potential venues they have found								
Other Coordinators – needs to know about the venue to refer to it								
Brief Description: This use case describes the steps that a Venue Coordinator will take to add a potential venue to the web application.								
Trigger: A Venue Coordinator has located a venue and wants to add it to the conference.								
Type: Internal								
<b>Relationships:</b>								
Association:								
Include: Add and Finalize Tournament Details								
Extend:								
Generalization:								
<b>Normal Flow of Events:</b>								
<ol style="list-style-type: none"> <li>1. Venue Coordinator selects “Add Venue”</li> <li>2. Venue Coordinator enters a name for the venue</li> <li>3. Venue Coordinator enters an address for the venue</li> <li>4. Venue Coordinator can either map or not           <ol style="list-style-type: none"> <li>a. If yes, Subflow S-1</li> <li>b. If no, proceed to Step 5</li> </ol> </li> <li>5. Venue Coordinator can enter misc. notes</li> <li>6. Venue Coordinator selects “Assign Venue”</li> </ol>								
<b>SubFlows:</b>								
S-1:								
<ol style="list-style-type: none"> <li>1. Venue Coordinator uploads a map of floor</li> <li>2. Venue Coordinator can decide to add more floors, if yes, repeat Step 1</li> </ol>								
<b>Alternate/Exceptional Flows:</b>								

### 3.3.2.3 Create Account

Use Case Name: Create Account	ID: <u>3</u>	Importance Level: <u>High</u>
Primary Actor: Conference Attendee	Use Case Type:	Detail, Essential
Stakeholders and Interests: Conference Attendees		
Brief Description: This use case shows the steps that an attendee takes to create an account		
Trigger: Conference Attendee selects “Create Account”		
<p><b>Relationships:</b></p> <p>Association:</p> <p>Include:</p> <p>Extend:</p> <p>Generalization:</p>		
<p><b>Normal Flow of Events:</b></p> <ol style="list-style-type: none"> <li>1. Conference Attendee selects “Create Account”</li> <li>2. Attendee inputs:             <ol style="list-style-type: none"> <li>a. Name</li> <li>b. Email S-1</li> <li>c. Password S-2</li> </ol> </li> <li>3. Attendee adds credit card information S-3</li> <li>4. Attendee reviews info and submits</li> </ol>		
<p><b>SubFlows:</b></p> <p>S-1:</p> <ol style="list-style-type: none"> <li>1. Attendee inputs email</li> <li>2. If email isn’t valid, the system will prompt the user for another</li> </ol> <p>S-2:</p> <ol style="list-style-type: none"> <li>1. Attendee adds a password</li> <li>2. Attendee adds the password again for validation</li> <li>3. If passwords don’t match, the system informs the user</li> </ol> <p>S-3:</p> <ol style="list-style-type: none"> <li>1. Attender inputs credit card information</li> <li>2. If the information isn’t valid, the system will prompt the user to refine the information</li> </ol>		
<b>Alternate/Exceptional Flows:</b>		
1. (Step 3). Attendee skips credit card information and moves to step 4		

### 3.3.2.4 Create Family Unit

Use Case Name:	Create Family Unit/Add Child	ID:	<u>4</u>	Importance Level:	<u>High</u>			
Primary Actor:	Conference Attendee	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Conference Attendee – wants to create or add a parent or guardian to their family unit Guardian – wants to see the attendee's schedule and placement in the tournaments through the mobile application								
<b>Brief Description:</b> This use case describes how an attendee can create/add a parent or guardian to a family unit in the mobile application.								
<b>Trigger:</b> Attendee selects the Family Unit tab in the mobile application after signing into their account. <b>Type:</b> External								
<b>Relationships:</b> <b>Association:</b> Conference Attendee <b>Include:</b> <b>Extend:</b> <b>Generalization:</b>								
<b>Normal Flow of Events:</b> <ol style="list-style-type: none"><li>1. The Conference Attendee opens the mobile application.</li><li>2. The Conference Attendee logs into their account.</li><li>3. The Conference Attendee selects the Family Unit tab.</li><li>4. The Conference Attendee enters in the email address of the parent/guardian they would like to add to their family unit.</li><li>5. The parent/guardian accepts the family unit invitation.</li></ol>								
<b>SubFlows:</b>								
<b>Alternate/Exceptional Flows:</b> 3, 1. The Conference Attendee must create a new family unit before adding members to it. 4, 2. The Conference Attendee enters in an invalid email address and must try again.								

### 3.3.2.5 Purchase Conference Ticket

Use Case Name:	Purchase Conference Ticket	ID:	<u>5</u>	Importance Level:	High			
Primary Actor:	Conference Attendee	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Customer – The customer needs an easy way to purchase tickets online Owner – The owner needs a convenient way for potential conference attendees to purchase tickets to conferences so they can get more people going.								
<b>Brief Description:</b> This use case shows the steps that a user will take to purchase a ticket to a conference through the app.								
<b>Trigger:</b> User opens app, selects conference of interest, and taps on “Buy Tickets” button								
<b>Type:</b> External								
<b>Relationships:</b>								
Association: Ticket, Account								
Include:								
Extend:								
Generalization:								
<b>Normal Flow of Events:</b>								
1. Mobile Application is opened 2. User selects the conference that they want to attend 3. Login screen loads a. User will login if they have an account (Subflow S-1) b. User creates account (Subflow S-2) 4. User enters a payment method a. If the user has a payment method saved, they can use it or enter new info (Subflow S-3) b. If there is no payment method saved, the user will need to enter the payment info (Subflow S-4) 5. The ticket is saved to the user's account								
<b>SubFlows:</b>								
S-1: 1. User enters username and password 2. System accepts or denies access								
S-2: 1. User enters username and password 2. System accepts or denies access								
S-3: 1. User chooses to use saved payment method or not 2. If the user wants to enter new payment method, Subflow S-4 is performed								
S-4: 1. The user will enter payment method information 2. The system verifies the payment method as valid								

### 3.3.2.6 Register Tournament Participant

Use Case Name:	Register Tournament Participant	ID:	6	Importance Level:	High			
Primary Actor:	Tournament Coordinator	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Tournament Coordinator – wants to register a tournament participant								
Tournament Participant – wants to sign-up to compete in an upcoming tournament								
<b>Brief Description:</b> This use case describes how a Tournament Coordinator registers a tournament participant that has not been entered into API's database.								
<b>Trigger:</b> A Tournament Coordinator confirms a candidate's request to compete in a future tournament.								
<b>Type:</b> Internal								
<b>Relationships:</b>								
Association: Tournament Coordinator								
Include: Organize Tournament								
Extend:								
Generalization:								
<b>Normal Flow of Events:</b>								
1. The Tournament Coordinator reviews the applicant's request to compete in a future tournament. 2. The Tournament Coordinator approves the applicant's request to compete in a future tournament. 3. If the Tournament Coordinator is not logged into web application: Execute the Login to Web Application use case. 4. The Tournament Coordinator selects the applicable conference being drafted (planned). 5. If a tournament has not been added to the conference: Execute the Add Tournament use case. 6. The Tournament Coordinator selects the tournament to be edited. 7. The Tournament Coordinator selects the Participants tab. 8. The Tournament Coordinator selects the Register Participant button and enters participants details. 9. The Tournament Coordinator submits the participant registration form. 10. The Tournament Coordinator confirms the participants registration with the participant.								
<b>SubFlows:</b>								
S-1: Cancel Participation 1. The participant decides not to go forward with competing in the tournament. 2. The Tournament Coordinator removes the participant from the tournament participants list.								
S-2: Change Participation 1. The participant requests to compete in a later tournament. 2. The Tournament Coordinator removes the participant from the tournament participants list and adds the participant to another conference's tournament participants list.								
<b>Alternate/Exceptional Flows:</b>								
S-1, 2a1: The Tournament Coordinator denies the participant's request due to max participants reached.								

### 3.3.2.7 View Conference and Tournament Information

Use Case Name:	View Conference and Tournament Information	ID:	7	Importance Level:	Medium			
Primary Actor:	Conference Attendee	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Customer – The customer needs an easy way to view schedules for the conference that they are attending								
<p><b>Brief Description:</b> This use case shows the steps that a conference attendee will take to view information about the conference. They will be able to view tournament schedules and schedules for vendors and speakers.</p>								
<p><b>Trigger:</b> User selects a conference</p> <p><b>Type:</b> External</p>								
<b>Relationships:</b>								
<p><b>Association:</b> Conference, Tournament</p> <p><b>Include:</b> View Conference</p> <p><b>Extend:</b></p> <p><b>Generalization:</b></p>								
<b>Normal Flow of Events:</b>								
<ol style="list-style-type: none"> <li>1. User opens the mobile application</li> <li>2. User selects the conference that they are attending             <ol style="list-style-type: none"> <li>a. If a ticket is purchased, let the user continue (Subflow S-1)</li> <li>b. User can purchase ticket or change what conference they are viewing or close the application (Subflow S-2)</li> </ol> </li> <li>3. User selects the conference or tournament schedule</li> </ol>								
<b>SubFlows:</b>								
<p><b>S-1:</b></p> <ol style="list-style-type: none"> <li>1. System checks if user has purchased ticket</li> <li>2. If ticket isn't purchased user is given option to purchase a ticket</li> </ol> <p><b>S-2:</b></p> <ol style="list-style-type: none"> <li>1. Purchase ticket screen loads</li> <li>2. User can go back to the list of upcoming conferences or close the app</li> </ol>								
<b>Alternate/Exceptional Flows:</b>								

### 3.3.2.8 View Conference Vendors List

Use Case Name:	View Conference Vendors List	ID:	8	Importance Level:	Low			
Primary Actor:	Conference Attendee	Use Case Type:	Detail, Essential					
<b>Stakeholders and Interests:</b>								
Conference Attendee – wants to view a list of the vendors for an upcoming / present conference								
<b>Brief Description:</b> This use case describes how a Conference Attendee views a list of vendors at conference using the mobile application. Conference must be published to view list.								
<b>Trigger:</b> A Conference Attendee wants to see what vendors are at a conference.								
<b>Type:</b> External								
<b>Relationships:</b>								
Association: Conference Attendee								
Include: View Conference Information in Mobile Application								
Extend:								
Generalization:								
<b>Normal Flow of Events:</b>								
1. The Conference Attendee opens the mobile application. 2. The Conference Attendee selects the published conference of interest. 3. The Conference Attendee selects the Vendors tab. 4. If the Conference Attendee is not logged in to the mobile application: Execute the Login to Mobile Application use case. 5. If the Conference Attendee has not purchased a ticket to the conference of interest: Execute the Purchase Conference Ticket use case. 6. The Conference Attendee views a list of vendors through the mobile application.								
<b>SubFlows:</b>								
<b>Alternate/Exceptional Flows:</b>								

### 3.3.3 Activity Diagrams

#### 3.3.3.1 Add Potential Guest Speakers

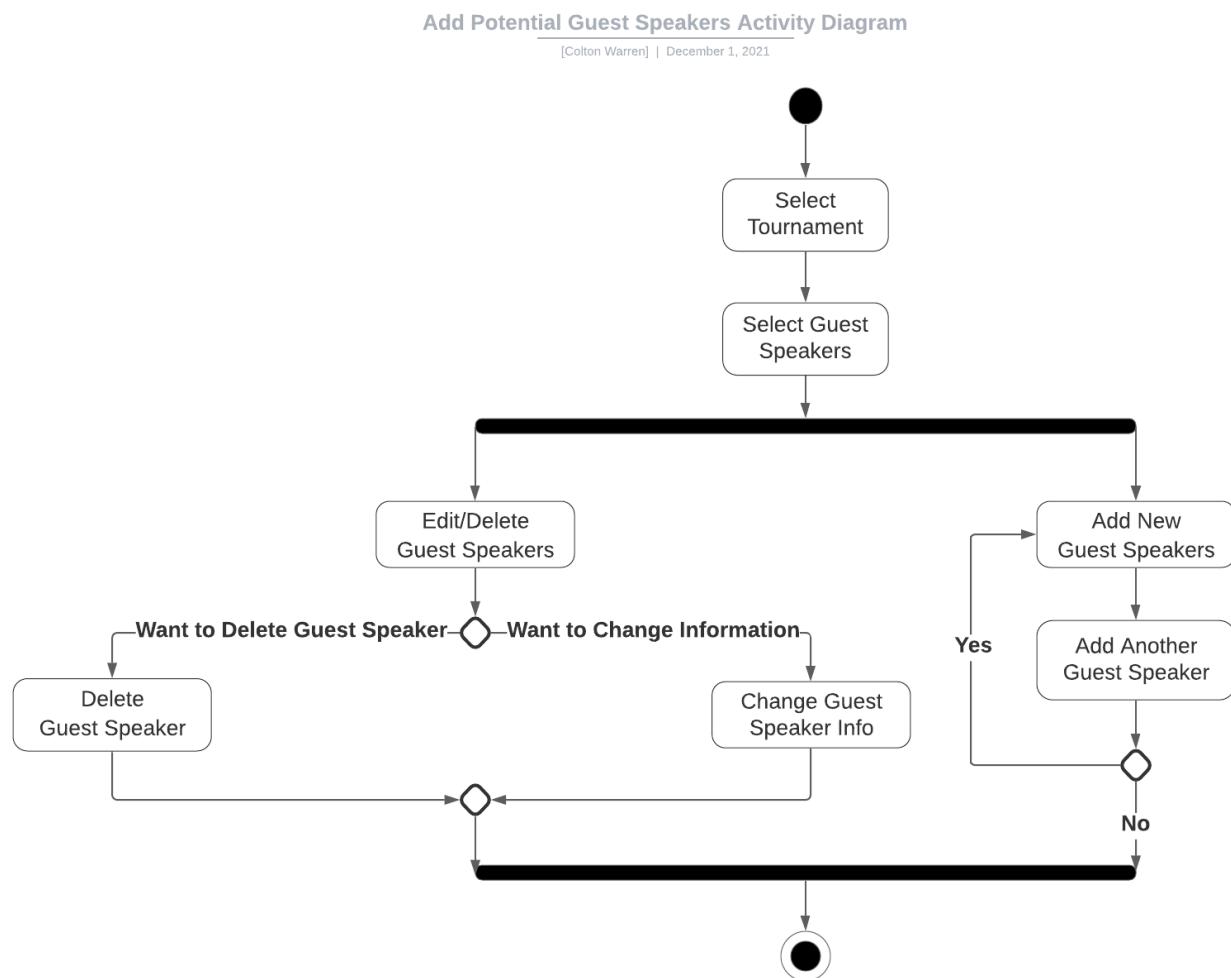


Figure 1: Add Potential Guest Speaker Activity Diagram. The process the Speaker Coordinator goes through to add new potential guest speakers to a conference.

### 3.3.3.2 Add Potential Venue

Add Potential Venues Activity Diagram

Rollin Olson | November 30, 2021

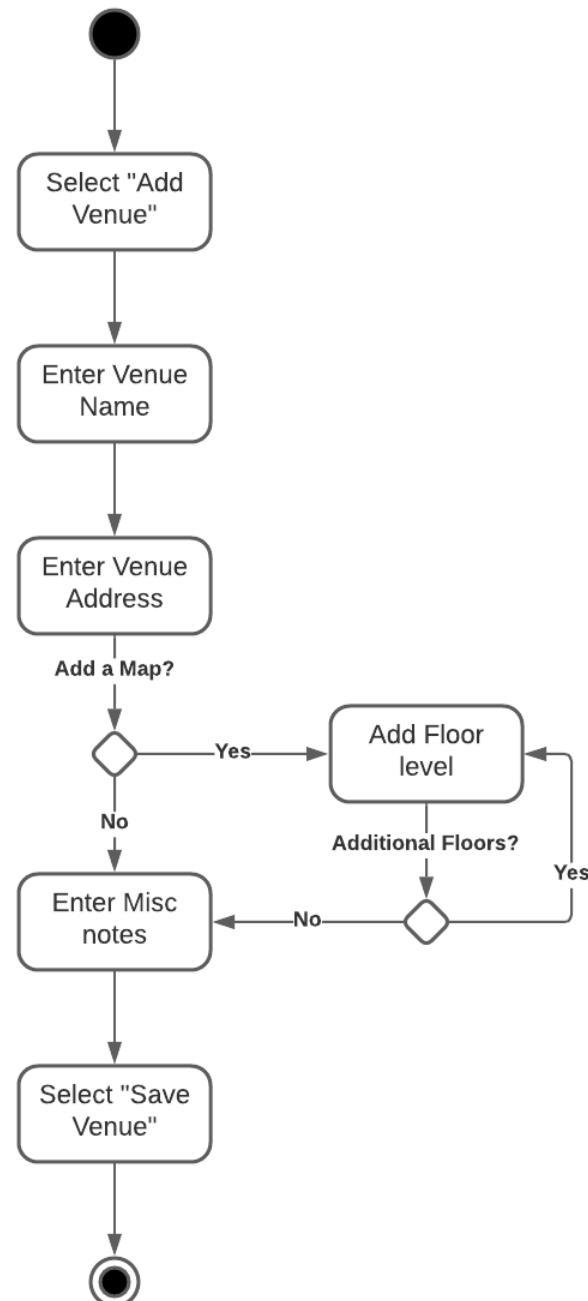


Figure 2: Add Potential Venue Diagram. Adding a map is not essential when adding a potential venue, since they don't know if they will use the venue yet. Venues could also have multiple floors, so we are accounting for that.

### 3.3.3.3 Create Account

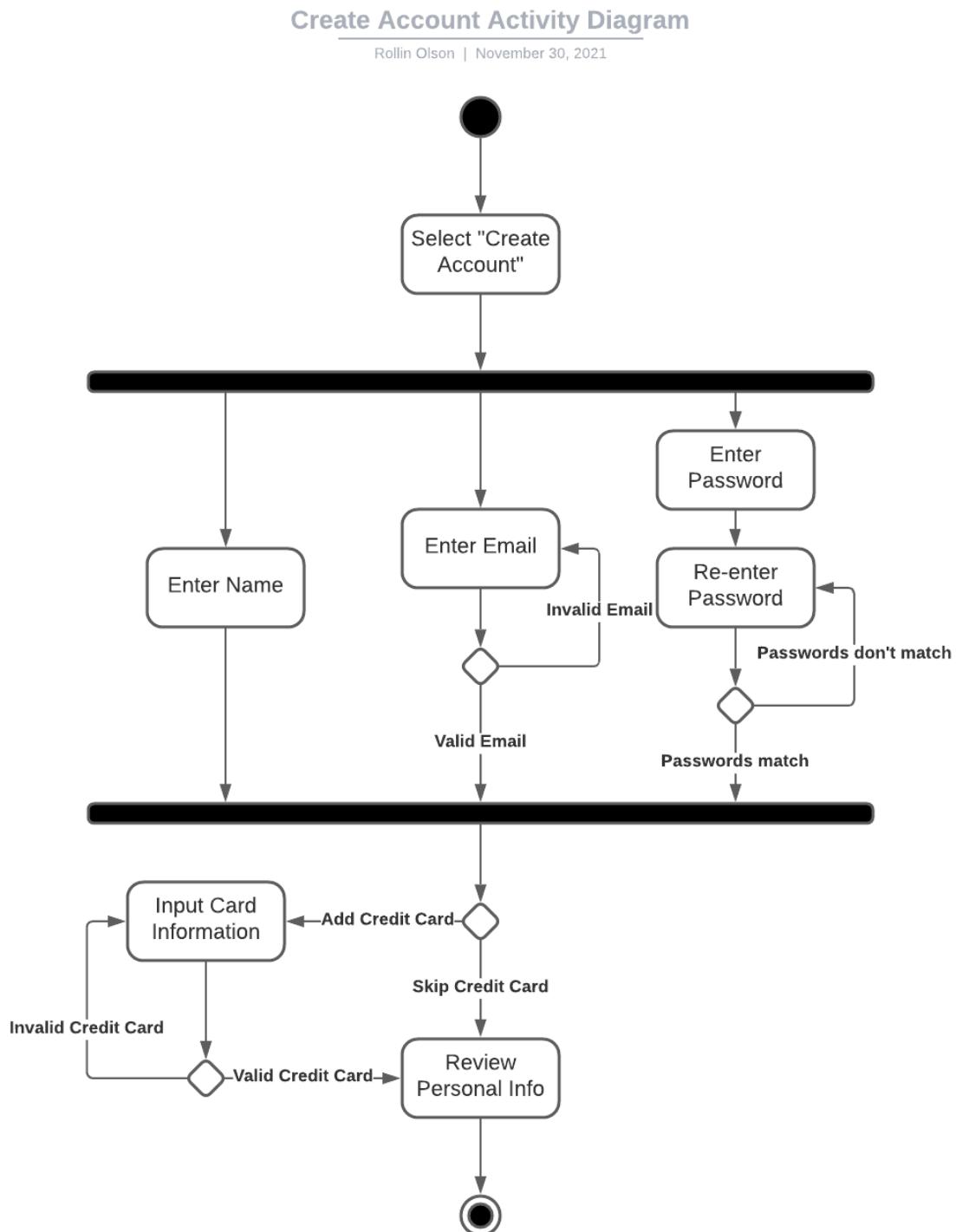


Figure 3: Create Account Activity Diagram. When creating an account, a name, email, and password will be required and can be added in any order. Adding a credit card is optional (but must be added later if you wish to purchase a ticket).

### 3.3.3.4 Create Family Unit

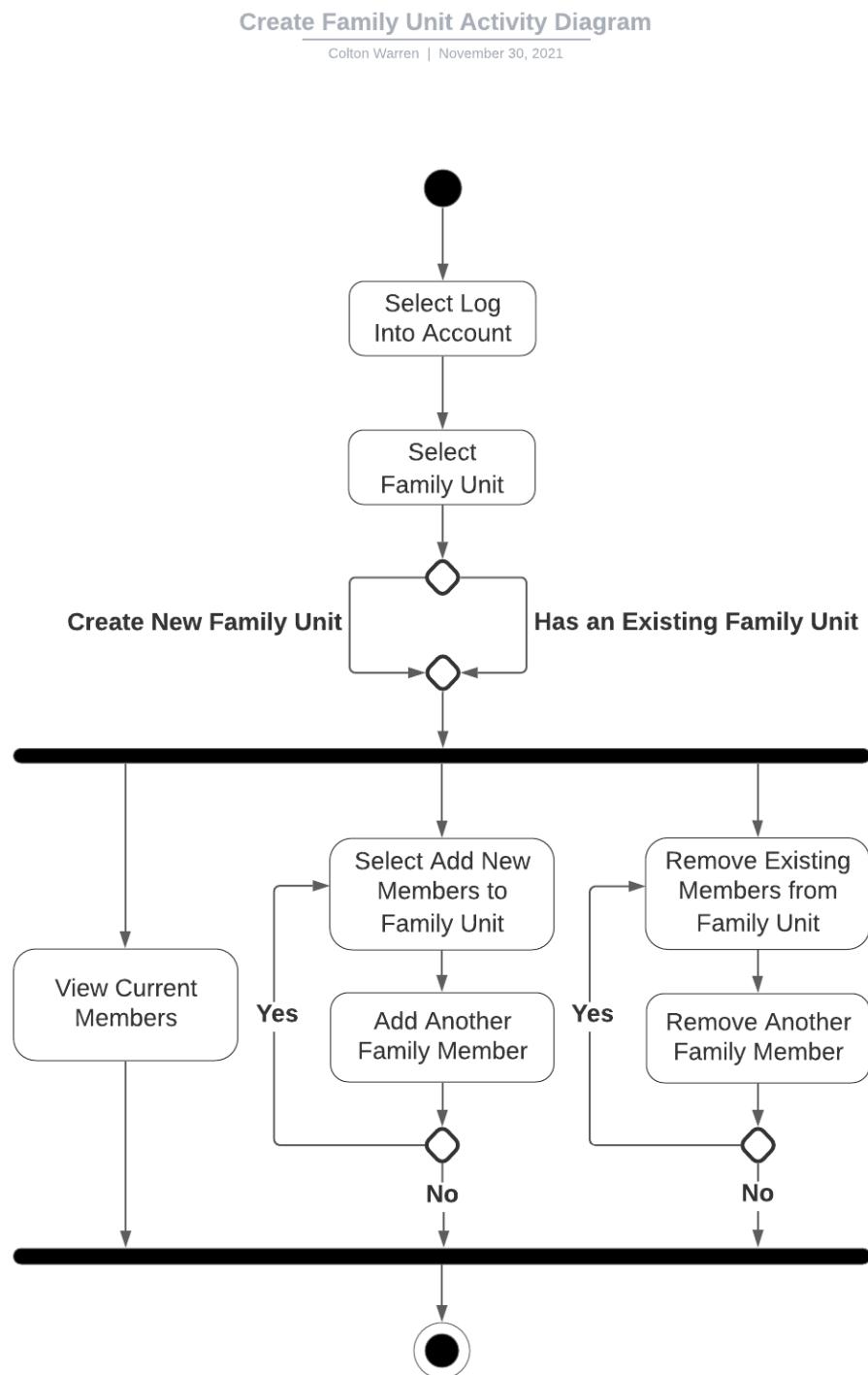


Figure 4: Create Family Unit Activity Diagram. The process an attendee goes through to create/add new members to a family unit.

### 3.3.3.5 Purchase Conference Ticket

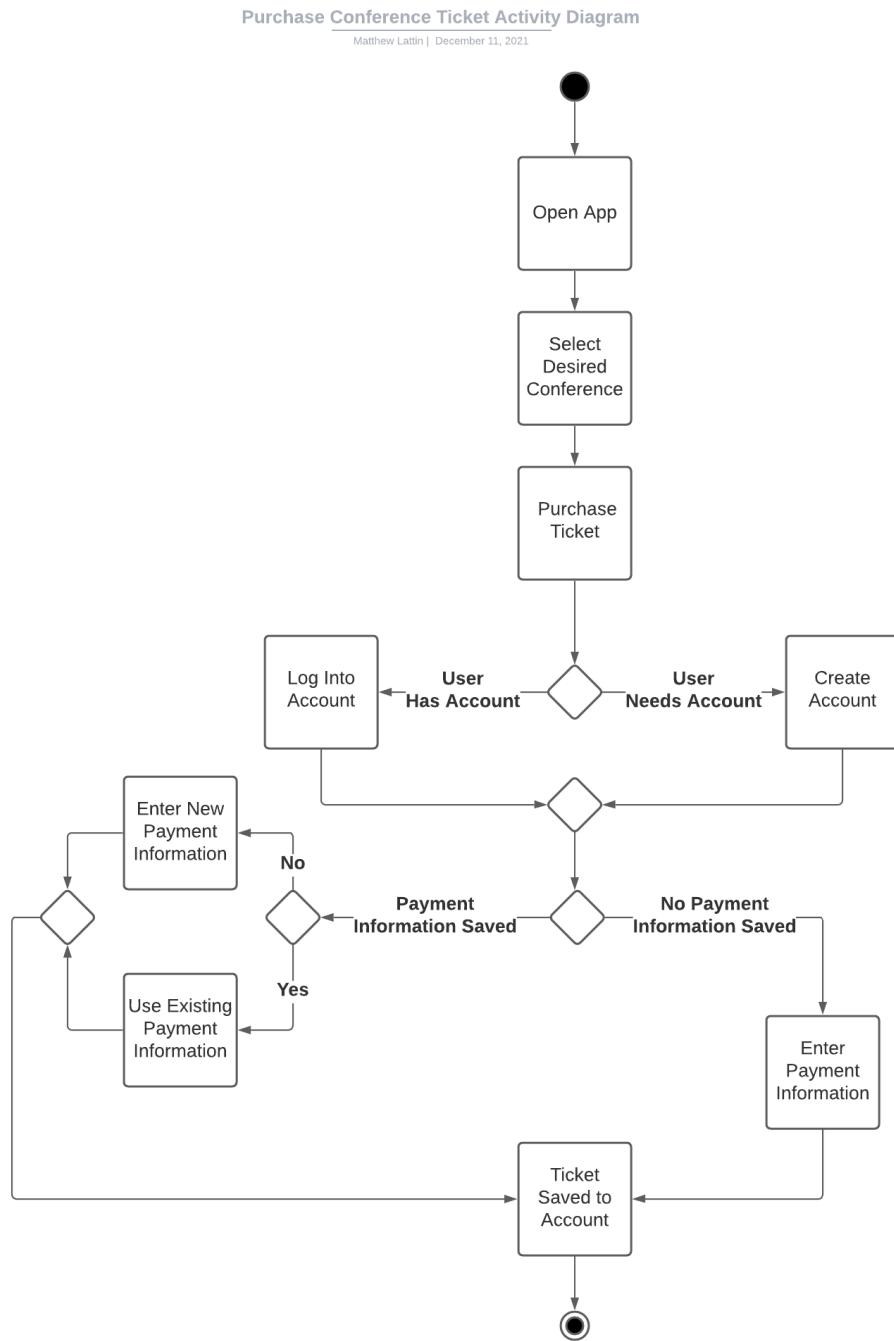


Figure 5: Purchase Conference Ticket Activity Diagram. If a user wants to purchase a ticket they will need to sign into an account after choosing to purchase a ticket. They will need to add a payment method if they haven't already done so or they can choose to use a different method than what is saved.

### 3.3.3.6 Register Tournament Participant

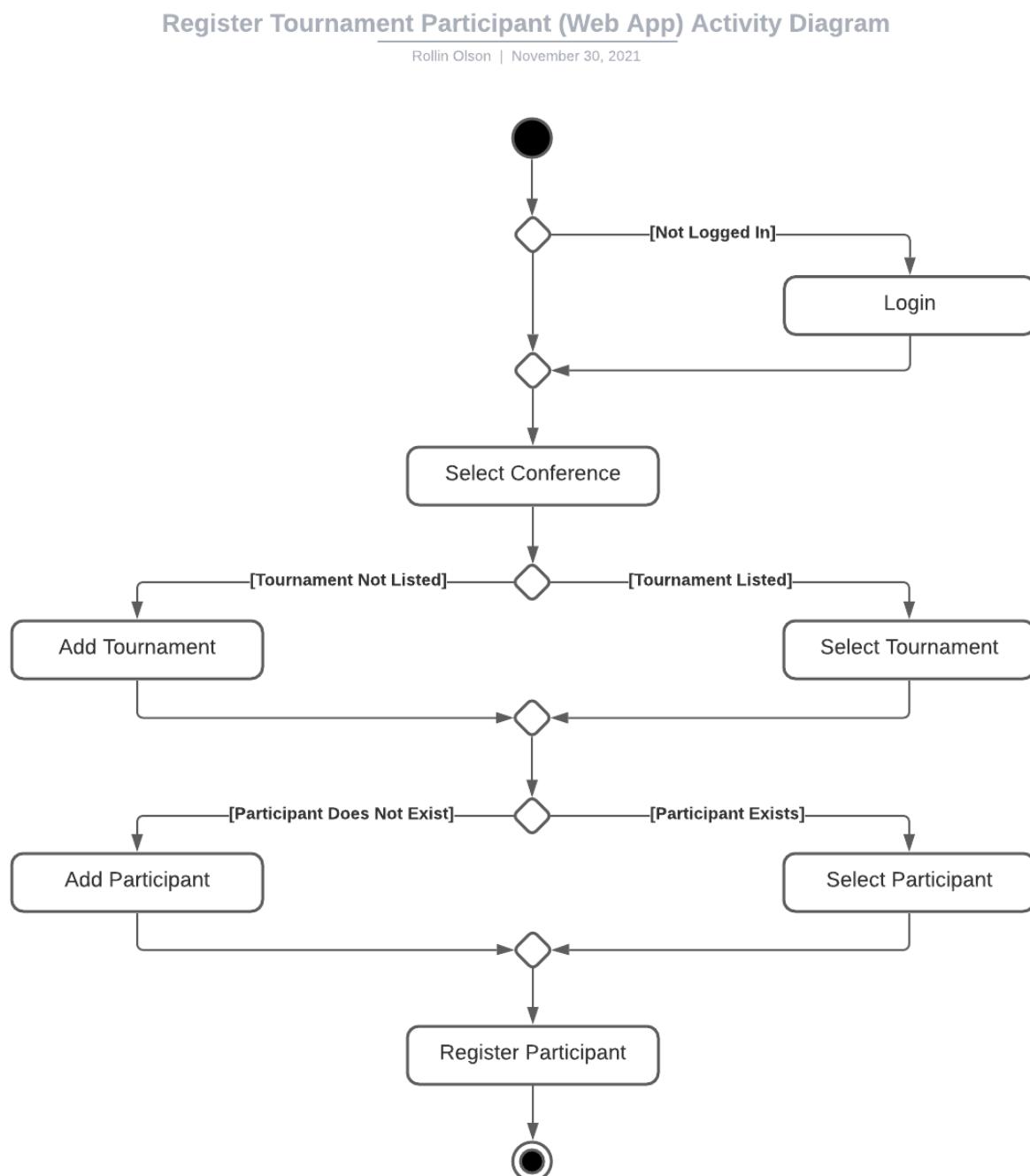
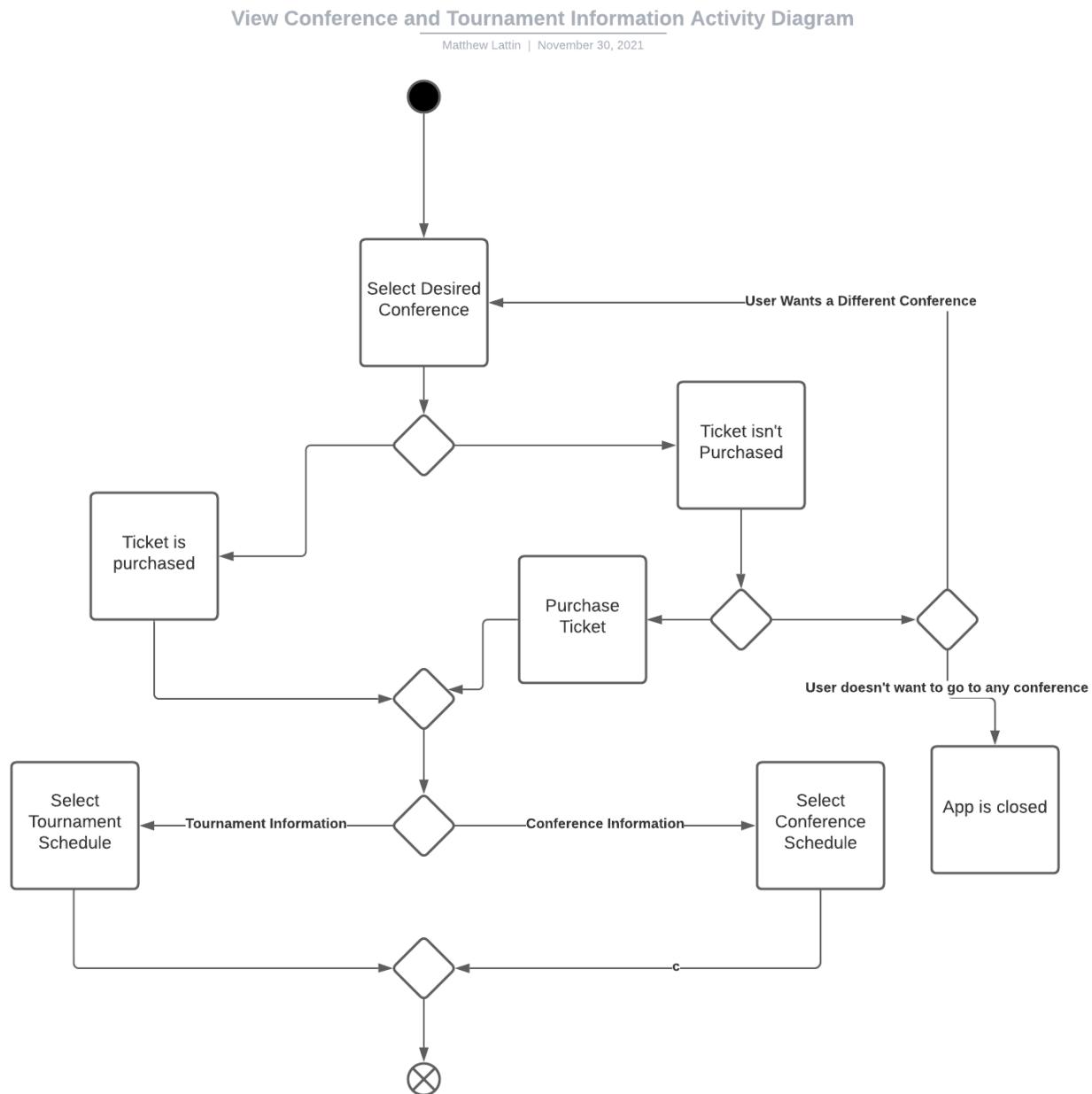


Figure 6: Register Tournament Participant Activity Diagram. This diagram illustrates the steps a Tournament Coordinator will take to register a potential tournament participant for a tournament at an upcoming conference.

### 3.3.3.7 View Conference and Tournament Information



*Figure 7: View Conference and Tournament Information Activity Diagram. A user will need a ticket purchased to view information about the conference and tournament. The app will ask them to sign in if they aren't already. They will also have the option to change what conference they are trying to view the information before if they chose the wrong one. If they haven't purchased a ticket the app will ask them to do so.*

### 3.3.3.8 View Conference Vendors List

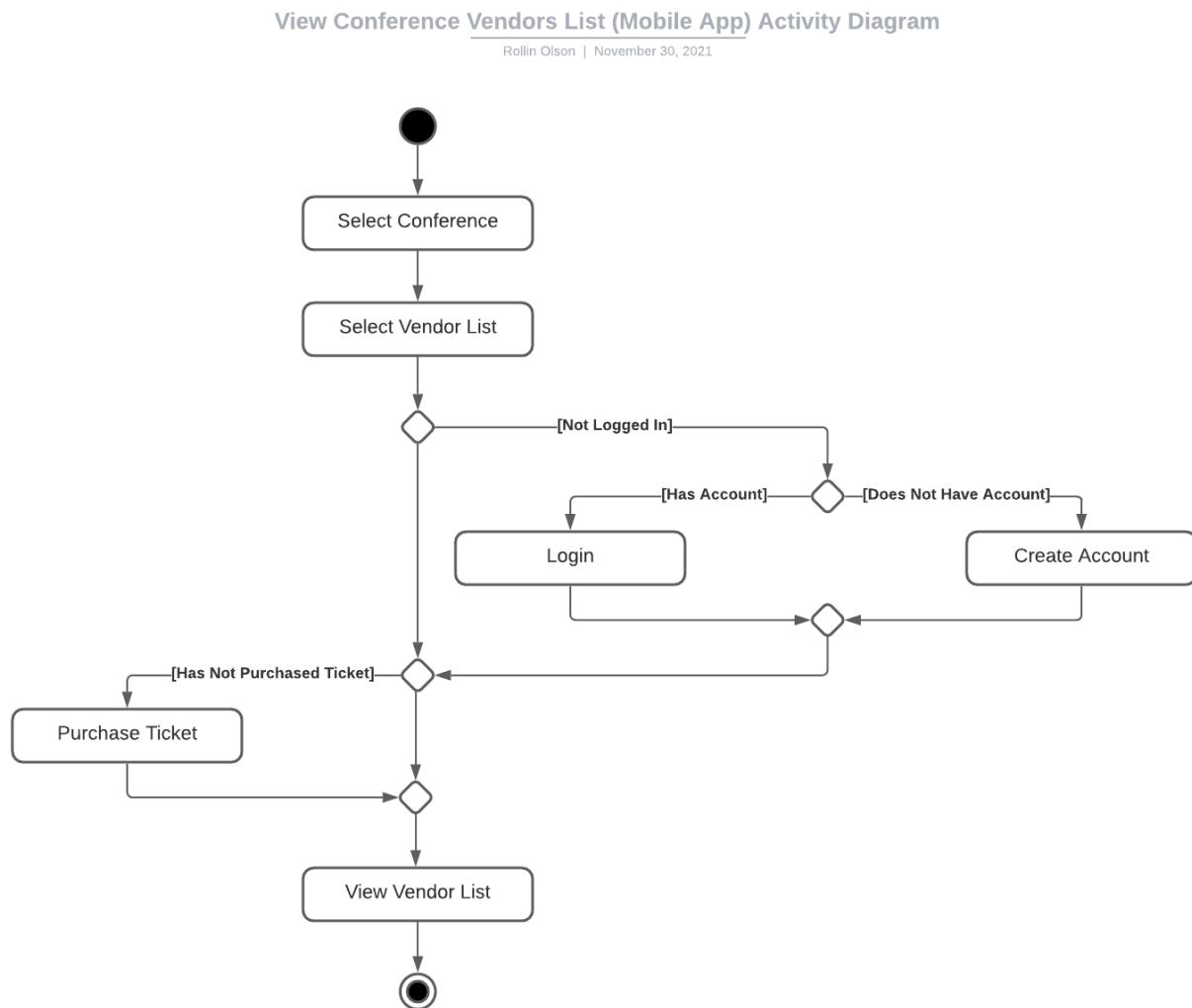


Figure 8: View Conference Vendors List Activity Diagram. This diagram illustrates the steps an attendee will take to view a list of vendors at an upcoming / current conference through the mobile application. The attendee must be logged in and have a ticket to the conference of interest to view the list of vendors.

### 3.3.4 Interaction Diagrams

#### 3.3.4.1 Sequence Diagrams

##### 3.3.4.1.1 Add Potential Guest Speakers

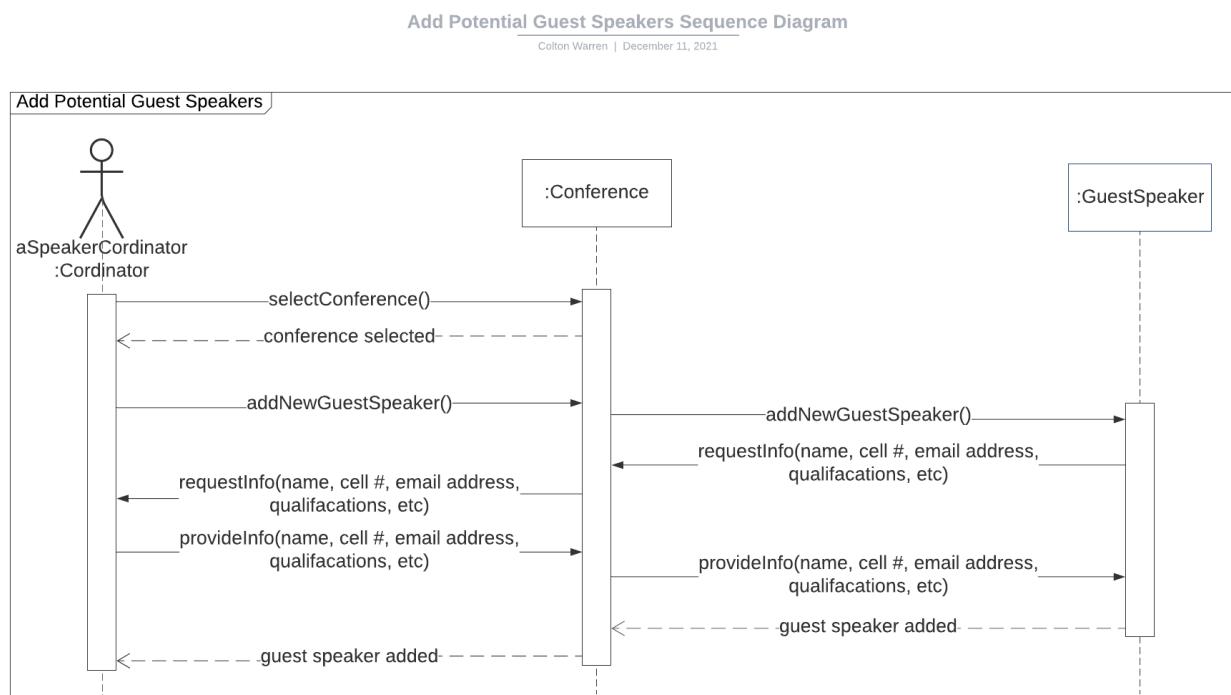


Figure 9: Add Potential Guest Speakers Sequence Diagram. This diagram shows how each of the classes involved with adding a new potential guest speaker interact with each other.

## 3.3.4.1.2 Add Potential Venue

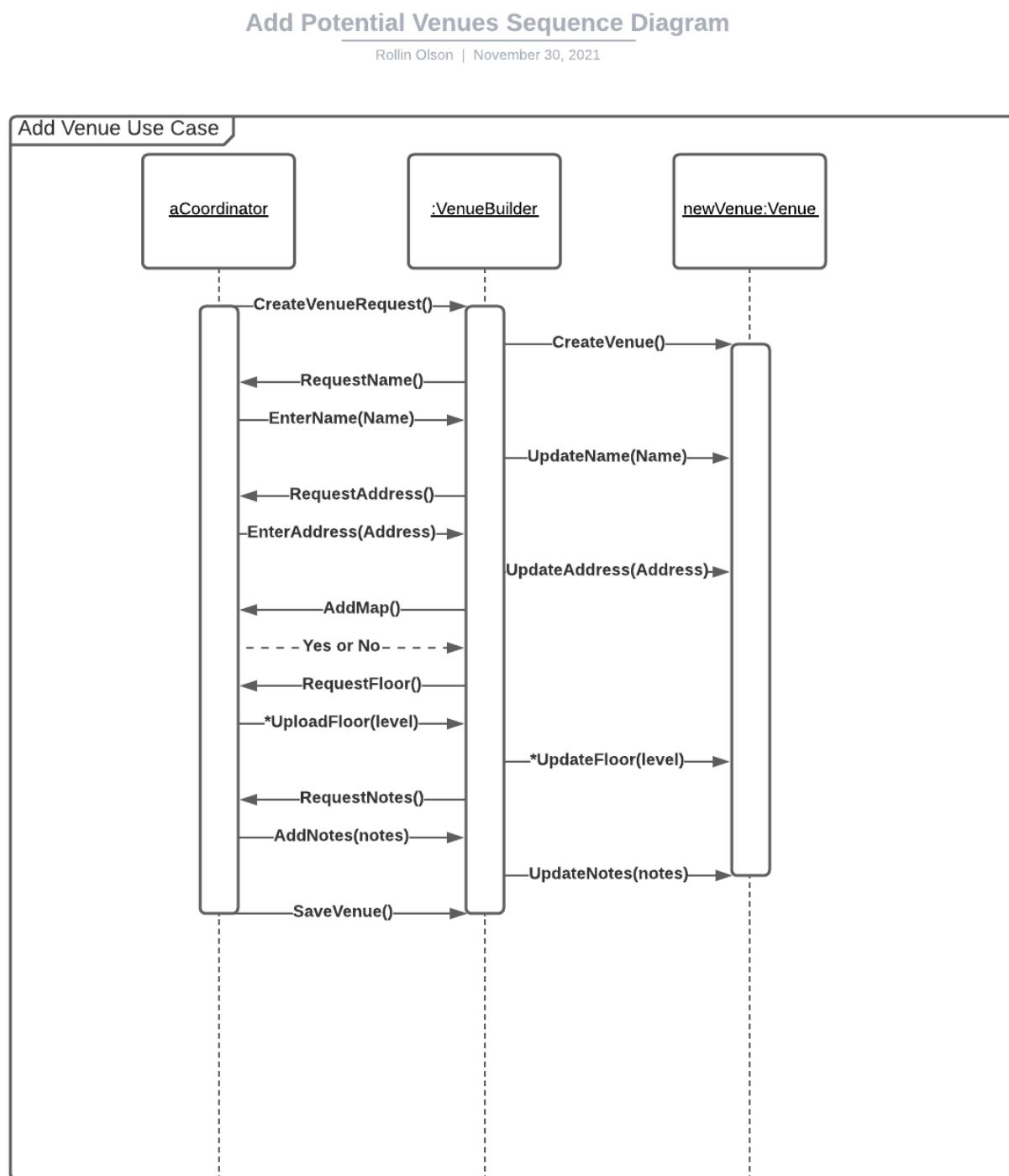
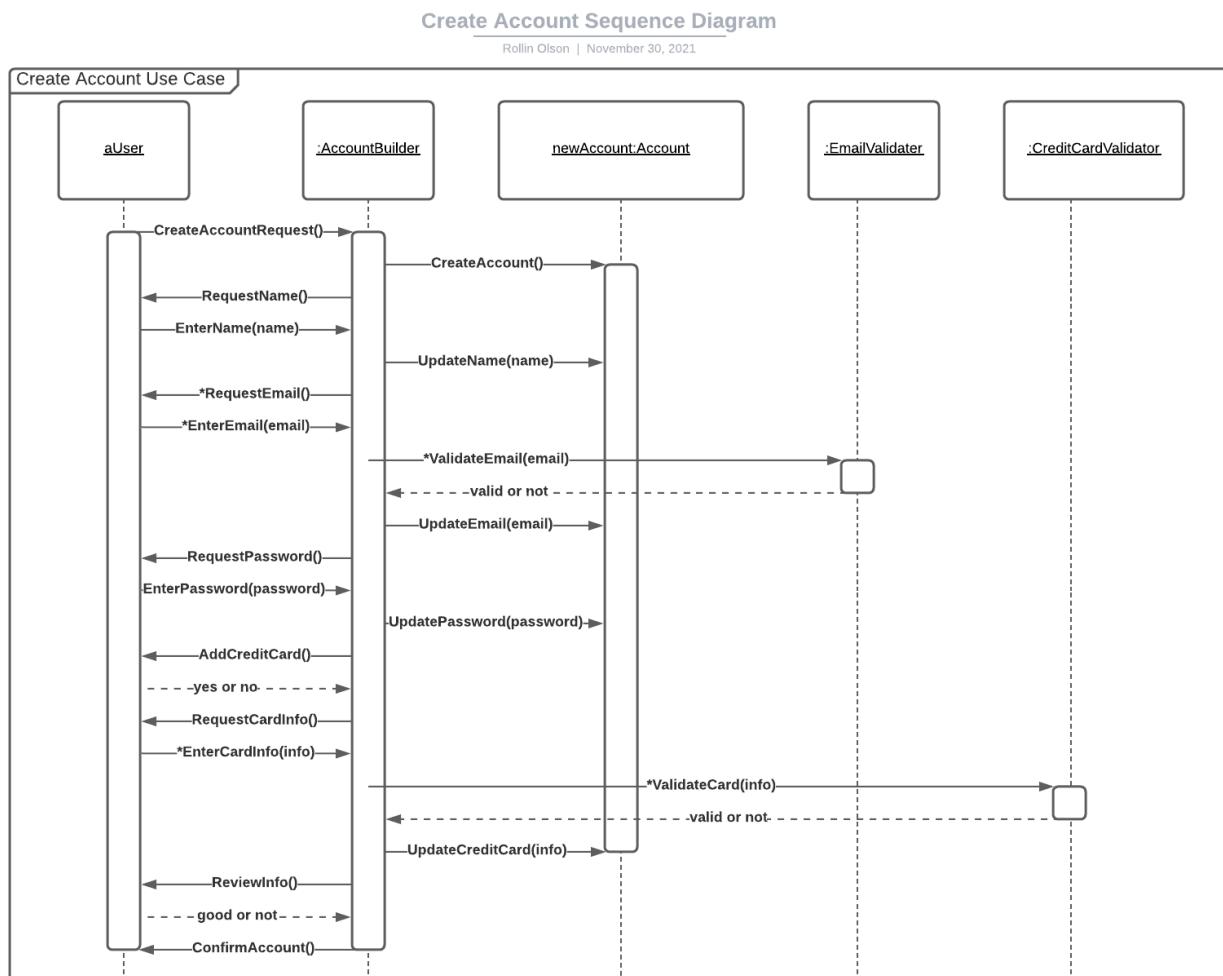


Figure 10: Add Potential Venue Sequence Diagram. The way venues are edited will be similar to the way they are constructed here (just skip the “Add Venue” call).

### 3.3.4.1.3 Create Account



*Figure 11: Create Account Sequence Diagram. We will need an email validator and credit card validator to ensure each item is valid. Their use will be minimal so they will only have a minimal amount of active time.*

## 3.3.4.1.4 Create Family Unit

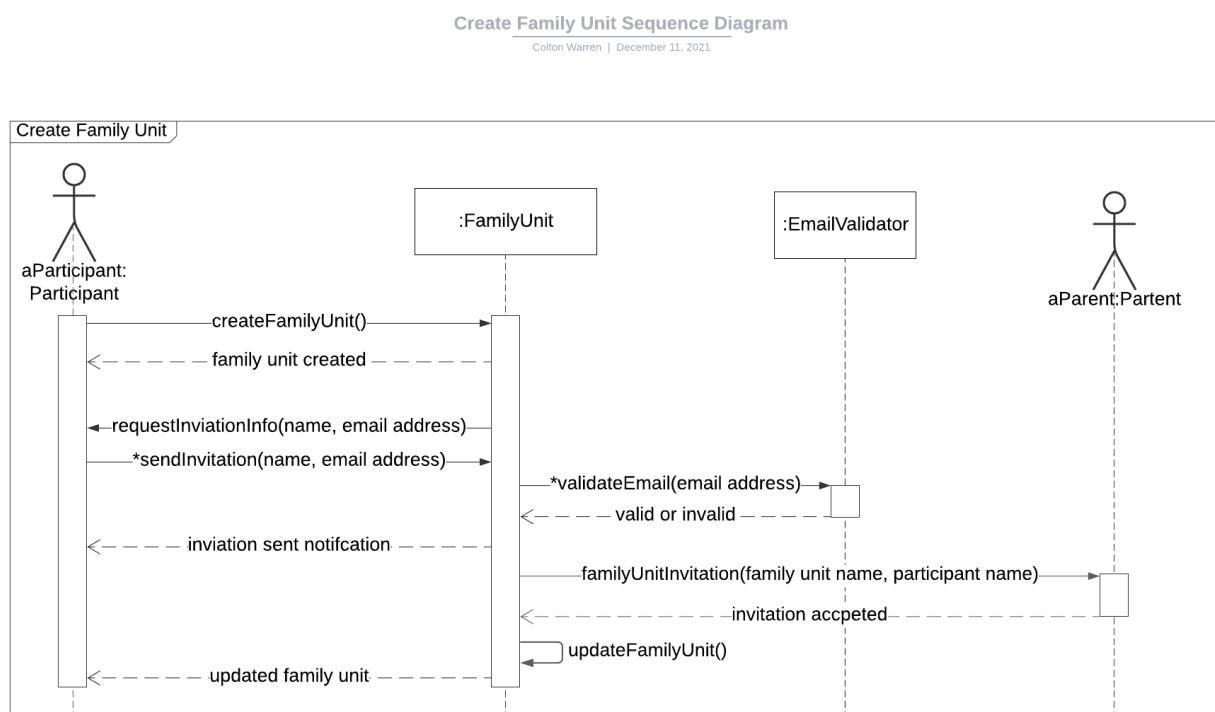


Figure 12: Create Family Unit Sequence Diagram. This diagram shows how each of the classes involved with creating/adding members to a family unit interact with each other.

## 3.3.4.1.5 Purchase Conference Ticket

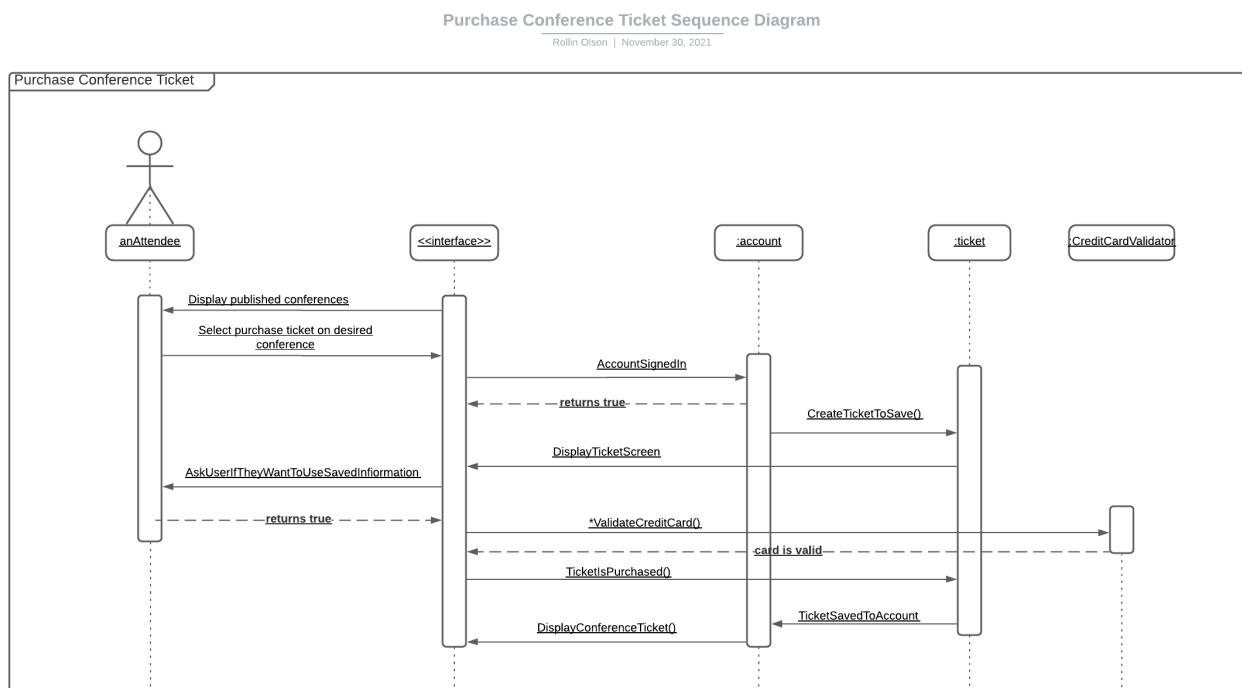
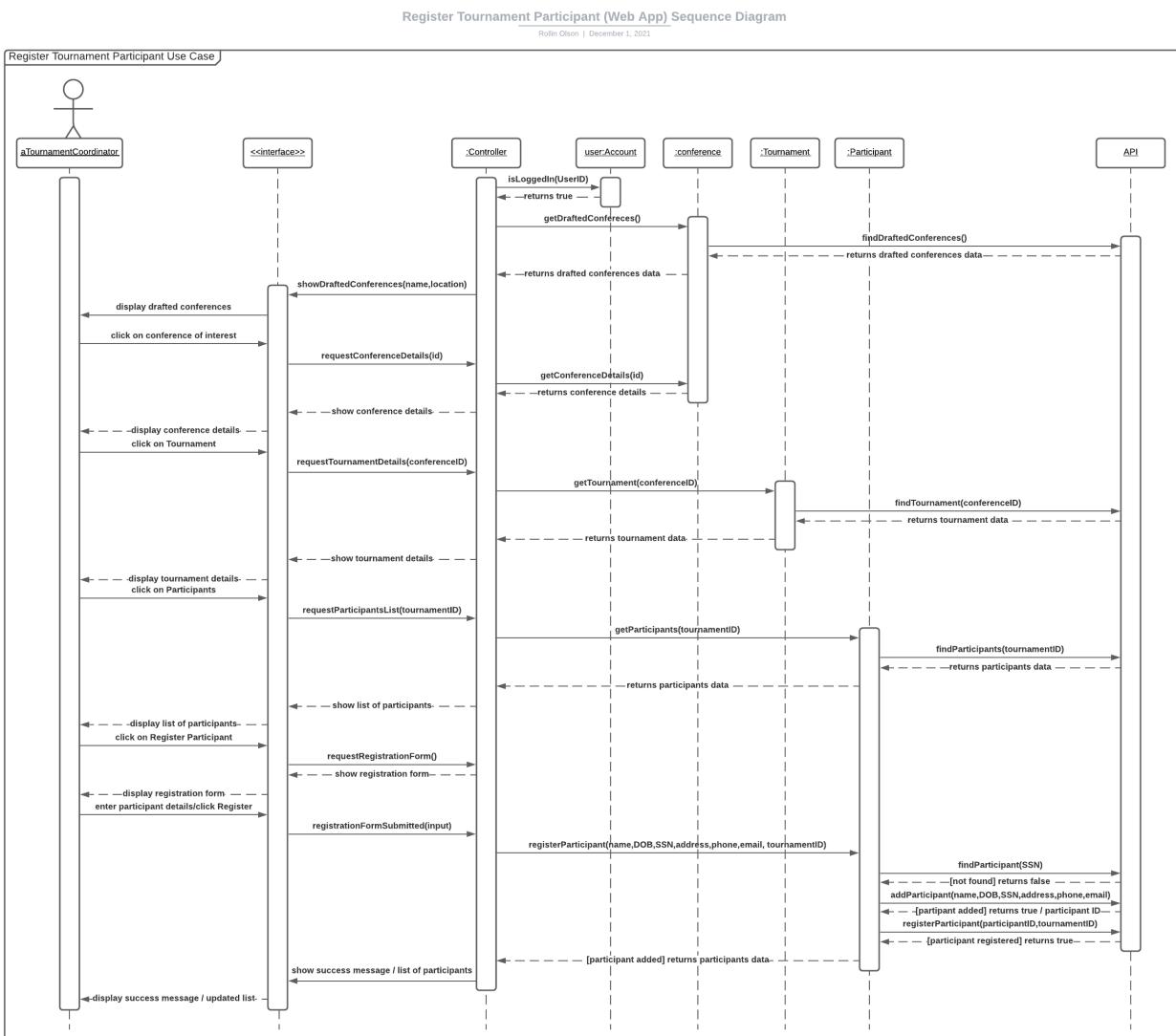


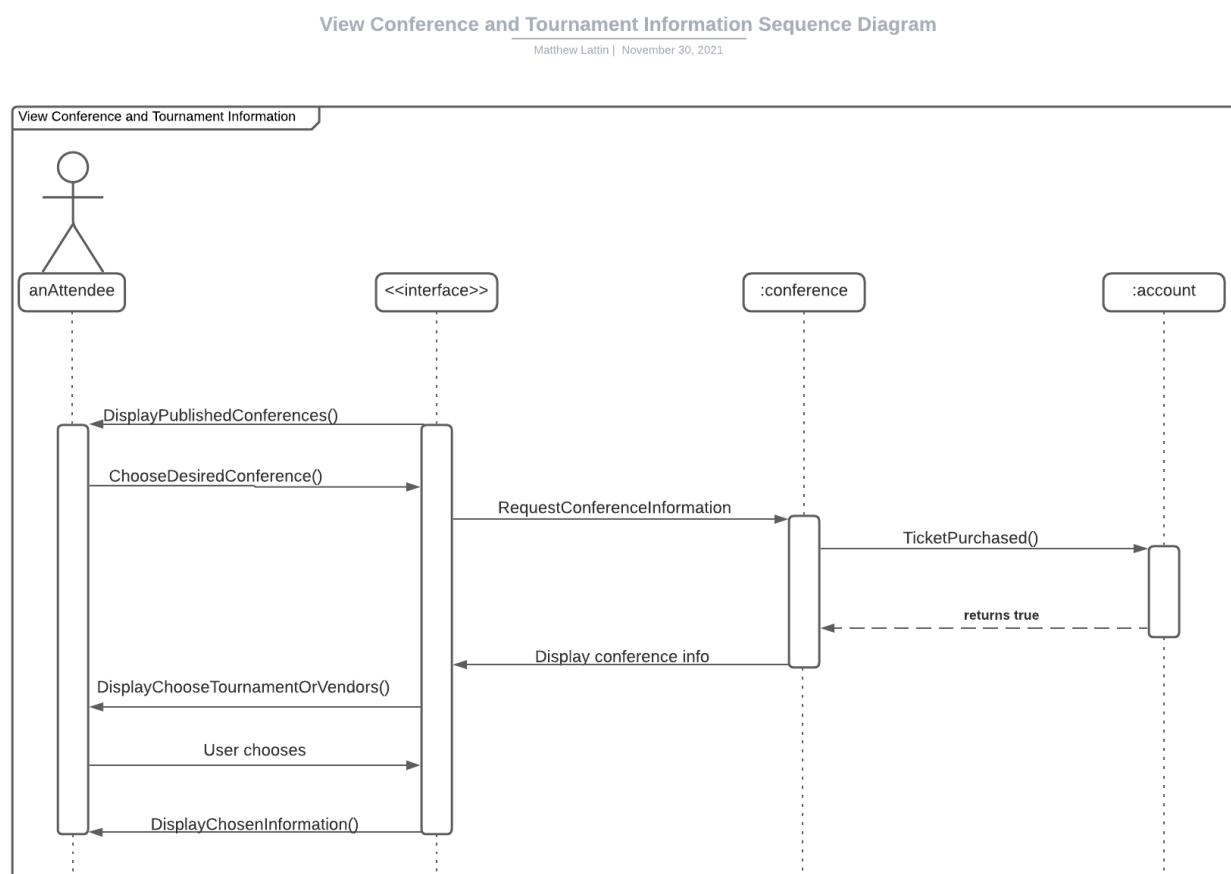
Figure 13: Purchase Conference Ticket Sequence Diagram. This diagram illustrates the sequence of steps a future attendee will take to purchase a conference ticket through the mobile application. This diagram assumes the attendee has already created an account and is logged in.

### 3.3.4.1.6 Register Tournament Participant



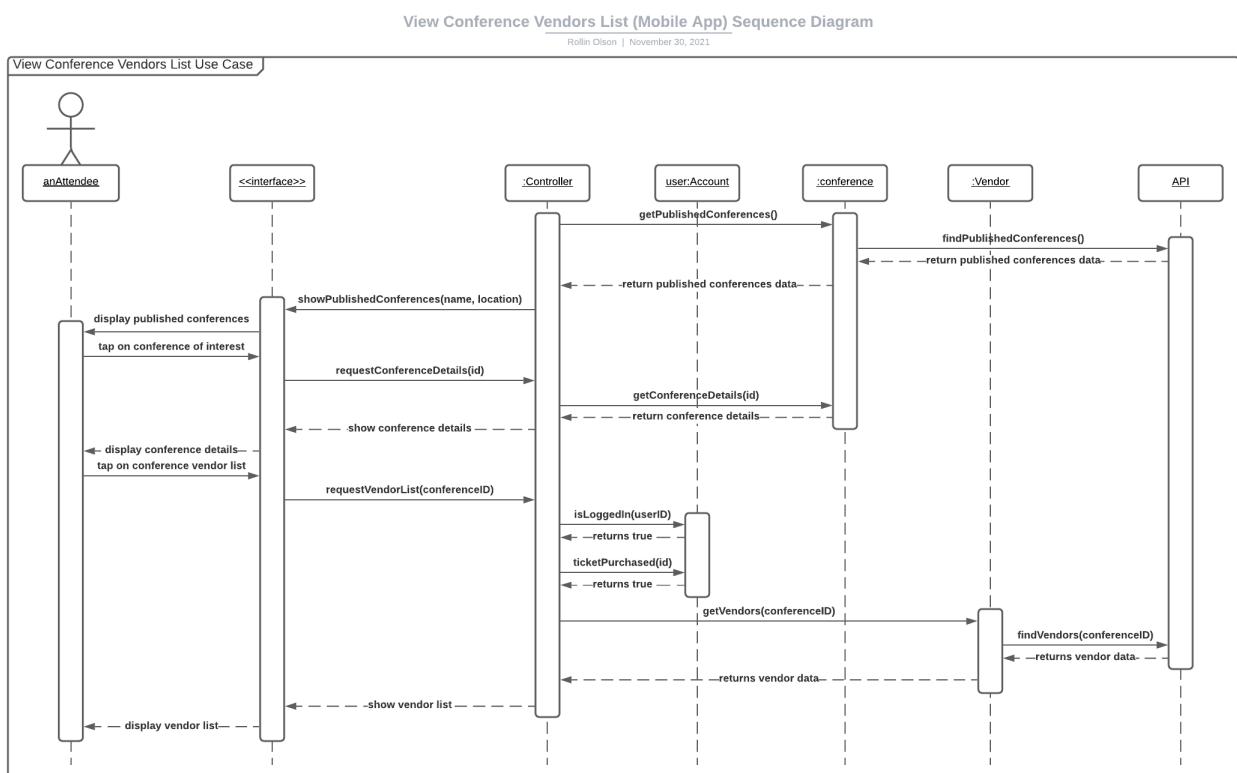
*Figure 14: Register Tournament Participant Sequence Diagram. This diagram illustrates the sequence for the steps a Tournament Coordinator takes to register a tournament participant through the web application. This diagram assumes the Tournament Coordinator has already logged into the application.*

## 3.3.4.1.7 View Conference and Tournament Information



*Figure 15: View Conference and Tournament Information Sequence Diagram. This diagram illustrates the sequence of steps an attendee will take to view conference and tournament information in the mobile application. This diagram assumes the attendee has already logged into the application and has purchased a conference ticket.*

### 3.3.4.1.8 View Conference Vendors List



*Figure 16: View Conference Vendors List Sequence Diagram. This diagram illustrates the sequence for the steps an attendee takes to view the list of vendors at an upcoming / current conference through the mobile application. This diagram assumes the attendee has already logged into the mobile application and has already purchased a ticket to the conference of interest.*

### 3.3.4.2 Communication Diagrams

#### 3.3.4.2.1 Add Potential Guest Speaker

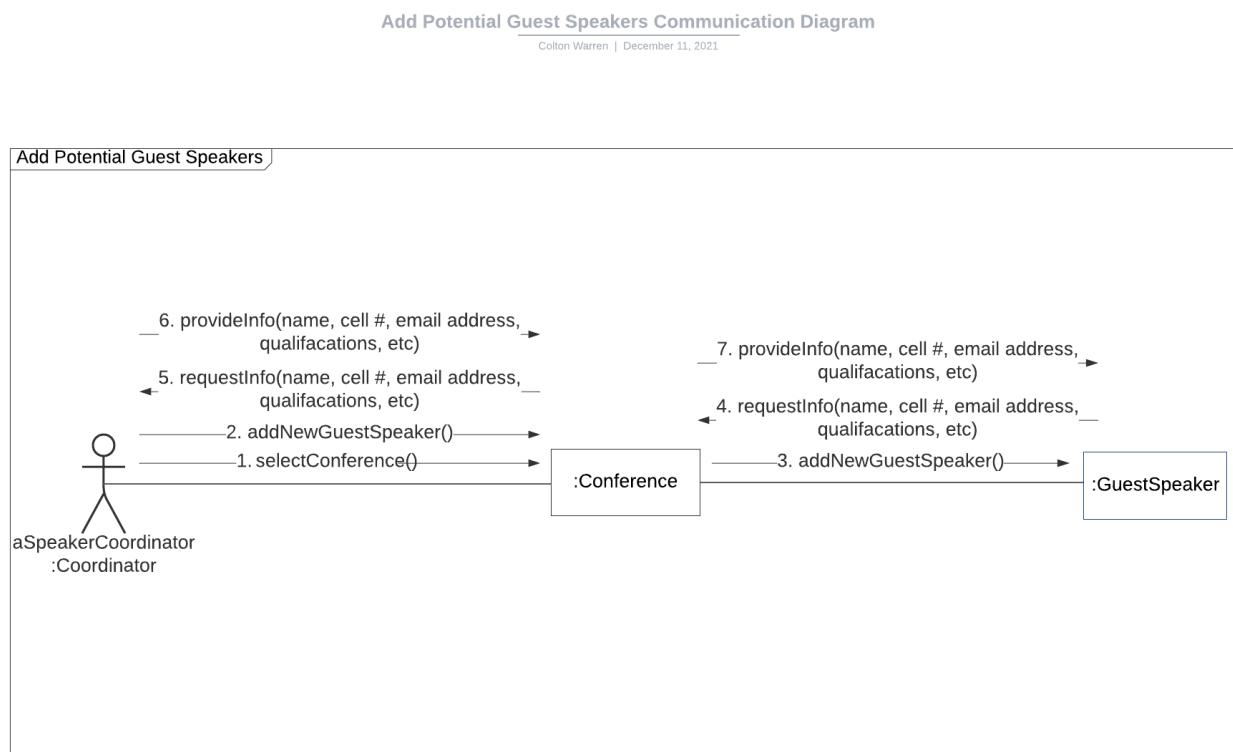


Figure 17: Add Potential Guest Speaker Communication Diagram. This diagram shows the communication relationship between the Coordinator, Conference, Guest Speaker classes.

## 3.3.4.2.2 Add Potential Venue

Add Potential Venues Communication Diagram

Rollin Olson | November 30, 2021

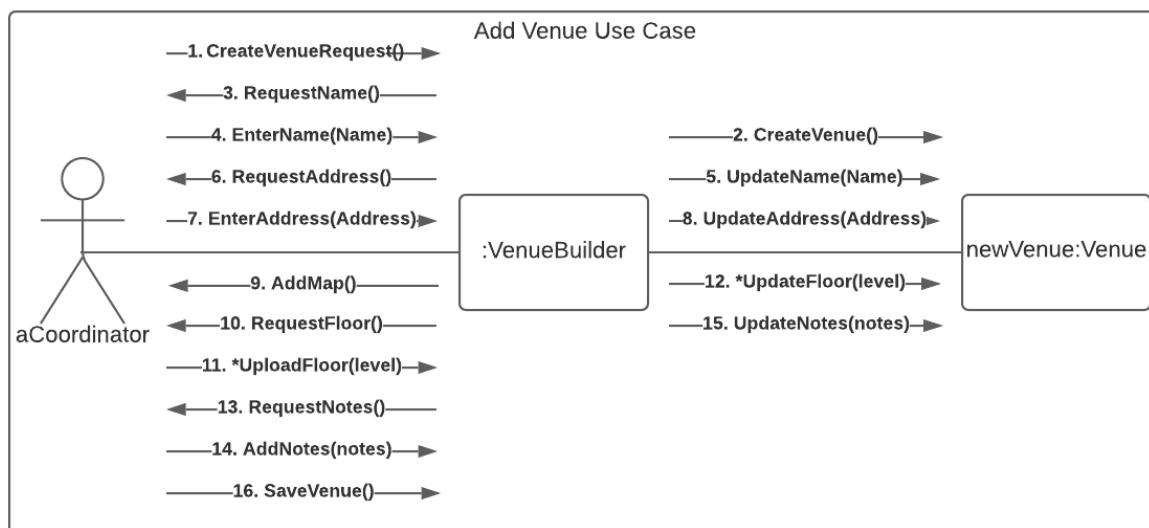


Figure 18: Add Potential Venue Sequence Diagram. Communication between the *VenueBuilder* and *Venue* is one-way. No calls are made from *Venue* to *VenueBuilder*.

## 3.3.4.2.3 Create Account

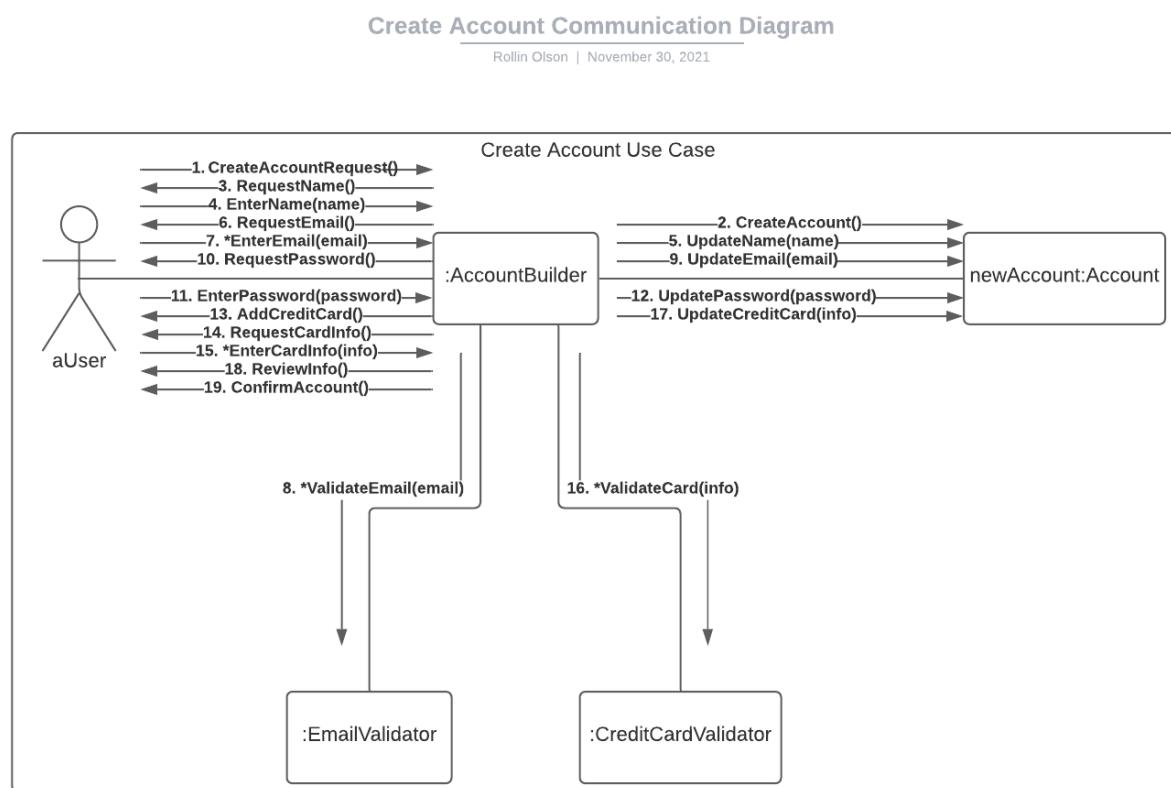


Figure 19: Create Account Communication Diagram. All communication is done through the AccountBuilder to simplify things for the user.

### 3.3.4.2.4 Create Family Unit

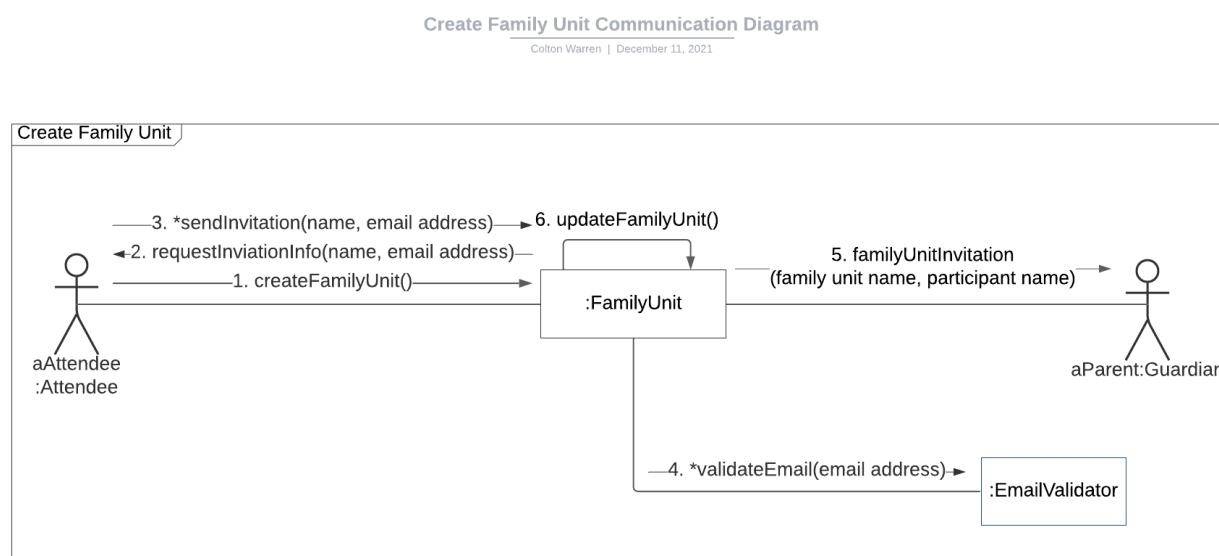


Figure 20: Create Family Unit Communication Diagram. This diagram shows the communication between the Attendee, FamilyUnit, EmailValidator, and Parent classes.

### 3.3.4.2.5 Purchase Conference Ticket

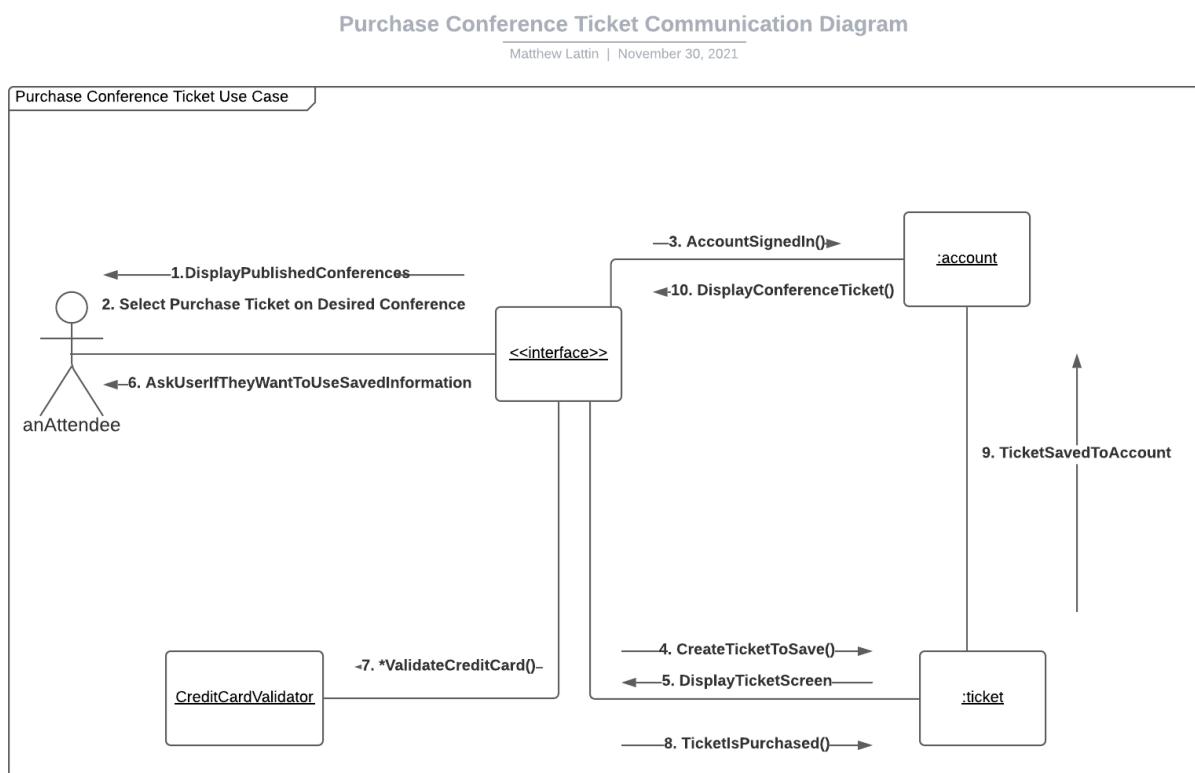
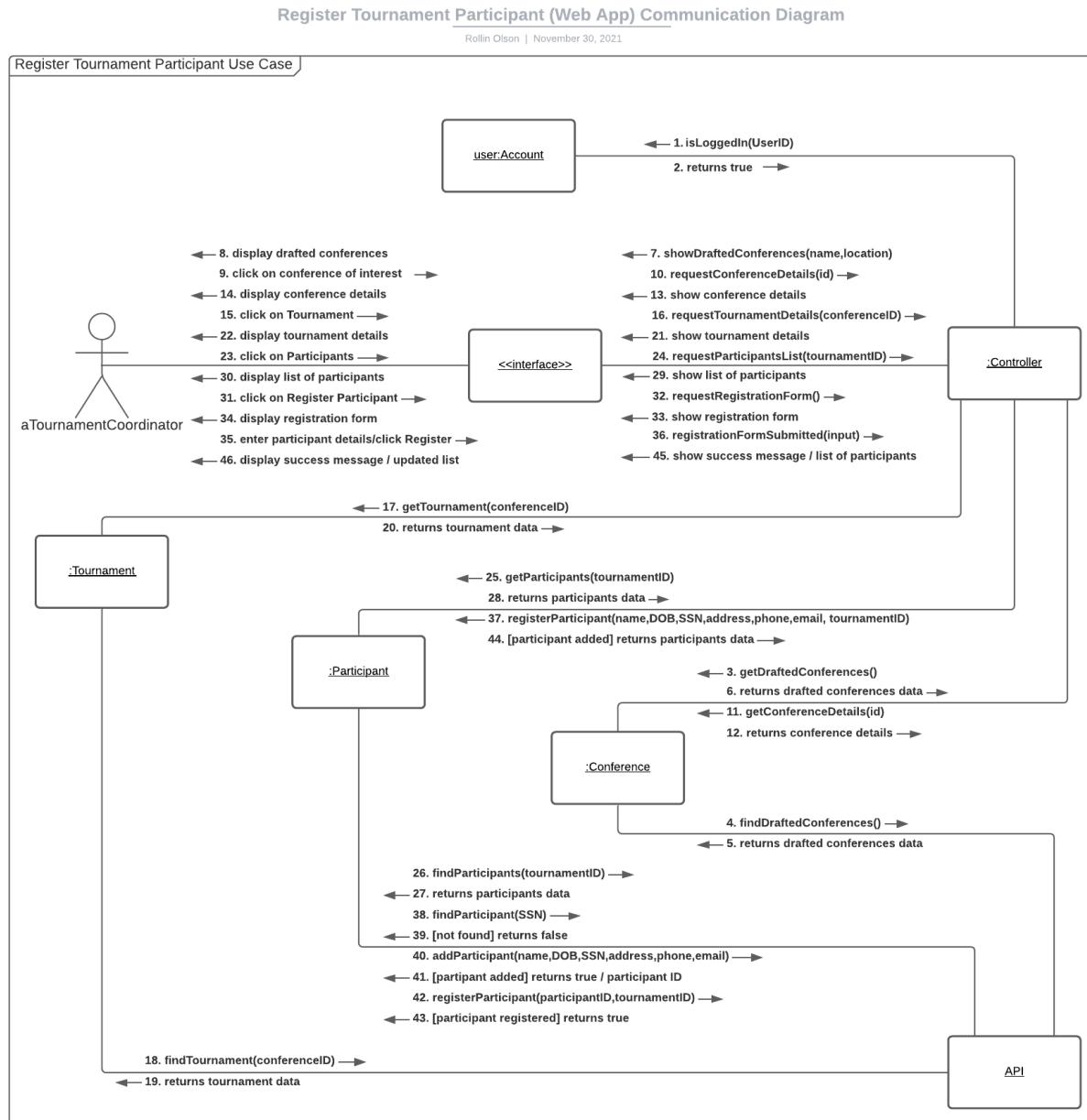


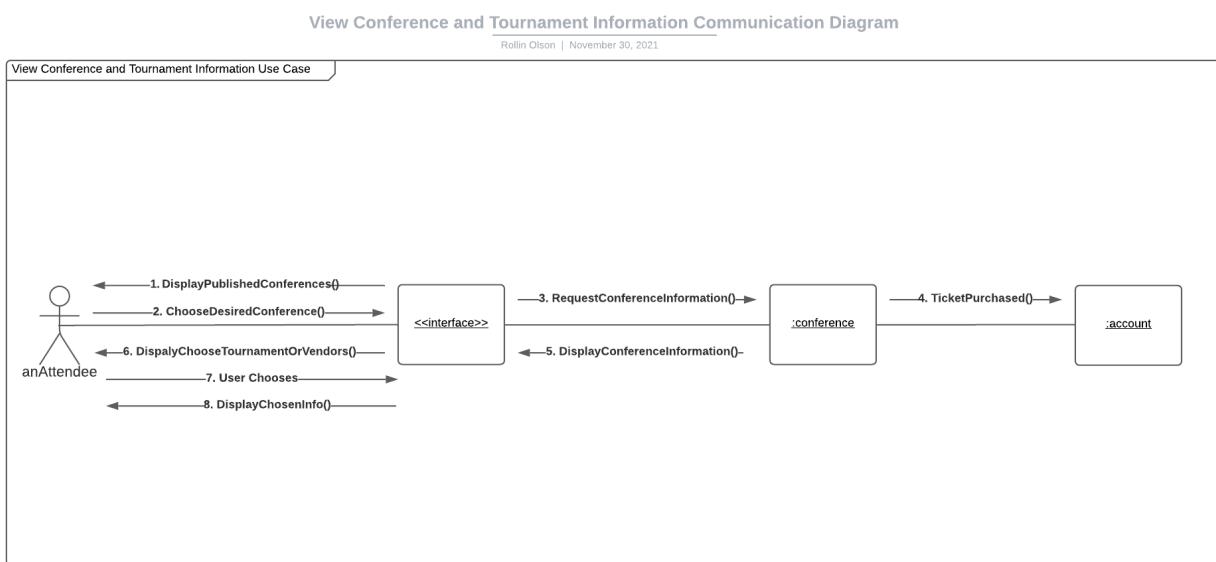
Figure 21: Purchase Conference Ticket Communication Diagram. This diagram illustrates the objects involved in Conference Attendee purchasing a conference ticket to the conference of interest. This diagram assumes the attendee has already created an account and is logged into the mobile application.

### 3.3.4.2.6 Register Tournament Participant



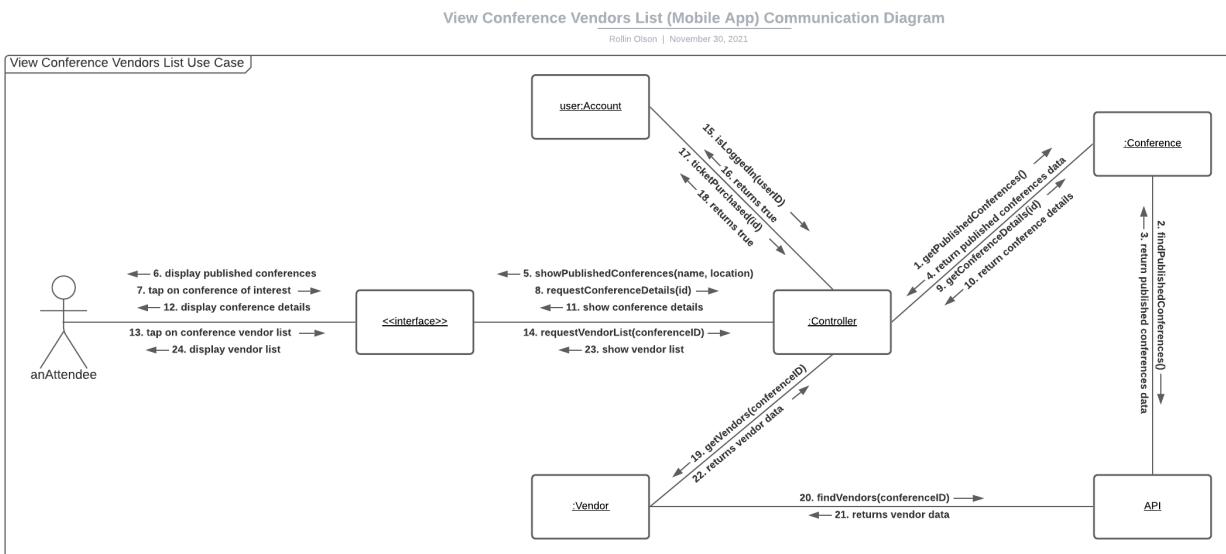
*Figure 22: Register Tournament Participant Communication Diagram. This diagram illustrates the objects involved in a Tournament Coordinator registering a tournament participant through the web application. This diagram assumes the Tournament Coordinator has already logged into the web application.*

### 3.3.4.2.7 View Conference and Tournament Information



*Figure 23: View Conference and Tournament Communication Diagram. This diagram illustrates the objects involved a Conference Attendee viewing conference and tournament information through the mobile application. This diagram assumes the attendee has already created an account, logged into the mobile application, and has already purchased a conference ticket.*

### 3.3.4.2.8 View Conference Vendors List



*Figure 24: View Conference Vendors List Communication Diagram. This diagram illustrates the objects involved for an attendee to view a list of vendors for an upcoming / current conference through the mobile application. This diagram assumes the attendee has already logged into the mobile application.*

### 3.3.4.3 Behavioral State Machine

Objects that change state during their lifetime within the system:

- Conference (*See diagram on following page*)
- Venue
- Workshop
- GuestSpeaker
- Vendor
- Product
- Service
- Exhibit
- Tournament
- Participant
- Ticket
- Donor
- Sponsor
- Dashboard
- Account
- VenueBuilder
- AccountBuilder
- EmailValidator
- CreditCardValidator
- FamilyUnit
- Controller

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## 3.3.4.3.1 Conference

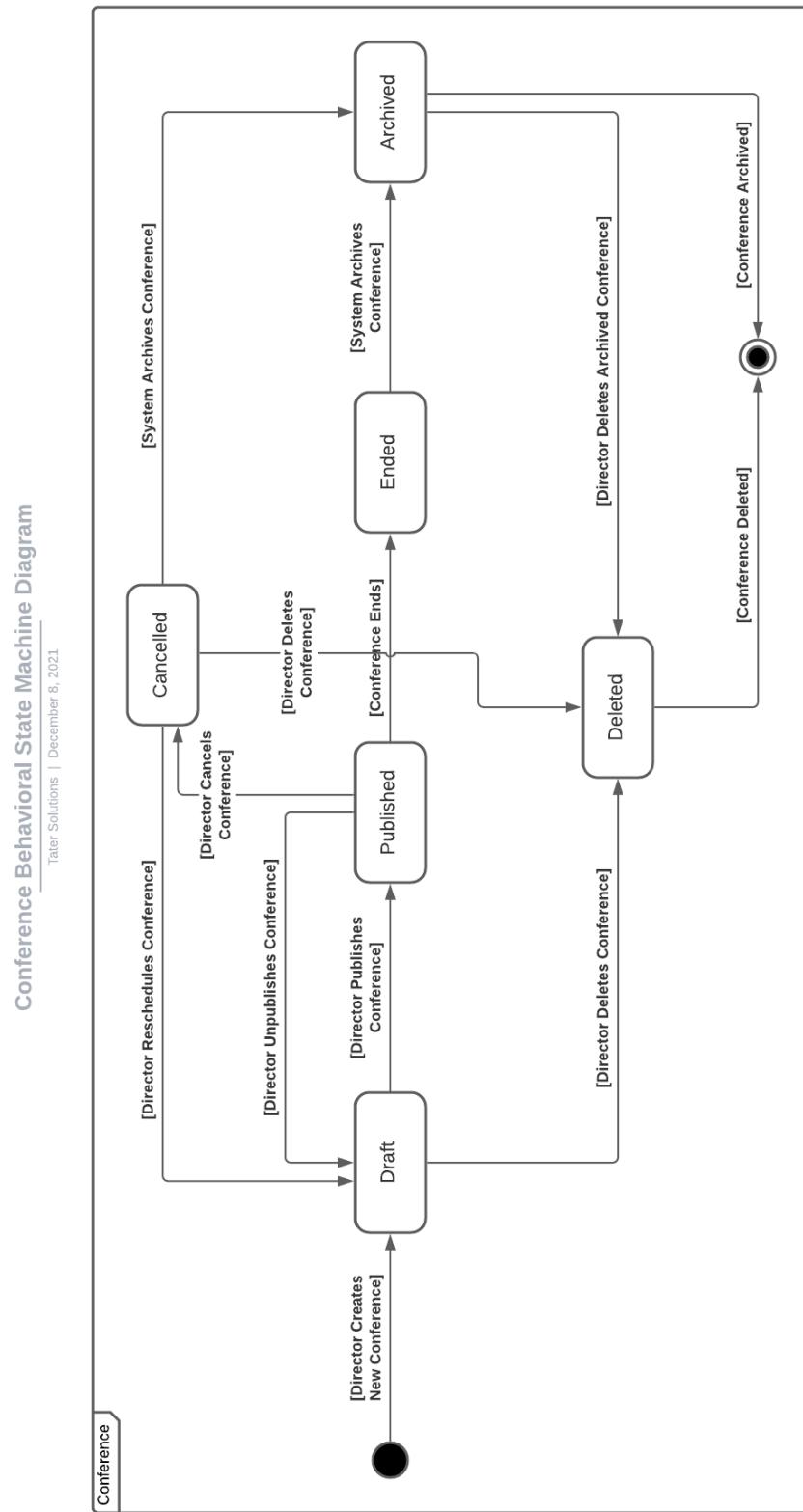


Figure 25: Conference Behavioral State Machine Diagram. This diagram illustrates the various states the conference object transitions through while being used within the system.

### 3.3.5 Overview Class Diagram

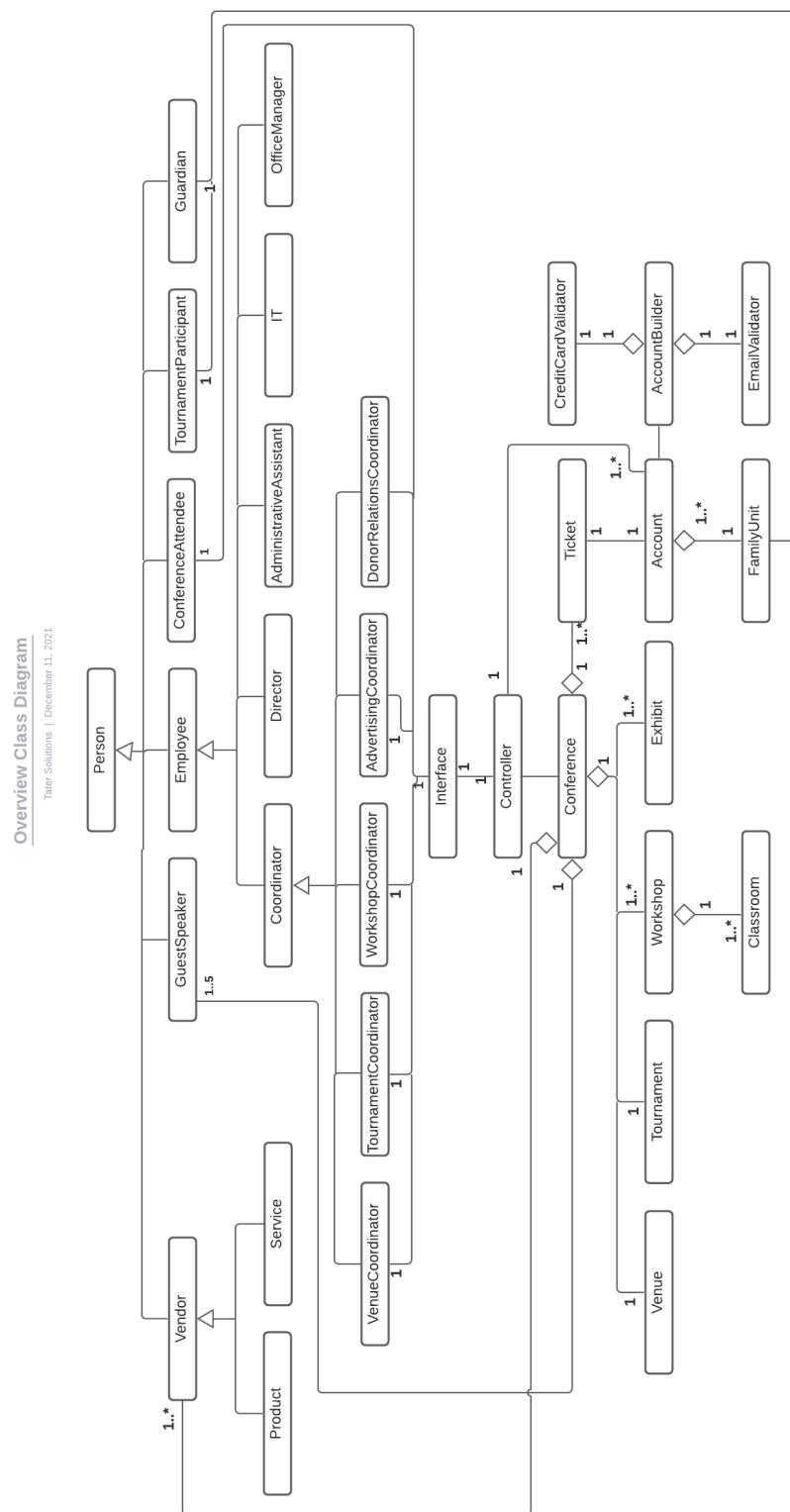


Figure 26: Overview Class Diagram. This diagram illustrates all of the components (objects) within the proposed system. This diagram also expresses their relationships to one another.

### 3.3.5.1 Potential Class Domains

- **Account Domain:** Account, AccountBuilder, CreditCardValidator, EmailValidator, FamilyUnit, Ticket
- **Coordinators Domain:** Coordinator, VenueCoordinator, TournamentCoordinator, WorkshopCoordinator, AdvertisingCoordinator, DonorRelationsCoordinator
- **Conference Domain:** Conference, Ticket, Exhibit, Workshop, Tournament, Venue, GuestSpeaker, Vendor
- **Employee Domain:** Employee, Coordinator, Director, AdministrativeAssistant, IT, OfficeManager
- **Family Unit Domain:** FamilyUnit, Guardian, TournamentParticipant
- **People Domain:** Person, Vendor, Guest Speaker, Employee, Conference Attendee, Tournament Participant, Guardian
- **User Interface Domain:** Controller, Interface
- **Vendor Domain:** Vendor, Product, Service
- **Workshop Domain:** Workshop, Classroom

## 4. Non-Functional Requirements

- **Functionality**
  - The system will communicate between the Web Application and Mobile Application
  - The system will have reports/forms that will be uploaded to a database
  - The system will provide different levels of access based on your user roles associated with your account
- **Usability**
  - The web application will be accessible on all web browsers (including mobile)
  - The mobile application will be available for downloading on the Apple App Store and through the Google Play Store
  - The system will provide built-in user help documentation
- **Reliability**
  - The system will be available 24 hours, 7 days a week, 365 days of the year unless maintenance is being completed on the server hosting the software and/or an unforeseen natural disaster occurs
  - The system will automatically back up data on the daily basis
  - The system will validate user inputted data
- **Performance**
  - The system will respond to user request in under 10 seconds
  - The system will backup data in under 1 hour
- **Supportability**
  - The system will log error codes for troubleshooting purposes

- The system will perform daily health checks and notify personal if something is found out of the ordinary
- + **Miscellaneous**
  - The system will encrypt all data

## **5. References**

No references were used outside of the course textbook for the creation of this document.

## **6. User Interface**

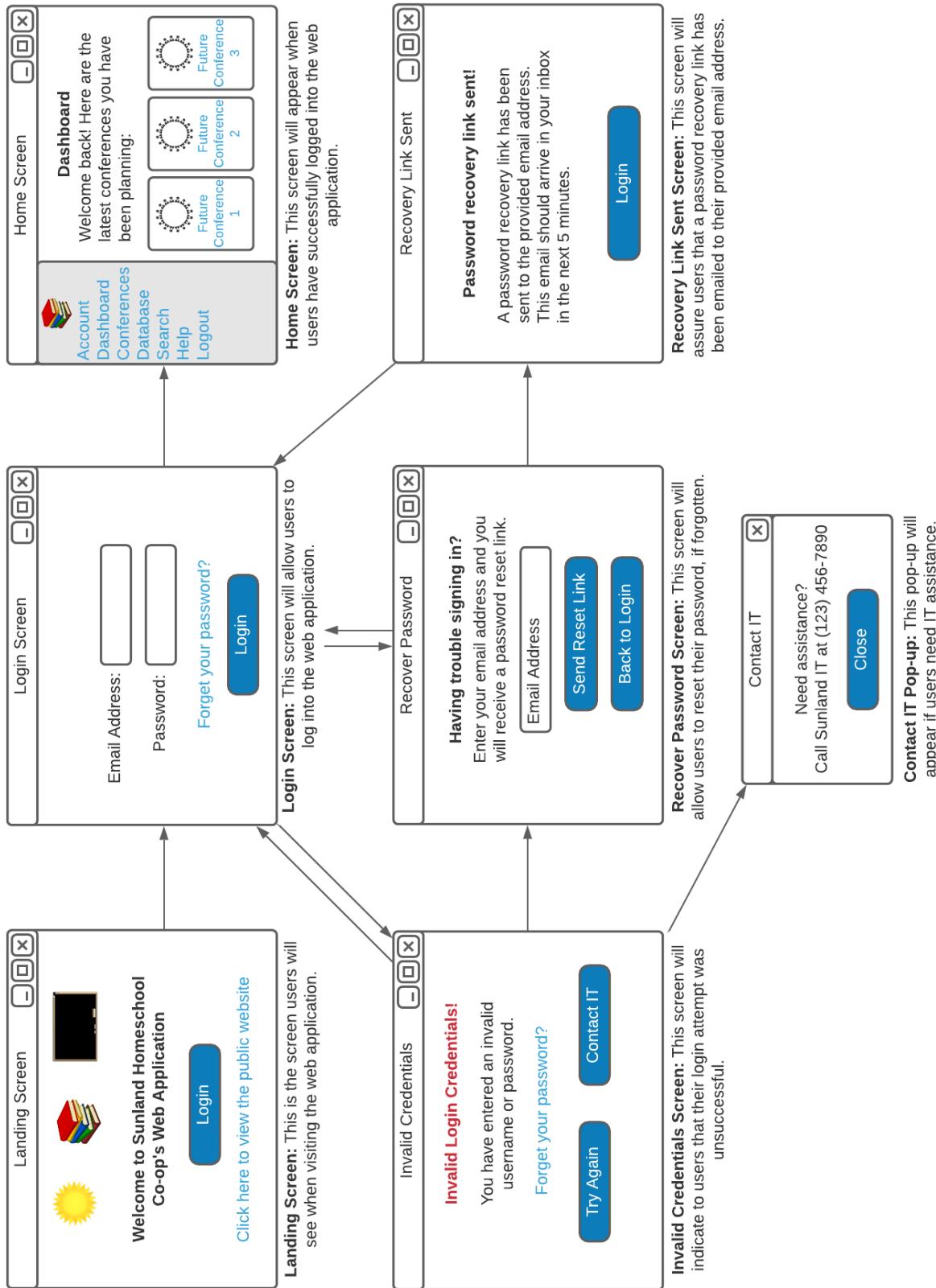
### **6.1 Web Application**

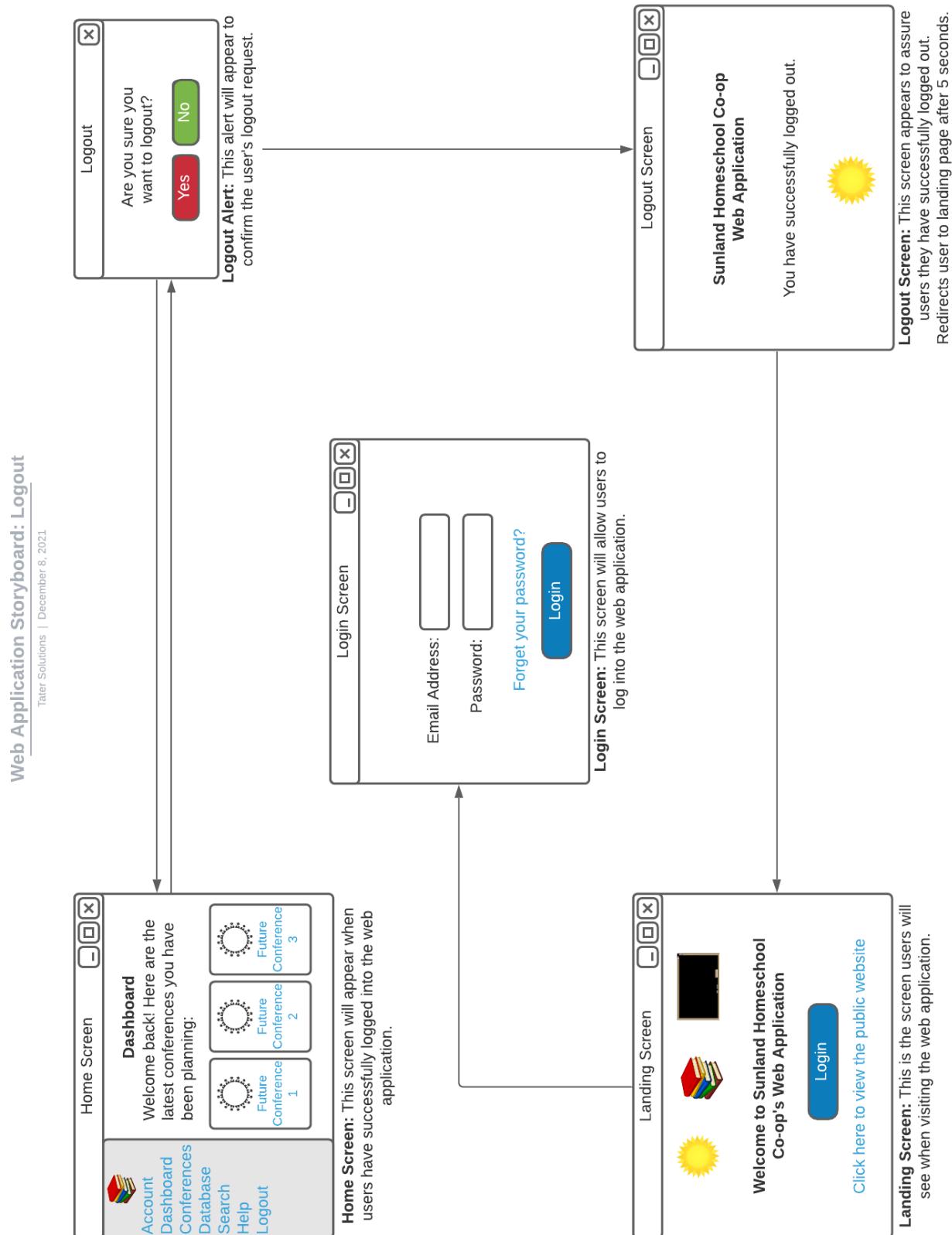
#### **6.1.1 Storyboards**

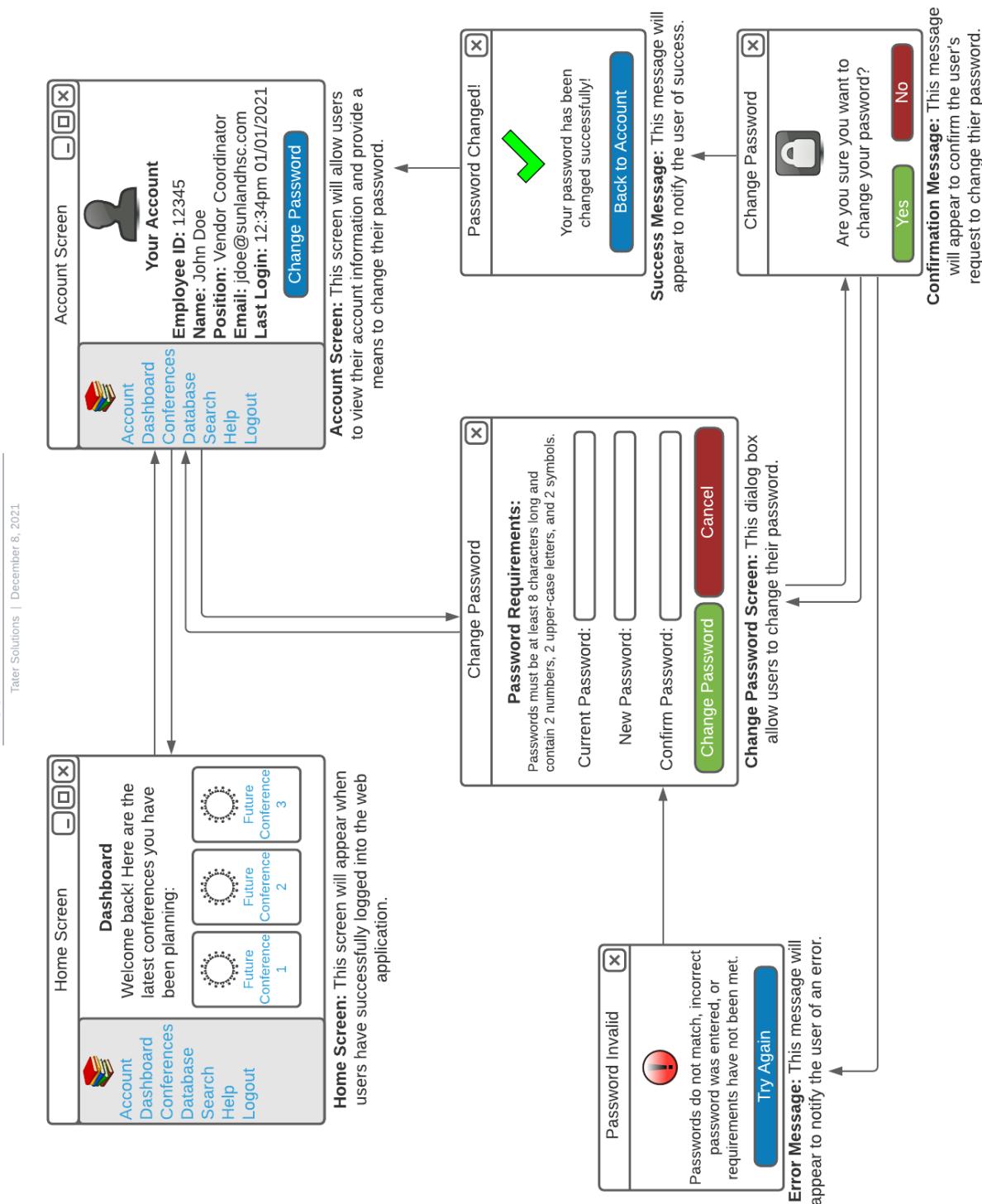
*[remainder of this page intentionally left blank]*

**Web Application Storyboard: Login**

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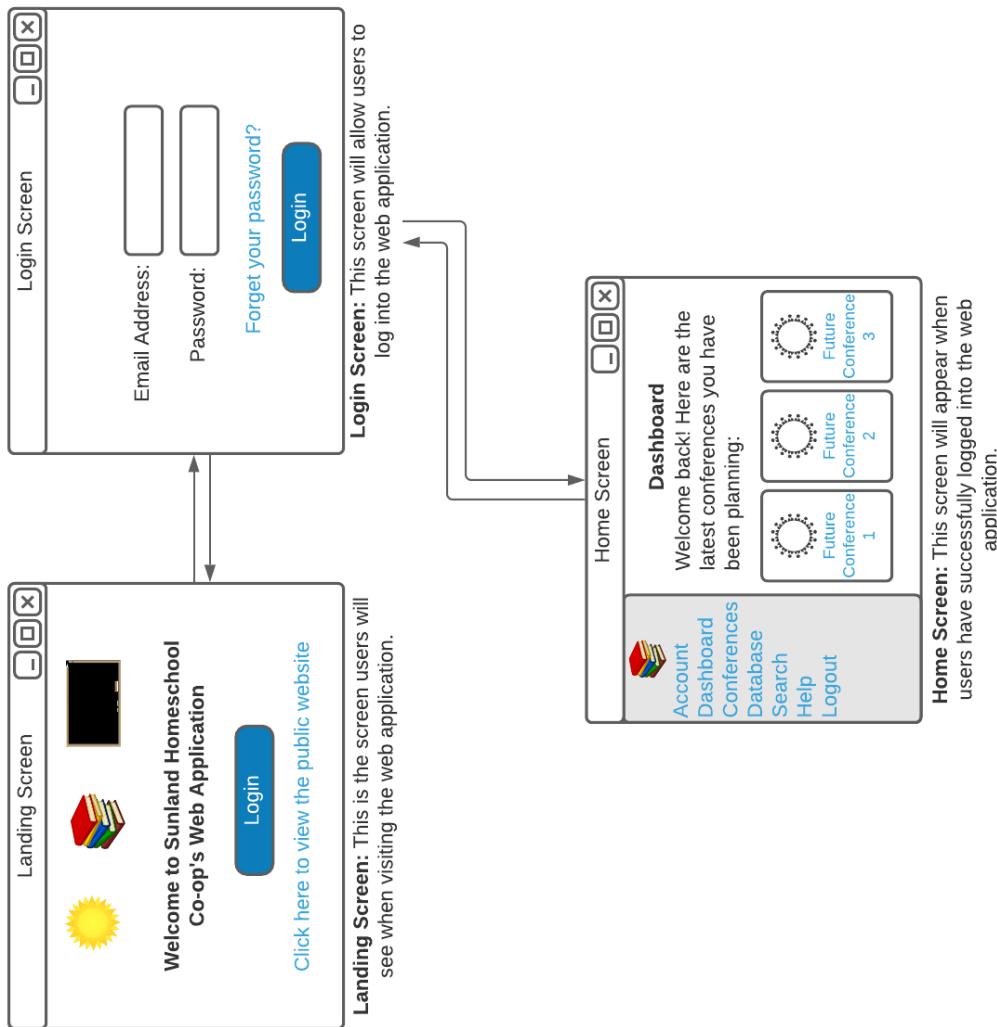


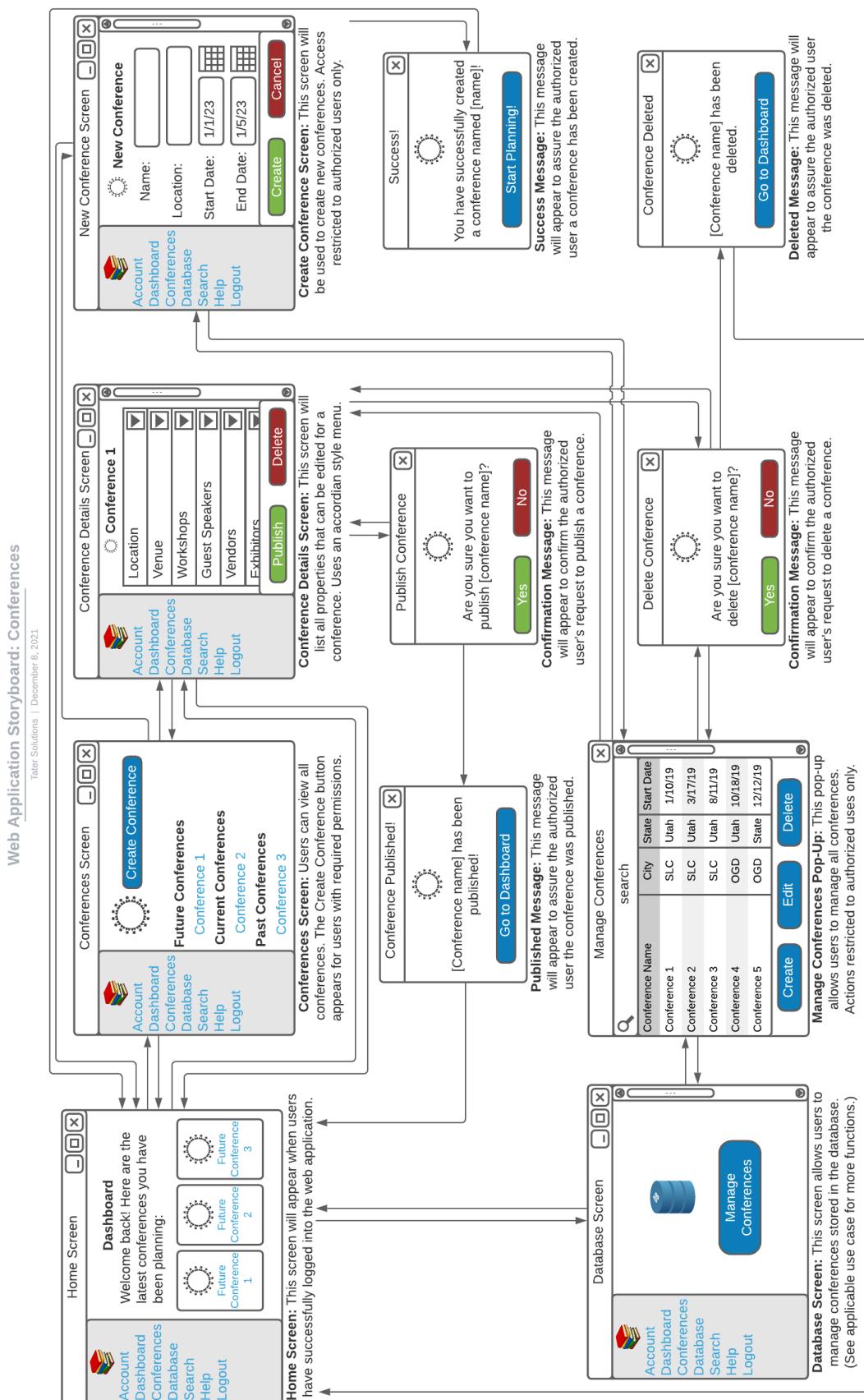


**Web Application Storyboard: Account**

**Web Application Storyboard: Dashboard**

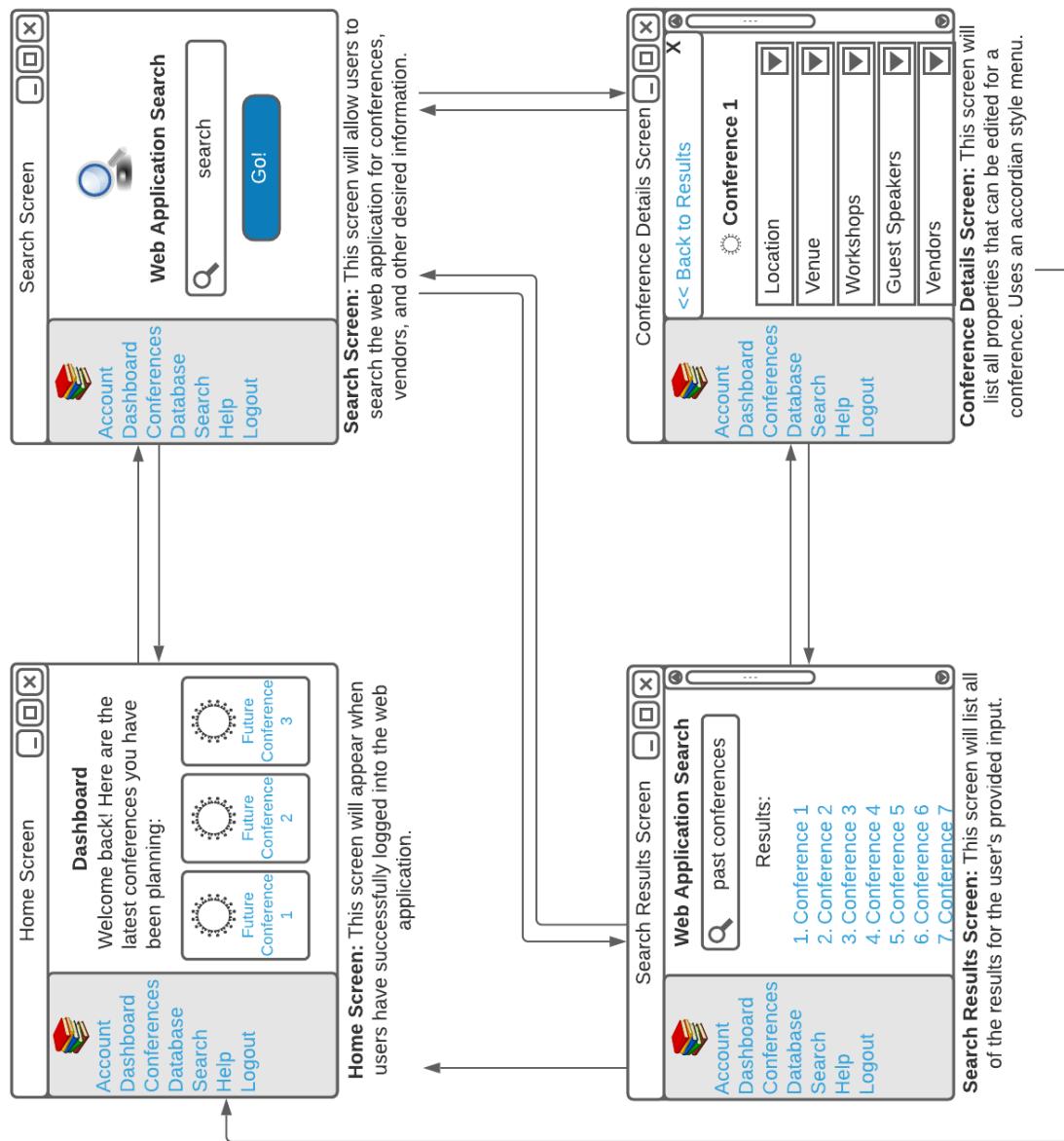
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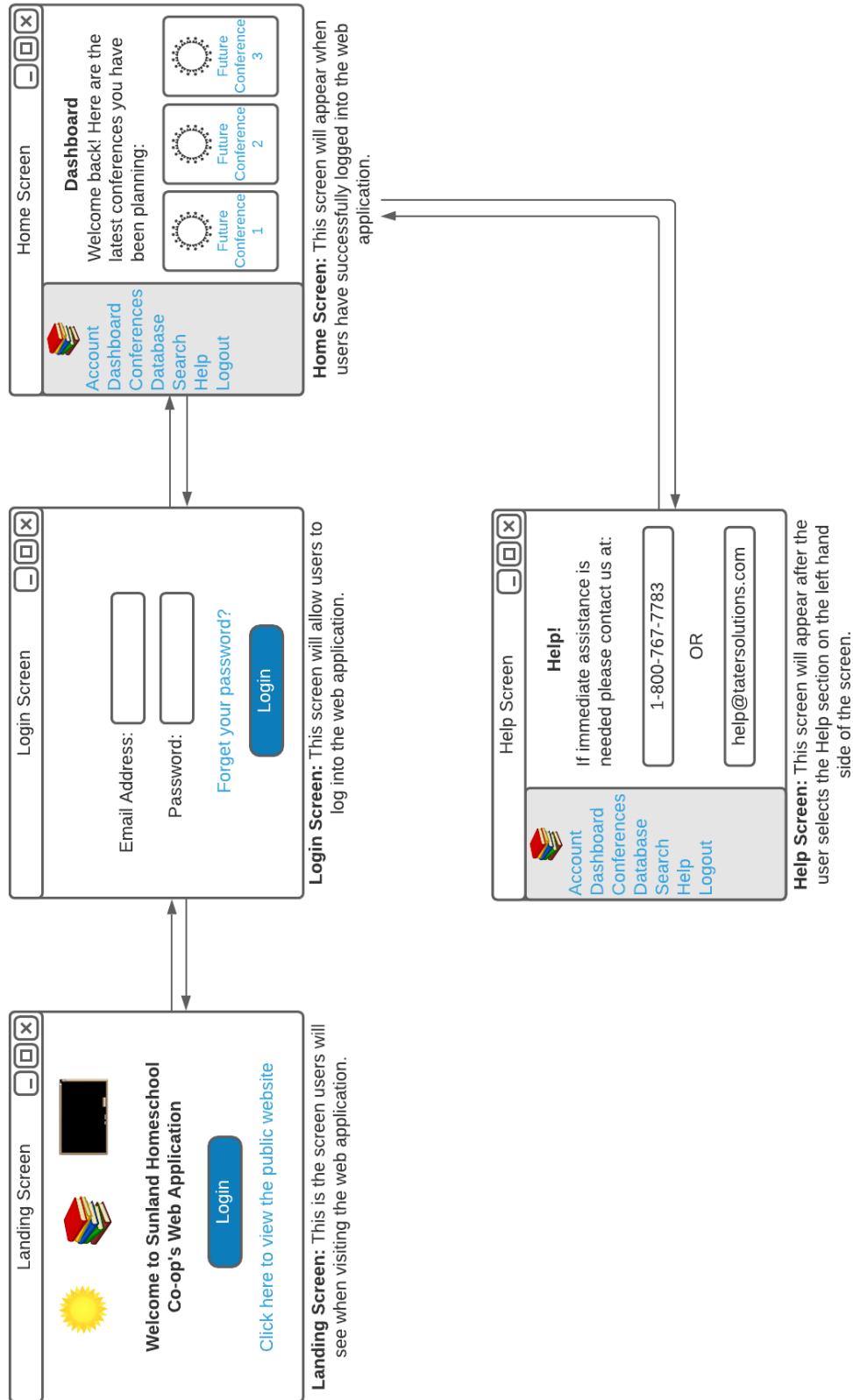
Web Application Storyboard: Search

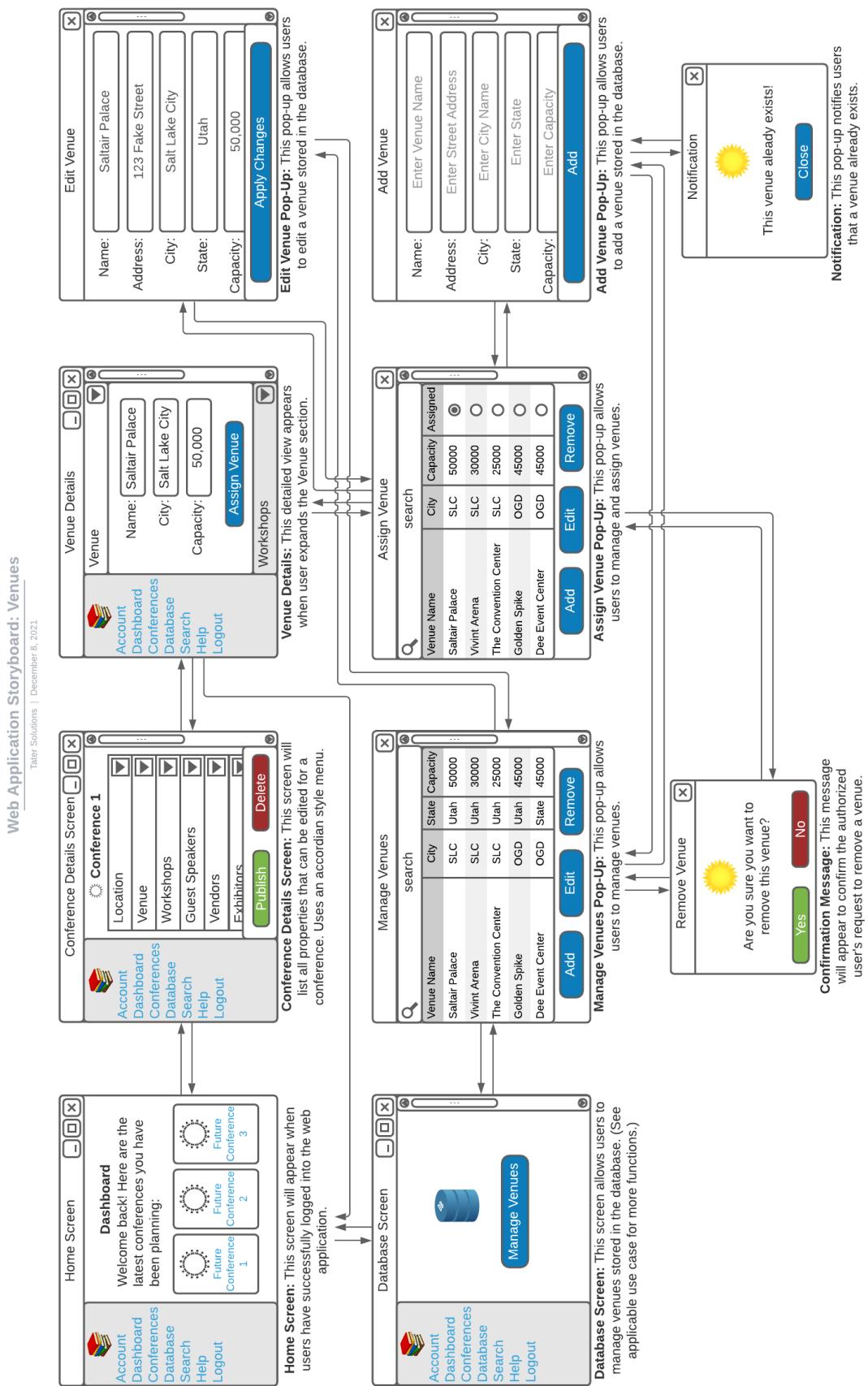
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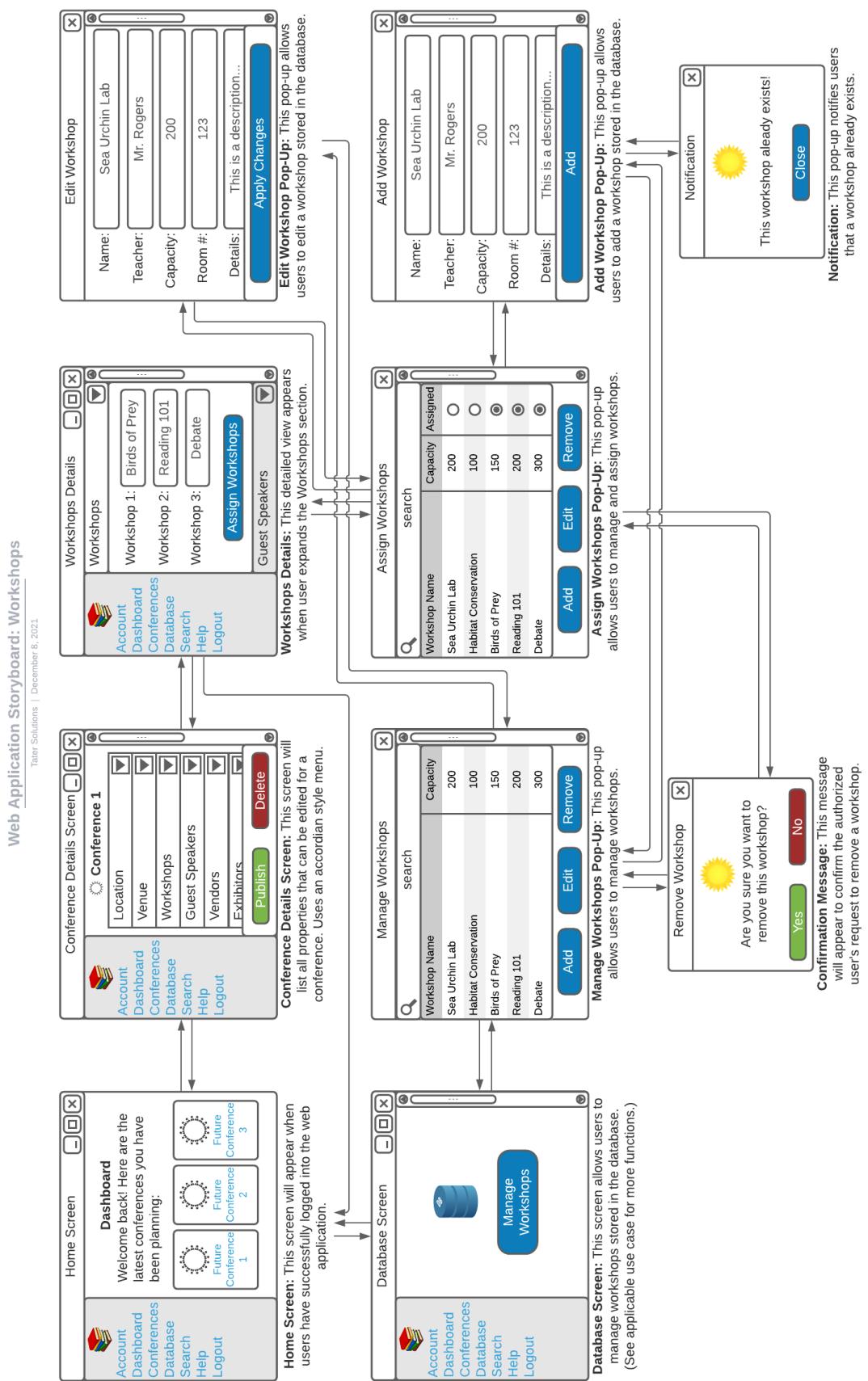


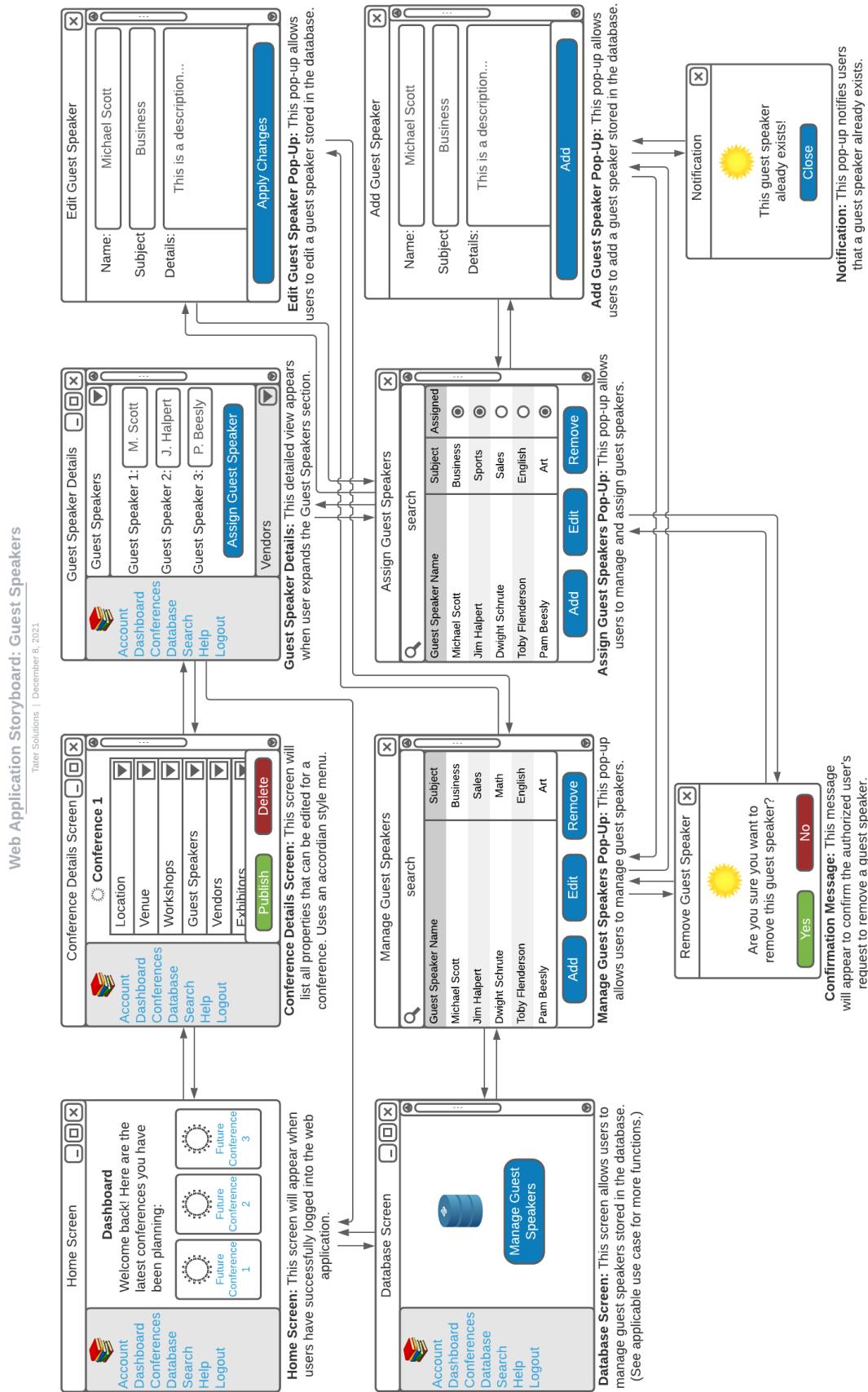
**Web Application Storyboard: Help**

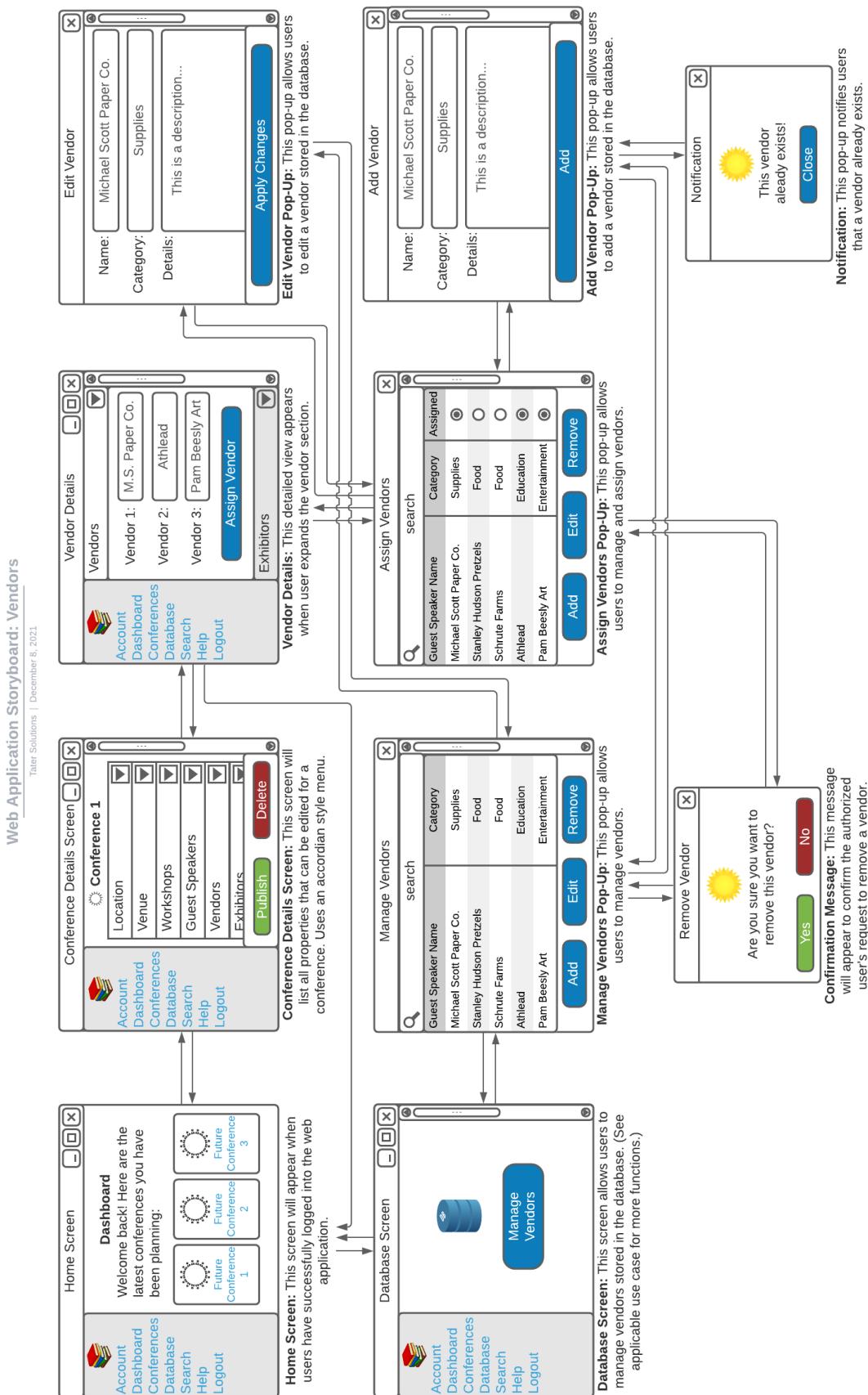
Tater Solutions | December 8, 2021

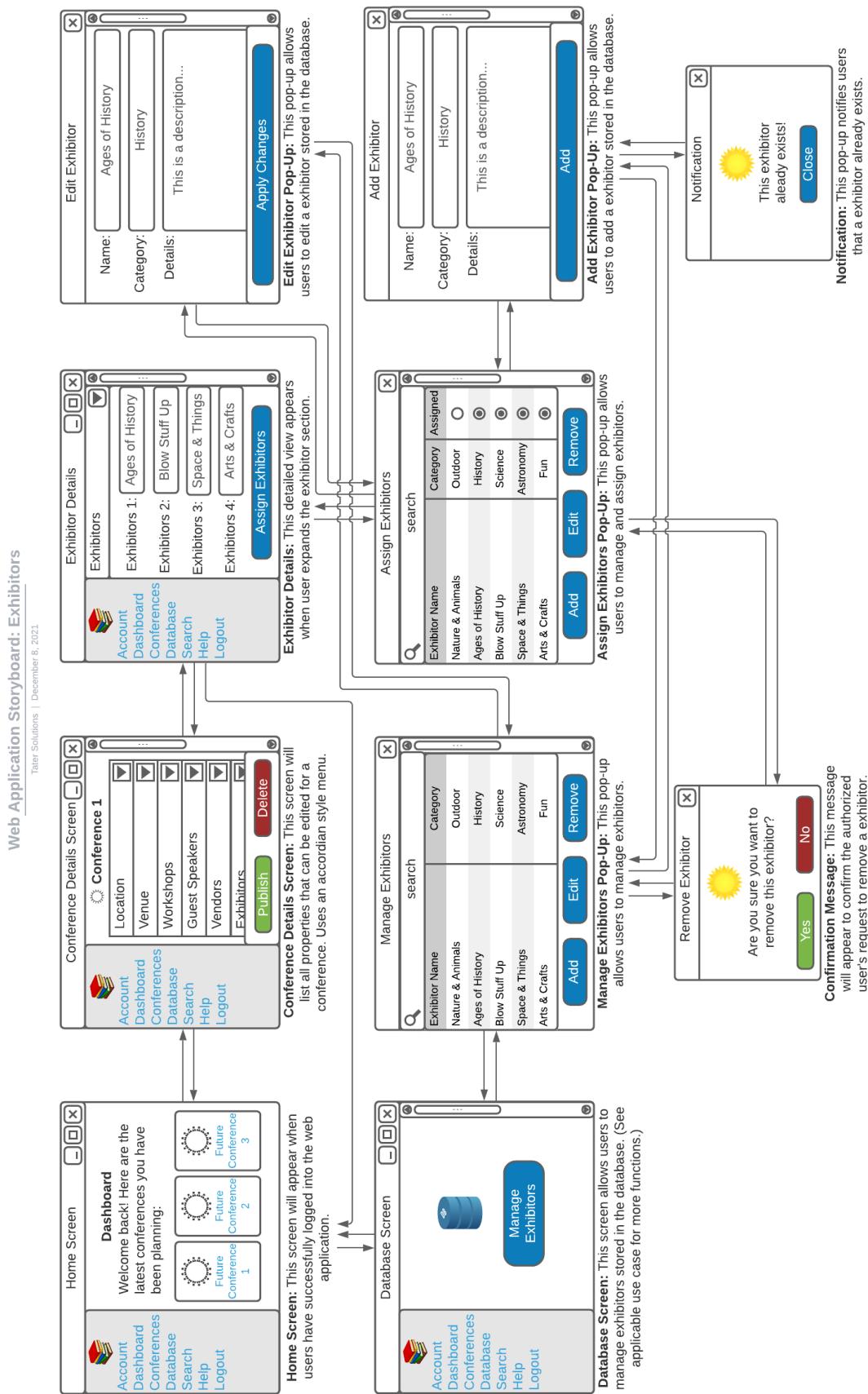


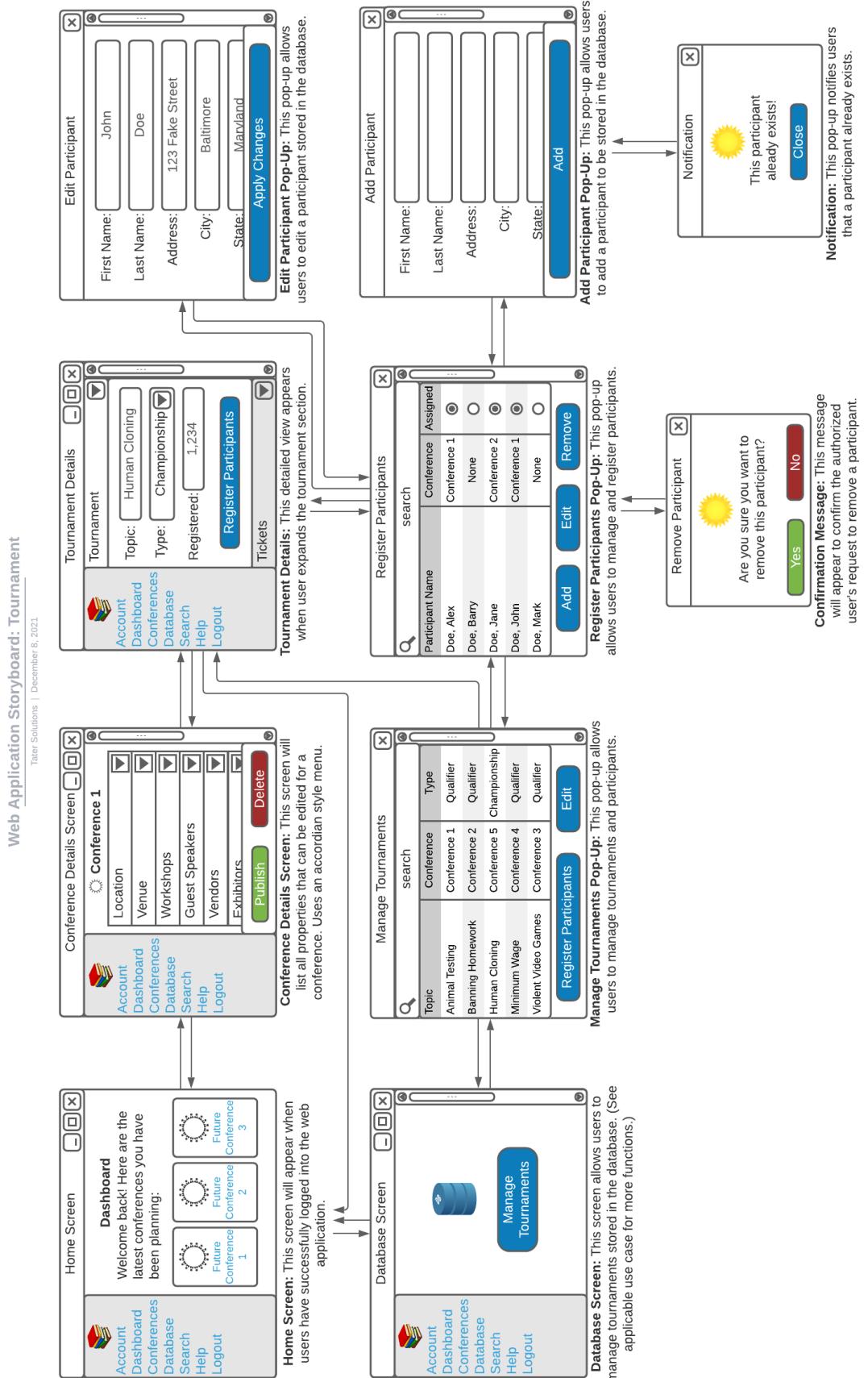


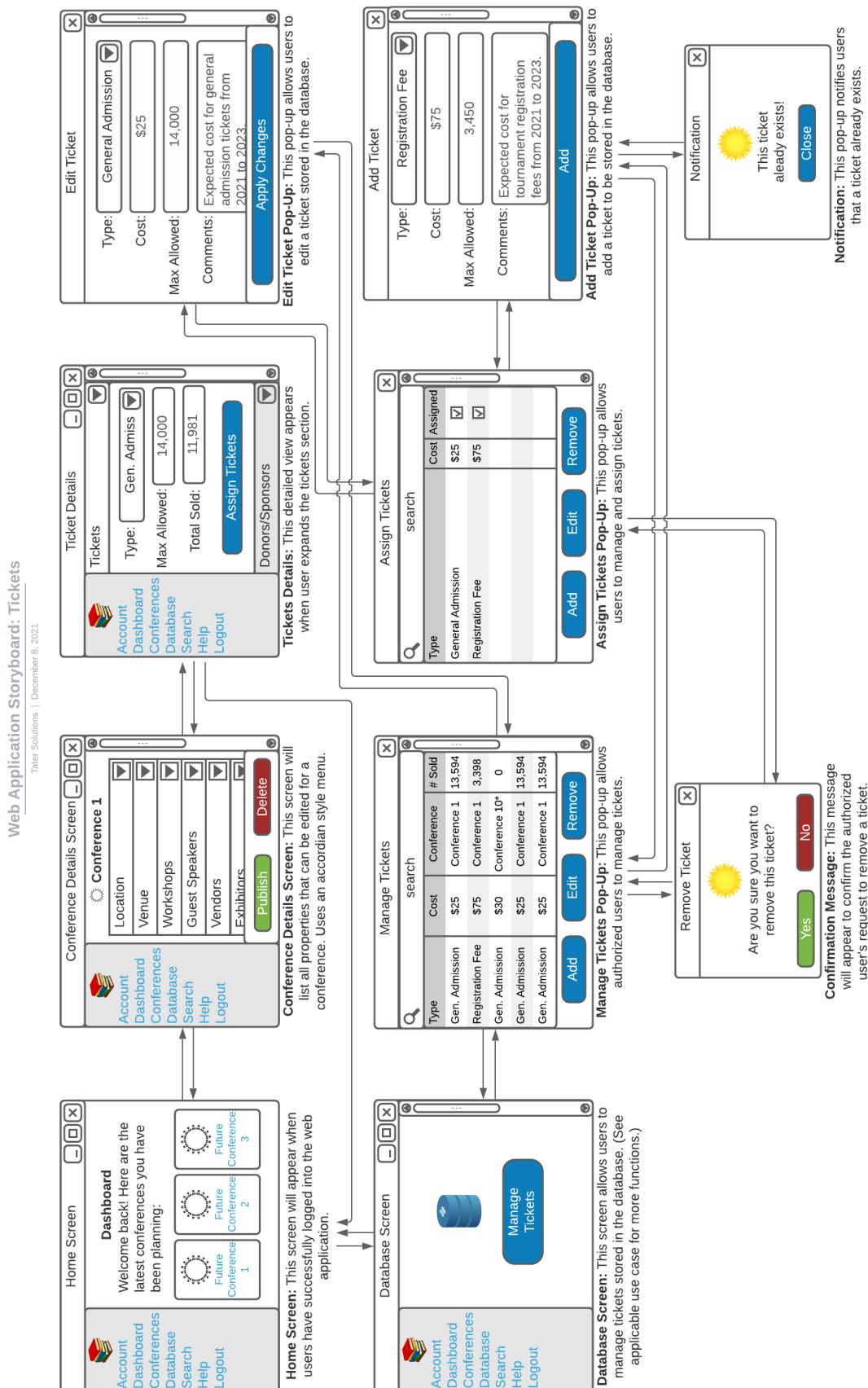


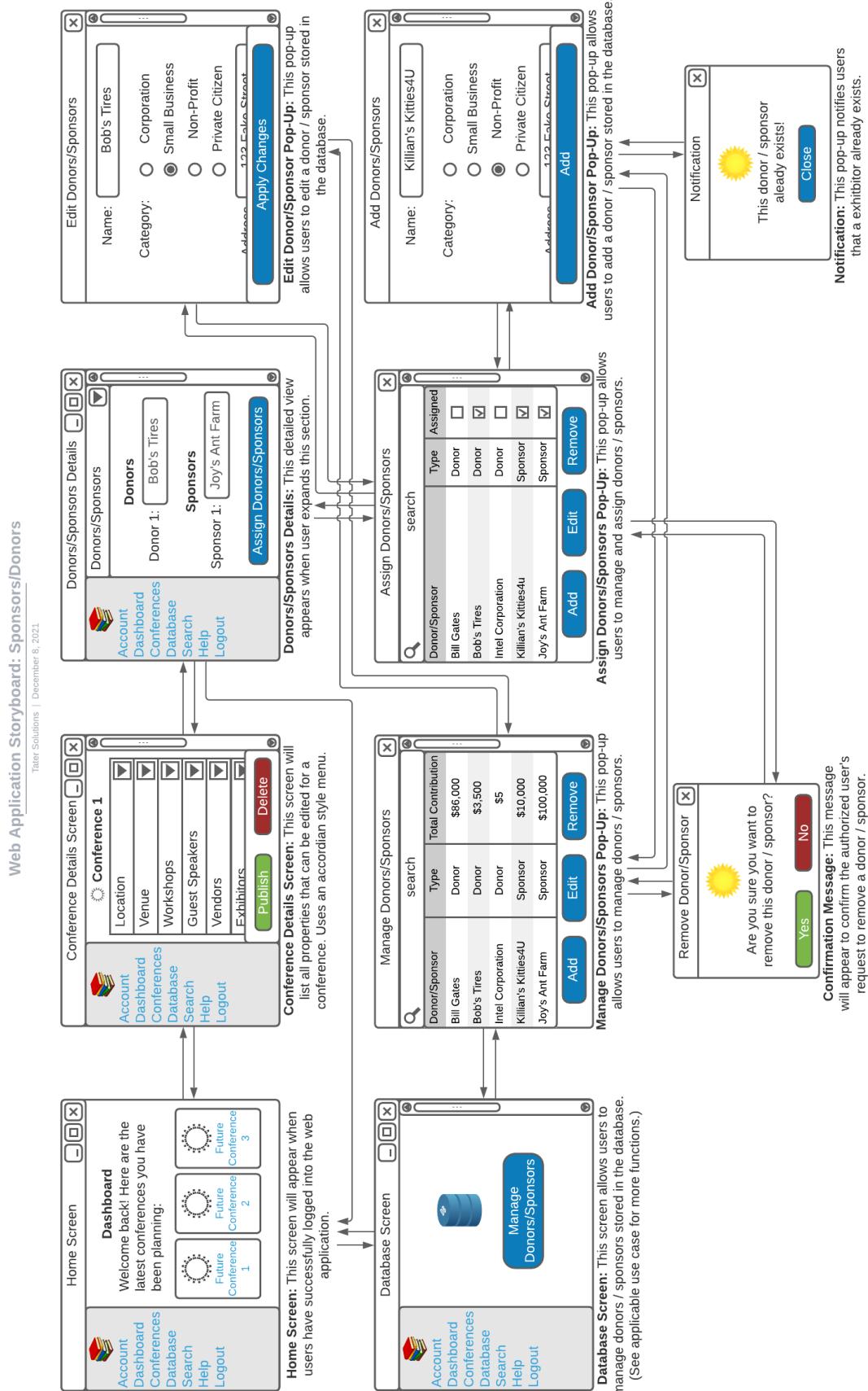






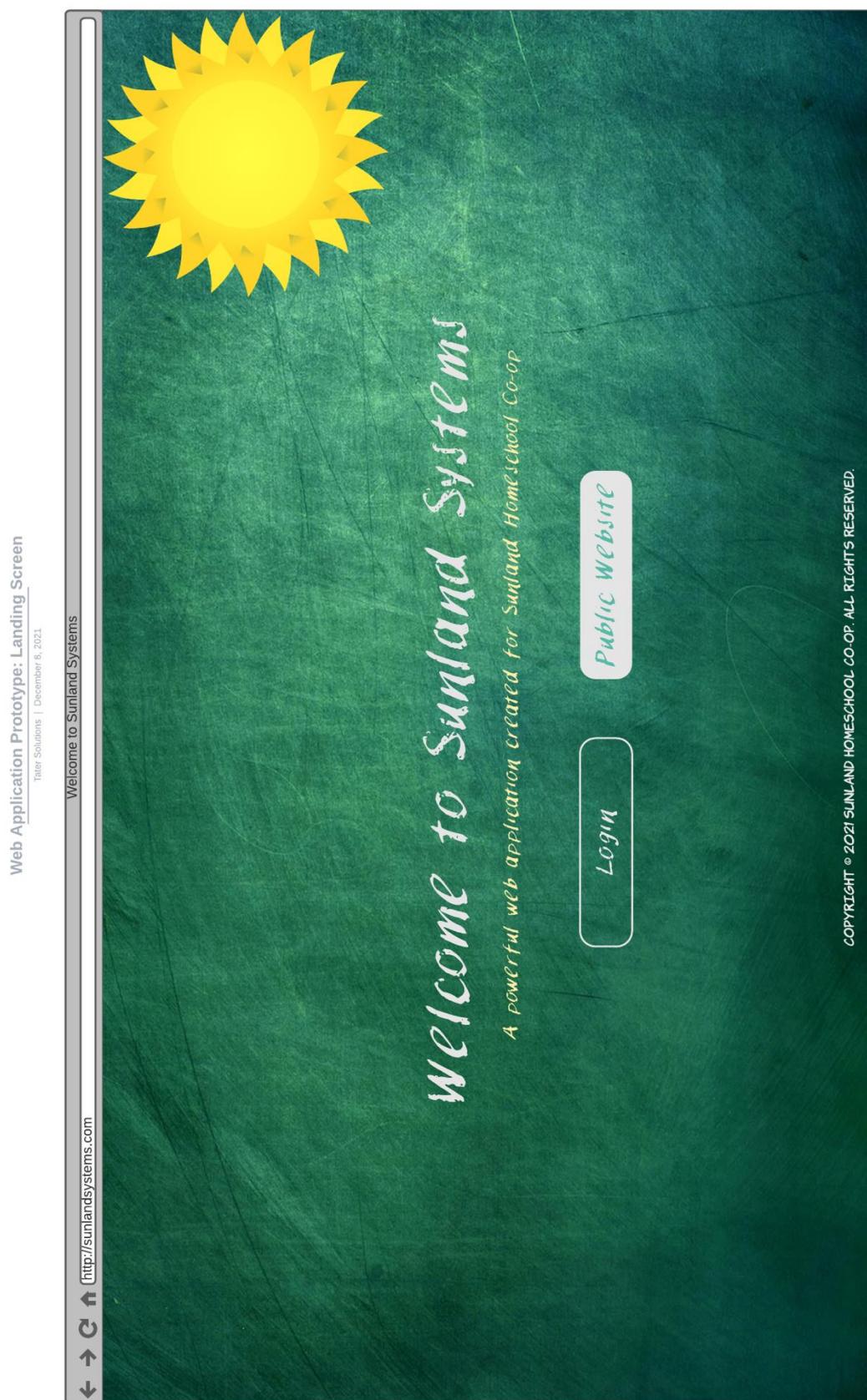


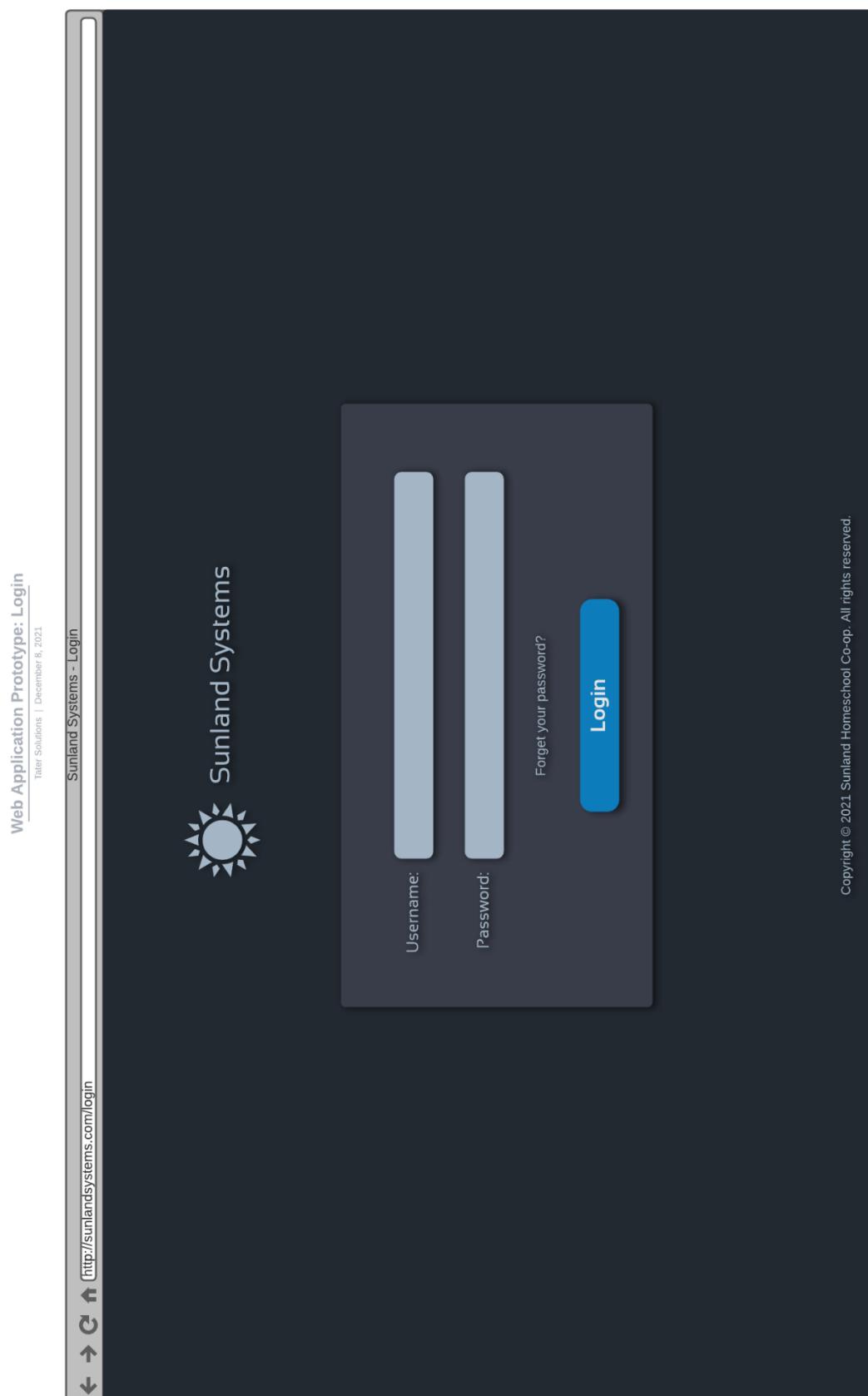


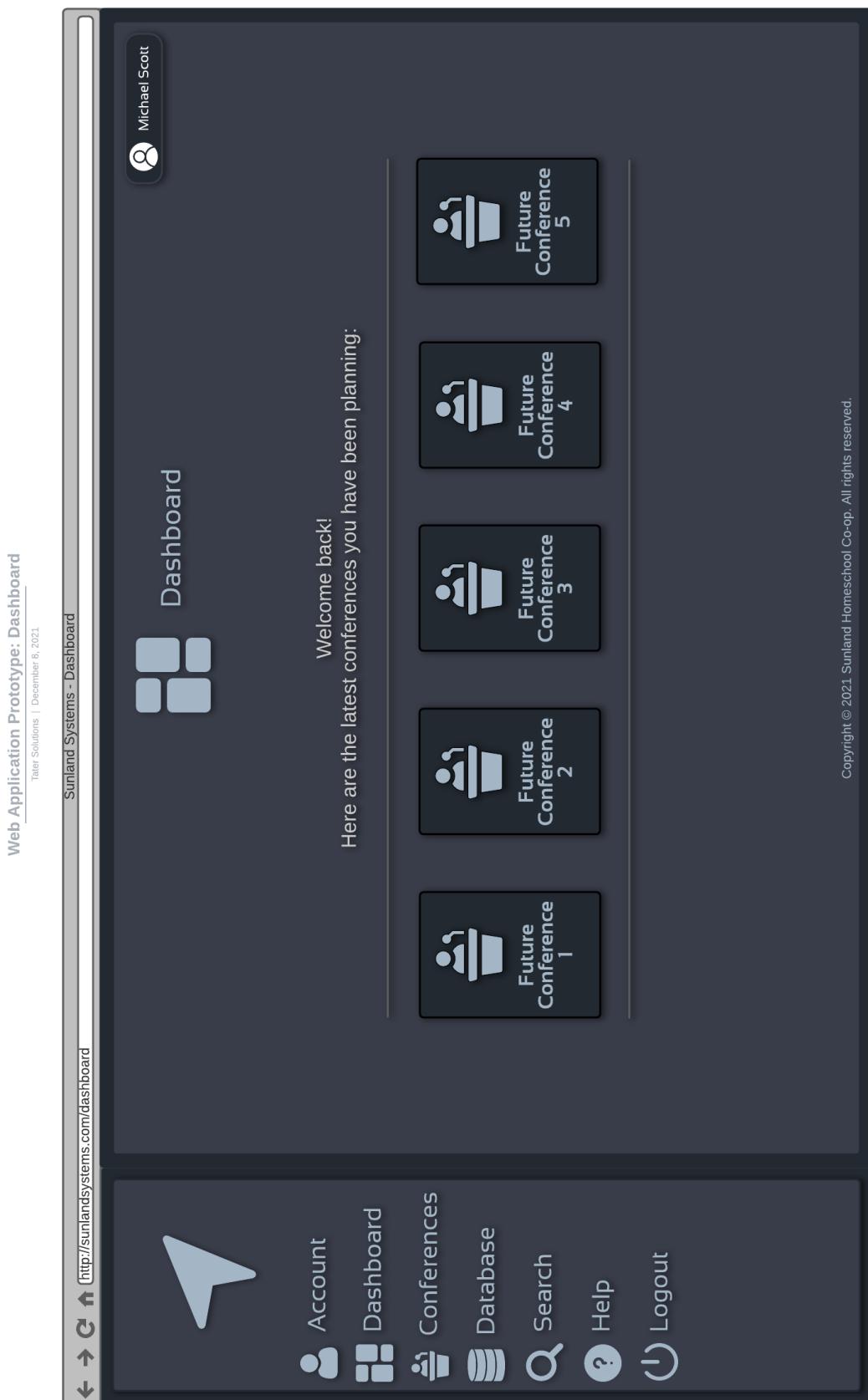


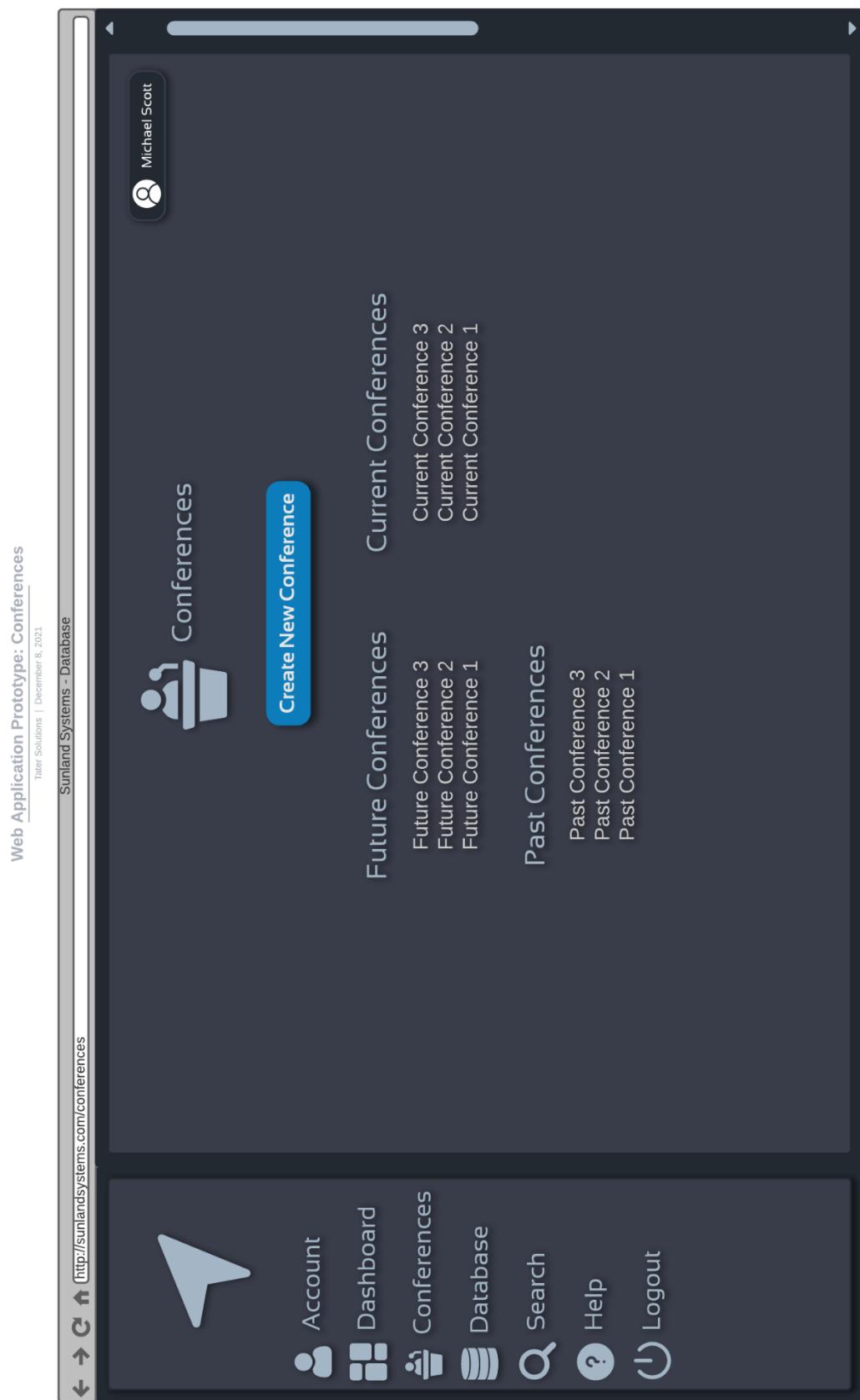
### **6.1.2 Prototypes**

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Web Application Prototype: Conference Details Screen

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Sunland Systems - 2022 Conference 1

 Michael Scott

# 2022 Conference 1

Status: Draft

Projected Publish Date: 3/5/22 

Start Date: 7/1/22 

End Date: 7/5/22 

 Location

 Venue

 Workshops

 Guest Speakers

 Vendors

 Exhibitors

 Tournament

 Tickets

 Donors/ Sponsors

 Delete

 Publish

 Account

 Dashboard

 Conferences

 Database

 Search

 Help

 Logout

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Web Application Prototype: Conference Details Screen

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Sunland Systems - 2022 Conference 1

<http://sunlandsystems.com/conference/2022/1>

 Michael Scott

 2022 Conference 1

Status: Draft

Projected Publish Date: 3/5/22

Start Date: 7/1/22 End Date: 7/5/22

 Location

 Venue

 Assigned Venue: Saltair Palace Capacity: 50,000

Street Address: 12408 W Saltair Drive Indoor Capacity: 4,600 Avg. Classroom Cap. 17 Total Size: 45,400 Sq. Ft.

City: Magna Outdoor Capacity: 45,400 Year Built: 1893

State: Utah No. of Classrooms: 25 Cost: \$250 / ticket

Zip Code: 84044 Avg. Classroom Size: 600 Sq. Ft.

 Assign Venue

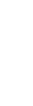
 Workshops

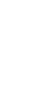
 Guest Speakers

 Vendors

 Exhibitors

 Tournament

 Tickets

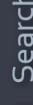
 Donors/ Sponsors

 Account

 Dashboard

 Conferences

 Database

 Search

 Help

 Logout

The screenshot shows a mobile application interface for managing conference venues. At the top, there is a header bar with a user profile icon and the name "Michael Scott". Below the header, a navigation bar includes icons for Account, Dashboard, Conferences, Database, Search, Help, and Logout. The main content area features a title "2022 Conference 1" and a sub-section "Assign Venue". A search bar labeled "Q search" is present. A table lists venue details such as Name, City, State, Capacity, and Assigned status. The table includes rows for Saltair Palace (Salt Lake City, Utah, 50,000, Assigned), Vivint Arena (Salt Lake City, Utah, 30,000, Not Assigned), Convention Center, The (Salt Lake City, Utah, 25,000, Not Assigned), Golden Spike (Ogden, Utah, 45,000, Not Assigned), and Dee Event Center (Ogden, Utah, 45,000, Not Assigned). To the right of the table are buttons for "Assign Venue", "Edit", and "Remove". The bottom of the screen shows a footer with links for Tournament, Tickets, and Donors/ Sponsors.

Venue Name	City	State	Capacity	Assigned
Saltair Palace	Salt Lake City	Utah	50,000	<input checked="" type="radio"/>
Vivint Arena	Salt Lake City	Utah	30,000	<input type="radio"/>
Convention Center, The	Salt Lake City	Utah	25,000	<input type="radio"/>
Golden Spike	Ogden	Utah	45,000	<input type="radio"/>
Dee Event Center	Ogden	Utah	45,000	<input type="radio"/>

Web Application Prototype: Database

Tatari Solutions | December 8, 2021

Sunland Systems - Database

Michael Scott

Sunland Database	
	<b>Workshops</b> Manage all workshops stored in the database.
	<b>Venues</b> Manage all venues stored in the database.
	<b>Conferences</b> Manage all conferences stored in the database.
	<b>Guest Speakers</b> Manage all guest speakers stored in the database.
	<b>Databases</b>
	<b>Search</b>
	<b>Help</b>
	<b>Logout</b>

**Conferences**  
Manage all conferences stored in the database.

**Guest Speakers**  
Manage all guest speakers stored in the database.

**Databases**

**Search**

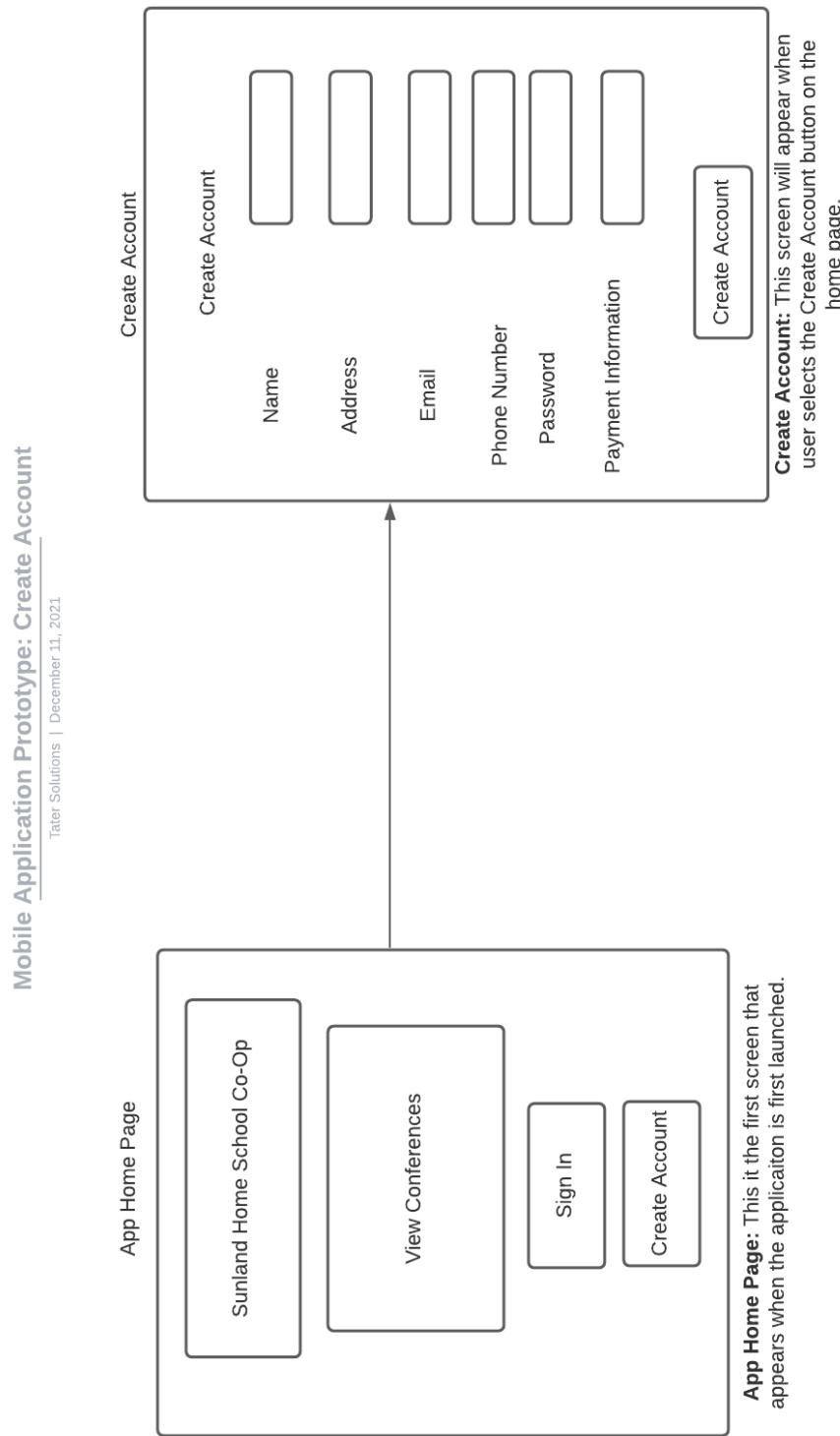
**Help**

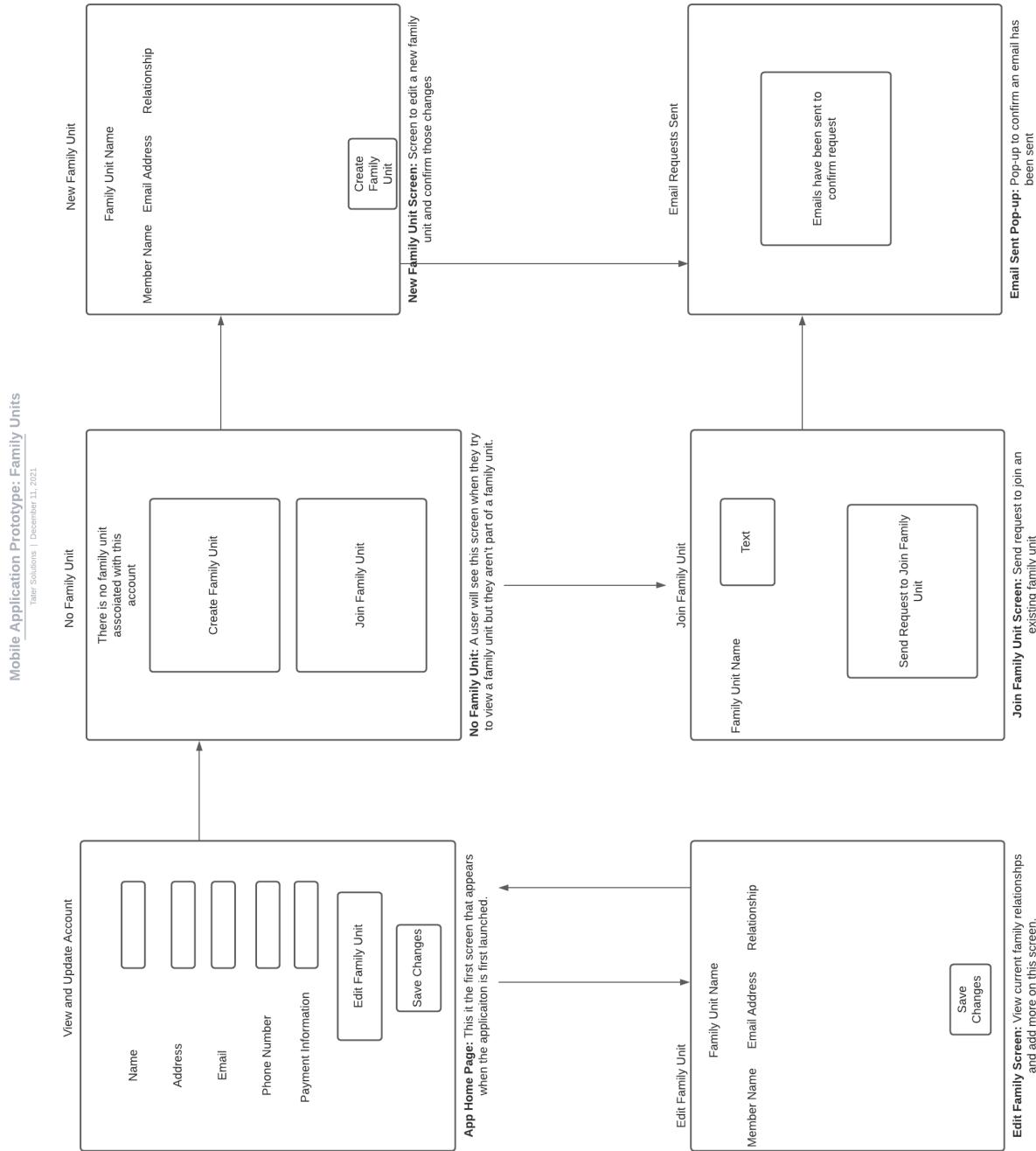
**Logout**

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## 6.2 Mobile Application

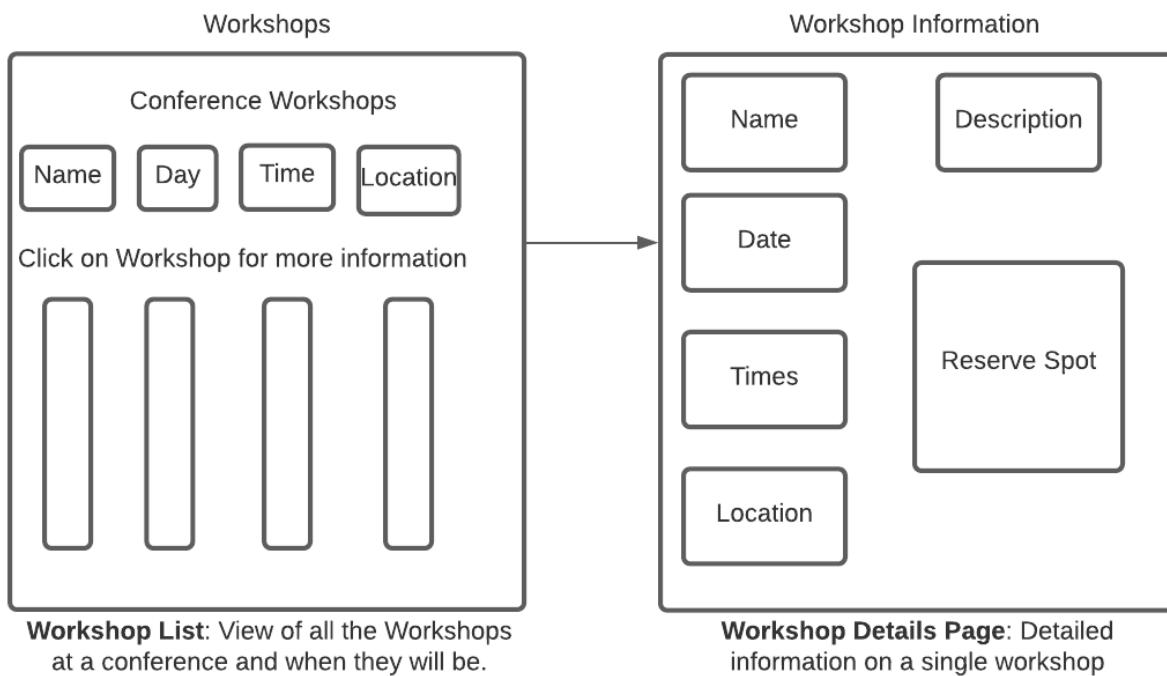
### 6.2.1 Storyboards

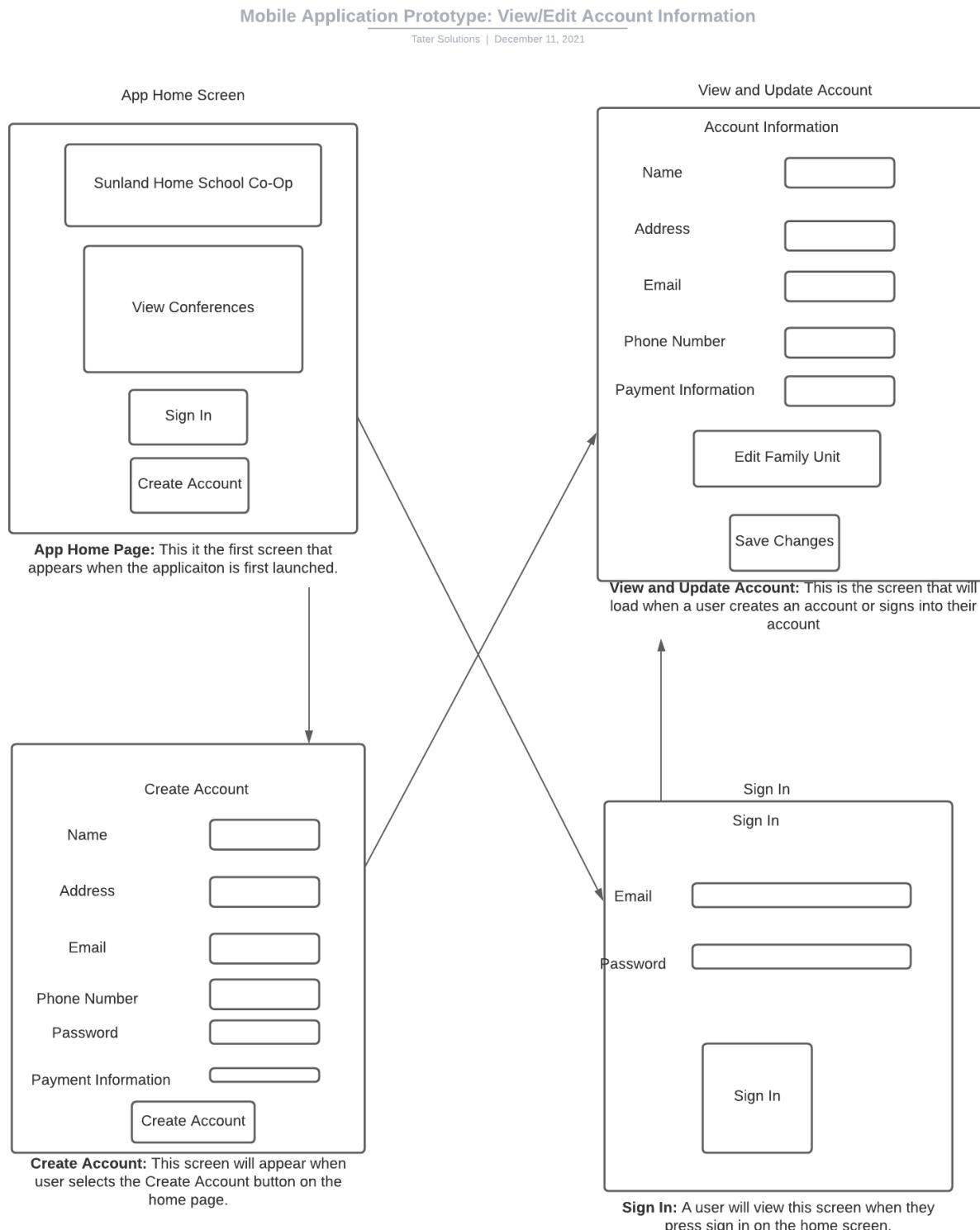


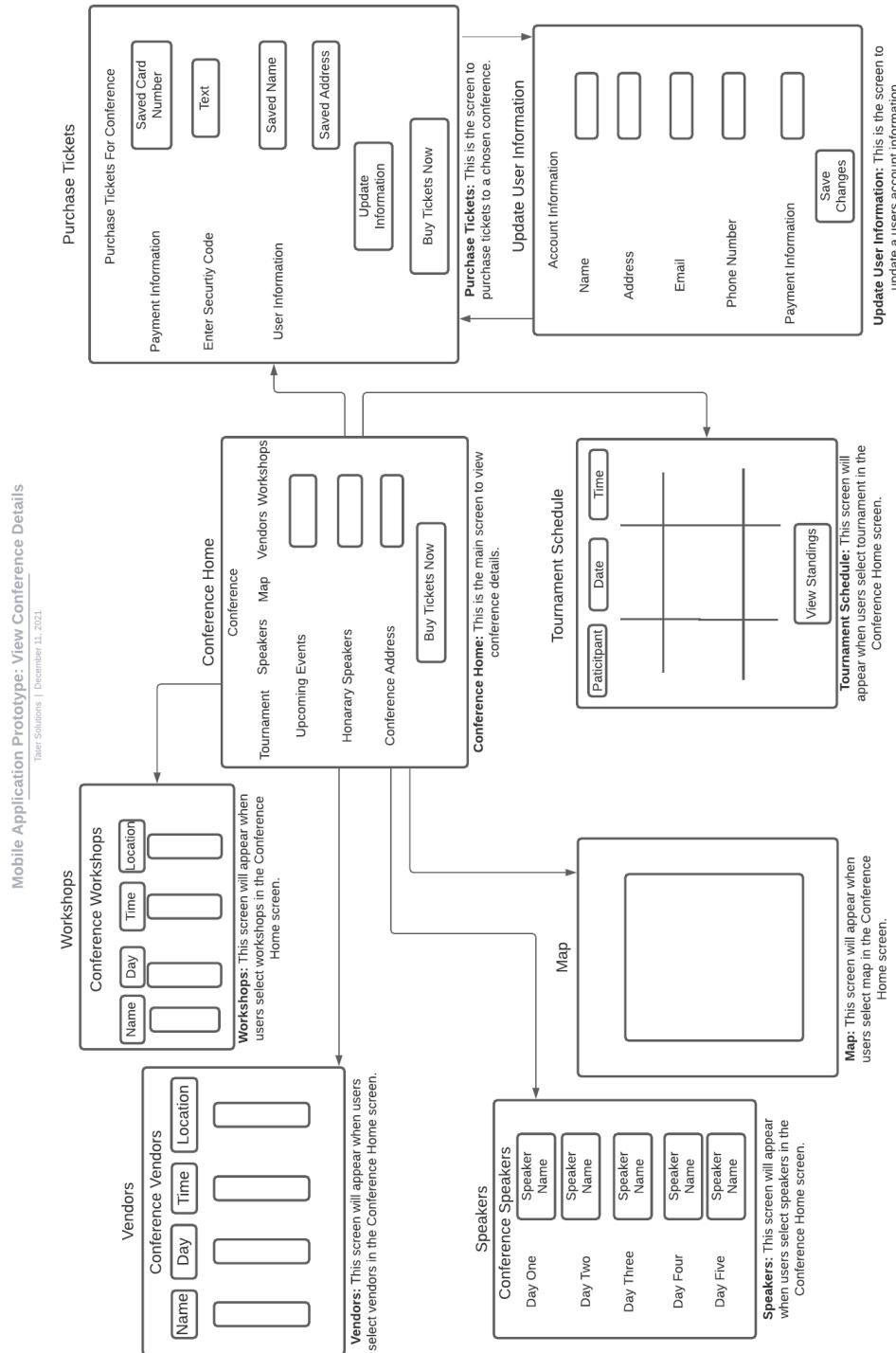


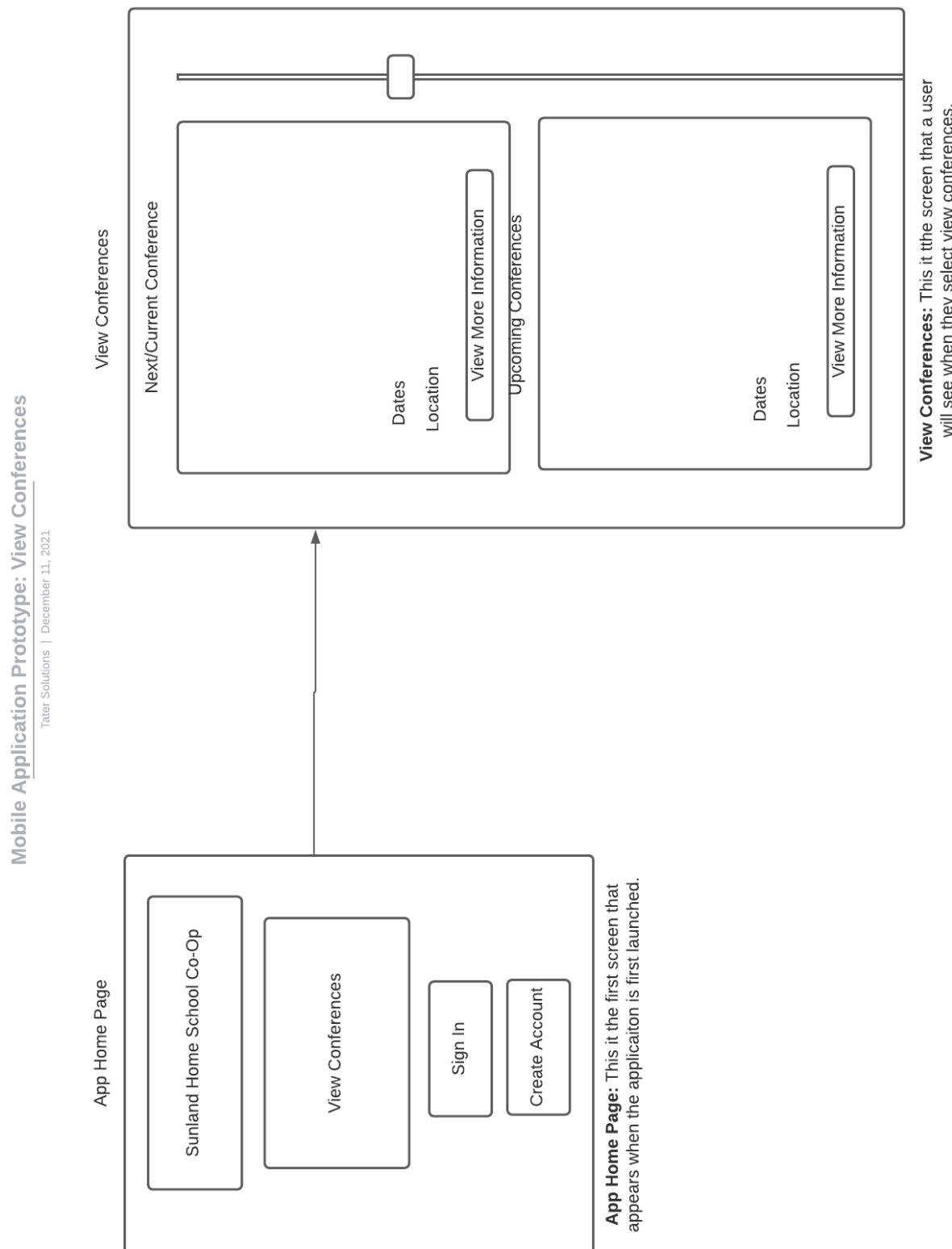
## Mobile Application Prototype: Reserve Workshop Seat

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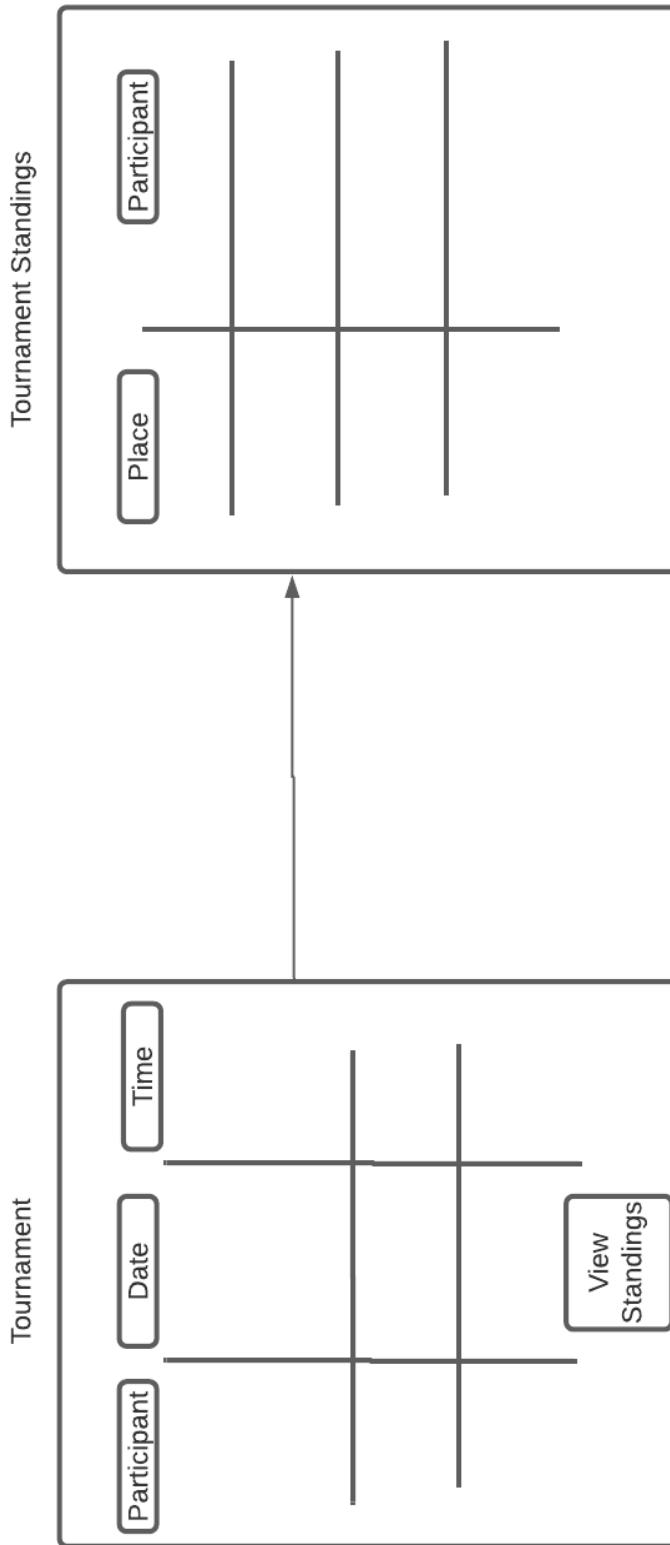






## Mobile Application Prototype: View Tournament Standings

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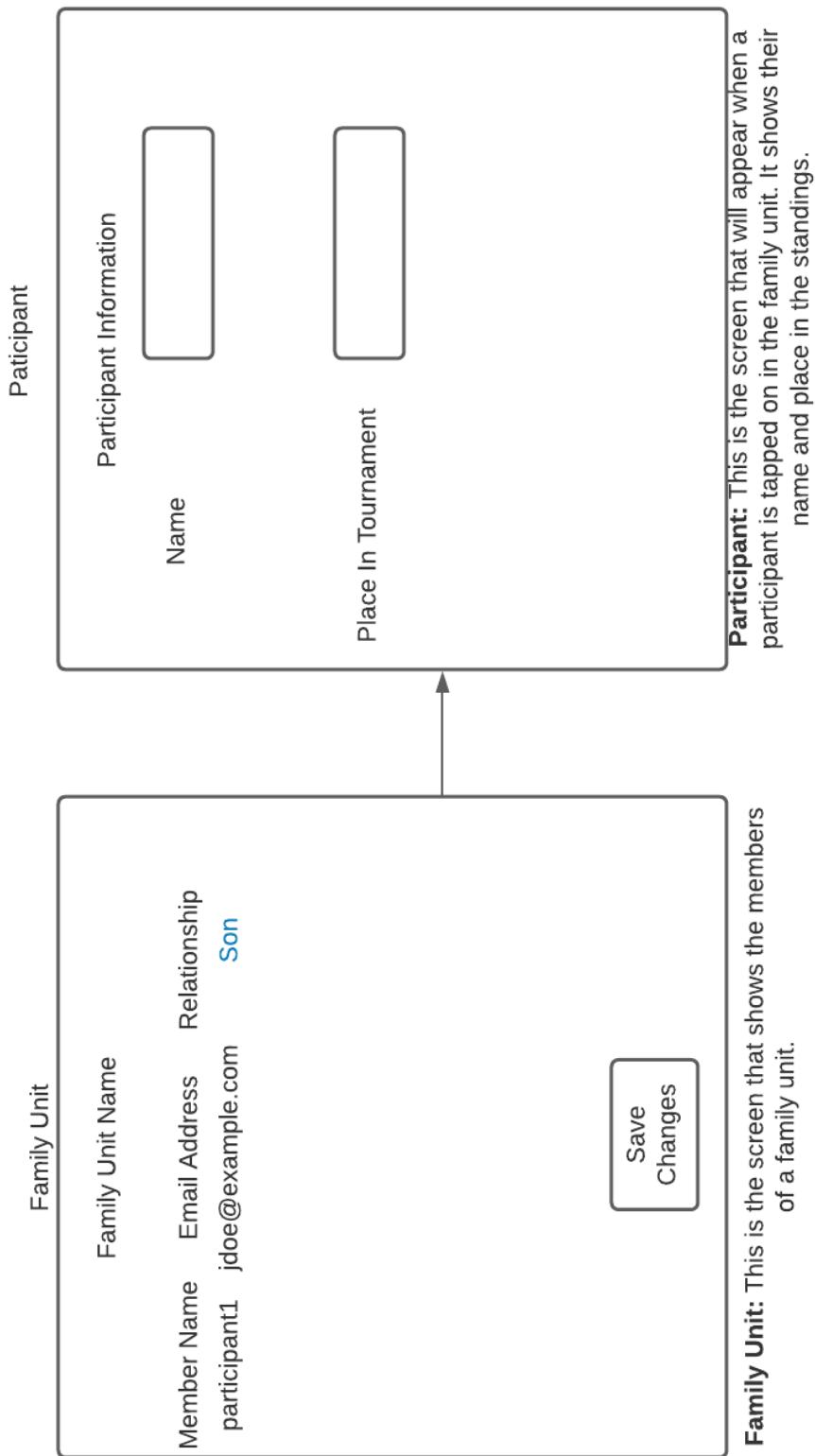


**Tournament Screen:** Tournament participants can view when they are scheduled to compete.

**Standings Screen:** Users can view the standing for each participant in the tournament

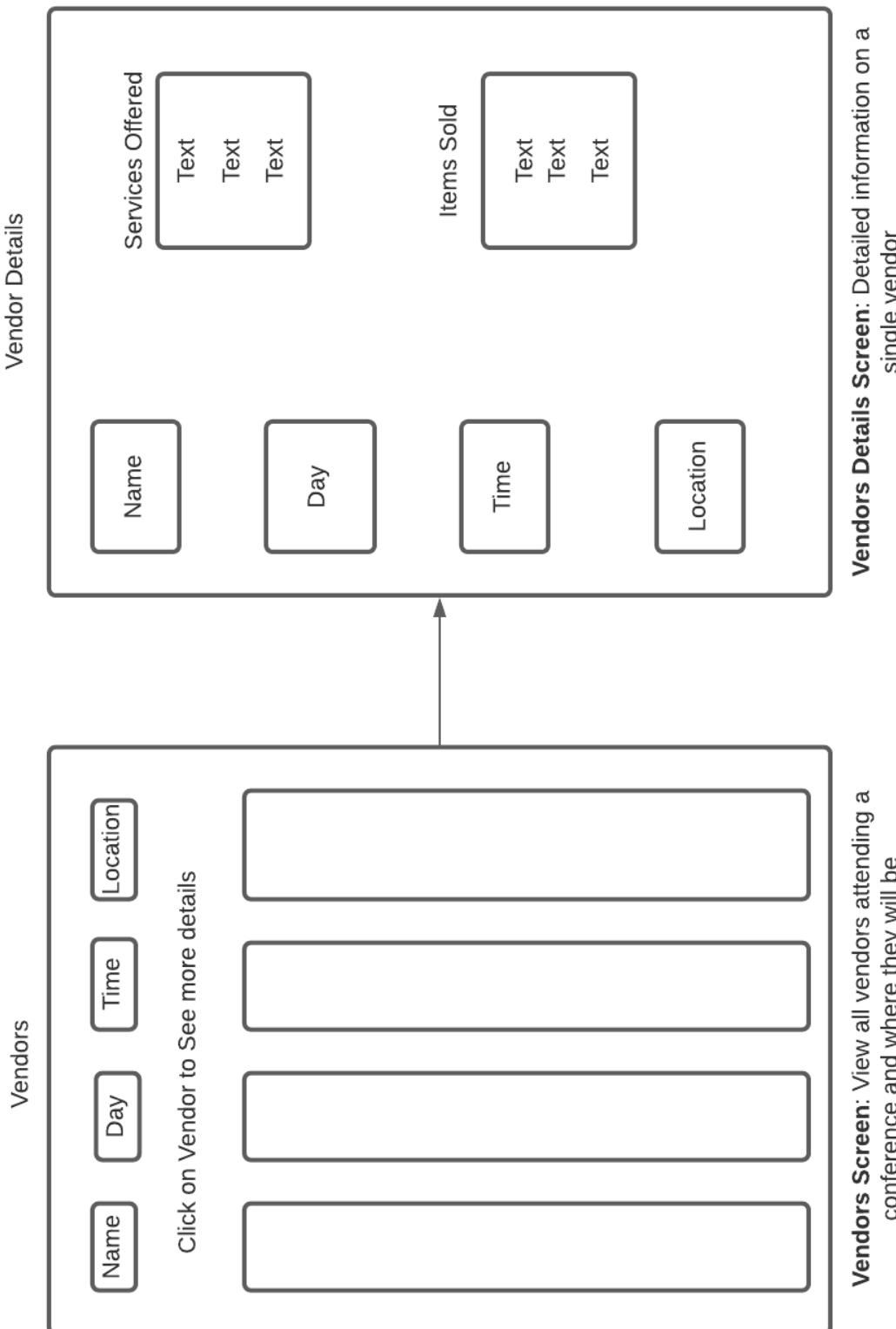
## Mobile Application Prototype: View Participant's Tournament Standing

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## Mobile Application Prototype: View Vendor Details

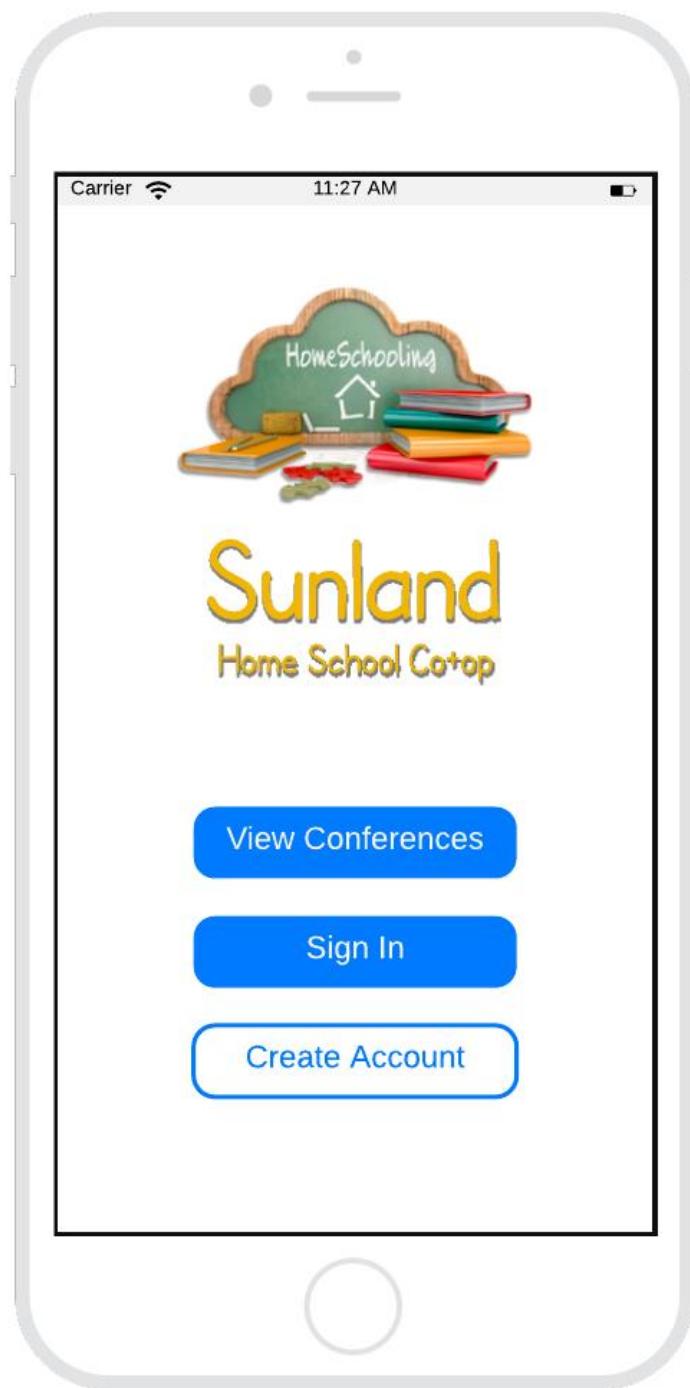
Tater Solutions | December 11, 2021



### **6.2.2 Prototypes**

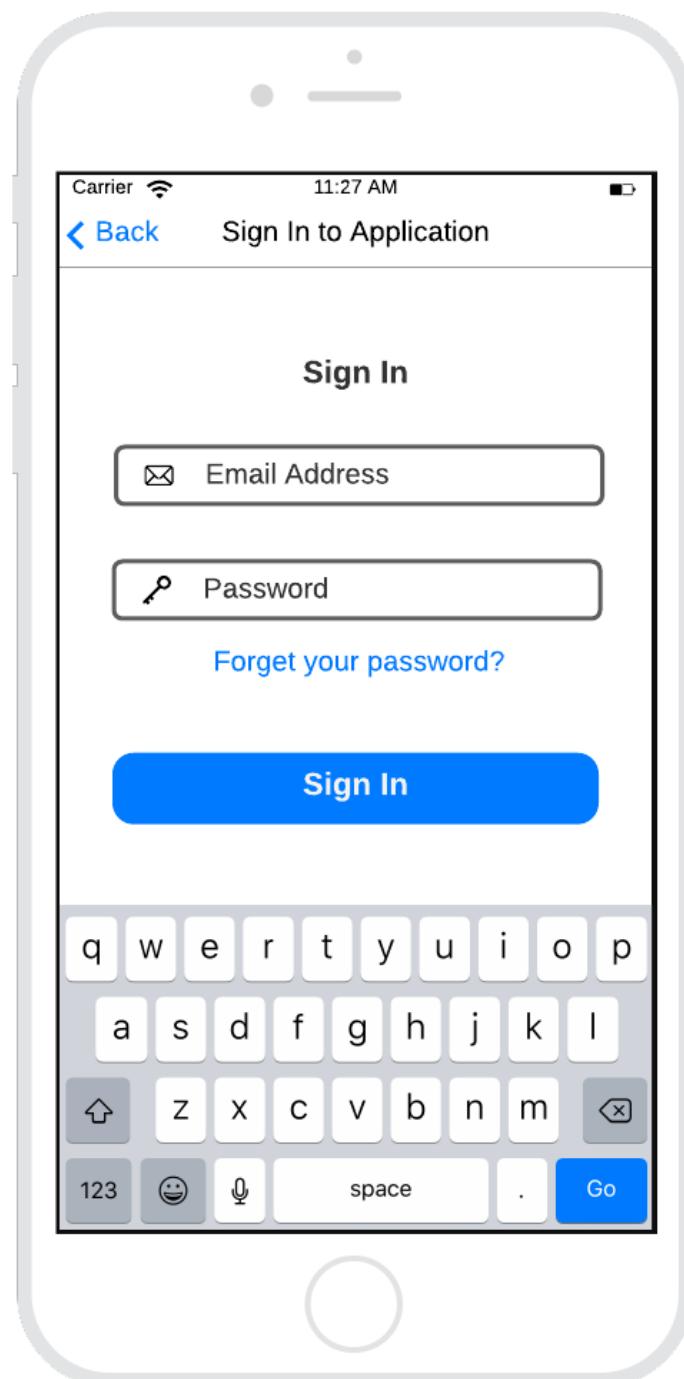
#### **Mobile Application Prototype: Landing Screen**

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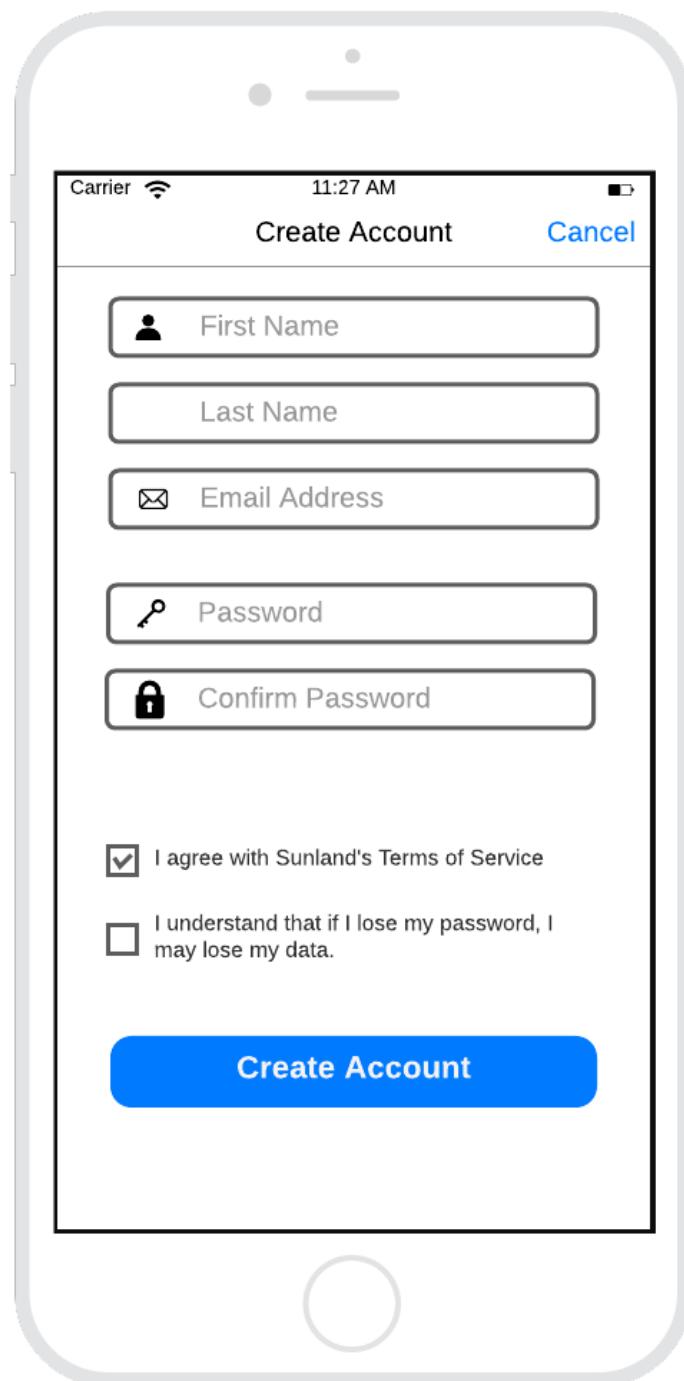
## Mobile Application Prototype: Sign In Screen

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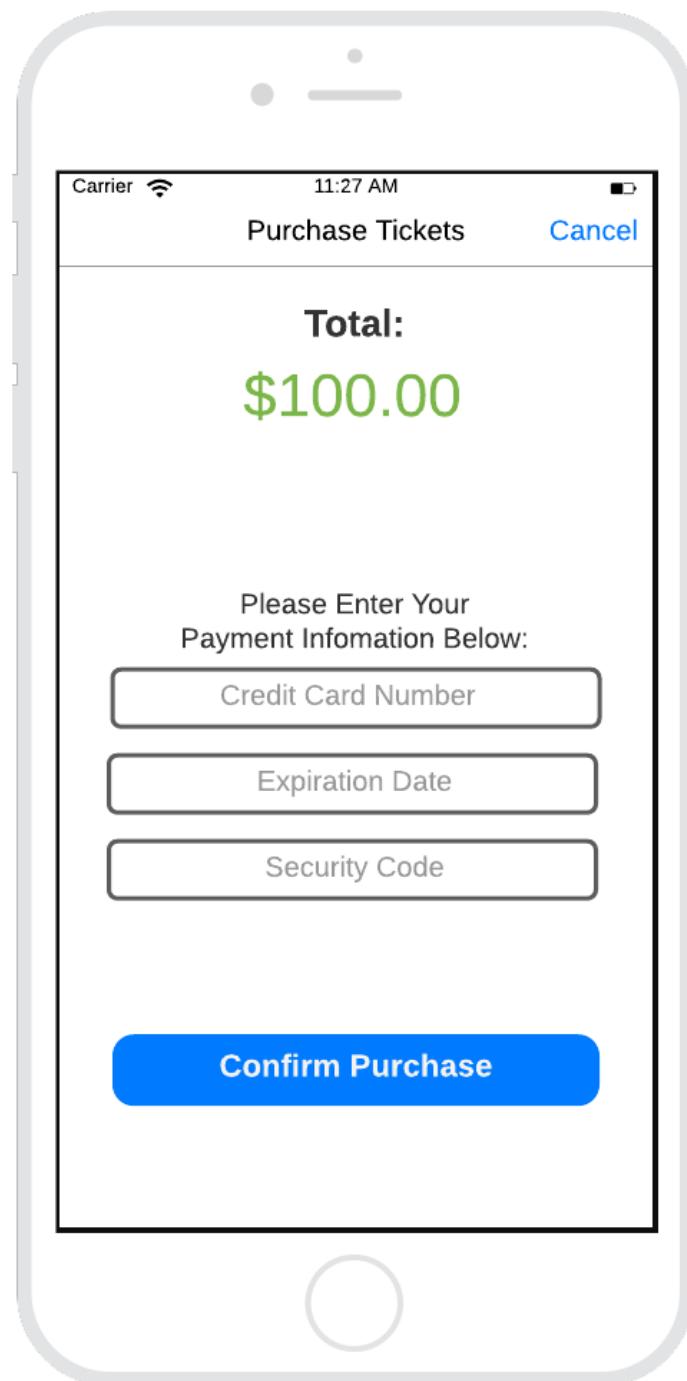
## **Mobile Application Prototype: Create Account Screen**

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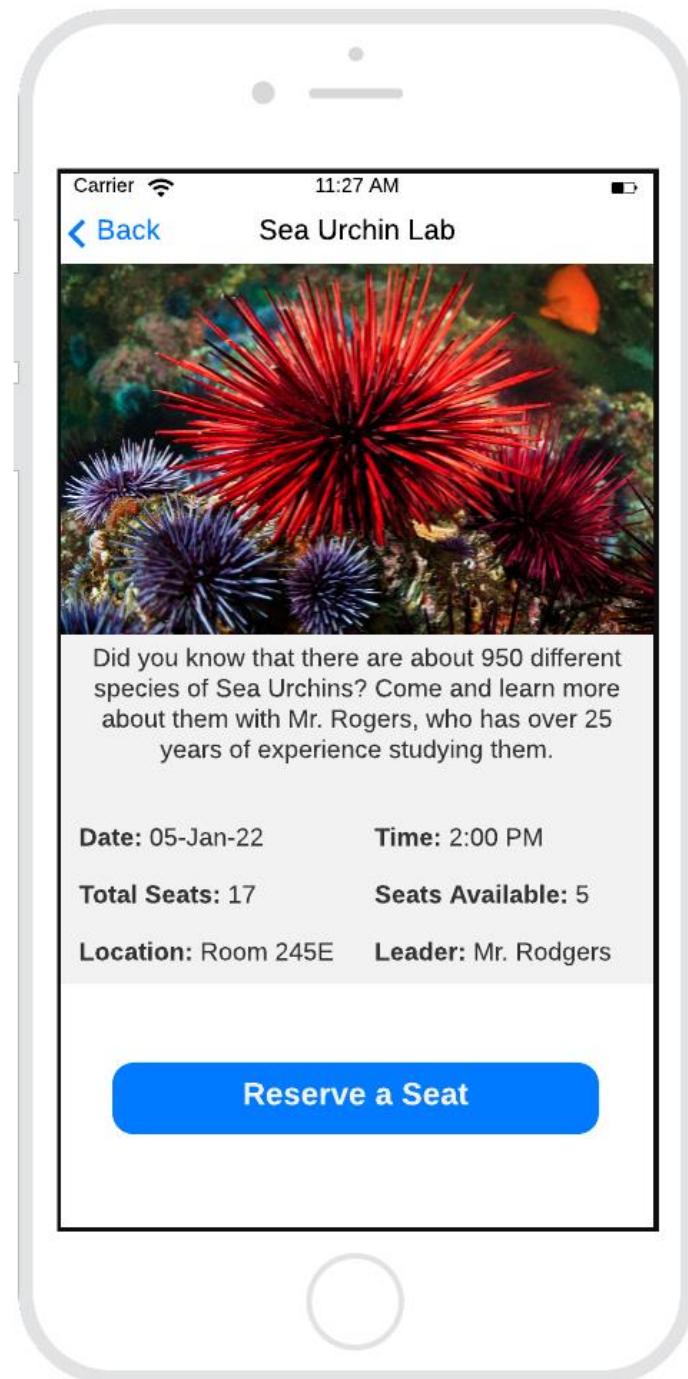
## **Mobile Application Prototype: Purchase Ticket**

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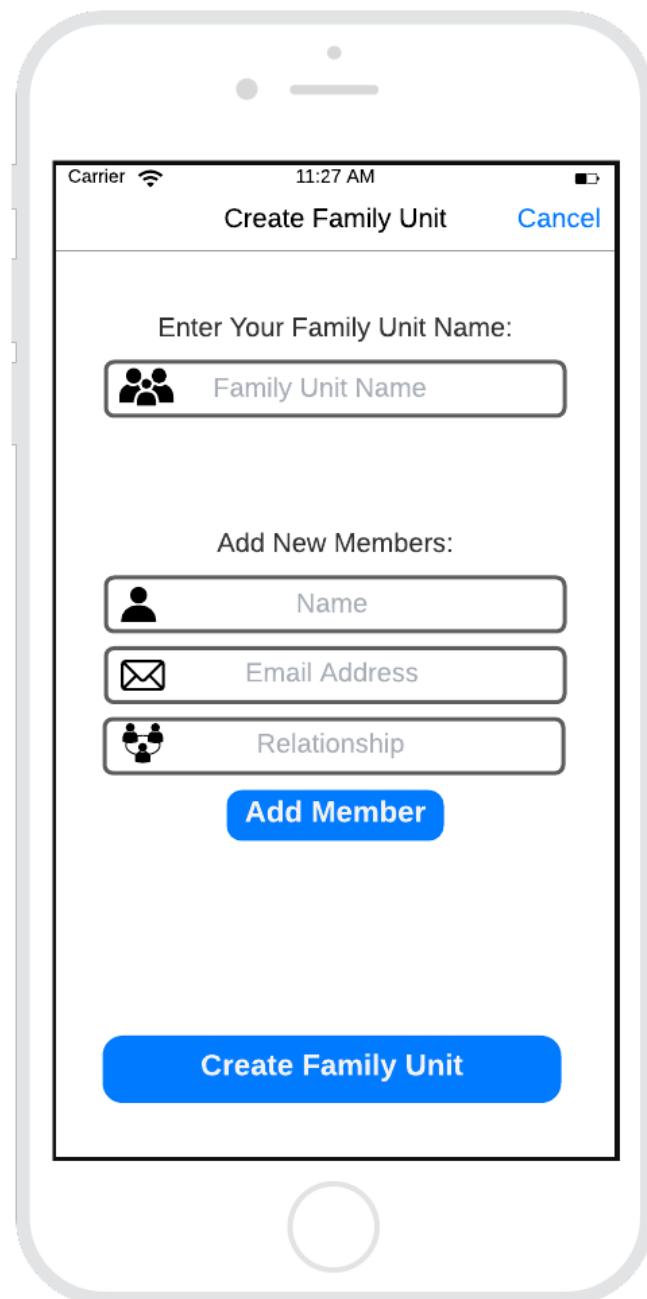
## Mobile Application Prototype: Workshop Details

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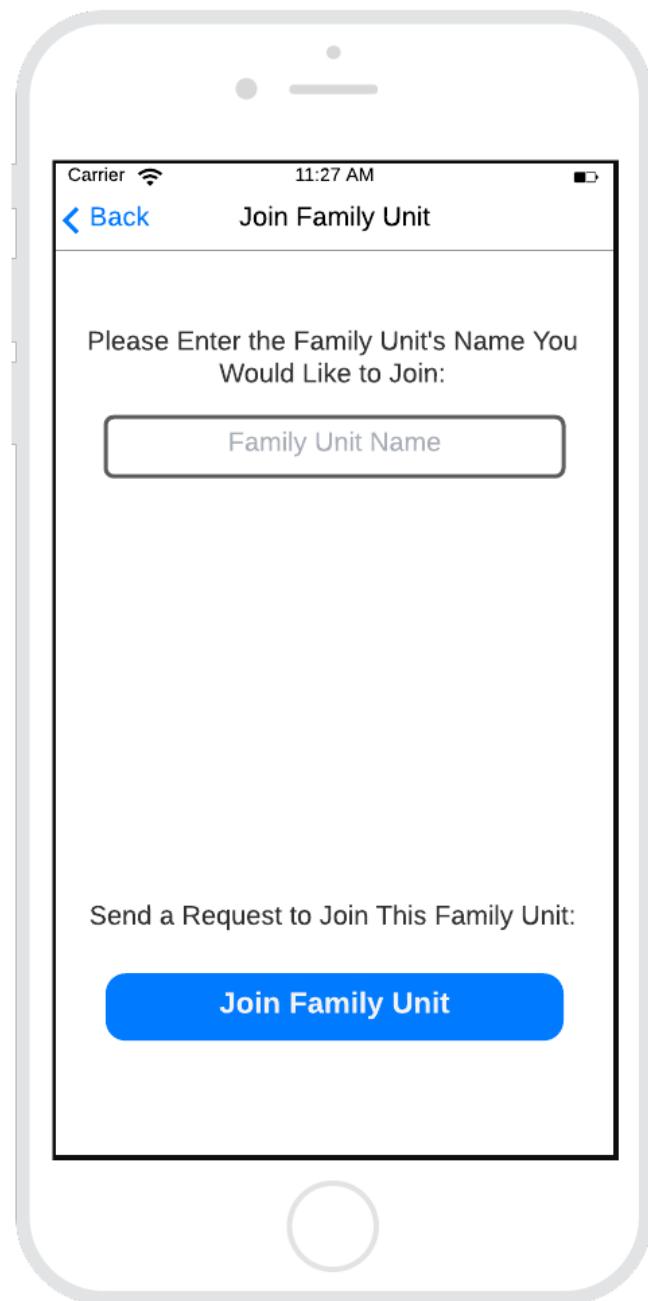
## Mobile Application Prototype: Create Family Unit

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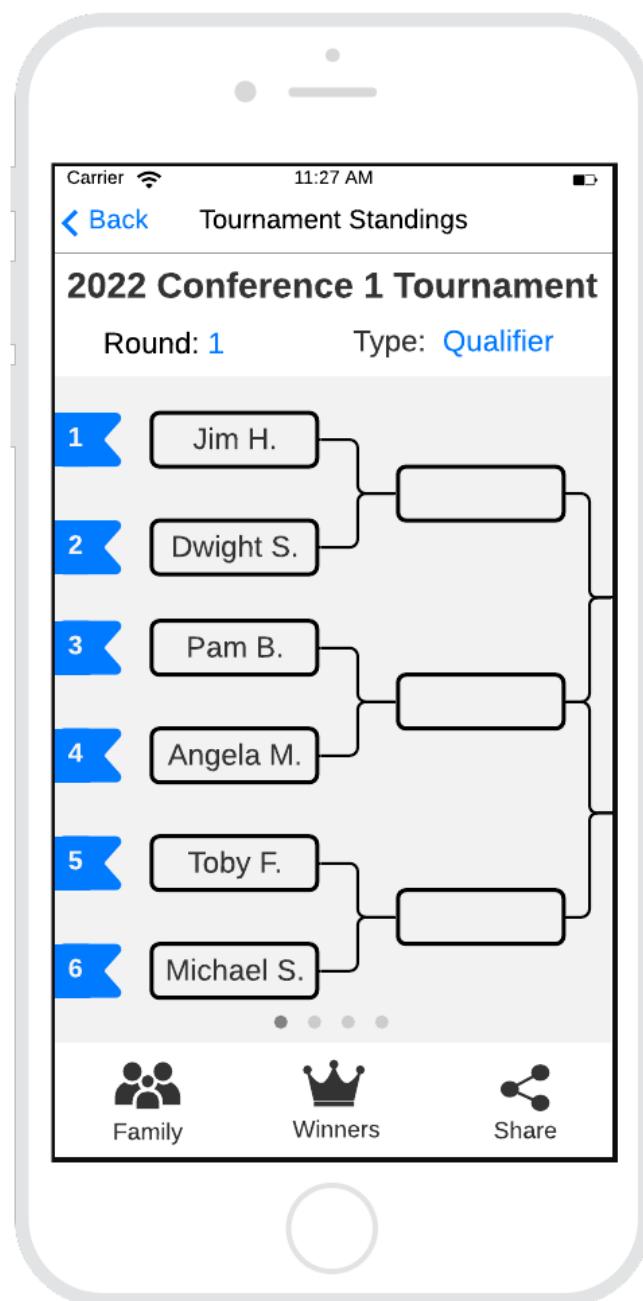
## **Mobile Application Prototype: Join Family Unit**

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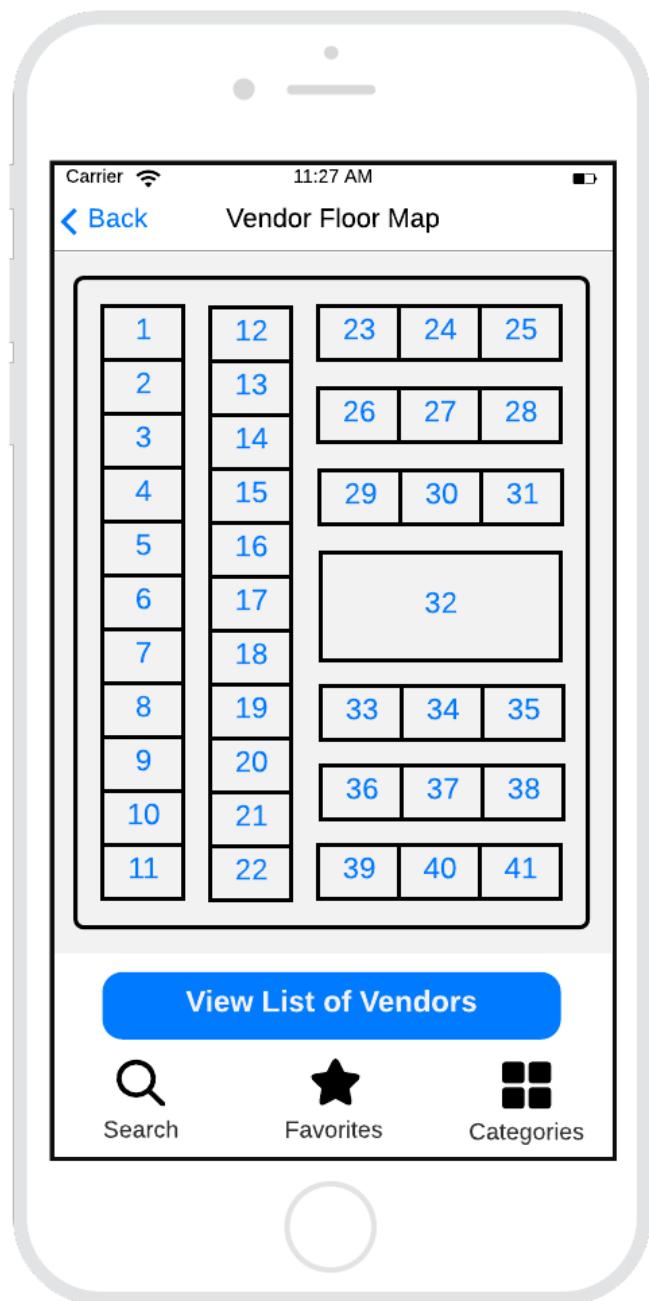
## Mobile Application Prototype: View Tournament Standings

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## Mobile Application Prototype: Vendor Floor Map

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## 7. Appendix

# SUNLAND HOME SCHOOL CO-OP

## FINAL PROJECT - CLIENT REQUIREMENTS

Sunland Home School Co-op is a Utah based company supporting home school families through education, resources, and community.

They are interested in software that will help the staff organize regional home school conferences including classes, guest speakers, vendors, and the regional debate schedule.

They also need a companion mobile app that would allow conference attendees to view the conference and debate schedules, register for classes, and locate vendors.

### Notes from Video Call with Client On 11/04/2021

Question: How many staff members?

Answer: 22 staff members

- IT: 2
  - Maintain their company website
- Venue Coordinators: 2
  - Investigate potential locations for venues
  - Updates the system with venue details (venue size, address, # of classrooms)
- Speaker and workshop Coordinators: 4
  - Find workshop leaders
  - Find guest speakers
  - Coordinate which classrooms the leaders and speakers will use based on their popularity.
- Vendor Coordinators: 3
  - Find people who provide food or demonstrators or etc.
  - Typically, 39 – 40 vendors at each conference
  - Organize where vendors are going to be on the conference floor
- Tournament Coordinators: 4
  - Organize tournaments for debates (big portion of the conference)
  - Register the participants into the tournaments
- Advertising Coordinators: 3
  - Advertising and Ticket Sales
  - In charge of conference information is on the website
- Donor Relations Coordinators: 2
  - Coordinate those who donate
  - Sponsor Relations

- Board of Directors: 6
  - Make sure vision is on track
- Director: 1 (Alison Sunderland)
- Office Manager: 1
- Administrative Assistant: 1 (Reception)

Question: What's the organizational structure?

Answer: Organizational structure is as follows:

- Director > Board of Directors > Office Manager > Coordinators/Admin Assistant/IT

Question: Who goes to the conferences?

Answer:

- Tournament Participants
- Audience

Question: What happens at the conference?

Answer:

- Tournament
- Guest Speakers
- Workshops
- Exhibits
- Research Findings

Question: What type of vendors do you normally have?

Answer:

- Provide food
- Provide products (like textbooks)
- Provide services

Question: What is currently done for handouts?

Answer:

- Catalogs are printed that have the schedule of the conference
- We want to replace this with a mobile application

Question: What is the mobile application for?

Answer:

- Application that serves as a directory for each conference
- Ability to view each upcoming conference, see what is happening there, and purchase a ticket
- Reservation system for workshops (Hold a seat for the first 5 minutes)

Question: Who can view a student's schedule for a tournament?

Answer:

- Parents or guardians to view students schedule for tournaments
- Multiple parents/guardians can be associated to one student
- Multiple students can be associated with one parent/guardian

Question: What is the web application for?

Answer:

- Organize regional home school conferences
- Organize speakers
- Organize tournaments
- Organize venues (locations)
- Have history of past vendors (name, product, number, etc.)
- Have history of past speakers (name, number, qualifications, interests, research, conference, etc.)

Question: How long does it take to organize a conference?

Answer:

- It's a long and tedious schedule
- We work on 5 conferences at a time

Question: What are the sets to set up a conference?

Answer:

- Find a venue
- Find vendors, speakers, workshops, etc.
- Organize tournaments
- Have conference

## 8. Effort Breakdown Table

		Team Member Name:			
Final Project Tasks	points	Jonathan 1	Matthew 2	Rollin 3	Colton 4
<b>System Request / CBA (120)</b>					
System Request	60	33.3%	33.3%	-	33.3%
CBA	60	-	-	100%	-
<b>Presentation/Brochure (120)</b>					
Presentation	60	50%	50%	-	-
Brochure	60	-	-	50%	50%
<b>SRS (250)</b>					
<i>Customer Statement of Requirements</i>	30	100%	-	-	-
Glossary of Terms	5	-	-	-	100%
Stake holders	5	100%	-	-	-
Actors and Goals	5	-	100%	-	-
Use case diagram	20	-	100%	-	-
Casual descriptions	20	25%	25%	25%	25%
Use case descriptions	20	25%	25%	25%	25%
Activity diagrams	25	25%	25%	25%	25%
Interaction diagrams	25	25%	25%	25%	25%
Overview Class diagram and domain list	25	25%	25%	25%	25%
Non-funct. Requirements	15	-	-	-	100%
References	5	-	-	-	100%
User Interface design	50	25%	25%	25%	25%
<b>Team Member Total</b>		123.75	113.75	128.75	113.75