COLLEGE CAMPUS GUIDE USING QR CODE

A

Mini Project Report

Submitted

by

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In partial fulfillment for the requirement of Project Based Learning-II

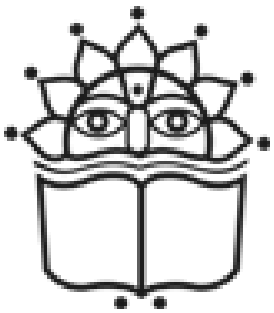
of

Bachelor of Artificial Intelligence and Data Science

Under the guidance of

Prof. Rajkumar Panchal

(Assistant Professor)



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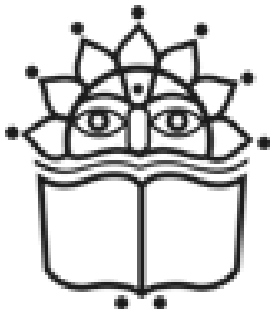

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Certificate

This is to certify that following students

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have successfully completed their project work on

COLLEGE CAMPUS GUIDE USING QR CODE

during the academic year **2021-2022** in the partial fulfillment towards the completion of **Project Based Learning-II** in **Artificial Intelligence and Data Science**

Project Guide
(Rajkumar Panchal)

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Contents

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Synopsis

1.1 Title

College campus guide using QR Code

1.2 Technical Keyword

1. Google API
2. QR Scanner
3. Python, Django
4. GPS Location

1.3 Problem Statement

The difficulty faced by new students, parents to find the location of various places in college campus and providing the direction with help of which user can reach to the final destination he/she want.

1.4 Abstract

The new people in our college campus don't know the exact location of the buildings, direction and the route to be followed. Without knowing the directions, this may cause them to get on the wrong way. To avoid this situation, many mobile application are developed to help the people to get the right

directions. But unfortunately this application doesn't provide or support many important features like college campus guide in local language, pictures of important location, and location list you want to reach in college campus example: hostel, schools, institute, etc. on map. This project introduces an QR code which is implemented to provided the website from which user can select the location from the list or can search the location. Because of the availability of regional and local language any non technical person can easily use this facility .The proposed application also presents the the basic navigation operations like showing direction with the help of images of locations the optimal path between source and destination and calculating the distance and expected time to reach the final location.

1.5 Goals and Objectives

The majority of these mobile mobile devices have built-in techniques to determine their geographical position. These techniques combined with right software can provide the user with location-based information, which can help a user in different ways. The goal of this project is to create an QR prototype for a smartphone, which support people on a college campus. Just like a car navigation system. Just like a car navigation system, a navigation system for pedestrians at the college should be developed. The main logic of the system has to be part of the server, so that it is easy to port the resulting application to other mobile platform.

2

Technical Keyword

2.1 Area Project

The big advantage of this technique over the location provided by the GPS. As location-based services have increased in popularity over last years, the need for positioning of mobile devices more and more important.

2.2 Technical Keyword

1.Google API: Google APIs are application programming interfaces (APIs) developed by Google which allow communication with Google Services and their integration to other services 2.QR scanner: As a machine-readable barcode label, it consists of an array of black and white squares. The information stored in a QR Code is usually URLs. Still, you can store anything, from contact data to calendar data, email addresses, phone numbers, SMS opening, plain text, and geolocation.

Literature survey you carried out to come to conclusion of this topic must be written here one after the other

3

Introduction

3.1 Motivation of project

A college campus is a complex infrastructure. Especially new students and people who are on it for the first time have a hard time to orientate themselves and find places. The campus occupies huge area and many different buildings. Even if there are maps at some points on the campus, users do not have continuous help to get to their destination. They can try to figure out a way to get to their target on these static maps, but as soon as they start walking in the target direction they have no help any more. Whereas it is very common to use navigation systems in cars to reach designated locations, systems for pedestrian navigation are quite hard to find. So, how is it possible to help freshmen and other inexperienced people orientate themselves on the university campus and support them finding places on campus with the help of modern techniques?

3.2 Literature Survey

The purpose of this project is to develop a digitized environmental history of VPKBIET College. Positioning: To deliver the service provider needs the location information which is determined by either mobile network or GPS Communication Network: Mobile terminals which transfer request and responses from user to the service provider. Service and Application Provider: Service provider deliver the service and is responsible for the process such

as rout calculation, searching yellow pages for the information or a specific point of interest. Content and Data provider: Since the service provider does not maintain all the information therefore geo-location data and map is provided by other authorities such as mapping agencies, yellow pages for industry or business and traffic companies. During last few years with increasing usage of the mobile devices and smart phones from one side and the other side the increasing number of sensors in the buildings indoor issues came into consider of many discipline such as computer science .

4

Problem definition & Scope

4.1 Problem Statement

Mobile phones are nowadays far more than merely devices to communicate with. Especially, smartphones are products that help to make our work and everyday life easier. Along with the advance in technology and popularity of these devices, the use of mobile applications increased enormously in the last years. Based on new techniques like GPS and sensors, like compass and accelerometer, that can determine the orientation of the device, location-based applications coupled with augmented reality views are possible. The difficulty faced by new students, parents to find the location of various places in college campus and providing the direction with help of which user can reach to the final destination he/she want.

4.1.1 Goals & Objective

As described in the introduction chapter there are two main goals for this application prototype. The first goal is to provide the user with an on campus navigation system that helps him to get from his current position to a designated building or room. The second feature of this application focuses on presenting different kinds of useful information in an augmented reality view. In addition to the navigation feature the user's current location can be used to show him nearby points of interest and help him get to know the campus.

4.1.2 Statement of scope

College campus around the world are expanding structurally at a rapid rate especially when the number of students get greater and greater with enrolment period. As a result of being tremendous in size there is a great chance that some students would not be able to find their way around the campus with parents and newly enrolled students being the ones greatly affected.

4.2 Methodology of Problem Solving

1. Users need to scan OR code through his/her phone by any OR code scanner app/ Google lens
2. The user will face window where user needs to select a language
3. After selecting the language option, the website will appear in chosen language.
4. – Then user will get the option of choosing his/her starting point or else website will ask for permission to access live location.
5. User needs to select destination from given predefined options
6. As user walks on the path guided by the website pop up images of landmarks of campus will appear to assure him that he is on the right path.
7. As user walks on the path guided by the website pop up images of landmarks of campus will appear to assure him that he is on the right path.

4.3 Outcomes

The hassle faced by new comers to find destinations within the campus can be reduced by the campus guide, the use of it will result in easy navigation for new students, also it will help to make campus a smart campus.

4.4 Application

The person in college campus can easily find the location with the help of the QR code. Thus the system can display the grounds, hostel colleges etc. They are used by students, visitor or residents to navigate the campus.

4.5 Constraints

QR code must placed at sufficient number of locations so it can be accessed easily by the user. Use of GPS can be hampered by the bad weather.

4.6 Software & Hardware Resources

Software

1. Python 3.9
2. Github
3. Google API

Hardware

1. QR code
2. Smart Phone
3. Scanner