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RESEARCH ARTICLE

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A NEW APPROACH TO GUI BASED LOCATION FINDER

VINAYAK JOSHI.B[1], DR.MANJAIAH.D.H[2]

[1]Dept of CS&E,AITM ,Belgaum

[2]Dept of Computer Science,Mangalore University,Mangalagangothri,Mangalore,India

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ABSTRACT

Location based Services offer many advantages to the 4G enabled device users to retrieve the information about their current location and process that data to get more useful information near to their location. With the help of A-location based in 4G device and through Web Services using website, Location based Services can be Fetched with user friendly developed GUI based software In this paper, we propose the implementation of Location based services through Web Services and GUI takes input from user in IPV4 address format and converts to novel IPV6 address format and shows latitude longitude of current position

Keywords - Location Based, latitude, longitude, ipv4, ipv6, Web Services,

1 INTRODUCTION

In modern world we have experienced several trends in social media in conjunction with information technology, websites, email, chat, videoconference, social networks, real-time information, and other services are examples of the need of people to be, without caring where they are[1],[2]. In contrast of Location-Based Services (LBSs) defined as “services that integrate a device’s location or position with other information so as to provide added value to a user” deliver different information and services depending upon where the user is[4]. Hence, LBSs are extremely related to positioning. The rapid growth of LBS in mobile networks is due to the wider availability of GPS-enabled phones, reduced prices, and application stores.

Most recent research that provides location-based services is increasingly becoming diverse and wide. Examples are the Guide project and Cyber Guide Most of these applications use the position-aware approach, meaning that application’s actions are based on its knowledge of its own position. Location-tracking services such as the safety-based ones, for children or the elderly, are commercially available [3][5][6]. Some applications like ‘friend finder’ services are available on some mobile phone service providers’ offers Recently LBS market is about to boom big time”. On the other hand, IP telephony (via SIP) is considered to be the future of the mobile communication system. It represents the convergence of computers, telephones and televisions into single integrated information. This is a transcendental moment for LBS and IP telephony and we should not miss this evolution[7]. Each day

IP technology is taking the place of other technologies and LBS one day will become "as common as the cell phone itself". Location-based services offer many merits to the mobile clients. For the mobile user, the examples of location based services are:

1 To determine the nearest business or service, such as an Bank or Hotels
2 Receiving alerts, such as notification of Sale in Shopping Mall or news of Traffic Jam nearby.
3 Friend finder or receiving the location of the stolen phone.

Location based Services can be classified in 3 categories

a) Public Safety/Emergency Services The location of the client can be determined by the mobile carrier hence it finds great use during Emergency since it can be used during the emergency/health hazard to locate the mobile clients.

b) Consumer Services Now days, smart phones like (Android, Blackberry and iPhone) provide a set of location based applications and services which helps the users to access the multiple services based on the user location.

1 Maps Navigation- The users can use the Google Maps to get to the particular location or to trace the route between any two locations.
2 Marketing /Advertising- Many corporate companies advertise their items based on the location of the clients.
3 For Example – Sale in Shopping Mall near to your location.
4 Location based Reminders- The phones can be used to set as the reminder based on the location. For e.g.- Setting the Location based Alarm while traveling in the train

2 Related Work

Network Location Provider determines user location using cell tower and Wi-Fi signals, providing location information in a way that works indoor and outdoor, responds faster, and uses less battery power. Assisted GPS, also known as A-GPS or AGPS, improves the performance of standard GPS in devices connected to the wireless network. A-GPS enhances the location granularity of cell phones (and other connected devices) in two ways: By helping in finding a faster "time to first fix" (TTFF)[8]. A-GPS acquires and stores information about the location of satellites via the cellular network hence the information does not need to be downloaded via satellite. By helping position mobile device when GPS signals are not strong or not present. GPS satellite signals may be impeded by tall towers, and they do not penetrate building interiors well[9]. A-GPS uses proximity to cellular towers to calculate location when GPS signals are unavailable.

It addresses signal and wireless network problems by using assistance from other services. Such a technology in our smart phones can assist in various ways like tracking current location, receiving turn-by-turn direction instructions, route tracking, etc.

Mostly suited for mobile devices, A-GPS takes assistance from GPRS and at times, the service provider network information, to pin-point the current location accurately. Moreover the amount of CPU and programming required for a GPS phone is reduced by diverting most of the work to the assistance server instead. A typical A-GPS enabled cell phone uses GPRS or other such Internet based data connection to build a contact with the assistance server for A-GPS. As this technique does not take into account the cell phone service provider network completely, we only pay for the GPRS usage charges and nothing else. The only down-side to this technology is that an A-GPS server cannot utilize any of the three standby satellites available for GPS connections. AGPS minimizes the amount of memory and hardware that must be integrated into mobile devices in order to provide GPS-quality device locating ability as required by mobile devices. This keeps the mobile device simple and allows longer battery time.

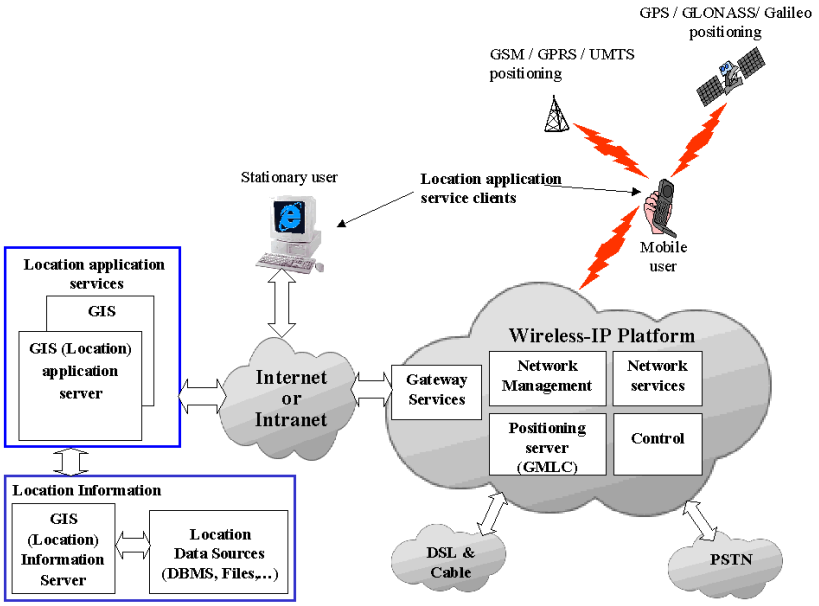

Figure 1: Architecture of A-GPS System

3 Implementation

Location-based service is another key functionality that gets used in 4G device applications. It is often combined with maps to give a good experience to the user about their location. Location service allows finding out the device current location. The application can ask user interface to enter the IP address the IP address which is entered converted equivalent IPv6 address with suitable tools and latitude and longitude are found and displayed which doesn't use GPS chip that is important finding of the research paper

The Three types of requests are available with the proposed application.

- Ipv4 to ipv6 conversation: It converts the IPv4 address to IPv6 address.
- Finding latitude of the given IP address of the devices.
- Finding longitude of the given IP address of the devices

4 Results

We developed the application on matlab APIs and the application was tested using known IP address of the devices. And the screen shots are

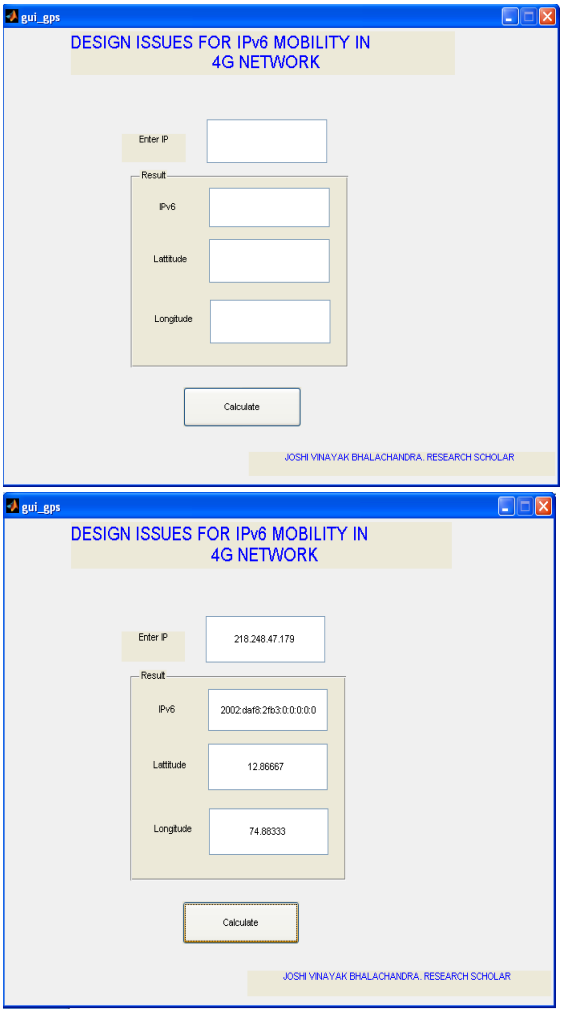

Figure 2: Screen showing the GUI developed in Matlab

5 CONCLUSION AND FUTURE SCOPE

In this research paper a new method for finding LBS based on GUI developed web frame work in matlab is proposed. The frame work consists of accepting the input as IPv4 address and converts corresponding IPv6 address and finally display their latitude and longitude. Which save the time and hardware chip for find GPS.

6 REFERENCES

[1]. Frederic Paint, Paal Engelstad, ErikVanem, Thomas Haslestad, Anne Mari Nordvik, Kjell Myksvoll, Stein Svaet, "Mobility aspects in 4G Networks- White Paper.

[2]. 4G Wireless Networks: Opportunities and Challenges by Hassan Gobjuka

[3]. Albert0 Montilla BravoAdvanced Positioning And Location Based Services In 4G Mobile-Ip Radio Access Networks 2010 IEEE.

[4]. Adar, S. D., and Kaufman, J. D Near road air quality monitoring: Factors affecting network design and interpretation of data exposure. In-hal. (2010), 135–149

[5]. Christian Voigtmann and Klaus David A Survey To Location-Based Context Predictio InICDE (2009), pp. 3–14.

[6]. Murat Ali Bayir Discovering SpatioTemporal Mobility Profiles of Cellphone UsersThe predictive user mobility profile framework for wireless multimedia networks. IEEE

[7]. Yu Zheng, Quannan Li, Yukun Chen, Xing Xie. Understanding Mobility Based on GPS Data. In Proceedings of ACM conference on Ubiquitous Computing (UbiComp 2008), Seoul, Korea. ACM Press: 312–321.

[8]. Bhattacharya, Amiya, and Das, Sajal K. Lezi-update: An information-theoreticframework for personal mobility tracking in pcs networks. *Wireless Networks8(2-3)* (2012), 121–135

[9]. Friendship and Mobility: User Movement In Location-Based Social Networks by Eunjoon Cho KDD'11, August 21–24, 2011, San Diego, California, USA. (7)