RAILWAY RESERVATION ANALYSIS

Business Intelligence

CS 18.210

Submitted To:

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BUSSINESS INTELLIGENCE

Business Intelligence systems provide historical, current, and predictive views of business operations, most often using data that has been gathered into a data warehouse or a data mart and occasionally working from operational data. Software elements support reporting, interactive "slice-and-dice" pivot-table analyses, visualization, and statistical data mining. Applications tackle sales, production, financial, and many other sources of business data for purposes that include business performance management. Information is often gathered about other companies in the same industry which is known as benchmarking.

Currently organizations are starting to see that data and content should not be considered separate aspects of information management, but instead should be managed in an integrated enterprise approach. Enterprise information management brings Business Intelligence and Enterprise Content Management together. Currently organizations are moving towards Operational Business Intelligence which is currently under served and uncontested by vendors. Traditionally, Business Intelligence vendors are targeting only top the pyramid but now there is a paradigm shift moving toward taking Business Intelligence to the bottom of the pyramid with a focus of self-service business intelligence.

IBM COGNOS

IBM Cognos Business Intelligence is an integrated business intelligence suite that provides a wide range of functionality to help you understand organization's data. Everyone in an organization can use IBM Cognos BI to view or create business reports, analyze data, and monitor events and metrics so that they can make effective business decisions. Visualize, analyze and share actionable insights about your data with anyone in your organization.

Traditional business intelligence (BI) solutions have no hope of making sense of the volume, variety and velocity of data being created. Harnessing this flood of business data requires a new approach to BI, one that is enabled by the smarts embedded in IBM Cognos Analytics. Powered by an ever-growing set of augmented intelligence (AI) features, Cognos Analytics has been reconceived for the needs of today's organizations and users.

AI features such as natural language dialogue, guided analytics and smart visualizations increase not only personal productivity but enterprise agility. The organization-wide benefits that flow from this approach are many. It assures insights come from data vetted for accuracy, completeness and lack of bias. This enhances collaboration and instils confidence in the intelligence that drives decisions.

"IBM Cognos Analytics integrates data preparation, reporting, modeling, self-service analysis, dashboards, stories, event management and now automated predictive analytics into one stack. Moreover, the latest release makes extensive use of AI, including machine learning, natural language processing (NLP) and natural language generation (NLG), in order to automate as many features for the end user as possible, in an effort to make BI, analytics and predictive analysis easy for business users."

<u>CONTENTS</u>

<u>DISCLAIMER</u>

This document is a guideline for our project on the analyzing the Railway Management System. The document details all the high level requirements. The document also describes the broad scope of the project.

Providing the descriptive details analyzed purely by our team with our special efforts and interest in analyzing railway management all over the country. This document also provides the complete information to understand railway related information related to most of the cities, states and countries.
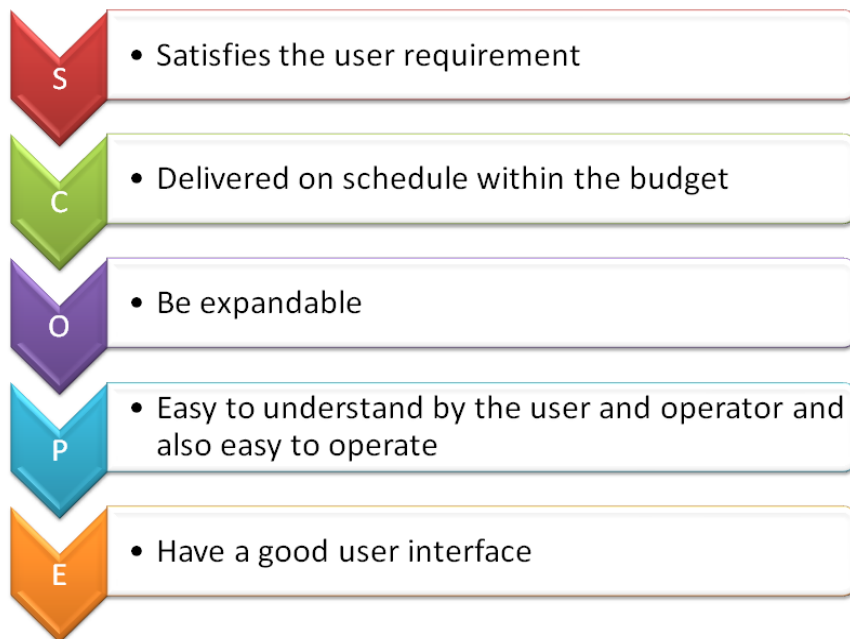
SCOPE

Our project introduces railway management system with an objective to make reservation system more efficient, easier and faster. This project is dedicated to model existing railway reservation systems that aim at development of railway reservation system that facilitates the railway customer to manage their reservations and railway administrator to modify the backend database in user friendly manner. The aim of proposed system is to develop a system of improved facilities. The proposed system can overcome all the limitations of the existing systems. This system provides security and reduces manual work.

It may help collecting perfect management in details. In a very short time, the collection will be obvious, simple and sensible. It will help a person to know the management of passed year perfectly and vividly. It also helps in current all works related to Railway Reservation Management System.

This project aims at Business process automation i.e., we have tried to computerize various processes of Railway Reservation Management System to utilize resources in an efficient manner by increasing their productivity through automation.

The system generates types of information that can be used for various purposes:-

S • Satisfies the user requirement

C • Delivered on schedule within the budget

O • Be expandable

P • Easy to understand by the user and operator and also easy to operate

E • Have a good user interface

<u>ASSUMPTIONS</u>

The following are the assumptions for this document :

1. All officials those were on the duty during the data gathering are responsible for the correct information provided to the organization for the analysis.

2. This software is find in many interest which will definitely help them to work with an ease to fulfill their goal.

SYSTEM   OBJECTIVES / OVERVIEW

The Analyzing Census (AC) project   components interacts with the respective officials , head of the analyzing project . The systems receives the complete dataset provided by the committee for the analyzing of the data (kaggle). The Analyzing project head will maintain details through the system which in turn will be accessed by the higher official .

"RAILWAY RESERVATION ANALYSIS" will help a person to know the management of passed year perfectly and vividly. System Master manages the dataset provided by standard organizations authorized for datasets and gathered by us, and takes the responsibility of its accuracy.

Reports of Railway Reservation System:-

- It generates the report on Train, Ticket, Seat.
- Provide filtered reports on Booking, Customer, Payment.
- We can easily export PDF for the Train, Seat, Customer.
- Application also provides proper visualizations for Ticket, Booking, Payment.

Functionalities provided by the railway management system

- Provides the searching facilities based on the various factors. Such as Train, Booking, Customer, Payment.
- Railway Management System also manage the dent details online for Customer details, Payment details, Train.
- It tracks all the information of ticket, seat, customer etc.
- Manage the information of ticket.
- Shows the information and description of the train, booking.
- To increase efficiency of managing the train, ticket.
- It deals with monitoring the information and transactions of customer.
- Manage the information of train.
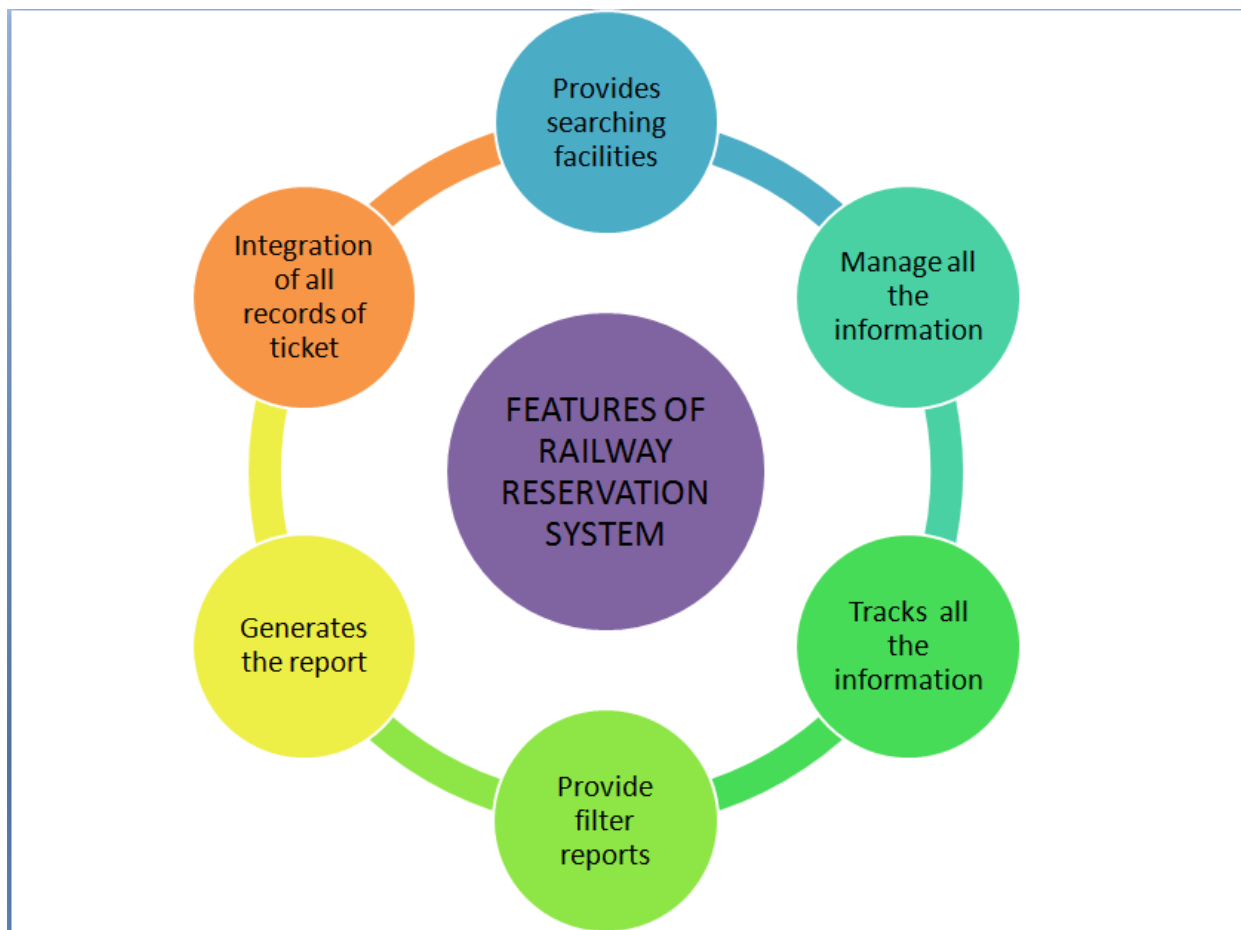
FUNCTIONAL REQUIREMENTS

The high level functional requirement for the project of Analyzing RAILWAY RESERVATION ASPECTS is the correct and accurate dataset of the Railway field of the nation provided by different standard and authorized sources. For the accurate analysis of the Railway Reservation of the country the accurate and correct data of their reservations and bookings and different parameters is most important part.

All data is uploaded in the IBM Cognos tool for the analysis and the system administrator has the responsibility to maintain the data and generate the required the report to show the complete analysis of the data provided.

The higher official can take the use of the data's reports generated and can analyze the complete scenarios for the different cause according their department.

e.g. :

1) GOVT. Bodies and Railway Management may use these generated reports for the analysis of their Railway reservation capabilities and improving profits through various statistics and visualizations.

2) Public will be interested to find such big analysis of Railway reservation on same place over different parameters.

DATA ANALYSIS AND VISUALIZATION

With the help of IBM Cognos Analytics we have generated various reports, visualizations of this dataset.
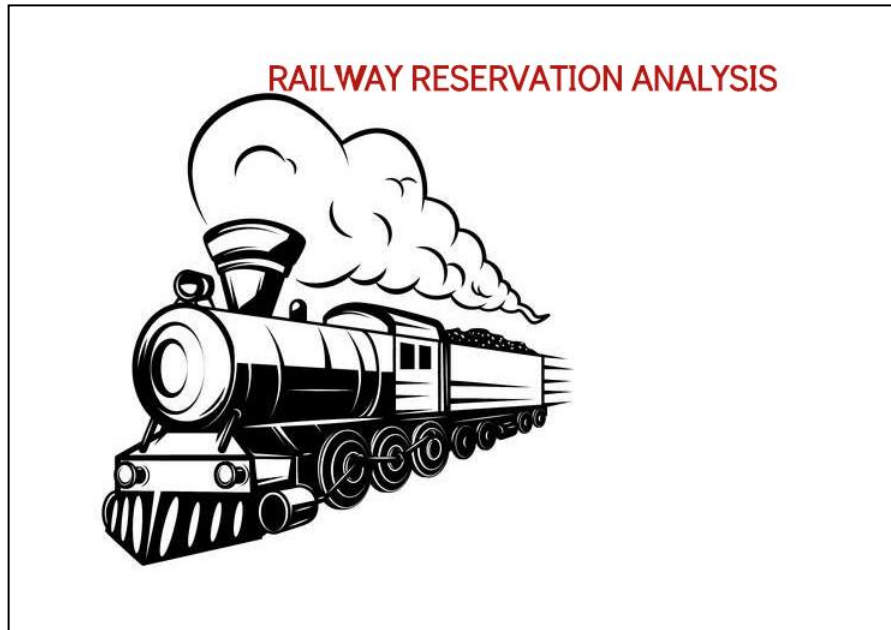
Comparative Analysis of Travel Classes and Status

	status1Day	status1Month	status1Week	status2Days
1A	1,346	242	65	-306
2A	57,005	10,748	11,845	8,028
2S	10,263	3,563	4,214	1,788
3A	333,932	104,784	114,297	138,495
CC	28,821	21,291	15,111	5,962
SL	796,087	336,544	376,431	363,594
Summary	1,227,454	477,172	521,963	517,561

Booking Status of various Travel Classes
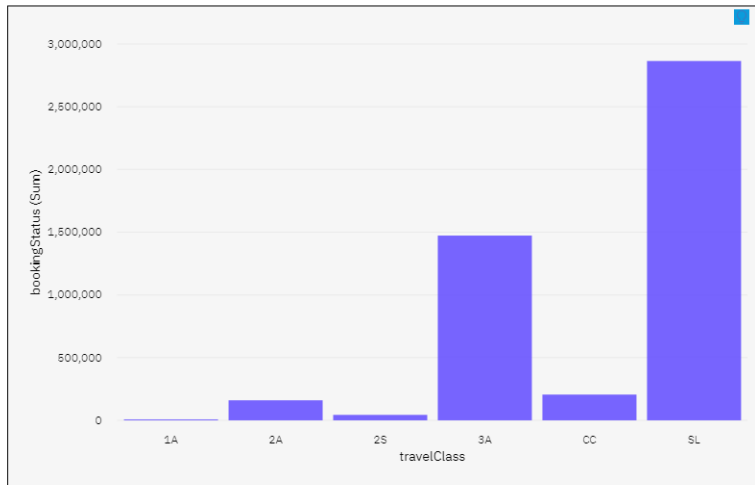
Travel Classes in Railways

Status of 1 Day in Various Travel Classes

travelClass
● 1A ● 2S ● CC ● 2A ● 3A ● SL
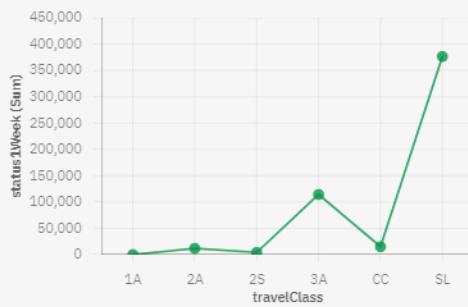
57,005

333,932

796,087
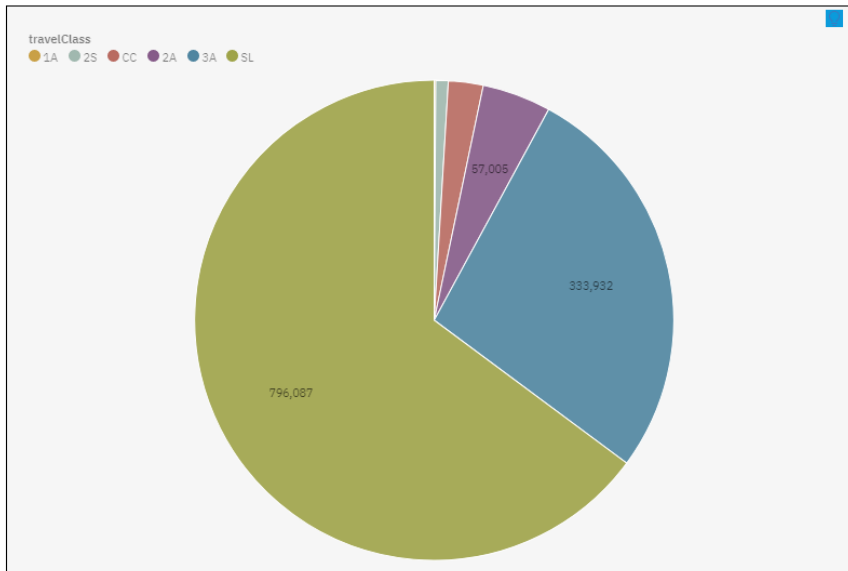
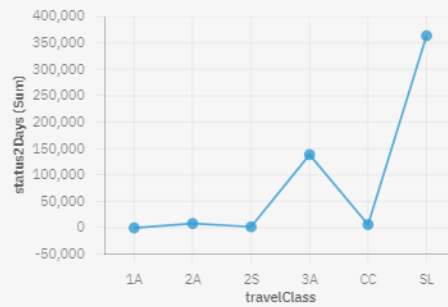Status of 1 Day in Various Travel Classes
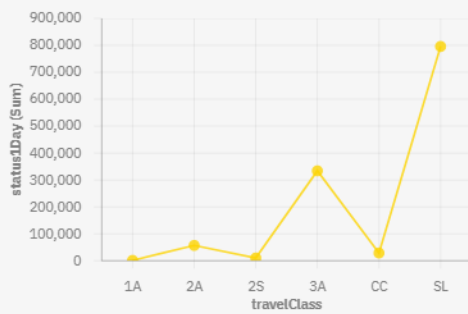
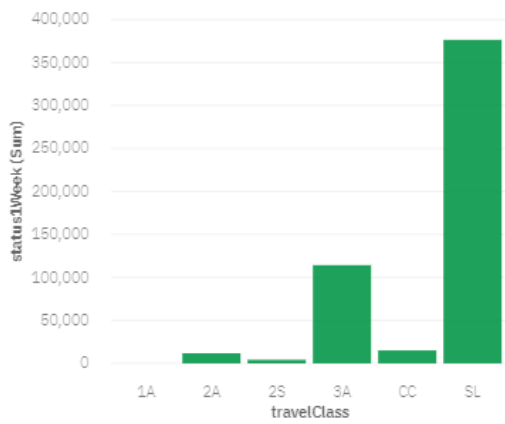Status of 1 Month in Various Travel Classes
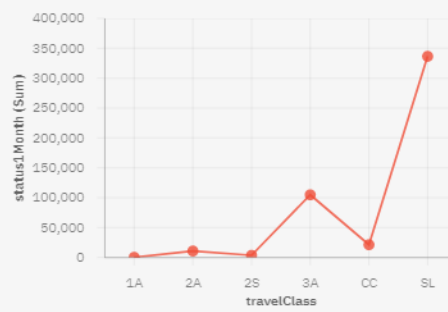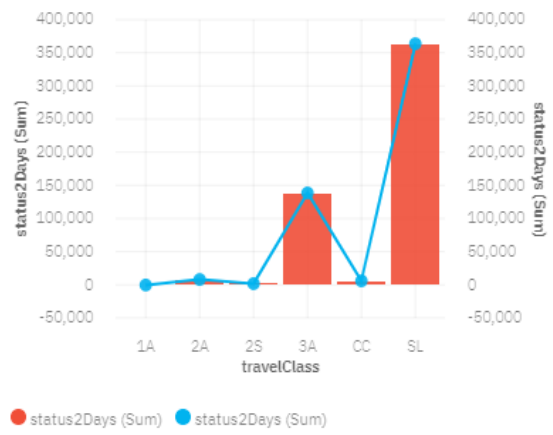

Status of 1 Week in Various Travel Classes

Status of 2 Days in Various Travel Classes

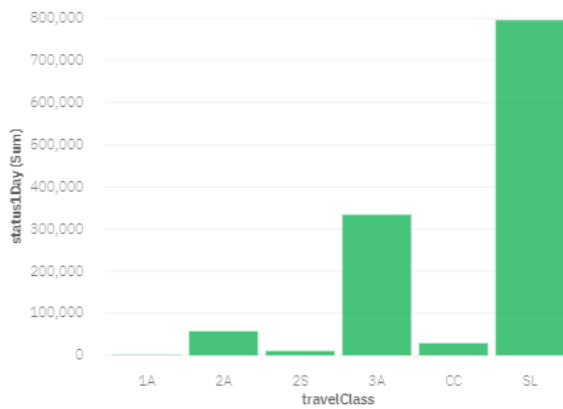## Status Of 1 Week According To Travel Class

Status Of 2 Days According To Travel Class

status2Days (Sum)　　status2Days (Sum)

Status Of 1 Day According To Class

Status Of 1 Month According To Travel Class

104,784

336,544

travelClass