Applying Maslow's Hierarchy to the

Creation of Realistic AI in Video Games

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By

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On my honor as a University student, I have neither given nor received unauthorized aid on this assignment as defined by the Honor Guidelines for Thesis Related Assignments

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ABSTRACT

Artificial Intelligence is quickly becoming a area of interest for game designers and developers. While previously unable to handle complex game agents, increased processing power allows for much more sophisticated non-player entities that lead to more immersive game experiences. Bethesda's The Elder Scrolls IV: Oblivion is a recent failed attempt at implementing human-like AI through its Radiant AI system. Irrational and unexpected behavior in development builds of the AI forced developers to scale back on game agent complexity in order to release a stable game. Radiant's key design flaw was a lack of understanding of human motivation and decision making. By applying a psychological model to use as the base for an artificial intelligence, the decision making process of game agents will behave in more rational and believable ways to the player. An experiment is conducted to apply a psychological theory to AI design through the development of a simple game. Maslow's Hierarchy is chosen as the basic flow of the agent logic. The Hierarchy is selected due to its simplicity, widespread acceptance, and its easy adaptability to an AI design. The sample game is developed and the entire process is then analyzed based on its effectiveness in creating realistic behavior and its applicability to various game genres.