

Design and Implementation of a Movie Reservation System

JohnBosco AGBAEGBU*, CALEB Chibuikem Victor**, AYANGBEKUN Oluwafemi J.*** & Ntiaya Epse TUMA****

*, **, **** (School of Computer Science Mathematics and Information Technology, Houdegbe North American University, Republic of Benin. Email: mazijohnbosco@gmail.com, vheekthorkaykeb@gmail.com, dorvale.ntiaya@gmail.com)

*** (Department of Computer Science, Redeemer's College of Technology & Management, Nigeria Email: ayangbekunoj@gmail.com)

Abstract:

This research is an online movie ticket reservation basically made for providing the customers ample opportunity to make movie reservation booking anywhere and anytime to book for desired but available seat(s) in a movie hall and in a specified seating position. Information about the movies will be online, so the user easily gets more details about the movies released and then make a choice either to buy the ticket or cancel an already placed order at a specified time to the show. This is being implemented using an object oriented software approach through the development of an app and an internet based platform thereby overcoming the traditional movie reservation approach in cinemas.

Keywords — Cinema, Movie, Reservation, Ticket.

I. INTRODUCTION

The name "movie" originates from the term photographic film (also called film stock). Historically, it's the medium for recording and displaying motion pictures. Many other terms exist for an individual motion picture, including picture, picture show, moving picture, photoplay and flick [4]. Today, it is believed that the application of computer technology in any activity would go a long way in making that activity much easier via implementation of online movie ticket reservation system. It is also believed that the benefit and advantages of using computer outweigh that of the manual methods beyond doubt by the researcher through the implementation of the new system.

As cinema going is one of the most popular out-of-home cultural activities, it however affects a series of social, economic and cultural phenomena in modern societies. Cinemas are considered to be an integral part of cities and they contribute to the

definition of a local geography and identity. They also contribute to the preservation of the collective memory, since they constitute a significant social and cultural practice linked to a specific place, which acts as a common reference or landmark for many individuals.

Therefore an online movie ticket reservation system is basically made for providing the customers, anywhere, anytime service for booking of seats in a movie hall and in a specified seating position if still available. Information about the movies will be online, so the user easily gets more details about the movies released and then make a choice. It is a web-based system where customers can buy tickets online and cancel the seat at a suitable time (2 days before the show to 1 hour before the show). To enhance the refund function, all the customers have to register to become a part of database number before buying the ticket. The staff/administrators in charge of the web based database can use the system to insert and delete data

(example film description, time table, price tag) which will update the webpage. Also the staff can check the statistical information from the system. This system is to provide an alternate and convenient way for people to buy movie tickets through an autonomous software application approach.

A. Research Goal

To establish an efficient and healthy way to promote film industry as a means of advertisement on the internet and to provide more enhanced services need for customer satisfaction, the following objectives become paramount:

- To minimize the number of staff at the ticket box and to reduce queue at ticket stands.
- To increase the profit margin and obtain statistical information from the booking record.
- To provide a convenient, anytime, anywhere reservation service for the customers to book their movie ticket.
- To create a reliable database of movies in the case study with their description.

To help customers prepare their schedule so they won't miss the movie due to being choked up with other activities

II. LITERATURE REVIEW

A reservation system is used to ensure customers can purchase tickets for a given performance well in advance and avoid being disappointed at the last minute. Theatre owners also prefer tickets to be sold as early as possible, both for financial reasons and to avoid a long queue at the entrance just before the performance is due to begin.

A. Old Theatre Reservation System

In an old Theatre Reservation System, all bookings are made at the theatre box office; which is the section where the bookings are made, being the first point of contact between the theatre and the public [6]. Also the staff at the office are expected to know about the performance in question, so that the customer's questions could be dealt with in a satisfactory manner [9]. The customer would finally

pay for the agreed seats, and receive tickets printed with the respective seat numbers. The staff would have to carefully mark off the seats on the seating plan for every ticket sold, to avoid double reservation of seats.

On some occasions, not every ticket would have been sold out, and some ticket holders would not attend. In order to maximise profits, the box office would sell any unreserved seats at subsidized rates a few hours before the show starts and the subsidized tickets would be clearly indicated on the tickets stub (which is retained in the box office) for easy accountability at the end of the day. Sales were sometimes deduced by counting the number of unsold tickets after the performance had begun, but due consideration would have to be given concerning any discounting ticket sold [8], [2], [7], [3]. However, the theatre managers were concerned with various tickets sales report, such as master statement showing the number seats at each price and the total potential income on ticket sales, daily reports, weekly reports and seasonal reports.

B. Modern Theatre Reservation System

The fundamental principles of a theatre reservation system have been greatly influenced positively as a result of developments in Information and communication technologies which has brought about major impact on theatre reservation and their implementation using computerised ticketing as similar to that of an Airline reservation. Langley in 1980 suggested that computer-based ticket system was only feasible for large theatre operations [7]. However with today's comparatively low hardware price, the computer has become affordable and is common in most offices. Even the smallest of theatres could afford computerised systems. This made it possible for theatre reservations to be done faster than the traditional approach (old theatre reservation system).

Hillenbrand in 2001 proposed that theatres should also make use of the opportunity provided by other services such as toll free number, credit card processing, internet and mail order, all of which today's consumers make use of [6], [9]. Since the theatre or Cinemas of today has to

compete with other entertainment facilities available to customers, it has to market its services widely such as making an online discount tickets available the press, producers, actors etc., as a means of promoting the cinema and attract more people. Modern day theatre managers now get reservation results instantly due to computerization adopted as being proposed in this research with just a mouse click.

In conclusion, comparing manual and computerised booking systems, Collins quotes a manual theatre manager describing it as a “labour intensive, bulky and hard to make changes” as opposed to “fast, easy, efficient and sleek” respectively [3].

III. ONLINE MOVIE RESERVATION ADOPTION

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 selling and buying have emerged from these advances and one area is of particular interest: Electronic Commerce involving facilitation of transactions and selling of product and services online, i.e. via the internet or any other telecommunications network. Meanwhile, the most exciting and versatile part of electronic commerce involve transactions over the internet.

Electronic Commerce has been proven to be beneficial to in the movie industry. However, selling movie tickets in Cyber space is very different from selling in the cinemas, and requires a critical understanding of consumer behaviour and how new technologies challenge the traditional assumptions underlying conventional theories and models. A critical understanding of this behaviour in cyber space, as in the physical world, cannot be achieved without a good appreciation of the factors affecting the purchase decision [5].

IV. ONLINE TICKETING

Electronic reservation of movies over the internet is a good example of internet commerce. The aim is to facilitate the buying or reservations of movie tickets online, thereby making the process more easily accessible and convenient. Typically, the movie tickets are ordered from the cinema's

website that provides both the ticket's information and the purchasing or reservation service. Internet or online ticketing is all about providing a useful and service to the client and customers. The aim is to make the purchase of reservation of tickets easier to encourage sales.

Online ticketing system has been used especially by firms who sell travel tickets, performing arts, game tickets, concerts, movies and many other activities. Online ticket services have a further advantage by providing relevant information alongside the service. This can aid purchasing decisions and may encourage future usage [1]. So movie tickets buyers only have to get their personal electronic device that has got internet connection. It beats standing in lines, experiencing road traffic, and the only traffic one encounters is that of the so called information superhighway. Therefore, no manpower is required to provide the service once it has been established. The process of recording the transactions is more automated and overhead is reduced.

V. SYSTEM DESIGN & ANALYSIS

This is an important stage in the system development lifecycle. System analysis and design in this context deals with software and development process as more emphasis is given to understand the details of an existing system to determine the need for development of an improved system in terms of both functional and non-functional requirements of the system.

A. Data Collection

In this researcher, both Interview and Observation methods were employed for data collection.

The Interview was carried out between the researcher and the management staff of the Cinema. This also cuts across various departmental heads based on the questions posed to them by the researcher.

Observation Method gives the privilege of witnessing the activities as it occurs in the natural setting considering the research case study by watching, studying the activities being carried out and documenting every actions observed and noted.

B. An existing system overview

The existing system has two ways of booking tickets for a movie in Lagos Television Cinema Case study) by booking tickets at the ticket counter of respective movie Designated centre such as Blue roof centre, marketing department of the television Station, which is a hectic processes for one can be in a long queue for many hours. The other way of booking tickets is through phone called as “Tele booking” Tele booking was introduced keeping in view the user’s comfort while booking tickets. This indicates that the existing system gives you room to book through telephone or through the designated point though its time consuming and physical presence might be necessary at the booking centre at most times.

VI. PROPOSED SYSTEM

This involves an online development software application approach to prefer solution to the problems being encountered in the existing system. A mobile App / website was developed to create a system for easy accessibility. The mobile app / website developed will creates accounts to customers and obtain their personal information / details. The site will offer customers an email list facility where users can enter their email address to be kept up to date with upcoming events. The proposed system is a web based application where one can book or reserve tickets with just a single click. An internet user can buy tickets at any time of the day and be guided with all the necessary steps to book tickets and print out the ticket. Customers can also cancel seats at a suitable time receives confirmation details regarding his cancellation immediately.

VII. RESERVATION MODULES

Online Ticket Reservation system for movies has four modules.

- Authentication
- Administrator
- Member
- Staff

A. Authentication

Authentication is provided to three types of users that approaches the system - the visitor, member and the staff.

B. Administrator

Staff administrator controls the entire system; also has the sole responsibilities of having access to the proposed system and its database.

C. Member

All registered users have a valid user Id and password. The member can avail all the facilities provided by the system through the use of credit card at their comfort which include booking and cancellation of movie tickets.

D. Staff

The details about the presently running movies and the upcoming movies are provided by the staff. The staffs have a provision to view the present details and have every right of making changes as of when due i.e. the staff can use the system to insert and delete data (e.g. film description, time table) which will update the. Staff can also check the statistic information from the system.

VIII. SOFTWARE REQUIREMENTS

Operating System: Microsoft Windows XP (Minimum)
Database: MySQL
Tools: HTML, CSS and JavaScript
Language Requirement: PHP
Design Convention: Rational Unified Process.
Web server: Apache tomcat 5.0

IX. SYSTEM ARCHITECTURE

The proposed system is a web application built on client-server architecture that allows user to get all the relevant information by accessing the site anywhere, anytime via web browser. The proposed e-booking system has three tiers which are the front-end, middle tier and back-end. The customer interacts with the system through the front-end by making requests which is processed through the PHP, which is the middle tier (Fig. 1). The system is executed on a central server and all clients communicate with it. Some of the processing undertaken includes verification, validations, manipulations, request processing, etc.

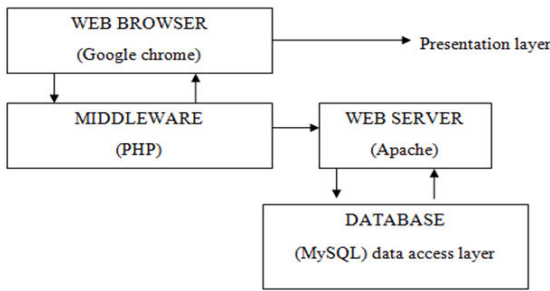


Fig. 1 Systems Architectural Framework

X. SYSTEM IMPLEMENTATION

A. Registration Module

The registration page is implemented for customers to enter necessary details needed in order to create an account (fig. 3). This will allow users to have a username and password that will be required when trying to log into the website via the home page (Fig. 2).

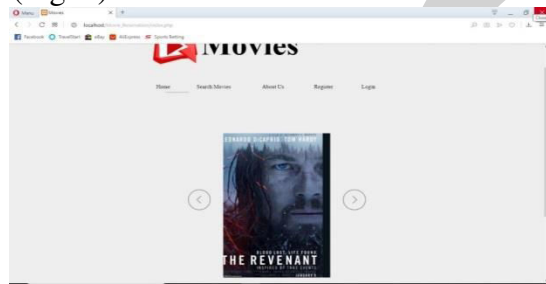


Fig. 2 Home screen

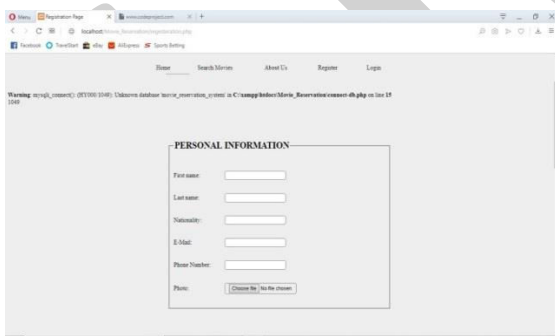


Fig. 3 Registration Page

B. Search Module

This module is the page where movies showing in the cinema are being searched for and also the desired movie of the customer is looked for to know certain information and details of the movie (Fig. 4). The location in which the movie will be shown is searched for, also the time intervals at which the movie will be shown that day,

so as to help the customer choose a preferred convenient time.

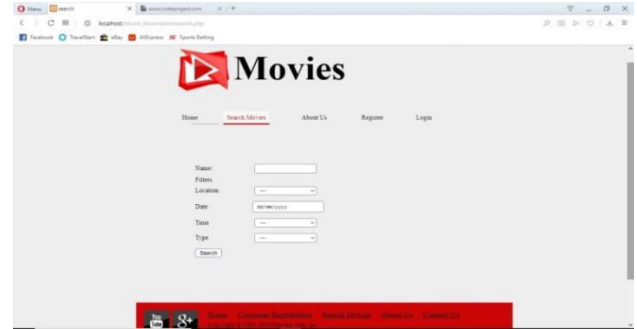


Fig. 4 Search Page

C. Payment Module

The payment page platform is where the payment is done via a third party organization, where card details are required for payment of the selected movie and the customers/users choose their preferred payment method for movie ticket (Fig. 5) using the payment gateway.

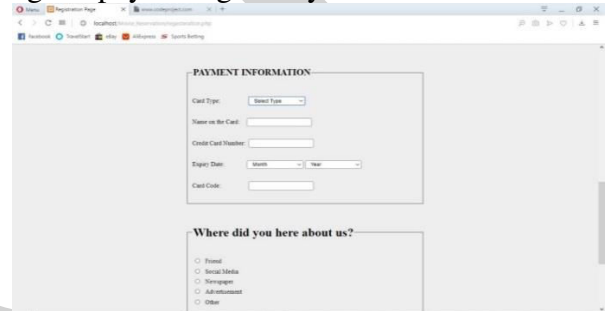


Fig. 5 Payment Gateway

XI. CODING

The programming interface consists of codes written in a specified language as stated in the software requirements (section viii) through which the proposed movie website was created. However, the text application used for the system development is known as Sublime text.

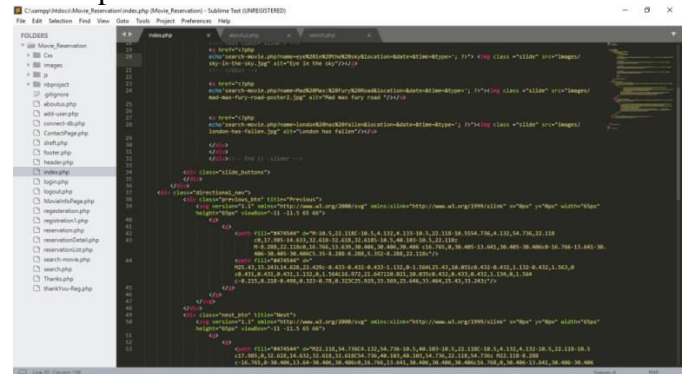


Fig. 6 The coding process

XII. CONCLUSION

This research implements an online movie reservation system for cinema houses mainly in Nigeria. The ease of accessibility makes booking and reservation of tickets and seats convenient for customers/users to select and watch movie at any given period from anywhere in the world. Furthermore, full implementation of this research using software approach will hereby improve the booking system of Nigerian cinemas; even in other areas of life where reservations or bookings are done, and could also revive the dying movie watching in cinemas, while also helping to cut down cost of servicing and extra manpower needed to run report sorting. This reservation system is a slice of real time management system that can be practically implemented. However there are certain assumptions and certain limitations that could be surpassed and various new applications could be added for further research.

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