# Automated Commentaries for Simulated Soccer

# CommentTemplateStore Class

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# Sign-off sheet

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## 1. Introduction

This class is essentially a database of comment templates created as Comment objects (see document: comment0.1). It neatly houses all comment templates, so any changes can be made here.

### 1.1 Overview

The CommentTemplateStore (CTS) provides methods to initialise all comment templates, and methods to return each type of template for mark-up with variables, and/or passing to the speech engine.

Comment templates are defined into groups representing the type of game event they relate to. For example, there are a number of goal comments that can be accessed by getTouchedGoalComment() or getUntouchedGoalComment(), depending if the keeper got a hand to the ball before the goal was scored.

There are comment groups to describe all game events possible in the system e.g. passes, free kick, dribbling, game start, game wins, shots, etc, and methods defined by game event type to return a comment of that type e.g. getPossessionLostComment() and getPassComment.

### 1.2 CommentTemplateStore (CTS)

Comments describing infrequent game events do not rotate – a call to the CTS will always return exactly the same Comment object as it only contains one instance that represents this type of game event. Each time the system determines this comment is to be spoken, it will pass the same string to the audio output for processing.

The more frequent comments are rotational – a call to the CTS will return one of a number of different comment instances (in a random fashion) that represent this type of game event. The majority of comment groups are of this type and as a result the commentary produced by the system is richer and more lifelike.

In either case, this is invisible to the programmer – a method call to the CTS, such as getMatchStartComment(), or getMissedShotComment() will return a comment of the required type.

## 2. Evaluation

This class has been updated continually over the course of the project. Originally, all comments were hard coded into the GameAnalyser class. This was necessary for the first few code iterations to produce a basic commentary whilst only a few game events had been defined. Once work was underway on the CommentaryProducer class, the hard coded comments were moved

from the GameAnalyser into the CommentaryProducer and then finally, the CTS was created to maintain good object orientation principles.

In addition, many alterations to the Comment objects stored in the CTS were necessary over the course of the project. As the GameAnalyser increased in complexity, it was able to pass more details to the CommentaryProducer, such as player numbers, distance a pass had travelled or the number of goals a player had scored. This in turn led to changes of each comment stored in the CTS, and the Comment class itself, to allow the CommentaryProducer to insert these variables at the appropriate point within the string parts of the comment (see document: comment0.1).

The framework that allows comments to rotate has been implemented to be as flexible as possible. To add further comments to a given group, one only needs to create the comment in the initialise<event type> method for that group and then add the newly created comment to the ArrayList for that group. It makes no difference whether 2 or 200 comments exist for any given group – the code has no maximum limit and requires no other changes.

The CTS is extensive enough to provide a rich commentary for a football game without frequent repetition. It also encapsulates most of the game event comments into a single class, allowing any changes or additions to be made in one place.

Future developments would include rotating all comments, however infrequent, to add even more variety, and adding even more comments to extend the period until comments are repeated.