Caspian 2003 Presentation Description

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Abstract. The Caspian Presentation System is divided into three main parts: *3D monitor*, *Commentator* and *Debugging Tool*. The goal is to develop a presentation system, which presents the simulation games similar to real soccer matches. The visualizer uses a *heuristic search* to display the best view of the game in each cycle.

Visualizer. The visualizer uses several cameras in different locations to present a better view of the game. Cameras are controlled in two ways: *Automatic* and *Manual*. In automatic mode, the viewpoint is determined in two steps. First, the *director agent* select the best camera using a *heuristic search* based on some parameters like: play mode, position of ball and players in the field. In the second step, the *camera agent* decides about camera status considering ball possession, position and velocity.

The manual mode is used for debugging purposes. In this way, user can adjust desired perspective with zoom and pan features of selected camera.

One of the advantages of this camera control system is that it doesn't have the restrictions of real world. For example the cameras switch smoothly so that the observer has a continuous view of the game.

The system simulates spectators' emotional reactions with the use of *sound effects*.

Analyzer and Commentator. The analyzer generates game statistics like ball possession, number of shoots and corners. These statistics will be presented during the game. The commentator expresses analysis of the game using analyzer's information, and in addition describes the game state in critical situation. For example, when a player has a good opportunity to shoot towards the goal, commentator describes the state excitingly.

Debugger. In debugging mode the game can be presented both in 2D and 3D view. In 3D view user can control cameras manually and adjust the camera *zoom* and *pan* properties for desired region. In order to facilitate debugging, it's possible to draw geometrical shapes like circle and square on the field. Besides, players and ball properties can be displayed.