

# Location Based Instant Messaging

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# What is a Location Based Service ?

- **Location** in the context of WL means locating a wireless device.  
WLIA Privacy Policy Standard
- **Location Based Services** and Advertising allow consumers to receive services and advertising based on their geographic location. For example, businesses can provide information about traffic, restaurants, retail stores, travel arrangements, or automatic teller machines based on the consumer's location at a particular moment in time. Such services can be provided in response to a consumer's manual input of his or her location information into the handset or by using so-called "auto-location" technology to track the location of the consumer automatically.

# Introduction

- In recent years, mobile devices have radically evolved to serve as a powerful tool in our hands, urged us to reconsider the way traditional services could be offered.
- LBS opens a new market for developers, cellular network operators, and service providers to develop and deploy value-added services such as proximity info, navigation directions, tracking and many more.
- Location Based Instant Messaging emerged as the aftermath of adding GPS functionality and social network services to mobile platform.

# Aim and Objectives

- Gain required knowledge about location based social networks and other widely available GIS services such as Google M A P services, IM technologies.
- Study and understand other peoples' work and efforts regarding the problem domain.
- Study of technologies relevant to develop the application - J2M E, Location A P I (JSR -179), frameworks for developing the server side application.
- Design and develop the location based social networking application.
- Testing and evaluation of the proposed location based social networking application.
- Preparation of final documentation.

# Others Work

- **Mobile GMaps** is an app that displays Yahoo, Windows Live Local Maps on J2ME Devices.
- **JotYou** is a location based text messaging app that automatically sends text messages to your friends as they arrive at provided destinations.
- **Google Latitude** is a location-aware mobile app developed by Google. Latitude allows a mobile phone user to allow certain people on to track their location.

# Approach

- Towards a Location Aware Mobile Social Networking Solution.
- XML Based Protocol
- Request-Response Messaging Model using CIR Technique
- Defining IM features to implement
- Multi-threaded server

# Design

- Server



- Client - MVC Architecture

# Tools and Technologies

- Development IDE
  - NetBeans
- Server Development Tools & Technologies
  - J2SE, J2EE
  - Apache MINA
- Mobile Development Tools & Technologies
  - J2ME
  - Location API (JSR 179)
  - J2ME Polish API

# Implementation

- Implementation started with two mobile application prototypes - location retrieval, user interface.
- Implementing defined Lbim Protocol.
- Implementing Map Service Controller, Account Manager and Client Handler modules.
- Implement location retrieval from device with JSR-179 (Location API).
- Implement client in MVC Design.
- Improvements to the user interface of J2ME Client.

# Evaluation

- Testing of initial prototypes on devices with JSR 179 and also with those does not.
- Unit testing of application code with JUnit.
- Testing with Simulators.
- J2ME WTK , MicroEmulator, Sprint Toolkit, Sony Ericson SDK Emulators.
- Testing with mobiles.
- Nokia N95, Sony Ericsson K 550, Nokia N73.

# Improvements

- Include Instant Messaging features like group chatting and content sharing
- Improved commercial use with proximity services, direct users to best places
- Online Registration of users require an advanced web application
- More secure encrypted messaging solution to keep user privacy



Thank you