Review Paper on Vessel Planning Algorithms and Technologies

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Abstract. In the context of the marine transportation system, and per recent records and statistics, large container terminals whole over the world proceed with more than 30 million container moments throughout the year. In container transportation there are major factors to be considered as any inaccurate data or calculation may be caused huge losses. In the field of vessel loading the job is done by vessel planners who have the technical knowledge and experience about it. we investigate the stowage-planning problem of organizing containers on a container ship. When a container that needs to be emptied at the current port is stacked underneath a container that needs to be unloaded at a later port along the ship's route, shifting temporary unloading and reloading of containers is inevitable. And it is done via the physical involvement of vessel planners and experts. As per the studies, we identified research findings as mathematical algorithms used to manually plan vessels. And the incidents that happened in the past enhance the advantages and disadvantages of prevailing vessel planning conditions. We have followed the PRISMA methodology by referring to research papers on this area and extracting the key technology and mechanism they have used to plan a vessel. The goal of the stowage planning problem investigation literature survey is to reduce the amount of time needed for crane and shifting movements during a container ship tour while preserving the ship's stability. Here we tried to study previous studies on a solution technique with a prediction for the issue. This will provide precise data as a study or pattern for loading a ship from a port of origin to make the fewest possible cargo shifts, cut down on terminal waiting times, and ensure the crew's and ship's safety.