

Using Immersive Visualisations for Decision Support

Andrea Bravo, PhD student

BACKGROUND. In the world of rich and vast amounts of data, visualisation is key to eliciting and gaining insight for appropriate decision making. Condensing a large amount of information into accurate and visually appealing representations is often the most effective way to communicate the conclusions that engineers, scientists, businesses, and policy-makers draw from ever more unwieldy data sets. With the ever-growing arena of devices and databases that gather and store data that interact with our senses comes the opportunity to present data for decision support by immersing the target user and decision maker in a virtual environment.

INTRODUCTION TO THE PROBLEM TO BE SOLVED & OBJECTIVE. Immersive technologies provide new manners of displaying and communicating data and results. This PhD investigates novel uses of immersive data visualisations as a communication tool for presentation of results. This PhD project focuses on how immersive visualisations can be used as a communication tool for presentation of results in an engineering design project.

MAIN RESEARCH QUESTION(S). The central question of the PhD project reads as follows:
How do immersive visualisations support communication ?

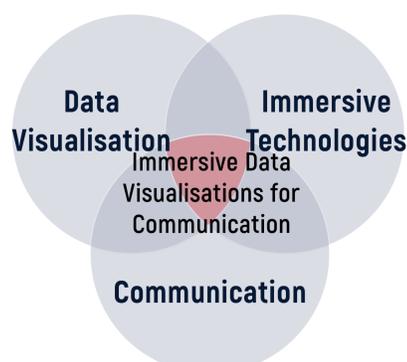
METHODS. (1) User Research: Requirement elicitation of needs from the users/ stakeholders, in order to discover pain points and opportunities to address with immersive visualisations. Based on semi-structured interviews and observational research. **(2) Prototype Design & Development:** Following the findings from the user research, and cognitive and perceptual principles from the literature review. Prototype development with external collaborators. **(3) Evaluation:** Of the prototype, based on semi-structured interviews, think-aloud protocols and questionnaires.

EXPECTED OUTCOME. The following outcomes are envisaged:

Descriptive knowledge contribution: develop understanding on the use and design of immersive visualisations for presentation/ communication with user-centric methods.

Prescriptive knowledge contribution: improved design use of immersive visualisations through the design and development of 2-3 projects in collaboration with industry.

Practical contributions: guidelines on strategies for using and designing immersive visualisations for communication or presentation.



CONTACT

Andrea Bravo, PhD student
Akademivej, building 358
DK-2800 Kgs. Lyngby

abravo@dtu.dk
www.es.man.dtu.dk

SUPERVISOR

Professor, PhD, Anja Maier, DTU

COLLABORATING PARTNERS



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