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Believable Behaviour of Background Characters in Open World Games

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Abstract

This dissertation explores the notion of believability of non-player characters (NPCs) in "open world" games. The focus lies specifically on "background" characters which exist simply to provide a backdrop for the game. It is hoped that with increased believability, the video game industry could deliver even more engaging and immersive gameplay experiences. A hypothesis was envisaged which suggested that a model to drive the character's behaviour may enhance its overall believability. The proposed model considers two dimensions of behaviour, mental-physical state and personality. This is realised through the use of a State Vector, an instantaneous evaluation of the NPCs mental and physical states, and a collection of State Modification Vectors, that capture how particular activities affect the mental and physical state of the NPC. At the core of the model is the Activity Selection Manager which drives NPC behaviour. In order to test the hypothesis a prototype of the model was implemented in The Elder Scrolls V: Skyrim [1] with the editor used to create content for the game, known as the Creation Kit. The implementation showcases a promising model with much potential where characters gain a unique sense of personality and become much more interesting to encounter in the game. However, it remains to be seen if the model truly offers a tangible improvement over existing approaches. Future work is necessary to procure more conclusive evidence.

References:

[1] Bethesda Game Studios. The Elder Scrolls V: Skyrim. [DVD, Blu-ray Disc, Download], 2011.