

Thesis

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Notes

write the scope of the project 2

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Introduction

This document will give a summary of current knowledge and papers which will support my research to: The complexity of maritime situations and how this can be communicated to the crew. As described in the Dutch National Research Agenda an fundamental question we have to ask ourselves: How do we get grip on unpredictability of complex networks and chaotic systems? This research will have two main tracks. The first part is for the department of Maritime Technology and Transport. Where I will try to specify a scale for the complexity where a ship can be in, leading up to an probability value for failure. The second part of the research will be for the Interactive Intelligence department. Where will be looked at the interaction between computers and people. In this case more specific, which information does the crew currently get and what information do they need. So they can improve their situation awareness and make better decisions.

First projects will be described who are the frontiers and which are seen as the future of shipping. Next some accidents are discussed as that is the reason this research is relevant. After that a literature review is done on subjects like situation awareness, decision making and mental models. This will be the foundation of the research for computer science. Followed by a research into the physical world of the ship, why does it behave like it does, and which forces work on the ship. Using this information a model will be created where also route-planning and collision avoidance are discussed. Information on how information for the model is acquired is the next important step. The model should finally lead to a cost function and this will be presented to the crew. At last an discussion about the scope is being presented to really demarcate where my research will focus on and what potential iterative steps are.

Conclusion

Wrap-up

write the
scope of the
project

References