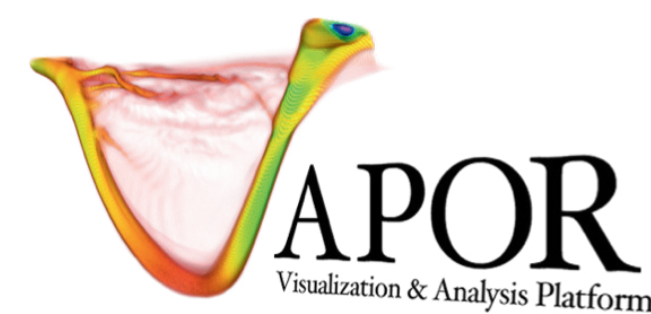


User Experience (UX) of Advanced 3D Data Visualization Software

Mara Ulloa (mara.ulloa@northwestern.edu)^{1,2}, Nihanth Cherukuru, PhD (ncheruku@ucar.edu)¹
U.S. National Science Foundation (NSF) National Center for Atmospheric Research (NCAR)¹
Northwestern University, Department of Computer Science²

BACKGROUND



GOAL: Extending the impact of geoscience 3D data visualization software with UX research.

PROBLEM: We lack an understanding of end users' preferences, their pain points, and their motivations.

Having better theories about who our users are and what drives them will enable us to build better systems

RESEARCH QUESTIONS

1. Why did a user start looking for a particular 3D data visualization tool? What was the trigger?
2. Why did a user hire a 3D data visualization tool for the first time?
3. Why/how did a user switch between two+ different 3D data visualization tools?
4. How did a user search for new 3D data visualization tools?

JOBS-TO-BE-DONE (JTBD) THEORY

Understanding features to implement < about understanding the users

prioritize customer needs, making sense of all available data to drive the innovation process & compete not just with similar products but also alternative solutions

PRELIMINARY FINDINGS

JTBD Contrast Method:

FORCES OF PROGRESS DIAGRAM

PUSH

- Outdated tool
- Learning curve is a commitment

MAGNETISM

- Human support after hiring
- Lab/uni preferred tool

INERTIA

- Infrequent use
- Inability to measure task length

ANXIETY

- Impact factor (e.g., grants, papers)
- Memory recall for infrequent use

TIMELINE

Background

First thought

Event 1

Event 2

Buying

- Hiring and firing criteria
- 3 university users, 4 internal NSF NCAR users

LIMITATIONS & FUTURE WORK

Confirmation bias of our participants, dataset size, NSF NCAR's UX research maturity, US-based study

Expand recruitment, continue data collection, scale to other NSF NCAR projects, international participants

Post JTBD: personas, empathy maps, user journey maps, assumption matrix, CSD matrix



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