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# Videogame designs military strategies based on ants' movements

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Washington, November 7 (ANI): A researcher of the University of Granada has designed a new system for the mobility of military troops within a battlefield based on the mechanisms used by ant colonies to move using a commercial videogame.

This work, developed at the department of Computer Architecture and Technology of the UGR, has designed several algorithms that permit to look for the best route path within a particular environment.

Specifically, this research work has developed a software that would allow the army troops to define the best path within a military battle field, considering that such path will be covered by a company and this must consider the security criteria and speed.

To that end, the scientists have used the so called 'ant colony optimization algorithm (ACO)', a probabilistic technique used to solve optimization problems and inspired in the behaviors of ants to find trajectories from the colony to the food.

This work has been carried out by Antonio Miguel Mora Garcia, and supervised by professors Juan Julian Merelo Guervos and Pedro Angel Castillo Valdivieso, of the department of Computer Architecture and Technology of the UGR.

The scientists of the UGR have developed a mini-simulator in order to define the settings (battlefields), locate the unit and their enemies, execute the algorithms and see the results.

In addition, the software designed by them offers a few tools useful to analyze both the initial map and the results.

To prepare this system, Mora Garcia started from the battlefields present in the videogame Panzer General, defining later the necessary properties and restrictions to make them faithful to reality.

The research work developed at the University of Granada has also had the participation of members of the Doctrine and Training Command of the Spanish Army (MADOC), organism belonging to the Ministry of Defense, which in the long term could incorporate some of the features of the new simulator for the design of actual military strategies.

The UGR scientists point out that, apart form this application the simulator could also be useful to solve other actual problems, such as the search for the best path for a sales agent or a transporter to visit his clients optimizing fuel consumption or time, for example. (ANI)