

Video Games as Prosopographical Networks and Geographic Information Systems for Early Medieval History: *Crusader Kings III* and the Digital Historian

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Abstract

This paper argues that *Crusader Kings III* can be operationalized as a geographical information system and as a simulation environment for modeling historical prosopographical networks, demonstrated through two case studies: late Carolingian West Francia and early medieval Scotland. In doing so, it conceptualizes grand strategy games as structured historical datasets, demonstrates their interoperability with GIS and network analysis methods, and evaluates simulation environments as experimental spaces for medieval historiography.

1 Introduction: *Crusader Kings III* as a Medievalist Video Game

Medievalist video games are vessels for agentic interaction between the player and the simulated Middle Ages (Jiménez Alcázar, 2011), situated at the intersection of different forms of medievalism: music, painting, cinema, literature, and experiential medievalism (Pugh and Weisl, 2012).

This last aspect is key to understanding system-heavy medievalist video games as tools for historians and medievalists. Indeed, despite shortcomings in historical accuracy, their systems and interactivity provide a solid basis for the use of video games as tools of immersive representation and experimentation for both geographical information and prosopographical networks.

Crusader Kings III (Paradox Development Studio, 2020) is a grand strategy video game set in the Middle Ages. It simulates a defined geographical space in which player characters control realms that expand and contract according to their actions and the events of the game world throughout the game's time period.

As it lets the player change history through their in-game actions, *Crusader Kings III*'s inherent

flexibility contributes to a stronger structural representation of medieval political and societal dynamics: “instead of offering a carefully tailored narrative, it offers a carefully tailored set of systems” (Soares de Oliveira, 2024). In this paper, it is not this representational aspect that is in question, but rather the game's status as a prosopographical and Geographic Information System with a formalized historical ontology that reproduces historical assumptions in computable form.

Players control characters, whether historical or fictional, and interact with other player or non-player characters. Characters can hold titles that have a territorial basis, organized hierarchically in the form of feudal polities: baronies, counties, duchies, kingdoms, empires, and hegemonies (of which there are few). The game thus aims to represent the medieval Old World (Eurasia and the northern half of Africa) as accurately as possible while remaining both enjoyable and structurally homogeneous (Rubio Arévalo, 2021).

This notion of structural homogeneity has the biggest impact on the way the game formalizes the systems of medieval society and government. The feudalistic society depicted in Western Europe therefore more closely resembles that of the high and late Middle Ages than that of the early Middle Ages in which the game starts (Ribeiro, 2021). Therefore, the two case studies will be set in the early Middle Ages to test the limits of the game's structural model.

2 *Crusader Kings III* as a Tool for Historians of the Middle Ages

The use of *Crusader Kings III* as a teaching and mediation tool for medieval history has been discussed on multiple occasions (Dussarps, 2020; Tozoğlu and Kuran, 2022; Vincent, 2023), its use as a research tool and a vessel for historical

scholarship ([Spring, 2015](#); [Houghton, 2018, 2022](#)) is to be the center of attention.

2.1 *Crusader Kings III* as a Geographical Information System

A Geographic Information System (GIS) organizes geographically referenced data into queryable layers.

For historians of the Middle Ages, geographical information systems are a tool for a historiographical form of distant viewing. In the case of mediation, more and more museums use interactive maps displayed on touch screens for visitors to explore.

In the case of *Crusader Kings III* and other grand strategy games published by Paradox Interactive, the player navigates the game map with different “map modes” that display *de facto* political control, *de jure* title hierarchies, cultures, faiths, technological development, epidemics, and many more aspects of the game.

Despite the geographical references of the game being tied to the game map rather than to GPS coordinates, *Crusader Kings III* fits the definition of a geographical information system. The game’s territories could be understood as GIS polygons fit hierarchically into its different “title tiers”.

This total hierarchical division system of GIS polygons could be compared to many GIS ontologies that adopt a similar system, such as Historical Hierarchical Territory (HHT) ([Aussenac-Gilles et al., 2022](#)).

The one shortcoming of grand strategy video games in their representation of medieval territories is the need for well-defined boundaries ([Jiménez Alcázar, 2024](#)). This could be attributed to their origins in tabletop games and the difficulty in representing uncertainty on a map while maintaining readability.

2.2 *Crusader Kings III* as a Prosopographical Network Database

Characters in *Crusader Kings III* are a set of data points: a name, a dynasty, birth and death dates, traits, interpersonal relations, and many more. They can have control of a given territory for a defined period or hold a claim onto it until they succeed in obtaining control of it.

Each character’s entry in the game’s database may be considered a short prosopography. The existence of interpersonal links (familial relationships, rivalries, alliances, conflicts,

friendships, allegiances) thus creates a prosopographical network of all game characters.

Given the game’s ambition to accurately represent the Middle Ages, many historical characters exist within the game (alongside some medievalistic fictional ones). This enables analysis of its data through the lens of historical network studies, which has been done in the case of the Norse world in the previous iteration of the game series ([Mindrebø, 2024](#)).

3 Case Studies

In this talk, I will discuss the game’s representation of two early medieval societies and political systems: late Carolingian West Francia and early medieval Alba, chosen for their contrasting historiographical and evidentiary density. I will focus on the game’s medievalist narrative concerning those two case studies and the developers’ historiographical influences, thereby testing the limits of video games as historical modeling environments.

Additionally, I will present the custom data-extraction tools I developed in order to collect and analyze the game’s data, particularly the pipeline used to transform the game’s data into a genealogical database compatible with the open source Gramps project.

All of the relevant characters present in the game’s database are included in the two case studies, including the deliberately fictional ones. This is driven by the importance of fictional performative Gaelic genealogy to Scottish history and by the Norse aspect of both French and Scottish medievalism.

In both case studies, the geographical representation is based on a late medieval feudal framework which is distorted and simplified in order to fit the game’s requirements. This is somewhat unfit to properly represent the early medieval history of both France and Scotland, especially in the case of the latter, and corresponds to the broader tendency of the game to favour a late medieval historical model.

The prosopographical aspect reveals two very different models: whereas West Francia’s large prosopographical body is pruned in order to fit the game’s map and reflects dated historiography, which is coincidentally freely available online, the fictitious Scottish genealogies are expanded in order to represent a very specific viewpoint on

the emergence of the Scottish nation.

Beyond the analysis of the game's historiographical biases, the findings of this research will lay the groundwork for the creation of a Prosopographical Network GIS ontology for the modelling of the early medieval Frankish political system.

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