ABSTRACT

SULMA MARDIAH SETIANI. The Prototype of Mobile-Based Geographic Information System for Bogor Agricultural University Campus using J2ME, GeoServer, and Wi-Fi Network. Supervised by SRI WAHJUNI and HARI AGUNG ADRIANTO.

Bogor Agricultural University has a vast land area and identical building shape consisting of nine faculties and thirty eight departments. Many university students, especially freshman who are not familiar with the entire building’s site campus, in particular the location of lecture halls. In order to resolve the issue, a dynamic and accessible Geographic Information Systems for IPB Darmaga campus needs to be built. The aims of this research is to create and display a dynamic map for IPB campus as a mobile-based GIS. The system prototype used J2ME, GeoServer, and the campus Wi-Fi network used for location-based services. The prototype was built as a three-tier system that has three components: the client, the web server, and the database server. The client serves as a presentation tier for running the application. The web server consists of GeoServer as web map server, and Apache web server. GeoServer serves as an application to store and process geospatial data and sends a response in the form of maps and its information to client. A PHP web application serves as the application for processing location data based on SSID Wi-Fi sent by client. System provides functions to select and display map layers, and there are additional menus such as Zoom in, Zoom out, Refresh, Reset view, GetFeatureInfo, the menu to request information about specific features shown on the map, and MyLocation, the menu used to identify user’s location based on Wi-Fi network.

Keywords: geographic information system, geoserver, geospatial data, location-based service, mobile GIS, Wi-Fi network