An intelligent android Mobile based real time Ads tracking System

Dr. B R Prasad Babu[1], Mr. Jaya Kumar B L[2], Mr. Bharatesh V R[3]

Professor and HOD, Dept. of CSE, SEA College of Engineering & Technology, Bangalore[1]

Assistant Professor, Department of CSE, SEA College of Engineering & Technology, Bangalore[2]

M.Tech IV Sem, CSE, SEA College of Engineering & Technology, Bangalore[3]

Abstract - Rapid expansion of wireless technologies has provided a platform to support intelligent systems in the domain of mobile marketing. Utilizing Location Based Services and Global Navigational Satellite Systems provides the capability for transport of real-time, scheduled, location-based advertising to individuals and businesses. This paper introduces location-based marketing and iMAS, a related novel intelligent mobile advertising system. Following an overview of location technologies, the iMAS prototype is presented. Evaluation is discussed as well as the testing strategy, results and open research questions.

Keywords: iMAS, Ad user, Ad poster, GPS.

I. INTRODUCTION

Rapid expansion of wireless technologies has provided a platform to support intelligent systems in the domain of mobile marketing. Utilizing Location Based Services and Global Navigational Satellite Systems provides the capability for transport of real-time, scheduled, location-based advertising to individuals and businesses. This project introduces location-based marketing and iMAS, a related novel intelligent mobile advertising system. Mobile marketing is a relatively new field of study, which over its short historical period of evolvement has proved to be effective and profitable. The majority of success can be associated with rapid development of enabler technologies such as satellite-positioning systems (e.g. GPS, GLONASS and COMPASS) and wireless standards. Mobile marketing competes with traditional media channels such as television, radio and the printed-press. Advertisements are becoming increasingly personalized and context-aware to fulfill customer needs. This is natural given that "Retail has always fundamentally been a local business" . Location-based advertisement not only helps to improve sales in a particular area, but can also improve brand awareness among potential customers

Utilizing the Location Based Services and Global Navigational Satellite Systems iMAS Ads users can locate the ad poster store in mop, they can also navigate using routes showed between their current location and ad poster's shop.

General Packet Radio Service (GPRS) is a packet oriented mobile data service on the 2G and 3G cellular communication system's Global System for Mobile communications (GSM), we are making use of GPRS facility of android mobile to connect to the remote iMAS server.

The goal of this project is to provide the iMAS Ads application on the GPRS enabled android phone that can show the Ads posted by Ad posters anywhere, anytime, free of cost and with the facility to have data synchronized between the phone and the iMAS Ads database.

II. Objectives of this project

➢ It should be possible to open iMAS Ads account for a user and close the account.
➢ It should be possible for the iMAS Ads user to see the Advertisements in the list form in android application.
➢ It should be possible for the iMAS Ads user to see the Advertisements by specific location in the list form in android application.
➢ It should be possible for the iMAS Ads user to see the Advertisements by specific Ad category in the list form in android application.
➢ It should be possible for the iMAS Ads user to see the Advertisements by his/her current location in the list form in android application.
➢ User should be able to see the located buildings and stores that has the offers and advertisements on Google maps application in android mobile.
➢ This android application should be able to display the road map between user's current location and the store/shop location on Google maps application.
➢ iMAS Ads users should be able to navigate between his/her current location and store/shop location using this android application.
➢ iMAS Ads users should be able to subscribe to the Ad posters to get instant emails about the posted Ads.
➢ iMAS Ads users should be able to unsubscribe from the Ad posters to stop getting instant emails about the posted Ads.

III. ANDROID OPERATING SYSTEM
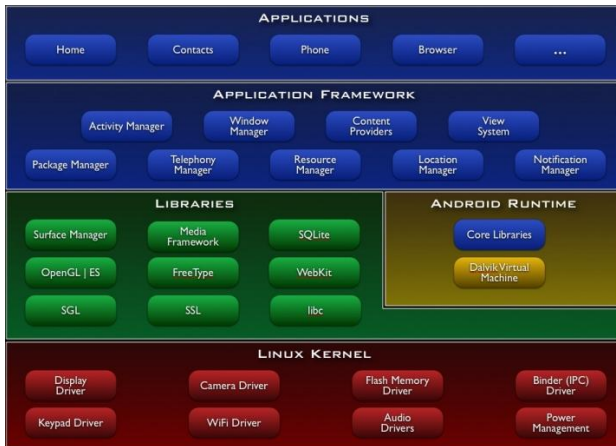
➢   Applications : Android will ship with a set of core applications including an email client, SMS program, calendar, maps, browser, contacts, and others. All applications are written using the Java programming language.

➢   Application framework : Developers have full access to the same framework APIs used by the core applications. The application architecture is designed to simplify the reuse of components; any application can publish its capabilities and any other application may then make use of those capabilities (subject to security constraints enforced by the framework). This same mechanism allows components to be replaced by the user.

➢   Libraries : Android includes a set of C/C++ libraries used by various components of the Android system. These capabilities are exposed to developers through the Android application framework.

➢   Android runtime : Every Android application runs in its own process, with its own instance of the Dalvik virtual machine. Dalvik has been written so that a device can run multiple VMs efficiently. The Dalvik VM executes files in the Dalvik Executable (.dex) format which is optimized for minimal memory footprint. The VM is register-based, and runs classes compiled by a Java language compiler that have been transformed into the .dex format by the included "dx" tool.

➢   Linux kernel : Android relies on Linux version 2.6 for core system services such as security, memory management, process management, network stack, and driver model. The kernel also acts as an abstraction layer between the hardware and the rest of the software stack.

IV. EXISTING SYSTEM

o   Existing advertising systems are web based such as web-classified advertisements which can be accessed through desktop computers.

o   User can browse these ads through mobile browsers but he will face resolution problem and access delay problem.

o   Even there is no ranking concept to order the ads in the way user need.

o   There is no effective mobile based advertisement system at present

V. PROPOSED SYSTEM

✓   There is much support for Location Based search and Context Aware Ad Searches.

✓   This application does not take much time to detect the Ads that useful to the user.

✓   User should be able to see the located buildings and stores that has the offers and advertisements on Google maps application in android mobile.

✓   This android application should be able to display the road map between user's current location and the store/shop location on Google maps application.

✓   iMAS Ads users should be able to navigate between his/her current location and store/shop location using this android application.

✓   iMAS Ads users should be able to subscribe to the Ad posters to get instant emails about the posted Ads.

✓   iMAS Ads users should be able to unsubscribe from the Ad posters to stop getting instant emails about the posted Ads.

✓   It should be possible for the iMAS Ads user to see the Advertisements by specific location in the list form in android application.

✓   It should be possible for the iMAS Ads user to see the Advertisements by specific Ad category in the list form in android application.

✓   It should be possible for the iMAS Ads user to see the Advertisements by his/her current location in the list form in android application.

VI. SYSTEM REQUIREMENTS

Software Requirements
➢   Operating system   : Windows XP
➢   Coding Language   : Java, JSP, HTML 4, Java script.
➢   Tools Used   : Eclipse juno, android SDK 4.4, JDK 1.7, Mysql.
➢   Server   : Apache tomcat 7.0
➢   Protocol   : HTTP

Hardware Requirements
➢   System   : Pentium IV 2.4 GHz.
➢   Hard Disk   : 40 GB.
➢   Keyboard   : Non multimedia keyboard
➢   Monitor   : 15inch VGA color.
➢   Mouse   : Normal mouse.
➢   Ram   : 1 GB.
➢   Android phone   : GPRS and GPS enabled
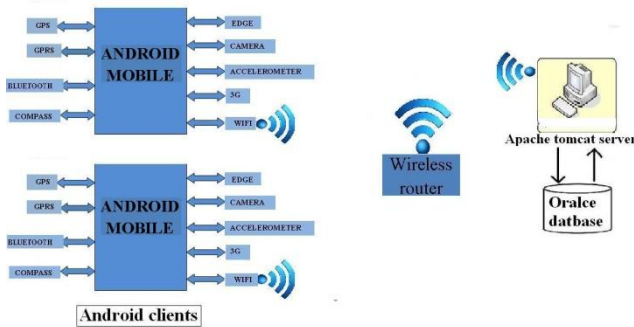
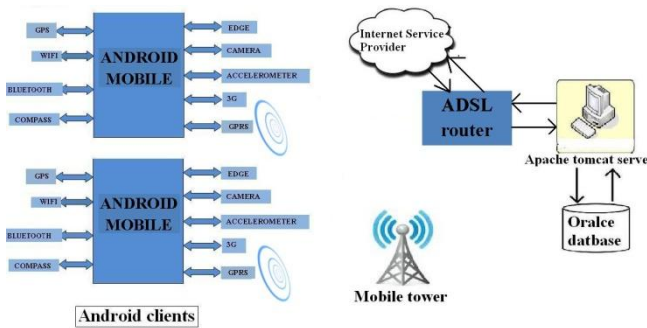## VII. SYSTEM OVERVIEW

Fig : Local iMAS connection architecture

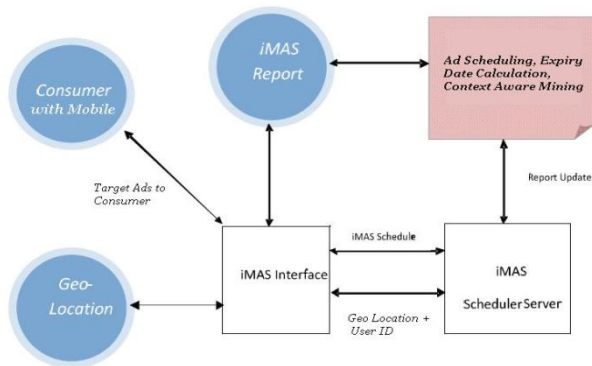
Fig : Global iMAS connection architecture

Fig : iMAS System Architecture

VII. IMPLEMENTATION

SERVER SIDE:

Apache tomcat server contains the scaled Hyper Text Markup Language (HTML) and Java Server Pages (JSP) according to the mobile screen resolution, those html and JSP pages are served by the server to the client application to do the transactions. All the Ad details, user details, location details will be stored in the Mysql database. Server will access the Mysql database by making use of JDBC-ODBC bridge driver and it will fetch the iMAS account

and the Ad details to view the Ads. As soon as an update is done by the aduser/adposter, the database will be updated and the updated data will be fetched by the server to show it to the user. As soon as a Ad insertion happens particular details will be stored in the database, that will be displayed the user instantly. Server will be having a domain name, and it is connected to the Internet Service Provider (ISP) through Asymmetrical Digital Subscriber Line (ADSL) router to provide the service to the clients.

CLIENT SIDE:

The java coding part of the application contains the domain name or IP address of the server, so by using the domain name or IP address of the server, the client application will connect to the apache tomcat server. iMAS Ads application displays the Login XML page with Login button, whenever a user clicks on the Login button, whenever user clicks on the login button, application will connect to the server to verify the details, like that all the updating and viewing details will also occur whenever an user clicks on any button. First the android phone will connect to the mobile tower, which acts a router between the android mobile and the Internet Service Provider (ISP), by making use of General Packet Radio Service (GPRS) facility of the android phone. As explained in the server part server will be connected to the Internet Service Provider (ISP). So next the mobile tower connects to the Internet Service Provider to which the referred server is connected and hence through the Internet Service Provider the data packets from the android mobile will reach the server to do the transactions and the data packets from the server will come back to android mobile by making use of the same Internet Service provider and the mobile tower.

XI. DATABASE DESIGN

Ad poster

Attribute	Data type	Null	Key
USERNAME	VARCHAR(50)	NO	PRIMARY KEY
PASSWORD	VARCHAR(20)	NO	-
SHOPNAME	VARCHAR(100)	NO	-
MOBILE	VARCHAR(15)	NO	-
PHONE	VARCHAR(15)	NO	-
EMAIL	VARCHAR(50)	NO	-
STREET	VARCHAR(200)	NO	-
CITY	VARCHAR(50)	NO	-
STATE	VARCHAR(50)	NO	-
ZIPCODE	VARCHAR(10)	NO	-
CDATE	VARCHAR(50)	NO	-
LATITUDE	VARCHAR(50)	NO	-
LONGITUDE	VARCHAR(50)	NO	-

Ad User

Attribute	Data type	Null	Key
USERID	VARCHAR(50)	NO	PRIMARY KEY
PASSWORD	VARCHAR(50)	NO	-

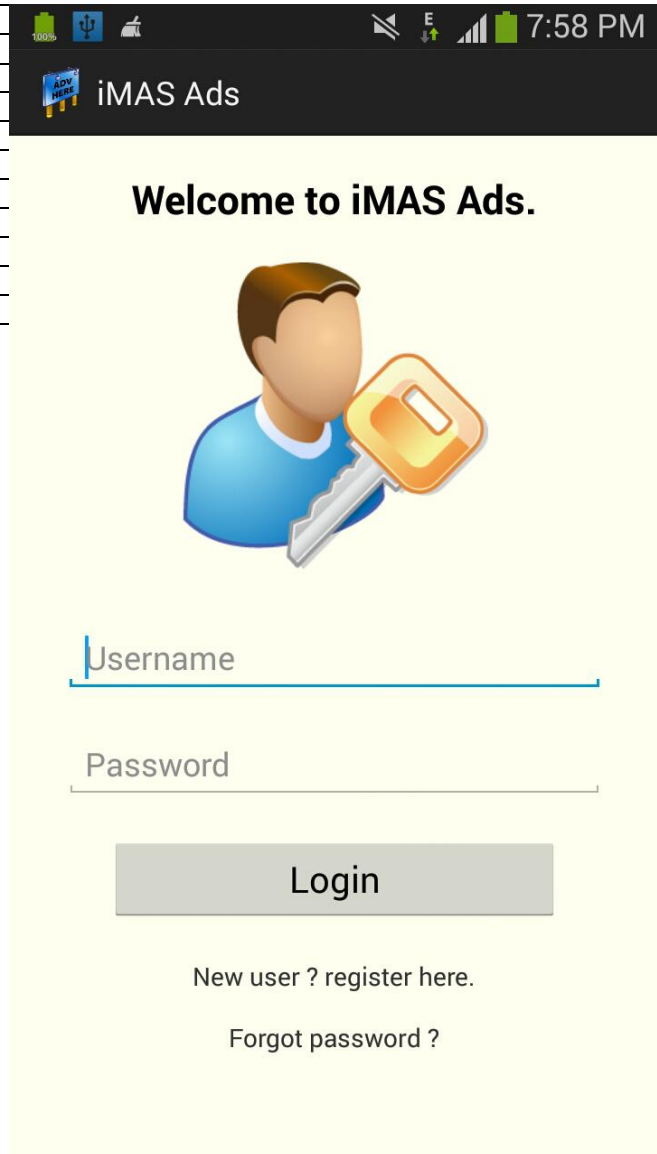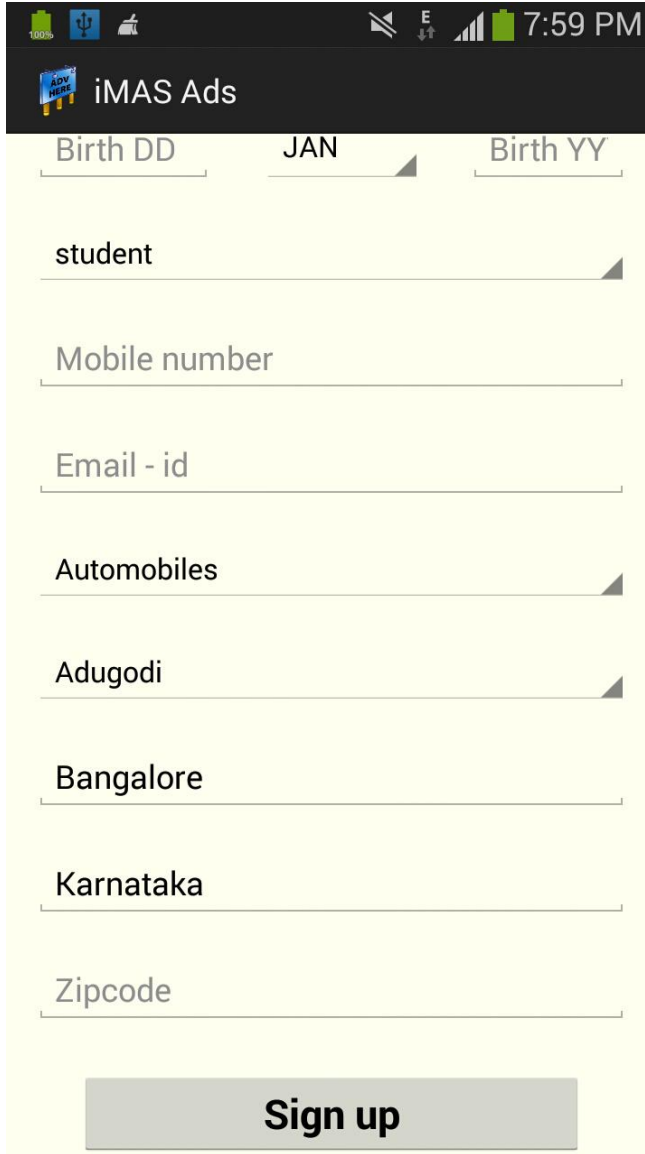| GENDER	VARCHAR(10)	NO	-
DOB	VARCHAR(15)	NO	-
OCCUPATION	VARCHAR(30)	NO	-
MOBILE	VARCHAR(15)	NO	-
EMAIL	VARCHAR(50)	NO	-
INTEREST	VARCHAR(50)	NO	-
STREET	VARCHAR(50)	NO	-
CITY	VARCHAR(50)	NO	-
STATE	VARCHAR(50)	NO	-
ZIPCODE	VARCHAR(10)	NO	-
CDATE	VARCHAR(50)	NO	-

X. Result snapshots
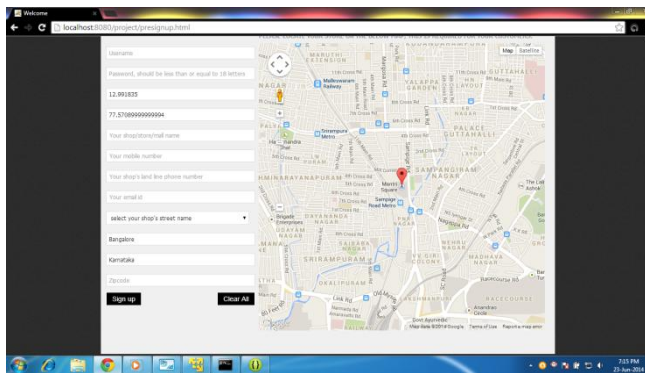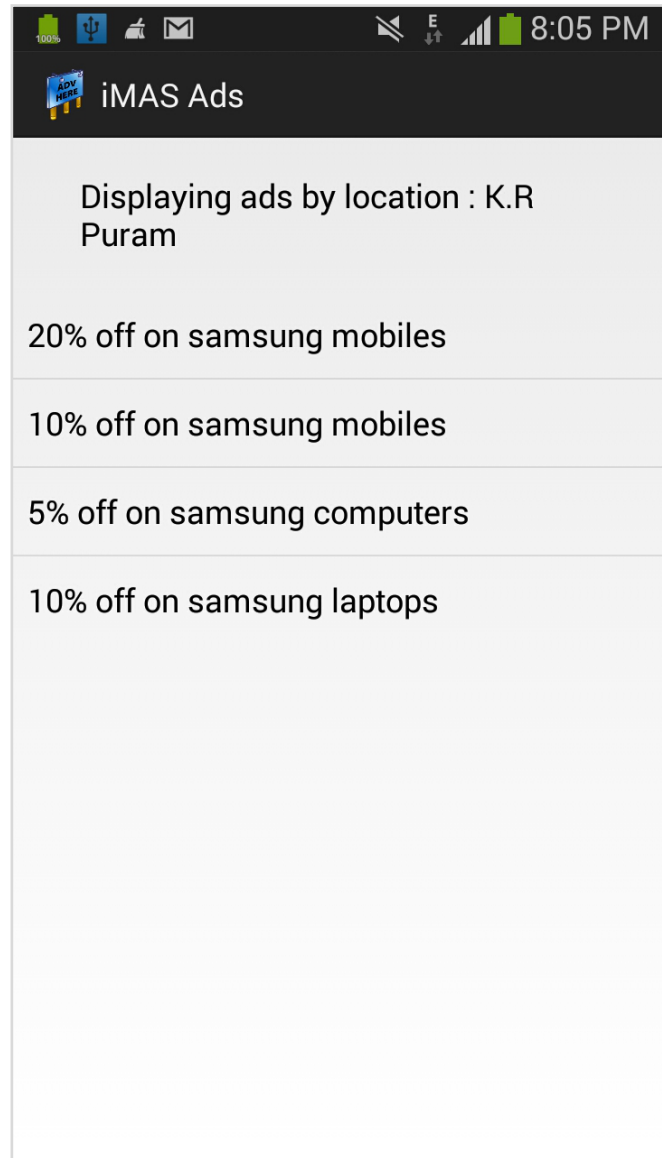
Ad poster sign up page
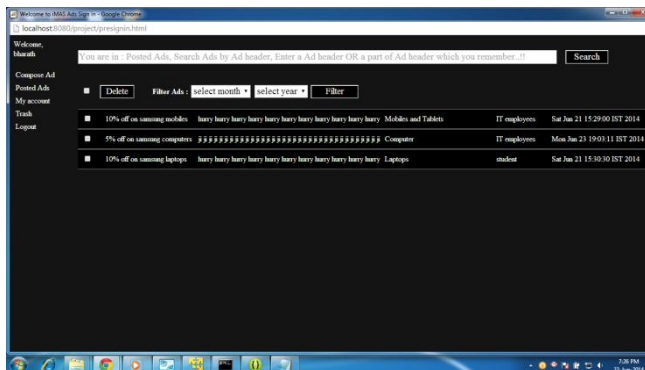
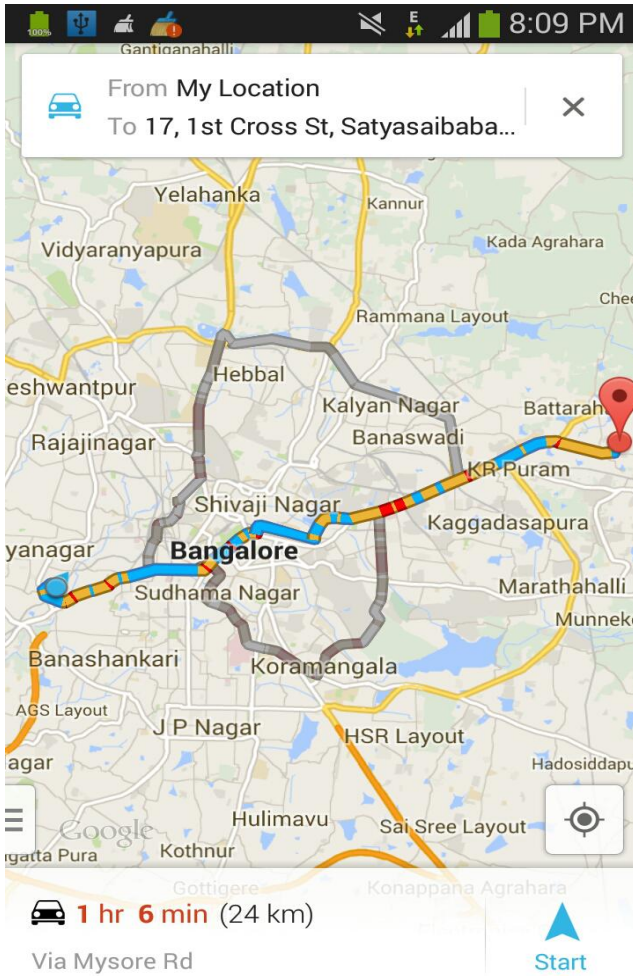Ad poster's Ads view page

Ad user Log in page

Ad user sign up page

Ad User's Ads display page

Ad User can locate Ad poster's shop

CONCLUSION

Location-based marketing has been gaining significant traction over recent years. For iMAS this means a desire to personalize advertising content simply through location-relevance, such as the proximity of potential customers to shops they may be unaware of. In the near-future, for members of the public opting in to information feeds through mobile devices, more effective targeting of products and services, based on their expressed preferences and systemic constraints, will be possible. The iMAS system, implemented using intelligent decision- and context-centric middleware, provides an effective basis upon which personalization in service provision can be achieved in a commercial location-based marketing system. In testing, the initial prototype demonstrated that such a system is possible and can be operated in a busy city centre environment. Further work will now seek to provide enhanced verification of the system-efficacy, as well as addressing the issue of how to increase the scope of user-profiling for increased personalization of advert-serving.

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BIOGRAPHY

BHARATESH V R, is an M.Tech student of S.E.A. COLLEGE OF ENGINEERING AND TECHNOLOGY, Bengaluru. Presently he is pursuing his M.Tech [CSE] and he received his B.E from Bapuji Institute of Technology, Davangere, affiliated to VTU University. He has coded many software projects on his own. Visit http://bharathv499.byethost10.com for details about his projects. His areas of interest includes Java, Android, J2EE, .NET, VB, MYSQL.