DEVELOPING MOBILE APPLICATION FOR LAND MAPPING IN REMBANG SUB-DISTRICT USING GEOGRAPHIC INFORMATION SYSTEM

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ABSTRACT

Geographic Information Systems (GIS) play a crucial role in the development of mobilebased land mapping applications in the Rembang District. This study aims to assist farmers in archiving documents related to agricultural data and geospatial information, thereby facilitating more effective and integrated land management. The application is designed to enhance the efficiency and accuracy of land mapping, making it easier for farmers to manage their agricultural land digitally. The method used in this study is the waterfall method, which involves observation and interviews with farmers as the main users to ensure that the application is in accordance with field needs and land conditions. Geospatial data collection is carried out using GIS technology to reduce data entry errors that often occur in manual methods. Implementation is carried out using the PHP Native & Kotlin programming languages, Visual Studio & Android Studio Code development tools and MySQL for the database. Testing was carried out using the black box method and User Acceptance Testing (UAT), with UAT results reaching a satisfaction level of 88.75%. This application facilitates more effective data management, including geospatial information and farmer data relevant to sustainable agricultural land monitoring. Research has demonstrated that this application enhances the efficiency of land mapping and fortifies farmers' capacity to adopt modern technology.

Keywords: Geographic Information System, Mapping, Mobile-Based, Rembang.