Active Personas for Synthetic User Feedback: A Design Science Study

About

This study evaluates the effectiveness of Active Personas (APs), which are user archetypes powered by Generative AI, in producing realistic user feedback for new product development. Using a Design Science Research approach, the researchers created APs based on different personas and Large Language Models (LLMs) to provide feedback on a mobile transport app. The AI-generated feedback was then compared against feedback from human users and Google Play reviews to assess its alignment and validity.

Problem

Securing consistent and diverse user feedback is a critical part of product development, but it is often a resource-intensive and time-consuming process. Development teams struggle to get rapid feedback from a wide range of user types, which can slow down innovation. This study explores whether AI-powered personas can serve as a low-cost, on-demand alternative to generate valuable user feedback, bridging the gap in internal product experimentation.

Study Outcome

- A strong alignment was found between the feedback generated by AI Active Personas (APs) and that from human users, with APs successfully identifying similar usability and accessibility issues.
- The specific characteristics defined in a persona (e.g., a user with a vision impairment) significantly dictated the criticality and focus of the AI-generated evaluation.
- The choice of the underlying Large Language Model (LLM) also influenced the evaluative stance and tone of the feedback.
- APs are a viable, rapid, and low-cost method to supplement early-stage usability evaluations, but they should augment, not replace, direct interaction with human users.

Keywords

active personas • user personas • generative ai • user feedback • experimentation • new product development