

Establishing an Appealing Cross-Platform Innovative Educational Gamified Learning System Product: A Complete User Experience Case Study

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Abstract

Gamification in Education has laid the foundations for the utilization of game-based mechanisms to nourish learners' inducements, curiosity and engagement, through game-play experimentation, thence enhancing their problem solving, critical thinking, technical and employability skills, while corroborating the attainment of specific educational objectives. In this Paper, we commence by appraising how User Experience and users' perception of the usefulness, convenience, adaptability and efficacy of an educational product may lead to an exemplary, usable, functional, desirable and user-friendly, User Experience Design, which may holistically improve Gamified Education. Our conceptualization is assessed upon our Case Study; a cross-platform, innovative authoring educational gamified learning system product, of STEAM-related material, funded by the Hellenic Republic Ministry of Development and Investments, *howlearn*. An extensive overview of its interrelated Subsystems and end users is introduced, upon which, an exhaustive User Research is employed, designating the desires and needs of the latter, based on a sample of 156 learners and 23 instructors. We, subsequently, delineate the system's Personas, User Stories, Empathy Maps and Problem Statement. Thereupon, we prosecute the whole of its design phase: from Paper Wireframes and Digital Low-Fidelity Wireframes, to the conduction of a Usability Study, denoting the design's refinement and formulation of its Digital Mockups and High-Fidelity Prototypes. We conclude that, accounting for Accessibility, User Experience Design Principles and Responsive Design Principles is imperative, so that the convenience and usability of the design solution are ensured, henceforth, leading to the formation of a gamified, socially sustainable, multidimensional, inclusive educational learning system, advocating lifelong learning.

Keywords: accessibility, responsive design, usability study, user experience design, user research