Bus Depot-Warehouse Maintenance and Duty Allocation

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Abstract:
The Maharashtra State Road Transport Corporation abbreviated as MSRTC, is the state run bus service of Maharashtra, India with 16,500 buses which ferry 7 million passengers daily on 18,700 routes. MSRTC serves routes to towns and cities within Maharashtra and adjoining states. Apart from locations within the state of Maharashtra, the MSRTC service also covers destinations in neighboring states. It also offers a facility for online booking of tickets for all 18,700 routes. This software is introduced for two main purposes. First is Warehouse maintenance, which is used for maintaining all the entries, related to Bus Depot parts. In which entries of dispatch and inward are maintained i.e. Tyres, Filters, Stationary parts, etc. Second is Duty allocation, which is used to allocate duties to the bus drivers. In this software, main goal is to reduce manual work. The large data is maintained in simpler way and complexity is reduced.

Keywords: Duty allocation, Warehouse, Digital work

I. INTRODUCTION

The Maharashtra State Road Transport Corporation abbreviated as (MSRTC or simply ST), is the state run bus service of Maharashtra, India with 16,500 buses which ferry 7 million passengers daily on 18,700 routes. MSRTC serves routes to towns and cities within Maharashtra and adjoining states. Apart from locations within the state of Maharashtra, the MSRTC service also covers destinations in neighboring states. It also offers a facility for online booking of tickets for all 18,700 routes. This software is introduced for two main purposes. First is Warehouse maintenance, which is used for maintaining all the entries, related to Bus Depot parts. In which entries of dispatch and inward are maintained i.e. Tyres, Filters, Stationary parts, etc. Second is Duty allocation, which is used to allocate duties to the bus drivers. In this software, main goal is to reduce manual work. The large data is maintained in simpler way and complexity is reduced.

II. THE LITERATURE REVIEW

In existing system, MSRTC site simply serves routes to towns and cities within Maharashtra and adjoining states. Apart from locations within the state of Maharashtra, the MSRTC service also covers destinations in neighboring states. It also offers a facility for online booking of tickets for all 18,700 routes.

The existing system has facilities as mentioned below:

i. Online availability of routes: - MSRTC site provides the online facility of bus routes.

ii. Tours and package facility: - Online booking of tours and package is made available online. The detailed information of tours and packages are also made available online.

iii. Online reservation: - Online bus reservation is available which is beneficial to passengers for long distance travelling to reserve the sits.

iv. Recruitment:- Information about recruitment is provided on online site which is beneficial for unemployed people.

MSRTC site is lacked in Warehouse Maintenance and Duty Allocation. So to overcome this drawback of existing system we proposed a software “Bus Depot – Warehouse Maintenance and Duty Allocation”.

III. PROBLEM STATEMENT

Before inventing this software, clerks in Wardha depot were maintaining the records of Warehouse maintenance and duty allocation of bus drivers were maintained manually. They waste lots of time in maintaining entries manually. There are five categories in warehouse maintenance. They are RC, Auto, General, Filter and Tyre. There is individual register for each and every category. It is very hectic task to maintain separate register for each and every category of parts of Bus. To search specific entry of part is very complex. Data is maintained manually in registers and if in case the register is lost, so there is no another way to maintain data backup. Another problem they faced was of duty allocation to bus drivers. There are more than 200 bus drivers in Wardha Bus depot so to allot duties manually to bus drivers was very difficult task. They need to maintain records of duty allocation of bus drivers on monthly basis. The bus drivers were unaware about their duty timings and need to contact to bus office to know about their duty. In case, duty is allotted to driver and he is on holiday then his duty need to get replaced with another bus driver. They need to make phone call to another bus driver for replacement. This is happened due to not allocation of duty to drivers before time. Bus drivers are unaware about their duty timings and they need to contact with office every time. Data backup is another main issue in existing system. Data of duty allocation and warehouse maintenance both needs to be stored for audit purpose and maintaining it manually is very difficult task.
IV. OBJECTIVES

- **Reduce Manual Work :-**
  In bus depot all entries are maintained manually in the form of registers. There are various registers to maintain bus parts. The main objective is to reduce manual work of office.

- **Duty Allocation timetable :-**
  Manual work of clerk is reduced as this software provides facility of allocation of duty to bus drivers in online format. The duty is allocated to bus drivers before a week in the form of timetable.

- **Reduce dependency of office :-**
  Bus driver needs to always contact with bus office for knowing their duty timings. This software provides bus timing to bus driver earlier. So it will reduced dependency of office.

- **Searching :-**
  Earlier data is maintained manually so searching was very difficult. This application makes searching easier as a search box is provided.

- **Ease to handle :-**
  The user interface of this software is very simple to handle for client.

- **Time consumption reduced :-**
  Data is maintained online so insertions become easier and calculation is also reduced. This helps in reducing manual work as well as time consumption is reduced.

V. DATA FLOW DIAGRAM

In this architecture diagram, the connectivity is mentioned. The browser is linked to Internet via communication medium. The work of Web Server is to load all CSS pages. The Application Server is used to access PHP pages. And Database Server is used to store the Data of bus.

VI. IMPLEMENTATION

To implement the above goals, the following methodology needs to be followed:

1. Specifying the software and various components of the Architecture.
2. Specifying the binding between the tasks and the resources by using table.
3. Analysis: Extracting the data required for analysis and then performing the analysis.

A. Modules :

A module is a logically separable part of a program. It is a program unit that is discrete & identifiable. Modularity is a desirable property of a system. The system that is developing is considered to be modular as it consists of discrete components & each components support a well-defined abstraction. If a change to one component has minimal impact on other components.

There are six modules in this software. They are as follows:

1. Login
2. Warehouse
3. Duty Allocation
4. Options
5. User Management
6. Logout

1. **Login:**
   This is used for authentication. User cannot enter into the software without giving login detail. This is also used for keeping details of login entries. This allows user to enter into software to only those persons who have login access. These modules consist of 5 sub-modules. It includes entries of the parts of bus which are stored in warehouse. This made the searching easier of the particular part in warehouse.

   b) **Duty Allocation:**
   This is used to allocate duties to the bus drivers without any hesitation. Earlier, duty allocation was done manually that was hectic task. But making it digital will be helpful for the clerk to allot the duties to bus drivers with an ease.

   c) **Options:**
   This consists of functions like user info editing and changing details, etc. This is useful for user to enter his details and can edit by using this option.

   d) **User Management:**
   This is very useful functionality given to manager to gives access as per their work. Manager can give access to clerk only for warehouse management or only for duty allocation or for both according to his needs.

   e) **Logout:**
   This is useful for security and authentication purpose. This keeps data secure. The logout time will be given for in activity purpose that will be helpful for keeping data secure.

VII. CONCLUSION

In this software detailed information of warehouse maintenance and duty allocation of Wardha Bus Depot is stored. The work load of Bus driver is reduced because time table of duty allocation will be provided three to five days before. Due to this office dependency will be reduced. The data will be stored in the database on the server and the backup is maintained. Highest authority will be provided to the Manager for security purpose. Data searching is easier.

VIII. REFERENCES

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