**VISVESVARAYA TECHNOLOGICAL UNIVERSITY**

**“JNANA SANGAMA”, BELAGAVI-59001**

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**A**

**Mini Project Report**

**On**

**AIRLINE MANAGEMENT SYSTEM**

**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT IN 5TH SEMESTER,**

DATABASE MANAGEMENT SYSTEM LAB(17CSL58)

IN

**COMPUTER SCIENCE AND ENGINEERING**

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**2018-2019**

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**CERTIFICATE**

Certified that the Mini project work entitled “**AIRLINES MANAGEMENT SYSTEM**” carried out by **ANUSHA S** bearing USN [**1JB17CS021] and BANUGARIA DHRUVITA** bearing USN [**1JB17CS033]** are bonafide students of **S J B Institute of** **Technology** in partial fulfilment of mini project of 5thsemester, DATABASE LABORATORY WITH MINI PROJECT (17CSL58) in **COMPUTER SCIENCE** as prescribed by **VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI** during theacademic year **2019-2020.** It is certified that all corrections/suggestions indicated for Internal Assessment have been incorporated in the report deposited in the departmental library. The Mini project report has been approved as it satisfies the academic requirements in respect of Mini Project prescribed for the said degree.

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 **ACKNOWLEDGEMENT**

We would like to express our gratitude to His Divine Soul **Jagadguru** **Padmabhushan Sri Sri** **Sri Dr. Balagangadharanatha MahaSwamiji** and His Holiness **Jagadguru Sri Sri Sri Dr. Nirmalanandanatha MahaSwamiji** for providing us with an opportunity to pursue ouracademics in this esteemed institution.

We would like to express our profound thanks to **Reverend Sri Sri Sri Dr.Prakashnath** **Swamiji**, Managing Director, SJB Institute of Technology, for his continuous support inproviding amenities to carry out this mini project in this admired institution.

We express our gratitude to **Dr. Puttaraju**, Principal, SJB Institute of Technology, for providing excellent facilities and academic ambience, which has helped us in the satisfactory completion of our mini project work.

We extend our sincere thanks to **Dr. Krishna A N**, Head of the Department, Computer Science and Engineering; for providing invaluable support throughout the period of mini project work.

We wish to express heartfelt gratitude to our **guides, Dr.Gopalkrishna M T and Savithri Kulkarni** for their valuable guidance, suggestions and cheerful encouragement during the entire period of this work.

Finally, we take this opportunity to extend our earnest gratitude and respect to our parents, Teaching & Non-teaching staffs of the department, the library staff and all our friends, who have directly or indirectly supported us during the period of this mini project work.

Regards,

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**ABSTRACT**

The purpose of Airline Management System is to automate the existing manual system by the help of computerizing equipment and full-fledged computer software, fulfilling requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work with.

Our project Airline Management System includes home page that allows user to check availability of flights. Using this software, we can check availability of flights and book tickets.

The Airline Management System portal can be accessed using username and password of the admin. The interface we have created is very user-friendly. Airline Database Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather than record keeping. Thus, it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. The data are well protected for personal use and makes the data processing very fast.

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**CHAPTER 1**

**INTRODUCTION**

**1.1 Overview of the project**

Airlines are full time activity zones. Hundreds of travellers travel from one place to another. Other than users who check availability of flights and book tickets, there are admins who take care of administration, maintaining flights and bookings. Since a large volume of data gets generated on the daily basis, adhering to conventional methods is not suitable.

Airline Management System is a platform that allows admin to add details about the flights cancel a flight and check the bookings for a particular flight. It provides information about availability of flights and offers to the users. It is a simple UI (user interface) system with a requirement to maintain all the flight details and booking records. To achieve that, there is a need to use a system which will store and process all this data. The user should register or maintain his/her profile in order to access the Airlines database website.

After registration the user will be provided by his/her own account feed in database with a unique username and password. The website is simple to use and it is a user-friendly application whose role is to maintain data and process it whenever it is needed.

The database consists of five tables with its specific attributes and the five tables are:-

1. Flights
2. Users
3. Admin
4. Booking
5. Passengers

Each table has a unique key attribute named as primary key, a relationship between the tables/entities is drawn using a foreign key and resolved into a tables/entities.

* 1. **DBMS**

A **database-management system** (**DBMS**) is a computer-software application that interacts with end-users, other applications, and the database itself to capture and analyse data. A general-purpose DBMS allows the definition, creation, querying, update, and administration of database. A database is not generally portable across different DBMSs, but different DBMSs can Inter-operate by using standards such as SQL and ODBC or JDBC to allow a single application to work with more than one DBMS.

The DBMS essentially serves as an interface between the database and end users or application programs, ensuring the data is consistently organized and remains easily accessible. A DBMS provides concurrency, security, data integrity, consistency, controls redundancy and data independence. In this project the Relational DBMS (RDBMS) used in MySQL. It is open source software which uses SQL (Structural Query Language) which is a standard language for storing, manipulating and retrieving data in databases.

**1.3 PHP**

**PHP** is a server-side scripting language designed primarily for web development but also used as a general-purpose programming language. Originally created by Rasmus Lerdorf in 1994, the PHP reference implementation is now produced by The PHP Development Team. PHP originally stood for *Personal Home Page*, but it now stands for the recursive acronym *PHP: Hypertext Preprocessor*.

PHP code may be embedded into HTML or HTML5 markup, or it can be used in combination with various web template systems, web content management systems and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in the web server or as a Common Gateway Interface (CGI) executable. The web server software combines the results of the interpreted and executed PHP code, which may be any type of data, including images, with the generated web page. PHP code may also be executed with a command-line interface (CLI) and can be used to implement standalone graphical applications.

**CHAPTER 2**

**DESIGN**

**2.1 REQUIREMENTS AND CONSTRAINT**

* Feature to login for both users and admin
* Feature to add flight details (for admin only)
* Feature to cancel a flight(for admin only)
* Feature to book flight tickets
* Feature to store all the passenger details
* Feature to generate total price after discounts
* Feature to generate tickets

**2.2 ENTITIES AND ATTRIBUTES**

|  |  |
| --- | --- |
| NAME | DESCRIPTION |
| Flights | Contains all the flight details. |
| Users | Contains user information and login credentials. |
| Admin | Contains admin details and login credentials. |
| Booking | Contains booking details of all the users. |
| Passengers | Contains details of passengers travelling in each flight. |

**2.3 SOFTWARE REQUIREMENT SPECIFICATION**

**MINIMUM HARDWARE REQUIREMENTS**

* **CPU** : Intel Centrino Core 2 Duo
* **RAM** : 1GB
* **GPU** : Intel HD Graphics
* **Peripherals** : Standard PS/2 or USB Keyboard , Standard PS/2 or USB Wheel/Optical Mouse

**SOFTWARE REQUIREMENTS**

* **Operating System** : Windows 10
* **Front end :** HTML, PHP, CSS
* **Back end :** MYSQL, XAMPP

**2.4 SYSTEM DESIGN**

**2.4.1 E R DIAGRAM**

The Entity Relationship diagram shows how the tables in the database are connected to each other and how the control flows from one table to another when some action is triggered by the user. It also shows the constraints on the database such as primary key constraints, foreign key constraints, procedures and triggers. Entity Relationship Diagram is also called as the ER Diagram.

When documenting a system or process, looking at the system in multiple ways increases the understanding of that system. ER diagrams are commonly used in conjunction with a data flow diagram to display the contents of a data store. They help us to visualize how data is connected in a general way, and are particularly useful for constructing a relational database.

**2.5 SCHEMA DIAGRAM**

The Schema Diagram gives us the information about the attributes in the tables of the database and the relations between them. The term schema refers to the organization of data as a blueprint of how the database is constructed (divided into database tables in the case of relational databases). The formal definition of the database scheme is set of formulas (sentences) called integrity constraints imposed on the database. Relational schema shows references among fields in the databases. When a primary key is referenced in another table in the database, it is called the foreign key. This is denoted by an arrow with the head pointing at the referenced key attributes.

A schema diagram helps organize values in the database. It also gives an idea of what order the table should be created in. the following diagram shows the schema diagram for the airline database.

Admin

Email ID

Contact

Password

Admin Name

Users

Email ID

Contact

Last Name

First Name

Password

Username

Booking

Booking ID

Username

Payment

Status

Price

No\_of\_tickets

Flight ID

Flights

Price

Capacity

Time

Date

Destination

Departure

Flight ID

Passengers

Contact

Gender

Age

Name

Username

Flight ID

PNR Number

**Figure: Schema Diagram for Airline Management System**

**CHAPTER 3**

**IMPLEMENTATION**

**3.1 TECHNOLOGIES USED**

**Front End**

**HTML**

**Hypertext Mark-up Language** (**HTML**) is the standard mark-up language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript it forms a triad of cornerstone technologies for the World Wide Web. Web browsers receive HTML documents from a web server or from local storage and render them into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects, such as forms, may be embedded into the rendered page. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items. HTML elements are delineated by *tags*, written using angle brackets. Tags such as <img /> and <input /> introduce content into the page directly. Others such as <p>...</p> surround and provide information about document text and may include other tags as sub-elements. Browsers do not display the HTML tags, but use them to interpret the content of the page.

**PHP**

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**CSS**

**Cascading Style Sheets** (**CSS**) is a style sheet language used for describing the presentation of a document written in a markup language. Although most often used to set the visual style of web pages and user interfaces written in HTML and XHTML, the language can be applied to any XML document, including plain XML, SVG and XUL, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS is a cornerstone technology used by most websites to create visually engaging web pages, user interfaces for web applications, and user interfaces for many mobile applications.

CSS is designed primarily to enable the separation of presentation and content, including aspects such as the layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics and enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate CS file, and reduce complexity and repetition in the structural content.

**Back End**

**MYSQL**

**MySQL** is an open-source relational database management system(RDBMS).Its name is a combination of "My", the name of co-founder Michael Widenius's daughter,and "SQL", the abbreviation for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm; the Swedish company MySQL AB, now owned by Oracle Corporation. For proprietary use, several paid editions are available, and offer additional functionality.

MySQL is written in C and C++. Its SQL parser is written in yacc, but it uses a home-brewed lexical analyzer. MySQL works on many system platforms.

**XAMPP**

**XAMPP** is a free and open source cross-platform web server solution stack package Apache Friends, consisting mainly of the Apache HTTP Server, Maria DB database, and interpreters for scripts written in the PHP and Perl programming languages. XAMPP stands for Cross-Platform (X), Apache, MariaDB (M), PHP (P) and Perl (P). It is a simple, lightweight Apache distribution that makes it extremely easy for developers to create a local web server for testing and deployment purposes. Everything needed to set up a web server – server application (Apache), database (Maria DB), and scripting language (PHP) – is included in an extractable file. XAMPP is also cross-platform, which means it works equally well on Linux, Mac and Windows. Since most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server extremely easy as well.

**3.2 COMPONENT MODULES**

* **Module 1 : Home Window**

The homepage appears when the website is opened. This page holds the feature to check the availability of flights. It also contains the links to the follows pages.

1. User Login
2. Admin Login
3. Ticket Generation
4. Contact
5. Offers

* Contains form based user interface for user home page
* Contains member functions defined in php code.

The member functions used are:

* Session\_start (): This function is used to start a session and store session variables.
* Mysql\_connect (): This function is used to connect to the database server, it takes 3 inputs ‘dbhost’,’dbuser’,’dbpass’.
* Isset (): This checks is the variable contains a value or not.
* Mysql\_query (): this method is used to execute a query, it takes two parameters ‘query’ and ‘connection’.
* Mysql\_fetch\_array(): this method is used to fetch the result set of the executed query.
* Contains buttons definition and functions.
* Contains input slots definitions.
* **Module 1 : Login Page**

The Login Window has two buttons, which will redirect to the required pages.

They are:

1. Login
2. New User?
3. **index.php:**

* Consists of definition of login page objects.
* Consists of definition of new user page objects.
* Contains links to different redirect to different pages.
* Contains html code for the user interface used in login page.