.NET

Sprint-1

Employee Travel Booking

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Document Revision History

Date	Revision No.	Author	Summary of Changes
22-May-2018	1.0	Meganadha Reddy K	Initial Draft

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INTRODUCTION

This document outlines a project for the .NET Line of Technology (LOT). The project is to develop Employee Travel Booking. This document contains the requirements, work flow of the system and gives guidelines on how to build the functionality gradually in each of the course modules of the .NET LOT.

SETUP CHECKLIST

Minimum System Requirements

- Intel Pentium 4 and Windows 2010
- Memory 4 GB
- Internet Explorer 11.0 or higher / Chrome
- SQL Server 2012 client and access to SQL Server 2012 server
- Visual Studio 2019

INSTRUCTIONS

- The code modules in the project should follow all the coding standards.
- This project must be developed in two phases (Sprint-1 and Sprint-2)
- Create a directory by your name in drive <drive>. In this directory, create a subdirectory Sprint-1 and Sprint-2. Store your Project here.
- You can refer to your course material.
- You may also look up the help provided in the MSDN
- Since this project work will span over couple of months, you will need to take care of maintaining the code

PROBLEM STATEMENT

OBJECTIVE

Need to develop Employee Travel Booking

Abstract of the project:

Employee Travel Booking Application allows Employees to place requests for booking business travel tickets.

In current corporate world, Employees are often required to travel to Domestic as well as international locations based on business requirements. This application "Employee Travel Booking Application" will help employees to raise or submit a ticket for travelling to the required location.

Employee Travel Booking System is an online system which will automate the process of raising or placing a travel requests. Employees will raise or place the travel request. Manager can approve, reject the request. Once manager approves the request travel agent will confirm the travel or can make the status as Bookings not available.

Phase 1: Create simple basic structure for class object and relation using Class Library and WPF Application Project.

The system will have 4 users / actors: Employee, Manager, Travel Agent, and Admin

Role of Admin

1. Add Employee, Assign manager
2. Change Manager, Delete Employee.
3. Add/Edit Travel Agents

Role of Employee

1. Check current requests submitted and see the status
2. Raise new travel request
3. Cancel the request made.

Role of Manager

1. Approve or Reject the travel request raised by Employee
2. Check the history of requests made by reporting employees.

Role of "Travel Agent"

1. Once Manager approves the travel request of employee, travel agent will change the status to "Ticket Confirmed" or "No Availability" status.

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HIGH LEVEL – BUSINESS FLOW DIAGRAM [ILLUSTRATION PURPOSE ONLY]

```
  ┌─────────┐         ┌──────────────────────┐
  │  START  │ ───────▶│ Employee raises a     │
  └─────────┘         │ travel request        │
                      └──────────────────────┘
                                 │
                                 ▼
                          ╱─────────────╲
                         ╱   Manager      ╲
                        ╱    Approves       ╲
            Yes        ╱     Travel          ╲        No
        ┌─────────────◀     request?          ▶─────────────┐
        │              ╲                     ╱                │
        │               ╲                  ╱                 │
        ▼                ╲───────────────╱                   ▼
 ┌──────────────┐                              ┌──────────────────┐
 │ Status       │                              │ Status           │
 │ "Approved"   │                              │ "Rejected"       │
 └──────────────┘                              └──────────────────┘
        │                                               │
        ▼                                               │
  ╱─────────────╲                                       │
 ╱   Travel       ╲                                      │
╱  agent finds     ╲                                     │
│  tickets are      │                                    │
 ╲  available      ╱                                     │
   Yes ╲         ╱  No                                   │
 ┌──────╲───────╱──────┐                                 │
 │                     │                                 │
 ▼                     ▼                                 │
┌────────────────┐  ┌──────────────────────┐            │
│ Status         │  │ Status "Booking Not  │            │
│ "Booking       │  │ Available"           │            │
│ Confirmed"     │  └──────────────────────┘            │
└────────────────┘            │                         │
        │                     │            ┌─────────┐   │
        └─────────────────────┴───────────▶│  STOP   │◀──┘
                                           └─────────┘
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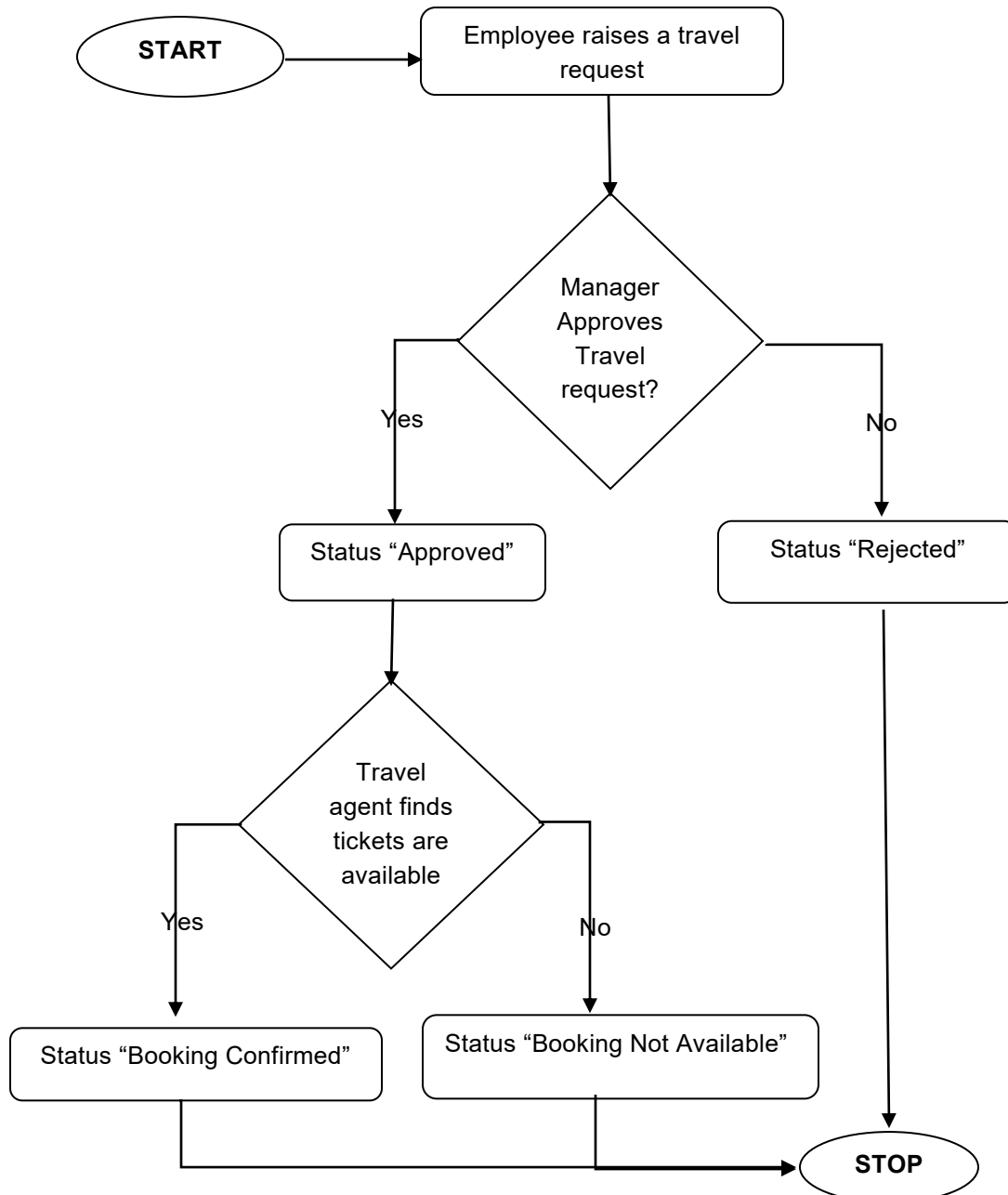
MODULE LIST and MODULE DETAILS

Modules:

UserType	UserTypeId, Description
TravelRequests	RequestId, RequestDate, FromLocation, ToLocation, UserId, CurrentStatus
Users	UserId, LoginId, Password UserTypeId, Name, ManagerUserId

a. Develop the prototypes for following functionalities:

   i. **Admin Screen**: Admin user should be able to add or edit Employees and assign respective managers. Also should be able to add Travel agents.

   ii. **Employee screen**: Employees should be able to enter From Location, To Location and Travel data and click on 'Submit' button to raise a travel request.

   iii. **Manager Screen**: Once employee successfully places travel request, Manager can approve or reject the same. Also, Manager can view the reports of total number of requests received and respective status.

   iv. **Travel Agent Screen**: Once manager approves the request, based on availability travel agent can change the status to "Booking Confirmed" or "Booking Not available".

b. Develop business components (C# classes) for the following functionality:

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    i. User Class :- This class will contain methods which will allow to manage all employee

    ii. TravelRequest class :- This class will contain methods to manage customer

    iii. UserType class :- This call will contain Types of users – Admin, Employee, Manager

PROJECT STRUCTURE

Description: Create below sample reference project structure, which will help to reuse most of module for Web application. You are allowed to bring your own project structure and project to achieve the requirement.

All project should have minimum target framework to – .Net Framework 4.6
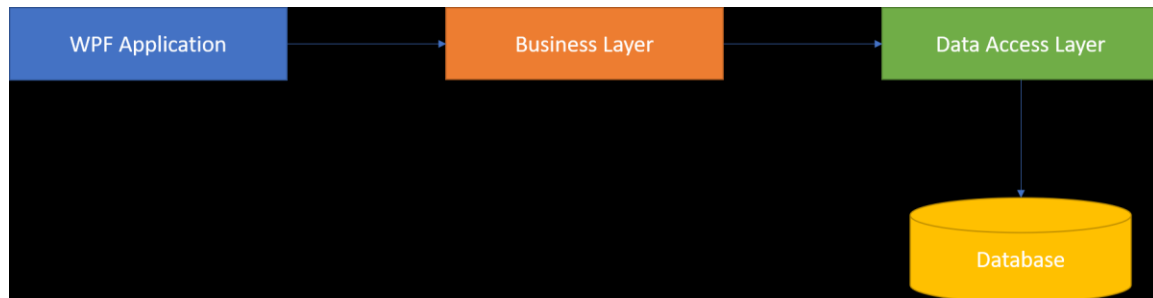
Design guidelines

- All the exceptions/errors to be captured and user friendly message to be displayed on the Common Error page.

IMPLEMENTATION

SUMMARY OF THE FUNCTIONALITY TO BE BUILT:

The participants need to develop the Employee Travel Booking System by building the functionality incrementally in each of the course modules of .NET LOT.

Sr. No	Course	Duration (in PDs)	Functionality to be built
1	.NET Framework 4.6 WPF ADO.NET	5	Developing Presentation components (WPF application), Business components (C# classes) and Data access components (ADO.NET)