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Authors

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Project Background

SHAPE-IT is a four-year project where 15 PhD-students are performing research that enables rapid and reliable development of safe and user-centred automated vehicles for urban environments. Within this project, our research relates to Human Factors in AI-based Automation Design.

In this interview, we would like to explore how human factors knowledge is managed in the context of Autonomous Vehicle (AV) development: what and how information should be communicated from human factors perspective to AV designers to increase acceptance, safety and trust of AVs by both inside and outside users. We anticipate that results from this interview study will help to provide guidelines for incorporating human factors into AI-based AV design, which is one of the objectives of SHAPE-IT.

Interview Questions

1. Demographics
    - What is your role?
    - What is your experience in that role?
    - What is your experience with Human Factors (HF) / Requirements?

    Reminder: We will take notes during the interview, which we will send later for confirmation.

2. How would you characterize what HF is and how it relates to requirements for AV development (or AI-based systems)?

3. In your experience, how does engineering work with or without HF? What is missing?

4. How does HF knowledge come to engineers?

5. What are the main challenges in conveying requirements from HF to engineers that design automated vehicles (or from engineers to HF experts)?

    - Follow-up: what about conveying knowledge from HF/behavior as input into the AI-based AV-design process?
    - Think about comfort zones as an example, safety aspects, software requirements aspects (e.g., AI based control of the vehicle) compared to traditional physical “user experiences” of AV

6. What scenarios related to AV in urban environment are the most difficult (and/or important) to convey requirements to AV-engineers?

7. Do you have recommendations on how to optimize communication between human factors experts and engineers of AI-based AVs?

    - Any guidelines for incorporating human factors into AI-based AV design guidelines?

8. How should the process (or: way of working) for system design look like?
    - Particularly in agile development how we do that?

9. Thank you for the interview, next steps.
    - Whom else should we interview?
    - Anything we forgot to ask?

Thank you!