Exploring Architectures for Fast and Easy Development of Immersive Learning Scenarios (ILS)

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Swift development of ILS

Overview

• Immersive Learning: characteristics + motives
• Shortcomings of existing platforms for ILS
• Exploration for solutions (method + findings)
• Discussion & Questions
Immersion

Confucius (500 bC)

“Tell me and I will forget,

Show me and I may remember,

Involve me and I will understand …”
Immersive Learning: characteristics & motives

Experiencing emotions and reasoning in Authentic Environments

Active and interactive participation

Develop conceptual understanding (practicing: models-simulations)

Ability to perform scientific inquiry

Develop understanding about inquiry (reflection + natural feedback)

Solving authentic problems

All about: Authenticity - suspension of disbelief - motivation
Authentic Environments

realistic problem situations, where learners participate as actor and constantly are being confronted with the consequences of their actions when applying knowledge and skills in finding solutions
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with EMERGO

with Flash (the great flue)

with Pulse!!!
Shortcomings of existing platforms for ILS

**Inflexible** (monolithic & hard to adapt)

**Not developed for supporting ILS** (no educational glue)

**Difficult to use** (steep learning curve for all stakeholders)

**Lack of standardisation**

**Expensive** (e.g., licences)

**Incomplete**

**Summarized: too few functionality and too high costs**
Exploration for solutions: method + findings

a – wait

b – explore existing platforms/engines

c – built own

Criteria (top 4) & Basic Architecture (BA)

Set up

First choice:
- Custom
- Market

Second choice:

Third choice:

Deploy small example (10)

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Exploration for solutions (b) : method + findings

Criteria (top 4) & Basic Architecture (BA)

Search candidates (websites, reports)

First sifting: - Criteria (top 4) choose & - Mapping on BA

Technical setup BA-part (maximum: 4)

Second sifting: criteria (10) Deploy small example (each BA-part)

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Exploration for solutions – criteria (top 4)

1. Functional: enables Immersive Learning Scenarios

2. Technical openness (integration, extension, adaptation)

3. Easy authoring (draw with 2)

4. Sustainability

Other:
- enables contextualized learner support, performance, scalability, costs, access to technical code, development platform (C# preferably) + target platform (PC+mobile), standards compliant
Basic Architecture - blueprint
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Basic Architecture - blueprint

User input (learns, teaches)

Admin input

Author input

Authorization & Matchmaking

Authoring

Communication

ILS-deployment

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Search candidates – some options

- Active Worlds
- Second Life
- Caspian Learning
- OpenSim
- OLIVE
- City Pixel
- IMVU
- Habbo
- Ogoglio
- Quakforums
- Tixio
- Delta3D
- Kaneva
- OGRE
- OpenSimulator
- Blender
- MediaMachines
- EMERGO
- SimQuest
- Unype
- Whyville
- MediaGrid
- Pulse!!!
- Spring
- OLIVE
- Multi-verse
- Universe
- Gamemaker
- C4-engine
- DX-studio
- Torque
- RAGE SimQuest
- Jagr
- Cybertown
- e-Adventure
- SAGE-engine
- Spring
- Sauerbraten
- Delta3D
- Dreamspark
- OGRE
- Spring
- Jogre
- Google Apps
-第二
- Hippihi
- Second Life
- Ogoglio
- Delta3D
- moove online
- OpenSim
- Unreal-3
- 3D-gamestudio
- tixio
- Protosphere
First sifting: choose (apply criteria) & Mapping on BA
Mapping on BA
Mapping on BA

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Mapping on BA

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Mapping on BA

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Mapping on BA

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Discussion & Questions
Discussion & Questions

Criteria (top 4) & Basic Architecture (BA)

Search candidates (websites, reports)

First sifting:
- Criteria (top 4) → choose &
- Mapping on BA

Technical setup BA-part (maximum: 4)

Second sifting: criteria (10)
Deploy small example (each BA-part)

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Discipline for Learning Sciences and Technologies

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Thank you for your attention …

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