User needs and legally ruled collaboration in the VirtualLife virtual world platform

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Virtual worlds

- Serious, e.g. “Second Life”, “Active Worlds”
- Educational Universe
- Not games, e.g. “World of Warcraft”
- I am neither a proponent nor opponent of them

Research & software development project
- FP7 ICT VirtualLife project, 3 years from 01.01.2008
- Title “Secure, Trusted and Legally Ruled Collaboration Environment in Virtual Life”. Acronym “VirtualLife”
- Goal: software platform – peer-to-peer architecture
- Learning support as a use scenario, e.g. “University Virtual Campus”
About FP7 ICT VirtualLife project

- **Objective**
  - to create a safe, democratic and legally ruled 3D collaboration environment

- **Novelties**
  - issues of security and trust
  - in-world legal framework
    - a “Supreme Constitution”, a “Virtual Nation Constitution”, a set of contracts
  - peer-to-peer network communication architecture
Students of today

- are active Web 2.0 participants
- easy create relationships in social networks
- like impressing peers with curious facts
- enjoy participating in online group activities
- function in “multitasking mode”
- a new phenomenon: they share the knowledge with unknown people
- do not like memorizing information for later use
  - but they are effective in searching
**Motivation of learning**

**Learning materials**
- static – searchable in 2D for learner’s queries
- interactive objects – in 3D
Learning environment

Constantly gratifying, encouraging social interaction
Sample scenarios

Web 2.0

- information as a content
- asynchronous communication

“University Virtual Campus”

- interaction as a content
- synchronous communication
Virtual worlds for education

Sara de Freitas. Serious Virtual Worlds: A scoping study. 2008

A list of virtual worlds

- more than 80
- open source platforms: “Multiverse”, “OpenSim”, “Metaplace”

http://www.jisc.ac.uk/media/documents/publications/seriousvirtualworldsv1.pdf
From legal rules – to virtual world rules – to rules in software

‘Keep off the grass’

Translation

Natural intelligence – a team of (1) a legal expert, and (2) virtual world developer

‘The subject – avatar – is forbidden the action – walking on the grass’

Translation

Natural intelligence – a programmer

A software program, i.e. a script. Implemented by triggers which control the avatar

This translation complies with:
- Lawrence Lessig’s conception “Code is law”
- Raph Koster’s “Declaration of the Rights of Avatars”
Examples of rules

1. An avatar is forbidden to touch objects not owned by him or a certain group.
2. An avatar not belonging to a given group is forbidden to a given area of the zone.
3. An avatar is forbidden to create more than a given number of objects during a given time interval.
4. An avatar is forbidden to use a given dictionary of words (slang) while chatting with other avatars.
5. An avatar of age is forbidden to chat with avatars under age.
6. An avatar is forbidden to execute authorized scripts in a certain area.
Problems of translation

- **Abstractness of norms.** Legal norms are formulated in very abstract terms.

- **Open texture.** Hart’s example of “Vehicles are forbidden in the park”.

- **Legal interpretation methods.** The meaning of a legal text cannot be extracted from the sole text.
  - **Grammatical interpretation, systemic interpretation, teleological interpretation**

- **Legal teleology.** The purpose of a legal rule usually can be achieved by a variety of actions.

- **Heuristics.** The ability to translate abstract high level concepts and invent low level ones.

- **Consciousness of the society.** Law enforcement is a complex social phenomenon.
A law is composed of Norms [Vázquez-Salceda et al. 2008]. A Norm is composed by:

- (1) NORM_CONDITION,
- (2) VIOLATION_CONDITION,
- (3) DETECTION_MECHANISM,
- (4) SANCTION
- (5) REPAIR.

A NORMCONDITION is expressed by:

- TYPE {Obliged, Permitted, Forbidden}
- SUBJECT {Avatar, Zone, Nation}
- ACTION {ENTER, LEAVE, CREATE, MODIFY, MOVE, CREATE, TRADE, SELL, BUY, CHAT, etc.}
- COMPLEMENT {AREA, AVATAR, OBJECT, etc.}
- IF {logical_expression_using_subjects_properties}
An example of Norm

1. **Condition:**
   
   FORBIDDEN Student_Avatar
   ENTER Library IF Student_Avatar.age < 18

2. **Violation condition:**
   
   NOT over_age(Student_Avatar) AND admit(Student_Avatar, Library)

3. **Detection mechanism:**
   
   call over_age(Student_Avatar)
   when Student_Avatar enters Library

4. **Sanction:**
   
   decrease_reputation(Student_Avatar);
   notify avatar

5. **Repair:**
   
   log and roll back if applicable
Legal framework of VirtualLife

Three tiers:
1. A “Supreme Constitution”
   - Code of Conduct
   - values that the user has to respect, e.g. avatars integrity, sanctity of property, reputation, etc.
   - A part of EULA (End User License Agreement)

2. A “Virtual Nation Constitution”
   - authentication procedure to become a member of Nation
   - copyright law of Nation, e.g. “CopyLeft” or “CopyRight”

3. A set of different sample contracts
   - sales contract
   - teacher employment contract
   - student contract
Conclusions

- Virtual worlds are likely to become a widespread extension of our real lives

- Legal and security features need to be improved

- Digital natives need a new learning environment with experiences similar to online games

- 3D virtual worlds add the value of interaction experience
  - Provide interaction and feedback
Thank you

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http://www.ict-virtuallife.eu