BUS RESERVATION SYSTEM

DBMS Case Study

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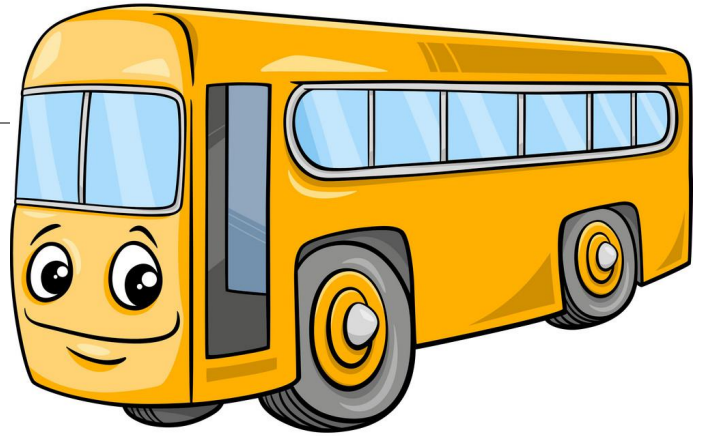


Abstract

Traveling is a large growing business across all countries. Bus reservation system deals with maintenance of records of details of each passenger. It also includes maintenance of information like schedule and details of each bus.

We observed the working of the Bus reservation system and after going through it, we get to know that there are many operations, which they have to do manually. It takes a lot of time and causing many errors while data entry. Due to this, sometimes a lot of problems occur and they were facing many disputes with customers. To solve the above problem, and further maintaining records of passenger details, seat availability, price per seat, bill generation and other things, we are offering this proposal of computerized reservation system.

By using this software, we can reserve tickets from any part of the world, via internet. Customer can check availability of bus and reserve selective seats. The project provides and checks all sorts of constraints so that user does give only useful data and thus validation is done in an effective way.

Introduction

The focus of the project is to computerize traveling company to manage data, so that all the transactions become fast and there should not be any error in transaction like calculation mistake, bill generation and other things. It replaces all the paper work. It keeps records of all bills also, giving to ensure 100% successful implementation of the computerized Bus reservation system.

This reservation system has three modules. First module helps the customer to enquire the availability of seats in a particular bus at particular date. Second module helps him to reserve a ticket. Using third module he can cancel a reserved ticket.

First module retrieves data from tables required for enquire.

Second module inserts values into the tables on reservation.

Third module deletes values into from the table on cancellation of tickets.

Problem Specification

Currently, the type of system being used at the counter is an internal system which is manually used in selling the bus tickets. The problems facing the company are that customers have to go to the counter to buy bus ticket or ask for bus schedule, customers will also have to queue up for a long time in order to secure a bus ticket and will also need to pay cash when they buy the bus ticket.

Existing system

- ✓Existing system is totally on book and thus a great amount of manual work has to be done. The amount of manual work increases exponentially with increase in services.
- ✓Needs a lot of working staff and extra attention on all the records.
- ✓In existing system, there are various problems like keeping records of items, seats available, prices of per/seat and fixing bill generation on each bill.
- ✓Finding out details regarding any information is very difficult, as the user has to go through all the books manually.
- ✓Major problem was lack of security

Proposed system

The system is very simple in design and to implement. The system requires very low system resources and the system will work in almost all configurations.

It has got following features:

- ✓ Needs a lot of working staff and extra attention on all the records.
- ✓Ensure data accuracy.
- ✓Records are efficiently maintained by DBMS.
- ✓DBMS also provides security for the information.
- ✓Any person across the world, having internet can access this service.
- ✓Availability of seats can be enquired very easily.
- ✓Passengers can also cancel their tickets easily.
- ✓Minimum time needed for the various processing
- ✓Better Service
- ✓Minimum time required
- ✓This would help the corporation prepare and organize its schedules more efficiently on the basis of traffic demand.

Objectives of Study

The main purpose of this study is to automate the manual procedures of reserving a bus ticket for any journey. This system is said to be an automatic system and customers can select seats by themselves.

Specifically, objectives of this project will consist of:

- ✓ Providing a web-based bus ticket reservation function where a customer can buy bus ticket through the online system without a need to queue up at the counter to purchase a bus ticket.
- ✓ Enabling customers to check the availability and types of busses online. Customer can check the time departure for every bus through the system.
- ✓ Easing bus ticket payment by obtaining a bank pin after payments is made to the various designated banks.
- ✓ Ability of customers to cancel their reservation.
- ✓ Admin user privileges in updating and canceling payment, route and vehicle records.

Choice of Methodology

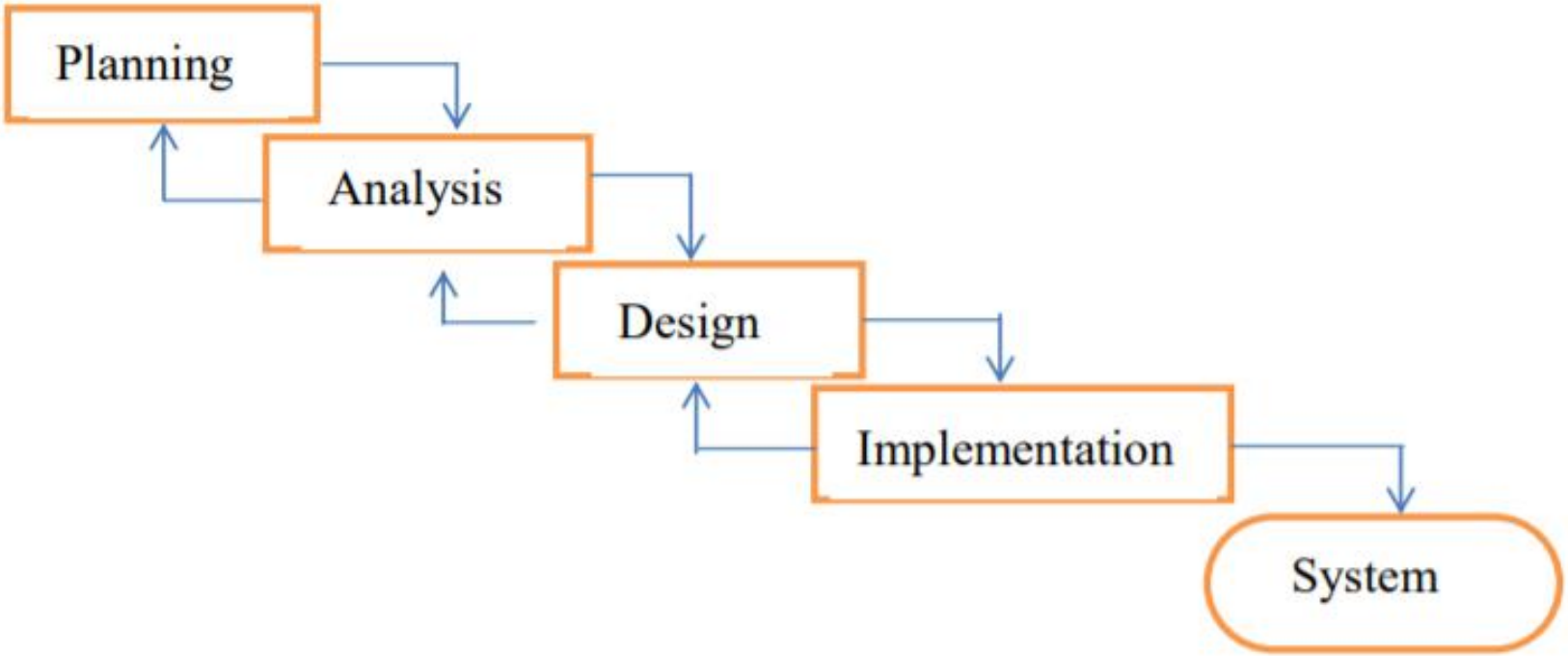
For any project to be completed, it has to go through stages called Development Life Cycles. System Development Life Cycle (SDLC) is the process of understanding how an Information System (IS) can support business needs, designing the system, building it and delivering it to users.

The SDLC composes of four phases: Planning, Analysis, Design and Implementation.

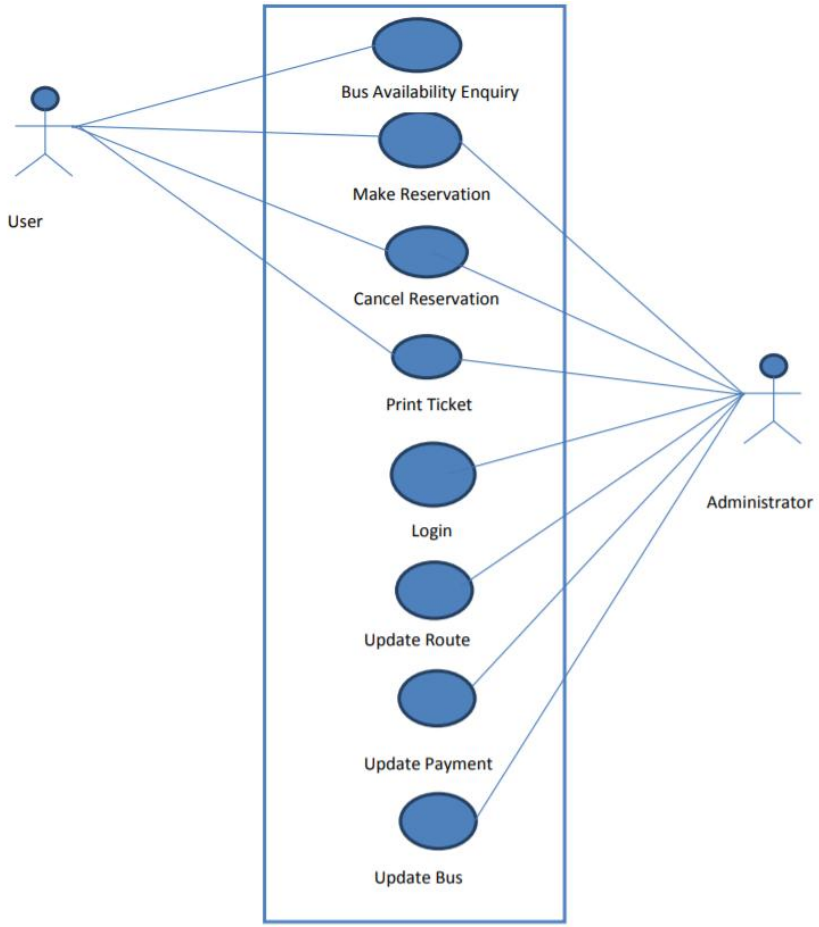
In order for this project to be developed, the methodology that will be used is the System Structured Analysis and Design Methodology.

The SSADM is classified as a Waterfall Development. With Waterfall Development, analyst and users proceed sequentially from one phase to the next and each phase can be mapped out and evaluated

The Waterfall Development Methodology



Use Case Diagram For Users And Admin



System Specifications

Hardware

Processor : i7-8565U CPU

RAM : 16GB

System type: 64-bit Operating System

X64- based processor

Software

Programming Language : Java

Frontend : NETBEANS IDE

Backend : MySQL Database Management System

List of Entities and Attributes

1. BUS_DETAILS

COLUMN	DATATYPE	KEY CONSTRAINT
ID	INT	PRIMARY KEY
BUS_NO	VARCHAR	
MOVEMENT	VARCHAR	
BUS_SOURCE	VARCHAR	
BUS_DEST	VARCHAR	
DEPART_DATE	DATE	
DEPART_TIME	TIME	
PRICE	INT	
TOTAL_SEAT	INT	

List of Entities and Attributes

2.USER_DETAILS

COLUMN	DATATYPE	KEY CONSTRAINT
ID	INT	PRIMARY KEY
FIRSTNAME	VARCHAR	
LASTNAME	VARCHAR	
USERNAME	VARCHAR	UNIQUE
PASSWORD	VARCHAR	
EMAIL	VARCHAR	
MOBILE	INT	

List of Entities and Attributes

3. EMPLOYEE_DETAILS

COLUMN	DATATYPE	KEY CONSTRAINT
ID	INT	PRIMARY KEY
FIRSTNAME	VARCHAR	UNIQUE
LASTNAME	VARCHAR	UNIQUE
PHONE1	INT	
PHONE2	INT	UNIQUE

List of Entities and Attributes

4. USER_BOOKING

COLUMN	DATATYPE	KEY CONSTRAINT
ID	INT	PRIMARY KEY
USERNAME	VARCHAR	UNIQUE
SOURCE	VARCHAR	
DESTINATION	VARCHAR	
FROMDATE	DATE	
TODATE	DATE	

List of Entities and Attributes

4. ADMIN_DETAILS

COLUMN	DATATYPE	KEY CONSTRAINT
USERNAME	VARCHAR	PRIMARY KEY
PASSWORD	VARCHAR	

5. BUS_ASSIGN

COLUMN	DATATYPE	KEY CONSTRAINT
BUS_NO	VARCHAR	FOREIGN KEY
EMPLOYEE_NO	INT	FOREIGN KEY

Conclusion

It can be observed that computer applications are very important in every field of human endeavor. Here all the information about customer that made reservation can be gotten just by clicking a button with this new system, some of the difficulties encountered with the manual system are overcome. It will also reduce the workload of the staff, reduce the time used for making reservation at the bus terminal and also increase efficiency. The application also has the ability to update records in various files automatically thereby relieving the company's staff the stress of working from file security of data.