Software Requirements Specification

for

Movie Booking System

Version <1.0>

Prepared by

Group Name: Team 13

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Revisions

Version	Primary Author(s)	Description of Version	Date Completed
1.0	Kane, Acoin, Nelson, and Gabbita	Fully filling out the Software Requirements document and everything that is going to go into the Movie Booking System	10/31/22

1 Introduction

1.1 Document Purpose

The purpose of this document is to provide context for the application specified for the local theater chain of West Texas. Our goal is to make an interface for customers to reliably purchase tickets online, and be able to have their tickets before setting foot in the movie theatre. This is to help the local theaters gain revenue whilst reducing the wait time for customers simultaneously.

This document also specifies the requirements of the software, as well as the intended audience. It will also go over the product functionality and the operating environment used. This document also includes the safety and security requirements involved to keep customer data, such as credit card information, secure. It also specifies the external requirements needed by customers in order to use this software efficiently and to continue using this software in the future.

1.2 Product Scope

The purpose of the Movie Booking System (MBS) is to help the local movie theatre reduce wait times for patrons while at the movie theatre by creating a convenient, quick, ease-of-use application to buy movie tickets wherever the patron might be. The system is based on a relational database with movie reservation functions and login functions. We will have a database server that supports many movie reservations as well as being able to log in from anywhere, not just a single specific location. Most importantly, we hope to provide the user with a beneficial experience along with less time spent waiting in line at the movie theatre since they can reserve tickets in advance.

1.3 Intended Audience

This project is a prototype for a Movie Booking System and it is restricted for use within the college classroom. This project is being implemented under the guidance of Dr. Pathirage. This prototype is intended for moviegoers in the West Texas region that do not like waiting in line to receive tickets. This would include individuals suffering from auto-immune diseases who cannot come into close contact with other people, those who may have a disability and prefer to order tickets on their personal devices, and other clientele that would just prefer to have no face-to-face contact with someone whilst purchasing a ticket and just want to use their phone.

1.4 Definitions, Acronyms, and Abbreviations

ADA- American with Disabilities Act
ISA- International Symbol of Access
MBS- Movie Booking System

MTE- Movie Theatre Employee

1.5 Document Conventions

For this document we are using 1-inch margins and single-spaced lines throughout the entire document. For Subheading Titles, the font is Arial and is size 14. For body paragraphs, the font is Arial and the size is 12. Italics will be used for comments.

TO DO: Describe any standards or typographical conventions that were followed when writing this SRS, such as fonts or highlighting that have special significance. Sometimes, it is useful to divide this section into several sections, e.g., Formatting Conventions, Naming Conventions, etc.>

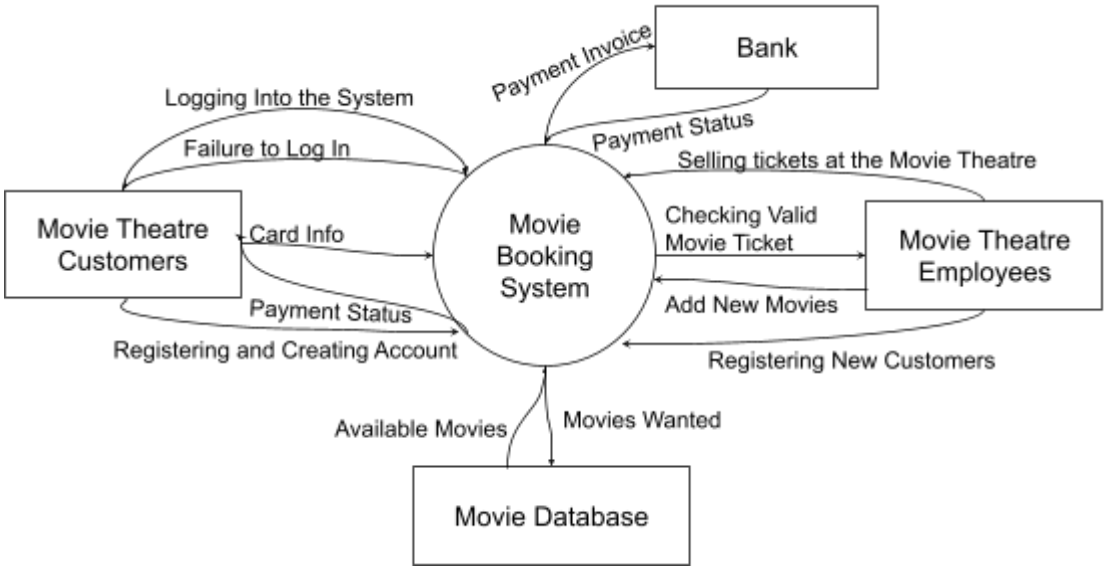
1.6 References and Acknowledgments

Sommerville, Ian. *Software Engineering*. Pearson, 2018.

2 Overall Description

2.1 Product Overview

The MBS must be available to purchase movie tickets at all times of the day. A user can buy a movie ticket for a movie at midnight, ten days before that movie is supposed to take place. If downtime is needed, the MBS should only be down during non-peak hours to buy a movie ticket. This is usually during the night in the early hours of the morning. The user should also be allowed to be logged in within ten seconds of putting in their login information.



2.2 Product Functionality

- Register customer
- Collect user data to store in MBS database
- Communicate with MBS database to return movie data to display to customer
- Customer selects the movie (theater) location, date, time, etc.
- Access to people with Disabilities
    - Specify seats for those with disabilities with an ISA
- MBS database retrieves customer payment information to complete the transaction
- MBS database returns booking confirmation to the Customer with a unique ticket id and stores the order in the system
    - QR code
- Communicate with Bank to process Payment Information

2.3 Operating Environment

- Minimum: Requires a 64-bit processor and operating system
    - OS: Windows 7
    - Processor: Intel Core i3-7100 3.9GHz or AMD Ryzen 3 2200G
    - Memory: 4GB RAM
    - Storage: 1GB available space
- Recommended: Requires a 64-bit processor and operating system
    - OS: Windows 10
    - Processor: Intel Core i5-7500 @ 3.40GHz or AMD Ryzen 5 3600x 3.8GHz
    - Memory: 8GB RAM
    - Storage: 1GB available space

2.4 Design and Implementation Constraints

One Hardware Limitation that we will have is getting a quick log-in time as well as a quick user experience for loading movies, checking out, processing payment information, and distributing a unique ticket code or QR Code for the user to be able to use. The MBS will not only have to talk to the user, but will have to at points talk to the Bank, the Movie Database, and/or get information from the MTE. A security protocol that we will have to implement is making sure that the users' banking information is secure throughout the whole checkout process. Another protocol is not having important user information accidentally leaked if someone were to hack the MBS.

2.5 Assumptions and Dependencies

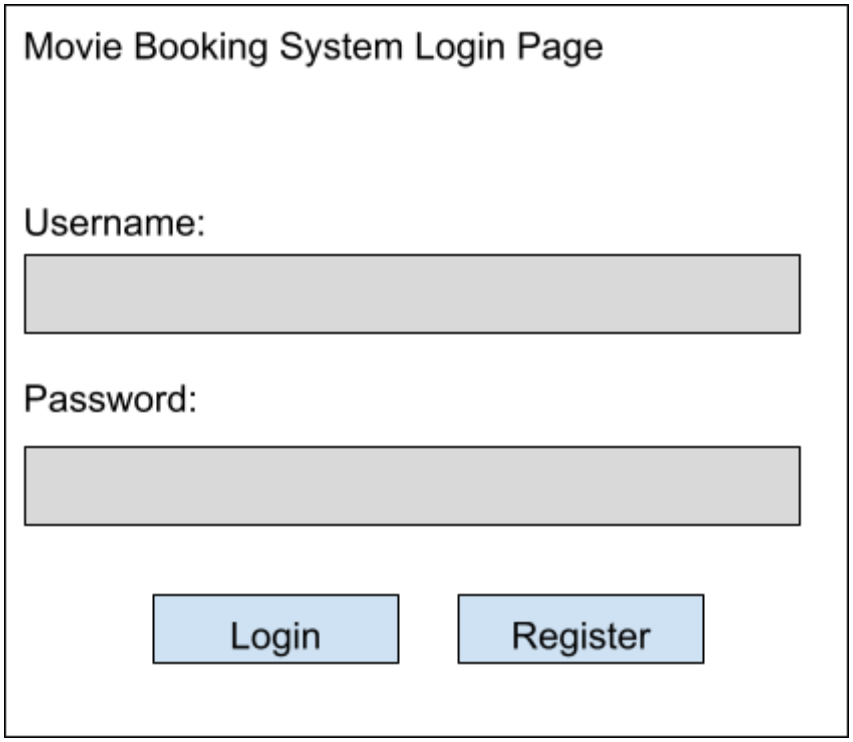
Although the West Texas region is not large, there is still the possibility of the servers becoming too crowded, so we would have to take precautions in optimizing the funneling of data for a better user experience. This relies on the assumption that there will be many people using this software at once. More things to consider would be data loss, security issues, and functionality issues that may arise. Our software relies on the assumption that there is a stable internet connection, as well as servers with the software to store the data and handle requests.

3 Specific Requirements

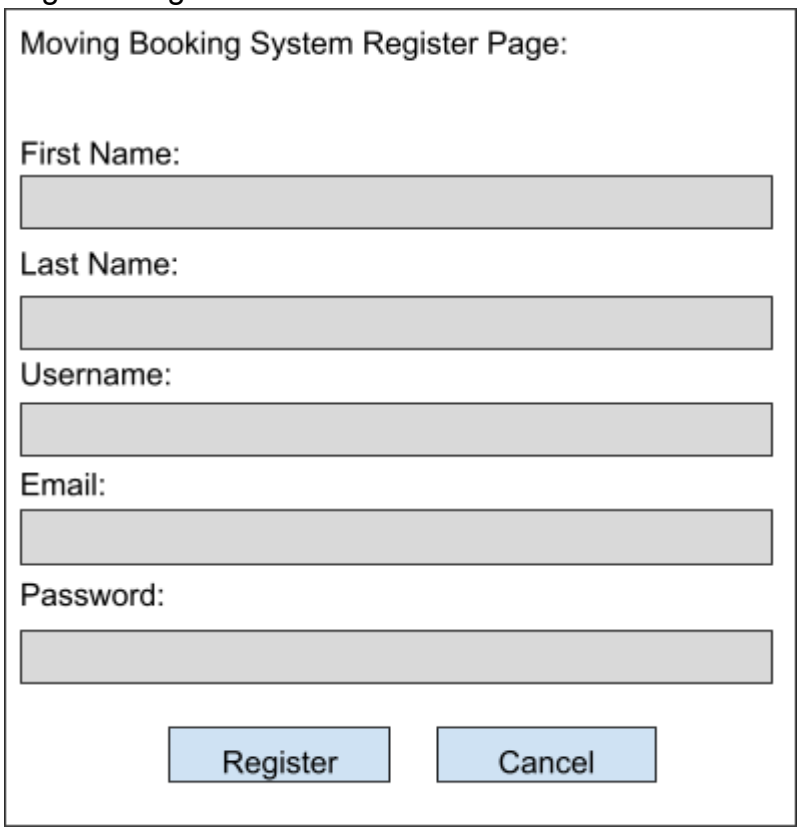
3.1 External Interface Requirements

3.1.1 User Interfaces

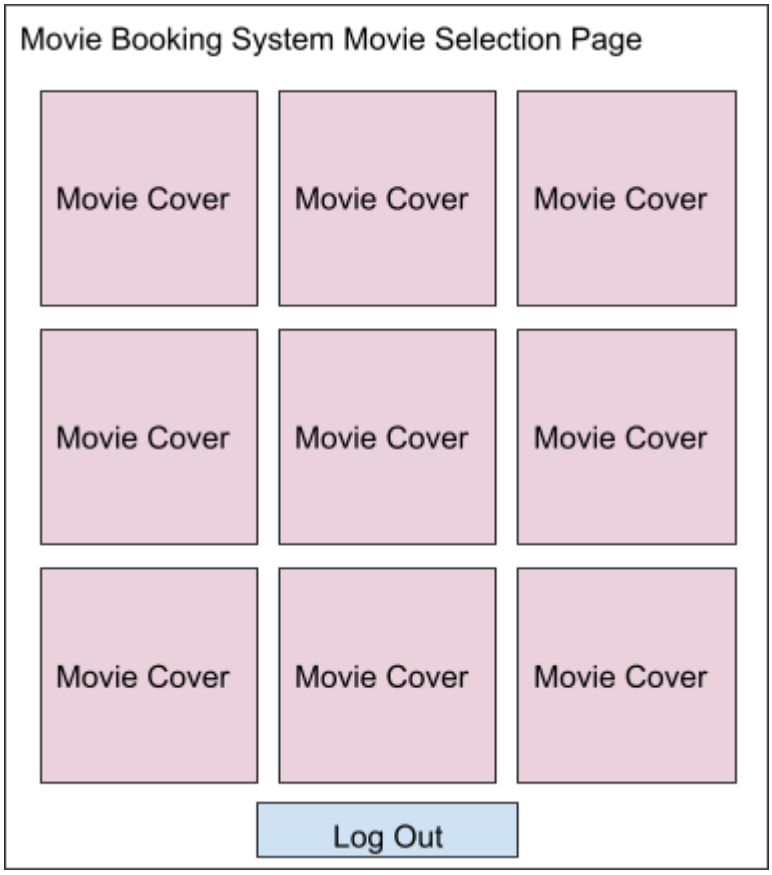
Log In Page Sketch:



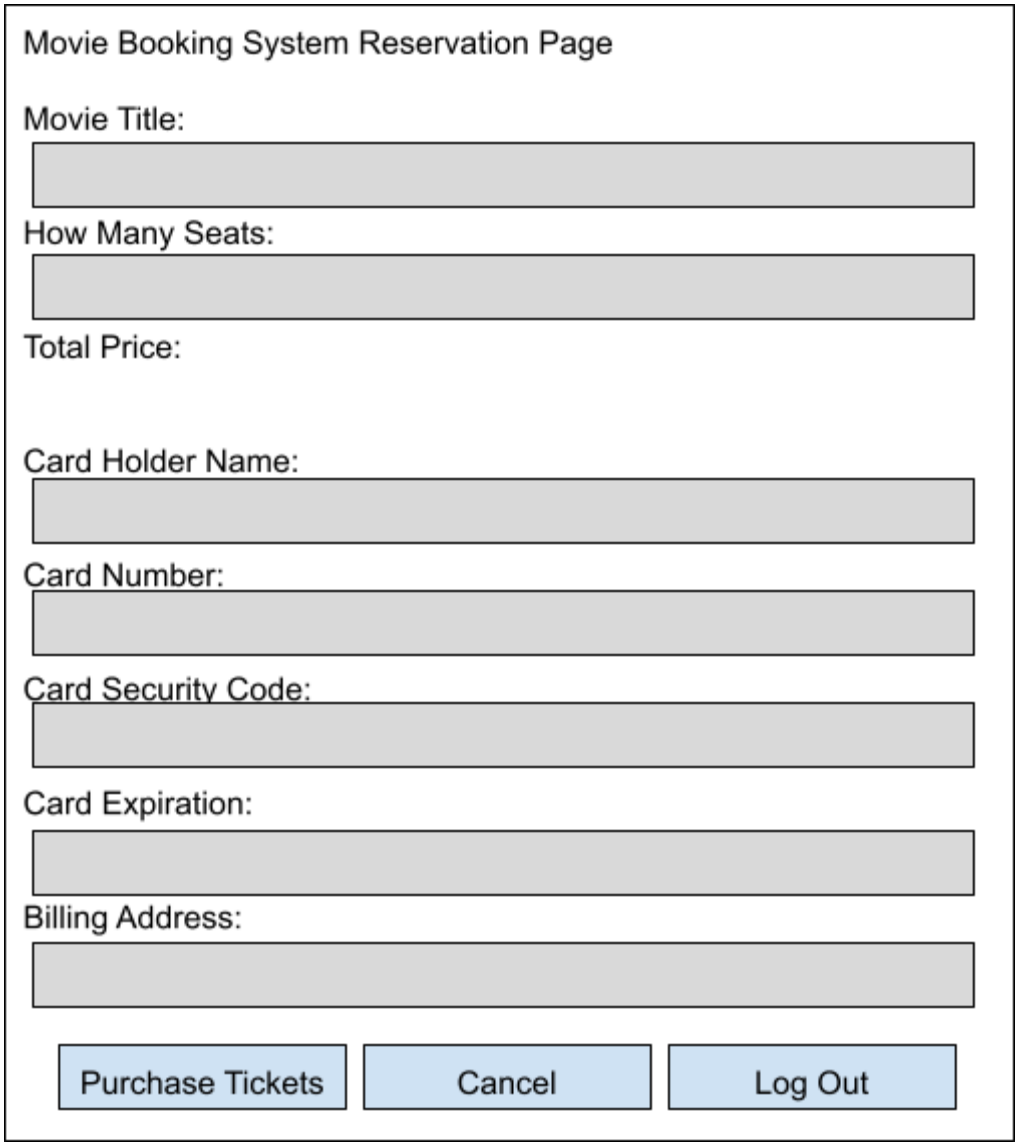
Register Page Sketch:



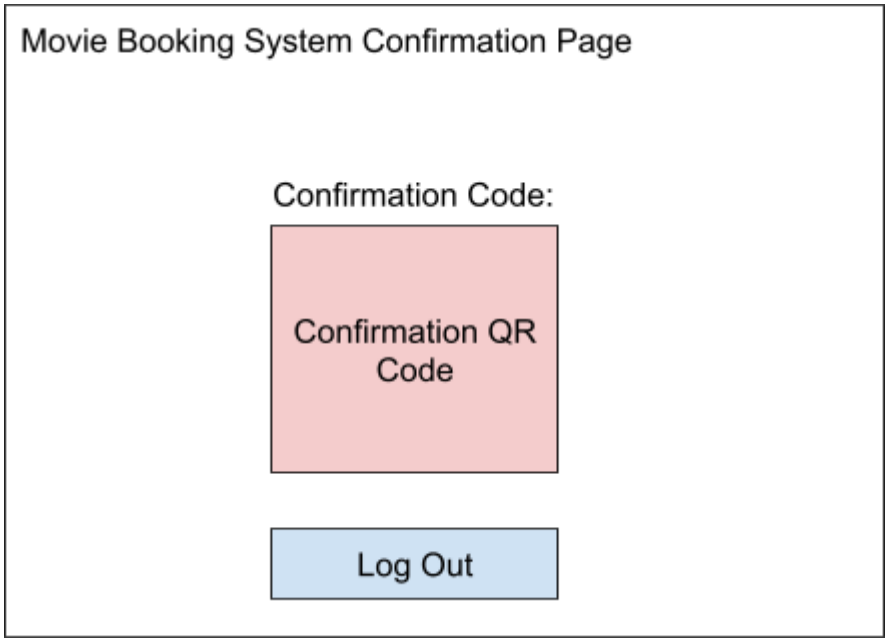
Movie Selection Page Sketch:



Movie Reservation Page:



Movie Booking System Confirmation Page:



3.1.2 Hardware Interfaces

- Computer
- Personal Device
- Internet router
- Personal Printer (QR code)
- Movie Theatre Server
- Movie Theatre Scanner (For MTE)

3.1.3 Software Interfaces

Software used	**Description**
Operating system	We have chosen the Windows operating system for its user support.
Database	To save the movie dates and times, as well as customer user information, we have chosen a SQL database.
Java	To implement the project we have chosen the java language for its flexibility and reliability factors.
QR Code Platform	To produce the QR code that links to the confirmation details of the purchased ticket.

3.2 Functional Requirements

3.2.1 Register customer:

This phase requires the customer to create an account so they can register themselves and access the application.

3.2.2 Collect user data to store in MBS database:

This step will log and store any movies bought by the user or returned and track them.

3.2.3 Communicate with the MBS database and return result to customer:

This step will retrieve data from the database and display search results such as movie information, movie time etc. to the customer.

3.2.4 Customer selects movie:

With the information displayed, the customer selects their desired movie, movie time, movie location, seats etc.

3.2.5 Access to people with disabilities:

The ISA symbol for people with disabilities will be allocated and displayed on the seats that are disability accessible.

3.2.6 Payment:

In this step, the customer confirms their booking and they're prompted to enter their payment details.

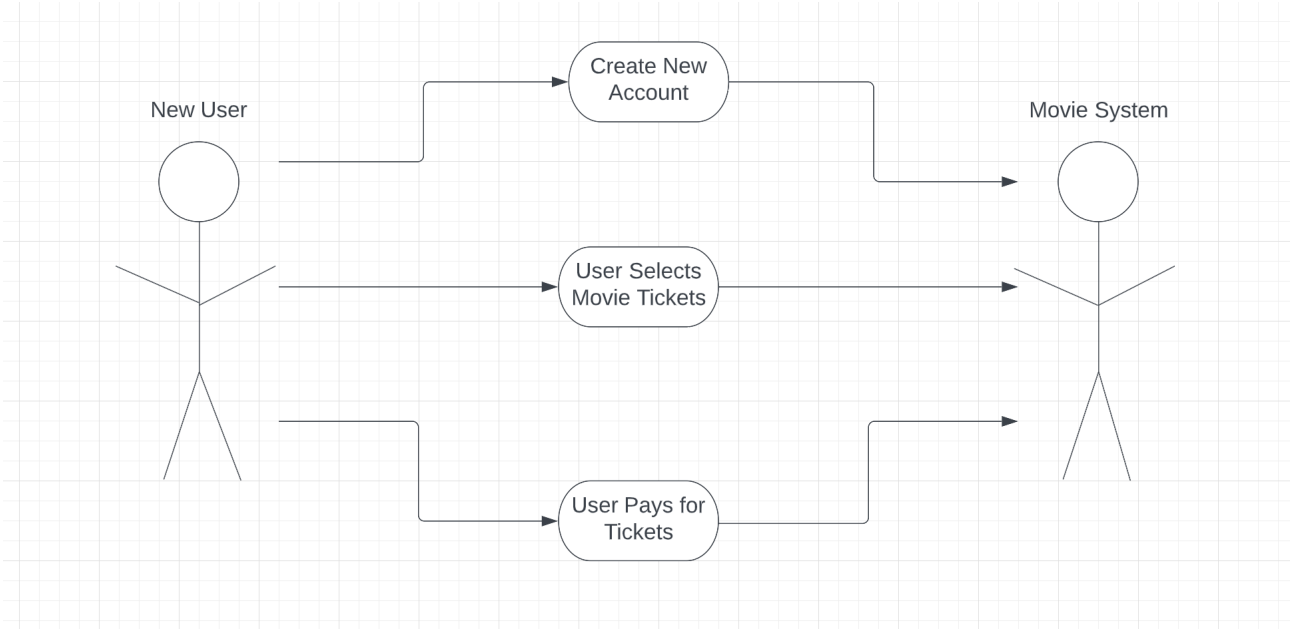
3.2.7 Confirmation:

Once the payment details have been entered and the customer paid, they will be redirected to a confirmation page with the details of their booking and they will be given a unique QR code for their movie and seats.

3.2.8 Communication with the bank:

Once the payment has been made, the MBS will communicate with the bank to process the payment.

3.3 Use Case Model



3.3.1 Use Case #1

Use Case Name – Create New Account

Summary – The user will create a new account through the system by creating a username and password, and including any personal information required from the user such as address, card information, etc.

Actors – The human will trigger this use case by clicking the button to create the new account then triggering the system to load and store the users information.

Preconditions - The username must be original (should not exist), the password should require at least 8 characters with one of those characters being capital, a special character, and a number. The email should be checked to make sure it is valid and does not already exist.

Main sequence – The user will first click the “New User” account button which will trigger the system to direct them to enter in their information. The information required for the user to create an account will be a valid username, password, and email address.

Alternatives – If the user username, email, or password are invalid, the user will be alerted. The specific issues with the login information will be listed and the user must go in and resolve these problems if they wish to create a new account.

Postconditions - The user will be alerted that their account was successfully created and the system will store all of their information.

Author – Samantha Aucoin

3.3.2 Use Case #2

Use Case Name – User Selects Movie Tickets

Summary – The user will select which movie they would like to see and enter in the number of tickets they wish to buy.

Actors – The human will trigger this use case by clicking on the movie they would like to see and increasing or decreasing the amount of tickets they would like to buy.

Preconditions - The user must select a movie that is out in theaters currently and may not purchase under one ticket or over twenty tickets.

Main sequence – The user will first click the move they wish to see and then enter the amount of tickets they would like to purchase. These items will be added to a cart.

Alternatives – If the movie selection or amount of tickets selected are invalid, the user will be alerted and redirected back to the homepage to start over.

Postconditions - The users' tickets will be added to the cart where they can choose to add more products or proceed to checkout.

Author – Samantha Aucoin

3.3.3 Use Case #3

Use Case Name – User Pays for Tickets

Summary – The user will select the "Proceed to Checkout" button where they will be asked to enter in card, email address, and home address information.

Actors – The human will trigger this use case by clicking on the "Proceed to Checkout" button where the system will redirect the user to the payment page.

Preconditions - The user must enter in valid card information including a twelve digit card number, a valid expiration date, and a three digit CVV. They also must enter a

valid email address that they would like their ticket confirmation sent to. Also, a valid billing address.

Main sequence – The user will first enter in their card information and once that is validated they will be redirected to enter in a valid billing address and confirmation email. Then they will select purchase tickets and if everything checks out they will be sent the confirmation email with their tickets.

Alternatives – If the card information, billing address, or email do not check out, the user will be alerted with what needs to be changed and they will have to re enter their information.

Postconditions - The user will select purchase tickets where they will be redirected to a confirmation page and emailed their tickets as well through the email given to us.

Author – Samantha Aucoin

4 Other Non-functional Requirements

4.1 Performance Requirements

The MBS should be available at all times during the day with no downtime if possible. If downtime needs to occur it needs to happen during non-peak hours of the day

preferably at night in the early hours of the morning. The MBS should be created off on the ADA requirements and should be easily able to be used for everyone because of this. For signing in, a user should be able once a username and password are entered to log in to the MBS within 10 seconds of pressing the login button. A movie should be able to purchase a ticket at midnight, 10 days before the showing of the movie. The available movie titles to load should be available for the user to view 10 seconds after logging in. Once a user clicks on a movie title to get tickets, again it should take 10 seconds to load the checkout page for the user. Payment should also take 10 seconds to process and right after a unique confirmation code should be given for the user to take to the ticket stand to either print a physical ticket or scan with the MTE. To log out of the program at any time it should take a maximum of 10 seconds to log the user out of the system. To register a new account, once the page takes a maximum of 10 seconds to load it should take a max of 30 seconds to put the information into the database of logins for the MBS.

4.2 Safety and Security Requirements

Payment:
The MBS accepts all kinds of payment methods such as digital wallets, gift cards etc.

Sale of personal information:
The MBS does not encourage the sale of personal information to third parties for business or commercial use.

Refund policy:
Refunds are only allowed under certain circumstances. All tickets have a non-refundable convenience fee. We request you double check your booking before making a payment. Instead of a refund, you can exchange your movie for a different movie or a show time. You are eligible for a refund only if you want a refund for the entire order, or if you initiated the refund or exchange request 24 hours before the event.

Appendix A - Group Log

<Please include here all the minutes from your group meetings, your group activities, and any other relevant information that will assist in determining the effort put forth to produce this document>
Chloe Nelson worked on Sections 1, 2, part of 3 and part of 4 in this document.
Hailley Kane worked on Sections 1, 2
Samantha Aucoin worked on Sections 1, 3, and 4
Vamsi Gabbita worked on Section 3 and 4