

Abstract of the project

iSnake – Intelligent Multiplayer Snake



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Inter College Undergraduate Project Competition

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Project Title: iSnake – Intelligent Multiplayer Snake

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Abstract: Snake game is quite popular among mobile phone users. This project aims to explore some new dimensions in snake game while retaining the fun and simplicity associated with traditional snake games. iSnake includes multiplayer functionality and computer controlled intelligent snakes that will challenge the human players. These two features of iSnake makes it a very absorbing game.

Multiplayer feature of iSnake allows multiple players connected via network to play a game. This makes the game more interesting and introduces the sense of real competition among the players.

Computer controlled intelligent snakes, whose aim is to eat the food before the other players, appear in the game field. Two path finding algorithms viz: Blackmamba and Viper have been developed to embed intelligence into these snakes. Profiling of these two algorithms suggested that Viper implementation is more efficient in path computation procedure. The feature of computer controlled snakes has not been spotted in any variants of Snake game and is hence unique feature of iSnake.

We have also developed iSnake Game Server Manager (iSnake-GSM) that is used to manage information about all the iSnake Game servers hosted on the Internet. It acts as a central repository of the active game servers that can be joined by any remote player.

iSnake project has been registered at sourceforge (SF) which provided most of the project management resources used by iSnake team members. Subversion repository provided by SF was used to manage the source code for iSnake. Collaboration on project documents (including prototype designs, project plan, TODO list, etc) was done using WIKI provided by SF. JUnit tests were developed to independently test some of the modules before their integration in the main development tree.

Almost every portion of the source code contains full code documentation conforming to Javadoc standards. The two path finding algorithms that implements intelligent opponent in the game has been fully documented with illustrations. The protocol devised for communication between game server and clients has also been well documented.

Online gaming is a booming industry. As iSnake has been deployed using Java Web Start technology it can be easily used by commercial gaming portals like Zapak.com. Moreover, if ported to Mobile phone platform, it can be deployed as revenue generating (as the client applications would use connectivity services like GPRS, CDMA, etc) add on service by mobile phone operators.