

ABSTRACT

Simplified Memory-Bounded A* (SMA*) is one of A* algorithm's variance. In this Final Project, the method is used to make an application of Mobile Navigation System on mobile device such as handphone. Because the mobile device itself has limited memory, the characteristic of SMA* can be used and expected to solve the problem for searching case in limited memory.

Beside use the SMA* algorithm, the writer using BREW platform which can handle handset with simple technology. And this final project will take the testing and analyzing for the performance on MNS from memory usage's focus on their handset.

After test and analyze the results, we can conclude that using the schema for deleting the worst node dan saving the history from node which has deleted, the SMA* algorithm was proven can answer the searching with limited memory problem. SMA* algorithm gives the best solution (optimal) if the solution depth is smaller than queue size, also the search time is shorter and the memory is less. In this development, the factors that affect performance of MNS are the number of used data, the available size of memory in the handset and the system architecture design. Total memory in handset will influences the designing of MNS system so that it won't surpass the available memory. The total of used data will influence the processing time of searching and the memory usage while searching. The system design architecture will influence the process effectiveness.

Keywords : SMA*, Mobile Navigation System, BREW