

ABSTRAK

PENGEMBANGAN SISTEM INFORMASI GEOGRAFIS BERBASIS *WEBSITE* SEBAGAI PENYEDIA INFORMASI FASILITAS PADA UNIVERSITAS LAMPUNG

Oleh

SATRIA BERLIANO MANZI

Universitas Lampung merupakan salah satu perguruan tinggi negeri di Lampung yang memiliki luas area sekitar 65 hektar dan jumlah mahasiswa mencapai 33.011 pada tahun 2023, memiliki beragam fasilitas yang tersebar di seluruh area kampus. Keberagaman fasilitas di lingkungan kampus sering kali menyebabkan kesulitan bagi mahasiswa maupun pengunjung dalam menemukan dan mengenali fasilitas-fasilitas tersebut, serta sangat sulit dan terbatas untuk mendapatkan akses informasi serta letak dari fasilitas. Penelitian ini bertujuan untuk mengembangkan Sistem Informasi Geografis (SIG) berbasis *website* yang dapat menjadi sumber informasi mengenai fasilitas di Universitas Lampung, menguji fungsionalitas sistem, serta mengukur efektivitas, efisiensi, dan kepuasan pengguna. Pengembangan sistem menggunakan metode *Agile Scrum* dengan 5 *sprint* yang dikembangkan menggunakan Next.js sebagai *framework* utama, Leaflet.js untuk visualisasi peta, dan Supabase sebagai *backend service*. Pengujian sistem dilakukan melalui tiga metode: *blackbox testing* dengan teknik *decision table*, *usability testing* dengan 20 responden, dan *heuristic evaluation* oleh tiga evaluator ahli. Hasil pengujian menunjukkan sistem berhasil mengeksekusi 8 butir uji dengan 27 kombinasi pengujian, mencapai tingkat efektivitas 97,5%, efisiensi 96,67%, dan nilai kepuasan pengguna 1.725 dari skala 7 pada *Post-Study System Usability Questionnaire* (PSSUQ). Evaluasi heuristik mengidentifikasi 22 permasalahan yang kemudian diselesaikan melalui 18 rekomendasi perbaikan. Sistem ini memiliki fitur peta digital Universitas Lampung, fitur navigasi atau perutean ke fasilitas, fitur pencarian fasilitas dan informasi fasilitas dengan detail. Sistem ini berhasil menyediakan informasi detail fasilitas kampus beserta lokasinya secara akurat dan dapat diakses secara mudah melalui <https://sig-unila.vercel.app>.

Kata kunci: *Agile Scrum*, Fasilitas Kampus, Sistem Informasi Geografis, *Usability Testing*, *Website*

ABSTRACT

DEVELOPMENT OF A WEBSITE-BASED GEOGRAPHIC INFORMATION SYSTEM AS A PROVIDER OF FACILITIES INFORMATION AT LAMPUNG UNIVERSITY

By

SATRIA BERLIANO MANZI

The University of Lampung is one of the state universities in Lampung which has an area of around 65 hectares and the number of students reaches 33,011 in 2023, has various facilities spread throughout the campus area. The diversity of facilities in the campus environment often causes difficulties for students and visitors in finding and recognizing these facilities, and it is very difficult and limited to get access and the location of the facilities. This study aims to develop a website-based Geographic Information System (GIS) that can be a source of information about facilities at the University of Lampung, test system functionality, and measure effectiveness, efficiency, and user satisfaction. System development uses the Agile Scrum method with 5 sprints developed using Next.js as the main framework, Leaflet.js for map visualization, and Supabase as a backend service. System testing is carried out through three methods: blackbox testing with decision table techniques, usability testing with 20 respondents, and heuristic evaluation by three expert evaluators. The test results showed that the system successfully completed 8 test items with 27 test combinations, achieving an effectiveness level of 97.5%, efficiency of 96.67%, and a user satisfaction score of 1,725 on a scale of 7 on the Post-Study System Usability Questionnaire (PSSUQ). The heuristic evaluation identified 22 problems which were then resolved through 18 recommendations for improvement. This system has a digital map feature of the University of Lampung, a navigation or routing feature to facilities, a facility search feature and detailed facility information. This system successfully provides detailed information on campus facilities and their locations accurately and can be easily accessed via <https://sig-unila.vercel.app>.

Keywords: Agile Scrum Method, Campus Facilities, Geographic Information System, Usability Testing, Website