RESEARCH ARTICLE

SURVEY PAPER ON NAVIGATION APPS

Mona Mulchandani, *Nikhil Sawlani and Vinay Israni

Computer Science Engineering, Jhulelal Institute of Technology, Nagpur, India

ABSTRACT

Find my college is an IOS navigation application which will help people to get directions to JIT college and will also help people with the intra navigation of the college, that is, it will give directions for the various classrooms, labs, sports room, etc inside the college campus. Moreover, the application provides text indications when users touch intra interface, telling them where they are and how they can reach destination along with polylpine interface.

INTRODUCTION

Basically the application is build for J.I.T College in which User`s can navigate on iOS device using googleapi and mapKit, Graphical frameworks. As application is developed specially for ios platform. The application involves tools such as Xcode, Cocoa framework. As JIT college is a centre for national examinations such as UPSC, MPSC, Banking, BPO, RBI, etc so it has many new individuals in every batch of examinations Belonging to different states and different universities and as these individuals are new to city, they don't know any roads and landmarks so with the help of this navigation app they can navigate themselves from their current location to JIT College. This feature will enable the user to get directed to JIT College using polyline directions on iOS maps. There have been already few applications based on iOS navigation, which provides directions to user in form voice messages, text directions. General applications for disabled people are available. "On The Bus" application is built by which blind people are guided after indicating the desired address through their voice. "Zebra Localicer" application devised crosswalks in cities for blind people. "Walky Talky" (**Google Inc, 2012**) indicates by a voice message the name of the street where you are walking. Moreover, "Kapten for Smartphone" (**KapSys, 213**) is a GPS navigation application with a fully vocal and

Corresponding author: Nikhil Sawlani
Computer Science Engineering, Jhulelal Institute of Technology, Nagpur, India

accessible user interface. One of the most remarkable functionalities is the capacity to locate our own position in a map, like Google Maps (**Google Inc, 2011**) or iOS Maps (**Apple, 2012**), making easy to have access to any concrete address. The problem arises when there have no specific address names to locate the different buildings, as in the case of JIT college campus. In order to overcome this problem, an application for iOS is being developed by us using some features of Smartphone's (such as the GPS, and compass), which allows finding any building at the Campus of JIT college. In addition, our application helps us to reach any destination inside the Campus. These indications are especially helpful for people who are new in the city. Currently, there is no similar application in Nagpur universities. The arrangement of the application is as follows: It has two section

First – It tell how user will be navigated from current location to hardcoded destination

Second – It provides intra college navigation by giving image which contains an map which shows source to destination & also textual message if image is not understood by user properly.

Resources

For the new application, a variety of tools provided by Apple to develop applications in iOS has been used. Xcode ver-6 (**Apple, 2014**) has been launched, which provides access to the

necessary frameworks and all the information about different functionalities of the development environment, as well as different templates for a variety of applications. The Interface Builder tool has been utilized as well to get access directly from Xcode, which has a user interface for the application. With this tool, the user interface can be designed in a graphic way, making easy great part of the task. The another tool used is the iOS Simulator, to test the progress during the development of the application. In the firststage of the development, find my college application is strongly dependent to create 'Get Me', which will give directions to the user from its current location to JIT College. The current location will be picked up by feature of google API which allow us to pick user's current location.
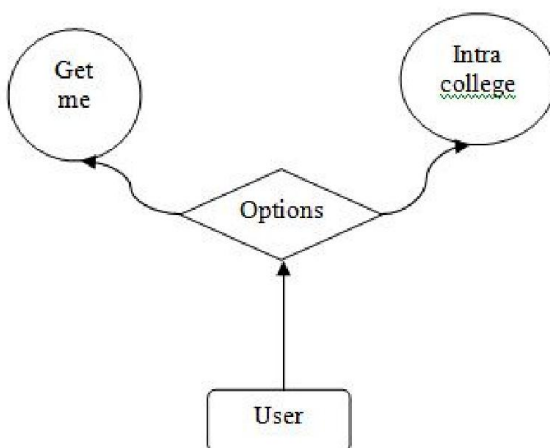
User Interface of find my college

The application provides two main functionalities:

Get Me- It will allow users to get their location, when they open the application, it will open the maps in ui view controller via mk map kit and redirect location using polyline overlay from source to destination .

Intra College- It will show user the map of Intra College, that is, the exact location of various labs, classrooms, etc. Below the map, there will also be text notation.

Thus, the interface presents two different tabs, for each functionality, respectively. In Fig.1 the splash screen of Disha can be observed. After loading the main screen, in the first tab we can find Get Me. After the selection of this option, the application will provide us a map with indications to get to JIT college (Fig. 2.c). In the second tab, a map can be seen with directions to different classes, labs and below it we can see text messages telling about the same directions. In both cases, the indications could be obtained with a touch in the screen. We have added also a view with information accessible on bottom of the second tab, which provides information in textual format for those who find it difficult to use maps.

The Map View Controller

The main component of the application is the map view controller since it is in charge to control, at any time, the position of the user and the direction towards which the phone

device is pointing, to generate the proper indication in each situation: "go straight", "turn right", "turn left", "turn around". Our controller also checks the position where we are, in order to adapt the view of the map to the characteristics of each function, showing only the position of the destination where we want to go, or all the other buildings around us. This controller changes the message with polyline indications according to each situation whenever the user touches on the map view. In the first place, our application provides the route by Plotting the current location via features of map kit. An auxiliary Intersection point is necessary between the position of the user (latitude_1, longitude_1) and the position of the destination (latitude_2, longitude_2), as shown in figure:

The output gives an polyline map with no alternate routes as we haven't allowed application to display alternate routes. It make the use of map kit with googleapi and calculate the distance from the source to destination, here the source is the current location from user to the destination. Current location is picked up automatically by mapkit and destination is hardcoded in GPX file.
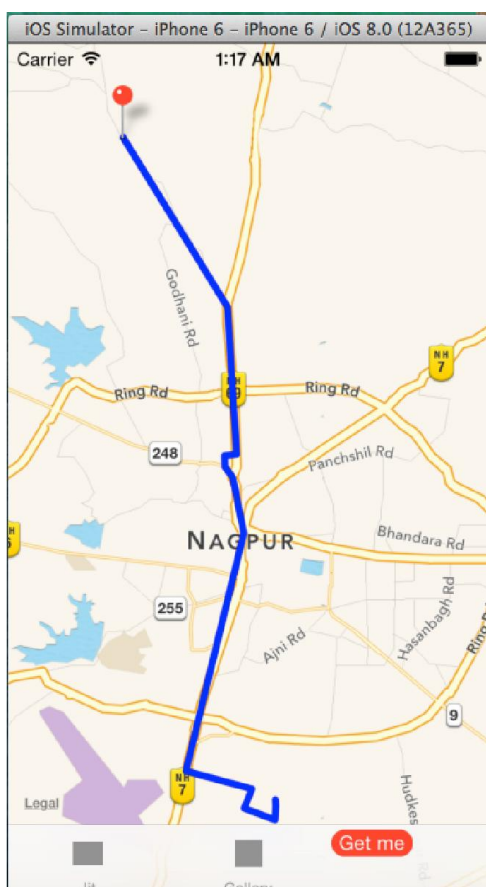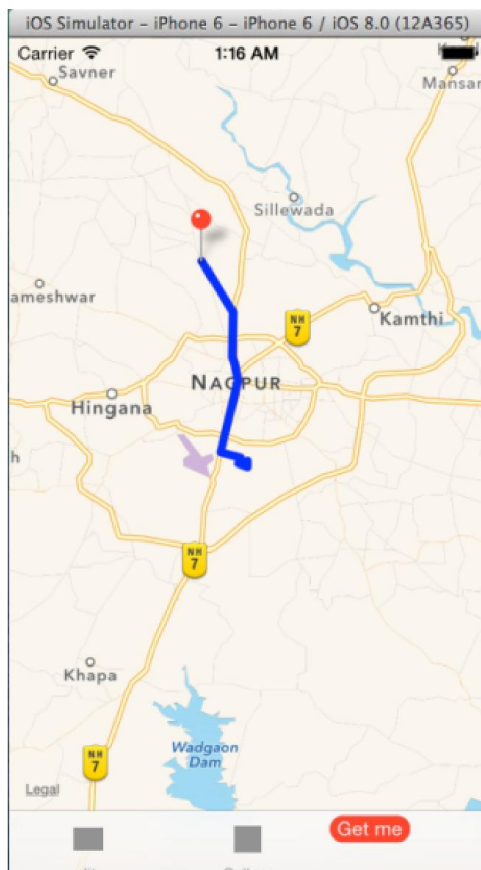
GPX Files

Xcode uses a standardized file type to simulate locations. The GPX spec defines many different ways to define a path or a set of geolocation coordinates. Xcode only uses the <wpt> tag so if you find a tool that generates <rte> or <trk> based gpx files, Xcode won't be able simulate your location properly.

PAGE 1

PAGE 2

RESULTS

We carried out an research how much useful our application can be proved, we came to know that our application can guide many users to track their current location and give them location to jit college automatically reducing the no of clicks to minimum. It will be installed on various devices such as iphone 4, 4s, 5, 5s, 5c, 6 & 6 plus and will be compatible on ios 6 & 7. Further we can implement this application for ipad & ipad mini.

Conclusion

In this paper we are doing an research for an application for giving directions and it will be proved highly useful for new people in our city. The application can easily be modified and updated by making several changes into databases. We can also use the application for another campus to reach there by making few changes in codes.

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