***Software Requirement Specification (SRS)***

* ***Introduction:***
  + **Purpose:**

This Software Requirements Specification (SRS) will provide detail description of requirements for Movie Booking System (MBS). This SRS helps end users, project managers and software engineers to have clear understanding of the MBS and its functionality that allows correct software to be developed. This SRS provides the foundation for the MBS project. From this SRS, the system will be developed and tested.

This SRS will be used by software engineers as guideline to develop the MBS. End users and project managers will be able to see if the software engineer will be developing the system according to their requirements. If not according to their expectation, end users and project managers can specify how to change the relevant requirements to conform to their expectations and software engineer will change this SRS to conform to the end users and project managers need.

* + **Document Conventions:**

The following are the list of conventions and acronym used in this document and the project.

* + - **Customer:** customer who have created an account.
    - **Interface**: something used to communicate across different mediums
    - **MBS**: Movie Booking System
    - **MBS-MMI**: Movie Management Interface
    - **MBS-GI**: Guest Interface
    - **SRS**: Software Requirements Specification
    - **User**: User of the system such as customer, counter clerk, branch manager, branch supervisor, visitor, head office personnel and credit unit personnel. Anyone who interact with the system using the user interface layer.
    - **Use Case**: A broad level diagram of the project showing basis overview.
  + **Intended Audience and Reading Suggestions**

The intended audience for this document is as follows:

* + - End users
    - Project managers

This document would be reviewed frequently by the above audiences to check if the project follows the requirements.

Any changes to requirements during the project will be updated in this document by making necessary changes.

* + **Project Scope:**

The software product to be produced is the Movie Booking System which will provide movie booking system to customers to purchase the movie ticket easily.

MBS will have two user interface layers, first one is Guest Interface (MBS-GI) and second one is Movie Management Interface (MBS-MMI).

Customer can purchase the movie ticket from website which is actually Guest Interface (MBS-GI). MBS-GI will have function for visitor to view movie details and search movies.

MBS system shall at the counter in cash.

To automate the process staff will update and maintain the MBS using Movie Management Interface (MMI).

MBS-MMI will have the following functions and modules in the system.

* + - Login function
    - Staff module
    - Reservation module
    - Ticket module
    - Movie module
    - Pricing module
    - Availability module
    - Report module

Access to the module determined by staff account type. Managing the MBS via Movie Management Interface (MBS-MMI), provide facility for customer to purchase movie ticket.

* + **References:**
    - http:\\www.uml-diagrams.org
    - http:\\argouml.tigris.org/
    - http:\\www.agilemodeling.com/artifacts/useCaseDiagram.htm
* ***Overall Description:***

This SRS is organized into two main sections. The first is The Overall Description and the second is the Specific Requirements. The Overall Description will describe the requirements of the MBS from a general high level perspective. The Specific Requirements section will describe in detail the requirements of the system.

* + **Product Perspective:**

The MBS is an independent standalone system. It is totally self-contained.

* + **Product Function:**

MBS will have two user interface layers, first one is Guest Interface (MBS-GI) and the second one is Movie Management Interface (MBS-MMI).

* **Guest Interface (MBS-GI):**

Guest Interface (MBS-GI) will have the following functions

* + View Movie Details:

Allows visitors view the movie details

* + Search Movie:

Allows visitors to search movie

* + Create Account:

Allows customer to create account

* + Customer Login:

Enable customer to login the system.

Allow customer to access to Purchase Movie sections in the system.

* Movie Management Interface (MBS-MMI):

Movie Management Interface (MBS-MMI) is used to update and maintain the MBS by staff. It will have its own URL which only known by staff and they could access the website securely through the interface.

Movie Management Interface (MBS-MMI) will have the following functions and modules in the system.

* + Login Function:

Provides access to MBS-MMI

* + Staff Modules:

Allows new staff data to be added, updated, deleted, and searched. Accessible by the system administrator.

* + Reservation Module:

Allows staff to reserve and issue the movie tickets. Accessible by the staff only.

* + Ticket Module:

Allow staff to issue the movie ticket. Accessible by the staff only..

* + Movie Module:

Allows new movie data to be added, updated, deleted and searched. Accessible by admin only.

* + Pricing Module:

Allow new pricing table to be added, updated and deleted. Accessible by the admin only.

* + Availability Module:

Allow new availability data to be added, updated and deleted. Accessible by admin only.

* + **Report Module:**

Provides the following reports to the respective user.

* + - Movie Review Report (Only accessible by Admin)
    - Movie Statistics Report (Only accessible by Admin)
    - Theater Statistics Report (Only accessible by Admin)

Access to the modules is determined by staff account type. Types of account type are as follows:

* Staff
* System Administrator

By managing the MBS via Movie Management Interface (MBS-MMI), MBS provides facility for customers to purchase movie ticket. Customer can purchase the movie ticket from Guest Interface (MBS-GI).

* **User Characteristics:**
  + Educational level of MBS – Low
  + Experience of using MBS – Low
  + Technical Expertise – Low
* **User Documentation:**

List of documents that shall be delivered with MBS

* User Manual
* Online Help
* System Maintenance Documentation.
  + **Assumptions and Dependencies:**

No assumption and dependencies.

* ***System Requirements:***

This section contains all the software requirements at a very detail level, combined with the use case diagram, use case description and the sequence diagram will enable software engineers to design the MBS according to end users requirements, and test engineers to test the system.

* + **Functional Requirements**

Functional requirements define the fundamental actions that system must perform. Movie booking system (MBS) could be dividing into two interfaces that work together seamlessly.

The first interface is only accessible to the customers and visitors called Guest Interface (MBS-GI). And the second interface is only accessible by ABC staff called Movie Management Interface (MBS-MMI)

* + - **Guest Interface (MBS-GI) Functional Requirements**

Guest Interface (MBS-GI) will have the following functional requirements.

* View Movie Details.
  + The system shall enable customer or visitor to view list of movies showcased at each venue by date and time.
* Search Movie
  + The system shall have search function. Customer or visitor can search movies based on movie name, date, time and venue
* Create Account
  + The system shall function to create account. The system shall record all the following data from the customer, except for the optional fields, all other data is mandatory.

 a) Username

 b) Password

 c) Password Confirmation.

 d) First Name

 e) Last Name

 f) Street Address,

 g) Zip Code,

 h) City/Town

 i) State

 j) Country

 k) Telephone Number

 l) Security Questions

 m) Security Answer

* Customer Login
  + The system shall have customer login function. Once activated, customer can login using username and password.
  + The system shall have username and password recovery function. The system shall ask Security Questions that customer entered during registration. If the customer enters correct Security Answer, the system shall email username and password to the customer.
* Purchase Movie
  + The system shall enable customer to purchase the movie ticket from Guest Interface (OMBS-GI).
  + The system shall display list of movies showcased at each venue.
  + The system shall display for each movie at the venue the following details

 a) Date

 b) Time

 c) Price

* The system shall have Book Now button. When the Book Now is pressed, the system shall prompt customer to login or register account.
* The system shall allow customer who have login only to continue to purchase the ticket. If customer haven't login, prompt customer to login or create an account. Then only customer can continue.
* Once login, the system shall record the following details in (Booking Screen).

 a) Number of adults

 b) Number of children

 c) Date

 d) Time

* The system shall have Next button and Cancel button.
* The system shall display the seating position (Seating Screen) still available for the movie based on time and date.
* The system shall record the seats selected by the customer.
* The system shall have Next button, Back button and Cancel button.
* The system shall display (Review Screen) with all the following details.

 a) Customer details, such as First Name, Last Name, Address, Telephone and etc.

 b) Booking details, such as No of Adults, No of Children, Date, Time & Seating Numbers

c) The system shall calculate the service charges and the government tax charges.

 d) The total price to be paid.

* The system shall have Back button, Check Out button and Cancel button.
* The system shall display thank you (Thank You Screen) message for the purchase.
* Customer can pay at the counter in cash.
* **Movie Management Interface (MBS-MMI) Functional Requirements**

Only staff and admin can access Movie Management Interface (MBS-MMI) via dedicated website URL.

The Movie Management Interface (MBS-MMI) is divided into nine main module: Staff Module, Reservation Module, Ticketing Module, Movie Module, Availability module, Pricing Module and Report Module.

Permission to each module depends on staff account type.

The functional requirements of Movie Management Interface (MBS-MMI) are as follows:

* + Login Function
    - The system shall allow only staff with staff username and password to access the system.
    - Access to the modules determined by account type.
  + Staff Module
    - The system shall allow system administrator only to access this module. System administrator shall login first to access this module.
    - The system shall allow the system administrator to add staff , update staff and delete staff .
    - The system shall record all the following details, except the optional fields.

 a) Staff Username

 b) Password

 c) Account Type, determines which modules accessible to staff.

 d) First Name

 e) Last Name

 f) Street Address,

 g) Zip Code,

 h) City/Town

 i) State

 j) Country

 k) Telephone Number

* System administrator will email to the staff username and password to access the system.
* The system shall provide permission to the modules for each staff based on Account Type.
* The system shall have search function.
* Reservation Module
  + The system shall allow staff to access the module. They shall to login first to access this module.
  + The system shall display list of movies showcased.
  + The system shall allow the staff to select the movie based the following criteria.

 a) Date

 b) Time

* The system shall record the following details from the customer

 a) Number of adult

 b) Number of children

* The system shall display the Seating Screen for customer to select their seat location
* The system shall allow the staff to book the seats for the customer.
* The system shall display the total amount to be paid.
* The system shall allow the staff to print the movie ticket.
* Ticket Module.
  + The system shall allow staff to access the module. They shall to login first to access this module.
  + The system shall allow staff to search the movie reservation by using the confirmation number.
  + The system shall allow the staff to print movie ticket for valid confirmation number.
  + The system shall report invalid confirmation number.
* Movie Module.
  + The system shall allow admin only to add and update new movie details in the system. Admin shall login first to access this module
  + The system shall record the following details for each movies.

 a) Movie Title

 b) Movie Summary

 c) Movie Description

 d) Movie Duration

 e) Movie Cast List

 f) Movie Director

 g) Movie Photos

* The system shall have search function to find the movie record using the following criteria.

 a) Movie Title

 b) Movie Cast List

 c) Movie Director

 d) Date

* Pricing Module
  + The system shall allow staff to access the module. They shall to login first to access this module.
  + The system shall allow the staff to add pricing table, update pricing table and delete pricing table.
* Availability module
  + The system shall allow staff to access the module. They shall to login first to access this module.
  + The system shall allow the staff to add availability, update availability and delete availability.
  + The system shall allow each staff member to manage the availability of the movie showcased at their cinema.
  + The system shall make the movie available with the following steps

 a) Add the new movie.

 b) Select the pricing table.

 c) Enter the Start Date

 d) Enter the End Date

 e) Select the halls involved.

 f) Select the time slot for the movie.

 g) Enter how many hour or day the system shall stop selling the movie ticket via Guest Interface (MBS-GI) system

* The system shall allow much availability for each movie. This allows different hall and time slot to be selected.
* The system shall not have date overlapping between the movie availabilities.
* The system shall display the movie details at Guest Interface (MBS-GI) when it is made available. The system shall display the following details for each movie

 a) Movie Title

 b) Movie Summary

 c) Movie Description

 d) Movie Duration

 e) Movie Cast List

 f) Movie Director

 g) Movie Photos

 h) Time Slot

* The system shall allow the staff to delete availability based on date and time for unforeseen reason.
* Report Module.
  + The system shall generate report based account types.
  + The system shall generate the following reports. Admin shall login first to access the reports.

 a) Movie Review Report

 b) Movie Statistics Report

c) Theater Statistics Report

* ***External Interface Requirements:***
  + **User Interfaces:**

Keyboard, mouse and printer.

* **Hardware Interfaces**

Server Side

* **Operating System :** Red Hat® Enterprise Linux
* **Processor :** Intel Chipset
* **Memory :** 192GB
* **Hard Drive Capacity :** 750GB, expandable

Client Side

* **Operating System :** Window XP
* **Browser :** Google Chrome.
* **Memory :** 1 GB
* **Software Interfaces**

Database

* MS-Access.
* ***Performance Requirements:***
* The system response time must be less than 10 seconds for both MBS-GI and MBS-MMI.
* The system must process the number of transaction based on the following calculation method.
  + **Reliability Requirement**

MBS system shall have a minimum uptime of 99 % excluding time pre-scheduled for maintenance and/or upgrades.

* + **Safety Requirements**

All system data must be backed up every 24 hours and the backup copies stored in another server at different building or location for disaster recovery.

* + **Security Requirements**

All access permission for the system data may only be changed by the system's administrator.

* + **Design Constraint**

The MBS system shall be developed using MS-Access.