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A MODERN APPROACH TO DESIGN AND INTEGRATE CONCEPTUAL METHODS IN VIDEO GAMES WITH ARTIFICIAL INTELLIGENCE

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Abstract

Working professionals life in metropolitan city seems to be worst with full of stress and anxiety. With hectic schedule they don’t even have time for their family. In order to overcome stress and to even get entertained and to relax they can consider games as an important medium. To remove boredom from life and to make sure that life is interesting and exciting they should be entertained. After heavy work schedules no one will effort to go out to get relaxed. There are many ways through which people can get entertained. We are going to focus on one of the methods of entertainment that is through video games. Video games have got many pros and cons generally many people will focus on the cons like continuous playing of games will lead to health problems like problem in eye sight apart from the cons there are pros like attaining success in professional life because these games it helps in making faster decisions since next move has to be made immediately as every game has to be played within limited span of time. Video games also helps in career boost like understanding leadership qualities and performing any task by following strategies through which goals can be attained within stipulated time. Video game AI (artificial intelligence) is inspired by the human ability to identify the correlation between the games and applying same behavior on conceptual level. Human behavior varies based on the conceptual view and actions. For any video game there should be any medium through which human being can interact like graphical user interface, scripting API and plug-in API. The programming model that is followed is based on time simulation. There are many other challenges faced in the artificial intelligence or computational intelligence techniques while creating and designing video games. Problem arises when a human plays with an entity that performs human like actions. In which decisions are not controlled by human player. In this paper we try to explore how to design conceptual AI and how to integrate conceptual AI in video games and discuss about interfaces like graphical user interface, scripting API, plug-in API and challenges faced like game artificial intelligence, non-player characters, procedural content generation, affective computing, human-like behavior.

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Keywords: Design conceptual AI; integrate conceptual AI in video games; graphical user interface, scripting API, plug-in API; non-player characters; procedural content generation; affective computing, and human-like behaviour.

1. Introduction

Artificial intelligence is a science and technology that constitutes many disciplines like computer science, biology, psychology, mathematics, engineering and linguistics. It is used in development of computer related programs that make use of human intelligence such as reasoning, learning and problem solving. The main goals of artificial intelligence are to create an expert system through which human intelligence can be implemented.

2. Human like behaviour

2.1 Behaviour:

The player will come across unexpected situations or the predictable behaviour of other players. The environment makes the user to think effectively and they make use of smart strategies because often they have to interact in predator/pray environment.

In online games players enjoy playing with other human players in massively multiplayer online games (MMO games). In MMO games bots are created that stimulate to play in a human style they provide sensation of being faced by other human player (that is in fact non-human player).

2.2 Effective controlling and player satisfaction:

Computation can be done by erasing and influencing human emotions in the video games.

- **Earliest form**: Incorporating human emotions in games by adding all kinds of conflicts and fantastic situation or real life situations.
  Example: Resident evil saga and final fantasy.
- **Incorporating emotions only in main character**.
  Example: Beyond too souls video game.
- **Non-playable characteristics**: Non-playable characteristics should have high level of perception. That is they should attack destroy and they should be effected by shrill of sounds and moves. This is the third approach used in the video games for self adaptation in affective video games. The video with games using NPC incorporated will have high perceptions and self adaptive will result the player to be in the edge of seat situation.

2.3 Procedural content generation:

It is creation of video game content through algorithmic means such as levels, machines, machine rules, characters, textures. Procedural content generation reduces the expenses by hiring many designers. These designers create content manually, which brings source of inspiration to come up with more novel designs. Many commercial games have followed this procedural content technique. Few of them are borderlandess saga, terrario.

3. Interfaces and plugins

3.1 Interfaces:

3.1.1 User interface:

It is designed information device through user can interact. In order to make sure that user interacts with this video AI it is necessary to have designed information device that is graphical user interface, scripting API, plug-in API.
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