

# Game designers have new tool to evaluate player experience

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A free tool that will enable game developers to accurately evaluate the experience of video game players has been launched by researchers at the University of Waterloo.

The Player Experience Inventory (PXI) allows [game designers](#) to understand how choices like [game](#) rules or sound effects contribute to a player's immersion in a game or curiosity in the story of a game.

PXI is the first free [tool](#) that provides reliable, concise feedback on how players experience a game.

"Without a tool to accurately measure player experience, game development studios rely on crude scales or anecdotal information to design games" says Lennart Nacke, an associate professor in Waterloo's Stratford School of Interaction Design and Business and co-author of the paper that introduces the new survey tool. "There are few scientifically validated surveys available for designers to evaluate the larger impact of player experience, and most that do exist are only commercially available."

Games user research focuses on measuring, analyzing and understanding player experiences to optimize game designs. Experts in the field aim to understand how players experience specific game design choices, especially how these choices evoke emotional responses.

The PXI is a questionnaire that covers ten categories of the overall experience of playing a game. Measuring multiple factors of gameplay, the survey supplies actionable insight, enabling a better understanding of how game design choices impact the player actions during the runtime of the game, and how they shape emotional responses.

Once the initial concept for the PXI was developed with criteria gathered from 64 games industry experts, it was built, tested and evaluated over five studies spanning four years with international populations totaling 529 players.

"Anyone aspiring to create a game has access to the PXI tool," says

Nacke, who is also the director of Waterloo's HCI Games Group at The Games Institute. "This is the first developer resource to provide a breakdown of the dimensions of player experience and to condense this knowledge into a practical tool available for any game designer to use."

Developed by Professor Nacke and his team: Vero Vanden Abeele, Katta Spiel, Daniel Johnson, and Kathrin Gerling; PXI was introduced to the gaming world recently via a paper published in the *International Journal of Human-Computer Studies*.

**More information:** Vero Vanden Abeele et al. Development and validation of the player experience inventory: A scale to measure player experiences at the level of functional and psychosocial consequences, *International Journal of Human-Computer Studies* (2019). [DOI: 10.1016/j.ijhcs.2019.102370](https://doi.org/10.1016/j.ijhcs.2019.102370)

Provided by University of Waterloo

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