

Automated Commentaries for Simulated Soccer

Evaluation Summary

The project was chosen because of our keen interest in football and the range of skills and knowledge each person in the group possessed. As well as a good knowledge of the Java programming language (the language used throughout this project) we all enjoy and follow football making this an attractive and potentially challenging assignment.

The project composed of many different things across many areas and there were endless features that could have been added to our project. With time being the greatest factor we concentrated on focusing on the three main deliverables of our project, and then expanding our project further. The three deliverables were:

- Reviewing the small amount of existing work in this area
- Developing a program
- Evaluating the success of the program

To our advantage through research we found three commentating systems – Rocco, Byrne and Mike which gave us a firm understanding and knowledge on where to begin our project.

Our approach to tackling the project in terms of using an extreme programming (XP) approach was perfect as there were no real requirements or system available to base or compare our system against because this was the first time a project like this was being carried out at Kent. XP enabled us to confidently respond to changing system requirements, even late in the project life cycle. This methodology improved our team work where we all were dedicated to delivering a quality system and our project in four essential ways; communication, simplicity, feedback, and courage.

The project plan and project lifecycle with the aid of the Gantt chart allowed us to plan and prioritise different tasks on implanting our system and enabled us to keep on track allowing us to complete the project within the given deadline. As a group before the start of the project we discussed that although this is a challenging project we would like not only to stick to the deliverables required but to further extend the scope of the project, expanding into different areas of football. There were a number of additional features added to our system, some of which were two commentator voices, commentary on predictive state of play on the pitch, statistical information, GUI.

In summary we created an automatic commentary system with real-time speech synthesis for the RoboCup's Soccer Server. We described the Soccer Server that follows the play of a game, and explained how their output is combined with our system to produce a commentary using the four main functions described earlier in the report. Our system follows the ball-by-ball action with commentary scheduling allowing time for giving information on the global play of the teams. In making these global analyses, it brings to bear information from databases of previous matches and also its knowledge of teamwork and soccer.

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As discussed above our project has the capability to be further extended in more ambitious directions, however with a lack of time they have not been able to be implemented. However we have reached our goal of delivering a system that automatically generates commentaries for RoboCup games, and plays these alongside the game in real-time using speech synthesis. The success of our system shows that RoboCup is not just a robot competition – it is a challenging domain for a wide range of research areas, including those related to real-time natural language commentary generation.

Overall the group worked well and we feel that there was an equal share on the amount of work contributed towards the project by each individual.