Thesis Project Portfolio

Developing a Criteria-Based Evaluation Tool for User Experience Design that Balances Standardization and Creativity

(Technical Report)

Gaming Development as A Sociotechnical System: Guiding Designer Behavior to Influence the Transitioning Sociotechnical Landscape

(STS Research Paper)

An Undergraduate Thesis

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Sociotechnical Synthesis

Navigating the Development process of Mobile Gaming Technologies

There lacks of a common framework for game design that promotes harmony between designer and user. Both of my projects focus on optimizing the connections between actors involved in the game development and production processes. My technical team and I worked on a case study with King Digital Entertainment, a mobile gaming company to produce a novel criteria-based evaluation tool in the form of a scorecard to be used for assessing User Interface design components. Comparatively, my STS research applies Geels' (2011) Multi-Level Perspective (MLP) to game development, highlighting the importance of incorporating niche actors with the various socio-technical regimes as mobile gaming technologies continue to emerge.

Design systems exist to ensure consistent aesthetics to graphics and interactions in websites and apps and guide product development with set standards and documentation. However, due to their rigid nature of requirements for structure and uniformity, traditional design systems can discourage creativity in design which may result in poor and inconsistent user experience. My technical team developed a scorecard tool, an alternative to a traditional design system, which seeks a balance between artistic creativity and standardization. The tool incorporates principles of standardized practice, yet prioritizes the creative needs of niche actors. Users select appropriate parameters and metrics to evaluate various elements of a design component which are then calculated on a weighted pass-fail basis. Any inconsistencies within and amongst designs are able to be managed in a collaborative consensus-based manner through which designer agency is encouraged and end-usability is protected."

My STS Research helped glean an understanding of the cultural shift that is occurring as a result of emerging gaming technologies. Geel's MLP can be applied to gaming systems to form a cohesive environment where stakeholders from all regimes are considered. The sociotechnical regime blends technology, science, policy, culture and user markets to describe the process of existing and emerging systems. The technological shift towards mobile accessibility can be recognized as a landscape shift that requires an intentional dynamic between designers, businesses, and consumers such that the needs of stakeholders are diligently upheld.

A flexible regulation tool can guide the sociotechnical shift and will provide an opportunity for designers to preserve creative autonomy as well as be in touch with niche behaviors of other actors within the network that affect the existing game development processes. The STS approach underlines the importance of incorporating niche actors into processes that influence various levels of the socio-technical regime. This is beneficial in maintaining consistency amid a shift in the landscape triggered by the influx of available gaming technology. The technical project allows niche designers to collaboratively assign interface standards. This preservation of creative autonomy inherently requires conscientiousness amid decisions regarding the customizable design standards. Decisions made on behalf of design teams ultimately affect a game's realization and the way in which it is cognitively received by end-users and impacts the landscape as a whole. This principle of conscientiousness is a foundation for ethical engineering practice as discussed thoroughly throughout the course. Decisions made on behalf of a designer, leader, analyst, or any other position of authority must navigate the consequences such decisions have on all of the human and non-human stakeholders affected.

I would like to acknowledge the advice, support, and feedback of personnel at King Digital Entertainment. I also recognize my technical project team members and advisor for support and guidance through product completion.