

A MASTER'S PROJECT
ON
WEB BASED ONLINE CINEMA TICKET BOOKING SYSTEM
FOR ADAMA MORMOR CINEMA

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS OF THE DEGREE
OF
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MANAGEMENT

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WEB BASED ONLINE TICKET BOOKING SYSTEM

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Declaration

We hereby declare that the project entitled Online Movie Ticket Booking System In Case Of Adama Mormor Cinema is submitted in partial fulfillment of the requirement for the award of the MSc degree in Technical Teacher Education in Information Technology Management, Adama Science and Technology University, is a record of our own work carried out by us during the academic year 2015 under the supervision and guidance of Dr. Farid Ahmed and Mr. Anteneh Alemu, Department Computing, School of Engineering. The extent and source of information are derived from the existing literature and have been indicated through the project at the appropriate places. The matter embodied in this work is original and has not been submitted for the award of any other degree, either in this or any other University.

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Abstract

The need for automation has become a necessity in our everyday life and in every business sector. Because of its large benefits it is gradually becoming widely accepted. The large number of people who come to see the latest movies or come to enjoy themselves in the cinema also arises a great problem of obtaining tickets to get into the cinema. This is a problem in the existing system because it is manually processed to manage the work load and process information very fast hereby cause a long queue outside the cinema hall. This project seeks to solve that problem of standing in a very long queue to obtain the ticket, it aims to automate the manual system by which customers or individuals can book for the ticket of a particular movie they wish to see, pay for the movie online and just obtain the ticket from the check-in point easily with no stress involved with less time. It also seeks to improve on the shortcomings of the existing system.

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List of Abbreviations

UCLA - Center for Communication Policy

EC – Electronic Commerce

ROI – Return on Investment

AMCS – Adama Mormor Cinema System

UML – Unified Modeling Language

CBA – Cost benefit analysis

Plc - Private Limited Company

SSADM- Structured System Analysis and Design Methodology

API - Application Programmer Interface

WWW – WorldWideWeb

SQL - Structural query language

RAM - Random access memory

URL - Uniform Resource Locator

UN - United nation

ICT - Information communication Technology

Chapter One

1. Introduction

Electronic commerce has become one of the essential characteristics in the Internet era. According to UCLA Center for Communication Policy (2001), online shopping has become the third most popular Internet activity, immediately following e-mail using/instant messaging and web browsing. It is even more popular than seeking out entertainment information and news, two commonly thought of activities when considering what Internet users do when online.

Online shopping behavior (also called online buying behavior and Internet shopping/buying behavior) refers to the process of purchasing products or services via the Internet. Recent advances in technology, particularly in the field of electronics and telecommunications, have led business and commerce in new directions over the last few decades. New forms of trade have emerged from these advances and one area is of particular interest: Electronic commerce (EC) has emerged as the most important way of doing business for years to come. Electronic commerce deals with the facilitation of transactions and selling products and services online, i.e. via the Internet or any other telecommunication network. This involves the electronic trading of physical and digital goods, quite often encompassing all the trading steps such as online ticketing, online ordering, and electronic payments.

Electronic ticketing over the Internet is a good example of Internet commerce. The aim is to facilitate the buying or reservation of tickets online, thereby making the process more easily accessible and convenient. Through these services tickets may be purchased from any location and at any time, provided an Internet connection exists. Typically, the tickets are ordered from a web site that provides both ticket information and purchasing or reservation service. Internet or 'online' ticketing is all about providing a useful and efficient service to clients and customers. The aim is to make the purchase and reservation of tickets easier.

The use of Internet makes buying a ticket more convenient since the service is available at any geographical location, including our home (or even remotely via a laptop and cellular phones) and at any time of the day, any day of the year. Online ticket services have a further advantage by providing relevant information alongside the service. This can aid purchasing decisions and may encourage future usage. So ticket buyers have quite an easy travel to the ticket, i.e. they only have to get to their home personal computer and onto the Internet. It overcomes the challenges of standing in lines for a long time (perhaps out in the rain) and day but in the case of online cinema ticketing system the only traffic one encounters is that of the so-called information superhighway.

There are also benefits for those providing the service. New marketing are being created and ticket sales are increased. Apart from maintenance and data updates, no or less power is required to provide the service once it has been established. The process of recording the transactions is more automated and overhead is reduced. An important point is that ticket providers are also providing a convenient service to customers and are thereby improving public image and encouraging return customers. (Burford, 1998).

A movie theater, cinema, movie house, picture theater, film theater is a venue, usually a building, for viewing motion pictures ("movies" or "films").

Most but not all movie theaters are commercial operations catering to the general public, who attend by purchasing a ticket. The movie is projected with a movie projector onto a large projection screen at the front of the auditorium. Some movie theaters are now equipped for digital cinema projection, removing the need to create and transport a physical film print.

The movie theatre is a very interesting and effective business venture; the movie theatre right from its inception has been a great revenue generating venture for both Governments Corporation and private Businesses and individuals as well.

Also the movie theatre serves as a great relaxation area and also a means of entertainment and great social meeting centre for individuals. People who go to movie theatre range from movie fanatics to normal individuals who just go there to have a great time, just relaxed themselves and to learn as well. And enjoy a good movie. The movie theatre is really a great

area to explore as a business industry and enhance quality of services related to cinema to encourage the industry to contribute to the economy of the country.

1.1. Background of the Project

The prevalent view in various global circles is that man is presently living in an age of explosive growth of information gathering, processing and dissemination, popularly called the information Age, for this reason, manager and other users of information in movie cinemas management and other users of information in other businesses are demanding for more information to support management and business operations. They must therefore respond to increase requirements for information and data management in cinema businesses.

Over the last periods, the amount of academic research and system automation need on issues related to the motion picture industry has risen sharply. This growth might have a number of reasons. First, the industry has a high economic importance in the global economy. The motion picture industry employs over half a million people in the U.S. (U.S Department of Labor 2012). Spending on theatrical tickets was around \$9 billion in the U.S. and close to \$11 billion internationally in 2012 alone; revenues from ancillary markets (particularly home video, but also merchandising) are several times higher (Standard & Poor's 2012).

The financial centre of a movies and theatre is called the box office. An ineffective box office can cause failure of the whole theatre (Schneider and Ford 1993; Grippo 2002), so its effective and efficient functioning is vital. The box office is operated by the treasurer who books movies and theatre seats for patrons and sells them the appropriate tickets. The treasurer is accountable to the theatre manager, who requires frequent reports on ticket sales and finances. Since this project was concerned with booking systems, the online ticket booking was the prime area of focus.

A major question when dealing with the importance of successful and effective information system development is to address current revenue and attendance rates. The movie industry has been struggling, much like many other industries in recent years. Revenue from 2011 was down 2.6 percent from 2010, from \$10.47 billion in 2010 to \$10.20 billion in 2011. Though

this drop is not staggering, when examined in context it is a worrying trend for the industry and its future.

Although profits are staying relatively stable compared to previous years, attendance rates have fallen. There were 1.29 billion tickets sold in 2011 . This may seem like a high number, but for the film industry it was the fewest number of tickets sold since 1996, and a reduction of over 18% from the peak in 2002. (The Numbers, 2012)

To prevent movies and theatre sales from declining, booking seats and paying for tickets should be made as simple and convenient as possible for the customers. Numerous enterprises provide customers with the possibility of purchasing their goods and services online. Since consumers have come to expect such facilities, providing an online booking service can serve to boost performance attendance.

In addition to the above mentioned issues related to movies and theater industries in developing countries like Ethiopia, there is a copy right issues that discourages the industries to move forward as expected and contribute to the development of the economy both in creating job opportunities and financial benefits for the industry and the professionals in the industry.

The film and motion industry is highly under the pressure of keeping movies in the cinema halls than distributing in DVDs and uploading to the Internet. This in turn forces movie and theater lovers to go to cinema halls to watch movies and theaters every time they want to entertain themselves which requires keeping turn in a long queue, time taking, boring and tiresome to get their cinema entry tickets.

So automating cinema ticket selling will bring solutions for the problems that encountered both the movie and theater industry. Approaching the customers through the provision of automated web based online ticket selling system will increase the customer service quality and satisfaction which is the aim of this project.

Several countries across the globe are already enjoying the benefits of electronic ticketing including the US, Canada, Australia, New Zealand, Britain, France, Mexico, Central

America, Chile, Argentina, Belgium, Venezuela and the Netherlands etc. In fact in the US it has 80% market penetration while in Europe it is approximately 40%.

The Adama Mormor Cinema is one entertainment center in Adama City. Adama Mormor cinema was established 2002 E.C by Ato Mohammed Nur and located at center of Adama, traditionally called Franco. It presents entertainment services like theatre, showing movies and films the whole week. This Cinema services provider Hall has formed as Private Limited Company (Plc). This cinema hall provides its service to Adama city cinema lovers and the around community.

This company has only one film displaying room/hall which has 350 seats and has three showing sessions per day it mean at 2:00PM, 4:00PM and 6:00PM from Monday—Saturday and shows only one film is repeatedly every session

Adama Mormor Cinema still employ a manual way of data processing and ticket sales, which slow down their speed of service when attending to the crowd that troupe in daily into the cinema due to this, the following problems are depicted:-

- Poor service for customer
- Poor Advertizing system
- Poor financial management
- poor services providing information & Computerization

This online Webpage site is generally designed for Mormor Adama Cinema to improve the manual system and automate it for better and quality service through the development of Web based online Cinema ticket booking system in which the customers register online, search movie, select their movie, reserve the seat, and buy their ticket.

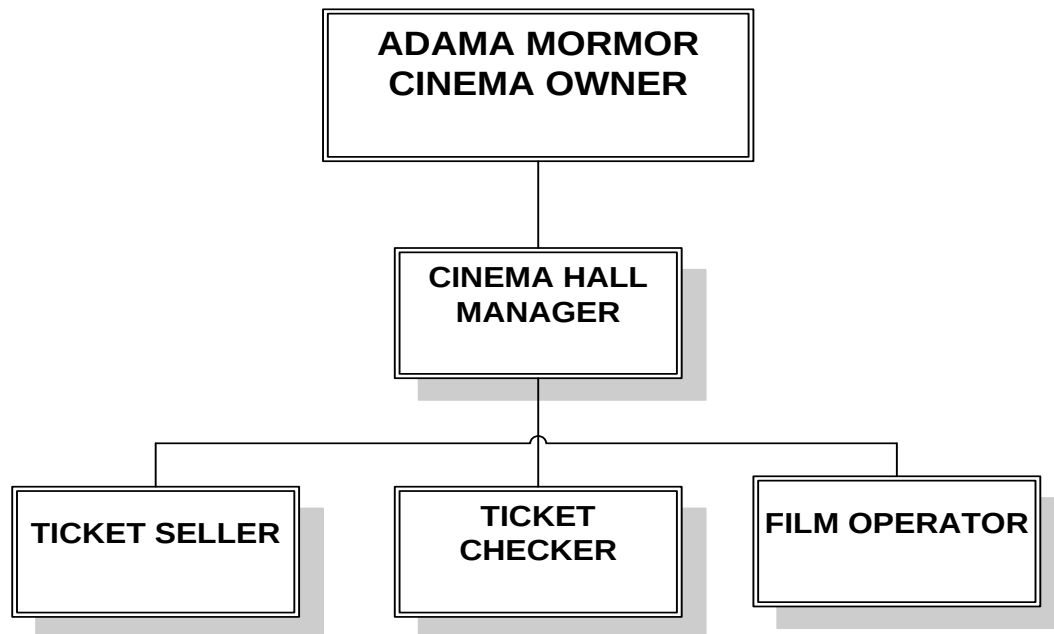


Fig 1.1. Adama mormor cinema organization structure

1.2. Purpose and Description of the project

The proposed system for Adama Mormor Cinema is a web based online cinema ticket booking system that overcomes all the shortcomings of the current manual system being used by the cinema.

The goal of our project is to provide information about Adama Mormor Cinema online Ticket Booking system. Previously and also currently Adama Mormor Cinema has no any web-based information providing system. As a result of this the Adama Mormor Cinema loose different benefits, which are necessary for its development as well as advertisement of its services. In addition to this all customers cannot get information about Adama Mormor Cinema easily as an online, they cannot get feedback from the external customers, and they are not information coverage those who are using internet. Moreover, they have no service after production. To identify the major problem areas that the customers are facing and recommend some possible solutions to online Ticket Booking system or to improve the currently services providing process.

Then the following basic problems are identified with the existing system.

- Difficulty in providing appropriate Cinema information for customer.
- Difficulty in updating information system (getting information about the movie newly released and when (the date and time) the movie will be shown)
- Wastage of time ,money and human power
- Poor performance

1.2.1. Advantages of the Proposed System

- Facilitates and speed up the information promotion and advertisement of the movies
- Speed up accessing ticket availabilities for movies
- Provides facilities to buy movie and theater tickets online
- Generate reports immediately the status of ticket sales

1.3. Statement of the Problem

In Adama Mormor Cinema Movie system, the problem that mainly encountered is getting movie ticket to watch the movie one interested in, getting information about the movie newly released and when (the date and time) the movie will be shown. The following questions need to be considered when stating out the problem.

- Can the use of manual operation be more efficient during booking of a seat for a movie?
- Can the manual operation be able to reach operation standards of the movie theatre management in terms of speed and/or when there is increase in demand?
- Can it be able to detect any efficiency such as fraudulent activity by the staff and give proper account of the daily transaction?

1.4. Objectives of the Project

1.4.1. General Objective of the Project

The general objective of the project is to design a web based information system for Adama Mormor Cinema

1.4.2. Specific Objectives of the Project

To achieve the above general objective this project has the following specific objectives. These are:

- To develop a web based system that store movie details so that the cinema can promote and the customers will have sufficient information about the newly released and currently showing movies
- To develop a system that registers and store customer details to help the cinema inform its loyal and regular customers about the newly released movies and currently showing movies.
- To develop a system that promotes Adama Mormor Cinema on Internet
- To develop a system that produce statistical data and information regarding number of seats sold, financial outcome of films and movies
- To develop a system that provide timely, accurate, and right information to the right person
- To develop a system that help the cinema customers book their ticket and pay for it online without going to the cinema hall before the start of the show.
- To develop a system that provides information to the management of the cinema that shows which type of film is more preferred by the viewers from the status of the sale of daily tickets so that the management decides focus area to make the organization more profitable
- To develop a system that facilitates the communication between the customer and the cinema by providing alternative way of communication, i.e, e-mail, SMS communication mechanisms.

1.5. Scope and Limitations of the Project

1.5.1. Scope of the Project

The scope of this project is to handle customers booking seat reservation for a particular selected movie and pay online for the ticket and receive the ticket/ receipt on arrival at the

movie or theatre ticket sell point or print directly on the computer they are accessing the website immediately. The attendant then goes through the database to confirm booking then issues the ticket to the customers.

1.5.2. Limitation of the Project

There are some important features need to be included but not incorporated or covered in this project and considered as the limitations of the project due to time and resource constraints. Visual seating arrangement representation that help the customers to select the seating position, integration of this system with regulatory agencies like government taxation systems, national wide cinema ticket booking system are some to be mentioned as limitation of this project.

1.6. Significance of the Project

The significance of the design and development of an online movie registration system for Adama Mormor Cinema is to the people that frequently watch movies in cinemas. They will get the tickets before to allow watching the movies. So, with this project, it will give benefits to users will make the users booking the movie tickets with more quick and easy without long time queue in counter. So, with this project, it will ease the users for booking the cinema tickets at anytime and everywhere using Internet before the movies showing. Thereby, it has the following significances:

- Improves customer relations by alleviating the long queues experience when trying to obtain a ticket. It is very significant because it helps to speed the ticket obtaining process and also make the process much easier and assessable.
- To increase the efficiency in the operations of ticket booking system
- To provide an anytime anyplace service for the customer, ie. users can order tickets online
- Users can view the schedule of the film. It provides timely information on aired movies, time of show (date and time)
- To minimize the number of staff at the ticket box

- To promote the film on the Internet
- To increase the profit
- To obtain statistic information from the booking record
- Users can see synopsis movie to watch first
- Administrators can create movie data, space, time slot, show times, and sell tickets directly.
- The operator can perform ticket sales directly or can help the user make booking tickets. In addition, the operator can see the history of ticket sales.
- Administrators can view reports ticket sales and see the financial statements.

1.7. Beneficiaries of the Project

Many stakeholders can be benefited from the development of this project either directly or indirectly but the following are the major direct beneficiaries from the development of the system.

- Adama Mormor Cinema Hall (the employees and the management)
- The government and regulatory agencies
- Movie and theatre lovers

1.8. Methodology

In developing our system, in order to get information that is necessary for the development of our project and to understand the existing system of the Adama Mormor Cinema, data is gathered by project developing team using the following methodologies;

- Interview
- Observation
- And other secondary source of information.

1.8.1. Fact Finding Techniques

Fact -Finding Methods

- interviewing the users, the owners, and Ticket sellers
- Observe the activities which are performed in the Cinema Hall
- Review literature that are related to our project

1.8.2. Data Collection Methods

There are different methods for gathering information and our group will employ combinations of data gathering methods to collect requirements, system analysis and investigation. Questionnaire, interview and observation are some among the methods we may use throughout the accomplishment processes of our project.

- Questionnaires:** preparing questioner's for the staff of Adama Mormor Cinema and some cinema users.
- Interviewing:**
 - To find where problem are in the system
 - What data they use to do their work
 - Important question will be raised while interviewing
- Observation:** - we will observe how the staff members are using their current system and try to find out some shortcomings related to the existing system. This method is best to find out the real drawback of the existing system as it demonstrates the real operation of the system and where the problem lays.
- Documentation:**-reading the documentation available in the organization.

1.9. System Analysis and Design Methodology

There are various procedures, approaches and methodologies in the system (software) development life cycle that has to be followed, from this procedures requirement identification, analyzing the system, system structuring and modeling design of the system and implementation are the common one has to be followed in our project and also we will use object oriented software development paradigms. This project employ object oriented analysis and design methodologies as object-oriented analysis and design is an approach that is intended to facilitate

the development of systems that must change rapidly in response to dynamic business environments.

1.9.1. System Development Tools

This proposal uses the following tools to develop the system:

- **Modeling:**-Unified modeling language (UML) because it has the following features:
 - It us standardized notation without sacrificing special model data
 - It reduced learning curve across projects.
 - It increase domain and design model reuse
 - It increases customer involvement understanding of problem translation to product solution.
- **Server side scripting** - HP stands for **PHP**: Hypertext Preprocessor. PHP is used for handling the server side scripting. It is a powerful and the widely-used, free, and efficient alternative tool for making dynamic and interactive Web pages. PHP is an open source programming language, often used with MySQL, a database management system. It has the following advantages:
 - **Efficiency:** PHP has resource allocation machines and it can support object oriented programming, in addition to session management features.
 - **Security:** PHP provides developers and administrators with flexible and efficient set of security free guards. PHP is compatible with wide variety of web server we are used apache web server, partly because it is currently the web most popular and partly because it the most widely used with PHP.
 - **Compatibility:** PHP supports many databases (MySQL, Informix, Oracle, Sybase, Solid, PostgreSQL, Generic ODBC, etc.)
 - **Cost:** PHP is an open source software and it is free to download and use
- **Clint side scripting:**-Java scripting, because it has the following major characteristics.
 - JavaScript was designed to add interactivity to HTML pages
 - A scripting language is a lightweight programming language
 - JavaScript is usually embedded directly into HTML pages

- JavaScript is an interpreted language (means that scripts execute without preliminary compilation)
- Everyone can use JavaScript without purchasing a license
- Event driver
- Used to create cookies.
- Popular
- **Database**
 - MySQL – is a database server raised to become one of the most popular database servers in the world, this popularity is because of the servers speed, robustness and flexible licensing policy given the merits interfacing function, MYSQL or SQL s arguably become PHPs most popular database counterpart.
 - MySQL is ideal for both small and large applications
 - MySQL supports standard SQL
 - MySQL compiles on a number of platforms
 - MySQL is free to download and use
 - MySQL is easy to configure
- **Web Interface Design**
 - HTML – Hypertext Markup Language, the language behind the appearance of documents on the Web. It is actually a set of conventions that mark the portions of a document, telling a browser what distinctive format should appear on each portion of a page.
 - CSS - Cascading style sheets, a set of styles that control the formatting of a Web page. CSS may be stored in a file and used to format a number of Web pages, or may be defined within a Web page.
- **Server** – wamp or apache servers can be used for the running of the project. One of these servers are preferred for the following main features:
 - WAMP an abbreviations for “Windows, Apache, MySQL, and PHP,” “Mac, Apache, MySQL, and PHP,” and Lin isux, Apache, MySQL, and PHP.” These abbreviations describe a fully functioning setup used for developing dynamic Internet web pages.

- WAMPs, come in the form of a package that binds the bundled programs together so that you don't have to install and set them up separately. This means you can simply download and install a single program, and follow a few easy prompts, to get your web development server up and running in the quickest time with minimum hassle.
- During installation, several default settings are created for us. The security configurations of such an installation will not be as tight as on a production web server, because it is optimized for local use. For these reasons, you should never install such a setup as a production server.
- **Photo editor:** - different editing software like: adobe, photo shine, photo impacts are used for editing photos, designing cinema hall logo, and poster editing purposes.
 - easy to use
 - Can be downloaded freely
 - Supports different formats like jpeg, gif that suits web formats
 - They have many predefined logos that can be easily modified
- **Text Editors** – notepad, Notepad++, macromedia Dreamweaver are some of the text editors that can be used for editing codes and scripts. We prefer these technologies because they contain the following features:
 - They are freely available
 - They provide with guiding built in functions, scripts
 - Easy to use editing text processors for web coding

1.10. Feasibility Study

Feasibility study is done so that an ill-conceived system is recognized early in definition phase. During system engineering, however, we concentrate our attention on four primary areas of interest. This phase is really important as before starting with the real work of building the system it was very important to find out whether the idea thought is possible or not.

1.10.1. Technical Feasibility

Earlier no system existed to cater to the needs of ‘Secure Infrastructure Implementation System’. The current system developed is technically feasible. Thus it provides an easy access to the users. The database’s purpose is to create, establish and maintain a workflow among various entities in order to facilitate all concerned users in their various capacities or roles. Permission to the users would be granted based on the roles specified. Therefore, it provides the technical guarantee of accuracy, reliability and security.

The software and hard requirements for the development of this project are not many and are already available as free as open source. The work for the project is done with the current equipment and existing software technology. Necessary bandwidth exists for providing a fast feedback to the users irrespective of the number of users using the system.

In the new system, the user interface is user friendly and doesn’t require much expertise and training. it just needs a mouse click to do any sort of operations. the software that is used for developing is WAMP server which is highly suitable for the present application since the users require fast access to the web pages and with a high degree of security. this is achieved through integration of web server and database server in the same environment.

In general the new system provides the technical guarantee of accuracy, reliability and security. Therefore, the new system developed is technically feasible.

1.10.2. Operational Feasibility

Operational feasibility of a given system is dependent on the human resources available for the project and involves projecting whether the system will operate and be used once it is installed. Much of the art of determining operational feasibility rests with the user interfaces that are chosen.

As we have investigated in the cinema hall, workers of the cinema house themselves have expressed a need for a system that is operational more of the time, in a more efficient and

accessible manner. At the same time operational requirements for the implementation of the proposed project are easy as that hardware, software and tools are accessible.

This online cinema ticket booking system will be operationally feasible with fulfillment of the following hardware, software, accessories and tools:

i. Hardware Interfaces

Server Side

- Operating System : Microsoft Windows 7/8
- Processor : Intel Chipset
- Memory : 4GB
- Hard Drive Capacity : 300GB, expandable
- GSM Modem with driver

ii. Software Interfaces

Database

- MySql Server version 5 or above
- Web Server – Wamp 2.2 or above

Programming and scripting Languages

- PHP
- CSS
- HTML
- JavaScript

1.10.3. Economic Feasibility

In making recommendations a study of the economic feasibility of the proposed system should be made. The proposed system must be justifiable in terms of cost and benefit, to

ensure that the investment in a new/changed system provide a reasonable return on investment (ROI).

Among the most important information contained in feasibility study is Cost Benefit Analysis and assessment of the economic justification for a computer based system project. Cost Benefit Analysis delineates costs for the project development and weighs them against tangible and intangible benefits of a system.

Cost Benefits Analysis is complicated by the criteria that vary with the characteristics of the system to be developed, the relative size of the project and the expected return on investment desired as part of company's strategic plan.

In addition, many benefits derived from a computer-based system are intangible (e.g. better design quality through iterative optimization, increased customer satisfaction through programmable control etc.) As our online cinema ticket booking project cost is minimal compared to the commercially available software the company can afford the cost and will be beneficiary to be used for its own convenience and also it is not that big a project. So neither it requires a huge amount of money nor any costly tools or infrastructure need to be set up for it.

According to the computerized system we propose, the costs can be broken down to two categories.

1. Costs associated with the development of the system.
2. Costs associated with operating the system.

In our proposed system various costs are evaluated. Even though finding out the costs of the proposed project is difficult we assume and estimate the costs and benefits as follows.

Cost and Benefit Analysis

Cost benefit analysis (CBA) is the main and important consideration in the study of the development of any system so as to determine the various costs associated with the development of the project and the benefit that it brings to the organization.

The basic resources to consider are time and that of the systems analysis team, the cost of doing a full systems study (including the time of employees you will be working with), the cost of the business employee time, the estimated cost of hardware, and the estimated cost of software or software development.

When all the above costs are evaluated and compared against the benefits of the system (ease of use, reduced time to process data, comfort of using the system, customer relationship management, etc); Adama Mormor Cinema will be beneficiary from the development and application of the system. If short-term costs for the hardware and some software can easily recovered and overshadowed by long-term gains.

Generally economic feasibility refers to the benefits or outcomes that derived from the project compared to the total cost spending for the development and using the new system. Therefore the online cinema ticket booking system for Adama Mormor Cinema system is very crucial from various advantages points of view economically feasible if developed.

Chapter Two

2. Review of Related Literature

2.1. Introduction

Cinema can create not only temporary phenomenal experiences but also change the cultural climate (Persson, 2003:4). Persson (2003) exemplifies that a cinema might introduce a new theme, style, or convention that transforms the way in which the critics, authors, and audience understand literature and the rest of the world. Since cinema is closely related to different life styles and beliefs that define human society, its semiotics and articulation remain inseparable from various individual, intellectual, social and cultural developments. Hence, cinema across the world is studied in its extensive arena, from micro to macro levels and typically found movies to be powerful instruments in influencing the attitudinal changes, emotional impact, education, life styles, health and other behaviors.

Cinema-going is considered to be one of the most popular cultural activities, affecting a serial of social, economic and cultural phenomena in contemporary societies. Many research findings indicate that going to cinema is not an isolated independent phenomenon, but a social experience (Bachmann, 2013), a part of a wider cultural pattern of interest and use of leisure time (Lopez-Sintas and Garcia-Alvarez, 2011) with beneficial properties for well-being and happiness (Uhrig, 2005). A study by Cuypers et al., (2011) concludes that participation in receptive and creative cultural activities like watching good cinema, attending music concerts etc., was significantly associated with good health, good satisfaction with life; lowering anxiety and depression scores in both genders. Scarneas et al., (2012) says they may help to stay mentally sharp. However, VonOtter (2008) in an empirical investigation observed that children, who prefer watching cinema as a leisure activity more than any other artistic hobby, tend to have a higher prevalence of mental disorder diagnoses than adults. Cinema plays an important social inclusion role, reaching out to otherwise under-served elements of the local population (Hudock, 1993; The British Film Institute and the UK Film Council Report, 2005). Gabriel (1998) states that films can create interest stimulate discussion and encourage enquiry when they are used effectively. They can create a significant impact on some peoples' political views, specifically and perhaps even

generally in terms of political orientations (Sadow, 2004). An exploratory analysis on use of cinema in movieiness pedagogy demonstrates that there is receptivity by students to learn movieiness concepts with the use of movies as a tool (Giunta, 2007). Payne et al., (1998) applied „Pleasure, Arousal and Dominance (PAD)“ mood theory to examine the relationship between movie viewing and mood and found that two opposing moods can exist simultaneously.

2.2. Theoretical Background

2.2.1. Traditional Booking System

The cinema provides infrastructure and facilities for a performance to take place, while allowing an audience to enjoy this for a fee. A booking system is used to ensure patrons can purchase tickets for a given performance well in advance, and avoid being turned away at the last minute. Movies and theatre management also prefer tickets to be sold as early as possible, both for financial reasons (Hillenbrand 2012), and to avoid a long queue at the entrance just before the performance is due to start. The theatre box office is the section where bookings are made, being the first point of contact between the theatre and the public (Schneider & Ford 1993; Grippo 2011; Hillenbrand 2012).

Pre-electronic era box offices consisted of a theatre ticket sales point where a patron could purchase one or more tickets and have some preference of seat location. The box office treasurer would have a paper plan of the theatre for each performance, with a corresponding ticket book. In the process, the treasurer would attempt to sell the premium (and most expensive) seats first (Langley 2010). Booking a seat and buying a ticket in this manner would be a face to face negotiation between the patron and treasurer. The treasurer was also expected to be knowledgeable about the performance in question, so that patron questions could be dealt with in a positive manner. The patron would finally pay for the agreed seats, and receive tickets printed with the respective seat numbers. The treasurer would have to carefully mark off on the theatre seating plan for every ticket sold, to avoid the possibility of the same seat being sold twice by mistake.

Performance seats were also sold by telephone or mail order to those patrons who could not readily pay a visit to the box office. Of this, mail order was the most tedious and time consuming method. In the most straight forward scenario, the patron would post a cheque with an order for the desired theatre seats, date and time, with a stamped, self-addressed envelope (Pick 1985). If the order had been received early enough, the box office would book the seats requested, and post the appropriate tickets back to the patron, who would receive them at least two days after the order was first sent. However, if the order had been sent after the desired seats had been sold, the box office would have to send the patron a refund, with a list of the remaining seats (Sweeting 1969, p. 206), advising the patron to re-order promptly. This process would then be repeated until the patron either obtained satisfactory seats, or would be sent a refund (Sweeting 1969, p.206) if all desirable seats had been sold out. Therefore, mail order could easily take up two weeks, and still result in disappointment! To simplify the mail ordering process, theatres also sold seats for a whole season of performances (Sweeting 1969; Pick 1985), in which case the patron would post a blank cheque to be completed by the box office, according to the cost of seats successfully reserved.

The theatre manager would be concerned with various ticket sale reports, such as master statements showing the number of seats at each price and the total potential ticket income, daily reports (for the specific performance or performances for the day), weekly reports (giving a summary of sales for the week), seasonal box office statements (a summary of figures for the season) and season reports (the complete record for each performance in the series) (Langley 2011; Grippo 2012). Reid (1983) gives an example of a Weekly Return (which gives the seat occupation as a percentage and total money collected for each day of the week) and Final Return (which gives the total money collected in advanced booking, at the doors and percentage of seats occupied). Sweeting (1969) also gives examples of a Weekly Summary and Final Return, but these do not contain percentages.

So it is clear that the theatre manager made use of ticket sales reports for each performance, each end of day, each week in summary form and each series of performances, and that the reporting style varied from one theatre to another.

2.2.2. Contemporary Theatre Booking Systems

Although the fundamental principles of a booking system have remained unchanged over time, developments in communication and other technologies have had a phenomenal impact on their implementation. Sweeting (1969) speculated that perhaps movies and theatres could benefit from computerized ticketing systems, similar to what airlines at the time had started to adopt. In the late 1960s, the personal computer did not exist. Computer systems were bulky, expensive industrial machines and would be set up to execute tasks specific to the organization in question, putting them beyond the economic reach of most, if not all theatres. Langley (1980) asserted that computer ticket systems were only feasible for large theatre operations. However, with today's comparatively low hardware cost, the computer has become standard equipment in virtually all offices. Even the smallest of theatres would opt for a computerized system, if only because the two week mail order negotiation described in the previous section can now be condensed to two minutes. Nevertheless, Hillenbrand (2012) cautions against a computer and software purchase for small operations, suggesting that a dedicated telephone answering machine be utilized. Reid (1983) observed that computers were replacing the traditional paper and pencil systems, allowing several telephonists to simultaneous access the same seating plan, thus avoiding a patron queue and improving on customer services, compared to a manual system. Hillenbrand (2012) proposes that theatres should match the conveniences provided by the numerous other service providers such as tell free numbers, credit card processing, internet access to products and services, mail order, all of which today's consumers have come to expect.

In addition to knowing about the performance, the modern day box office treasurer is expected to be able to give patrons advice on restaurants and parking, as well as operate it until well after normal working hours, so as to provide convenient opening hours to the public (Carmack Celentano & Marshall 1998).

Tickets may be paid for in advance, and either mailed to the patron, or kept at the box office to be collected when the patron arrives at the theatre for the performance (Reid 1983). The box office can make use of voice mail to reserve tickets for subsequent purchase, but should sell any unclaimed tickets fifteen minutes prior to the beginning of the performance. At least 10% of tickets reserved for a performance are not collected (Langley 1980, p.280), so reserving them while there is demand at the door would be unsound economics.

Since the theatre of today has to compete with a multitude of other established entertainment options available to busy patrons, marketing is as important as ever. A number of complimentary tickets may be made available to the press, producer, etc, as a means of promoting the theatre.

Modern day theatre managers still make use of the same types of reports that were sought decades ago, but have come to expect them instantly, and without error, due to widespread computer usage. A computerized reservation system has the potential to provide the precise type of information required with just a mouse click. Comparing manual and computerized booking systems, Collins (2003, p. 125) quotes a theatre manager describing them as ‘labor intensive, bulky and hard to make changes’ as opposed to ‘fast, easy and sleek’ respectively.

The fundamental theatre booking principles have not changed over time but with the arrival of the electronic age there is pressure from patrons and society in general to modernize traditional systems, so that theatres are perceived to be providing conveniences on par with other entertainment and service providers.

2.2.3. Current E-payment Systems in Ethiopia

EthioSouQ.COM accepts a variety of secure and trusted offline payment methods that vary depending on your needs. The standard available methods for your orders are:

- **Bank Deposit to our Company Accounts in Ethiopia** for *offline* payments. You can deposit or transfer the payment to our company accounts in one of the following bank branches of your choice, from anywhere with in Ethiopia, and please keep your receipts for your records:

- Commercial Bank of Ethiopia
 - Abysinnia Bank
 - Zemen Bank
 - Dashen Bank
- **Hello Cash Agent Banking** - is the #1 mobile banking service in Ethiopia provided by 5 major financial institutions(Lion Bank , Bunna Bank , CBO , Wegagen Bank and Somali MFI). HelloCash allows anyone in Ethiopia to make a shopping on EthioSouQ.COM much faster by allowing you to transfer money from the convenience of your mobile phone once you place an order online or over the phone. And you will get a confirmation about your payments received by us through SMS & email and also phone call from our customer care center.
- **M-BIRR - for Offline payments** - Which is another kind of mobile money transfer available in Ethiopia. If you have registered your mobile with M-BIRR and have balance you can use it easily to make the payment easily, you can transfer the money from your mobile account to our mobile account , then you will get an SMS verification about the withdrawal of money from your account to us, and we will also get the SMS verification about a deposit to our M-BIRR account from yours, as simple as that, then we will proceed your order processing immediately. And you will get a confirmation about your payments received by us in email and also phone call.
- **PayPal** - for most of the **online** payments from anywhere in the world. If you have a paypal account you can easily pay online and the transaction will happen instantly from here, once you checkout the system will directly take you to the paypal verification gateway system and it will do the transaction instantly.
- **Western Union Money Transfer** - is another way for sending money for your purchased goods once you place order and checkout, and we will communicate with you for the details you require for sending the money, and your order will not be shipped until the transaction for the transfer is complete.

EthioSouQ.com guarantees shopping experience to be totally secured, so that you never have to worry about your financial information safety.

Although one can choose one of the payment options on checkout, they will process your order only after calling user back for confirmation and validation so you have the option to change/cancel your order after order placement.

2.2.4. Currently Existing Cinemas and Cinema Websites in Ethiopia

A new mobile application is to be released from the VenuePromo Lab that will change the Ethiopian ticketing system and expected to bring life changes. The categories featured on the first version are Movies Online, Movies in the Cinema, Live concerts, Live Stand Up Comedy Shows, Traditional Gatherings and Live Theater events. After users select their preferences, when events matching their interests come in town, they receive push notification with details such as event location, date, contact person and description of the event. “The Founder of VenuePromo Lab, Gedion Yitbarek”, said the second version is already being designed before the release date of the first version, to include ticket sales, where users just show an e-ticket bought directly on the app to enter venues without hustle. As Promoter Betsega Hailu mentioned to our reporter, VenuePromo will be the next generation notification system that respects the need of the users by avoiding spamming.

There are many types of movies in Ethiopia, from efforts with a mini-video camera to spectacular high definition (HD) ones. The streets of Ethiopian town where there are cinema halls exist are filled with colorful film posters. The Ethiopian audience is persistent and loyal to the booming ‘film industry’, often waiting for long hours and watching in uncomfortable environments. There are too many movies and theaters for the cinemas to show them all, yet the way cinema houses provide ticket sales services still requires the physical presence in queue to get their movie tickets. Sitting on plastic seats, queuing for long hours under the scorching sun, listening to cars honking outside, getting annoyed by noise from a nearby café, being disturbed by the smell of food, feeling sleepy are some of the features of Ethiopian cinemas.

Even though there are many websites like Gojicinema.com that are used to promote movies, films and theaters in Ethiopian cinema houses but most of them are limited to offer online ticketing booking system for their customers which is the critical problem that we want to address with the development of online cinema ticket booking system. The other thing for which we proposed this web based online cinema ticket booking is to help the cinema houses advertise their films and movies with enough detail information provision about the movie that is limited by the posters which in turn keeps the town clean and neat.

2.3. Related Literatures

A greater number of movies are being released over the course of each year (Dergarabedian, 2011). If moviegoers do not see a movie in the first or second weekend after film is released, it is likely another movie will come out that peaks their interest instead. It is becoming harder and harder for a movie to have "good legs" in the box office. Movies are fizzling out much faster than they were even five years ago. (Dergarabedian, 2011). With decreasing attendance, rising ticket prices and more competition, cinema halls need to improve their

methods of attracting audiences. So, advertising and developing effective and efficient ticket selling system becomes more important than ever. Based on the growing popularity of Internet and mobile use in the younger demographics, cinemas are beginning to embrace a different type of serving their customers.

The Internet has become an integral part of a modern society helping revolutionize how businesses are conducted and our personal lives as well in addition to creating more jobs and transfer of technology by teaching new skills. This chapter defines facts and finding on online movie ticket booking system.

IT-based (Online) Movie ticketing and payment system is synonymous to an online reservation system or computer reservations system (CRS) or central reservation system, Wikipedia, 2013. IT-based movie ticketing and payment system is a computerized system used to store and retrieve information and conduct transactions related to movie ticket buying. This idea of IT-based movie ticketing and payment system was originally designed

and operated by airlines operators before its use was later extended to motion pictures industries.

Based on Pedone (2001), widespread use of Internet has led to the emergence of a variety of electronic services, e-services. Electronic ticket, or e-ticket, is an example of such a class of e-services. E-tickets give evidence to their holders to have permission to enter a place of entertainment, or have access to some Internet services. Users can get the e-tickets by purchasing them from a web server, or simply receiving from a vendor, or from another user who previously acquired them. E-tickets can be stored in desktop computers or personal digital assistants for future use.

2.4. Related Studies

2.4.1. E-Commerce in Africa

In Africa e-commerce needs to be seen with in the wider context of the so-called “digital divide” that separates the developed and developing world and especially Africa, which has most of the least developed countries on the globe. With the exception of South Africa, there is minimal evidence of e-commerce on the continent (UNCTAD, 2001).

2.4.2. Obstacles of E-Commerce in Africa

Mbarika(2009)point out the major constraints to e-Commerce and explained four telecommunication infrastructure development obstacles in reference to Africa’s least developing economies.

- a) Organizational obstacles:** Access of most the telecommunication channels are controlled by state monopolies and conclude that monopolized situation in developing economies is the one of major obstacle.
- b) Financial obstacles :** Many countries in Africa have low gross domestic products, low GDP per capital and no financial autonomy in operating entities and poor state of banking system usually faces the financial obstacles in the development of infrastructure (Mesoetal.,2007;citedinMbarika,2009).

- c) Technology obstacles: Mbarika,(2009)explained that technological issues are the major concerns in the growth of tele density, most of the telephone system is placed to serve the need of the government which tend to be confined to major cities. Moreover the use of outdate equipment and poor maintenance of equipment is also creating hindrances.
- d) Geographical obstacles: Remote areas usually offer low monetary returns and fewer incentives to telecommunication infrastructure extension. Hence such areas are not an ideal place for private investors (Mbarika, 2009).

2.4.3. Ethiopian experience and nature of Ethiopian e-commerce environment

The success and growth of e-commerce, depends on efficient telecommunication facility, ICT infrastructure, secure electronic payment system, automated financial network and efficient regulation. For the effective deployment of e-commerce, it is necessary to have a reliable and cost effective infrastructure that can be accessible to the majority of the population.

Nowadays, information communication technology is one of the most decisive factors to achieve, economic development. Information and communication technologies can be an extremely powerful enabler in efforts to bring positive and sustainable socioeconomic and political development to countries around the globe. Information communication technologies facilitate the delivery of basic social services: health, education, agricultural extension services, and good governance. Conducting old businesses in new ways and embracing new business opportunities has now become part of any economic transformation (AssefaandWubalem, 2007)

2.4.4. Major telecom and ICT infrastructure

- 1) **The Size of the Telecommunications Market:-** Ethiopia is one of the countries that face limited territorial coverage of mobile and fixed services and lag behind the rest of Africa in terms of the introduction of state-of-the-art services such as mobile banking. Ethiopia's communications market is far behind the global average. Fixed-line tele density stands at 1.2% and mobile tele density 8.7% during 2010. It is too low when compared to the global mobile subscription average, which was 67%in 2010 (Addis Ababa Chamber of Commerce,2010)
- 2) **Licensing of the telecommunications sector and Market Structure:-**

Licensing in telecommunications consists of the ETC receiving a monopoly license from the regulator to provide fixed, mobile and Internet services on an exclusive basis in exchange for efficiency and quality of service requirements and infrastructure expansion targets. The market is characterized by excessive pricing, especially in the broadband and international direct dialing segment, poor quality of service, in efficiency, and the absence of choice that had a detrimental effect on the revenue of the incumbent and the productivity of public and private enterprises. The telecom sector is therefore in Ethiopia a sector that is completely devoid of competition, except for those very small scale and fringe telecom services such as reselling phones and internet (Lishan, 2009/10).

2.4.5. ICT Policies

ICT has become an integral part of Ethiopia's development programs over the last decade. The country faces a substantial gap between interest in the ICT and the policy and regulatory instruments available to enable its development. ICT is one of the major components of Plan for Accelerated and Sustainable Development to End Poverty (PASDEP) that runs between 2005 and 2010 (Federal Democratic Republic, 2005).

2.4.6. Quality of telecom services - Quality of service comprises requirements on all the aspects of a connection, such as service response time, loss, signal-to-noise ratio, cross-talk, echo, interrupts, frequency response, loudness levels, and soon. In Ethiopia, the low quality of services has been a common problem, is a result of the overall bad performance of the telecommunications regulatory environment. Despite improved network penetration over the last consecutive years, through a vendor sponsored loan programmer, the incumbent monopoly did not have an incentive to improve the quality of service due to lack of competitive pressures and inherent in efficiency.

2.4.7. The Ethiopian financial sector and e-banking practice in Ethiopian commercial banks

The Ethiopian financial sector is one of the least developed in Sub-Saharan Africa. On a financial liberalization index, this measures banking security and independence from government control on a scale of 10 to 100. The sector is characterized by a shallow financial

market, a closed nature, and strong government Control. With a growing number of import-export businesses, and increased international trades and international relations, the current banking system is short of providing efficient and dependable services (Kiyotaet al., 2007).

2.4.8 E-banking challenges in Ethiopia: Banking and Finance is an important sector for establishing e-commerce. There are some roles of banking sector in ecommerce such as, online corporate banking, electronic fund transfer, automated teller machines (ATM), debit card, credit card etc. Bank is the only authorized organization which can store and transact money. Technological developments in banking sector make trading activities much easier and cheaper for customers. It provides convenience in terms of the capital, labor, time and all the resources needed to make a transaction. Banking in Ethiopia faces numerous challenges to fully adopt E-Banking.

- Lack of suitable legal and regulatory framework for e-commerce and e-payment: Ethiopian current laws don't accommodate electronic contracts and signatures. Ethiopia has not yet enacted legislation that deals with e-commerce concerns.
- High rates of illiteracy: Low literacy rate is a serious impediment for the adoption of E-Banking in Ethiopia as it hinders the accessibility of banking services. For citizens to fully enjoy the benefits of E-Banking, they should not only know how to read and write but also possess basic ICT literacy.
- High cost of Internet: The cost of Internet access relative to per capita income is a critical factor. Compared to the developed countries, there are higher costs of entry into the e-commerce market in Ethiopia. These include high start-up investment costs, high costs of computers and telecommunication and licensing requirements.
- Absence of finance networks that links different banks (Banks are not yet automated): Most of the banking transactions currently taking place use credit and debit cards supplied by Visa and Master Card. For conducting e-banking, the use of credit or debit cards is mandatory thus requiring the need for specialized systems which are not currently available. Frequent power interruption: Lack of reliable power supply is a key challenge for smoothly running e-banking in Ethiopia.

A payment is the transfer of money from one party (such as a person or company) to another. A payment is usually made in exchange for the provision of goods, services or both, or to fulfill a legal obligation. The simplest and oldest form of payment is barter, the exchange of one good or service for another. In the modern world, common means of payment by an individual include money, check, debit card, credit card, or bank transfer. Currently cash and checking transfer are the dominant payment system in Ethiopia (Wondwossen & Tsegai, 2005). Currently the usage of credit card in Ethiopia is very low. But there are some business firms (e.g. Hotels, supermarkets, etc) that accept international credit card. This payment system is mainly used by foreigner and Ethiopians residing abroad as they come to Ethiopia and want to get money using their credit card. The Ethiopian airlines currently provide an option for its customers to buy flight tickets online using their credit card (Wondwossen & Tsegai, 2005)

Chapter Three

3. Requirement Analysis

Web-based ticketing system refers to the use of technology in buying tickets for the interested movie and theater. There are several aspects to describing the intellectual and technical development of web-based online cinema ticket booking.

Online movie ticket booking system is the process in which a customer can purchase her/his movie tickets directly by using the Internet. Online movie ticket booking system is measurable, cost effective and has very good user interface. This web based project provides the all working of the online Movie Ticket Booking System. Online movie ticket booking system is useful for both cinema service providers and customers equally. Customers can buy movie tickets online at any instance of 24 hours a day. And as this is a web based application therefore they can buy ticket from anywhere around the world Customers with cinema website to know about new movies, showing timings and cinema locations.

Customer can buy tickets without wasting their time. Cinema owner can inform to customers about new release and discounts and also can get feedback from customer. This feedback will be helpful for him to make new strategy for business.

3.1. The Current system

The existing system of AMCS is totally manual. Customers who want to watch movies or theater must go to the cinema house to get their cinema tickets. Advertisement and promotion of films to be shown is by posting film posters on market strategic areas in the town. The delivery of information for the different customers, communicating and information sharing are operated manually by individual and group of people. In such situations many customers involved in the process of managing the whole activities in such a way that to sharing information such as new released cinema its quantity and the show date and time of the cinema etc all these things have to be carried out manually in content handling and managing is also a problem. Sometimes user might not available in the customer service in such situations people get face to face or telephone (mobile) communication. The information to

be shared among customer members is in the form of hard copy documents and the checking mechanism of repeatedly the Movies titles, payment system done manually by selling ticket from the ticket box. Therefore it should be a reliable way to manage all of services system to overcome the above mentioned problems and issues

The following are some of the basic factors that encounters as a basic problems.

- Time consuming
- The selling, buying and management is manual.
- Recording or capturing Movies' information is manual
- It is limited to a single system.
- The present system is very less secure.
- It is unable to generate different kinds of report.
- User must go to box office and order tickets

3.2. The Proposed system

3.2.1. Overview

The proposed web based application should give customer announcements with lists of Movies title and show sessions, online Ticket Booking/Reservation system, should record the reservation seats, update existing records, search the timetable/schedule for the daily shown movies, register customers, reserve the seats and payments , prepare report for manager.

Proposed system provides a solution to existing system problems by extending its facilities, making important information available online for users to view the information from the comfort of their own place whenever required, here in this project we are identifying the users and the tasks to be done by each user , the newly released Movies and the all the related information to display online on executable files and maintaining them with the help of Data Base i.e. storing all the released Movies with the help of server.

Adama Mormor online cinema ticket reservation system will provide information to efficiently manage all of the customers services, effectively utilize people and motivate in selling, buying & distribution and dissemination of information, coordinate internal activities

and communicate with customers/users . The proposed site increases the services of the organization income, records and decreases the overall work load in the employee's and the customers' undesired outcomes.

Therefore, the proposed system will:

- Enhances communication
- It can be accessed over the Internet everywhere
- Viewing and display the available Movie titles and show sessions with full information and can precede further for other information like ordering, payment and reservation
- Security for the systems or the status will be confidential i.e. access is denied for unauthorized persons
- Attractive and user friendly interfaces to navigate through the system for the users
- Give time saving and reliable announcement /searching facility to the users
- The system makes the overall project management much easier and flexible

3.2.2. Functional Requirements

Functional requirements define the fundamental actions that system must perform. This online cinema ticket booking system consists of various modules with different functions described each module in system with its features and requirements described as follows:

3.2.2.1. Authentication [Login Page]

- **Description**

This is a login page with user name and password which is essential for the cinema manager and customers' authentication. This authentication will be done by checking username and password from database after filling the login credentials.

3.2.2.2. Registration or Creating Account

Description

The system shall function to create account. The system shall record all the following data from the customer, except for the optional fields, with all other mandatory fields.

- Username
- Password
- Password Confirmation
- First Name
- Last Name
- Telephone Number
- E-mail

3.2.2.3. View Movie Details

Description

The system shall enable customers or visitors to view list of movies showcased at every time by date and time. The system shall have search function. Customers or visitors can search movies based on movie name, date and time.

- i. The system shall allow head office personnel only to add and update new movie details in the system. Head office personnel shall login first to access this module
- ii. The system shall allow head office personnel to add movie and update movie.
- iii. The system shall record the following details for each movies
 - Movie Title
 - Movie Description
 - Movie Duration
 - Movie Director
 - Movie Photos/poster
- iv. The system shall have to allow delete or remove added movies only for administrator

3.2.2.4. Movie Booking

Description

- i. The system shall enable customer to purchase the movie ticket. The system shall display list of movies showcased. This form will display list of all movies available to book with detail information for customer to book. This page is important for booking purpose of movies.
- ii. The system shall have Book Now button. When the Book Now is pressed, the system shall prompt customer to fill ticket purchase information. The system shall have Next button and Cancel button.
- iii. The system shall display the message for the availability of seats for the selected movie based on the date and show time
- iv. The system shall record the seating selected by the customer.
- v. The system shall display (Review Screen) with all the following details.
 - Customer details, such as First Name, Last Name, Address, Telephone and etc.
 - Booking details, such as No of Adults, No of Children, Date, Time & Seating Numbers
- vi. The system shall calculate the service charges
- vii. The total price to be paid.
- viii. The system shall have Back button, Check Out button and Cancel button.
- ix. Once customer clicks the Check Out button, the system shall redirect the customer to payment system to make the payment.
- x. The customer shall confirm the payment details and Click the Pay Now button to purchase the movie tickets.
- xi. The system shall display thank you (Thank You Screen) message for the purchase.
- xii. The system shall also send an email or SMS notification to the customer about the purchase. Confirmation number is stated in email notification. Customer need to provide the confirmation number to the counter clerk to get the movie ticket at the branch.

3.2.2.5. Report Module

Description

The system shall generate report based number of tickets sold. The System admin shall login first to access the reports.

- Sales Report
- Seat occupancy Report

3.2.3. Non Functional Requirements

3.2.3.1. User interface and Human factors

The system should be able to run on the most common web browser preferably supporting based on the doing software. The system shall have a user friendly menu driven interface that is easy to navigate through. The greatest degree of user system interface consistency and standard shall be provided for all user interfaces

3.2.3.2. Documentation

The activities and outputs of each system development stage in the project workflow shall be properly documented for the successful completion of the project. These documents produced at the end of each stage shall be organized and compiled together at the end of the project for future reference, system maintenance, and system support.

3.2.3.3. Performance characteristics

The system is developed to run in different network level and strategy like LAN, MAN and WAN and different protocols. This means that the system will support multi user access at the same time. So it should be noted that the performance is kept continuous disregarding the tolerance that will occur on it. Beside that the system should respond the request as quick as possible. It is better to have a good network speed.

3.2.3.4. Error handling and extreme conditions

Reliability is a major characteristic of high-quality software. Software should behave well in nearly every situation. During the development process we try to avoid, detect and remove as many as possible.

Nevertheless, we can't assume that the delivered software is free of errors. Therefore, we have to think about mechanism to protect the productive system from unacceptable behavior while erroneous situation occur.

Those mechanisms become a part of the basic infrastructure, which is used by nearly every part of the software. Thus the structure of the whole software is influenced by the error-handling mechanism and therefore has to be designed carefully..

A. Quality issues: requirements for reliability and it includes:-

- **Needs for Back up:** It is a mechanism of saving files to protect it from accidental deletion. The user of the system should use regular backup files save the record.
- **User requirements:** the system should be work as the requirements of the users.
- **Technical issues:** E.g. pseudo code, user friendly pages, lay outs, conventions
- **System portability:** the system is capable of working on different platform

B. System modification: Parts of the system which are the likely candidates for the later modification such as:

- The forms that the user will fill might encounter a change according to users requirements collected
- Information is changes according to the users and administration
- Database modification: are mainly based on the administrator.
- All administrative Functions: At the moment, the system will be handled by one system administrator who will have his own user name and password to modify and update the database.

C. Physical environment

- **System Server:** located inside organization or ICT server room office

D. Security Requirements issues

This online cinema ticket booking system achieves security issues through the implementation of the following security measures.

- Implementations of validation/authentication to avoid unprivileged access.
- System access that require security must be managed by system administrator

- Payment transaction should be through secure gateway to avoid any transaction loss
- All form must have proper validation to avoid any wrong/faulty information entry to the database

All access permission for the system data may only be changed by the system's administrator. All communication between online ticket booking system and other systems server data with client shall be encrypted by using Secure Socket Layer (SSL) technology.

Transaction between client and server for customer Interface, only applicable for account creation, purchase movie and purchase history functions shall be done using Secure Socket Layer (SSL) technology to encrypt the data.

I. Physical security

The physical security, mean the conditions interfere with the normal function of the system that will probably be occurred to our system. Among these the user of the system should prevent from: -

- **Physical theft:** Someone else may lose physical parts of the system. Like the system that the database is installed, hard disc, etc of the components of the database server.
- **Natural and human Disasters:** natural and human disasters, they are very common to see both factors to a system. Natural factors like Earthquake, fire, etc. Adding more backup facilities user should use back up files regularly to prevent data loss, Data recovery software's to the system

II. Accidental threat to the system

- As human is prone to error, there are many accidents and faults that can occur to our system **Destruction of data during database processing:** this is when the user deletes files that should not be deleted.

III. Resource and management issues

- **Back-up:** It should be under taken on a regular basis. The system administrator will be responsible for making the backups
- **System installation:** -it will be responsible for the installation of system

- **System Administrator:** the system administrator will be responsible for handling system maintenance.

3.3. Hardware and Software Requirements

This online cinema ticket booking will be implemented with the fulfillment of the following hardware, software, accessories and tools:

3.3.1. Hardware Requirements

Server Side

- Operating System : Microsoft Windows 7/8
- Processor : Intel Chipset
- Memory : 2GB
- Hard Drive Capacity : 300GB, expandable
- GSM Modem with driver

3.3.2. Software Requirements

Database

- MySql Server version 5 or above
- Web Server – Xampp 2.2 or above

Programming and scripting Languages

- PHP
- CSS
- HTML
- Javascript

3.4. Software Engineering Methods and Techniques

The general methodology in analyzing and designing a system is involved in different phases, which describe the system's life cycle model for developing software project.

3.4.1. Requirement analysis phase

During the requirement analysis phase we have conducted surveys to identify the problem of the existing system. In order to identify the real problem of the existing system; the group members have conducted interviewing the users, observation of the existing system operation and document analysis has been conducted.

3.4.2. Design phase

In the design phase of the system development we have converted the requirement analysis findings into a representation of software. The requirement of the software has been analyzed and specified. During this phase we have identified three technical activities: Designing, Code generation and testing. We used the modular form of designing the system i.e., the software is logically partitioned into components that perform specific functions and sub functions. The design phase leads to modules that exhibit independent functional characteristics. It even leads to interfaces that reduce the complexity of the connections between modules and with the external environment.

3.4.3. Development phase

This phase deals with the identification of development tools and using tools to produce the expected system. So, we have identified tools, software and hardware that help us in developing the system. The identified development tools include the tools and software and hardware identified and listed in the section of development tools.

3.4.4. Coding phase

The coding phase is for translating the design of the system produced during the design phase into code in a given programming language, which can be executed by a computer and which performs the computation specified by the design.

3.4.5. Testing phase

Testing is done in various ways such as testing the algorithm, programming code, sample data debugging in checking the functionality of the project. A vital role in the

development life cycle (SDLC) as it describes the complete requirement of the system. Any changes made to the requirements in the future will have to go through formal change approval process.

During our system development we are following the iterative wataerfall model as described as follows:

Iterative Waterfall Model

The model consists of six distinct stages, namely:

1. Requirements analysis phase

- (a) The problem is specified along with the desired service objectives (goals),
- (b) The constraints are identified.

2. In the specification phase, the system specification is produced from the detailed definitions of (a) and (b) above. This document should clearly define the product function.

3. In the system and software design phase, the system specifications are translated into a software representation. The software engineer at this stage is concerned with:

- Software architecture,
- Algorithmic detail and
- Interface representations.

The hardware requirements are also determined at this stage along with a picture of the overall system architecture. By the end of this stage we have identified the relationship between the hardware, software and the associated interfaces. Any faults in the specification should ideally not be passed 'downstream'.

4. In the implementation and testing phase stage, we have translated the design into the software domain as it allow us to get the following main advantages:

- Detailed documentation from the design phase can significantly reduce the coding efforts.
- Testing at this stage help us to make sure that any errors are identified and that the software meets its required specification.

5. In the **integration and system testing phase**, we have tried to integrate all system units and tested to ensure that the complete system meets the software requirements. After this stage the software will be delivered to the customer.
6. The **maintenance phase** is the usually the longest stage of the software. In this phase we have updated the software to:
 - Meet the changing customer needs
 - Adapt to accommodate changes in the external environment,
 - Correct errors and oversights previously undetected in the testing phases,
 - Enhancing the efficiency of the software.

Observe that feed back loops allow for corrections to be incorporated into the model. For example a problem/update in the design phase requires a 'revisit' to the specifications phase. When changes are made at any phase, the relevant documentation should be updated to reflect that change.

Advantages:

- Testing is inherent to every phase of the waterfall model,
- It is an enforced disciplined approach,
- It is documentation driven, that is, documentation is produced at every stage.

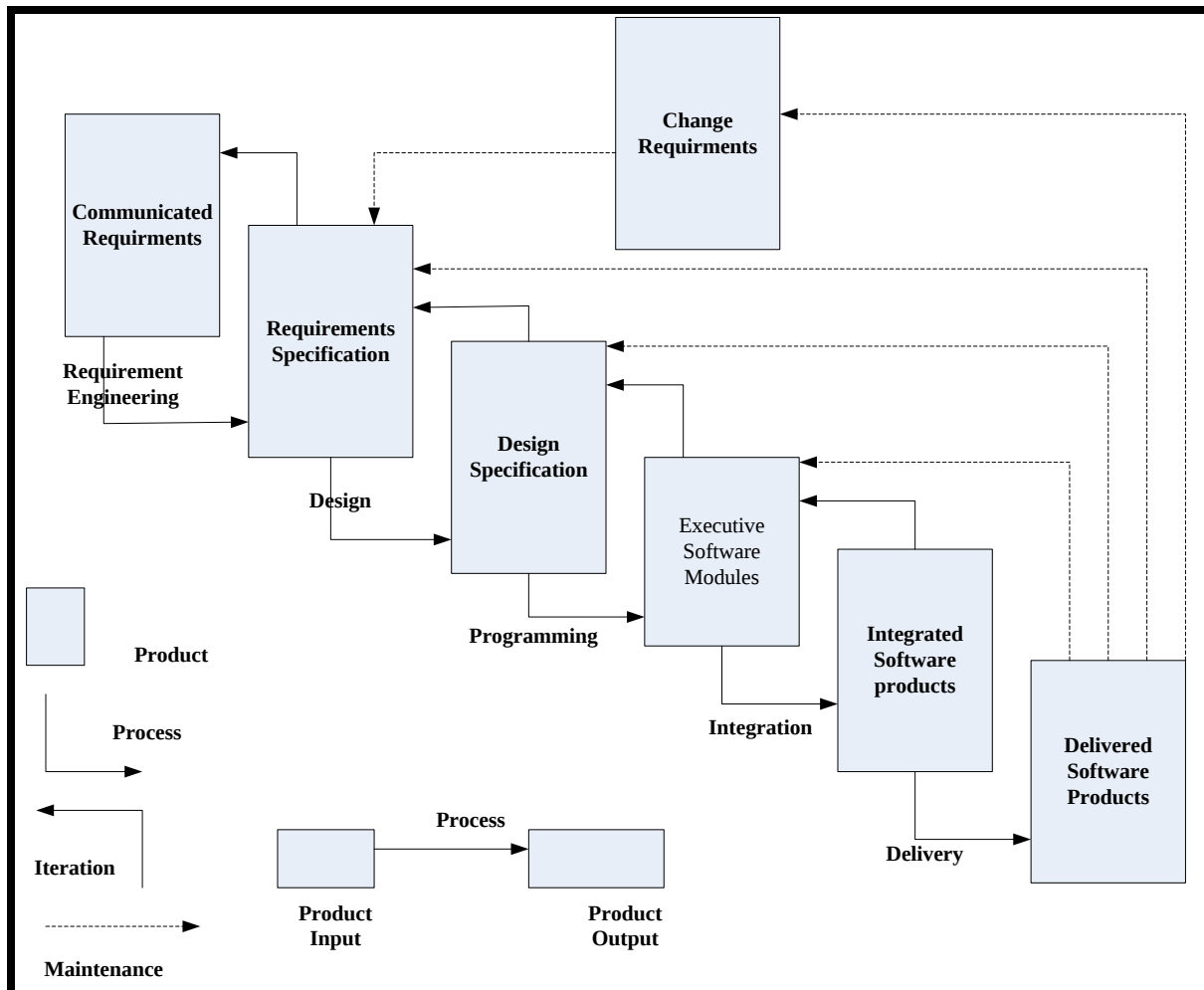


Figure 3.1: Iterative Waterfall Model

3.5. Analysis Activities

Analysis is the detailed study of the various operations performed by a system and their relationships within and outside of the system. A key question is: What must be done to solve the problem? One aspect of analysis is defining the boundaries of the system and determining whether or not candidate system should consider other related systems. During analysis, data are collected on the available files, decision points, and transactions handled by the present system. While developing this application and making various Object Oriented

Analysis and Design diagrams, we learnt basic concept and understanding of unified modeling language (UML). The five main UMLs diagram describe like as

- **Use case diagrams:** - represent the functionality of the system from a user's point of view.
- **Class diagrams:-** are used to represent the structure of a system in terms of objects, their attributes, and relationships
- **Sequence diagrams:** - represent the system's behavior in terms of interactions among a set of objects.
- **Statechart diagrams:-** are used to represent the behavior of nontrivial objects
- **Activity diagrams:-** are flow diagrams used to represent the data flow or the control flow through a system With the use of this diagram designing and developing project for programmer, designer is very easy and understandable. Also the team has learnt to develop Software requirement specification for this system which is very essential for every project development to understand the system completely.

Use case Description

Use cases were designed for object oriented software development. It focuses on what the user need to do with the system. This approach is more powerful as compared to traditional approach. It used a combination of text and pictures in order to improve the understanding of requirements. The use case describe 'what of a system and not how of a system'. They only give the functional view of the system.

Table 3.1: Descriptions of actors

Identifies Actors	
actors	Description
Customer	Person paying for cinema reservation seat online The client, also known as customer, is the person that logs onto the online ticket Booking system to pay for Movies of his/her choice.
Administrator	Person responsible for the system. The person selling his/her cinema tickets through the online booking system. It is his/her responsibility to administer the Movie announcements page, and to update any information relative to the released movies on the site.

3.5.1. Use case diagrams

A use case model describes what a system does without describing how the system does it; that is a logical model of the system. The use case model reflects the view of the system from the perspective of a user outside of the system (i.e., the system requirements). A use case model partitions the way the system works into behaviors, services, and responses (the use cases) that are significant to the users of the system. From the perspective of an actor (or user), a use case should produce something that is of value.

A use case describes a function provided by the system as a set of events that yields a visible result for the actors. Actors initiate a use case to access the system functionality. The use case can then initiate other use cases and gather more information from the actors. When actors and use cases exchange information, they are said to communicate

Therefore, we have tried to determine what is important to the user, and included it in the use case diagram as shown below

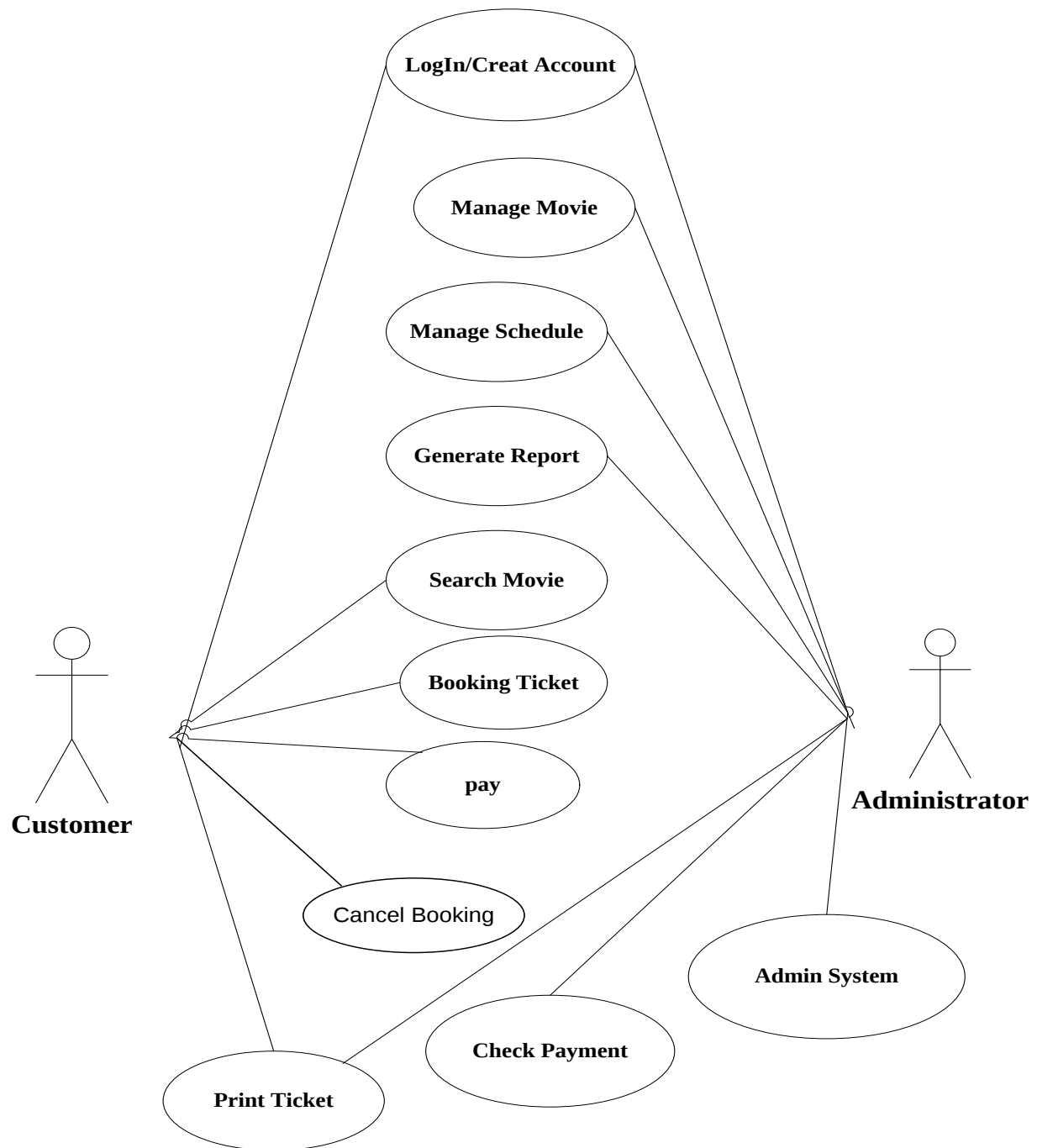


Fig. 3.2: Cinema Actors Use Case Diagram

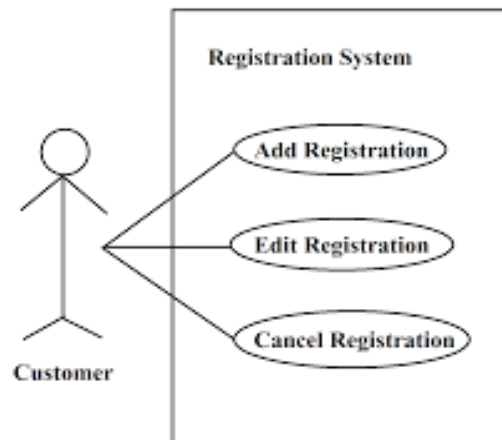


Fig. 3.3: Register Cinema use case diagram

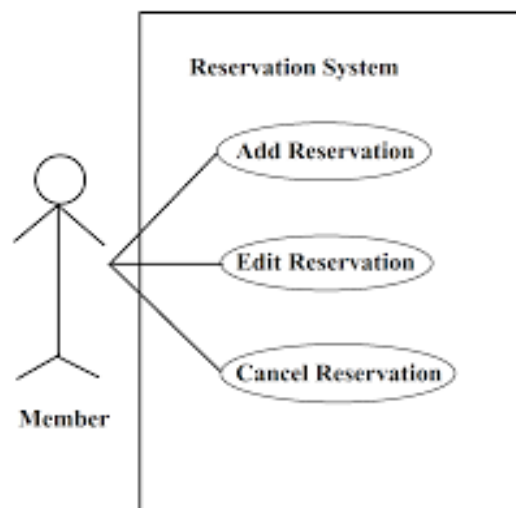


Fig. 3.4: Cinema Reservation Use case diagram

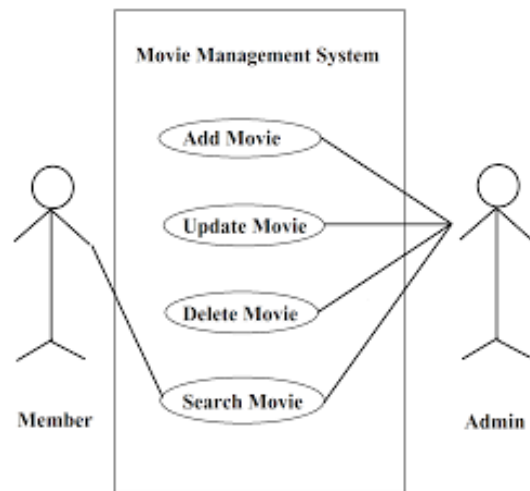


Fig. 3.5: Manage Movie Use case diagram

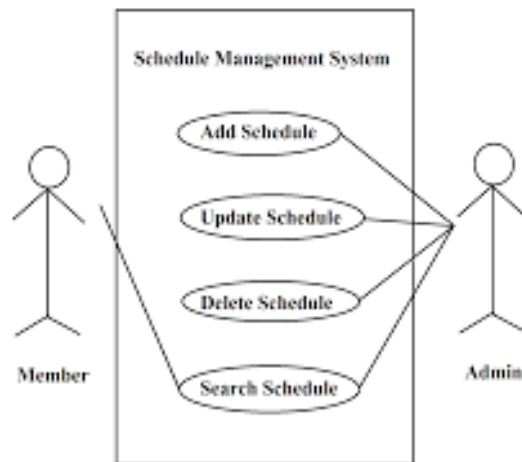


Fig. 3.6: Schedule Movie use case diagram

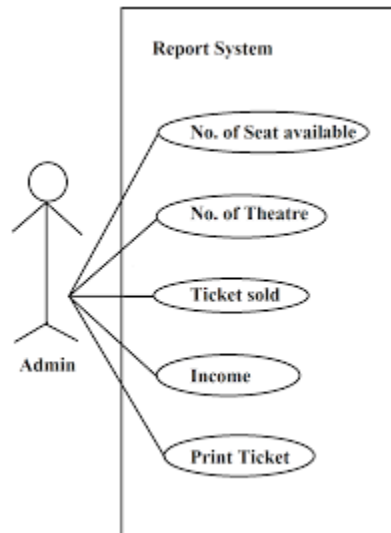


Fig. 3.7: Cinema Report use case diagram

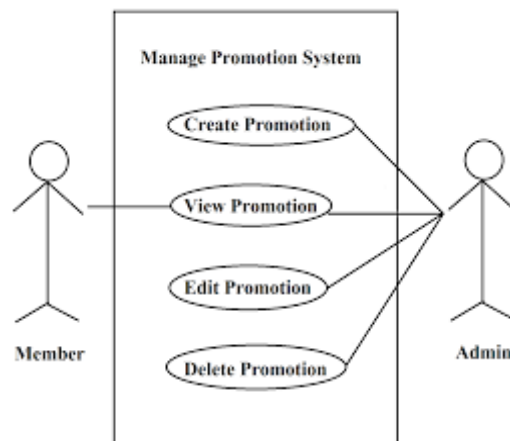


Fig. 3.8. Mange Cinema Promotion use case diagram

Table 3.2: Description of Use cases

No	Use case	scription
	Login/Register	1.1. The customer Login to the system using the provided login form 1.2. If not registered customer, he/she will register using the register system
	Searching Movie	2.1. The customer will search for movies by movie title, date shown and time
	Book Ticket	. the customer will book the interested movie he/she wants to see after searching for the availability
	Payment	. the customer will pay for the movie selected
	Print ticket	. the customer will be able to print the ticket displayed on the screen
	Manage Movie	. The cinema admin will update movie . Delete out of date movies
	Manage Schedule	. the admin will update movie schedules (add schedule, delete schedule, edit schedule)
	Generate Report	. generate report financial report . generate no of tickets/seats sold and available
	Administer system	. take backup . make simple system maintenance

3.5.2. Class diagram

Object-oriented methodologies work to discover classes, attributes, methods, and relationships between classes. Because programming occurs at the class level, defining classes is one of the most important object-oriented analysis tasks. Class diagrams show the static features of the system and do not represent any particular processing. A class diagram also shows the nature of the relationships between classes.

We are using these diagrams to show how objects within the online movie ticket sales system will interact with each other in order to achieve the functionality required by the User.

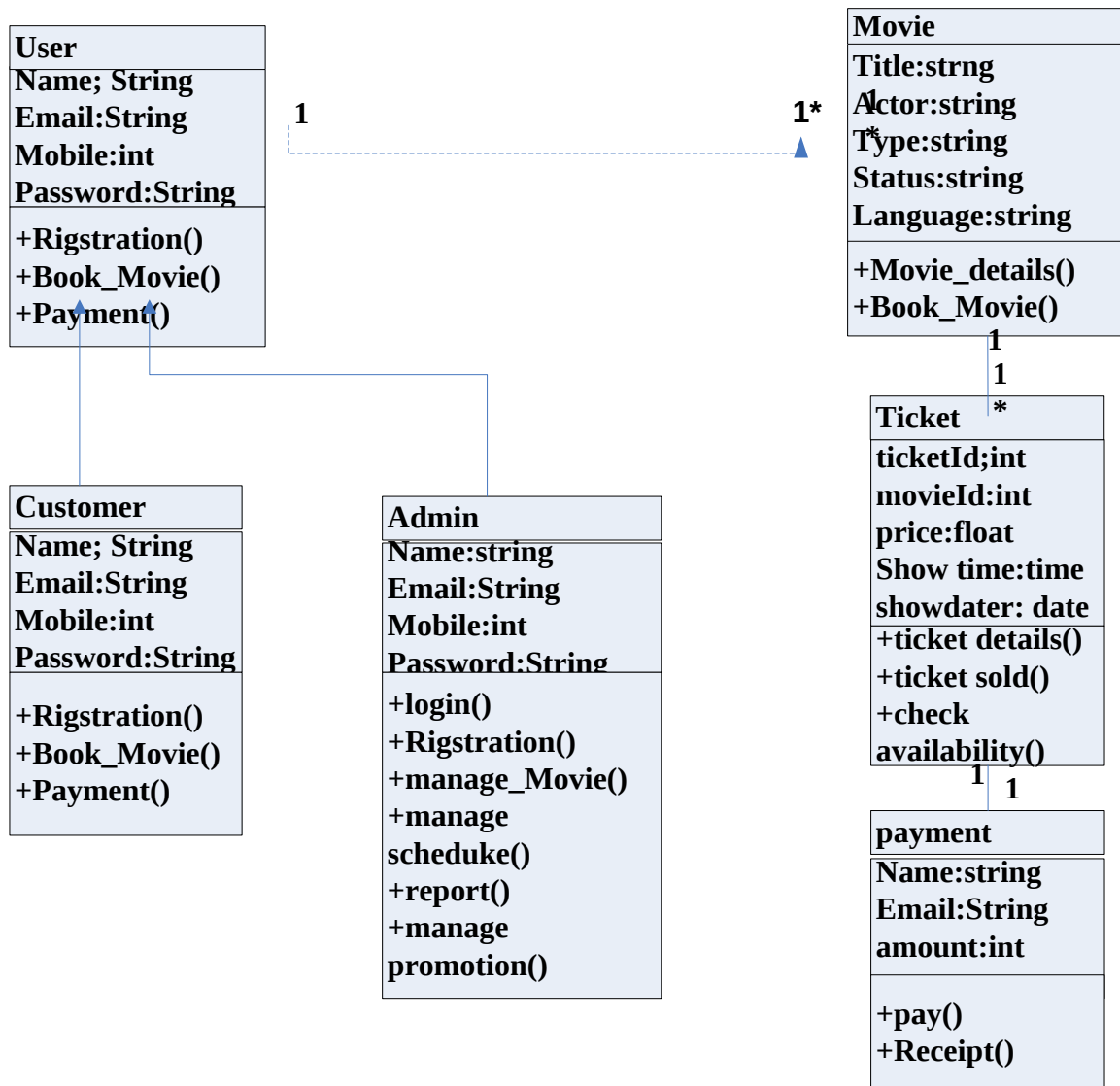


Fig. 3.9: Class Diagram

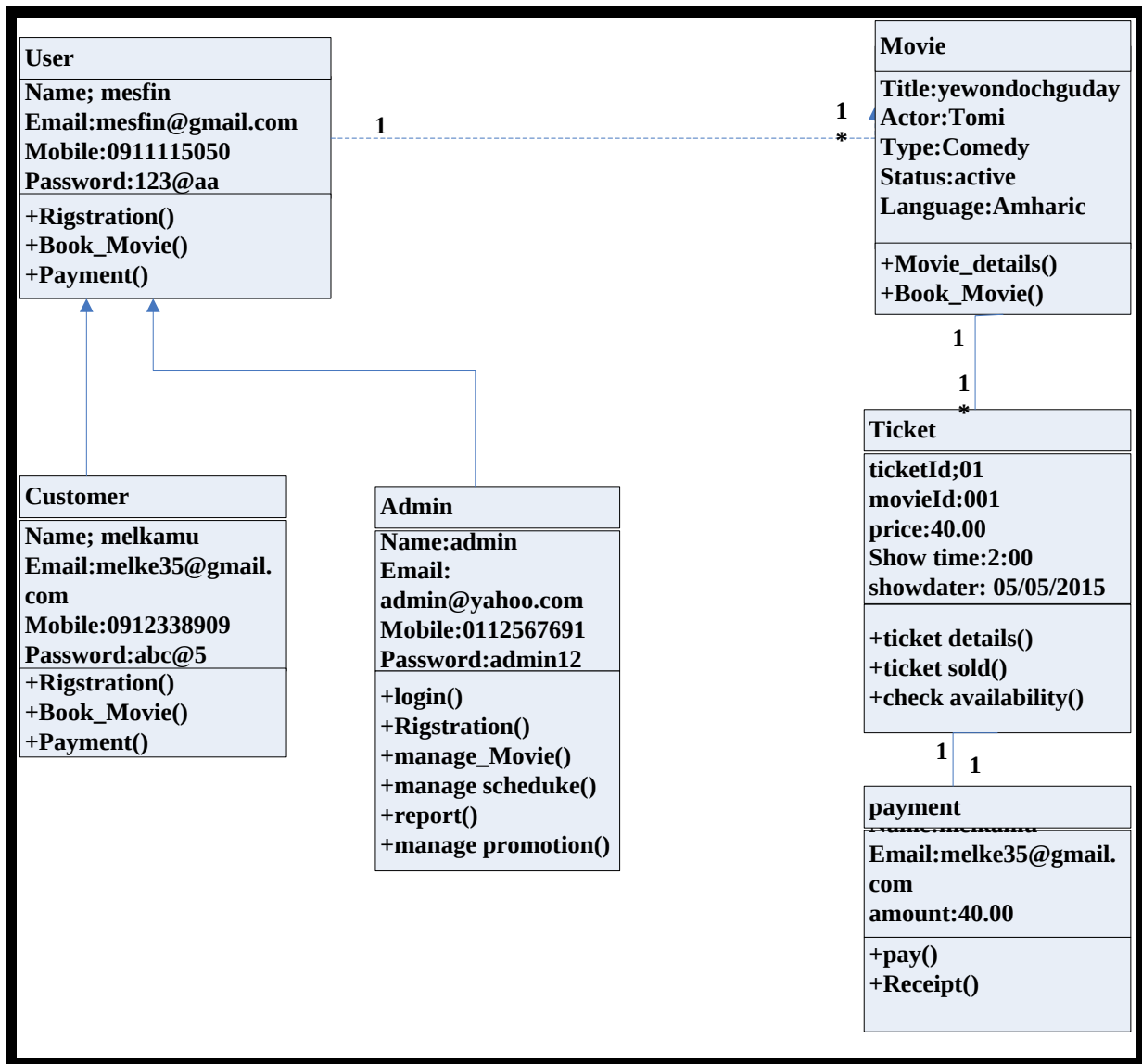


Fig. 3.10: Object Modeling Diagram

3.5.3. Sequence Diagrams

The sequence diagrams use the class diagram and demonstrate specific sequences of actions in the system. The purpose is to ensure that the online Cinema Ticket Booking system runs in an expected way and that the class structure is sufficient to accomplish the tasks needed.

Here under we have included the sequence diagram that is mainly used in our Adama Mormor Cinema ticket booking system, i.e sequence diagram for registering the customer and login to the system and ticket booking sequence diagram.

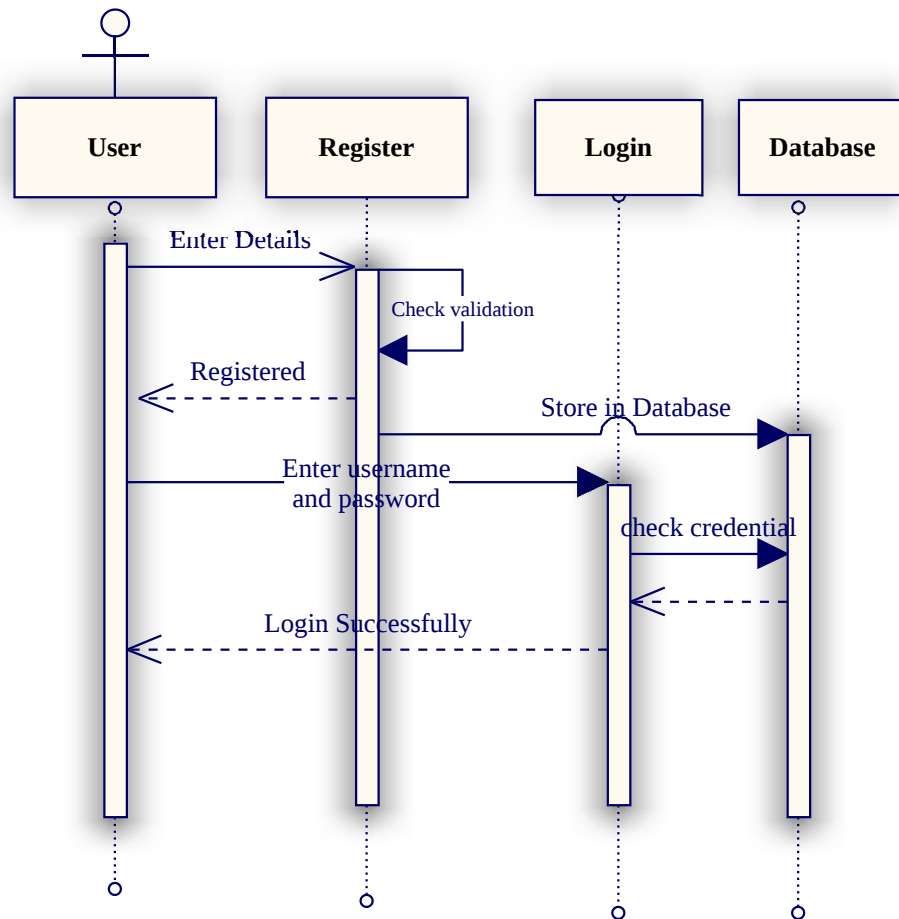


Fig. 3.11: Sequence diagram for Login/Register

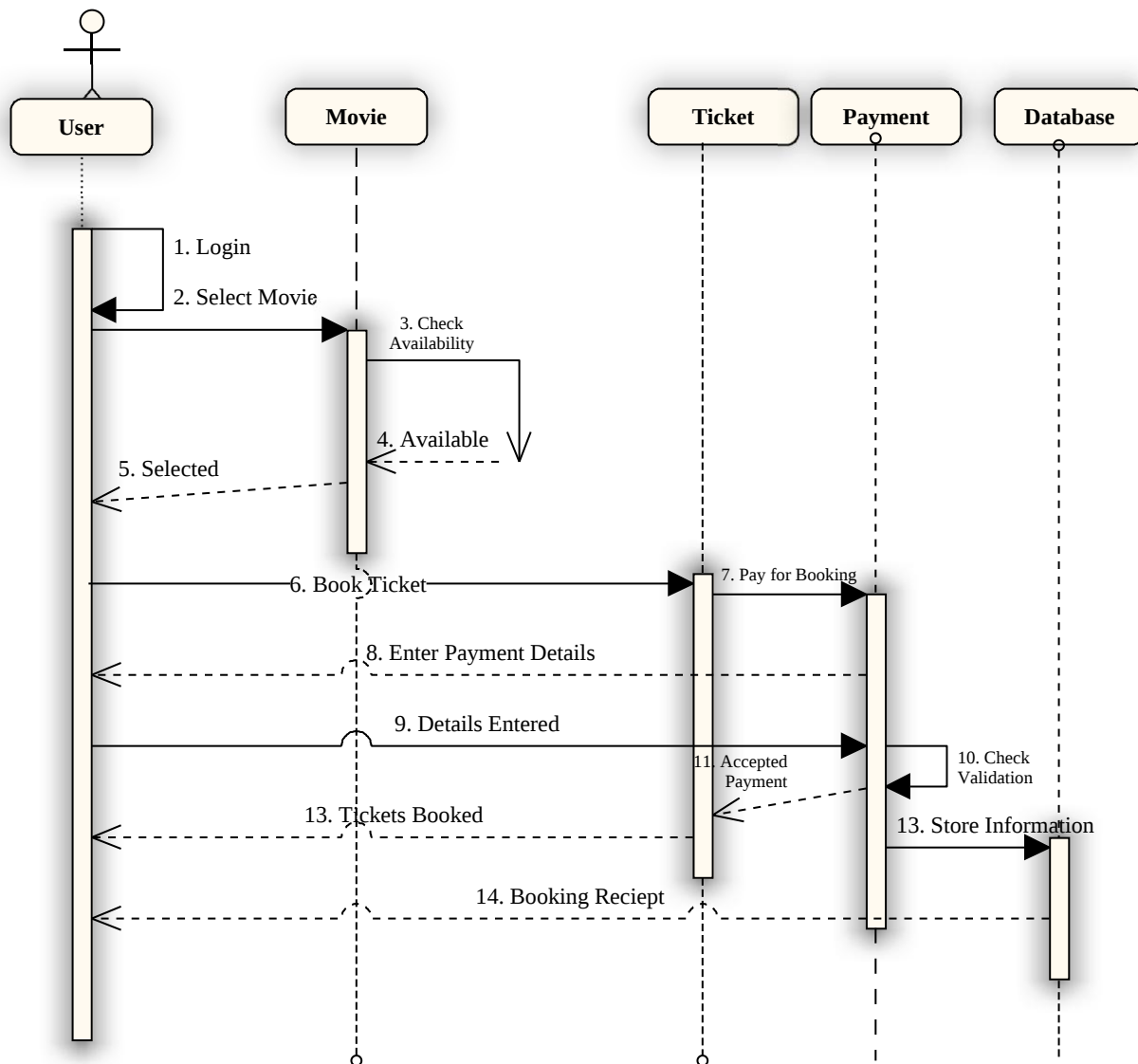
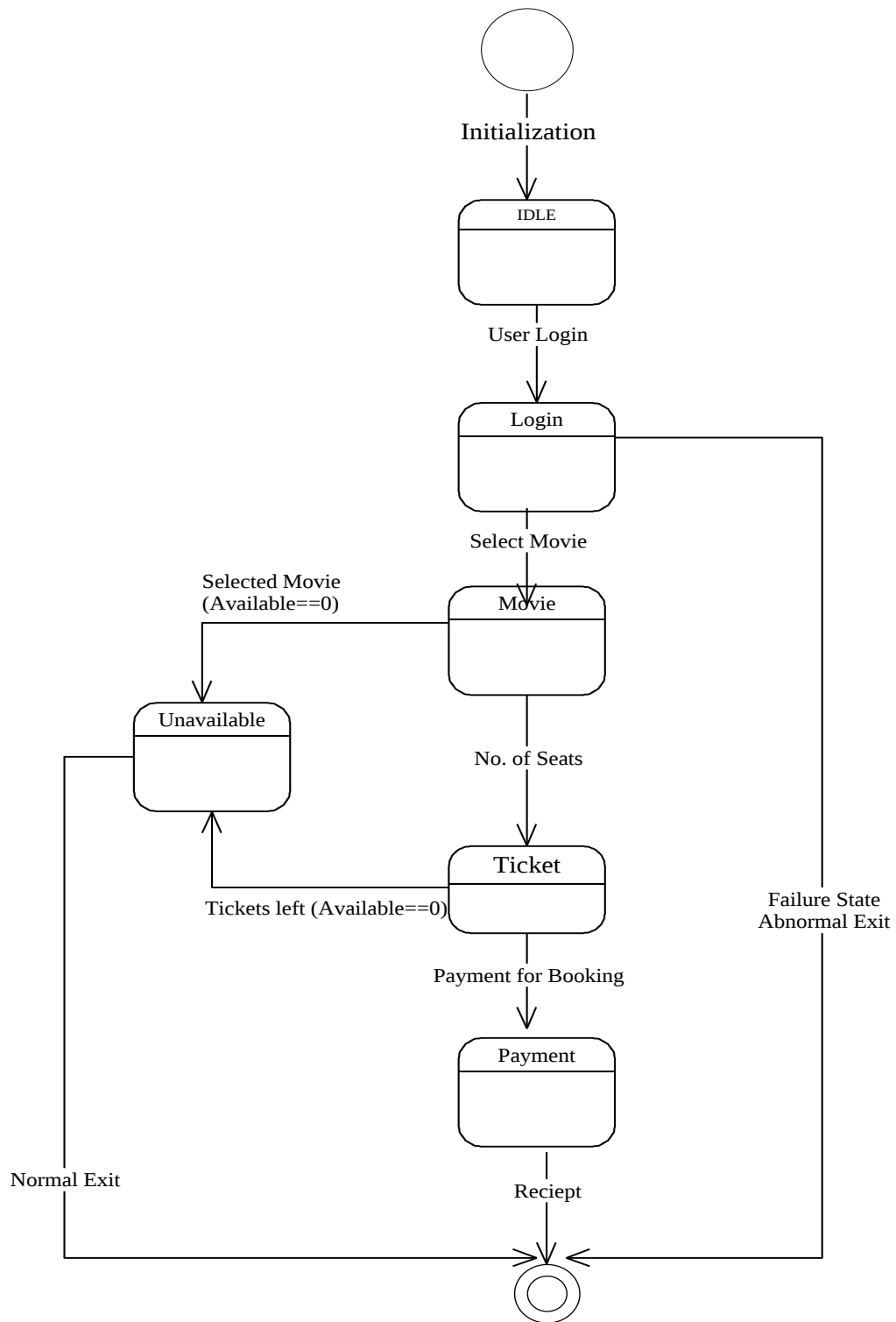


Fig. 3.12: Sequence Diagram for Booking Movie/Theater

3.5.4. State chart diagrams

Statechart diagrams describe the behavior of an individual object as a number of states and transitions between these states. A state represents a particular set of values for an object. Given a state, a transition represents a future state the object can move to and the conditions associated with the change of state. The state-chart diagram defines in our proposed system the Use Case Specification for Booking Movie use-case is the central use-case of our system

**Fig.3.13: Statechart Diagram for Login**

3.5.5 Activity diagrams

Activity diagrams show the sequence of activities in a process, including sequential and parallel activities, and decisions that are made. An activity diagram is usually created for one use case and may show the different possible scenarios.

We have included the Login/Register and user ticket booking activity diagram that is used to illustrate the sequence of activities in a process with the decisions made at each step.

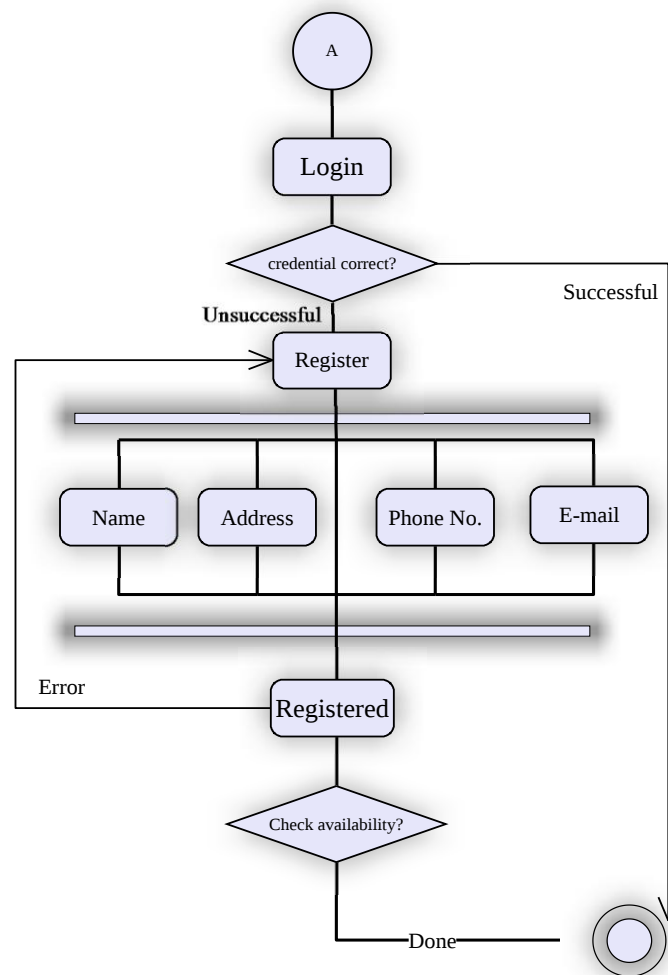
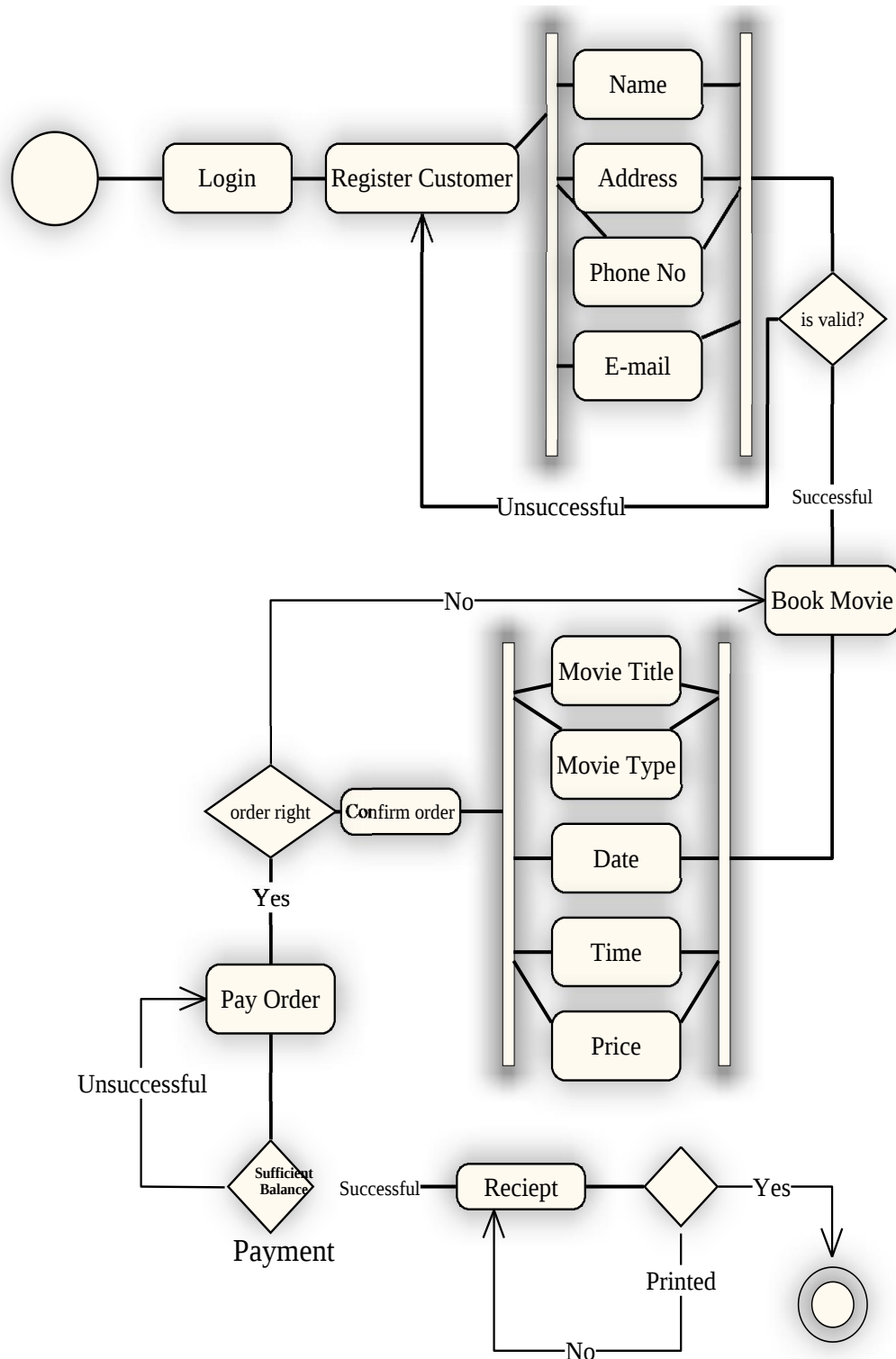


Fig. 3.14: Activity Diagram for Login

**Fig.3.15: Activity Diagram for User Ticket Booking**

Chapter Four

4. System Design

4.1. Introduction

Systems design is the process of defining the architecture, components, modules, interfaces, and data for a system to satisfy specified requirements. In this phase we introduces object modeling technique where the objects, Including data and process therefore the unified modeling language used method of visualizing and documenting the system. It uses a set of symbols to represent graphical various components and relationships within the system. The object modeling techniques require much type of diagrams to represent the proposed system. Those diagrams will form the foundation for the system design. Systems design could be seen as the application of systems theory to product development. System design is the process and focuses on decomposing the system into manageable parts during requirement elicitation and analyses in as concentrated on the purpose and the functionality of the system. During system design is focus on the process, data structure, and software and hardware components necessary to implement it. The new system will bring new sort of integration and flexibility of information and transaction processes for customers and to the organization.

The result of system design is a model that includes a clear description of each of these strategies, subsystem decomposition, and a UML deployment diagram representing the hardware/software mapping of the system

This new system is structured to work with the standard software development procedure. In order to achieve effective online Cinema ticket booking/reservation system, Structured System Analysis and Design Methodology (SSADM) were used. This is because SSADM is an internationally accepted software engineering model mainly used in most result oriented analysis and design

4.1.1. Purpose of the System

The main purpose of designing this online cinema ticketing system is to help the organization more profitable, to store statistical and financial data in a format that help make right decision at the right time. Moreover, the purpose of the system described as follows:

- Update list of coming soon movies
- Have daily movie schedule
- Have booking movie ticket system
- List of Monthly promotion
- Notifying the release of new movie or theater to those customers who regularly watch movies in the cinema. i.e. customer contact system
- Administrator can look daily income information

4.1.2. Design Goals

The objective of designing a system under development is to model a system with high quality. Our designing goal aimed at achieving a high quality, error-free, system development that meets the requirements identified. In addition, our designing goal takes in to consideration ease maintenance of the system when there is a need to make changes to the system after it has been put into operation and to the future modification of the system. The first step in design process is to map the essential model of the user requirements on to a configuration of process. Then, within each process, we must decide how to allocate process and data to different task into a hierarchy of modules, using modeling tools. Finally, our goal of system design is to manage complexity by dividing the system in to smaller, manageable pieces.

Generally, our system designing goals can be summarized as follows:

- Reliability: the system should be reliable
- Fault tolerance: the system should be fault tolerant to loss of connectivity during the routing service.
- Security: the system should be secured
- Modifiability: the system should be modifiable to use different routing services.

The group has tried to include the following main designing criterion which discussed in the following section.

- i. Performance:** Performance, dependability, and end user criteria are usually specified in the requirements or inferred from the application domain. The user and the project developer dictate cost and maintenance criteria.

A performance criterion includes:

- Response time, the speed imposed on the system. The system should be responsive to maximum number of tasks with minimum time.
- ii. Maintenances criteria:** When we say the system is maintainable, we mean it can be maintained easily when changes arise from the user and designers or developers. it is not only changes arise but during when considered the non-functional requirements.
- iii. Cost:** When we talk about cost we mean the required for maintenance, installation and develop the system and to make the networked computer to use the system effectively.
- iv. End user criteria:** This is to mean the users of the system after the completion of the system, how the system is used in a friendly manner for both the experienced and inexperienced users using the user interface and this is clearly stated in the users' documentation.

4.1.3. System Definition

Adama People can use this system to search/visit movies and theater. A cinema consists of rooms and seats. Users should be able to narrow down the search at any time interval. Booking, payment and printing tickets is possible from any computer on-line. The central class is the session classes that have information about movie, date, time, and bookings. Cinema managers can schedule, reschedule and correct movie session scheduling. Session information is collected in timetable-objects for making searching more efficient.

4.2. Proposed Software Architecture

4.2.1. Overview

Adama Mormor Cinema organization have online ticket Booking system that gives different services for users like movies information, booked reservation ordering process payment transaction and record services. Therefore, the system shall maintain a central data store which can be accessed through Internet from different locations by a number of users. Thus the system mainly follows a special type of repository architecture called client/server architecture.

System design, object and implementation constitute the construction of the system. During these three activities we try to fill the gap between the system specification that produced during requirement elicitation and analysis.

The system is implemented, with a backend database MySQL, a middle tier of PHP, and a web browser as the front end client.

In Adama Mormor cinema newly proposed system, any customers who have a computer with an Internet connection considered as a client computer will access the service readily available on the server. The services are requested from remote location via the Internet by accessing any of the dynamic page that contains remote procedure and which will be executed remotely by the server. Once the server is done with the execution of the remote page it will return the result to the specified users (clients) who request the service.

Therefore, the proposed software architecture is a client-server architecture on which all the operations are performed by the server side and the clients request services from the server

4.2.2. Hardware/software Mapping

As described in the previous section client-server architecture is selected to Adama mormor cinema system implementation. Therefore, mainly the system will be operating at server side while the output of the system process directed to the server.

Thus, at the client side a web browser that is capable of interpreting basic HTML5 tags can be used and the system as well as the database will reside on the WAMP web server, the user will operate at the client side and he/she will request a service from the server by accessing a page that may request his/her need and the server will process the server script implemented in HTTP

that connects to a MYSQL server database and produce a set of HTML tags as a response to the client in due process, the server could access the database to produce the required information to the users/clients and the system will deploy an object oriented database system that is found to be ideal for client server architecture and capable of handling concurrent record access

4.2.3. Persistent Data Management

It describes the persistent data stored by the system and the data management infrastructure required for it. This section should include the description of data schemes, the selection of a database, and a description of the encapsulation of the database.

- **Mapping** - as described in the Hardware/software mapping section of this document MySQL server is preferred for implementing the database of the system, therefore, though the design has followed the object oriented approach, it is required to shift to relational database model for an implementation. Thus mapping of Object Oriented Model to Relational one is required.
- **Class mapping and data base tables** - the classes of an online cinema ticket reservation system mapped in to relational tables in the following ways:

Once all the requirements have been collected and analyzed, the next step is to create a conceptual schema for the database, using a high-level conceptual data model. This phase is the conceptual design. The result of this phase is an Entity Relationship (ER) diagram. It is a high-level data model of the specific application area. It describes how different entities (objects, items) are related to each other. It also describes what attributes (properties) each entity has. It includes the definitions of all the concepts (entities, attributes) of the application area.

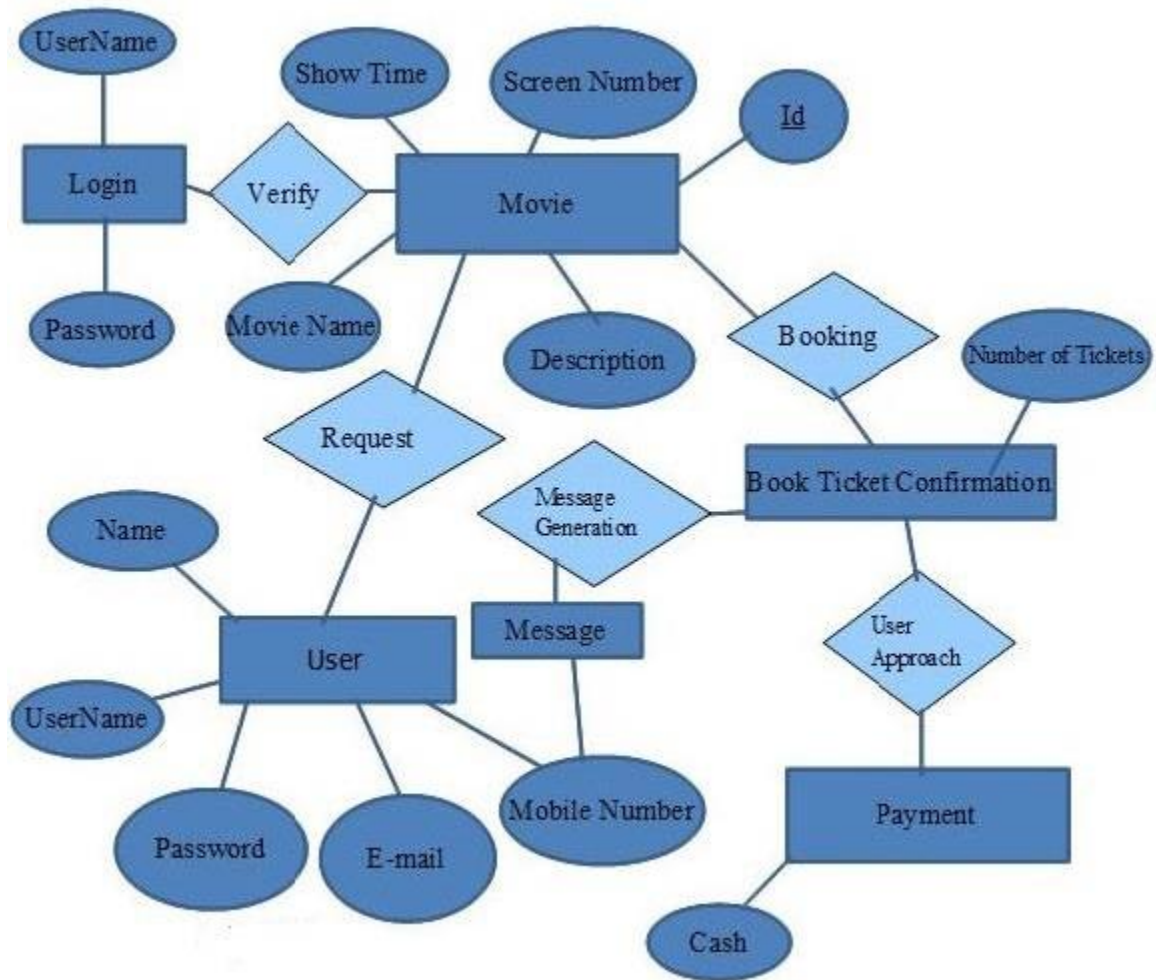


Fig. 4.1. E-R diagram (entity relationship diagram)

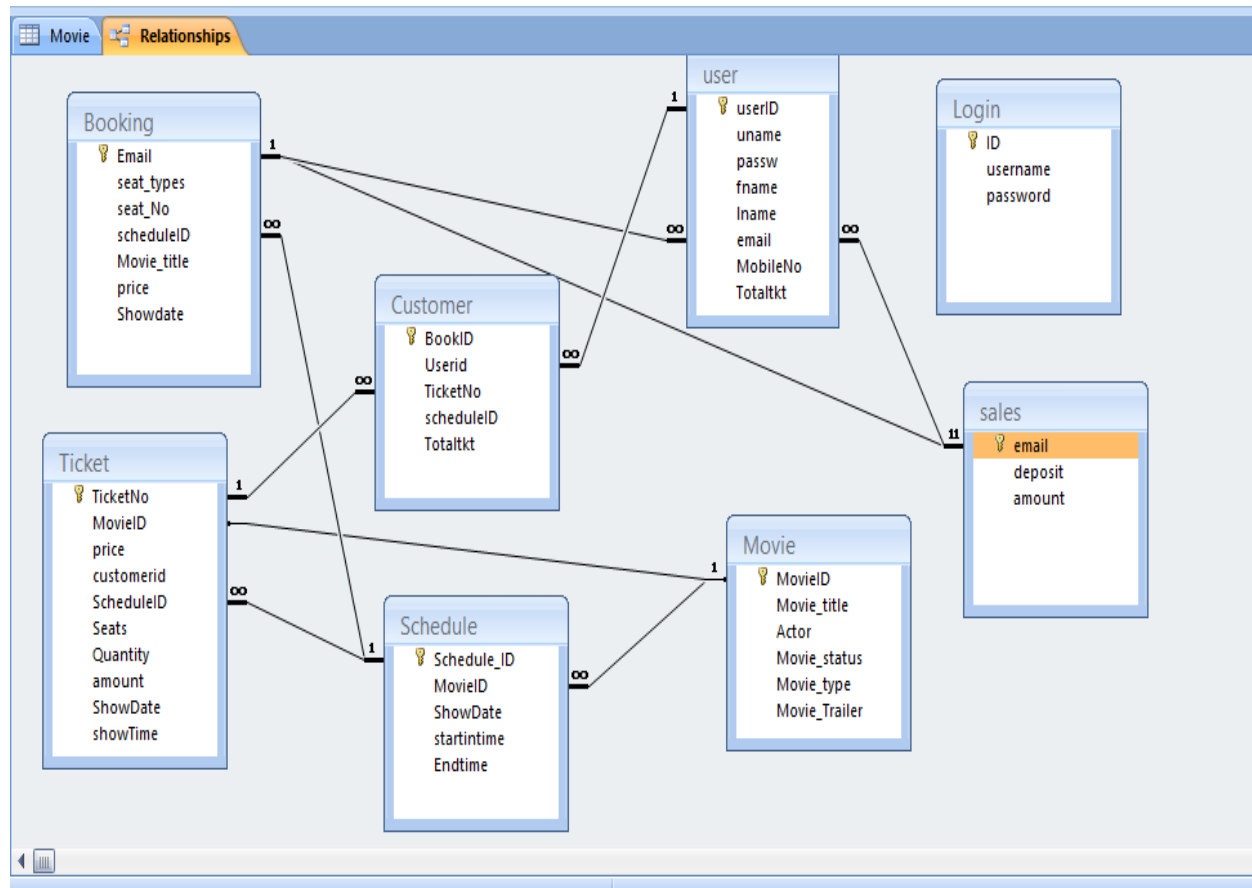


Fig. 4.2. Database Tables relationship diagram

Table 4.1: Login table

Fields	Description	Data Type
UserName	Login ID or name of the registered user	String
Password	Secret word used by the user during the registration to log on to the system	String

Table 4.2: User data Table

Fields	Description	Data Type
First Name	First Name of the user	String
Last Name	Last name of the user	String
Mobile	Mobile number of the user	Number
Email	e-mail of the user and login account	String
Password	Password of user login	varchar
User	Number of user	number

Table 4.3: Tsicket table

Fields	Description	Data Type
Ticket No	Identification number of the tickets	String
Movie ID	Unique schedule that is used to identify schedule lists	string
Price	Price of the movie selected by the user	Currency
Show_Date	Show date of the movie for which the customer has booked	Date
Show_Time	Show time of the movie for which the customer has booked	Time

Table 4.4: Movie table

Fields	Description	Data Type
Movie_Title	Title of the movie	string
Actor	The main actor of the movie	String
Movie_Type	Type of the movie, ie, comedy, action, horror, romantic, documentary etc	string
Movie_status	Status of the movie, i.e. date released, how long the move stay on stage	String
Movie_Trailer	A field that stores highlight or preview of upcoming movie that will be exhibited in the future at a cinema for advertisement to attract customers	MOV
Language	Language of the movie	String

Table 4.5: Schedule table

Fields	Description	Data Type
Schedule_ID	Unique identification ID for Schedule	Number
Date	Date the movie will be shown	Date
St_Time	Show time the movie starts	Time
End_Time	End time of the movie	Time
Movie Title	Movies topic(tittle)	String

Table 4.6: Booking table

Fields	Description	Data Type
E-mail	Unique identification ID for customer	Number
Seat types	Types seats customer choice	String
seat_No	Unique Number of the seat assigned to the customer during booking	String
Schedule_ID	Unique identification ID for Schedule	Number
Movie title	Movie tittle(topic)	string
Price	Amount to be paid	number
Date	Date for booking	Date

Table 4.7: Customer table

Fields	Description	Data Type
Booking_ID	Unique identification ID for Schedule	Number
User_ID	Unique ID of the customer	string
Ticket_No	Unique Number of the ticket assigned to the customer during booking	String
Schedule_ID	Unique identification ID for Schedule	Number

Table 4.8: sales Table

Fields	Description	Data Type
E-mail	Unique ID of the customer	varchar
Deposit	Amount of money paid	Currency
Amounts	Account number	varchar

4.2.4. Access control and security

- Who can access which data?
- Can access control change dynamically?
- How access is control specified and realized?

Access control and security are system-wide issues. The access control must be consistent across the system; in other words, the policy used to specify who can and cannot access certain data should be the same across all subsystems.

4.2.5. Global Software Control Flow

- How does the system sequence operations?
- Is the system event driven?
- Can it handle more than one user interaction at a time?

The choice of control flow has an impact on the interfaces of subsystems. If an event-driven control flow is selected, subsystems will provide event handlers. If threads are selected, subsystems need to guarantee mutual exclusion in critical sections.

4.2.6. Boundary Conditions

- How is the system initialized?
- How is it shut down?
- How are exceptional cases detected and handled?

System initialization and shutdown often represent the larger part of the complexity of a system, especially in a distributed environment. Initialization, shutdown, and exception handling have an impact on the interface of all subsystems decomposition and to raising new issues. As you will see when we describe each of these activities, system design is a highly iterative activity, constantly leading to the identification of new subsystems, the modification of existing subsystems, and system-wide revisions that impact all subsystems. !

4.3. Subsystem Services

A subsystem is characterized by the services it provides to other subsystems. A service is a set of related operations that share a common purpose. A subsystem providing a notification service, for example, defines operations to send notices, look up notification channels, and subscribe and unsubscribe to a channel. The set of operations of a subsystem that are available to other subsystems form the subsystem interface. The subsystem interface, also referred to as the application programmer interface (API), includes the name of the operations, their parameters, their types, and their return values. System design focuses on defining the services provided by each subsystem that is, enumerating the operations, their parameters, and their high-level behavior. Object design will focus on defining the subsystem interfaces, that is, the type of the parameters and the return value of each operation. The definition of a subsystem in terms of the services it provides helps us focus on its interface as opposed to its implementation. A good subsystem interface should provide as little information about its implementation. This allows us to minimize the impact of change when we revise the implementation of a subsystem. More generally, we want to minimize the impact of change by minimizing the dependencies among subsystems.

Chapter Five

5. Implementation

Systems implementation is the construction of the new system and its delivery into ‘production’ or day-to-day operation. The key to understanding the implementation phase is to realize that there is a lot more to be done than programming. During implementation we bring process, data, and network models to life with technology. This requires programming, but it also requires database creation and population, and network installation and testing. We also need to make sure the people are taken care of with effective training and documentation.

Systems implementation involves installation and changeover from the previous system to the new one, including training users and making adjustments to the system. As many problems can arise at this stage, we have to be extremely careful in implementing new systems. First, users are probably nervous about the change already. If something goes wrong they may never trust the new system. Second, if major errors occur, you could lose important business data.

5.1. Algorithms used

In this section we will follow tropos development methodologies and create the analysis and design documents (system architecture, role identification, and agent description).

- The design process is generic and focuses on a goal analysis for different actors
- Follows a non-deterministic concurrent algorithm.
- Starts with actors with a list of related root goals.
- Analyzes root goals from the actor’s perspective
- Generated sub goals are delegated to other actors (which may require the introduction of new actors)
- Analysis is carried out concurrently with respect to each root goal
- Ends when all goals have been dealt with to the satisfaction of the respective actors.

5.2. Algorithms used

1. Get input
2. Click if the user what to search using **movie title**.
 - 2.1. If No 2 is empty search parameter is movie title, continue.
 - 2.2. Else collect found result from no 2.
 - 2.3. Show found result and stop search.
3. Click if the user what to search using show date.
 - 3.1. If no 3 is empty search parameter is show date, continue.
 - 3.2. Else collect found result from no 3.
 - 3.3. Show found result and stop search.

```
<?php
$post = $_POST;
if(!empty($post))
{
    //check if the user want to search using movie title.
    $search_result1 = 'select * from movie where movie_title LIKE
    "$'.$post['search_input'].'"';
    if(empty($search_result))
    {
        $search_total = $search_result1;
        continue;
    } //check using show date
    $search_result2 = 'select * from Movie where movie_show date LIKE
    "$'.$post['search_input'].'"';
    if(empty($search_result2))

    {
        $search_total = $search_result2;
        continue;
    }
}
```

```
Else
{echo 'No search parameter is defined.';
}
?>
```

5.3. Sample Codes Used

The algorithm code is one of the web site builder codes. Order Cinema Ticket Bookings are made in the website users order based on their interesting. Then through check, search and display the correct detail movie, ticket, Booking etc... information if there is a stable MySQL server connection.

System will render the found result based on their sorted order. Here are the sample MySQL and PHP codes of the part of the system.

5.4. Sample code

Login Sample code

```
<?php
session_start(); // Starting Session
$error=""; // Variable To Store Error Message
if (empty($_POST['email']) || empty($_POST['pass'])) {
    $error = "Username or Password is invalid";
}
else
{
    require("connection.php");

    $em=$_POST['email'];
    $ps=$_POST['pass'];
    $ps=md5($ps);
    $sql="select * from login where email='$em' and password='$ps'";
```

```
$query = mysql_query($sql,$link);
$rows = mysql_num_rows($query);
if ($rows == 1) {
    $_SESSION['luser']=$em; // Initializing Session
    header("location: customer.php"); // Redirecting To Other Page
}
else
{
    header("location: index.html");
    $error = "Username or Password is invalid";
}
include("closeDb.php");
}

?>
```

Sample code for Logout

```
<?php
//session_start();
include('session.php');
echo "you are tring to logout";
unset($_SESSION['login_user']);
session_unregister($_SESSION['use']);
session_unset($_SESSION['use']);
if(session_destroy())
{
    header("Location: index.html");
}

else
```

```
{
echo "U still in session";
}
```

```
?>
```

Sample code for Movie class

```
<html lang="en">
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8">
<title>Page title</title>
<link rel="stylesheet" href="style.css" type="text/css" media="screen">
</head>
<body bgcolor=#777>
<br>
<div id="container">
    <div id="header"> <h2> Adama Mormor Cinema </h2> </div>
    <div id="mainnav">
    </div>
    <div id="menu"></div>
    <div id="contents">
    <?php
```

//Note: Class definition Action 1= Insert, Action 2= select, Action 3=update, Action 4=delete

// Insert operation

```
if ($_SESSION['action']=="1")
{
    $fname=$_POST['movieTitle'].".jpg";
    if ($_FILES["file"]["error"] > 0)
    {
```

```
echo "Error: " . $_FILES["file"]["error"] . "<br />";
    }
    else
    {
        if (file_exists("Posters/" . $fname ))
        {
            echo $_FILES["file"]["name"] . " already exists. ";
        }
        else
        {
            move_uploaded_file($_FILES["file"]["tmp_name"], "Posters/" . $fname);
            echo "Poster stored in: " . "Posters/" . $fname;
        }
    }

    require("connection.php");
    $mtitle=$_POST['movieTitle'];
    $mactor=$_POST['mainActor'];
    $mtype=$_POST['movieType'];
    $mstatus=$_POST['movieStatus'];
    $language=$_POST['language'];
    $sql="insert into movie
values('".$mtitle."', '".$mactor."', '".$mtype."', '".$mstatus."', '".$language."')";
    mysql_query($sql)or die(mysql_error());
    echo '<br> You are registered successfully!';
}

// Select operation
else if ($_SESSION['action']=="2")
{
```

```
        $sql="select * from movie";
$query = mysql_query($sql,$connection);
        echo " <table cellpadding='15px' align='center'>";
        echo " <tr bgcolor='white-Blue' align='center'>";
        echo " <td>Movie Title</td>";
        echo " <td>Main Actor</td>";
        echo " <td>Movie Type DATE</td>";
        echo " <td>Movie Status</td>";
        echo " <td>Language</td>";
        echo " </tr>";
while ($row = mysql_fetch_array($query)) {
        echo "<tr>";
        echo "<td>".$row['movieTitle']."</td>";
        echo "<td>".$row['movieActor']."</td>";
        echo "<td>".$row['movieType']."</td>";
        echo "<td>".$row['movieStatus']."</td>";
        echo "<td>".$row['language']."</td>";
        echo "</tr>";
        }
        echo " </table>";
}
// Update operation
else if ($_SESSION['action']=="3")
{
        require("connection.php");
        $mtitle=$_POST['movieTitle'];
        $mactor=$_POST['mainActor'];
        $mtype=$_POST['movieType'];
```

```
$mstatus=$_POST['movieStatus'];
$language=$_POST['language'];

$sql="update movie set
mainActor='".$mactor."',movieType='".$smttype."',movieStatus='".$mstatus."',language='".$language.'" where movieTitle='".$smttitle.'";
mysql_query($sql)or die(mysql_error());
echo 'Movie updated successfully!';
}
// Delete operation
else if($_SESSION['action']=="4")
{
    require("connection.php");
    $mtitle=$_POST['movieTitle'];
    $sql="delete from movie where movieTitle='".$smttitle.'";
    mysql_query($sql)or die(mysql_error());
    echo 'Movie deleted successfully!';
}
?>
<p align="center">
<a href="./adminCinema.php" >Back</a></p>
</div>
<div id="footer">Copy right © All rights reserved </div>
</div>
</body>
</html>
<?Php } else {echo "You are not allowed!"; }?>
```

Sample code for Customer Registration

```
<html lang="en">
<head>
<meta http-equiv="content-type" content="text/html; charset=utf-8">
<title>Page title</title>
<link rel="stylesheet" href="style.css" type="text/css" media="screen">
</head>
<body bgcolor=#777>
<br>
  <div id="container">
    <div id="header"> <h2> Adama Mormor Cinema </h2> </div>
    <div id="mainnav">
    </div>
    <div id="menu"></div>
    <div id="contents">
      <?php
        require("connection.php");
        $fname=$_POST['firstName'];
        $lname=$_POST['lastName'];
        $em=$_POST['email'];
        $mo=$_POST['mobile'];
        $ps=$_POST['pass'];
        ];
        $sql="insert into login values('".$fname."','".$lname."','".$em."','".$mo."','".$md5($ps).")";
        mysql_query($sql)or die(mysql_error());
        echo 'You are registered successfully!';
      ?>
      <p align="center">

<a href="./customer.php" >Click here to login </a></p>
```

```
</div>
<div id="footer"> This space is available for announcement .... | © All rights reserved </div>
</div>
</body>
</html>
```

Sample code for Schedule

```
<?php
{
    //Note: Meaning Action 1= Insert, Action 2= select, Action 3=update, Action 4=delete

    if ($_SESSION['action']=="1")
    {
        require("connection.php");
        $mtitle=$_POST['movieTitle'];
        $datee=$_POST['datee'];
        $startingTime=$_POST['startingTime'];
        $endingTime=$_POST['endingTime'];
        $sql="insert                into                schedule
values(DEFAULT,",".$datee.",",".$startingTime.",",".$endingTime.",",".$mtitle.")";
        mysql_query($sql)or die(mysql_error());
        echo 'Schedule added successfully!';
    }
    else if ($_SESSION['action']=="2")
    {

    }
    else if ($_SESSION['action']=="3")
    {
        require("connection.php");
        $mtitle=$_POST['movieTitle'];
        $datee=$_POST['datee'];
```

```
$startingTime=$_POST['startingTime'];
$endingTime=$_POST['endingTime'];
$sql="update                                schedule                                set
date='".$_$datee."',startingTime='".$_$startingTime."',endingTime='".$_$endingTime.'"          where
movieTitle='".$_$mtitle.'";

mysql_query($sql)or die(mysql_error());
echo 'Schedule updated successfully!';

    }
else if($_SESSION['action']=="4")
    {
        require("connection.php");
        $mtitle=$_POST['movieTitle'];
        $sql="delete from schedule where movieTitle='".$_$mtitle.'";
        mysql_query($sql)or die(mysql_error());
        echo 'Movie deleted successfully!';
    }
?>
<p align="center">
<a href="/adminCinema.php" >Click here to log into the system</a></p>
</div>
<div id="footer"> This space is available for announcement .... | © All rights reservied </div>
</div>
</body>
</html>
<?Php } else {echo "You are not allowed!"; }
?>
```

5.5. Sample Input/Output Screen

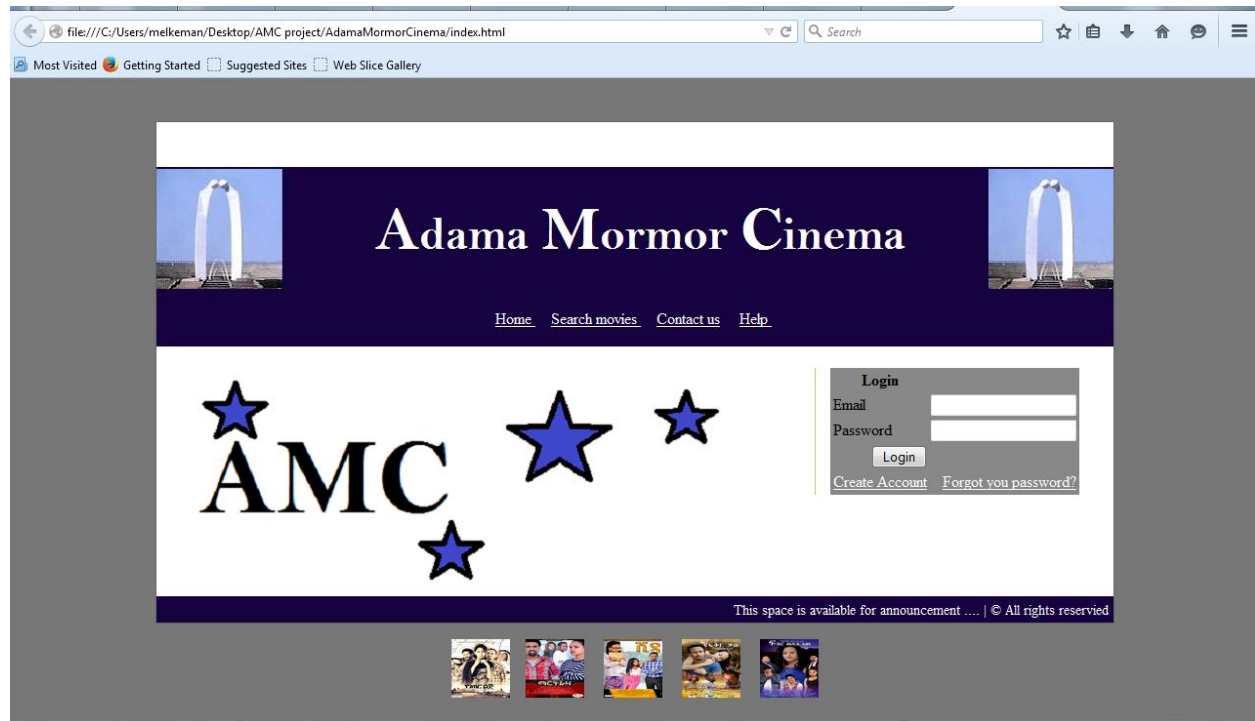


Fig 5.1: Home Page

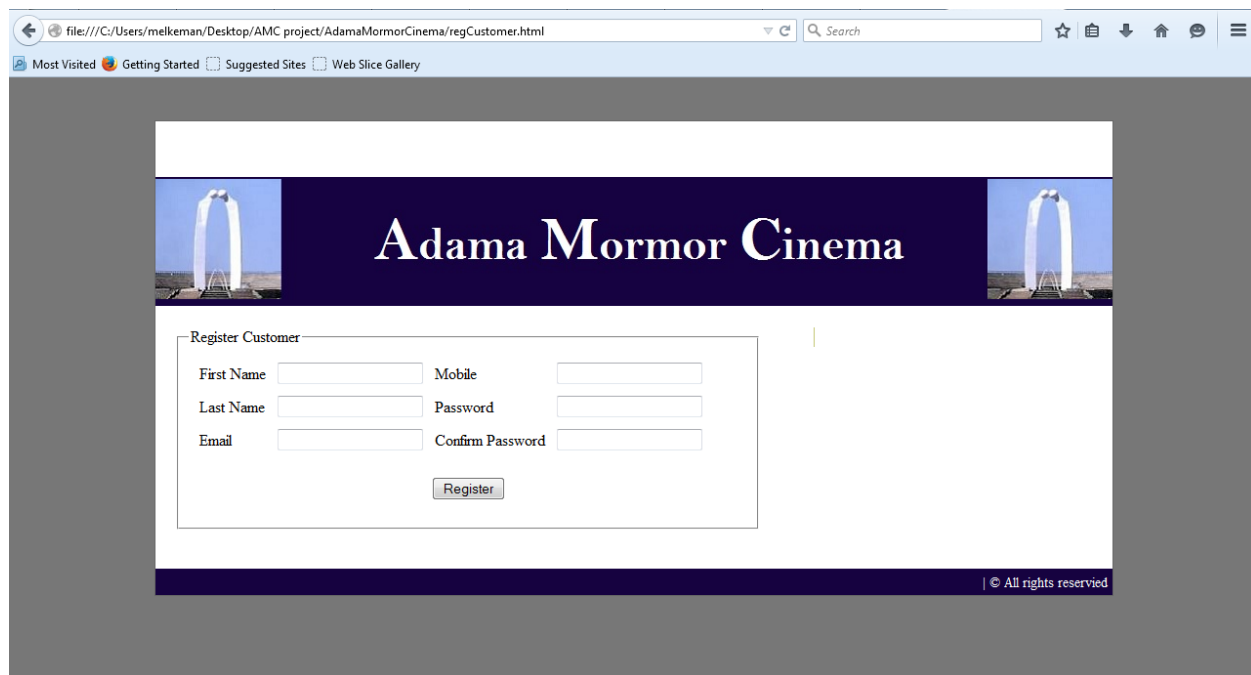


Fig 5.2: Registration Page

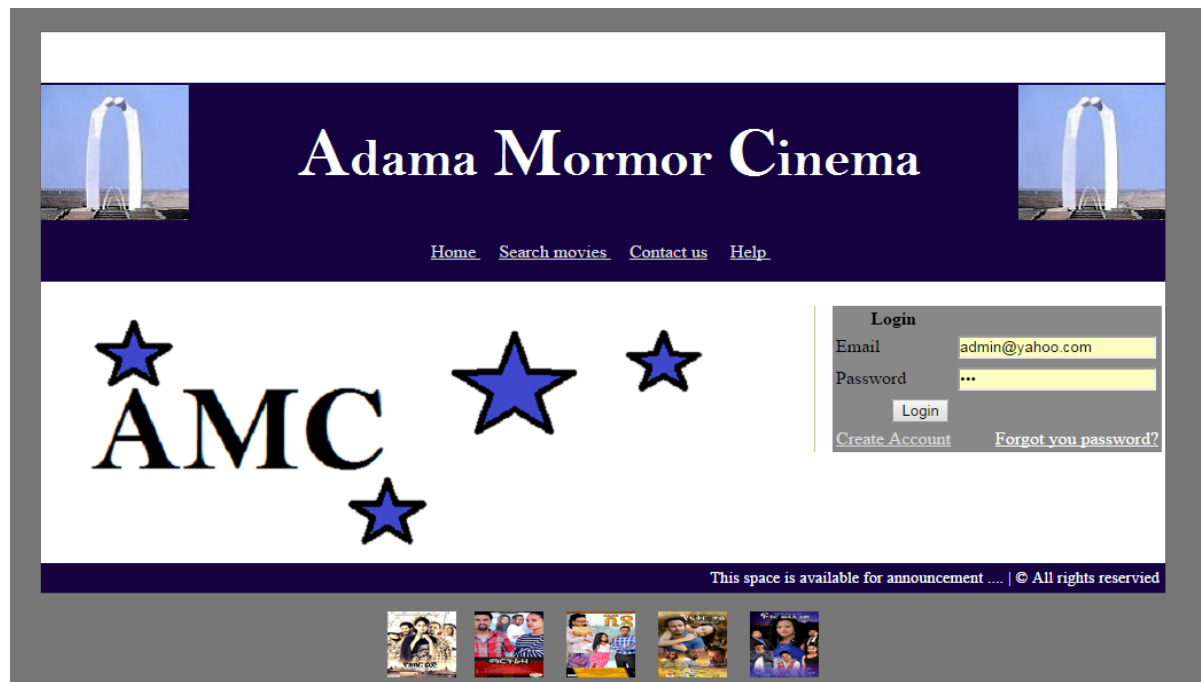


Fig5.3: User's Login Page

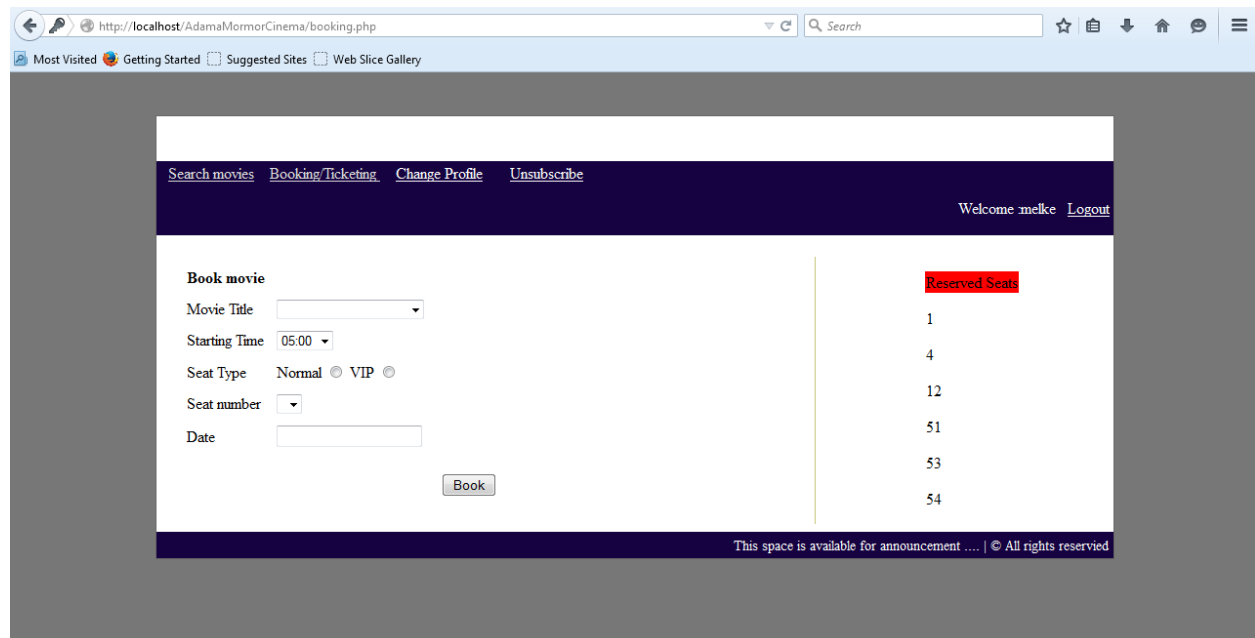


Fig 5.4: Booking Page

Adama Mormor Cinema

[Manage Movies](#) [Manage Schedule](#) [Check Payments](#) [Reports](#) [Unsubscribe](#)

Welcome :Administrator [Logout](#)

Add Schedules

Date

Starting time Ending time

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Fig 5.5: Add schedule page

Adama Mormor Cinema

[Search movies](#) [Booking/Ticketing](#) [Change Profile](#) [Unsubscribe](#)

Welcome :test [Logout](#)

My Profile

Name test Mobile 912213452

Email test@yahoo.com Password

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Fig 5.6: User profile page

5.6. Deployment Methods and Steps

5.6.1. Deployment Methods

The deployment of the system includes changes and enhancements before the decommissioning or sunset of the system. Deployment diagrams defining the topology of the target environment, including which components will run on which computing nodes can be used as deployment diagrams show the computing nodes in the system, their communication links, the components that run on them and their dependencies.

The Adama Mormor Cinema online ticketing system uses the client-server architecture deployment method in which the server used as a computer in which the main system and the database reside in and the client will get access through the Internet using web address which will be registered legally from Ethiopian telecommunication.

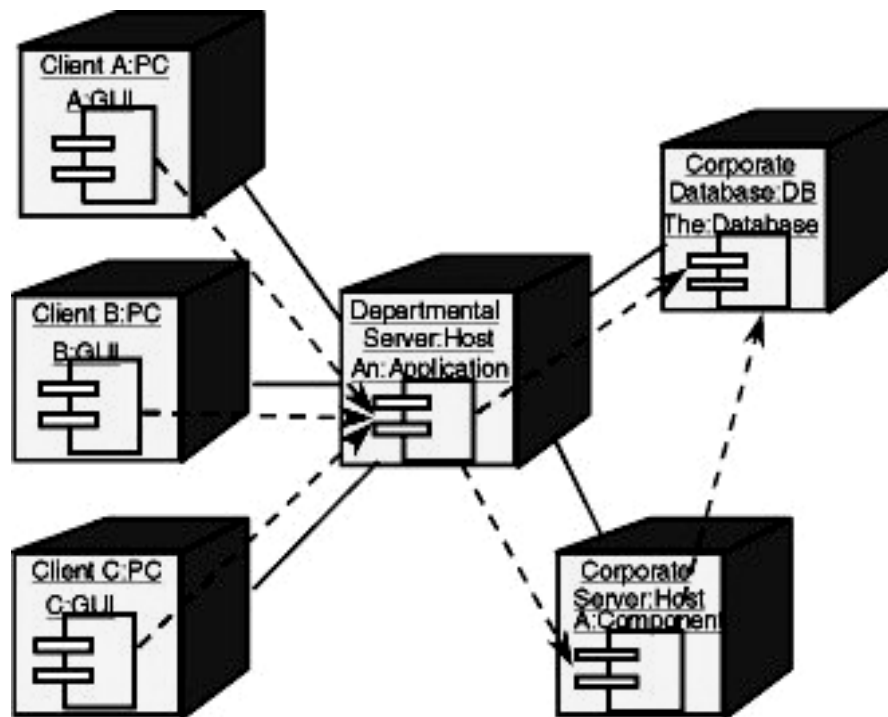


Fig. 5.7. System Deployment architecture of Adama Mormor Cinema

5.5.2. Deployment Steps

- Create two database
- AMC : for Mormor cinema
- Cbe_Accounts : for bank
- Select AMC database and import “AMC .sql” file.
- Select Cbe_Accounts and import “cbe_accounts.sql” file.
- Put “**AdamaMormorCinema**” folder in www folder of your web server.
- Use “**<http://localhost/Adamamormorcinema/index.html>**” in your browser to access the system.
- Use <http://localhost/Adamamormorcinema/regAdmin.html> to create admin accounts

Use <http://localhost:8080/Adamamormorcinema/bankSavingAccount.html> to create bank account and to deposit initial accounts

Chapter Six

6. Test Plan

6.1. Introduction

Once we have completed the development of the proposed system, we must test the system to ensure that it is working as expected and that there are no obvious faults. Faults are otherwise known as software bugs. These are basically mistakes in the software code. No matter how careful coders are or how much time they take, they are only human and mistakes will inevitably occur at some point.

Our testing aims are to find out these software bugs before the system is released. In this testing plan, we also want to ensure that the system is reliable and robust enough to be used for its intended purpose.

As testing is to ensure that the system still meets the client needs (functional requirements). The intent of System Test is to find defects and correct them before go-live. There is no approach or method to guarantee a system completely free of defects. However, following a System Test approach will assist in mitigating risks and ensuring a successful project.

6.1.1. Test Plan Overview

As a test plan is a detailed document in which we must follow carefully. It will set out every single test we are to do on the system, what data we should enter and what result we should expect to obtain being in place of the system users.

In our test plan we should ensure that the testing process we conduct on the system to the minimum covers:

- the requirements of the system
- the performance of the system against the original design
- pathways through the system
- validation routines

6.1.2. Features to be Tested/not to be tested

In this testing section, we have listing of what is to be tested from the users' viewpoint of what the system does. This is not a technical description of the software, but a user's view of the functions.

6.1.2.1. Features to be tested

The testing of our online cinema ticket booking system will consist of basic functional requirements of our system which are discussed as follows:

- **User Testing** – in this testing, we will test that the website is usable and simple to understand. This testing will include getting a host of friends as system users to complete some data entry tasks on the website. Then asking them how simple was entering data into web forms, navigating through and their comments on what they thought of the site. This testing is done to ensure that whether the system accepts the correct data type entry with validation as detailed hereunder.

Table 6.1: Users testing description

Test No	Testing	Condition P/F	User comment
UT1	Register – starting at the website homepage locate the Register form and fill in details, and register for site.		
UT2	Login – go to the website's homepage and attempt to login.		
UT3	Change profiles – locate the form and change some element of your address details.		
UT4	Change Password – locate the form that allows you to change your password and change your password		
UT5	Basic Search – locate the basic search form (available on every page) to do a search by movie title, date and show time		
UT6	Make a ticket Purchase – choose a movie they have found and go through the purchasing process		
UT7	Log out – finally log out the system		

- **Administrator Activities testing** – in this testing, we will test that the overall system administrator activities are functional or not. The system administrator activities to be tested are viewing reports (financial and seat available, tickets sold), editing movie, scheduling, adding movie.

Table 6.2: Administrator testing description

Test No	Testing	Condition P/F	User comment
UT1	Login		
UT2	Add a movie – Add three movies of his/her choice to the database ensure he/she fill in all fields include uploading a poster.		
UT3	Edit a Movie – Edit some element of the movies he/she have just added details of		
UT4	Delete a Movies – Delete two movies from the movie list page.		
UT5	View financial report – access the report menu and be able to see the no of tickets sold, financial status		
UT6	Send customer booking details to their e-mail		
UT7	Log Out		

- **Cross-Browser Compatibility Testing** - this testing will be done to ensure that the website works and looks similar on a variety of different browsers. The testing will be done on the most popular browsers which are:
 - Mozilla Firefox
 - Mozilla
 - Microsoft Internet Explorer
 - Opera
 - Safari
- **Portability Testing** – is the ability of the system to work on different platforms, i.e, whether the system works beyond the system on which it is developed originally. Here we have to test the systems portability before handing over to the client and publishing it to the Internet using Linux systems than windows operating systems.

6.1.2.2. Features not to be tested

This is a listing of what is not to be tested from both the users' viewpoint of what the system does and a configuration management/version control view. System load handling capability, high level security, and real transaction transfer between the bank, customer and the client will not be tested in this version of the system development because of time and other resources limitation and rule and regulations of the Ethiopian Banking system prohibit integration of external systems with their internal system.

6.1.3. Approaches

The approach we use for the testing of our system is iterative or looping around testing approach. We follow the testing plan exactly. We enter the data just as it is shown in the plan and then we record what happened and whether the test passed or failed.

If the test was passed we go onto the next test. If it failed we will go back to the source of the bug or part of the system that we need to look at that part of the system again.

We may pass over to a friend to enter some data and see the output and give comment on the output by comparing with the entered data.

Generally, the testing approaches we follow are:

1. Listing of system functionalities to be tested as specified in the requirement specification
2. Identification of test conditions or parameters
3. Execute the test condition
4. Check the output against the expected results
5. Evaluate and document any unexpected results. Utilize testing incidents database
6. Make sure that any required corrections are migrated and re-tested.
7. Make sure that final testing components (conditions, input, and expected results) are accurate, complete and documented in such a way to make them repeatable and reusable.
8. Review and approve system Test results where appropriate (i.e. new functionality)

6.1.4. Testing Materials (Hardware/Software requirements)

Testing items for the testing of this online cinema ticket booking system refers to those materials (hardware and software) required to test the functionality of the system. The following testing materials are selected as testing materials:

Hardware

- Lap top or desktop computer loaded with Windows XP or above operating system
- crossover network cable
- CDMA

Software

- Web Browser (mozilla firefox)
- Wamp or xampp web Server
- MySQL database server
- SMS server
- GSM modem driver

6.2. Test Case Specification

The purpose of test case specification is to define a test cases identified by a test-design specification. Our test-case specification shall incorporate identifying test-case specification, identifying test items, input and output specifications, identifying environments required for the testing of the system, outlining special procedures if required and intercase dependencies identification.

It shall be ordered in the specified sequence. Since a test case may be referenced by several test-design specifications used by different groups over a long time period, enough specific information must be included in the test-case specification to permit reuse. Details on the content of each section are contained in the following sections

6.2.1. Test-case-specification Identifier

Specify the unique identifier assigned to this test-case specification. Identify and briefly describe the items and features to be exercised by this test case. For each item, we will consider supplying references to the system requirements specification and design specifications.

6.2.2. Test Items

The scope of this Testing activity will include:

- Adama Mormor Cinema online ticket reservation system release Web site application software and supporting infrastructure
- Windows based client platforms

The scope of this testing activity will not include:

- The Requirements & Design Specifications or User, Operations & Installation Guides
- Any Legacy systems that the Online Tickets Reservation application integrates with the exception of the interface

6.2.3. Input Specifications

Specify each input required to execute the test case. Some of the inputs will be specified by value (with tolerances where appropriate), while others such as constant tables or transaction files, will be specified by name. Identify all appropriate data bases, files, terminal messages, memory resident areas, and values passed by the operating system. Specify all required relationships between inputs

6.2.4. Output Specifications

Specify all of the outputs and features (for example, response time) required of the test items. Provide the exact value (with tolerance where appropriate) from each required output or feature.

6.2.5. Environmental Needs

In this section, we will define if there are any special requirements for this test plan, such as special hardware and software required for the testing of our system. Based on this our system requires GSM Modem with driver to send SMS to customers the detail of their booking.

6.2.6. Special Procedural Requirements

It describes any special constraints on the test procedures which execute this test case. These constraints may involve special set up, operator intervention, output determination procedures, and special wrap up.

6.2.7. Intercase Dependencies

List the identifiers of test cases which must be executed prior to this test case. Summarize the nature of the dependencies.

Test-Procedure-specification identifier – the unique identifier assigned to this test –procedure specification Supply a reference to the associated test-design specification.

Purpose –the purpose of this procedure. If this procedure executes any test cases, provide a reference for each of them.

In addition, provide references to relevant sections of the test item documentation (for example, references to usage procedures)

Special Requirements:- any special requirements that are necessary for the execution of these procedures. it may include prerequisite procedures, special skills requirement, and special environmental requirements.

- **Procedure steps:** - The following steps as applicable.
- **Measure;-** The test measurements will be made (for example, describe how terminal response time is to be measured using a network simulator)
- **Shut down:** - The actions necessary to suspend testing, when unscheduled events dictate.

- **Restart:** - identify any procedural restart points and describe the actions necessary to restart the procedure at each of these points.
- **Stop:** - the actions necessary to bring execution to an orderly halt.
- **Wrap up:** - the actions necessary to restore the environment.

Unit Testing

Table 6. 3: Unit test for Login

Test Case Specification Identifier	getContentPane – Initializes the Content Pane if not already loaded, and add components to it
Test Items	getContentPane()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the ContentPane Component
Special Procedural Requirements	N/A
Intercase Dependencies	getUsernameTextField(),getPasswordField(),getLoginButton(),getCancelButton()
Test Result	PASS

Table 6.4..... Unit test for User name field

Test Case Specification Identifier	getUsernameTextField – Initializes the Username textfield component if not already loaded
Test Items	getUsernameTextField()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the usernameTextField component
Special Procedural Requirements	N/A

Intercase Dependencies	N/A
Test Result	PASS

Table 6.5.... Unit test for checking password

Test Case Specification Identifier	getPasswordField – Initializes the getPasswordtextfield component if not already loaded
Test Items	getPasswordField()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the passwordTextField component
Special Procedural Requirements	N/A
Intercase Dependencies	N/A
Test Result	PASS

Table 6.6..... Unit test for Login Button

Test Case Specification Identifier	getLoginButton– Initializes the LoginButton component if not already loaded
Test Items	getLoginButton()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the loginButton component
Special Procedural Requirements	N/A
Intercase Dependencies	N/A
Test Result	PASS

Table 6.7.... Unit test for Content pane

Test Case Specification Identifier	getContentPane – Initializes the ContentPane component if not already loaded, and add components to it
Test Items	getContentPane()

Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the ContentPane component
Special Procedural Requirements	N/A
Intercase Dependencies	getRegisterButton(), getLoginButton(), getExitButton()
Test Result	PASS

Table 6.8.... Unit test for registerButton

Test Case Specification Identifier	getRegisterButton – Initializes the RegisterButton component if not already loaded
Test Items	getRegisterButton()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the registerButton component
Special Procedural Requirements	N/A
Intercase Dependencies	N/A
Test Result	PASS

Table 6.9.... Unit test for Main Menu Bar

Test Case Specification Identifier	getMainMenuBar – Initializes the MainMenuBar component if not already loaded
Test Items	getMainMenuBar()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the MainMenuBar component
Special Procedural Requirements	N/A
Intercase Dependencies	getMainMenu()
Test Result	PASS

Table 6.10.... Unit test for Main Menu Components

Test Case Specification Identifier	getMainMenu – Initializes the MainMenu component if not already loaded
Test Items	getMainMenu()
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Returns the MainMenu component
Special Procedural requirements	N/A
Intercase Dependencies	N/A
Test Result	PASS

Unit Testing for RegisterUI:

Table 6.11.... Unit test for Register User Interface

Test Case Specification Identifier	Register – Initialize Default Constructor
Test Items	Register
Precondition Test Case	N/A
Input Specifications	N/A
Output Specifications	Initializes Register
Special Procedural Requirements	N/A
Intercase Dependencies	initialize()
Test Result	PASS

Integration Testing**System Test**

Table 6.12.users to login

Test Case Properties	
Case ID	The system should allow users to login for detail navigation.
Description	A user should be able to login to the system if they have an account.
Precondition	A valid account has been created
Testing Procedures	
1. Click on the Login button/Link (V1)	
2. Enter an invalid username/password pair and click on Log In (V2)	

3. Leave both username and password empty and click on Log In (V2)	
4. Leave username empty and click on Log In (V2)	
5. Leave password empty and click on Log In (V2)	
2. Enter a valid username/password pair and click on Log In (V3)	
Validation	
V1. The Login window pops up.	
V2. Error Message “Invalid username or/and password” pops up.	
V3. The Portal Main Menu window pops up based on users privilege	
Test Results	PASS

Table 6.13 user register

Test Case Properties	
Case ID	The system should allow users to register an account
Description	A user should be able to register an account
Precondition	N/A
Testing Procedures	
1. Click on the Register button (V1)	
2. Click on Register without filling in any of the text fields (V2)	
3. Enter a valid password and re-enter the password but leave the username empty, click on Register (V2)	
3. Enter a valid username and password and leave “Re-enter password” blank, click on Register (V3)	
3. Enter a valid username and password in “Re-enter password”, but leave password empty, click on Register (V4)	
4. Enter a valid username, password, and an unmatched password, click on Register (V3)	
5. Enter a valid username, password and a matched password, click on Register (V5)	
Validation	

V1. The Register window pops up.	
Test Case Properties	
Case ID	The system shall allow the user to view and register for events
Description	A user should be able to view and register for events
Precondition	A valid user account has been created or not.
Testing Procedures	
1. Log in as a user or not (V1)	
2. Click on the Event main menu button (V2)	
3. Select an events from the drop-down menu, and click on to view (V3)	
4. Click on Event details (V4)	
5.Fill on the registration form first name ,last name and emails and click on register button for the event (V5)	
6. back to the main event navigation window. (V6)	
7. Click on Next events (V7)	
8. Finish all 3 levels of events from the event main menu, and click on logout or leave the page as any guest user. (V8)	
Validation	
V1. Event Main Menu pops up.	
V2. Select events window pops up.	
V3. Events window pops up and the Event lists and registration for event form automatically.	
V4. The event window pops up details events with a register for events.	
V5. Successful registration for event confirmation messages displayed.	
V6. A Next button shows up between cancel and /or navigate to the main window	
V7. Another Event list windows pops up, on the drop down list menu indicates other events of the portal.	
V8. All Event lists are navigated when the portal displays.	
Test Results	PASS

Test Case Properties	
Case ID	The system shall allow the user to exit the portal at any point
Description	A user should be able to exit the portal at any time s/he wants
Precondition	A valid user account has been created /or access as a guest user
Testing Procedures	
1. Repeat test case “The system shall allow the user to navigate the portal based on their privilege level” (V1)	
2. Click on Cancel where ever you are navigating on the site at any level user (level 0 ~ 3) (V2)	
Validation	
V1. The user should be able to navigate through the portal successfully and see all details based on their privilege Events, Links, Classifieds, Discussions, and Services, Join us and Administrators.	
V2. The current user’s window closes up and the user is brought back to the Main Menu.	
Test Results	PASS
V2. Error message “User name empty” pops up.	
V3. Error message “Password does not match” pops up.	
V4. Error message “Password empty” pops up.	
V5. A Message “Account created” pops up, and the user is brought back to the Main Menu.	
Test Results	PASS

Chapter seven

7. Conclusions and recommendation

7.1.Conclusions

The project has been developed successfully and the performance of the system has been found satisfactory. The security has been incorporated as required by any placement firm. Use of computer helps the user in reducing the time wasted in non-productive work. It further helps the user in having immediate access to the information as well as to share the limited resources effectively.

User friendly menu driven interface has been provided to the user to interact with the system. Users can traverse through the website provided the users have the access right set. The users can register themselves through a registration form and then can use the services of the website.

The System will enable the update, retrieval, deletion of customer information and generation of movie and theatre reports accordingly. In addition the System also register customer, enable customer booking and print ticket and manage user account.

The complete and appropriate implementation of Online Movie Ticket Booking System will yield significant advantages to the cinema.

7.2. Recommendation

We recommended that Adama Mormor Cinema is better to use automated booking, paying and income collecting system for movie and theatre. An efficient and proper booking and paying for movie and theatre is required by setting clear and transparent rule and regulation, schedule and timely advertisement. Beside all these, cinema hall should be equipped with new technology and adequate skilled human resources and Internet infrastructure.

7.3. Results Achieved

After ups and down to accomplish the project objectives stated and to fulfill the requirements of the project, we are able to achieve the following results:

- The project is successfully completed as expected within the schedule and budget
- The project was able to attain the specified goal and objectives stated

7.4. Limitation of the project

Our online cinema ticket booking system has some limitations that could be added with the features that has not been achieved or covered by this group because of various factors like time and implementation resources. The major limitations of the system are:

- The system will not show the users the arrangement of seats available for booking graphically
- The system will not provide options for refunding system

7.5. Future works of the system

We hope that this project will help to be a starting point for those who want to contribute to the development of the movie industry, software and programming fields as well as web based database application development.

Those who are interested on the modification, improvement and enhancement of the system can easily incorporate other features of online cinema ticketing system which is not integrated into this system.

Future works may include the following:

- Integrating third party payment system for handling cinema and bank business transactions
- Visual representation of seating arrangements to be selected by the cinema users
- Can integrate mobile cell phone cinema ticketing system
- Can integrate the system that handles additional services may be requested by cinema customers like provision of soft drinks, hot drinks, fast foods etc during the cinema show
- Can integrate the system that supports online movie showing system without going to the cinema hall

Appendix: interview guide

The interviewer gave an explanation to the respondents about the intention of the interview before Proceeding to the questions below:

1. Can you give us detail information on the background of Adama Mormor Cinema?

- Organizational chart
- Written document
- Vision, Mission, Values and Objectives of the organization Overall Activities of the current system

2. How is the income collection system performed in the organization?

3. Does Adama Mormor Cinema have a computerized booking system?

4. Does Adama Mormor Cinema owners have initiative to benefit from Information technology?

5. How many Seats and halls does Adama Mormor Cinema have?

6. How is booking system performed?

User manual/guide

No	Page name	Serve side script	Description
1	Index.html		The first page of the project
2	Home.php		Displays mission and vision of AMC
3	searchMovies.php	viewDetail.php	Shows user to select for a movie. viewDetail.php Display movie detail for a user
4	contactUs.php		Displays contact information
5	help.php		Displays help information
6	regCustomer.html	regCustomer.php	User registration form. regCustomer.php is a server side script
7	customer.php		Customer / user home page displays user information
8	customerSearchMovie.php	customerViewDetail.php	Allows user to select for a movie. customerViewDetail.php Display movie detail for a user
9	booking.php	book.php	Booking form will also send email notification for a user. book.php server side script
10	customerChangeProfile.php	customerClass.php	User update profile form. customerClass.php server side script
11	deleteCustomerAccount.php	customerClass.php	Delete user account. customerClass.php server side script
12	regAdmin.html	regAdmin.php	Allows to create admin page (doesn't have any link for security reason please type on the URL to get this page). regAdmin.php server side script
13	adminCinema.php		Admin home page
14	selectMovies.php		Any movie related operation will be accessed from this page. And displays list of movies available. You can get links on the right side to ADD, UPDATE and DELET movies.
15	regMovies.php	movieClass.php	ADD movie form. movieClass.php is server side script
16	updMovies.php	editMovies.php -> movieClass.php	Allow to select a move you want to UPDATE. editMovies.php display movie detail you want to update. movieClass.php is server side script
17	delMovies.php	movieClass.php	Here you need to select a movie you want to

		php	Deletes. movieClass.php is server side script
18	selectSchedule.php		Any Schedule related operation will be accessed from this page. And displays list of movie schedules. You can get links on the right side to ADD, UPDATE and DELET schedules.
19	regSchedule.php	scheduleClass.php	ADD schedule form. scheduleClass.php is server side script
20	updSchedule.php	editSchedules.php - > scheduleClass.php	Allow to select a schedule you want to UPDATE. editSchedules.php display schedule detail you want to update. scheduleClass.php is server side script
21	delSchedule.php	scheduleClass.php	Here you need to select a movie you want to Deletes. scheduleClass.php is server side script
22	reports.php		Displays general statistical information. There is different links on the right side to get different types of report.
23	ticketSold.php		Displays ticket sold.
24	numberOfMovies.php	reportClass.php	Displays list of movies
25	financialReport.php		Displays deposit information and other
26	changeAdminProfile.php		Admin profile update page
27	deleteMyAccount.php	adminClass.php	Delete admin account. adminClass.php server side script
28	Login.php		Users authentication

- Use URL <https://www.google.com/settings/security/lesssecureapps> and turn **on** 'less secure'.

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