

**Computer Implemented Method to Manage the Load of Industries with
Perishable Inventories****Ankit Verma, Paritosh Mankoti, Utlesh Singh, Pintu Jat***BE, Computer Engineering, Army Institute of Technology, Maharashtra, India**BE, Computer Engineering, Army Institute of Technology, Maharashtra, India**BE, Computer Engineering, Army Institute of Technology, Maharashtra, India**BE, Computer Engineering, Army Institute of Technology, Maharashtra, India*

Abstract : A lot of industries now-a-days provide services using perishable commodities. A perishable commodity is one which when goes unused incurs heavy losses, on the contrary if used to full efficiency can lead to huge profits. Various Industries which use perishable inventories are airlines, Hotels, Movie Theatres etc.

On the basis of a recent survey it was accounted that between January to June 2015 domestic airlines in India had 7,584,088 vacant seats. Even if they had been sold out for Rs 2500 per seat airlines could have made 18,960 million Indian Rupees. The proposed solution to solve this problem is Yield Management. Yield management is a variable pricing strategy, based on understanding, anticipating and influencing consumer behavior in order to maximize revenue or profits from a fixed, perishable resource. Along with this the concept of Dynamic Pricing is also used.

For developing the front end Basic JavaScript, HTML, Ajax, Spring Framework and Play Framework has been used. Java Script and HTML have been used to create forms. Spring is used to develop a Java Web Application on top of the Java Eclipse EE Platform. Also, Play framework has been used to optimize developer productivity by using convention over configuration, hot code reloading and display of errors in the browser.

For the payment portal payment gateway has been used. SMS service is provided using SMS gateway. The Yield Management algorithm has been modified to incorporate the dynamic pricing feature. for the backend ORM has been used. For Version Control GIT has been used. Amazon Aws is used for hosting and Tomcat for making server.

Key Words: Yield Management, Dynamic Pricing, Spring Framework, Play Framework, ORM(Hibernate), Java, Eclipse IDE, Payment Gateway, SMS gateway, AJAX, HTML, JavaScript, GIT (Versioning), Amazon Aws (Hosting) Tomcat(Server).

1. INTRODUCTION**1.1 PROBLEM**

The problem that many industries face today is the use in perishable inventory. As a result the huge losses are borne by these industries. The project objective is to solve this problem.

1.2 MOTIVATION

The main goal of our project is to optimize the sale of perishable inventory to maximize profit margin corresponding to industries. Industries suffer huge losses every year due to the perishable inventory from unused. Therefore, our project aims to solve this problem. Based on a recent survey, it was considered that, between January and June 2015 seats. Even if they had been sold for Rs. 2500 airline by seats could 18.960 million Indian rupees. Our average device project to optimize the sale of these perishable inventory either by dynamic pricing depending on the date of travel, time travel, destination search, converting a train or waiting or RAC ticket bus in equivalent tickets. This is a way to solve perishable inventory problems of the aviation industry. Similarly, other industries will be discussed. The main goal of our project is to optimize the sale of perishable inventory to maximize profit margin corresponding to industries. Industries suffer huge losses every year due to the perishable inventory from unused. Therefore, our project aims to solve this problem. Based on a recent survey, it was recorded that between January and June 2015 domestic airlines in India had 7,584,088 vacancies. Even if they had been sold for Rs. 2500 per seat airlines would have made 18.960 million Indian rupees. Our average device project to optimize the sale of these perishable inventory either by dynamic pricing depending on the date of travel, time travel, destination search, converting a train or waiting or RAC ticket bus in equivalent tickets. This is a way to solve perishable inventory problems of the aviation industry. Similarly, other industries will be discussed.

2. LITERATURE SURVEY

Performance management extended to other travel and transportation companies in the 1990s. Notable is the implementation of performance management at National Car Rental. In 1993, General Motors was forced to take a charge of \$ 744 million to the results associated with its ownership of National Car Rental. In response, the national program has broadened the definition of performance management to include capacity management, pricing and

control of reserves. Following this program, General Motors managed to sell National Car Rental for an estimated \$ 1.2 billion. performance management has given way to the more general practice of revenue management.

3. PROPOSED SOLUTION

This is the requirement specification (SRS) document for the software .This SRS Performance Management provides an overview of the project for the developer.

3.1 SOLUTION SCOPE

The main goal of our project is to optimize the sale of perishable inventory to maximize profit margin corresponding to different industries. Industries suffer huge losses every year due to the perishable inventory from unused. Therefore, our project aims to solve this problem. Based on a recent survey, it was recorded that between January and June 2015 domestic airlines in India had 7,584,088 vacancies. Even if they had been sold for Rs.2500 by security companies have made 18.960 million Indian rupees. Our plan would be to devise a way to optimize the sale of these perishable inventory either by dynamic pricing depending on the date of travel, time travel, destination search, converting a waiting train or RAC or bus ticket equivalent in airfare. This is a way to solve perishable inventory problems of the aviation industry. Similarly, other industries will be discussed.

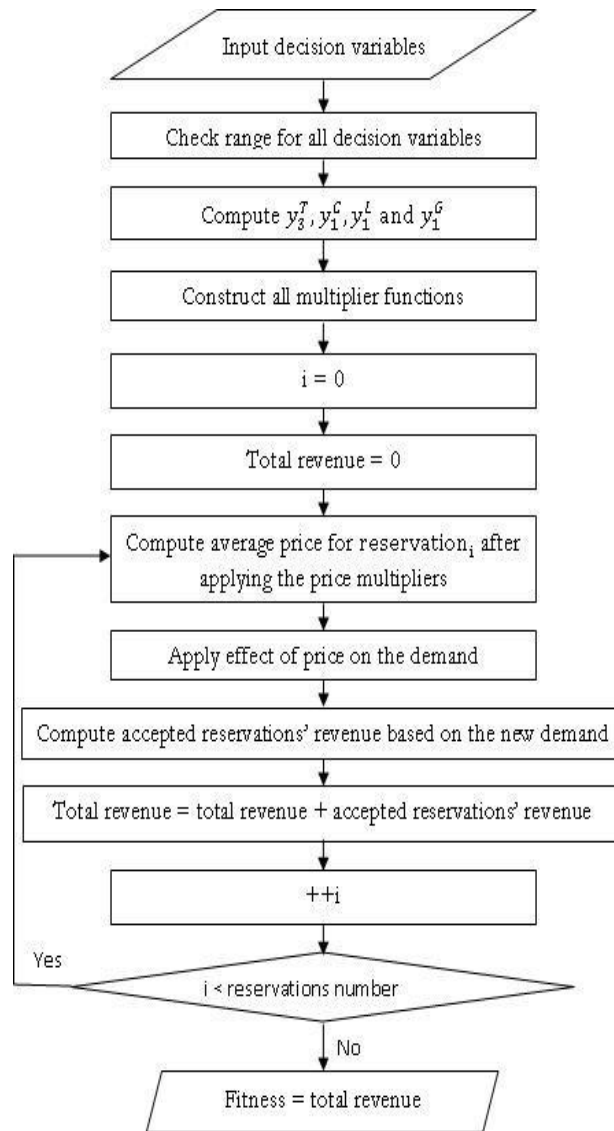


Fig 1: Flowchart of Yield Management

3.2 FRONT END

Ruby on Rails, or just Rails is a web application framework written in Ruby under the MIT license. Rails is a framework for the model controller (MVC), providing default structures for a database, a Web service and Web pages. It encourages and facilitates the use of web standards such as XML or JSON for data transfer and HTML, CSS and JavaScript to display and user interface. Besides MVC, Rails emphasizes the use of other well-known software engineering models and paradigms

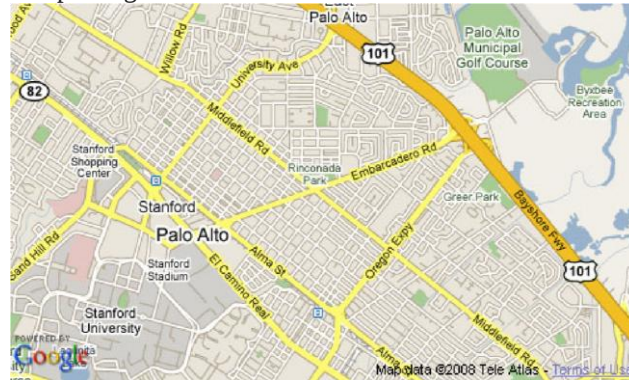


Fig -2: Google Map API

3.3 API'S USED

1. Google API'S
2. Google Calendar API'S
3. PayPal API'S
4. Google Map API'S
5. Google Whether API'S

3.4 BACK END

In the backend Java Hibernate Framework has been used. The database language used is PostgreSQL.

3.4.1 HIBERNATE

Hibernate ORM (hibernate for short) is an object-relational mapping framework for Java, providing a framework for mapping an object-oriented domain model to a traditional relational database. Hibernate solves object-relational impedance mismatch of the problem by replacing the database linked to the persistence direct access to the functions of handling high-level objects.

3.4.1.1 MAPPING

Hibernate supports the mapping of custom value types. This makes the following scenarios possible:

- Redefining the type SQL selected default Hibernate to map one column to the SQL type proOverriding

default Hibernate chose to map a column to a property

- Mapping Java Enum to columns as if they were regular goods.
- Map a single property to multi-column

objects in a front-end application follow the principles of OOP, while objects in the backend after standardization database principles, which leads to different performance requirements. This problem is called "mismatch object-relational impedance". Mapping is a way to solve the impedance mismatch problem.

3.4.1.2 Hibernate Query Language (HQL)

Hibernate provides an inspired SQL language called Hibernate Query Language (HQL) that allows SQL queries -like writing against Hibernate data objects. Criteria Queries are provided as an object-oriented alternative to HQL. Criteria Query is used to edit objects and provide the restriction for the objects

3.4.2 PostgreSQL

PostgreSQL implements the majority of the SQL: 2011 standard is ACID compliant, transactional (including most DDL) avoiding lock problems using multi concurrency Version control (MVCC), provides immunity to dirty read and full serializability; manages complex SQL queries using many indexing methods that are not available in other databases; has updatable views and materialized views, triggers, foreign keys; support functions and stored procedures and other expandability, and has many extensions written by others. In addition to the opportunity to work with leading proprietary databases, open source PostgreSQL supports the migration of them, for its extensive standard SQL support a migration tools available.

4. CONCLUSIONS

Looking at the current market places, there are service providers like makemytrip.com, yatra.com, cleartrip.com have not method and system for managing emergency stocks and the overloaded reservation. Our proposed system and method can easily manage inventory and reservation distress overloaded using intelligence data that the system takes data from different sources such as weather API, the purchasing power of customers and relatively indicates provider only push the necessary stocks. Its B2B system (business to business) and B2C (business to customer) to be users and owners to make their choices in a better way.

Our system and method provides user-friendly interface, responsive, interactive graphical user (GUI) for both customers and service providers using various frameworks like Bootstrap (by Twitter), MVC, play. With our services, customers can benefit from the services necessary for optimal levels and the manager get the benefit that it can sell the stocks that were about to expire (dead last).

Our Proposed system and method can be Applied to various industries like Travel Industry, Hospitality Industry, Rental Industry, Management Industry, Logistics Industry, Aviation Industry, etc.

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BIOGRAPHIES



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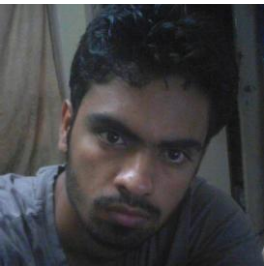
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