Commercial Statistics Management System

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Abstract—To maintain the statistical information of earnings, counters and parcel goods of different stations in Vijayawada division. It is also used to know the variance between different types of earnings during the particular time period by auto remainders", using J2EE technology.The project is used to maintain the minimum and desired amenity availability status and requirement according to station wise. It is also used to find the status of the work, work in progress through online using indicators.The project is used to enter the complaints from the passengers of different stations and to know the status of the complaints whether it is rectified or not through online according to station wise. It is also used to know the other stations list.The project is also used to know the commercial contracts information like parking publicity, pay and use, ATMs, retiring rooms and catering units according to station wise. It is also used to know the status of the contract. It is used to know the upward and downward trains details and timings in different stations particularly Vijayawada division. used to know the earnings of different categories like earnings , counters and parcel goods according to different stations. It is also used to know the variations between different time periods.This includes knowing the contracts information like parking, publicity, retiring rooms, catering units, etc according to station wise. It is used to know the progress of the work and schedule of the work through online. It is also used to know the catering details and performance in catering technology.

Keywords— commercial statistics, Sr. DCM, Amenities, work contracts, Earnings.

I. INTRODUCTION

Strategically positioned in the southern peninsula, this dynamic organization with its headquarters at Secunderabad serves the economically vibrant state of Andhra Pradesh, Parts of Maharashtra, Madhya Pradesh and Tamil Nadu.
 Over the years, South Central Railway has attained sufficient transportation output with adequate infrastructure development and technological upgrading to serve the regions in its jurisdiction. Safe operation of trains, expansion of net work, modern Passenger amenities, Punctuality of trains, courteous service and cleanliness in stations and trains remain always the thrust areas of this Railway.

Being a service oriented organization, South Central Railway provided Computerized Passenger Reservation System at 85 Stations/locations covering 96% of the berths available. In the a renal of information dissemination to the rail customers, it has provided Inter-active Voice Response System (IVRS) for Reservation and train enquiry, National Train Enquiry System (NTES) for real time information on movement of trains, Passenger Operated Enquiry Terminals (POET) with information on availability of accommodation and confirmation and Close Circuit Television (CCTV) for real time reservation availability status at all important stations in its system.

It's reliable and comfortable Passenger Services for long and short distance travel by way introducing many super fast and intercity trains helps transform the society by catering to their personal, business, educational and tourism purposes

1.1 Purpose:

The main purpose of the project is to provide all the details of commercial department in the computerized form. Also to reduce the work of manual labor. This mainly focuses on various facilities available in the railway station and the ones to be introduced. Actually everything is maintained in the form of a book. To avoid it and create an easier view of information we are creating this project.

1.2 Suggestions:
- Creating online information so that the commercial officer can easily view the data
- Avoiding manual work
- Providing information in the online format so that everyone can use it

1.3 Scope:
This project has a wide scope for development by including some extra features such as we can provide the administrator with the capability of updating the selected fields in the forms dynamically. This project can be further extended by increasing the range of the utilization by several other zones of the railways. Making more and more sophisticated, it can be made more efficient. Using specialized interaction will enhance the billing methodology.

1.4 Modules:

Statistical Earnings:
This module is used to know the earnings of different categories according to different stations. Earning may be from tickets, parcels, Goods, counter etc. There may be no of counter in one station. Tickets can be of two type UTS, PRS. It is also used to know the variations between different time periods.

CB Profile:
This module is used to know the complete information of the employees of Commercial Branch in Vijayawada division

Works Contract & Catering Tech:
This module includes knowing the contracts information according to station wise. It is used to know the time period

of contract in online if the contract has been completed he should renewal the contract. It is also used to know the catering details and performance in catering technology.

Remainders:

This module is used to differentiate statistical earnings according to the category. It is also used to know the contracts time periods has been completed or not if it completed a remainder will be specified.

Time Table:

This module is used to know the train time table in particular stations according to their sections in Vijayawada division. It will display all up train and down trains details.

II. OVERALLDESCRIPTION

2.1Product perspective:
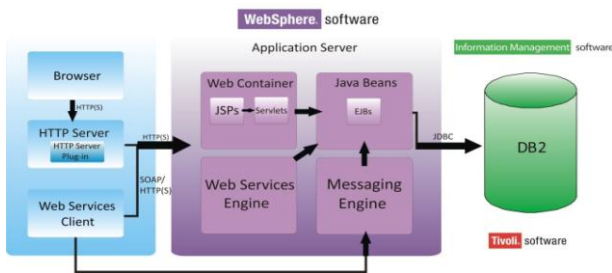
2.2 Overview:

The Overall Description section of this document, gives an overview of the systems functionality. It describes the system environment and is used to establish a context for the technical requirements specification in the next section.

The next part, Functional Requirements section, of this document is written primarily for the developers and describes in technical terms the details of the functionality of the product.

The remaining sections of this document describes the same software system in its entirety, but are intended for different audiences and also gives a clear description of the Non Functional Requirements of the system, Software Requirements and Hardware Requirements.

It is also used to know various section present in commercial branch. It contains different sections like coaching section, general section, accounting section, dispatch, general, goods etc.
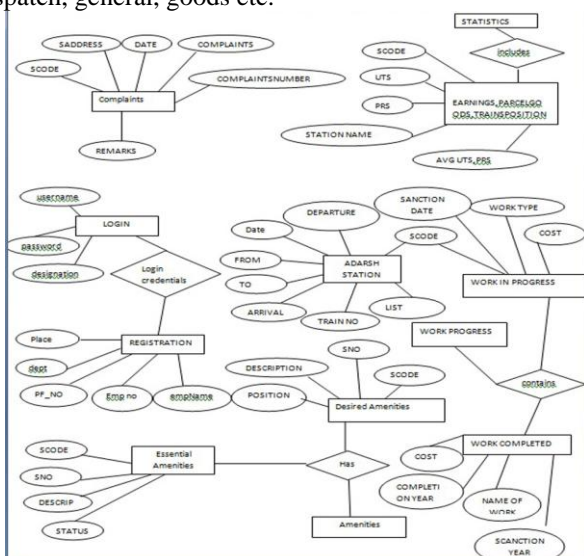
Erdiagram:

III. SYSTEM ANALYSIS

2.1 Existing System

Currently "OFFICE OF THE COMMERCIAL DEPARTMENT" is following candidature system in which the files are being analyzed and forwarded, all this work is done manually through records. Printing the reports in Word Star, some time in word document. Storing the data in excel sheets.

The Proposals are being executed by paper work only. Which also includes the problems of misunderstanding of the previous staff's noting?

The activities include:

➢ Maintaining Record of Statistical data of all the stations in Vijayawada division.

➢ Based on the Statistical data dividing stations into various categories.

➢ Maintaining Work Contracts data of all station present in Vijayawada division.

➢ Based on the Time period of contracts they have to renewal the contracts.

➢ Based on these contracts the railway is getting some earnings by giving permission to put stall in stations.

➢ Updating all above data whenever needed and generating a

Consolidated report manually on paper.

2.2 Proposed System

To overcome the drawbacks in Existing system, it is necessary to computerize the Commercial system details of the Statistical Earnings, Work Contracts, and Train Timings etc according to station wise. The staff can enter the data about the Statistics available, Work Contracts, and Train Timings in a particular station with in Vijayawada division.

Advantages:

• Provides optimum and effective utilization.

• It is web-based application we can have consistency.

• Provides timely information.

• Proposed system helps in increasing productivity and reduces paper work.

2.3 Feasibility Study

Feasibility study is an important phase in the software development process. It enables the developer to have an assessment of the product being developed. It refers to the feasibility study of the product in the product in terms of outcomes of the product, operational use and technical support required for implementing it.

Feasibility study should be performed on the basis of various criteria and parameters.

The various feasibility studies are:

1. Operational Feasibility
2. Technical Feasibility
3. Economic Feasibility

Economic Feasibility

It refers to the benefits or outcomes we are deriving from the product as compared to the total cost we are spending for developing the product. If the benefits are more or less the same as the older system, then it is not feasible to develop the product. In this product we have developed this application for personnel use in commercial department so it is much beneficial to them and also the cost of producing this is less as we used simple software's and programming languages.

Technical Feasibility

As the people say, "To err is human" Keeping in view the above fact, now a-days all organizations make the repetitive and monotonous work done by humans to web-based applications. The key process areas of current system are nicely amenable to a web-based application and hence the technical feasibility is provided beyond doubt.The proposed system is technically feasible, since the equipment, software technology and available personal in the organization are well suitable for the proposed system.

Operational Feasibility

It is measured by the usage of the system. After implementation and resistance of user, the employees of departments are extending support and there is no danger in resisting changes. Hence, it is operational feasible. The computerization will increase the operational efficiency of the stations.

Have the user been involved in the planning and development of the project?

Early involvement reduces the chances of resistance to the system and in general and increases the likelihood of successful project. Since the proposed system was to help reduce the hardships encountered. In the existing manual system, the new system was considered to be operational feasible.

IV. IMPLEMENTATION

4.1 Description of Front end

Hyper Text Mark Up Language (HTML)

HTML is a static language used to create hypertext documents that have hyperlinks embedded in them. You can build web pages. It is only formatting language and not a programming language. Hyperlinks are underlined or emphasized words or locations in a screen that lead to other documents. WWW is a global, interactive, graphical, hypertext information systemThe behind hypertext is that instead of reading text in rigid linear structure you can easily jump from point to another point. You can navigate through the information based on your interest and preferences.

Advantages of HTML

A HTML document is small and hence easy to send over the net. It is small because it does not include format information.HTML documents are cross platform compatible and device independent. You only need HTML readable browser to view them. Font names, locations etc are required.

Java Script

Java Script is popular scripting language that lets you embed your programs an run these in a web browser. These programs can be places in a <SCRIPT> tag with a language property setting to "JAVASCRIPT", which is in either <HEAD> of <BODY> tag. It makes the static web page that is developed using static HTML tags to dynamic by using java language syntax and its attributes. So it is the case sensitive.

Java Script is used to perform the client side validations dynamically at run time. It is said to be an Object Based programming language where it has a rich support of predefined objects, which can be used directly without any creation of an instance. Some of these objects are document, form, frame, history, window, location…etc. Each of the objects will have their own methods and properties.

Methods can be used to perform some actions with that object. Besides performing actions using methods one can also read and change settings in those objects using properties.

Uses of Java Script

Java Script provides a fairly complete set of built-in functions and commands, enabling you to perform Math calculations, manipulate strings, play sounds, open new windows and new URLs, access and verify user input to your web forms.Code to perform these functions can be embedded in a page and executed when the page is loaded. We can also write functions containing code that is triggered by events you specify. You can write a java script method that is called when the user clicks submit button of a form, for example or one that is active when the user clicks a hyperlink on the active page.

Java script commands are embedded in HTML documents. Embedding java script in your pages requires only one new HTML element. The <SCRIPT> element takes the attribute 'LANGUAGE' which the scripting language to use when evaluating the script and '**src'** which can be used to load script from an external source.

Java Server Pages (JSP)

A JSP page is a text document that contains two types of text: static data, which can be expressed in any text-based format (such as HTML, SVG, WML, and XML), and JSP elements, which construct dynamic content. The recommended file extension for the source file of a JSP page is .jsp. The page can be composed of a top file that includes other files that contain either a complete JSP page or a fragment of a JSP page. The recommended extension for the source file of a fragment of a JSP page is .jspf.

The JSP elements in a JSP page can be expressed in two syntaxes--standard and XML--though any given file can use only one syntax. A JSP page in XML syntax is an XML document and can be manipulated by tools and APIs for XML documents.

Java Server Pages technology allows web developers and designers to easily develop and maintain dynamic web pages that leverage existing business systems. As part of the Java technology family, JSP enables rapid development of web-based applications that are platform-independent. JSP separates user interfaces from content generation, enabling designers to change the overall page layout without altering the underlying dynamic content.

So what exactly is a Java Server Page? In its basic form, a JSP page is simply an HTML web page that contains additional bits of code that execute application logic to generate dynamic content. This application logic may involve JavaBeans, JDBC objects, Enterprise Java Beans (EJB), and Remote Method Invocation (RMI) objects, all of which can be easily accessed from a JSP page. For example, a JSP page may contain HTML code that displays static text and graphics, as well as a method call to a JDBC object that accesses a database; when the page is displayed in a user's browser, it will contain both the static HTML content and dynamic information retrieved from the database.

The separation of user interface and program logic in a JSP page allows for a very convenient delegation of tasks between web content authors and developers. It also allows developers to create flexible code that can easily be updated and reused. Because JSP pages are automatically compiled as needed, web authors can make changes to presentation code without recompiling application logic. This makes JSP

a more flexible method of generating dynamic web content than Java servlets, whose functionality Java Server Pages extend.

Features of JSP:

The main features of Java Server Pages (JSP's) are as follows:

Portability:

Java Server Pages files can be run on any web server or web-enabled application server that provides support for them. Dubbed the JSP engine, this support involves recognition, translation, and management of the Java Server Page lifecycle and its interaction components.

Components:

It was mentioned earlier that the Java Server Pages architecture can include reusable Java components. The architecture also allows for the embedding of a scripting language directly into the Java Server Pages file. The components current supported include Java Beans, and Servlets.

Processing:

A Java Server Pages file is essentially an HTML document with JSP scripting or tags. The Java Server Pages file has a JSP extension to the server as a Java Server Pages file. Before the page is served, the Java Server Pages syntax is parsed and processed into a Servlet on the server side. The Servlet that is generated outputs real content in straight HTML for responding to the client.

Access Models:

A Java Server Pages file may be accessed in at least two different ways. A client's request comes directly into a Java Server Page. In this scenario, suppose the page accesses reusable Java Bean components that perform particular well-defined computations like accessing a database. The result of the Beans computations, called result sets is stored within the Bean as properties. The page uses such Beans to generate dynamic content and present it back to the client.

V. JAVA DATABASE CONNECTIVITY (JDBC)

JDBC is a Java API for executing SQL statements. (As a point of interest, JDBC is a trademarked name and is not an acronym; nevertheless, JDBC is often thought of as standing for Java Database Connectivity. It consists of a set of classes and interfaces written in the Java programming language. JDBC provides a standard API for tool/database developers and makes it possible to write database applications using a pure Java API.

Using JDBC, it is easy to send SQL statements to virtually any relational database. One can write a single program using the JDBC API, and the program will be able to send SQL statements to the appropriate database.

4.1 Three-tier Model:
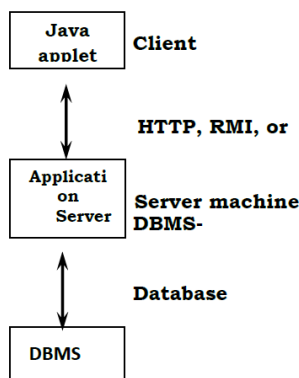
4.2 Description of Back end

ORACLE 10g:

The g stand for grid computing. A common misconception seems to be that grid is just the new name for RAC (having improved RAC). This is not the case. 10g comes with both RAC and grid. One will be able to install 10g with RAC only or with grid only, without either and with both. There is profound difference between grid and RAC

One of the goals for 10g was to deliver a complete, integrated stack of software so as to make it possible for oracle users to not have to depend any more on third party software.

This lead to 12 development focus areas for 10g:

- Application Development
- Business intelligence and data warehousing clustering
- Content management
- High availability
- Information integration
- Life sciences
- Location services
- Performance and scalability
- Security and directory
- Server manageability
- Windows

10g is said to have 149 new features. Possibly, the mose popular will be the modelclause and the transportable table spaces.

The SQL*PLUS copy command will be deprecated.

- **SQL model clause**: This will enhance SQL for calculations. SQL result sets can be treated like multi dimensional arrays.
- **HTML DB**: This will be RAD environment for web based applications.
- PHP will be supported
- **SQL**: Regular expression (finally), native numbers (based on IEEE 754), enhancements for LOBs, enhancements for collections.

It should be noted, however, that regular expressions were available through the owa pattern package.Data pump replaces EXP and IMP. It provides high speed, parallel, bulk data and meta data movement of oracle data base contents across platforms and data base versions. If a data pump job is started and fails for any reason before it has finished, it can be restarted at a later time.

- **ASM:** automatic storage management
- **Flashback database**: Old database block images are stored in a flash recovery area which allows fast rollbacks of database (as no online redo logs are required). Flashback database makes it also possible to correct user errors. Undraping table's automatic shared memory management is another self management enhancement to oracle. It includes a new parameter: sga target
- **ADDM**: automatic database diagnostic monitor. ADDM enables oracle to diagnos its own performance problems.

For example, ADDM identifies the most resource intensive SQL statements and passes that statement to the SQL tuning advisor.

- **AWR**: Automatic work load repository. AWR periodically gathers and stores system activity and workload data which is then analysed by ADDM.

ORACLE 10g EXPRESSES EDITION:

Oracle database 10g express edition is an entry-level, small-footprint database based on the racle database 10g release 2

code bases that's free to develop, deploy and distribute; fast to download and simple to administer. Oracle data base XE is a great starter database for:

- **Developers** working on PHP, java, .NET, XML, and open source applications.
- **DBAs**who need a free, starter database for training and development.
- **Independent software vendors (ISVs) and hardware vendors** who want a starter database to distribute free of change.
- **Educational institutions and students** who need a free database for their curriculum

With oracle database XE, you can now develop and deploy applications with a powerful, proven. Industry-leading infrastructure and then upgrade when necessary without costly and complex migrations.

4.3 Description of Web Server

Tomcat is an open source web server developed by Apache Group. Apache Tomcat is the servlet container that is used in the official Reference Implementation for the Java Servlet and Java Server Pages technologies. The Java Servlet and Java Server Pages specifications are developed by Sun under the Java Community Process. Web Servers like Apache Tomcat support only web components while an application server supports web components as well as business components.Apache Tomcat is a servlet container developed by the Apache Software Foundation (ASF). Tomcat implements the Java Servlet and the Java Server Pages (JSP) specifications from Sun Microsystems, and provides a "pure Java" HTTP web server environment for Java code to run.

Tomcat should not be confused with the Apache web server, which is a C implementation of an HTTP web server; these two web servers are not bundled together. Apache Tomcat includes tools for configuration and management, but can also be configured by editing XML configuration files.

- implements the Servlet 2.5 and JSP 2.1 specifications
- support for Unified Expression Language 2.1
- designed to run on Java SE 5.0 and later
- support for Comet through the Comet Processor interface
- is not packaged with an admin console as in past releases

VI. NET BEANS IDE 6.1

Using an Integrated Development Environment (IDE) for developing applications saves you time by managing windows, settings, and data. In addition, an IDE can store repetitive tasks through macros and abbreviations. Drag-and-drop features make creating graphical user interface (GUI) components or accessing databases easy, and highlighted code and debugging features alert you to errors in your code.

The Net Beans IDE is open source and is written in the Java programming language. It provides the services common to creating desktop applications -- such as window and menu management, settings storage -- and is also the first IDE to fully support JDK 5.0 features. The Net Beans platform and IDE are free for commercial and noncommercial use, and they are supported by Sun Microsystems.

The Net Beans environment also provides many rich features for the various Java platforms, such as Java Platform, Enterprise Edition (Java EE) and Java Platform,

Micro Edition (Java ME). The Net Beans IDE has many features and tools for each of the Java platforms. Those in the following list are not limited to the Java SE platform but are useful for building, debugging, and deploying applications and applets.

VII. SCOPE FOR FUTURE ENHANCEMENTS

Some enhancements have to be implemented to make the system used in the organization full-pledged.
Some of the future enhancements are:

- Time can be further reduced by doing the automati on process.
- Users are provided with the option to view all the records at a time.
- Database will be enhanced to store more details of the user
- More security has to provide for protection of the
- System.

The statistical remainders and contracts in CBhas the flexibility to extend many more features like, to place the project in the main server of the South Central Railway and can enhance these features to each and every department of the division. This statistical remainders and contracts in CBhas also the scope to develop like a mail application. This system is useful for the employees of Commercial Department to know the details of particular stations, contracts, Train timings, CB Profile etc details frequently. Finally this application has maximum scope to emphasize their features in the future also and more over we can implement the new technologies over it

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