Marine Navigation System by Using A* Method and Xml Technology

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Abstract

Artificial Intelligence is defined generally as the attempt to construct mechanisms that performed by humans. The knowledge base contains knowledge necessary for understanding, formulating, and solving problems. This paper intends to solve voyage plan problem. The Voyage plan is an important plan for marine navigation system. This paper use A algorithm and xml technology to draw voyage plan, A* search is one kind of heuristically informed search strategy. A* search algorithm expands node with an execution function of the form f(n)=g(n)+h(n), g(n) is the cost to reach the node and h(n), estimated cost of the goal from n and f(n) , estimated total cost of path through n to the goal. This search algorithm is both complete and optimal. So A* algorithm is very suitable for voyage plan of marine navigation system. This paper contains two main phases. There are administrator portion, which is performed to create charts and add modify for mariners according to notices to mariners and mariner-portion, which is performed to search shortest path by using A* method and can view voyage plan. Xml technology is used for waypoints storage.*