# Flight Reservation System

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## Abstract:

The airline industry is characterized by rapid change, innovation and new technology. It is a dynamic growth industry which archives millions of dollars each year. My focus is on the factors that enter into determining a fare rate, whether domestic or international. Two broader terms are used when we talk about these factors that are "cost of service" and "value of service". The first one is easy to get as it says that airline should only have to charge against its services and by value of service it means that a career should charge what the traffic will bear. Fare rates are determined by a complex interaction of both cost of service and value of service.

The project aims to develop an airline reservation system which will provide customers a facility to reserve their tickets without any hassle. It's a web based system developed using current software industry standards which gives its users most of the online the secondary aim of this project develop a pricing algorithm for my application based on the current pricing system which airlines are using and the factors which impact these pricing systems.

## Introduction:

The basic intend of this project is to build up an airline reservation system which will help people to book tickets for their trips. Airline reservation system is complex system and making it to be managed by software system instead of human will help to avoid a big percents of mistakes. It will make process of scheduling trips more easier and prevent conflicting in times, also it will help customers to book their tickets from their homes and the pricing system will be automated to increase and decrease depending of the season and availability and time of booking, also depending on the class that customer select and all these factors will be calculated automatically and instantly. It will be a web based system which will be available 24/7 to allow customers to book their tickets anytime. We have divided this project into two major phases which are

- Research on airline pricing factors
- Software development

## Literature Review:

In the arena of global competition, organizations in all over the world are competing through the use of the most comprehensive and advanced technological feature. The most common example of innovation is in the area of information technology and communication. Various industries are using the technologies and the advancements of

software and Internet to maintain and monitor their business transactions. In the application of the informative systems, the airline industry is the most common users of the system. The purpose of the application of system is to easily manage and organize all the reservations and bookings of the clients and gain the competitive advantage. Some of the popular airlines that use the various reservations systems are the British Airways, Virgin Atlantic Airlines, Singapore Airlines, Cathay Pacific, and Qantas, and many others. All of the airlines are founded in different years, following different routes, having unique organizational structure and models and yet covers the system that gained them popularity.

**Reservations Systems**

Because of the effect of the September 11th attack, each airlines began polishing the system and holding the importance of the airline reservation system. It has a purpose in enhancing the risk assessments among the flights from the point of embarkation to the point of destination. This process is known as the Passenger Name Record (PNR). As traced into the early reservation systems done by the travel agents, the electronic systems are here emphasized. The operation of the reservation system might have different requirements from the competing companies. The earliest versions of the reservation system were not designed to support the exchange of data between operators, as the concept of interlining (transport involving two or more carriers under a single ticket) was not yet fully developed. When the exchange of data was required, it often involved the use of other processes outside of the carrier's own reservation systems. This promotes in the construction of the PNR that systematically records each of passenger's travel requirements which contains all information necessary to enable reservations to be processed and controlled by the booking airline and the airline(s) participating in the carriage (IATA, 2004). The record includes the following:

1. The passenger's name (or names, as a PNR can be for a single traveler or for a group of many);

2. Itinerary or routing;

3. Received from (the person making the reservation);

4. A phone contact (which is basically the number of Travel Agent made the booking); and

5. Ticketing information

The reservation systems contain the information concerning the passengers and his transportation. This information can be exchanged between the carriers through the facilitation of well-defined method. The differences of the methods are based on the way wherein the various systems interact with the airport system during the operations. For some instances, the passenger's records in the reservation system can be updated with the information and check-in operations.

IATA, (2004) Airline Reservation System and Passenger Name Record (PNR) Access by States, International Air Transport Association [Online] Available at: http://www.icao.int/icao/en/atb/fal/fal12/documentation/fal12wp074_en.pdf [Accessed 17 August 2010].

Kearney, T.J., & Robinson, R., (2004) Direct Marketing in the Travel Industry: A Revolution in Channel Structure [Online] Available at: http://www.the-dma.org/dmef/proceedings/kearney.pdf [Accessed 17 August 2010].

## Methodology:

Methodology can be defined as combination of process model and the technique that used. To effectively develop and manage of a project we must have to adopt some kind of software engineering methodology. For this project we have used prototype as a technique and RUP(Relational Unified Process) as a model. We have chosen prototype as a development technique because we want to see the output of the application while we progress in the implementing the requirements.

Software Requirements:

1. JDK 1.7
2. Ms Access

## Conclusion:

We have learned to work efficiently as part of team, interacting with users developing specification and documents developing prototypes and improving our righting and oral presentation skills.

The computer based airline reservation system is developed to manage the reservation and sale of airline tickets. During this project, we expect a chance to sharpen our skills on technical, analysis or interpersonal skills.

## References:

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- Wardell, David J, "Airline Reservation Systems", 1991. Research paper.
- Winston, Clifford, "The Evolution of the Airline Industry", Brookings Institution Press, 1995. ISBN 0-8157-5843-X. Cf. p. 61–62, Computer Reservation Systems.