**ONLINE RAILWAY RESERVATION SYSTEM**

**Framework Utilizing MongoDb**

**A PROJECT REPORT**

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ABSTRACT:

In the running era, spending time in a queue for hours becomes an tedious process.To overcome this major defect the world came up with an new idea called as internet. The internet made everything online and hence it brought an revolution in the history of mankind. But as days passed, eventually the digital transformation era begun. Which made almost every data of every human to be fed online and now again the human kind is facing a problem in data manipulation and maintenance. For which database were used and one of the fastest nosql database among them was MongoDb. The db was know for its super fast data retrieval.

MongoDB not only provides these capabilities, but it does so without impacting performance, high availability or scalability. In fact, MongoDB outperforms many traditional RDBMS with excellent mirroring and auto-scaling features, allowing it to grow as needs and data change over time.

In this Project Online Railway Reservation System Framework Uitilizing MongoDb for online ticket booking is made.

INTRODUCTION:

MongoDb is a nosql database with high performance.Mongodbis a free open source, cross platform, document oriented database program. Its structure less and hence datatype conflicts can easily be resolved. In TamilNadu Railway Reservation System the sample datas are inserted with 13 trains which cover mostly all 32 districts. The registration module, train availability module , ticket booking module are three major modules of the project. Based on the users dynamic inputs the server responds to the client bringing a rich GUI web application interface. The inputs from user are validated in the preprocessed manner considering the sample data already present in the Back end (MongoDb) of the project.

REQUIREMENTS:

HARDWARE:

* **Processor : Intel Pentium IV**
* **Processor Speed: 2.6 GHz**
* **Monitor Size : 15” SVGA**
* **RAM : 512MB**
* **Hard Disk : 80GB**

SOFTWARE:

* **Operating system: Windows XP**
* **Front end : HTML and CSS**
* **Middleware : Node.js**
* **Back end : MONGODB**

EXISTING SYSTEM IN BRIEF:

Indian railways is one of the world's largest railways networks comprising 115,000 km (71,000 mi) of track over a route of 65,436 km (40,660 mi) and 7,172 stations.All the information technology related activities for Indian railways are handled by one umbrella organization **CRIS (Centre for Railway information services)** setupin1986.  
 It handles the task of designing, developing and implementing the Indian ticket reservation system.  
CRIS has developed PRS – PASSENGER RESERVATION SYSTEM providing reservation services to nearly 1.5 to 2.2 million passengers a day on over 2500 trains running throughout the country.

SPECIFICATION:

* **Server** **for hosting** -Blade servers having 64-Bit   Itanium 9340 Processor
* **Database**- In-house CRIS proprietary
* **Middleware**-HP Reliable Transaction Router   (RTR)
* **Frontend**-DEC Forms, C and FORTRAN as   development tools
* **Communication System**s- CISCO routers using 2Mbps DOT   lines
* **Network Topology-** Mesh Topology
* **Network protocol**- TCPIP, DECNET

**Layer:**

• Application Layer—Broad Vision Enterprise on Windows 2000 Advanced Server (40 Servers)  
 • Database Layer-Oracle 10g Enterprise Edition on Windows 2000 Advanced Server   
Server side programming -Asp .NET,Java  
Client Side-Javascript ,Jquery  
Design - HTML,CSS

ENHANCEMENTS MADE:

The existing system is made with oracle which is an Structured Database but the MongoDb database which is non sql provides a much easier interface when handling such huge amount of requests.

The requests from clients are handled much more effectively and comparatively faster in Mongodb as all datasets are considered as collections instead of tables.

The data manipulation is effective as Primary key and foreign key concepts have been eliminated and a single reference to relate objects is acquired through ObjectId.

Nodejs an perfect companion for MongoDb is used as the middle ware, which is highly scalable.

Nodejs is an java script based runtime platform which is highly fast and effective to build network applications.

WORKING METHODOLOGY:

Modules:

* Registration
* Train availability
* Ticket Booking

REGISTRATION MODULE:

This module has two pages made of css and HTML one page is login and another is registration.

The login module gets and validates the username and password of the client and allows the client to enter if the user is a registered user.

The registration page prompts the user to input all his details and validates it and stores it into the login collection at the backend and the user is now authenticated to surf the web application freely.

The both pages fetches the data from the same collection at backend and updates the users frequently.

TRAIN AVAILABILITY MODULE:

The Starting and Destination and the Date from the client is gathered and the Train collection in the backend is verified to check whether trains are available at the particular date and to the particular stations.

The available trains and their details are displayed and prompts for the user to select the desired train.

TICKET BOOKING MODULE:

ARCHITECHTURE DIGRAM:

LOGIN

ENTER TRAIN DETAILS