

## **Overall Evaluation**

### **1. Introduction**

Definition of Evaluation - "To examine and judge carefully; appraise."

The aim of our project was to automatically generate commentaries for RoboCup games, and play these alongside the game in real-time using speech synthesis. The evaluation section will look at the project as a whole and review what worked well, what could have been improved and outline possible improvement areas. It will also ask the questions "Why?" and "How?". Why did some parts of the project fail, and if we went back and did it again how would we have improved it.

There are four functions that make up our system - Analysing, Output/Atmosphere, Prioritisation and Visual. Each of the functions have been evaluated individually in their own evaluation document. The following sections below give a review at each stage of the project life cycle.

### **2. Stage 1 - Preparation**

The preparation stage is in the project initiation phase, where we as a group discussed the project as a whole in relation to what we had to do, the deliverables we had to produce, our aims and objectives from the project. There were some key parts to this stage, which were needed to be completed before we could start our project. These were research, meeting minutes, communication, quality assurance procedures, risk analysis and the project plan.

#### **2.1 Research**

As one of the main project deliverables was to review the small amount of existing work in the area, we had to conduct comprehensive research. We started by finding existing systems or work that related to our project, to our advantage we found a research paper on three RoboCup simulation league commentator systems – Rocco, Bryne and Mike. They gave us a flavour of what we needed to base our project on, allowed us to use some of the existing ideas around and enabled us to compare our system against existing ones. The research papers were divided among members of the group where we analysed the papers and reported on our findings.

Research was also carried out on the actual game by the use of the internet on football rules, by watching various football games on television and playing football games. All of which gave us a good understanding of our project and aided us in developing our system.

# Automated Commentaries for Simulated Soccer

## 2.2 Meeting Minutes

Meeting minutes were an essential part of our project as they allowed us to reflect back on what was discussed and enabled us to keep track of our tasks. The meeting minutes were taken for every meeting that took place as a group and with our supervisor Colin.

## 2.3 Communcation

Communication was mostly done via e-mail, where we set up a mail server that would route e-mails regarding the project to every group member. Communication was an essential part of our project as it enabled everyone to keep in contact and notify the group of any issues, problems, findings and developments with any of the tasks.

## 2.4 Quality Assurance procedures

Quality Assurance (QA) procedures were put in place to standardise the documents and code throughout the project. Generic templates were created to aid project members in delivering their work to the same standard as stated in the procedures. The work was reviewed after completion and was either approved by the QA manager or modifications were needed to be made in order to adhere to the procedures.

## 2.5 Risk Analysis

The risk analysis was necessary to identify threats facing the project and determining how to cope with such eventualities. As a group we listed all the major risks that we could think would seriously affect the project and drew up actions that would have to be taken should one of the risks occur.

## 2.6 Project plan

The project plan was created to help us keep on track with the project. All the stages from the initiation of the project till completion were taken into account and given a deadline of completion. This helped us to prioritise and organise various tasks and allowed us to keep on top of the project to meet the deadline. There were three documents that were created to help us plan our project, the initial project plan detailing various areas of the project and the tasks, project lifecycle detailing the various stages in the project and a Gantt chart to represent a visual representation of the task with their associated time of completion.

## 3. Stage 2 – Inception

The inception stage is in the pre-design phase, where we as a group discussed the requirements of our system against the deliverables, drew up requirements

## Automated Commentaries for Simulated Soccer

for our system in terms of technical and non-technical and created prototypes of our system.

### 4. Stage 3 – Elaboration

The elaboration stage is in the design phase, where we as a group discussed how we were going to tackle the project and came up with four main functions that the system will be based around. The work was divided equally between the group members. UML diagrams, use case diagrams and sequence diagrams were also created, they helped us in understanding each of the functions and how they were interlinked to each other which was very useful when writing the code and debugging our system.

### 5. Stage 4 – Construction

The construction stage is in the development phase, where we as a group discussed to carry out an eXtreme Programming (XP) approach to code our system. The system was divided into four main functions - Analysing, Output/Atmosphere, Prioritisation and Visual, where each member of the group was allocated a specific function of the system. A thorough evaluation of each function is detailed in a separate document.

### 6. Stage 5 – Testing

The testing stage of our project involved carrying out unit testing on each of the versions of code we produced, where details were given of why and what was being tested. The test cases were created and executed, and a report was generated on whether the test passed or failed.

The unit testing was conducted as a white box testing approach where we had to execute the test cases and report on the visual output to determine if the test passed or failed. A black box testing approach was also used on the remainder of the versions of code which could not be tested by visual output, where automated testing was performed on the code.

Acceptance testing was conducted on the final version of our system where a random selection of users had to evaluate on our system by watching a game for 10 minutes and with the means of a questionnaire they reported to us feedback on our system.

### 7. Stage 6 – Transition

The transition stage of our project involved showing our supervisor, Colin demos of the system when a major version of our system was created. This enabled us to gain feedback and make constructive improvements on our system and also allowed Colin to know about the progress we were making with the project.

## Automated Commentaries for Simulated Soccer

A user guide was created for any user to follow simple and clear instructions on how to run and use our system. To comply with the deliverables we created a CD-Rom with auto-execution to run our system on any machine.

### 8. Stage 7 – Reflection

The reflection stage was where we as a group discussed way in which we will evaluate on our system, tasks were divided amongst ourselves and completed. The technical report also contains reflection on the main functions with particular focus on the problems/outcomes and future developments sections.

An overall individual reflection on the project as a whole is also required as one of the deliverables of our project.

### 9. Conclusion

In conclusion we have tried to evaluate the whole project in terms of going through each stage in the project life cycle detailing what we the steps we took to complete each one. A thorough evaluation of the each of the main functions that make up our system have been evaluated in a separate document.