

The JominiEngine: a historical MMORPG framework

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Historical Games are Fun!



So Should be Learning about History!



⁰From <http://www.communitycare.co.uk/>; Pic: Source/Rex Features

“Interactive History”

- Games are a great way to engage students in the learning process
- Established forms of teaching history are often fact based
- Our vision is to develop a platform for “*Interactive History*” as a MMORPG where students/players can interact and learn about history
- To this end, we are developing a Serious Game Engine: the *JominiEngine*¹
- Initially instantiated for the history period of 1194–1214 (“Magna Carta”)
- Can be instantiated for several learning domains



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A Shared Vision of Interactive History

Thus, it can be argued that *digital games allow for a different type of historical understanding*. This is an understanding not simply based on facts and figures, but rather on an understanding of process. It puts the player in the position of a historical agent and asks “*given the circumstances, what would you do?*” It is this *ability to offer a choice and investigate the consequences* that sets games media apart from traditional historical practice.

¹From: Play the Past <http://www.playthepast.org/>

Potential Learning Objectives

Cater for a wide range of *Learning Objectives*:

- Learn about the *historical context*, about social and economic issues.
- Explore what-if scenarios, based on a precise historical model.
- Provide a platform for “war-game” style scenarios.
- Improved student engagement.
- Improved *communication skills*, acquired in a non-intimidating environment.
- Increased awareness of social, cultural context.
- Incentive to learn about underlying *technologies* in this virtual world.



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JominiEngine: Design Principles

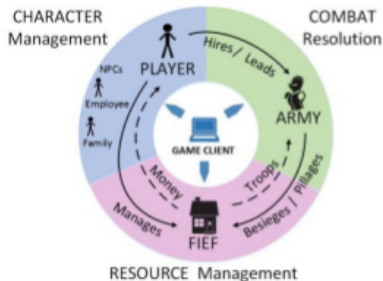
JominiEngine design principles:

- **accuracy** in the historic model to provide educational value
- **flexibility** in the content modelling to cover a range of periods
- **cooperative team-play embedded in a competitive game**
- **security** in the interaction with the game engine



Structure of the JominiEngine

The game engine is structured into 3 main components:



Implementation Issues

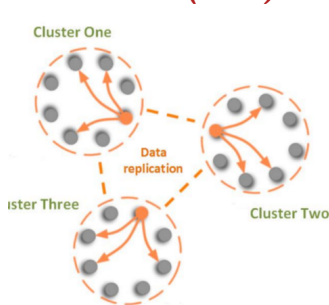
Notable aspects of the implementation are:

- based on a *client-server design*;
- implemented in *C#* to ease inter-operability
- the separation into components with clear interfaces (*modularity*);
- the use of a *noSQL database (Riak)* to store the game data;
- OpenSource

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The JominiEngine serves not only as a vehicle for teaching in the domain of history, it also serves as an *object of study* in the domain of computer science (complex system engineering).

Opportunities of Further Development

- Improvements to the GUI front-end of the client (Unity-based).
- Integration of social networking functionality into the RPG context.
- Enhancing the current components of conflict, fief, and family management.
- Complementing the macro-history view with micro-history aspects (“zooming into fiefs”).
- Implementing NPCs with AI functionality.
- Improvements to the security of the client-server implementation.
- Technical extensions: data-base distribution, fault tolerance, etc

Most of all: content authoring and embedding an instance of the JominiEngine into a *history curriculum*.

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- We have a prototype with an instantiation for Britain in 1194–1214.
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Announcement

Workshop on *Serious Games in Education*

Focus on RPGs for history education

Planned for end Aug, early Sep,
at Heriot-Watt Univ, Edinburgh

Informal event with talks and discussions

Covering game design, system design, and history education

Goal: develop a research proposal along the lines of the
JominiEngine

