LawVille: a Collaborative Serious Game

R. Brondi\textsuperscript{1}, M. Carrozzino\textsuperscript{1}, C. Lorenzini\textsuperscript{1}, C. Evangelista\textsuperscript{1}, M. Bergamasco\textsuperscript{1}

r.brondi, m.carrozzino, c.lorenzini, c.evangelista, m.bergamasco@sssup.it

\textsuperscript{1}PercRo, TeCIP institute, Scuola Superiore Sant’anna
Via Alamanni 13b, 56100 Ghezzano San Giuliano Terme, Pisa

SGs are (digital) games used for purposes other than mere entertainment using learning-by-doing paradigm. Current internet technologies increase the capabilities of Web-Based Serious Games making them collaborative e-learning instruments. This paper presents LawVille, a Web-Based Collaborative Serious Game aimed at teaching citizenship and the Italian Constitution to secondary school students.

1. Introduction

Nowadays Serious Games (SGs) are becoming more and more popular and establish themself as an important research field of e-learning.

Since the first multimedia SGs developed for U.S. Army in 2002 (www.americasarmy.com), videogames have been increasingly adopted for training, advertising, simulation or education; the Woodrow Wilson Center for International Scholar in Washington, D.C. founded the Serious Games Initiative, and the term “serious games” became widespread (www.seriousgames.org) as ‘games for purposes other than entertainment’. As a matter of fact SGs use the intrinsic playful aspects of a game to make the learning process more engaging and effective, exploiting learning-by-doing paradigm. SGs can support the development of a number of different expertise as analytical and spatial skills, strategic skills and insight, learning and recollection capabilities, psychomotor skills, visual selective attention, etc. [3][5]. Moreover, current internet technologies and Web 2.0 increase the capabilities of Web-Based SGs making them collaborative e-learning instruments that exploit the possibility to play inside on-line community, to share the knowledge together [4].

This paper presents the videogame LawVille, a Web-Based Collaborative Serious Game aimed at teaching citizenship and the Italian Constitution to students of the secondary school. It is part of a Regional research project, called SONNA, which intends to investigate novel technology-enhanced learning methodologies [1][2].

2. LawVille

LawVille is an adventuregame Its objective is to get secondary school’s students closer to the knowledge of the Italian Constitution making them the protagonist of a fantasy story in which an unknown virus, that makes people hostile to established order, has ramped in a part of the country. Youngsters appear to be immune to this virus. The President of the Republic decides, therefore, to choose an eighteen person to form the government that will have to face the emergency. This plot was conceived in order to solicit students by directly involving them in a series of political questions they have to face in first person.

The game is structured in three levels. In the first one, the player learns how the Italian government is formed and how it gains the approval of the Parliament, acting as the new appointed “Prime Minister”. In the second one he/she creates his/her political plan, primarily to solve the current emergency but also to address other issues commonly faced by a government, choosing among a series of legitimate and unconstitutional options and getting to know the procedure to enact laws. In the third and last level the protagonist is back to his normal life, but he/she is accused by the new Government for his/her acts. The player then understands how to use the constitution to protect himself from unfair accusations, promoting a referendum campaign.

The game is designed using a coherent cartoon-like approach for all the 3D elements inside the game and all movie scenes, that are suitably filtered. The location is Rome with its government facilities; the user is enabled with a “point-and-click” interface to move itself inside a virtual toon-map of it or to interact with the scene (Figure 1).
During the game the player can also access traditional Web 2.0 instruments like general-purpose sites (such as Wikipedia) or web platform purposely created and handled by a group of jurists containing validated content. By using these tools players can exchange information enabling a constructivist mechanism of knowledge building.

The game has been developed using different web technologies and the XVR framework [6] as web 3D engine. An XVR application interprets the XML grammar which describes the storyboard of the game. This kind of grammar allow people not owning particular technical skills, like “law” or “civics” teachers, to tailor the content of the game to suit their needs by simply editing the XML file.

The storyboard is defined using different XML files. A master XML file contains the general settings and a list of chapter. Each chapter is subdivided in levels and for each of them it’s possible to link resources (images, videos, 3D models, speech etc.), scenarios (groups of resources and their relationships) and sequences (trees of single actions in the game). Exploiting this subdivision, it is possible to asynchronously load content on demand just when it is needed, optimizing the management of the resources when the game is played over the network.

3. Conclusion

LawVille was presented to some high school classes. The disseminated knowledge was evaluated with interviews, questionnaires and focus groups, and using the analysis of the “social” data generated by the users during the interaction with the SONNA platform too [1] [2].

In the next future the XML grammar developed for this game will be improved to describe different genres of game and a visual authoring tool will be developed to allow non-technologically skilled user to create new SGs.

Bibliography