The JominiEngine: a historical MMORPG framework

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Playing with History (PWH16)
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Historical Games are Fun!

0from http://www.ckiiwiki.com/Crusader_Kings_II_Wiki
So Should be Learning about History!

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

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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-intimitating environment.
- Increased awareness of social, cultural context.
- Incentive to learn about underlying *technologies* in this virtual world.
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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
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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Summary

- Games are a great way to engage students.
- The JominiEngine should become a platform for Interactive History.
- We have a prototype with an instantiation for Britain in 1194–1214.
- We plan to deploy the JominiEngine as an educational tool in teaching history.

We hope that the JominiEngine can become the motherboard for developments in historical MMORPGs. Join the fun!
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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