

Event Ticketing & Seating App

= Priority A

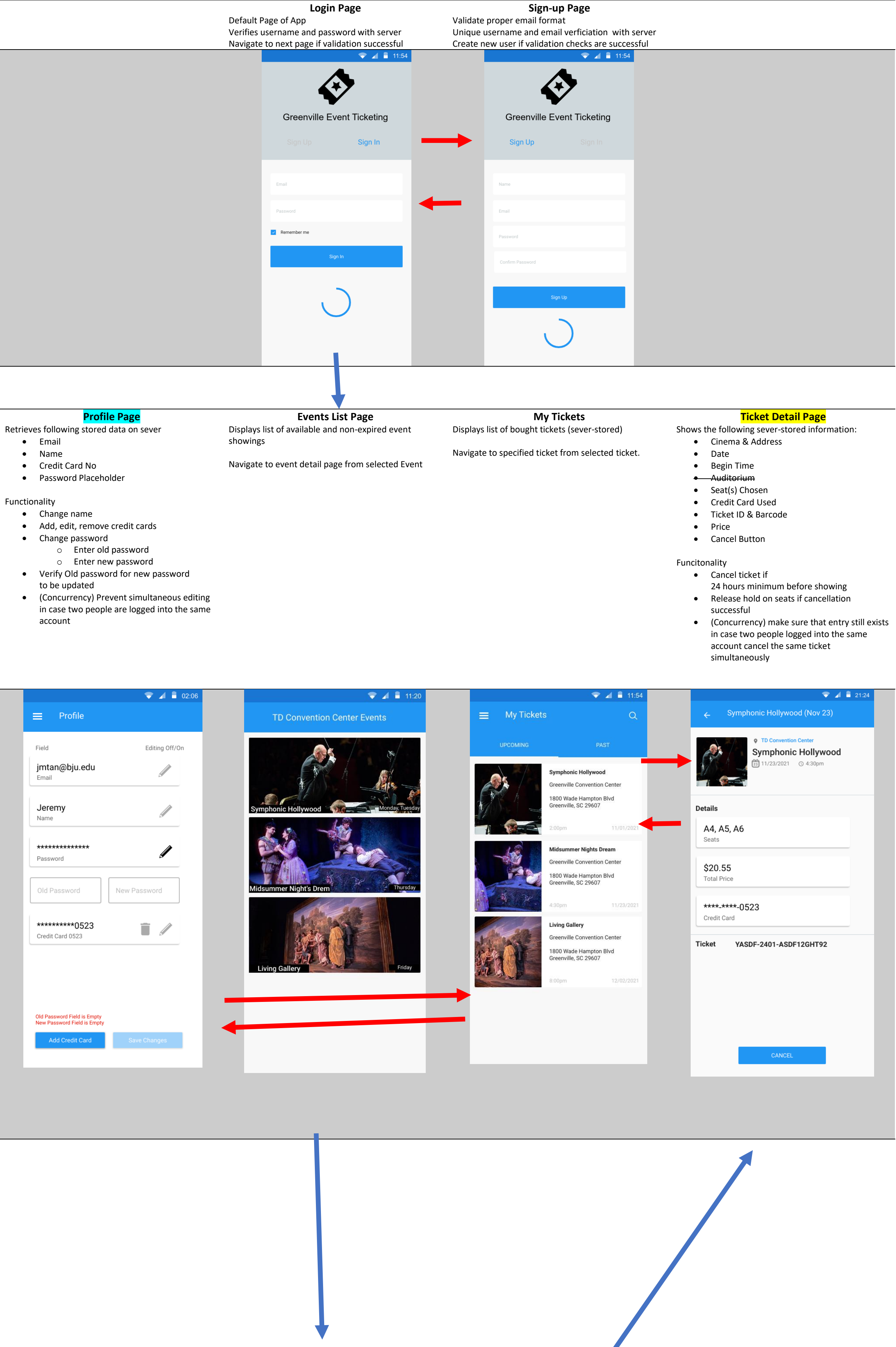
= Priority B

= Priority C

Executive Summary

The *Greenville Ticketing* App allows users to book event tickets from the TD Convention Center (or Rodehavor for BJU artist series events) via reserving selected seats and pre-paying through credit card. Users can log in to their personal accounts or sign up if they don’t have one. Afterwards, they can choose their event, and select their seats. Users will then be able to confirm payment of event ticket through their credit card. All ticket purchases can be accessed through the ticket collection page.

Navigation Design



# Cps 320 Project Proposal

## Seating Chart Page

Displays the following information

- Selected Event Title
- Theater
- Show Date and Time
- Seating Diagram
  - Available Seats
  - Reserved Seats
  - Chosen Seats
  - Selected Seats
- Confirm and Checkout Button

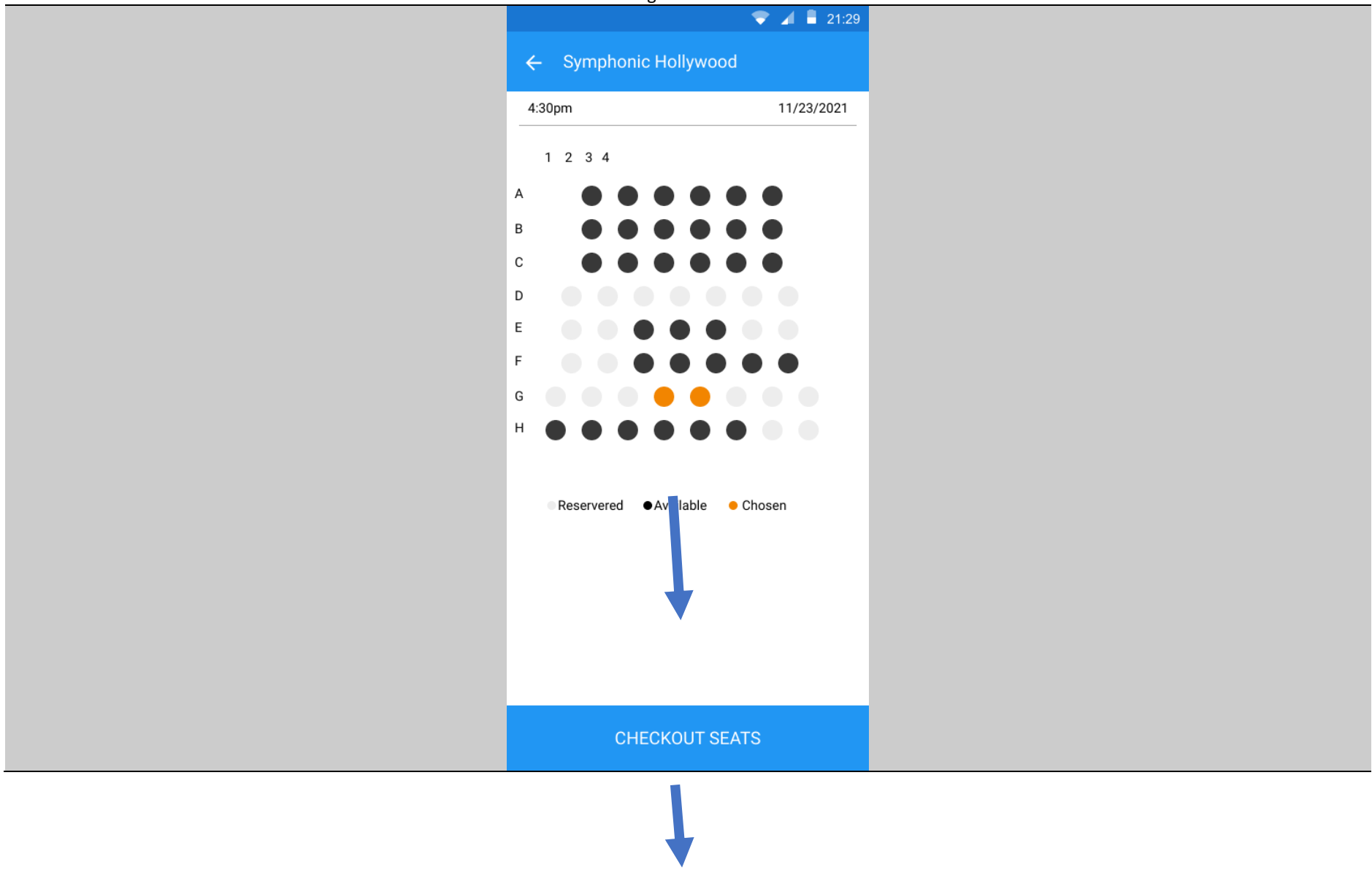
Validation Checks

- Check if seats are still available
- Change label of 'Buy Tickets' to 'Buy More Tickets' if user already bought tickets for that Event showing

## Updating Seating Chart

Every 5 minutes, the app will refresh the seating chart by sending a query for an updated list of seats. This will be done in a background task. (App will also have a little spinning indicator to show that it's refreshing)

When user hits 'Checkout Seats' button and has chosen a seat that someone else has coincidentally already chosen for checkout, then an error message will pop up saying that it is 'reserved' and will then refresh the page.



## Order Verification Page

Display the following information:

- Selected Event Title
- Theater & Address
- Selected Seat(s)
- Total Price
- Selected Credit Card to buy tickets
- Confirm Purchase Button

Validation Checks

- (Concurrency) Prevent two simultaneous orders of the exact same seat(s) by processing request in a lock
- (Concurrency) Process checkout request to prevent duplicating the request and get successful validation of order by assinging idempotency token
- (Background Thread) Process request on background thread in case someone calls the user after hitting the purchase button

## Holding Seats that will be purchased

Seats that are hold (reserved) for order confirmation will be given a timer (maybe 5 minutes)

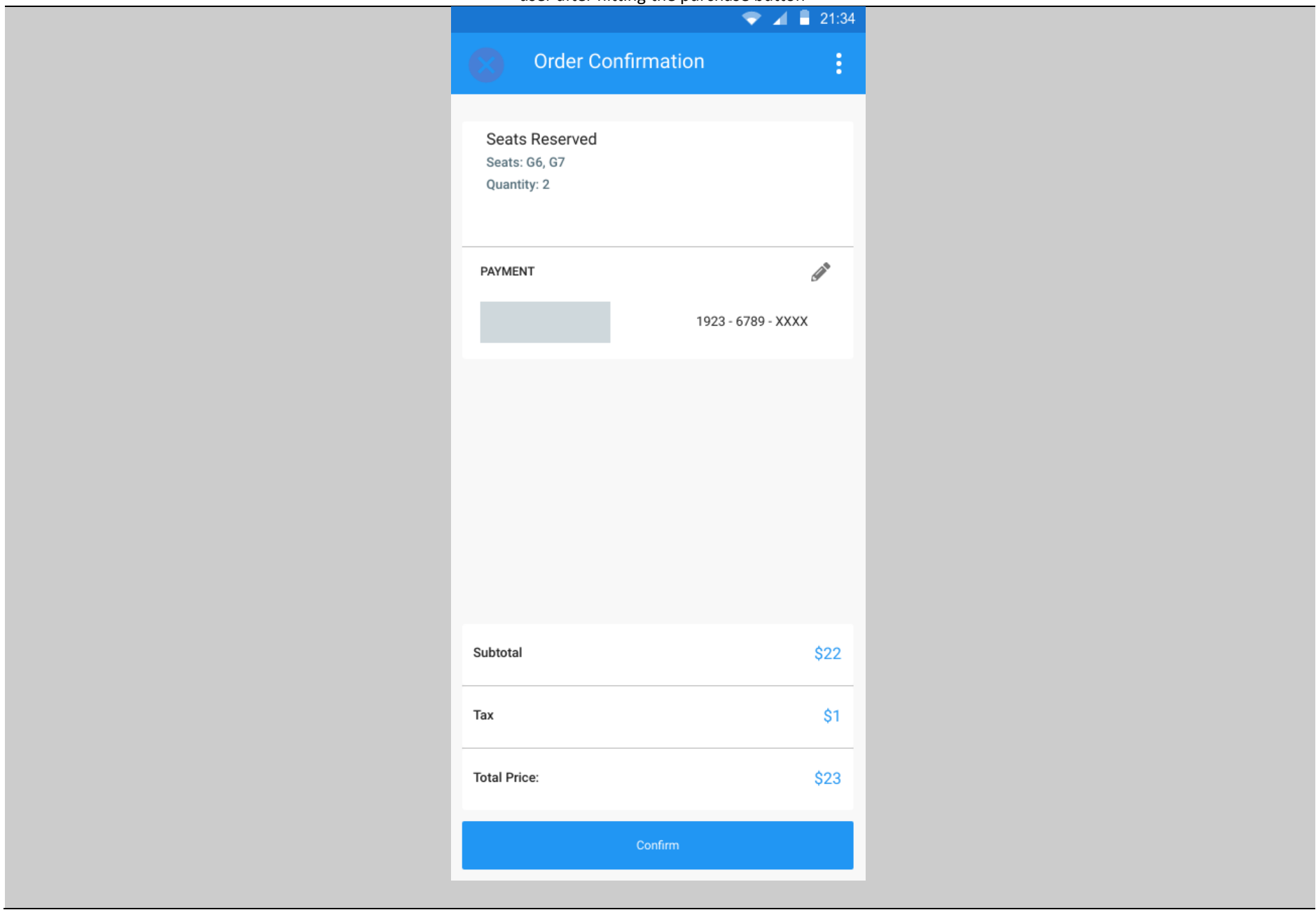
Before the entire time is elapsed, the app will prompt whether the user is still active

If the user hits yes, then the user gets a 1 minute extension.

The app will send another query to the server to extend the time limit

This confirmation dialouge will only pop up for a maximum of 3 times to prevent users from locking a seat forever.

Therefore, user only has 8 minutes to get the seat purchased before the seat is released back to the pool of available seats.



Severside Component

Technology  
Flask (Python)

Data Tables to be stored

User Information	Registration Email Username Password
Validation Check	Valid Email Unique Email

Credit Card	Email (Account) Credit Card Number Expiration Date CVV
Validation Check	Valid Credit Card No.

Theater	Theater ID Theater Name Address
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Event	Event ID Hosting Theater Name Total Length Price per seat Date of Showing Time of Showing
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Auditorium A	Num Columns Num Rows Total Seats Seat Collection
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Seat	Seat ID Seat Column Seat Row Available Status Unavailable Status
Validation Check	Seat Availability when checking out

Ticket Collection	Ticket ID Hosting Theater Event Seats Reserved Total Price Date and Time of Showing Valid Status
Validation Check	Cancellation Validation 24 hours or more until showing Ticket has Valid status