

CSCE 546: Final Project Report

- **App Title:** LineSkip
- **Team Members:** Nathan Pavlovsky, Sadegh Sadeghi Tabas
- **Short Description of the App:**

Lines play a large role in people's lives. According to a 2007 Time magazine article, the lifetime estimates of the time Americans spend in lines vary from about two to five years [2]. These include the time users spend waiting to enter bars, concert halls, museums, athletic events and waiting for assistance at store Pharmacy or Money Service lines [3]. The large amounts of time spent standing in line, especially without any sense of control over how quickly they will exit it, leaves customers bored and extremely frustrated.

Furthermore, this sense of boredom and frustration drives many consumers to abandon lines with a detrimental effect on the economy. According to a 2018 report by Adyen, retailers are losing a collective \$37.7 billion in potential sales due to long checkout lines as consumers opt against a lengthy wait and never make their purchases elsewhere [4]. With a growing popularity of consumers accustomed to instant gratification by checking out purchases with a click of a button, brick-and-mortar businesses are finding it increasingly difficult to retain customers. A technological solution that allows customers to pay extra for the privilege of skipping a line would go a long way in helping businesses retain customers and profits.

The goal of LineSkip is to serve as this technological solution for businesses and establishments in all customer-oriented businesses with a brick-and-mortar presence with lines. It will allow venues to advertise events with tickets for purchase and to keep track of the customers who bought and used tickets. It will allow customers to search for venues, buy line-skipping tickets for certain time slots, to pay for them electronically, and to use them for entry.

- **Function Features of the App:**
 - **Register a Patron** (i.e. user) to a Firebase backend by having him/her enter relevant information. Then it logs in the new Patron and takes him to the appropriate tabbed page controller.
 - **Register a Temporary Venue** (which sells tickets) to a Firebase backend by having its owner enter relevant general information about the venue itself (like address, description, and etc), select the start and end date, enter

ticket information (i.e. the number of tickets and prices sold per hour), and have a photo of the temporary venue taken via a camera for display. Then it logs in the new temporary venue and takes him to the corresponding tabbed page controller.

- **When Registering a New Temporary Venue or Patron User**, the app allows for the opening of a page which will contain the app's *Terms and Conditions* document and provide a back button for the user to go back and continue registering
- **Login the user** and display the appropriate tabs corresponding to whether the user is a temporary venue or a patron
- **First Case: After logging in, if the logged-in user is a Patron:**
 - Logout button logs the patron out of the app
 - **In the Temporary Venues Tab:**
 - In the Temporary Venues tab, the search bar allows the logged in patron to search for a Temporary Venue to purchase tickets from by name.
 - Clicking on a selected Temporary Venue in the Temporary Venue tab takes the user to a page that displays all of the Temporary Venue's information as well as the hour slots during which it is operating.
 - Clicking on a selected hour slot from the previous page takes the Patron to a page where the information about the number of available tickets for sale and the price per ticket for this given hour slot is available. The Patron can enter the number of tickets he wants to order and then add it to his/her cart by clicking the "Add to Cart" button. When the app is done adding a ticket to the cart, it automatically takes the user back to Temporary Venues tab.
 - **In the Cart Tab:**
 - The logout button allows the Patron user to log out of the app.
 - The Cart page in this tab displays all the information about all the tickets that the current user has placed in his cart.
 - The Clear button clears the Patron's cart (with a corresponding change in the information presented in the Cart page) and restores all tickets to be available to be bought by all Patrons (both the currently logged-in and all others).
 - When the "Proceed to Checkout" button is clicked, it opens up a Paypal page where the user can pay for the tickets. Then, due to the fact that there was a time limitation for this project,

it does nothing more than clearing the Patron's cart. Additional functionality could be implemented here to save the state of the purchase by decrementing the number of available tickets for each temporary venue and its given hour slot that the Patron has bought from.

- **Second Case: After logging in, if the logged-in user is a Temporary Venue**

- The logout button allows the currently logged-in temporary venue to logout.

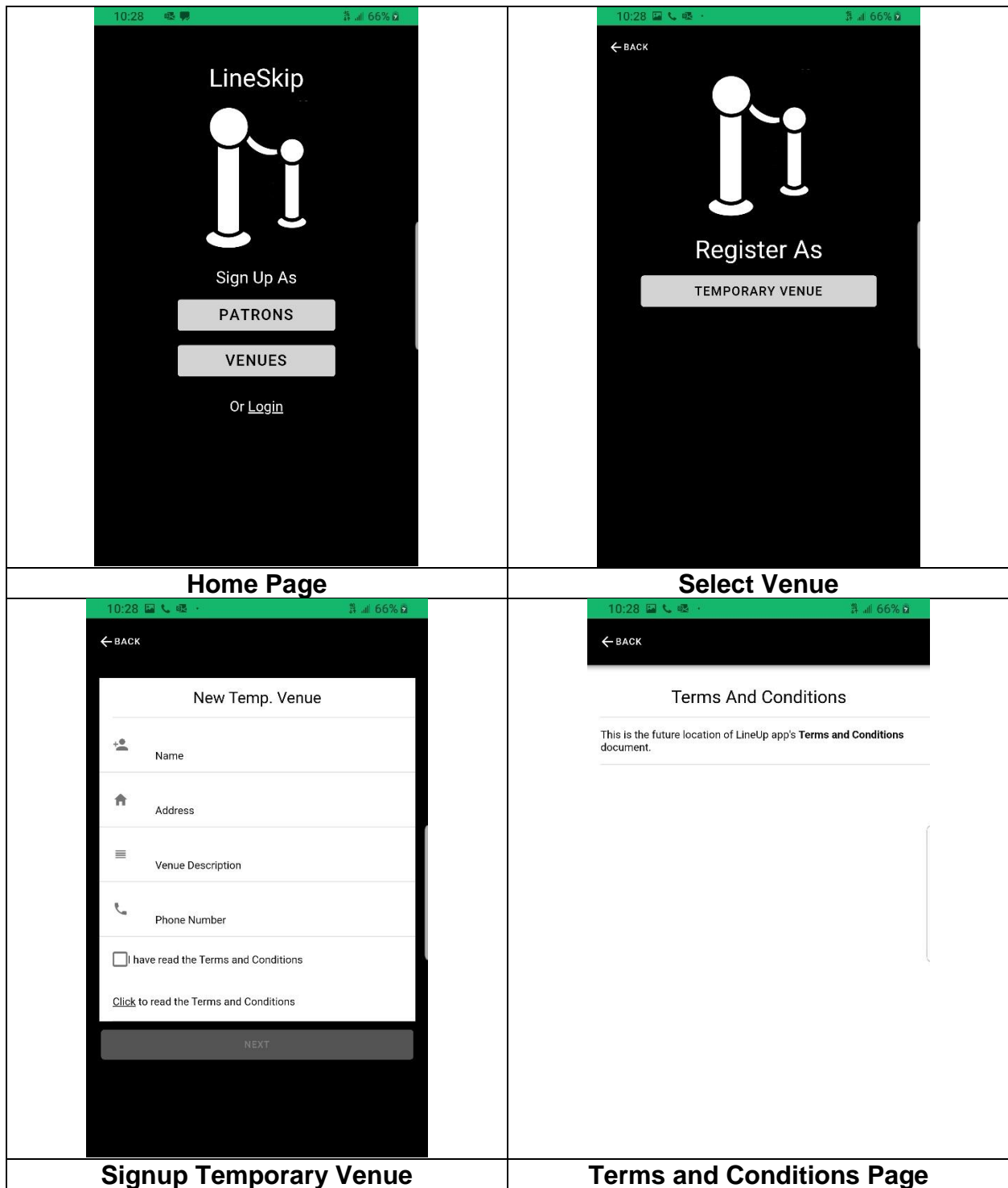
- **In the Hourly Information tab:**

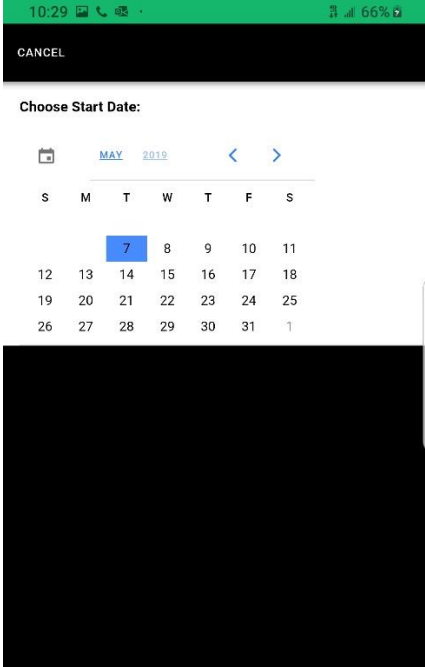
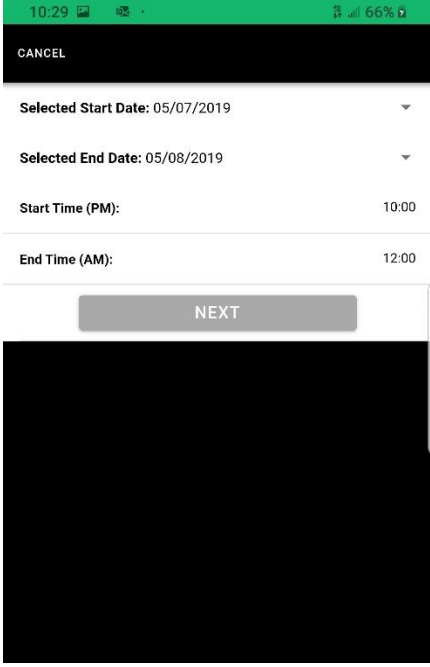
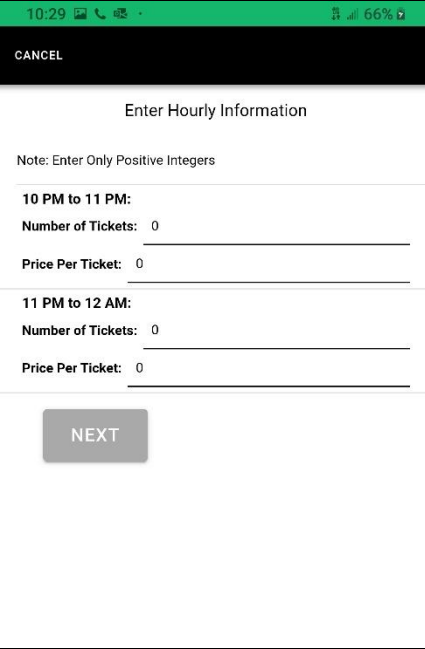
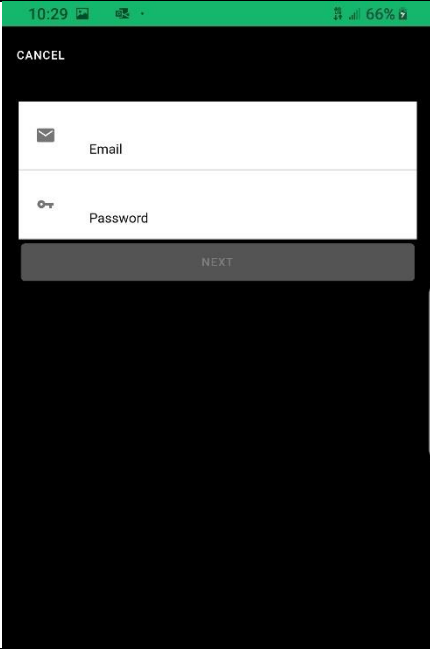
- The Hourly Information tab displays all the temporary venue's time slots in which it can post tickets for sale.
- Clicking one of the listed time slots takes the user to an information screen with information describing the current time slot - particularly the number of listed tickets that are unsold, the number of tickets that are sold.
 - When the "Add Tickets for Sale" button is clicked, the page displays an option for the user to enter the number of tickets for sale that they want to add to the given hour slot. The submission of extra tickets is confirmed with the Add button that appears and then the changes are saved to the Firebase backend.

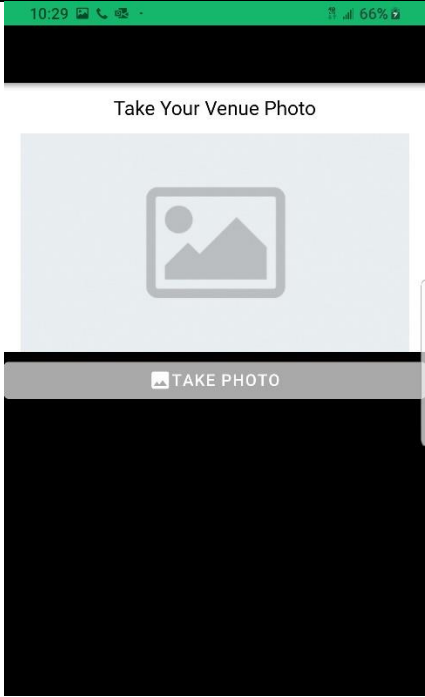
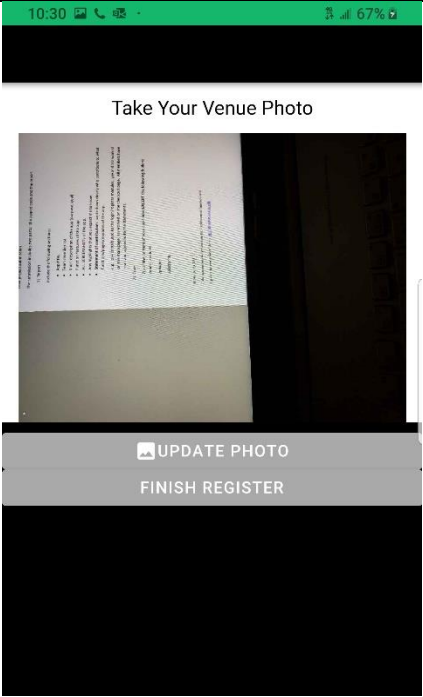
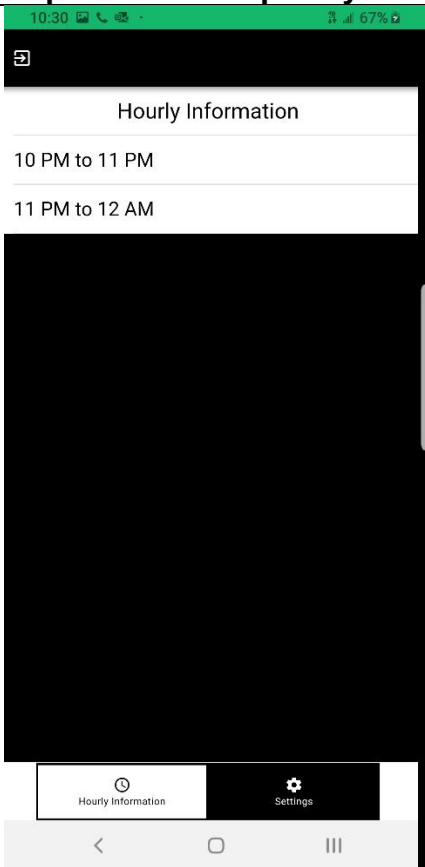
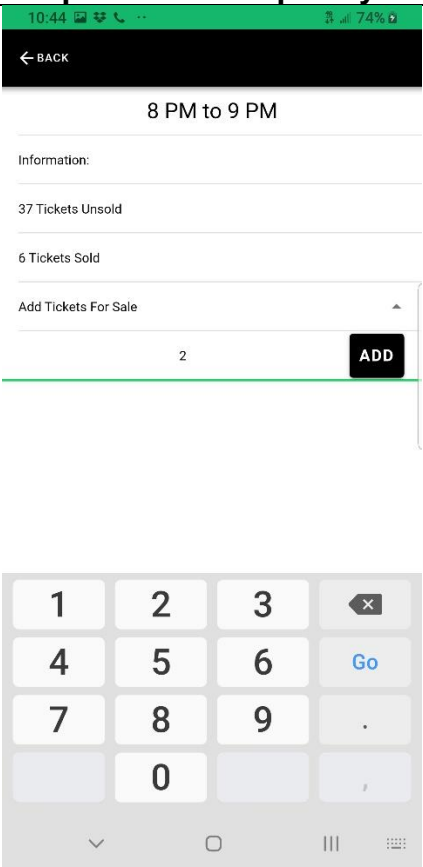
- **In the Settings tab:**

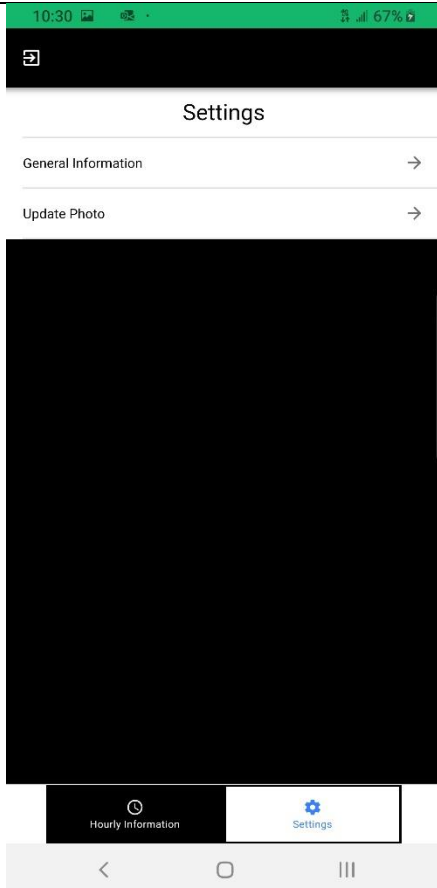
- Clicking the *General Information* button takes the user to a page containing the logged-in temporary venue's information (like name, address, etc). Then, the temporary venue user can click the "Edit" button which takes the user to a new page where the logged in temporary venue can update and save the changes to its general information and save the changes to Firebase.
- Clicking the *Update Photo* button takes the user to a page displaying the logged-in temporary venue's photo. Then the temporary venue can take a new photo to replace its current photo to be used to graphically display and market the temporary venue to potential Patrons.

- Screenshots of the App:

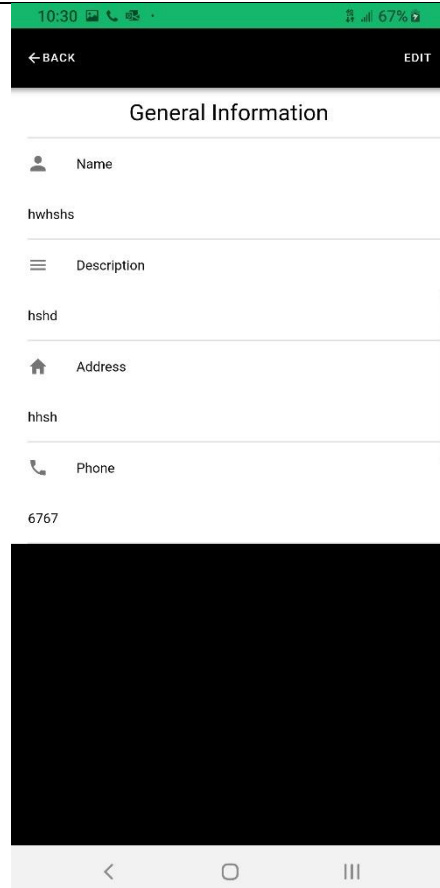


	
<p>Date Picker for Temporary Venue</p>	<p>Time Picker for Temporary Venue</p>
	
<p>Enter Hourly Information (number of available tickets and price)</p>	<p>Credentials for Registering Temporary Venue</p>

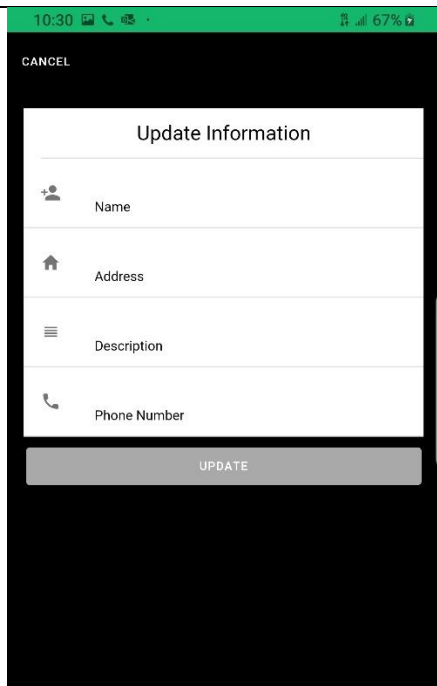
 <p>Take Your Venue Photo</p>	 <p>Take Your Venue Photo</p>
<p>Take photo for Temporary Venue</p>	<p>Update photo for Temporary Venue</p>
 <p>Hourly Information</p> <p>10 PM to 11 PM</p> <p>11 PM to 12 AM</p>	 <p>8 PM to 9 PM</p> <p>Information:</p> <p>37 Tickets Unsold</p> <p>6 Tickets Sold</p> <p>Add Tickets For Sale</p> <p>2</p> <p>ADD</p>
<p>Hourly Information for Temporary Venue</p>	<p>Add some tickets to number of available tickets</p>



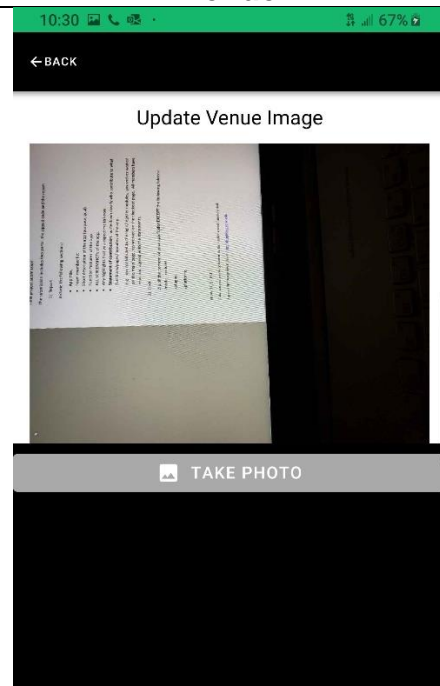
Settings Page for Temporary Venue



General Information for Temporary Venue



Update General Information



Update Photo

10:28 66%

← BACK

Let's get skipping.

First Name

Last Name

Phone Number

Email

Password

Confirm Password

☐ I certify that I will present valid and legal photo identification to any venue to meet admissions and legal drinking age requirements

☐ I have read the Terms and Conditions

[Click to read the Terms and Conditions](#)

SIGN UP

Patron Signup

10:28 66%

← BACK

Terms And Conditions

This is the future location of LineUp app's Terms and Conditions document.

Patron Terms and Conditions Page

10:31 67%

← BACK

Login

Email
sadeghitbas@email.com

Password

LOGIN

Login Page

10:31 68%

Search Temporary Venues

Bourbon
Description: Industrial hunt in historic digs with Caj...
Start Date: 4/29/2019
End Date: 10/31/2019

Tin Roof
Description: Unpretentious shotgun shackbar and ...
Start Date: 4/29/2019
End Date: 8/30/2019

Social Bar and Lounge
Description: Cavemous, industrial DJ dance club wi...
Start Date: 4/29/2019
End Date: 10/4/2019

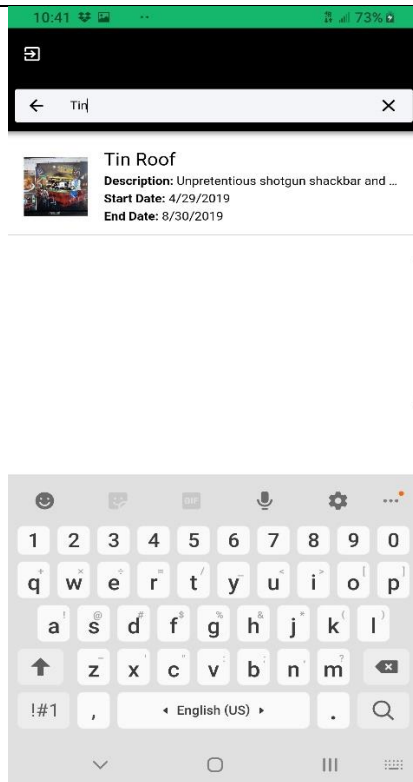
Breakers Bar and Grill
Description: Happy hour drinks, outdoor seating
Start Date: 4/29/2019
End Date: 8/15/2019

Jake's
Description: Love the outside back yard feel of the ...
Start Date: 4/29/2019
End Date: 5/3/2019

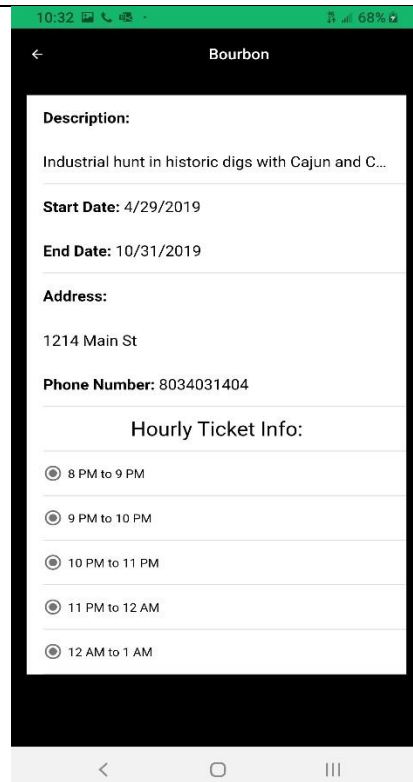
Hickory Tavern
Description: Sports bar and grill chain with an exte...
Start Date: 5/6/2019

Temporary Venues Cart

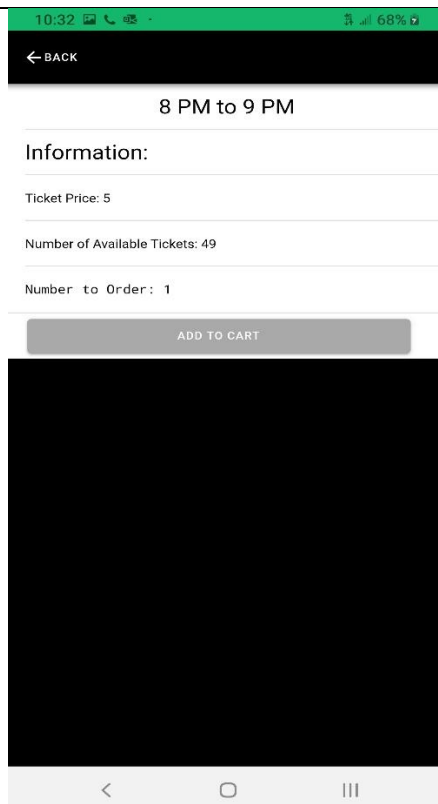
Main Page of Patron side of the app



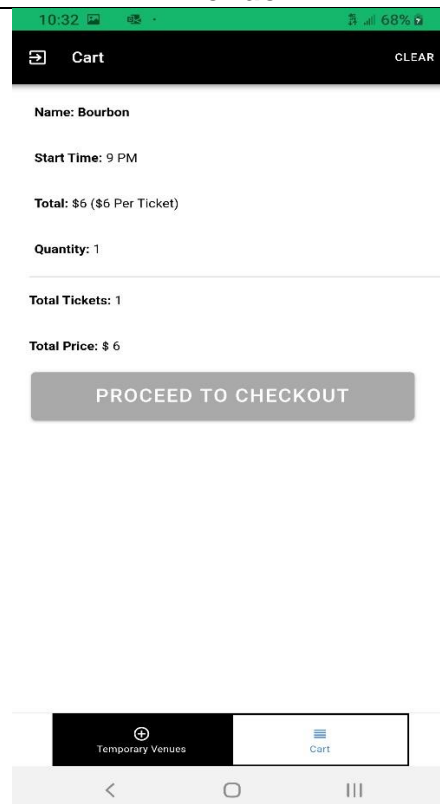
Searchbar functionality



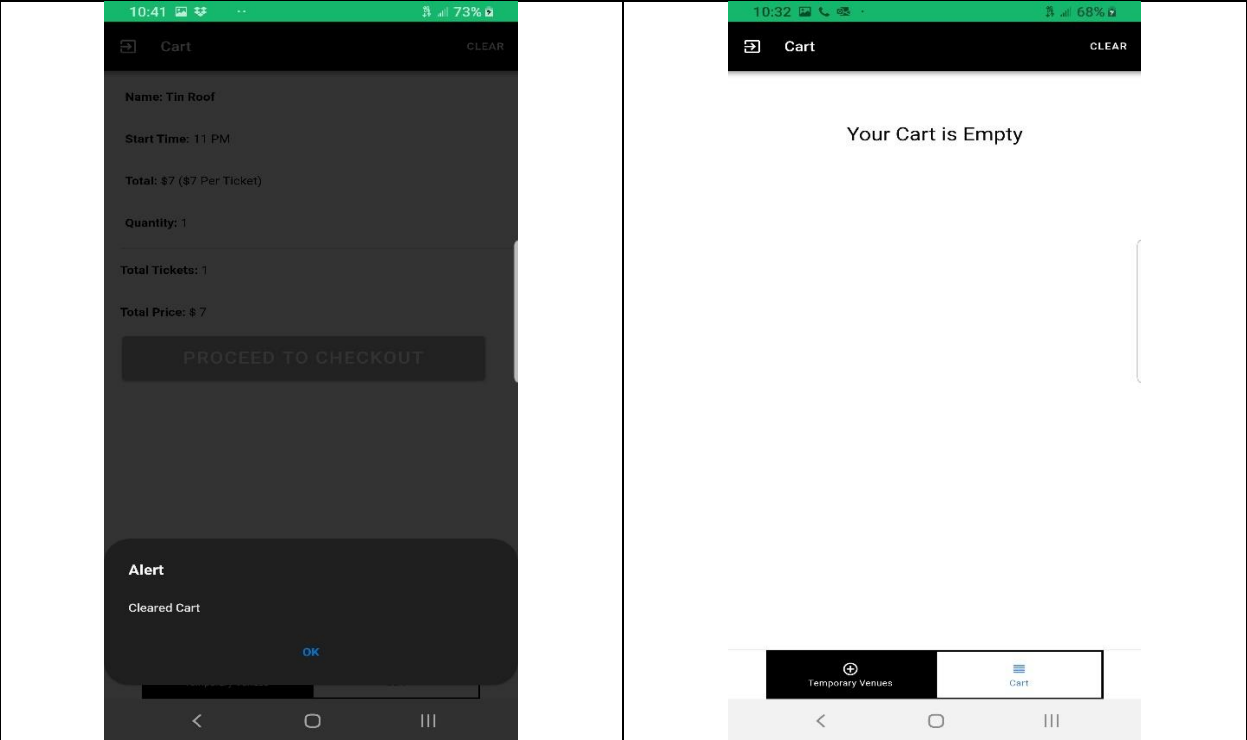
General Information for the Selected Venue



Add Venue to the Cart

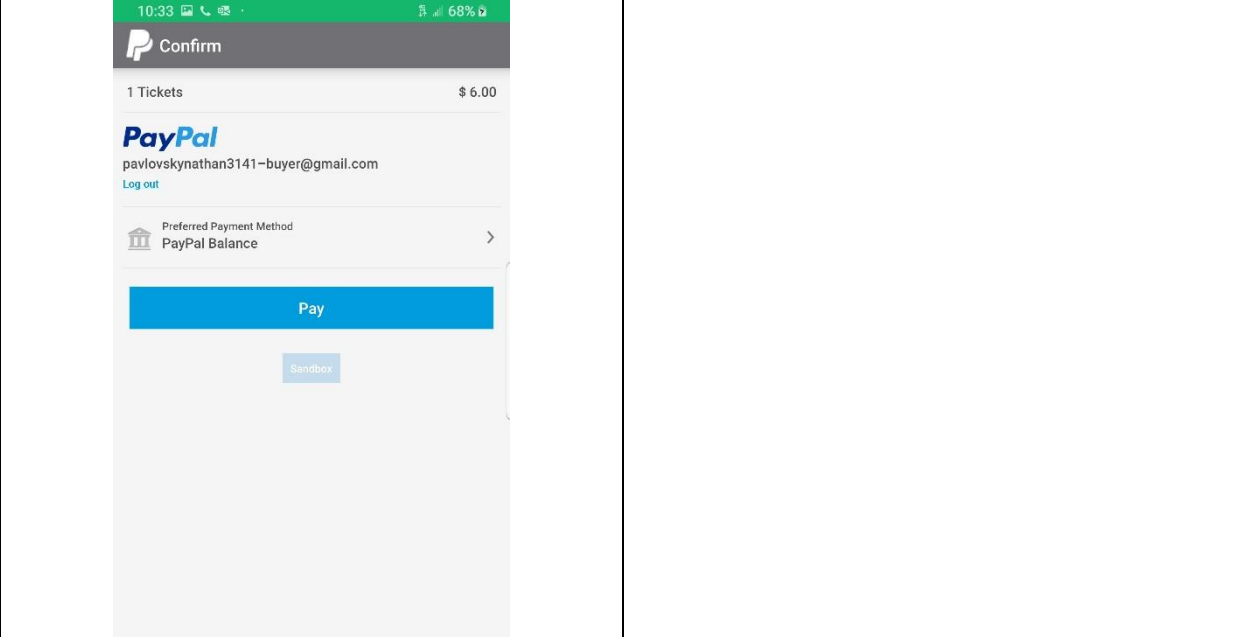


Cart Page



Clear Button Functionality

Cart Page After Clearing or Purchasing



Payment Module

- **Statement of Contribution:**

- **Sadegh:**

- **In the Temporary Venue side of the app:**

- In the pages for registering temporary venues, implemented the functionality for taking a photo with the camera for a new temporary venue user.
 - In the temporary venue update information page, implemented the functionality of update photo.

- **In the Patron side of the app (i.e. when the corresponding tabs are displayed after logging in):**

- Implemented the Temporary Venues tab with its search bar, display of all temporary venues' basic information, and photos
 - Implemented the logout button for the Temporary Venues and Cart page
 - Implemented the opening of a page in the Temporary Venues tab containing a selected Temporary Venue's information and available hour-slots.
 - Furthermore, implemented the clicking of a selected hour slot and the opening of a page displaying a selected hour slot's ticket information (number of tickets available to be purchased and price) and the functionality for the logged-in patron to enter the number of tickets to buy and add to the Firebase cart
 - Implemented the Cart page that shows all of the venues that are ready to purchase and price per venue and total price.
 - Implemented the clear Firebase cart button (which returns the venues in the cart page to available tickets for each venue when the patron decided to don't purchase that tickets).

- Designed all app pages' icons, graphical theme, and layout.

- Tested and physically deployed the app to Android (from his personal computer) and went to Dr. Hu's office hours twice to have it deployed to iOS

- **Nathan:**

- Created the login page and the mechanism for displaying different tabs to different types of logged-in users (i.e. a logged-in patron and temporary venue) within the same tabbed controller.
 - Created the register patron page and the mechanism for saving the new patron's data to firebase

- Created the sequence of pages for registering a new temporary venue object *except* for the page where a photograph is taken via camera for the new temporary venue (Sadegh did that).
- Created the *Terms and Conditions* page as well as the mechanism for opening it from the pages for registering a new temporary venue or a new patron object (as well as going back to the pages)
- **In the Temporary Venue side of the app (i.e. when the tabs are displayed after logging in):**
 - Implemented the logout button displayed on all pages for all tabs
 - Implemented the Hourly Information tab for displaying the temporary venue's hourly slots for selling tickets, the page for displaying each hourly slots' information, and the mechanism for adding tickets for sale in each hourly slot.
 - Implemented the basics of the Settings tab, the *General Information* button, and the opening of a page displaying the logged in temporary venue's general information (like name, address, and etc) and the edit button along with the page for updating their values and saving them to Firebase.
 - It should be noted that Nathan ***DID NOT*** implement the *Update Photo* button in the Settings tab, along with the page for taking a new photo and updating the temporary event's photo with a new one. This was Sadegh's contribution.
- **In the Patron side of the app:**
 - Implemented the checkout button in the cart page along with the Paypal plugin being invoked.

- **Sources:**

1. <https://www.nytimes.com/2012/08/19/opinion/sunday/why-waiting-in-line-i-torture.html?mtrref=undefined&gwh=0538CCB6368CB946B9BEF70C8DA7FDF0&gwt=pay>
2. <http://content.time.com/time/magazine/article/0,9171,1657807,00.html>
3. <http://money.com/money/4685252/walmart-retail-app-technology/>
4. <https://footwearnews.com/2018/business/retail/long-checkout-lines-retails-revenue-loss-1202554602/>