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Propositions

accompanying the thesis

Interactive Evolutionary Concept Exploration in Preliminary Ship Design

van
E.A.E. Duchateau
May 26th, 2016
Delft University of Technology

1. Preliminary ship design is not about finding the optimal solution for a given goal, it is about finding an optimal balance of the goal *and* the solution.

2. Designing a competitive vessel not only requires insight, but also the ability to differentiate between insights which are and are not applicable.

3. Given finite information and a fixed set of design solutions, the order of selection decisions made will not change the final selected design, however, it may change our acceptance of this design.

4. A transparent design process is worthwhile in "requirements elucidation" only if stakeholders are willing to face the consequences.

5. To answer the question "have we arrived at a desirable solution to a wicked problem?", we must investigate the path that took us there.

6. Students and optimisation algorithms are similar, they both tend to immediately exploit model deficiencies.

7. In the future, the best helmsmen will not stand ashore.

8. The inaccessibility of conference proceedings promotes reinventing the wheel.

9. It is easier to write down what one does not want.

10. Big data does not guarantee insight, yet limited data restricts it.

These propositions are considered opposable and defendable and as such have been approved by the promotor prof.ir. J.J. Hopman.

Stellingen

behorende bij het proefschrift

Interactive Evolutionary Concept Exploration in Preliminary Ship Design

van
E.A.E. Duchateau
26 mei 2016
Technische Universiteit Delft

1. Het conceptontwerp gaat niet over het vinden van de optimale oplossing voor een gegeven doelstelling, maar over het balanceren van de doelstelling *en* de oplossing.

2. Het ontwerpen van een succesvol schip vereist niet alleen inzicht, maar ook kennis over welke inzichten wel en niet toepasbaar zijn.

3. Gegeven een vaste hoeveelheid informatie en kennis en een vaste set van ontwerpen, zal de gehanteerde selectie keuze volgorde geen invloed hebben op het uiteindelijk geselecteerde ontwerp. Echter, de acceptatie van dit ontwerp kan wel veranderen.

4. Een transparant conceptontwerp proces is alleen nuttig als de belanghebbende partijen willen omgaan met de gevolgen hiervan.

5. De wenselijkheid van een oplossing van een complex probleem ("a wicked problem") is alleen vast te stellen door de weg ernaartoe te bestuderen.

6. Studenten en zoekalgoritmes tonen overeenkomsten, ze maken beide direct misbruik van fouten in een model.

7. In de toekomst staan de beste stuurlui niet meer aan wal.

8. De slechte toegang tot conferentie publicaties bevorderd het opnieuw uitvinden van het wiel.

9. Het is makkelijker om op te schrijven wat men niet wil.

10. Veel data is geen garantie tot inzicht, echter weinig data beperkt het.

Deze stellingen worden opponeerbaar en verdedigbaar geacht en zijn als zodanig goedgekeurd door de promotor prof.ir. J.J. Hopman.