Intelligent Travel Expense Claim – iTravel

Minor Project

IBM Career Education

Disclaimer

This Software Requirements Specification document is a guideline. The document details all the high level requirements. The document also describes the broad scope of the project. While developing the solution if the developer has a valid point to add more details being within the scope specified then it can be accommodated after consultation with IBM designated Mentor.

INTRODUCTION

The purpose of this document is to define scope and requirements of an Intelligent Travel Expense Claim System – iTravel for the support technicians of a leading white goods manufacturer. These support technicians attend to the service/repair calls allocated to them, by visiting the customer residence/office. This involves extensive local traveling by 2-wheelers. Filling daily local travel claim is a tedious process for them as the reimbursement is made on the basis of distance covered. Maintaining a log of distance between all locations covered in a day is difficult and error prone task.

The proposed system, iClaim will provide a simple and effective way to make local travel expense claim by simply automating the distance calculation between locations. This will eliminate the need to maintain a log and simplify the claim process greatly. In addition, there is no need of verification of distance by the accounts department.

This document is the primary input to the development team to architect a solution for this project.

System Users

The support technicians of the white good manufacturer will primarily use the Intelligent Travel Expense Claim System (iClaim).

Assumptions

1. The support technicians' data along with their supervisor is uploaded from a CSV file obtained from the HR.
2. Since iTravel is expected to use Intranet's authentication, for the purpose of this project, entering user name will take you to the user's iTravel screen. You may create sample users directly from the backend database.

REQUIREMENTS

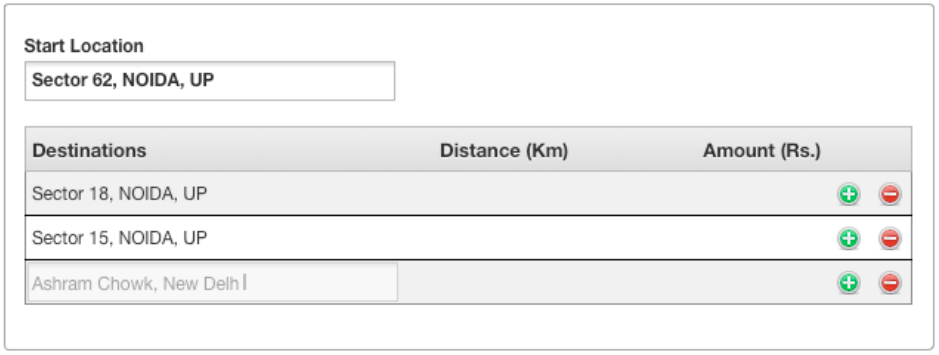
iTravel will be a simple yet intelligent local travel expenses claim workflow system. The user interface for the same is outlined below:

Logged in employees will see a list view of their claims created in a chronological

order with latest being on top. The claims appear in a columnar manner, displaying their Subject, Created, Processing Status. The subject of the claim is auto-generated from the date for which claim has been submitted. A red color minus sign icon to delete the claim appears at the end of rows where claim is in draft state.

Claim Entry

The following screen outlines the partial screen of the claim entry form:



This will allow user to specify the “start location” and also all the destinations in the sequence in which s/he has visited them. User will have the flexibility to add/remove a destination anywhere.

The claim can be saved as draft or sent for approval. In any of these events, the distances will be obtained automatically between each successive destinations using Google Maps API. Once the distances are available, the reimbursement amount will be computed by multiplying distance with a “configurable” per kilometer rate (in Rupees). Note, only the system administrator will be able to define the “configurable” per kilometer rate (in Rupees).

A claim saved as draft, will be available for editing later; whereas a claim sent for approval will automatically be routed to the employee’s supervisor for approval.

About Obtaining Distance

The Google Distance Matrix API of Google Maps is a service that provides travel distance and time for a matrix of origins and destinations. The information returned is based on the recommended route between start and end points, as calculated by the Google Maps API, and consists of rows containing duration and distance values for each pair.

Claim Approval

The approving user views the claims’ awaiting approval. The user selects one of the entries by clicking on the claim’s subject. The complete claim opens up in a new

page displaying the filled in details. The user may modify information on the screen. To approve, the supervisor clicks on “Approve”. In case supervisor clicks on “Reject”, the claim is marked as Rejected.

Uploading Support Technicians Data

A CSV file contains the employee id, employee name, and the supervisor employee id will be uploaded directly in to the database directly from the backend. Note: this data will be limited to the support technicians and their supervisors only. For simplicity, only one level organization structure is assumed; therefore for supervisors, their supervisor employee id will be “null”.

DEVELOPMENT ENVIRONMENT

iTravel will be developed as a web application using Java/JSP/JSON and Google Maps API and DB2 database. Eclipse will be used as the IDE for the same. You may consider using a JavaScript framework like jQuery/Prototype/ Scriptaculous. The relevant Google Maps API details can be found at https://developers.google.com/maps/documentation/distancematrix/ URL.