

DEVELOPING A 3D GAME WITH ARTIFICIAL INTELLIGENCE

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Abstract

Elements of AI used in computer games have come a long way. Probably the most often implemented form of AI, combat oriented AI can be seen in almost every shooter since the mid-nineties. Designers of first person shooters depend on combat AI to make their games playable, let alone interesting.

With the development of game industry, more and more games started to focus on the AI aspect of game design instead of just graphics. Artificial Intelligence in games is usually used for creating player's opponents. Whether the player tries to sneak past them or go for a straight shoot, combat AI must decide how to react to the player in a very short time.

From a games perspective, one key problem is the creation of AI driven agents that can interact with the player and be adaptive so as to create a great interactive gaming experience. A few examples of AI challenges in games include driving a car in a racing game, path finding on a map, planning behavior of non-player characters in a role-playing game, resource gathering in a real time strategy game etc.

However, computer games offer a great variety of other challenges including problems in graphics, sound, networking, player rating & match making, interface design, narrative generation, game world design, scripting etc.

This research is aimed at building a 3D game for windows platform using Artificial Intelligence techniques. So, this first person shooter game is aiming to develop game with AI enemies who support animations, sounds, obstacle avoidance, target following, dynamic waypoint and path finding on a map. When playing the game, scores are given to each hunted enemy and displays high scores for player.

Result of this project is a 3D game with Artificial Intelligence which makes game playable, let alone interesting and challengeable with a creative environment.