Project Concept Document

Team Number	26
Project Title	Custom Map Design and Navigation
Document	Project Concept Document
Creation Date	27 Jan
Last Meeting Date (with client)	24 Jan (first meeting)

Description:

We have to develop custom maps for places that are not present on Google Maps, and indoor places such as large buildings which are not navigable by GPS.

Challenges

The first part is the creation of such custom maps for the target locations. Roads, buildings, landmarks etc. have to be identified for the outdoor locations. For the indoor locations, various features have to be identified. These features then have to be used to generate a map.

The second part is to find out the current location of the user. This has to be based on some description of the scene that the user currently is in (we do not know yet as to how exactly this is to be achieved. This discussion has been postponed to the second meeting by the client. We are only with our ideas as of now).

Another aspect to this is that we need to determine the level of accuracy with which we can determine the location of the person, since we do not have access to a strong GPS connection in indoor locations.

The third part is to find a suitable algorithm that can navigate between the two identified points (current location and destination).

There are a few other nuances as well. In a multi-floor building, we have to create multiple maps for the different floors. This information has to be taken into account while navigation (the user might be on a different floor than his destination).

Users / Audience for the product:

A custom map for a building can be used by all the people who want to navigate inside that building.

This will be especially useful for large buildings such as the Vindhya building in IIITH campus, which are difficult to navigate otherwise.

Feature Highlights

- This has to be a mobile-based application that can function on all the major mobile platforms such as Android, iOS, Linux, etc.

- The user should eventually be able to view a map, with a pointer to his current location, and he should be able to provide his destination to the application.

- Then the application has to suggest a route for him to his destination.

Timelines / Targets

By the next week we are supposed to come up with ideas on how to accomplish the above tasks.

Usage Model

Currently the usage model has not been discussed in depth. This has been postponed to the next meeting.