Location Based Service For Information Publication Using GPS On Android-Based Mobile Phone

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***Abstract*-- The increasing development of mobile technology makes some technology capable to running on multiple mobile platforms. One of them is Location Based Service. Location Based Service is a service provided by the position of the user. One of the utilization of Location Based Service technology is a publication of public information. This information may include important information such as hotels, gas stations, ATMs, and Event. Location Based Service is very dependent on the user's position, therefore, the accuracy of component positioning should be accurate enough. By default configurations android GPS accuracy is not very good, needed tweaking to minimize errors in accuracy. To measure the accuracy shift used haversine formula. Haversine formula is a method to measure the distance between two points on the sphere based on its latitude and longitude. Based on test results without tweaking the maximum accuracy shift is 30 meters while with tweaking only 11 meters. Average accuracy shift without tweaking is 18 meters down to 8 meters using tweaking. Thus the process of tweaking can improve the accuracy of GPS.**

***Keywords* : Location Based Service, Android, GPS.**

I. INTRODUCTION

The development of mobile computing technology are rapidly and constantly evolving, much of the technology, methods, and new applications are introduced. One application that started a lot of public attention is LBS (LBS) [1]. LBS is a service that provides information based on the position of a device [2].

Mobile platform that can be used to implement the LBS technology is Android. Android is a mobile-based operating system developed by Google. Android is an open platform that anyone can develop anything in it. Android integrated with Google-Maps which provides tools for the development of LBS [1]. In contrast to previous studies conducted by Rizqi MachlizaPicture LBS use a custom map from personal photography and its service area range only inside the campus [3]. In this study the map service provider will use Google Maps and larger service area.

From that technologies LBS application created with advantage among others which is to create a new community. All community members can exchange information based on its location. This information contains information relating to the location, for example, information on hotels, rates, the available rest rooms, and other information about the event or in a place, for example the exhibition event, this information may include the date and duration of the exhibition. The LBS application expected to answer questions like: Where am I? What is going on here? where is the nearest gas station? How do I get there? simply by using a mobile device that provides such information.

II. BASIC THEORY

A. Definition of Location Based Service

LBS can be described as an application that relies on a particular location. The specific service of a location will be provided, in other words LBS is a service that provides information based on the position of a mobile device geographics location[2].

LBS has 2 main action :

1. Get user position .[2]
2. Provide Services based on the position [2]

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B. Location Based Service Component

In order to run well, LBS application need good infrastructure. The infrastructure including mobile