

PI: Dr Alex Mitchell (Communications and New Media)

Project Title: Understanding Repeat Engagement with Dynamically Changing Computational Media

Abstract:

People are often motivated to return to creative works such as films, novels, or music for a number of reasons: to recapture the experience, to dig deeper into the underlying meaning, or to get some insight into how the work has the impact that it does. Much of this motivation to return assumes that although the context of the experience may have changed, the actual work being revisited is still the same. However, when returning to a game or interactive artwork where an underlying computational system dynamically alters the surface of the work as the result of the participant's actions, there is no guarantee that the experience, or even the work itself, will be the same as in the previous encounter.

For example, when playing a story-driven game such as *Oxenfree* (Night School Studio 2016), choices you make regarding the relationships between characters have a major impact on the resulting story, leading you to encounter different sequences of events in each playthrough. Unlike rereading a story or re-watching a movie, returning to the game a second time potentially leads to a different story arc and, as a result, what might turn out to be a very different emotional and aesthetic experience. This suggests that theories and design techniques based on traditional media may not directly extend to situations involving repeat experience of dynamically changing interactive systems.

The aim of this project is to explore 1) what motivates people to return to this type of work, 2) what type of satisfaction can be gained by this repeat experience, and 3) how the design of the formal elements of the work impact this experience. We are interested in understanding this process both from the perspective of the participant's experience, and in terms of the formal elements and structural features within the creative work that impact this experience.

The proposed research will consist of three phases: 1) *understanding* how people respond to repeat engagement with creative works that change dynamically as the result of user action through close readings and qualitative, observational studies; 2) *refining and validating* the resulting theoretical frameworks through further, more controlled qualitative and quantitative studies, and 3) *expanding* these theories to similar phenomena in contexts beyond art and entertainment.

Phase 1 will involve *understanding* how people experience repeat and continuing engagement with games and interactive artworks that use underlying computational systems to incorporate user input and change the surface of the work dynamically as a result of that input. Based on close readings of works and qualitative observational studies of participants' responses to these types of works, we will develop a preliminary, descriptive theoretical framework to describe and explain people's responses to dynamic creative works, and design knowledge to inform the design of similar creative works.

Phase 2 will involve *refining and validating* the theoretical framework and design knowledge developed in phase 1 through more focused, qualitative and quantitative empirical studies of participants' responses to works in a controlled setting. This will require the creation of prototypes of specific types of procedurally driven creative works, to enable us to observe and study participant responses to particular formal elements of these works. This will let us refine the theories developed in phase 1, and to validate and generalize these theories beyond the qualitative observational studies.

Phase 3 will involve *expanding* our findings from phases 1 and 2 beyond art and entertainment. In this phase, we will conduct qualitative studies of similar phenomena in non-game and non-art contexts, such as social media or online search, to gain an initial understanding of how and to what extent theories developed in phases 1 and 2 can apply beyond the game and art domains.

Although we are focusing specifically on creative works, there are an increasing number of situations that we encounter in everyday life, including interactions with social media, results from online searches, and interactions with ecommerce sites, in which we (knowingly or not) are encountering surface content that is procedurally generated as the result of our earlier interactions. This includes, for example, people's repeated experience of their news feed in Facebook, information that is filtered based on previous "likes" and posts, often leading to specific emotional responses and particular motivations for repeat and continued experience of this dynamically generated stream of information. Understanding how people respond to repeat encounters with these types of dynamic systems can help us to design for, and make sense of, this type of increasingly widespread experience.