

MUVE for a DE Course in Philippine History

Design and Development of a MUVE for a Distance Education Course in Philippine History

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MUVE for a DE Course in Philippine History

6 Emerging Educational Technologies in 2012

- Mobile Apps
- Tablet Computing
- **Game-Based Learning**
- Learning Analytics
- Gesture-Based Computing
- Internet of Things

(NMC horizon project preview, 2012 higher education edition, n.d.)

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Multi-User Virtual Environment (MUVE)

- Active Worlds
- Second Life
- OpenSim

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Potential Benefits

- Will develop teambuilding skills
- Allow the simulation of difficult situations
- Can be used to teach cross-curricular concepts

(NMC horizon project preview, 2012 higher education edition, n.d.)

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Barriers to Adoption

- The development cost of games is too high
- Commercial off-the-shelf games (COTS) may not be available for a specific topic
- A general lack of experience needed to integrate games in courses

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Design Theory

What learning actions will a MUVE afford a course designer-teacher?

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In MUVEs affordable learning actions are relations between features of the virtual world and the abilities of the learners as players.

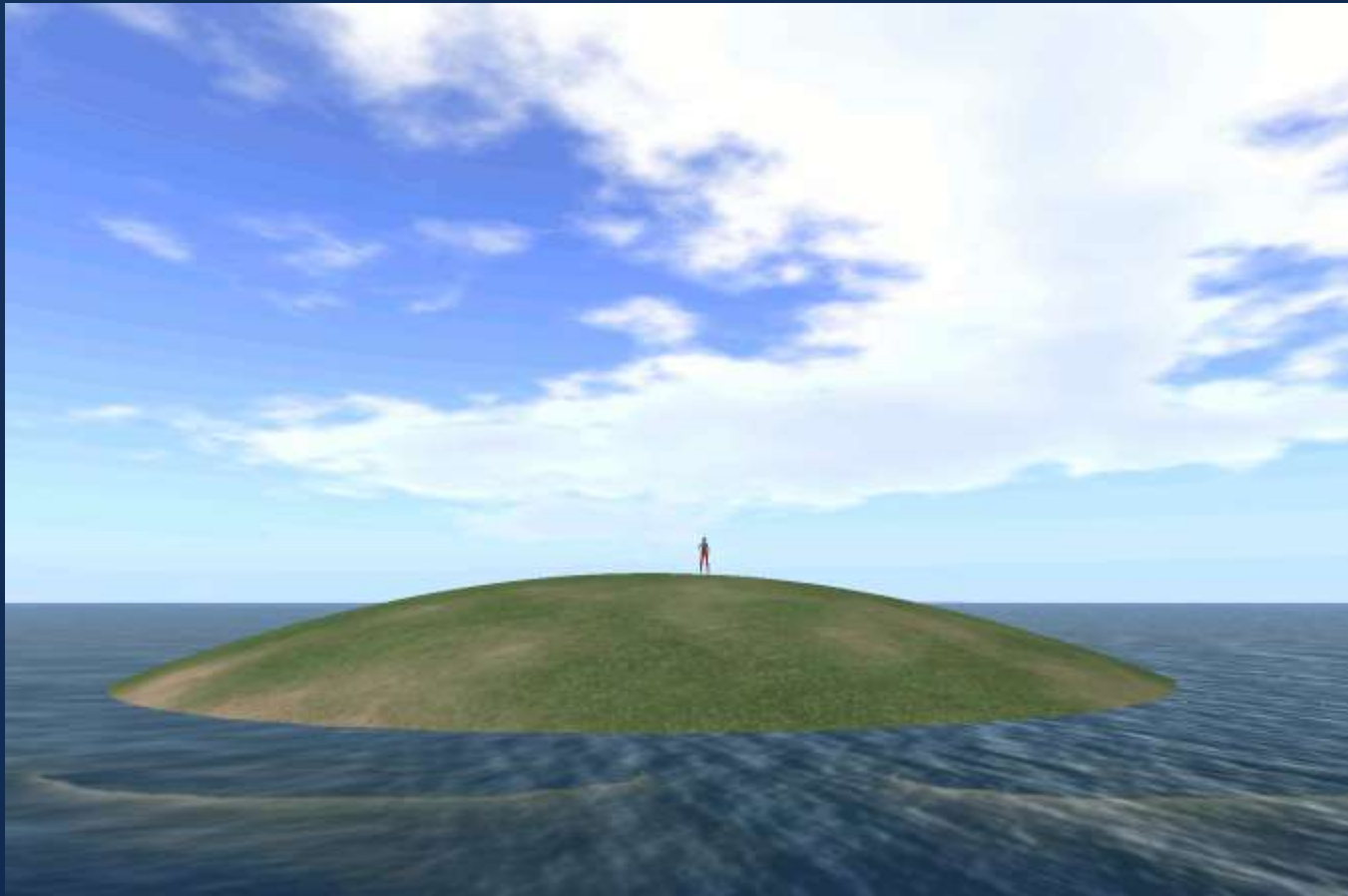
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Formative Research

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Designed Case

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Project

Philippine History Game

Role Playing Game in the 19th Century Philippines

Theme: socio-economy of the sugar industry in the 19th century

Quest

Design

3 Areas

- Orientation
- Role-Playing
- Sandbox

Development

Problems

- Shoe-string budget
- One developer
- 6 months development time

Development

OpenSource/Free Software

- MUVE server: OpenSim
- MUVE client/viewer: Third party versions of the Second Life Viewer e.g. Imprudence
- Software specific to education: e.g. Sloodle plugin that integrates Moodle and the MUVE

Asset Development



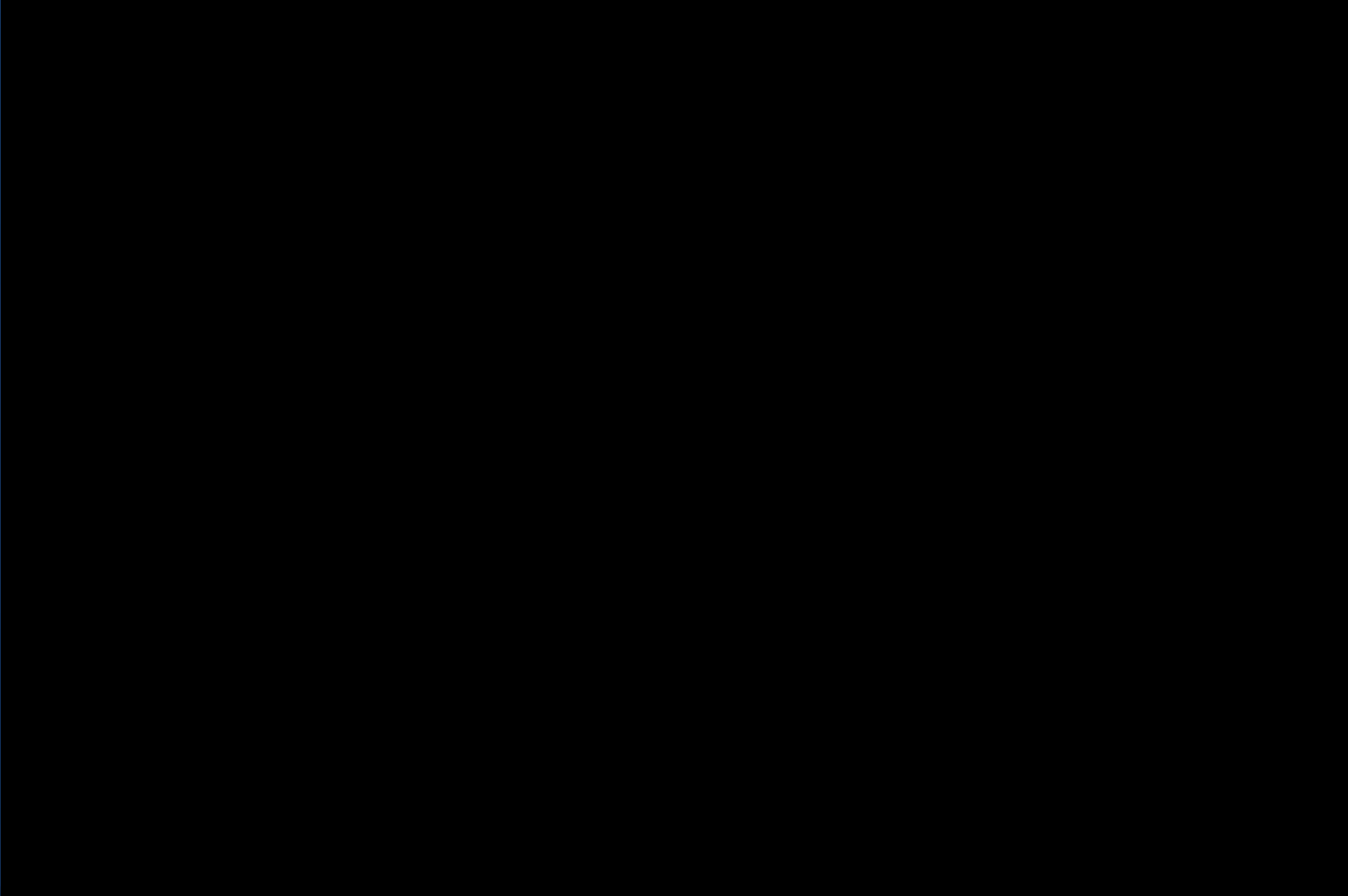
Asset Development



Character Development



ChatBot Character



Quests Development



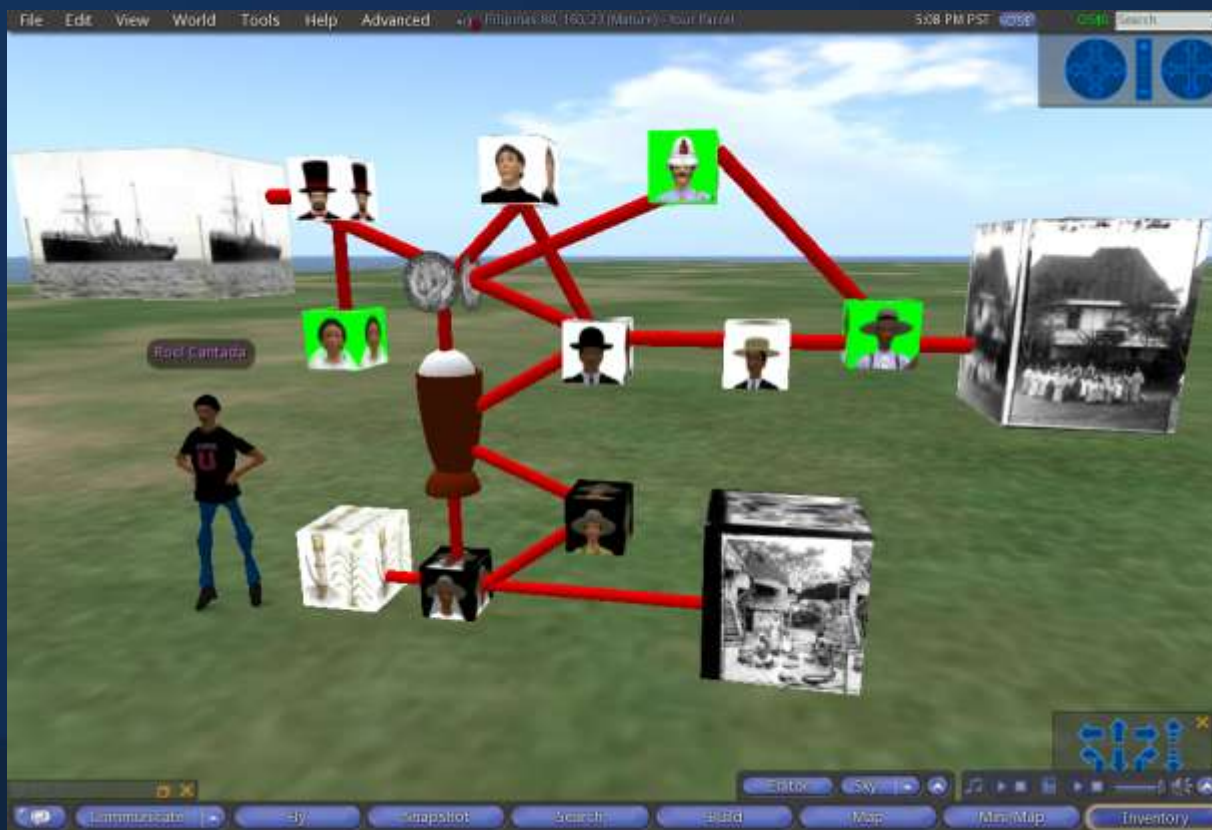
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Development of Briefing, Debriefing and Assessment Activities.



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Development of Briefing, Debriefing and Assessment Activities.



Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
Changeable virtual identities		Yes. Customisable avatars can be seen from the variety of NPCs that were created with the tools available to all players. It would afford the role playing of historical characters.

Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
Creatable, changeable and explorable space	Able to interact with objects in virtual space.	Yes. Prims or primitive shapes like cubes and spheres were customised to form buildings, vehicles, furniture etc. that the avatars may touch, wear and modify. Terrain may be modified to form mountains, rivers, plains etc. But these abilities may be disabled by administrators.

Replicated Physical Environment of Schools



Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
	Able to model the real world. Contextualisable learning. Context is provided by unique avatars situated in a unique virtual “place”. Context is made richer by spatial and non- verbal cues.	Yes. In addition to the above the simulated physics allow avatars and objects to occupy a unique space. Simulated climate and lighting creates an illusion of a self contained world.

Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
	Able to motivate and engage. Able to support games and narratives.	Motivation and engagement is unknown pending user testing. But the prototype shows that it is possible to create simple mini games like quests with a background story.

Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
Changeable pedagogy.	Able to practise skills that are expensive or dangerous in the real world. Reifiable abstract concepts.	Yes. The affordable learning actions above allow the reconstruction of the past. It supports many pedagogies. As an example social constructivism may be supported by collaborative manipulation of digital objects and communication tools. The virtual world may also be used for traditional lectures using voice and virtual presenters.

Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
<p>Able to use varied tools like scriptable objects, tradeable items, and communication tools.</p>		<p>Yes. Communication tools are available to learners through text-based and/or voice chat.</p> <p>But scripts and virtual currencies depends on the facilities enabled by the administrator.</p> <p>Specific learning tools like Sloodle are freely available that provide learners the use of Moodle modules such as quizzes, glossaries, and presentations.</p> <p>A built in browser allow learners to access any web based historical resource.</p>

Comparison of Affordable Learning Actions

MUVE (Hollins & Robbins, 2008)	3-D VLE (Dalgarno & Lee, 2010)	Is it afforded in the designed case?
Able to collaborate and network socially.	In 3-D multiuser VLEs learners are able to collaborate through simultaneous manipulation of virtual artefacts and exploration of the virtual world.	Plausible. Virtual places and identities are persistent i.e. leaving the MUVE does not erase information about the avatar and delete changes made in the virtual world. Multiplayer facilities like groups and the communication tools above support communication among simultaneously logged learners.

Constraints for Scaffolding Learning

- Virtual objects as obstacles
- Hidden objects
- Scripts like Sloodle Tracker (Conditional Interaction)

Collaborative Development of Virtual Worlds

- OAR archives
- IAR archives
- XML uploads via clients like Imprudence

References

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Hollins, P., & Robbins, S. (2008). The educational affordances of multi user virtual environments (MUVE). In *ReLIVE 08, Researching learning in virtual environments*. The Open University: 172-180. Retrieved January 8, 2012, from http://www.open.ac.uk/relive08/documents/ReLIVE08_conference_proceedings_Lo.pdf.

NMC horizon project preview, 2012 higher education edition. (n.d.). Retrieved January 7, 2012 from <http://horizon.wiki.nmc.org/file/view/2012-Horizon.HE-Preview.pdf>.