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## **CONTROLLING BOT BEHAVIOR IN RPG GAMES USING AN ARTIFICIAL IMMUNE SYSTEM**

**Abstract.** Today, the development of models for controlling game characters using artificial intelligence methods is important. The work considers the creation of intelligent game bots that simulate the behavior of players in an RPG (Role-Playing Game). A game design for the project has been created, according to which a futuristic world is simulated, where the player controls a group of spaceships that compete with another group of similar spaceships. To describe the capabilities of ships, various attack or recovery options are used, where the main attention is focused on the features of their action from the point of view of game design. For effective control of game bots, a modified immune model of clonal selection, Clonalg-rpg, is proposed, in which bots are considered as antibodies of the system that interact with foreign antigens to the system, which for bots are ships from the project user team. The work of the modified Clonalg-rpg algorithm is described at the level of specific immune operators that perform corresponding actions with the population of antibodies and antigens. To analyze the effectiveness of the Clonalg-rpg immune algorithm, several game sessions were conducted with different compositions of user ship teams and bot teams. The results of experimental studies showed that the proposed Clonalg-rpg immune model is effective to implement, which makes it possible to use it in other game genres.

**Keywords:** control, game bot, combat, design, spaceship, immune model, clonal selection