MIDNIGHT VIEWER

Software Requirements Specification

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Software Requirements Specification

# Introduction

## Purpose

The purpose of this system is to provide customers with a way to purchase and redeem movie tickets both through a website, mobile application and in person sales. The customers will be able to select from standard room which has sixty seats or IMAX room which will have one hundred seats. Will give access to certain employees to verify tickets for the customers.

## Scope

The system will let customers browse movies, seats and purchase tickets.

The system will have a selection of seats for standard room.

The system will have a selection of seats for IMAX room.

The system will provide digital tickets through QR code and apple wallet.

The system will have seat reservations, and subscription plan.

The system will allow administrators to manage issues in real time.

The system will be scalable as more theaters are added.

## Definitions, Acronyms, and Abbreviations

QR code – quick response code to validate tickets

Subscription plan – monthly payment of $10 a month or yearly with $110.

Standard room – 60 seats are available to choose from.

IMAX room – 100 seats are available to choose from.

POS – point of sale.

## References

The references are:

Midnight viewer’s use cases for the customers with the website/application.

Midnight viewer’s use cases for the employee with the system.

Midnight viewer’s use cases for the administrator with the system.

## Overview

The remaining sections of this document will provide the Overall description, specific requirements including external interface requirement, functionality, use cases, classes/objects, and non-functional requirements.

# General Description

The movie theater ticketing system will serve customers, employees, and administrators.

Customers will purchase tickets through the app, website, or at the theater.

Employees will sell tickets onsite and validate tickets at the theater entrance.

Administrators will manage refunds, troubleshoot technical issues, and oversee theater performance. The system will operate on both mobile and desktop platforms, support English and Spanish, and integrate with Apple Wallet and Google pay. All tickets and user data will be stored in a centralized database that will support multiple theater locations.

## *Product Perspective*

The system will allow the customers to select seats and buy tickets.

## *Product functions*

The system will have a scannable QR code, printable tickets, and have the users selecting seats and different tickets.

## *User Characteristics*

The system will have users that are paying customers who like to watch films.

The system will support various genres for user enjoyment.

The system will support latest and most trending movies.

The system will support purchasing of collector items like popcorn buckets and movie drink cups.

## *General Constraints*

The system will require license for movies.

The system will require the developer to adhere to the documentation for necessary external systems such as payment systems / payment providers.

## *Assumptions and Dependencies*

The system will be able to support an offline mode for in movie theater purchasing systems that will have access to the database, in the event the internet goes down. This offline mode will be a standalone desktop application.

# Specific Requirements

## External Interface Requirements

### **Users Interfaces**

## The system will have a web interface.

The system will have a mobile application.

The system will have an Employee POS terminal.

The system will have an Administrator dashboard.

### **Hardware Interfaces**

The system will have QR scanners at entrances.

The system will have point of sale hardware for employees.

The system will have Server hardware with redundancy.

### **Software Interfaces**

The system will have payment APIs with Google pay and Apple pay

The system will have an Authentication method with Google open authorization.

The system will have ticket storage in a database linked to mobile/web application.

### **Communication interfaces**

The system will have all communication secured with HTTPS/TLS

The system will have mobile notification for ticket confirmation

The system will have Email/SMS confirmation for purchases.

## Functionality

### **Graphical User Interface**

The system will have an interface for both desktop and mobile.

The system will be built on Expo for cross-platform compatibility.

The system will allow users to browse movies, select seats, and pay accordingly.

### **Accessibility**

The system will support English and Spanish.

The system will be screen reader compatible.

### **3.2.3 Ticket Purchasinng**

The system will allow ticket purchases through app and websites.

The system will allow one user to purchase 10 tickets per transaction.

The system will have regular and deluxe tickets depending on location.

The system will allow tickets to be refundable up to 48 hours before showtime.

The system will allow tickets to be purchased until 30 minutes after showtime begins.

### **Ticket Formats**

The system will allow tickets to be in apple wallet, QR code, or printable in black and white.

### **User Accounts**

The system will allow customers to login to the website, and app with the same username and password.

The system will have a subscription option of $10 per month or $110 per year with 10% off tickets and priority snack line for students, seniors, and veterans.

### **Discounts**

The system will be able to verify age, student, and veteran status through ID verification.

The system will give students, seniors, and veteran discounts of 10%.

### **Seat reservations**

The system will allow customers to select seats.

The system will have a section for standard room which will have 60 seats.

The system will have a section for IMAX room which will have 100 seats.

### **Scalability & Concurrency**

The system will support up to 15,000 concurrent users during peak hours.

The system will be a centralized database that supports multiple theaters.

The system will have real-time updates for ticket availability and reservations

### **Payments & Security**

The system will support credit cards, debit cards, Apple pay, and Google Pay.

The system will have all payments using SSL/TLS encryption

The system will comply with PCI DSS standards.

The system will have QR code validated at check-in to prevent fraud.

### **System Features**

The system will have reserved tickets held for 10 minutes then made available if the user did not complete the purchase.

The system will allow users to refund their tickets 48 hours before showtime.

The system will have admin mode for the employees so that they can troubleshoot purchases and seat issues.

The system will have a feedback option with surveys after showtimes.

## Use Cases

### **Use Case#1: Customer buys the tickets**

The system will allow the customer to select seats and buy the tickets

### **Use Case#2: Employee processing the tickets**

The system will allow the employee to process the tickets for the customers.

### **Use Case#3: Administration resolving issues**

The system will all for admin to process refunds and reprint tickets.

## Classes/Objects

### **customers/payment**

The system will have ID, username, password, email payment information, discount eligibility, subscription status.

### **Employee/Email/SMS**

The system will have employee ID, role, POS access for the employees

The system will be able to process sales, issue printed tickets and send SMS confirmation.

### **Administration/System**

The system will have admin ID, and privileges for administration

The system will be able to manage refunds, subscriptions, and system monitoring.

## Non-functional requirements

### **Performance**

The system will load the page under three seconds for normal use.

The system will have payments and tickets processed within five seconds.

The system will have real-time updates for seat reservations and availability.

***3.5.2* *Reliability***

***3.5.2.1 Back-end Internal Computers***

The system will have a server that will maintain 99.9% uptime.

The system will have back-up servers for high availability.

***3.5.3* *Availability***

***3.5.3.1 Internet Service Provider***

The system will have a failover ISP connection for reliability.

***3.5.4* *Security***

***3.5.4.1 Data Transfer***

The system will have all data transfer encrypted with TLS.

The system will not have sensitive data transmitted in plaintext.

***3.5.4.2 Data Storage***

The system will have passwords stored with bcrypt hashing and salting.

The system will have PII stored according to GDPR and U.S. privacy standards.

The system will have ticket validation data stored in encrypted databases.

***3.5.5 Maintainability***

The system will have an admin portal.

The system will be created using modular components for easy fixing/debugging

***3.5.6 portability***

The system will be a web app and will be access through internet.

The system will be a stand-alone executable application in case the internet goes down.

(this will act as a fall-back system)

A diagram of a company

AI-generated content may be incorrect.