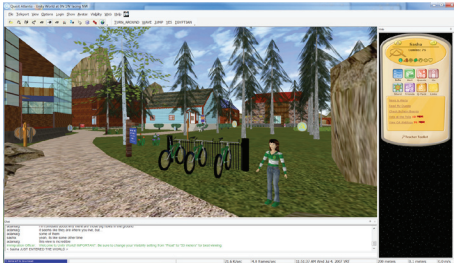# Case Study:

Quest Atlantis

codeweavers

Quest Atlantis

Screenshots from QuestAtlantis

Quest Atlantis "is the most exciting teaching experience I have encountered."

Steven Caldwell, Educator

Overview: With the help of CodeWeavers', QuestAtlantis was able to extend its Windows-based educational multiuser game to a wider audience with a new Wine-based Mac client.

Quest Atlantis is an international learning and teaching project that uses a 3D multi-user environment to immerse children, ages 9-15, in educational tasks. Developed by the Indiana University School of Education, it is currently being used by more than 25,000 students in schools across the world. Quest Atlantis draws upon multi-user game motiffs (quests, leveling, etc.) that are increasingly familiar to today's children to both teach and entertain the game's participants. At the same time, though, Quest Atlantis serves as a platform for measuring and validating educational principles. In other words, the game is also an educational experiment to determine what works and what doesn't in online education. The result is a multi-faceted application that serves multiple purposes, reaching a multitude of different audiences.

In the words of Steven Caldwell, a middle-school teacher in Australia, Quest Atlantis is "the most exciting, rewarding, and authentic teaching and learning practice I have encountered in my 11 years of teaching," because it "combined all of the aspects of teaching that I personally enjoy – a sense of play, narrative and strong humanistic values that promote positive, collaborative interactions. It also challenges the competitive, self-focussed paradigm of computer games which emphasise personal success and ego aggrandisement over more altruistic motives." Like many teachers who encountered Quest Atlantis, after an initial period of skepticism, Caldwell was soon "totally onboard."

The core 3D game engine for Quest Atlantis was developed on a technology called ActiveWorlds. ActiveWorlds, like most game technology, was strictly a PC-based platform. At the same time, though, much of the ingame 2D content (text, quests, rewards, etc.) was delivered via a browser widget, which was coded to the Internet Explorer 6 standard. However, with the increase in popularity of both QuestAtlantis and the Mac platform, QuestAtlantis' creator, Prof. Sasha Barab, realized that the game needed to be extended to serve new audiences on different

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"Without a Mac client, Quest Atlantis would be useless to us."

Steven Caldwell

Creating a Mac client required porting both the 3D engine, and integrating IE6 browser components.

"Our working relationship with CodeWeavers was productive, professional, and cordial."

Sasha Barab, Quest Atlantis Creator

platforms. Particularly in educational environments, where Apple has always had a strong presence, it made good sense to broaden the QuestAtlantis platform to include Mac as well. For teachers like Caldwell, who's school ran entirely on Macs, it was clear that if Quest Atlantis "didn't run on a Mac platform, it was going to be useless to us." This is where CodeWeavers entered the picture.

Creating a Mac port for QuestAtlantis raised two fundamental challenges. The first was to get the ActiveWorlds' 3D engine running at an acceptable frame rate under Wine so that game play remained smooth, natural, and comparable to the PC frame rates. Fortunately, since CrossOver imposes relatively light overhead itself, this proved an advantage (as compared to trying to run QuestAtlantis in an emulator or virtual machine). Eventually, CodeWeavers was able to tune Wine to run the ActiveWorlds 3D engine with frame rates that were essentially identical to those found on a comparable Windows machine.

The second challenge was to reimplement the in-game IE browser widgets such that game players could get their 2D content seamlessly. IE, and the family of ActiveX controls it has spawned, can pose challenges to Wine. However, ActiveX support has improved markedly within Wine in the past couple years. The result in fairly short order was an implementation of IE for QuestAtlantis on Mac that fulfilled the needs of the players.

The outcome of the project was a fully functional Mac client for QuestAtlantis that was in no way inferior to that of the PC. Rolled out in March 2008, the Mac client currently accommodates more than 1,000 educational users. Steven Caldwell agrees that the Mac client "is working well." His school has 46 machines "running 3D at one time with very little lag."

Like Caldwell, Sasha Barab, Quest Atlantis's creator, considers the project a success. "CrossOver allowed us to scale out QA into whole new environments, quickly and economically. Our working relationship with CodeWeavers was also very productive, professional, and cordial." Both Quest Atlantis and CodeWeavers are looking forward to continuing to improve the offering, by integrating newer technologies such as IE7, and continuing to improve performance. All in all, though, this project shows that it is possible to take an application that is built around extremely PC-centric toolkits and move it successfully into new environments via Wine.

For more information on how CodeWeavers can help you bring your Windows application into a new market, contact James Ramey, VP Sales, at sales@codeweavers.com, +1 651-523-9302.