Case studies and Scenarios for Software Process Models

Note:
- For the given scenarios models are suggested by keeping the basic functionalities in mind as the details may vary according to stakeholders, environment, system specifications and many other factors.

1. THE RAILWAY RESERVATION SYSTEM (mini case-study)

INTRODUCTION

Railway reservation system is power full system because lots of passenger reserved accommodation every day. The computerized passenger reservation systems facilitate the booking and cancellation of tickets from any of terminals. These tickets can be booked or cancelled for journeys and one is major thing is that railway quota and railway employees are facility to free of cost journey.

BOOKING FACILITIES OF RAILWAY RESERVATION

Counter Booking The railway gives facility of counter booking. Counters are found on the station or in any mid palaces of cities. These is the oldest method of booking the tickets the reservation counter are there at railway department from where people can get the ticket to their respective destination.

Online Booking This facility help the people for book their tickets online through internet, sitting their home by a easy formality or we say that on a single mouse click. Using their credit cards people can easily get their tickets within a minutes. There are certain charges for online booking as well. Online booking system is user friendly and fast.

FUNTION OF RAILWAY RESERVATION SYSTEM

- It reserve and cancel seat for the passenger
- It contains information about the trains.
- It contains details of reservation fees, concession and railway employee's facility.
- It makes entries for reservation, waiting, cancel tickets.
- It will update for uptime and downtime.

FUNCTION OF USER

Book tickets
Payment
Train enquiry
Cancel tickets
Login & logout

FUNTION OF ADMIN

Book ticket
Cancel ticket
Get passenger list
Add/remove trains
Add/remove user Login & logout

USED TOOLS AND PLATEFORM

HARDWARE REQUIREMENTS

Intell Pentium Iv

256/256 MB RAM
1 GB on boot drive
1 GB free disk space or greater
1 network interface card (NIC)
GSM modem

SOFTWARE REQUIREMENT
MS windows XP/2000
MBIE browser 6.0/10
MS dot net frame work 2.0
MS visual studio.net 2005
Internet information server (ITS)
My SQL server 200
Window installer 3.1

OPERATING ENVIRONMENT
The OS types are Windows XP, Windows 98 and Linux

ANALYSIS OF PROBLEM
The problem with the system can be automated. As well to make it more efficient in use to the people who want to save their time and extra money also.

In online railway reservation system for booking the tickets online the instanced user has to enter details like their username and password.

Once the username password are verified then he is allowed to enter the main system the destination date and no. of tickets.

For money purpose he is asked his/her payment details.

The user is also provided with a provision of canceling the reservation where is the amount is credited back to his account

SOFTWARE PROCESS MODEL
The Spiral Model is suggested for the system as It is a complex project as it requires user interaction and databases. There are lots of requirements related to the system

There is high chance of changing requirements as changes need to be done if the reservation policies changes. High risks are involved as system needs to deal with many users at a time and keep record of sensitive information like account details, contact details etc.

2. **Development of Department Of Defense (DOD), military and aircraft programs:**
   They followed Waterfall model in many organizations. This is because of the strict standards and requirements that have to be followed. In such industries, the requirements are known well in advance and contracts are very specific about the deliverable of the project. DOD Agencies typically considered Waterfall model to be compatible with their acquisition process and rigorous oversight process required by the government.

   This is a safety-critical system so requires a lot of up-front analysis before implementation. It certainly needs a plan-driven approach to development with the requirements carefully analyzed. A waterfall model is therefore the most appropriate approach to use, perhaps with formal transformations between the different development stages

4. **Virtual reality system**

   This is a system where the requirements will change and there will be an extensive user interface component. Incremental development with, perhaps, some UI prototyping is the most appropriate model. An agile process may be used.

5. **Purchase Order**

   Collecting data for purchase orders and approving them sounds like a very simple process, but readymade options often complicate it. However, you also want to build them on a platform that gives you more than just basic functionality. For this type of system RAD can be used so after getting rapidly the basic app up and running, it should be shared with those who are going to be using it. Those who are requesting purchase orders may have some additional ideas for how to improve the form or workflow. These changes can be implemented immediately and shown to stakeholders on the spot