



Interactive Pasts: Exploring the intersections of archaeology and video games

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Gaming Archaeology: Theory and Method

Erik Champion (Curtin University)

Archaeological Discovery, Game Genres, Game Mechanics

My talk will focus on the types of interaction in general and mechanics in particular that could better help the design of video games for archaeological (and heritage) purposes.

How to classify and predict the range, success and future of video games in archaeological research? I suggest a revealing way of evaluating such an area is to examine how they employ interaction and that an effective educational and engaging mix of archaeology and video games would be far more likely if we leveraged game mechanics to help teach archaeological methods, approaches and interpretations. According to Sicart (Sicart, 2008) "A game mechanic, then, is the action invoked by an agent to interact with the game world, as constrained by the game rules." But where are easy to translate mechanics for archaeological discovery that we can transform into game mechanics to engage and educate the public?

Digital archaeology as immersive virtual environments *should* be interactive because data changes, technologies change and interaction can provide for different types of learning preferences while drawing in the younger generations. That said, interaction alone is not very useful if we don't know how the interaction reconfigures the narrative, interpretations or other types of evidence.

Andrew Reinhard (archaeogaming.com)

Video Games as Archaeological Sites, and the Artifacts they Contain

A video game is an archaeological site. In meatspace an archaeological site is a place in which evidence of past activity is preserved, which may be investigated using the discipline of archaeology, and represents part of the archaeological record (the body of physical evidence about the past). This definition applies to video games. A video game is a discrete entity where the place can be defined as the space in which the game is installed (not necessarily its installation media). The past activity is the coding that created the game. Its elements can be directly observed and manipulated, part of the record of the game. This presentation will demonstrate how video games are archaeological sites, and will identify artifacts, typologies, and context using examples from old and new games, moving from human-created culture within games to machine-created material culture in procedurally generated environments.

Lennart Linde & Felix Robra (Goethe University)

Excavate a Virtual Place in a Virtual World: Conducting archaeological fieldwork in Dwarf Fortress

In this talk we will follow the dwarven archaeologist „Thob Lelumsigun“ to the abandoned fort of „Zaludmomuz“ where he will excavate its forgotten halls and corridors. Discovering the remains of a long elapsed civilization consisting of elaborate architecture, lavish engravings and worn out socks. All in the ASCII beauty of Dwarf Fortress, which is thought to be the most complex (and complicated) video game of all time. Where losing is considered FUN.

The core of Dwarf Fortress is a world generation tool that creates not only a detailed world with landscapes, various biomes, places and its inhabitants. It will also simulate and record a comprehensive history of the world and the interactions of the civilizations within. These historical events are preserved by the inhabitants of the world as engravings on walls and artifacts. Various game modes allow the player to interact with the world and become a part of its lore.

Rediscovered artifacts, engravings and ruins are the empirical base of archaeology. But the day to day work is to connect and contextualize these data in an attempt to paint a bigger picture. This talk will discuss the problems of such attempts. It will serve as a showcase on what archaeology can and can't say about complex societies and their interactions based solely on their residues. Our talk will show you how we processed the archeological data from virtual artifacts and places with real world methods. Giving you a tiny glimpse on weird and nerdy stuff like: Typology, Chronology, Seriation, Network Analysis, Spatial Data and Dwarf Fortress.

L. Meghan Dennis (University of York)

Looting, the Antiquities Trade, and Treatments of Mortuary Spaces in Dragon Age: Inquisition

In the tradition of modern fantasy role-playing environments, it is not uncommon to encounter multiple racial types and cultural traditions. In the case of Dragon Age: Inquisition, the third major installment in BioWare and Electronic Arts' Dragon Age franchise, engaging with these cultures often takes the form of interaction within, and manipulation of, mortuary spaces. Through an examination of how mortuary spaces of differing backgrounds function as micro-narratives of culture, we will explore how the looting of those contexts impacts the player's experience of culture and their perception of the heritage of others. Attention will also be paid to how mortuary monuments and sites of religious or cultural veneration are disregarded and privileged as cultural landscapes, and their common narrative function in providing a repository for objects that ultimately end up in formalized and Westernized collections, separated from their original context.

Bringing it to the Public

Gloria O’Neill (Cook Inlet Tribal Council)

Storytelling for the Next Generation: Harnessing the power of video games to share and celebrate cultures

Learn how a tribal nonprofit organization in Anchorage, Alaska created a new precedent for sustainability and self-determination with the global launch of the first-of-its-kind video game *Never Alone (Kisima Inŋitchuŋa)*. Through an inclusive development process with the Alaska Native people, the game has defined a fresh standard for indigenous storytelling and the preservation of cultures for future generations worldwide.

Inspired by Iñupiat people of Arctic Alaska and folklore handed down over generations through traditional storytelling, *Never Alone* is narrated entirely in Iñupiaq with 16 distinct language options for subtitles. As an atmospheric puzzle-platformer, the storyline features Nuna, a young Iñupiaq girl, and her Arctic fox companion. The pair must work together to overcome puzzle-based challenges and dangers to save her village from starvation during a relentless blizzard through more than four hours of compelling gameplay within a variety of beautifully rendered settings.

Launched in November 2014 and developed through a partnership between Cook Inlet Tribal Council (CITC), E-Line Media of New York, and the Alaska Native community, *Never Alone* is the first title in a new genre of digital game experiences dubbed “World Games,” and brings traditional stories from indigenous cultures of Alaska to global audiences through the immersive power of video games.

Gabrielle Hughes (University of Oxford)

Tradigital Knowledge: The protection of traditional knowledge, copyright, and indigenous video games

Indigenous video games challenge assumptions about tradition, heritage, and their protection. In making content accessible and engaging, video games made by, for and with Indigenous communities foster public awareness and understanding, offering an alternative to the shallow and often offensive representations of Indigeneity put forth by mainstream video games. This paper demonstrates that through this public presence and engagement through cyberspace, these video games also inform the legal discourse on the protection of traditional knowledge and cultural expression. Although technology is often viewed as a threat to tradition, Indigenous video games offer a compelling example of the ways in which Indigenous communities are harnessing and innovating in digital spheres, having an impact in both their communities on the public perception of Indigeneity.

Highlighting the complexities emerging from legal attempts to protect Indigenous cultural production, this paper asks: do the legal and academic efforts being made to define and protect traditional knowledge and cultural expressions help or harm tradition, which by its very nature changes, or does the promotion of a culture from within a community offer a more compelling and nuanced protection?

Roy van der Schilden (Wispsfire)

Rewriting History: Accommodating historical events in a respectful manner

When writing a believable setting for a work of historical fiction, you often encounter situations in which you want to slightly alter the events of that age to accommodate your story. But with every major alteration to historical events, you are in danger of losing some of the value the actual history has to the message of your story. In video games a historically accurate game-world will impose some necessary changes on the narrative to guide the players smoothly through the experience. This can be of great consequence to the believability of the world you portray. Still, these changes are inevitable and often necessary when working with an interactive medium. In this talk I am going to give some insights into my writing for *Herald: An Interactive Period Drama*. I will tell about the obstacles, the liberties, the mistakes and the successes we went through, as we set out to rewrite parts of 19th century history to create a story that tells something valuable about our society today.

Mata Haggis (NHTV University; Matazone Games)

History and Historical Lives in Video Games: Accuracy versus fun?

This talk gives an overview of a typical video games development team, and talks about some of the challenges and opportunities available for using history and historical lives in this media. Interactive entertainment has huge potential and capacity for recreation of historical settings, but these are rarely done with true dedication to accuracy, or it is done with a very narrow set of priorities.

For people without knowledge of games development, this talk will give an insight into the factors that influence the creation of games and where compromises are often made. For games developers there will be thoughts on how we can explore and find new inspiration from historical settings.

Jesse de Vos (Nederlands Instituut voor Beeld en Geluid)

Preserving Games in an Audiovisual Archive

The national audiovisual archive of the Netherlands, Sound and Vision, has recently started a project to preserve early Dutch computer games as cultural heritage. Covering the entire preservation process from ingest to access, the project aims to use a variety of approaches to game preservation. In order to do so a small body of productions from the 80's and 90's will be archived. The small scale allows for a more experimental approach that is much needed in this complex and diversified field. This presentation will include both theoretical and practical reflections on the adjustments needed to preservation policy and methods in order to successfully safeguard games for future generations. It will address a number of questions such as: how do we cater for a variety of future user-groups? Which perspective(s) do we choose in our documentation practice? How can we preserve relevant context? And what do the chosen preservation methods allow/disallow us to do with these games? The experiences within the research-project will serve to illustrate these questions.

Sjoerd van der Linde & Olga Ruitenbeek (Studio Louter)

Emotion Design as a Possible Approach to an Interactive Past

This presentation discusses the application of Emotion Design as a possible methodological approach to developing archaeological video games. This approach has been developed on the back of 20 years of experience in creating conceptual storylines and multimedia within the museum sector. It is grounded within the latest insights from the fields of interpretive archaeology, applied gaming as well as public history.

In our view, the construction of archaeological pasts has several remarkable similarities with the construction of game worlds. Both try to develop a universe, different yet familiar to our own, that has to be built upon an incomplete and limited set of 'data', whilst adhering to a meaningful and logical set of rules. Whilst video games often use atmosphere and moods to convince the 'visitor' of the reality of these incomplete universes, archaeologists often focus on scientific accuracy, thereby foregoing the communicative power of emotions in storytelling.

In this presentation we will look at the application of 'Emotion Design' in creating museum visitor journeys, and discuss what lessons could be drawn for the intersection between video gaming and archaeology. By drawing upon several case studies, we will argue how a meaningful connection to the past can only be achieved by evoking the emotions of the visitor, especially if these are in constant relation to a clearly developed core interpretive message.

Simulation and Modelling

Tomáš Glomb & Adam Mertel (Masaryk University)

Epidemiology of the Egyptian Cults during the Hellenistic Period: Can you spread it too?

This paper is one of the results from the interdisciplinary research project (GEHIR) at Masaryk University in Brno, which applies innovative methods used in the study of the dynamics of complex systems (mathematical and computational modelling, network science) to the historiography of ancient Graeco-Roman religions. This paper is thematically concerned with the spread of Egyptian cults during the Hellenistic period. Historians of religion and geographers from the GEHIR project are currently constructing a computational model which based on environmental and archaeological datasets should determine if the cults spread from ancient Egypt mainly through trade or political networks. One of the aims of this project is to broaden the imagination of the public in the question of new scientific methods in humanities. We are therefore considering to transform our model into interactive strategic game that would clarify to the player 1) which factors had impact on the spread of ancient Egyptian cults; 2) which methods can be used in historical and archaeological research; 3) what is the perspective of an interactive application in the popularisation of historical research. As a part of this paper, we are able to provide a playable prototype of the game.

Shawn Graham (Carleton University)

Romans Must Die: Exploring the intersection of archaeogaming with agent based simulations

Video games are some of the most compelling simulation engines available. Archaeologists have been using agent based modelling methodologies for some time to explore archaeological questions. In this presentation, I will explore how the developing methods for doing, validating, replicating and authenticating ABM could be translated into methodologies for so-called archaeogaming. On the other hand, formal agent based modelling could usefully learn some tools and techniques for engagement from archaeogaming. I explore these issues in the context of my own work on simulating Roman civil violence as an agent based model.

John Aycock (University of Calgary)

Retrogame Archeology vs. Archaeogaming: Mortal Kombat?

I define "retrogame archeology" as understanding the tools, techniques, and technology in old computer games, and connecting these old methods to contemporary applications. As defined, this is a purely technical discipline. In 2014, I taught a fourth-year (senior) undergraduate Computer Science course on the topic, and a book I wrote on the subject is in press. Unfortunately, when I chose the name "retrogame archeology", I was unaware of the fledgling area in archaeology itself.

I argue that, despite the name collision, retrogame archeology and archaeogaming are complementary pursuits, and offer many useful opportunities for interdisciplinary collaboration. To start the discussion, I will present an overview of my work and some of the tools I have built to reveal the secrets buried in old computer games. I will also explain how retrogame archeology fits with respect to (modestly) more established areas like Platform Studies, and give some suggestions as to how archaeogaming and retrogame archeology might work together.

Rob Warren (Carleton University)

Paradata, Realism and Documentation within Historical Games

The creation of historically accurate games are of concern as educational tools, analytical tools and a means of communicating research. Documenting games for historical accuracy is a problem in that it suffers from the twin problems of the necessities of commercial success and of the high costs of providing provenance and authenticity for the elements of the games.

Previously these problems were manageable in that limited technical capacity and the high cost of archival access ensured that overall, there would be a finite number of gameplay elements that could be questioned or documented. Perversely, the online access to mass digitized historical archives and commodity high definition gaming platforms are challenging game designers who must fill the ever increasing expectations of their audience while sorting through large amounts of authentic contents.

In this talk, we will review some issues in programmatically creating historical game play that were encountered while creating documented simulations of battlefield trenches from the first world war. The use of linked open data as a documentation solution will be presented as well as novel use of the para-data to generate credits that are accessible to the user using the game.

Collaboration and Interaction

Oskar Moleman (Hogeschool voor de Kunsten Utrecht; Tribal & Error)

Tribal & Error: Designing a prehistoric language

Tribal & Error is a game under development by HKU student company Grotman. In the game, the player journeys to prehistoric times and learns to communicate with cavemen. To build this game we set about creating a Paleolithic world filled with the flora and fauna from that era, however the most interesting part from a historical perspective was the envisioning of a prehistoric language.

With the language in the game we mainly wanted to explore the fundamentals of how languages work and how they evolve. By creating a very basic and primitive language it allowed us to present these linguistic fundamentals in a manner far more accessible than any modern language could. We want to give players a lens to view the evolution of language across the world throughout the ages.

Linguistic fundamentals in Tribal & Error: The basics of how we learn languages. An onomatopoeia for design. The merging of words to create new meaning. The simplification of words for easier pronunciation. Symbols depicting a visual representation of its meaning. Other topics we will cover: The design of the symbols inspired by ancient British rock art. Creating the prehistoric world of Tribal & Error.

Jakub Majewski (Bond University)

The Potential for Modding Communities in Cultural Heritage

The concept of applying video game technology for the exploration and popularisation of cultural heritage is a powerful one, offering many possibilities and advantages. Numerous scholars have not merely examined these possibilities, but made attempts to realise them by developing culture-oriented games. Using a range of examples mainly from the role-playing game (RPG) genre, this paper explores the challenges of working with video games for culture, and argues that in the academic field, dependence on limited funding presents a significant barrier to exploring cultural heritage through such projects. As a consequence, purpose-built serious games are often unsuccessful, and have difficulty retaining an audience. Simultaneously, commercial games often attract strong fan communities, and in many cases the fans modify games for their own purposes, in some cases specifically to enhance the cultural content or to adapt the game to a particular historical setting. It is argued that this offers a possibility for an alternative approach to cultural heritage in games, where experts collaborate with audiences to modify existing commercial video games for heritage purposes. In this way, it may be possible to deliver cultural content not only to the public, but indeed through the public.

Xavier Rubio-Campillo (Barcelona Supercomputing Centre)

Evolving Planet: Explaining archaeology with science-fiction

Archaeology has experienced a large number of innovations during recent decades. Geographical Information Systems, archaeometry, or laser scanning are only some of the methodological advances of the discipline. However, the public image on how archaeology works is roughly the same as it was several years ago. SimulPast faced this challenge while planning dissemination activities. The project explores the integration of computer simulation within archaeological research using concepts such as complexity, resilience or cooperation, often associated with other disciplines.

The dissemination team aims to explain how these new methods can be used to explore how past societies dealt with problems linked to the present-day. We have developed a videogame to achieve this goal. The story is set within a science fiction context where the player takes the role of a scientist studying the extinction of a sentient species. It is developed over 20 missions where the player explores under what conditions the population dynamics match the archaeological evidence. The campaign gradually introduces some of the concepts explored by SimulPast, including sustainability, dispersals and identity.

We will present the experience provided by the game development with special emphasis on the design decisions taken to explain an archaeological project with a videogame.

Jeff Sanders & Stephen Reid (Dig It! 2015)

Crafting the Past

Last year, Dig It! 2015, a year-long celebration of Scottish archaeology, reached out to new audiences. One of the most popular initiatives came from a partnership with a games-based learning specialist known as ImmersiveMinds. The resulting and ongoing project, called 'Crafting the Past', uses Minecraft to bring archaeology to life by recreating real sites on a one-to-one scale, including a Pictish hillfort, 18th-century palladian mansion and Roman fortlet. Players take part in digital archaeological digs, explore heritage sites and even redevelop ruined buildings. Crafting the Past has support from the gaming community thanks to Multiplay, as well the archaeology community, with special thanks to the AOC Archaeology Group and a range of heritage organisations. This presentation will explore the lessons learned throughout the development, launch and management of this project and how unique partnerships can break down barriers in unexpected ways.

Gaming Archaeology: Representation

Tara Coppleson (University of York & Aarhus University)

Designing and Developing the Past: How creating video-games might offer novel pathways for archaeological interpretation and communication

Interpretation and communication are fundamental to the wider archaeological process, having key roles in how we construct and convey meaning about the past from the edge of the trowel to the eventual dissemination of narrative to professional and public audiences. The media which we choose to use in these processes have a prime role in determining their form and structure. Modern paradigms such as post-processual, phenomenological and interpretive archaeology have stressed the importance of appealing to senses beyond the textual or visual and to incorporating elements of interactivity, multivocality, multiplicity and reflexivity. However, the media forms traditionally leveraged in the recording, development, communication and dissemination of our archaeological interpretations rarely support these affordances natively. Video-games are a media form which may have the ability to natively support many of these emergent archaeological paradigms. To this end the process of designing and developing video-games might offer novel ways to approach interpretation and communication in archaeology. This paper will discuss the overarching theoretical, methodological and media principles before providing three case-study exemplars of how the design and development of video-games might provide new approaches to archaeological interpretation and communication.

Trygve Sikveland Røysland (prev. University of Southampton)

Meaningful Experience in Video Games

In the field known as archaeological representation, we study how information of and about the past is conveyed to an audience; through museum displays, text, visual representation, re-enactments, and film and television. This way of creating ideas about the past is something that has been going on steadily since the renaissance, but in recent years video games have upped the ante as a more technologically advanced form of representation.

This dissertation looks at how video games create contextually rich, virtual past worlds. By applying phenomenological theories derived from contemporary philosophy and archaeology, the primary investigation is aimed at how players have meaningful experiences of the past through games. With a specific focus on games that are inherently historically inaccurate, it is argued that the ultimate power of this immersive and interactive form of representation is not merely to re-enact and retell

history, but to provide multiple instances of worlds, where potential pasts can be experienced.

Using *The Elder Scrolls V: Skyrim* as an example, this dissertation analyses how games work as melting pots for people to have experiences of, and thus form ideas, impressions and opinions of the past, in immersive and interactive archaeological representations.

Bram van den Hout (International Institute of Social History)

Pirates, Terror of the Seas or Swashbuckling Anti-hero?

Pirates are one of the most popular and well-liked "historical" figures in media. From *Treasure Island* to *Pirates of the Caribbean*, book readers and movie-goers have been shown the swash-buckling life of pirates. The acts of exploring lost islands, fighting the British Navy, drinking rum and burying treasures have been used in all kinds of media to depict the pirate of the 17th and 18th century. Videogames too, have been based around the romantic idea of pirates: ranging from exciting action games like *Assassin's Creed Black Flag*, to management simulators like *Port Royale 3* and *Sid Meier's Pirates!* and comedic adventures such as *The Secret Of Monkey Island*. It seems that all sides of pirates has been playable, but are players given a historical presentation of pirates or are they living the life of mythical beings not unlike the superheroes and fighting champions that they share a console with?

My talk will discuss the differences between videogame pirates and those that roamed the seas during the 17th and 18th centuries, what videogames did get right and why videogames are the perfect medium to educate people about pirates.

Catherine Flick & Tyr Fothergill (De Montfort University & University of Leicester)

Clucks and Clicks: The archaeology and ethics of human-chicken relationships in video games

Humans have modified species through directed breeding and other practices which constitute the continuous processes of domestication. These changes have in turn affected the ways in which humans view domestic species, and, as a consequence, the ways in which they treat them. Chickens are a case *par excellence* with regard to directed breeding: archaeological chicken bones show skeletal changes consistent with those present in some modern breeds. The cycles of human perception of domesticate species have shaped the chickens of the past, the present, and their video game counterparts. Many video game chickens are short-lived and viewed as passive, throwaway creatures—much like broiler chickens. However, this is not consistently the case; the games which were investigated for our study presented a wide range of interactions and relationships. The archaeology

and history of relationships between humans and chickens not only contextualise these relationships in the digital realm, but show gaps in understanding, pinpoint areas of social concern, and demonstrate the potential of the digital chicken as an informative construct with the potential to re-inforce positive relationships between chickens and humans outside of video games. This presentation contributes an interdisciplinary approach by using archaeological evidence in critical analysis of video games.