Instant Information and security directorate

G.Keerthi¹, Vemu Samson Devakumar², ³M.Nalini Sri
¹ Electronics & Computer Engineering, IV/IV, K.L.University, Vaddeswaram, Guntur.
³ Asst. Prof, Electronics & Computer Engineering, K.LUniversity, Vaddeswaram, Guntur.
² Project Manager, Software Development Training Center, South Central Railway WWO, Vijayawada.

Abstract— south central railway was formed on 2nd october, 1996 as the 9th zone of the Indian railways. in its forty two years of committed service and path breaking progress, south central railway has grown to a modern system of mass transportation fulfilling the aspirations of the passengers/customers and carved a niche for itself in Indian railways system. on formation of the south central railway, vijayawada division is a part of it. The vijayawada division forms a vital link in the network of Indian railways; it is the threshold to south India and connects east, south west and north. the new system is proposed which is completely computerized. the inspected person is informed through the sms about the schedule of the inspection day before. all the inspection reports, punishment reports are maintained in the database by the higher officials. The inspection information that is about the section, location, time etc are informed to the officer’s inbox. proposed system is maintain all inspection details.it is free of time consuming, maintain all records efficiently. Here every officer maintain login. and every one login to their corresponding login and see their schedules and perform their inspections and then send the reports to sr.dso. suppose if any irregularities are there dso will take action on the particular members.

Keywords— Schedule, Inspection, SMS, Officer.

I. INTRODUCTION

1.1 Purpose

The main purpose of the project is “to maintain the inspection information of different sections and to send the complete inspection schedule based on month wise from safety department to other departments through online.

1.2 Scope

The scope of the project is as follows:

It is used to maintain the inspection reports and punishment details using indicators. It is also used to intimate inspection schedule through SMS to the Common User Group mobiles of other department officers. Different IP addresses will be introduced for different departments basing on which corresponding home page gets displayed. Automation will be improved.

1.3 Overview

The manual procedure in informing the details about the inspection schedule to the officers and generating the reports is a time consuming process and error prone due to human limitations. The existing system has been facing certain limitations like not having the ability to provide flexibility in report generation. This system is an enhancement to the existing system covering some of its limitations. The present project is aimed at sending the schedule and the inspection details to the employees of different departments through SMS or E-mail. It also includes the status of the work done by each officer and also in maintaining the reports, irregularities of the inspection.

II. EXISTING SYSTEM & PROPOSED SYSTEM

2.1 Existing system:

It is completely based on manual work. The person who is going to inspect the places is intimated directly by the other person. It consumes more time to inform the officers about their inspection details. Informing to the officers about the schedule should start before otherwise it cannot be possible to inform within the time. The inspection reports are maintained in a record with date and time. And the irregularities, punishment details, user details are maintained by the higher officers in the safety department. It takes a lot of time to maintain the records manually.

2.2 Limitations in Existing system:

• Consumes more time.
• Ambiguity arises in maintaining the records.
• It needs lot of manual work.
• In case, of missing of data there is no backup of that data.

To overcome all these problems we need to develop a software system which tracks all the above activities. This system is very helpful to store all the details and also reduces the time and manpower.
2.3 Proposed system:
The new system is proposed which is completely computerized. The inspecting person is informed through the SMS about the schedule of the inspection once in a month. All the inspection reports, punishment reports are maintained in the database by the higher officials. The inspection information that is about the section, location, time etc are informed to the officer’s inbox. The reports will be checked by the head of the safety Department after the inspection has been completed by the officers. The final reports are also verified by Division Regional Manager and Assistant Division Regional Manager.

2.4 Advantages over the Existing System:

1. Maintaining the data effectively across different sections of the Inspection Schedule.
2. Data redundancy, inconsistency, lot of human work will be reduced.
3. Calculation of time will be done automatically.
4. This system provides a Common User Interface for the administrator to log on to the system.
5. The interface of this application is user friendly and it is a web based application
6. As it is web based application it doesn’t require any client side installation and requires a url which enables users to access.

III. SOFTWARE REQUIREMENT ANALYSIS

3.1 Feasibility study:
All projects are feasible, given unlimited resources and infinite time. But the development of software is plagued by the scarcity of resources and difficult delivery rates. It is both necessary and prudent to evaluate the feasibility of a project at the earliest possible time. Three key considerations are involved in the feasibility analysis.

3.1.1 Economic Feasibility:
Economic feasibility attempts to weigh the costs of developing and implementing a new system, against the benefits that would accrue from having the new system in place. This feasibility study gives the top management the economic justification for the new system. A simple economic analysis which gives the actual comparison of costs and benefits are much more meaningful in this case.

In addition, this proves to be a useful point of reference to compare actual costs as the project progresses. There could be various types of intangible benefits on account of automation. These could include increased customer satisfaction, improvement in product quality better decision making timeliness of information, expediting activities, improved accuracy of operations, better documentation and record keeping, faster retrieval of information, better employee morale.

3.1.2 Technical Feasibility:
Evaluating the technical feasibility is the trickiest part of a feasibility study. This is because, at this point in time, not too many detailed design of the system, making it difficult to access issues like performance, costs on (on account of the kind of technology to be deployed) etc. A number of issues have to be considered while doing a technical analysis.

Understand the different technologies involved in the proposed system before commencing the project we have to be very clear about what are the technologies that are to be required for the development of the new system. Find out whether the organization currently possesses the required technologies. Is the required technology available with the organization?

3.1.3 Operational Feasibility:
Proposed project is beneficial only if it can be turned into information systems that will meet the organizations operating requirements. Simply stated, this test of feasibility asks if the system will work when it is developed and installed. Are there major barriers to Implementation? Here are questions that will help test the operational feasibility of a project:

Is there sufficient support for the project from management from users? If the current system is well liked and used to the extent that persons will not be able to see reasons for change, there may be resistance. Are the current business methods acceptable to the user? If they are not, Users may welcome a change that will bring about a more operational and useful systems. 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

HTML, an initialize of Hypertext Markup Language, is the predominant markup language for web pages. It provides a means to describe the structure of text-based information in a document — by denoting certain text as headings, paragraphs, lists, and so on — and to supplement that text with interactive forms, embedded images, and other objects. HTML is written in the form of labels (known as tags), surrounded by angle brackets. HTML can also describe, to some degree, the appearance and semantics of a document, and can include embedded scripting language code which can affect the behavior of web browsers and other HTML processors.

JavaScript is a script-based programming language that was developed by Netscape Communication Corporation. JavaScript was originally called Live Script and renamed as JavaScript to indicate its relationship with Java. JavaScript supports the development of both client and server components of Web-based applications. On the client side, it can be used to write programs that are executed by a Web browser within the context of a Web page. On the server side, it can be used to write Web server programs that can process information submitted by a Web browser and then update the browser’s display accordingly

Even though JavaScript supports both client and server Web programming, we prefer JavaScript at Client side programming since most of the browsers supports it. JavaScript is almost as easy to learn as HTML, and JavaScript statements can be included.
in HTML documents by enclosing the statements between a pair of scripting tags.

Here are a few things we can do with JavaScript: Validate the contents of a form and make calculations. Add scrolling or changing messages to the Browser’s status line. Animate images or rotate images that change when we move the mouse over them. Detect the browser in use and display different content for different browsers. Detect installed plug-ins and notify the user if a plug-in is required. We can do much more with JavaScript, including creating entire application.

**Advantages**

- JavaScript can be used for Server-side and Client-side scripting.
- It is more flexible than VBScript.
- JavaScript is the default scripting languages at Client-side since all the browsers supports it.

**JDBC:**

The JDBC API provides universal data access from the Java programming language. Using the JDBC 3.0 API, we can access virtually any data source, from relational databases to spreadsheets and flat files. JDBC technology also provides a common base on which tools and alternate interfaces can be built.

JDBC Steps to be followed while writing JDBC program:

- Loading Driver
- Establishing Connection
- Executing Statements
- Getting Results
- Closing Database Connection

4.1 OPERATIONS:

i) Section Information:

Sections are maintained by using unique codes, based on these section codes we can give the information about where and when the inspection have to do and from where to where this inspection have to done. Section information is the root for this project because it consists of several stations which are grouped and can easily recognize the specified location with the use of this section. It is major part of the project as it includes section information in the form codes which can easily identified particular station. As the inspection schedule consists of the specified location to perform the inspection process for recognizing the working and services by the station, the station should be under control of one section. This section information alerts the officers that if any irregularity occurs repeatedly then more concentration has to be put on the section for better performance. Section module consists of three phases. They are SECTION INSERT which consists of inserting (or adding a new section) the existed section, SECTION DELETE which consists of deleting the existed section which is unnecessary. SECTION UPDATE which consists of updating the existed section whenever any modifications done.

ii) Officer and Common User Group (CUG):

Head of the safety Department maintains all records and he has to give the information about which officer has to attend to the station and every officer have to carry the cug - mobile. In this module CUG behaves like a database as it maintain details about all officers. The registration is necessary for the officers who are in the department because the details and working which are going in the department should be confidential. There are several kinds of officers working in the department but only few of them are authorized to perform inspections and attend duties in this project related to SAFETY DEPARTMENT through this registration. Several supervisors and officials are included in the project and the duties of them are clearly different from each other. Supervisor is the head of the section which is unique and consists of several stations. Officials are the officers who are going to inspect the stations relating to the section. CUG means Common User Group which is the process of grouping of registered officials at the time of schedule preparation because inspection is done by several officials at a time in the station. All officers has the phone numbers which are using at the time of grouping in the inspection schedule preparation. This grouping will help the officials to recognize the irregularities at the specified place at a time and chance for rectification also. These grouped officials receive message from Head of the department about the inspection schedule relating to their duties after the preparation of inspection schedule.

iii) Schedule:

Maintaining the information about the dates to carry when the officers have going to attend, in which time they are going to attend. And also in this there is an information about which officer has allotted to the corresponding section. The preparation of inspection schedule is done only once in a month and intimates the officers who involved in the work. The Schedule about the inspection process is prepared by Head of the department where the registered officers are grouped for doing inspection at different locations of a station which comes under an unique section. After preparation of the schedule Head of the department sends the prepared schedule to the relevant officials and Supervisor. Officials and supervisors attend their duty after receiving the schedule to perform the inspection by the date given by Head of the department. SMS is also send to the particular inspectors who are inspecting the particular stations. The schedule sent by Head of the department is seen by officials & supervisor in their inbox.

iv) Inspection Information Inbox:

We are going to know which type of inspection has to do and which officer have to take this inspection. Section details also
present and here in this we are going to get the information about the area of inspection details and the irregularity details and action taken on particular date and the date when the officers have attended for this inspection related to particular section. Basing on the section and the station inspection process is going on the irregularities which are raised during the inspection can get the chance to rectify those irregularities. This information box gives the clear description of inspection details and irregularity details for better service to the organization and its allied ones.

v) SMS:

Every officer has to carry CUG-mobile and through this they have send the information through message to the corresponding sections. The officers DRM, ADRM will have all the details of supervisors, officials who are in the safety department. They also have all the schedules, irregularities and message details in the inspection. The details of supervisors, officials, schedules, irregularities, messages will be stored in the database. They can take any action on any official or supervisor for not rectifying the work assign to the particular section or a particular area. The SMS module contains section, schedule, shift, irregularities and the officers designation and the mobile number. The mobile numbers of different officials, supervisors will be stored in the database.

SCOPE FOR FUTURE ENHANCEMENTS

It is not possible to develop a system that makes all the requirements of the user. User requirements keep changing as the system is being used. Some of the future enhancements that can be done to this system are:

- As the technology emerges, it is possible to upgrade the system and can be adaptable to desired environment.
- Because it is based on object-oriented design, any further changes can be easily adaptable.
- Based on the future security issues, security can be improved using emerging technologies like single sign-on.
- Present system inform the officers once in a month i.e., in the first week of the month it will lead to work disturbance due to unavailability of the officer or assigning of another work to the same inspecting officer.

V. CONCLUSION

The operations can be greatly improved. The system has inbuilt capability to note the time of the failure reported and the time when it is serviced. This helps in deciding the time margins for specific purpose of work in the future. It makes the inspection officers to attend to inspect place and to identify the problems in different places like station, cabin, footplate, running room, level crossing, loco sheds etc., and working of the inspection procedure can be processed fastly and can get effective results. Based on the places the irregularities are sending to the higher officer by the user who inspected the place. By these operations reports are generated in time and the errors which are occurred during inspection can be modified fastly for better services to the organization and its allied ones.

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REFERENCES