RESEARCH THEME

XLI Cycle – a.y. 2025/2026

Title of the doctoral research	User Experience Analysis: Investigation of Cognitive and Perception Engagement Supported by the Objective Monitoring of Gaze and Behaviors

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Abstract

The technological evolution, which includes the development of language processing systems based on artificial intelligence, paves the way for the creation of next-generation interactive systems.

The use of voice-controlled interfaces, the development of autonomous or semi-autonomous vehicle guidance systems, the spreading of natural language-based systems for interactions with the Internet and interactive objects, and, more generally, the expected developments in forms of interaction with information, require the experimentation of new design methodologies and new approaches to understanding the user experience.

The evolution of interaction methods and interfaces tackles user experience in new ways and asks for methodologies apt to the objective analysis of the perceptive and cognitive processes engaged by the new interaction modes.

The use of devices for monitoring physiological parameters, such as eye-tracking, offers the possibility of experimenting with objective measures aimed at supporting the design of physical, digital, and physical-digital products to optimize the user experience also from the point of view of accessibility and acceptability.

The proposed research is experimental and will include design-oriented testing and experiments.

Keywords	Eye-Tracking , Perception , Experience