

Knight Lore 20xx: bringing a classic game to modern technology

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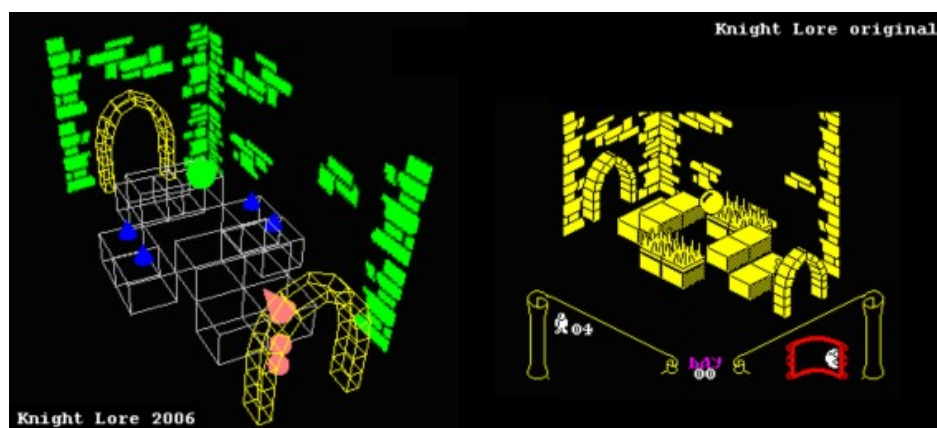


Figure 1: Our system in action: left, remake; right, original game.

Abstract

This paper reports about the experience, problems encountered, and the solutions found to develop Knight Lore 20XX, an experiment of using Computer Graphics techniques to bring a classic game from the 80's to modern technology.

In many aspects, the computer games developed during the 80's are a fundamental part of modern gaming history, as they settled the basis for what we understand as modern games. However, the technology used for those games did not age well, as their supporting platforms, as well as the software itself, have become obsolete. On the other hand, is not rare among older gamers to state that these years were the golden age of computer games, and current games are not that interesting. However, when played again (through an emulator), the experience is not on par with modern standards.

To bring those old games to modern technology, Kopf and Lichinsky [KL11] proposed to enhance pixel-art images directly on the emulator-generated frames. Thibeault [TH15] presented a technique that directly recognized and replaced the original game elements on the final image for new ones. The retrogaming scene has also developed interesting approaches to enhance old games, like new texture packs for the original Nintendo 64 games [Rac].

For this reason we decided to develop *Knight Lore 20xx* as an experiment of using Computer Graphics techniques to bring a classic game from the 80's to modern technology. This paper reports

about the experience, problems encountered and the solutions developed to recover this game originally created for the ZX Spectrum. While the simple nature of the original game provides for a certain aesthetic in its own right, we believe that our method produces a compelling 3D game that manages to capture some of the charm of the original, which we believe could be used to update any other classic game.

This work was partially funded by the TIN2014-52211-C2-2-R project from Ministerio de Economía y Competitividad, Spain.

References

- [KL11] KOPF J., LISCHINSKI D.: Depixelizing pixel art. *ACM Trans. Graph.* 30, 4 (July 2011), 99:1–99:8. 1
- [Rac] RACKETBOY: Enhance n64 graphics with emulation plugins & texture packs. <http://goo.gl/1IY07F>. 1
- [TH15] THIBEAULT C., HERVÉ J.-Y.: Object Detection in Emulated Console Games. In *8th Annual International Conference on Computer Games, Multimedia and Allied Technology (CGAT 2015)* (Apr. 2015), Prakash E., (Ed.), Global Science & Technology Forum (GSTF), Global Science & Technology Forum (GSTF). 1