



## Intelligent Cab Booking – iCab

### **Minor Project**

*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 Online Cab Booking System – iCab for a leading radio cab service. Currently the company website allows online booking where customer is allowed to select the vehicle type (a/c, non a/c, car, MUV), specify date and time for cab. While customer is presented with the rate card for the selected vehicle, the website on booking does not give any estimate of expenses that will be incurred on his/her planned itinerary.

The proposed system, iCab will provide a simple and effective way to make online bookings by simply automating the estimated expense calculation for the planned itinerary. This will help customer to select the right vehicle type based on his/her budget.

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

## System Users

The customers of the radio cab service will primarily use the Intelligent Online Cab Booking System (iCab).

## Assumptions

1. To simplify the scope, there are only 4 vehicle types assumed; these are car (non a/c or a/c) and SUV (non a/c or a/c).
2. The “per kilometer rates” for these vehicle types are entered directly from the backend client of the database.
3. The iCab system will integrate with their existing website.

## REQUIREMENTS

iCab will be a simple yet intelligent online cab booking system. The customer will make a booking by specifying his/her mobile number (primary identification), name, and address (where the cab must reach). Customer will also be able to select vehicle type, and specify planned itinerary; partial UI for the same is outlined here:

The image shows a partial user interface for the iCab system. It includes a 'Start Location' field with the text 'Sector 62, NOIDA, UP'. To the right is a 'Select Vehicle Type' dropdown menu with options: 'Car (non a/c)', 'Car (a/c)', 'SUV (non a/c)', and 'SUV (a/c)'. Below these is a table with columns 'Destinations', 'Distance (Kms)', and 'Amount (Rs.)'. The table contains three rows of destinations: 'Sector 18, NOIDA, UP', 'Sector 15, NOIDA, UP', and 'Ashram Chowk, New Delhi'. Each row has a green plus button and a red minus button in the 'Amount' column.

Destinations	Distance (Kms)	Amount (Rs.)
Sector 18, NOIDA, UP		<span>+</span> <span>-</span>
Sector 15, NOIDA, UP		<span>+</span> <span>-</span>
Ashram Chowk, New Delhi		<span>+</span> <span>-</span>

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

The user will be able to obtain estimates, by clicking the “estimate” button (not shown here). This will allow user to refine his/her journey or change vehicle type. Once finalized, user may click on “confirm booking” to finalize the booking. On booking finalization, a SMS confirming the booking is sent to the customer. To simplify the development, consider sending a simple e-mail instead of sending a SMS.

### ***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.

### **Optional Requirements**

Consider addition of expected “waiting period” to compute more accurate estimates. Also consider adding time based rate card e.g. higher charges at night.

## **DEVELOPMENT ENVIRONMENT**

iCab 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.