

ABSTRACT

Indonesia has a variety of amazing tourist attractions, making it difficult for tourists to choose which tourist attractions suit their preferences. People tend to choose to travel for several days, with the aim of maximizing visits to as many attractions as possible. Previous research has addressed the problem of recommending tourist routes for multi-day visits by analogizing it to solving the Travelling Salesman Problem (TSP), but this analogy only produces one route. Thus, the route needs to be trimmed based on time constraints per day. This causes the daily route to be suboptimal. Therefore, in this research, we propose a new method that analogizes this problem with finding a solution to the Vehicle Routing Problem (VRP) with our proposed method, Hybrid Genetic and Simulated Annealing (HGSA). By incorporating Degree of Interest (DOI) as a user preference, HGSA can recommend optimal routes based on individual needs. The recommender system we built is a framework. The framework can be applied to various types of datasets from all over the world. However, in this study, we used a dataset from Yogyakarta. Evaluation using Multi-Attribute Utility Theory (MAUT) shows that HGSA is superior compared to other algorithms such as Genetic Algorithm (GA), Firefly Algorithm (FA), Grey Wolf Optimizer (GWO), and Particle Swarm Optimization (PSO), with a fitness value of 0,7927.

Keywords: *tourism recommender system, multi-days tourist routes, vehicle routing problem, traveling salesman problem, hybrid genetic and simulated annealing*