ABSTRAK

Penelitian ini mengembangkan Sistem Informasi Geografis (SIG) berbasis Android untuk memberikan rekomendasi lokasi servis komputer menggunakan metode *Multi-Attribute Utility Theory* (MAUT) dan algoritma *A-Star*. Sistem dirancang untuk membantu pengguna memilih tempat servis komputer secara optimal berdasarkan kriteria seperti lama operasional, cakupan perbaikan, kelengkapan suku cadang, biaya jasa, garansi, jumlah teknisi, dan *rating*. Terdapat 17 toko servis komputer yang menjadi objek penelitian di Kota Lhokseumawe. Dari hasil metode MAUT didapatkan hasil skor rekomendasi tertinggi 0,810 yaitu Toko Servis Komputer JCOM, penerapan algoritma *A-Star* menentukan rute terpendek dari Gedung Teknik Informatika menuju tempat servis JCOM yang direkomendasikan didapatkan *cost* terendah yaitu sebesar 11793,74 meter. Sistem yang dikembangkan menampilkan peta interaktif lengkap dengan informasi detail setiap toko serta navigasi rute tercepat. Hasil pengujian menunjukkan sistem ini efektif memudahkan pengguna dalam menemukan layanan servis terbaik sekaligus memberikan kemudahan akses melalui fitur peta dan rute.

Kata Kunci : *Sistem Informasi Geografis, Multi-Attribute Utility Theory, Algoritma A-Star, Android, Rekomendasi Servis Komputer*

ABSTRACT

This study develops an Android-based Geographic Information System (GIS) to provide recommendations for computer service locations using the Multi-Attribute Utility Theory (MAUT) method and the A-Star algorithm. The system is designed to assist users in optimally selecting computer service shop based on criteria such as Operating Since, scope of repairs, availability of spare parts, service costs, warranty, number of technicians, and ratings. There are 17 computer service shop that are the objects of research in the city of Lhokseumawe. The MAUT method yielded the highest recommendation score of 0.810 for JCOM Computer Service Shop, while the application of the A-Star algorithm determined the shortest route from the Informatics Engineering Building to the recommended JCOM service location with the lowest cost of 11,793.74 meters. The developed system displays an interactive map complete with detailed information on each shops and navigation for the fastest route. Testing results show that this system effectively facilitates users in finding the best service while providing easy access through map and routing feature.

Keywords : *Geographic Information System, Multi-Attribute Utility Theory, A-Star Algorithm, Android, Computer Service Recommendation*