Geographical Location Based Advertisement System for Public Transit System
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Abstract:
Commercials have turned into today’s generally immediate advertising channel that give data and markdown offers about items to clients and permit advertisers to achieve an exact objective by making efforts. Making these Ads area particular would render them more applicable as well as customized and focused to particular group of onlookers. This paper displays a concise study on Location-based Advertisements (LBA) with accentuation on their applications in Public Transportation Systems (Busses, Trains, Airplanes, and so on). Besides, this paper likewise proposes the plan and usage of a minimal effort inserted framework utilizing Global Positioning System (GPS) which shows these Ads on continuous traveller data show framework inside the vehicle. The target of this survey is to condense and look at a portion of the notable broad research done in the field of LBA so as to improve the current innovation even.

Keywords: PIC16F877A Microcontroller, Bluetooth, GSM, GPS

I. INTRODUCTION

Location-based advertising (LBA) or hyper-local advertising is a new form of advertising that integrates mobile advertising system with consumer’s real world position. The technology is used to pinpoint consumer’s location and deliver relevant ads for products and services that are in close proximity to that consumers’ current location. According to a recent IAB UK study, 66% of marketers believe location-based advertising is the ‘most exciting’ opportunity for 2016. LBA, as a form of direct marketing, allows marketers to reach specific target audiences. This presents an opportunity for advertisers to personalize their messages to people based on their current location in real time. Secondly, since LBA could improve advertising relevance by giving the customer control on what, when, where, and how customers receive ads, it provides customers more relevant information, personalized message, and targeted offer. One of the key strengths of location-based ads is that they are timely. Because location data is served in real time, there is an opportunity for brands to target people at precise moments. Localized ads provide a natural opportunity for targeting because people in different geographical locations behave differently, or at least have their own unique quirks.

II. OBJECTIVES

The main objective is to display advertise based on geographical location. Also displays the multiple advertisements in same area. We have to save the money which is required for advertisements. Also it will reach to targeted audience more efficiently.

III. PROBLEM IDENTIFICATION

Now a day, there are numerous approaches to publicize our business. Individuals incline toward TV, radio, website, newspapers, email, online networking, phone calls, diaries and magazines. Out of these, TV and radio advertisements are viable approaches to elevate your business to an expansive gathering of people, yet they are moderately expensive types of promoting. In the event that our business is little then it will reach to expansive group of onlookers which is not our intended interest group and will cost more. So we require ease, ad media to promote our business to specific focused on gathering of people. Location-based advertising (LBA) or hyper-local advertising is a one of the most useful systems for efficient and low cost advertising.

IV. RELATED WORK

Since the previous decade, a lot of research and studies have been directed in the field of LBA to plan a decent and solid framework for upgrading the ebb and flow innovation. Buyer conduct is completely comprehended with a specific end goal to produce all the more Ad income by utilizing area based showcasing. This segment enrols a Literature Survey of late papers distributed relating to the field of Location-based Advertisements. In 2006, Steiniger, S., Neun, M., and Edwardes, A proposed the possibility of area construct administrations which drove in light of to end up distinctly the most well known and exceptionally inquired about subjects in the field of Geographical Information Systems (GIS). In their paper the creators have established the framework of area based administrations by characterizing the parts of LBS and highlighting their applications. This paper has likewise looked at different area detecting advances like Global Positioning System (GPS), RFID, WLAN, and so forth., in their utilization in versatile correspondence frameworks and have inferred that GPS is the best reasonable and monetary alternative for area retrieval. In 2012 they have distributed in 2012 have expounded on an area based promotion conspire utilizing an open-source outline. Their paper incorporates the piece of the overall industry of different versatile working framework (OS) stages and have built up an android application to actualize this advertisement conspire utilizing the Open-Street Map. Their thought is imaginative as in the product which they have utilized as a part of this venture is altogether open-source, therefore they require not procure any licenses from anyone requesting that authorization utilize these advancements.
Mittal, L., and Goudar, R. H. have expressed about the change of promotion strategy in Indian open transport frameworks by utilizing advanced signage in the year 2013. They have executed an advertisement structure which orders numerous promotions in view of various parameters like their span, importance, venture, and so forth, and renegotiates a state need to every promotion. Then again, they have allotted a typical need to each promotion utilizing a general calculation. Utilizing these two needs they have built up a Web application which can enlist distinctive sponsors and show their advertisements in a dynamic request in light of the present area of the vehicle in which this screen is introduced. The utilization of World Wide Web in their framework makes the framework stage autonomous and gives consistent access to different publicists.

V. BLOCK DIAGRAM

![Block Diagram for LBA](image)

FIGURE 1. BLOCK DIAGRAM FOR LBA

V. WORKING

This proposed framework incorporates microcontroller, show, GPS modem, GSM modem, Bluetooth, drove strip and signal. We can set up this entire framework on private or open vehicle. Microcontroller will get scope and longitude from GPS and according to various area zones distinctive commercials will show in plain view unit. At the point when commercial will be shown on notice framework, client gets the affirmation by short message benefit. Ads will change as the area territory changes through various target places. Here drove strip and signal is utilized to get individuals consideration towards the notice framework. Vehicle driver is given android application with secret key assurance; if there should arise an occurrence of crisis he can show any crisis commercial on this framework utilizing android application and Bluetooth module.

A. PIC 16F877A:

PIC 16F877 is a standout amongst the most developed microcontroller from Microchip. This controller is generally utilized for trial and advanced applications on account of its low cost, extensive variety of utilizations, high calibre, and simplicity of accessibility. It is perfect for applications, for example, machine control applications, estimation gadgets, ponder reason, etc. The PIC 16F877 elements every one of the parts which current microcontrollers typically have.

B. 7805 Voltage Regulator:

The LM78XX arrangement of 3-terminal controllers is accessible with settled yield voltages of 5V, 8V, 12V, and 15V. These gadgets require just a single outside segment Compensation capacitor at the yield. The LM78XX arrangement is packaged in the TO-220 power bundle and is equipped for providing 1.5A of yield current. These controllers utilize interior current restricting safe territory insurance and warm shutdown for security against for all intents and purposes all over-burden conditions. Low ground stick current of the LM78XX arrangement permits yield voltage to be effortlessly helped over the present an incentive with a resistor divider. The low calm current deplete of these gadgets with a predefined greatest change with line and load guarantees great direction in the voltage supported mode, for applications requiring different voltages.

C. Bluetooth HC-05:

HC-05 module is a simple to utilize Bluetooth SPP (Serial Port Protocol) module, intended for straightforward remote serial association setup. Serial port Bluetooth module is completely qualified Bluetooth V2.0+EDR (Enhanced Data Rate) 3Mbps Modulation with finishes 2.4GHz radio handset and baseband. It utilizes CSR Blue core 04-External single chip Bluetooth framework with CMOS innovation and with AFH (Adaptive Frequency Hopping Feature). It has the impression as little as 12.7mmx27mm.

D. GPS Module:

The Global Positioning System (GPS) is a U.S. space-based radio route framework that gives dependable situating, route, and timing administrations to non military personnel clients on a constant overall premise - openly accessible to all. For anybody with a GPS recipient, the framework will give area and time. GPS gives exact area and time data for a boundless number of individuals in all climates, day and night, anyplace on the planet. GPS receivers mostly used to navigate between points and to make digital maps of various features. But GPS isn’t just used by civilians; it’s also used by pilots, boat captains, farmers, surveyors, scientists and the military also.

![Figure 2. GPS Module](image)

E. GSM Module:

GSM, which remains for Global System for Mobile interchanges, rules (essential) as the world's most broadly utilized PDA innovation. PDAs utilize a PDA administration transporter's GSM arrange via hunting down phone towers in the close-by territory. Worldwide framework for versatile correspondence (GSM) is an all inclusive acknowledged standard for computerized cell correspondence. GSM is the name of an institutionalization aggregate built up in 1982 to make a typical European cell phone standard that would figure determinations for a skillet European portable cell radio


http://ijesc.org/
framework working at 900 MHz. It is evaluated that numerous nations outside of Europe will join the GSM organization.

**Figure 3. GSM Module**

**F. Liquid Crystal Display:**

A standout amongst the most widely recognized gadgets joined to a small scale controller is a LCD show. Probably the most widely recognized LCD’s associated with the numerous microcontrollers are 16x2 and 20x2 showcases. This implies 16 characters for every line by 2 lines and 20 characters for each line by 2 lines, individually.

**VII. RESULTS & DISCUSSIONS**

In this way, we verified the result at different locations. Accordingly, location-based advertisements can reach much more individuals and can strongly connect with a hostage group of onlookers. This framework can likewise be helpful to travellers as a city manager inside visit transports in an obscure city which can alarm them the purposes of enthusiasm as they move along the visit.

**VII. CONCLUSION**

As of late, in innovations in advances have changed the ways promoters contact clients. Other than promoting on the TV, daily papers and radio; a cutting edge publicizing organization is additionally liable to utilize some type of area based promoting, coming to focused gatherings of people in view of their present location. Consumers who were served a geo-fenced advertisement almost a promoter’s store were 3.9 circumstances more inclined to check in the store than the individuals who did not see the advertisement. These shoppers were likewise 23% more averse to visit a contender. Open travel is consequently seen as a division ready for early appropriation of area based data benefits and executing publicizing administrations. In this paper, we concentrated on building a framework which can be viably utilized by both promoters or specialist and clients. The clients require not scan for adjacent business offers. Instead framework will show business ads and offers to the client progressively in view of his geo-area. As we utilize GPS based area benefit, it makes the framework more exact and strong. Extend exhibited in this paper give effective and imaginative answers for create income by advertisers and in the meantime guarantee satisfaction of focused clients. Fundamental preferred standpoint of this framework is its precision, low introductory speculation and high proficient.
VIII. REFERENCES


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