Connecting People & Places through immersive storytelling

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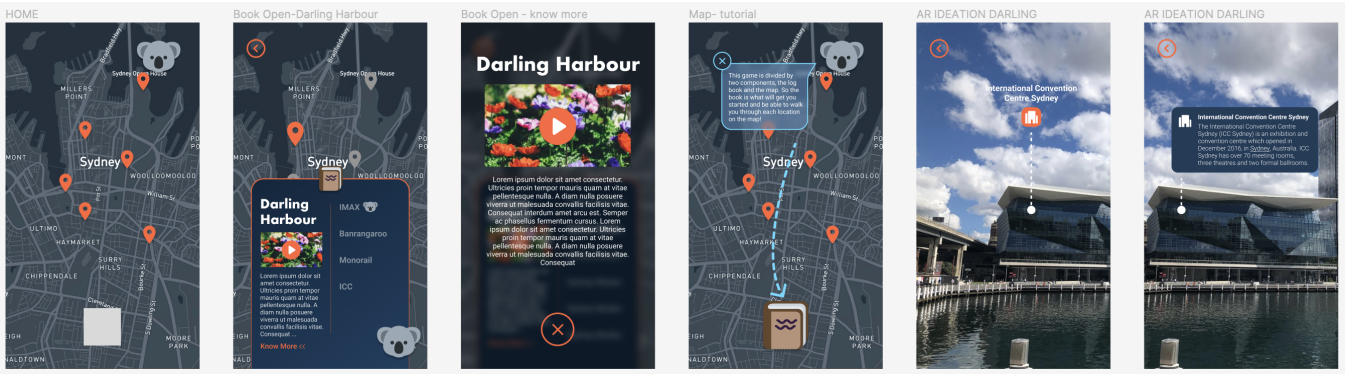

Figure 1: Second Round Wireframes with Simple AR Ideation, 2023.

ABSTRACT

We propose an Augmented Reality (AR) enabled location-based game as both a tool to engage delegates and as a basis to examine frameworks for telling stories of Cultural Heritage in the space between the digital and physical for SIGGRAPH Asia 2023. Our initial research noted potential frameworks for constructing the application, such as Serious Games, Loco-Narrative Harmony and the Dérive, as well as potential stories to tell within the local indigenous Eora and Dharug nations. In future research, we will continue making and iterating our application to examine these methods for their usefulness in storytelling.

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1 INTRODUCTION

We propose an Augmented Reality enabled "scavenger hunt" application with gamified elements for distribution during the SIGGRAPH Asia 2023 conference in Sydney. Our goal in this project is initially to provide a fun and helpful framework that our delegates can use to aid in their exploration of Sydney. Our secondary aim includes this application as a tool for practice-based research into how immersive storytelling can be used in communicating Cultural Heritage. We use augmented reality (AR) and locative games[1] to reveal and expand upon marginal spaces for narratives that are difficult to tell through conventional means. Narratives that have lost their physicality within a space and descriptions that can be enhanced through digital interventions that may be impractical or costly to add within the physical area. We will examine these tools by retelling Indigenous stories that underlie Sydney's contemporary landscape. In preparing our theoretical basis, we examine the use of Serious Games for leveraging cognitive processes to aid in learning outcomes [1], the notion of loco-narrative harmony, which concerns the interplay between digital representations and physical sites[6], and the Situationist method of the dérive. We relate these theories to our practice before discussing more concrete implementation plans and mockups.

2 APPROACHES

Millard et al. [2020] speak of the need for creating a state of 'Loco-Narrative Harmony', in which the narrative experience is seamlessly mediated from story to place. A balance of attention where

the user sets the digital with the physical, simultaneously being present with the experience. To create this, Millard et al. [2020] work through a set of considerations they found through their User Research. A relevant pain point is the need for 'clear points of arrival and departure that are close to one another'[1]. Our AR experience is based around the user navigating through a set of points of interest (POI) in set zones of Sydney. How might we aid in onboarding and offboarding users in these zones when we have no set 'start point' or 'end point' to bookend the experience?

Guy Debord describes a new method of Situationist practice known as the dérive, as "rapid passage through varied ambiences" [4]. Moving through space, participants are guided based on subconscious attractions they meet. As we are driven by collective social factors, in multiple dérives, there are often commonalities in how people move. By examining these "psychogeographical contours," we can better understand both significant points of social interest, as well as voids where marginal spaces leave untold stories [9].

The dérive is a fundamental method in psychogeographical study, loosely described as mapping the geographical environment in the context of human emotions and behaviours. This includes many socio-political factors that drive human interventions in a landscape and thus is associated heavily with urban spaces [3].

We are positioning an AR experience as a contemporary form of the dérive format, whilst using this dérive format as a method for exploring the psychogeographical influences of the greater Sydney area. We propose using a psychogeographical examination of the greater Sydney area to map out socio-political points of interest for our application. In addition, an AR intervention will likely aid in creating a sense of 'Loco-Narrative Harmony' or disrupt it.

3 IMPLEMENTATIONS

We break Sydney's urban centre into ten larger zones based around iconic locations, such as, the Opera House. For each zone, we aimed to have four site-specific AR-Experiences, telling a part of the story of Sydney. These locations were selected in four categories: 1. Computer Graphics 2. Aboriginal History 3. Iconic Australia 4. Arts & Culture. With these categories, we did a preliminary survey of 10 locations around Sydney, resulting in 57 possible points of interest. From this, we will select 4 or 5 zones.

The provided application wireframes exhibit our plan for UI/UX. This allows our developers to work on complex AR interventions on the application while the rest of the team conducts a literature review. We selected a mixed mode of interaction of both a 2D map and AR games/ tasks which relate the user to the space digitally and physically [2], ensuring that we balance the right about of technological mediation so that we don't disrupt the loco-narrative harmony [6].

Gamification: Our point of difference from prior work, such as Pokémon Go is how we propose phrasing these AR interventions as Serious Mini Games. Giving our Users information in a fun and engaging way, then challenging them to use that information. In the end, providing an experience that can be engaging and educational. Bellotti et al. [2012] provide a well-structured approach for creating serious games in Cultural Heritage. Though their work focuses on these tasks/ games within non-immersive 2D affordances, it will be straightforward to translate these models into a 3D context. A simplistic example is: Teaching our delegates the names and uses for the different parts of the Sydney Opera House, asking them to complete tasks like outlining around the sails and then superimposing the lighting of the sails from VIVID Sydney over them as a reward. Giving them a chance to walk around the building and experience a moment of VIVID. Through a serious game model, we can build games that are simple to use and understand yet are conceptually deep and educationally rich.

Invisible Landmarks: An implementation we plan to examine is the subversion of the traditional notion of landmarks present in location-based games. Fränti and Fazal [2023] identify certain design principles for successful target creation, being attractiveness, accessibility, location clarity, identifiability, and target lifetime [5]. In our implementation, some nodes lack any objective location due to colonial assimilation practices and the nature of indigenous oral histories not tied to one place. For example the "Goanna Walking" trail marks continuity in moving along different locations [7]. We plan on using AR interventions in our practice to reintroduce these stories as nodes of interaction conducive to the principles of loco-narrative harmony. This may present as either a transient node with a chance of activating within an area or a node presented in an otherwise unremarkable location between two better-trafficked points. An AR experience we plan to implement for example, corresponds to the fictional location "42 Wallaby Way, Sydney, Australia" associated with the animated film Finding Nemo. As a supplement to landmarked locations, this node would integrate references from the film into the real Sydney, providing a sense of loco-narrative harmony as the two points complement each other. Additionally, as Ryan et al. [2012] support that fiction and real life reflect each other, resulting in a major source mechanism of familiarity in storytelling.[8].

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