

# Delta3D 2006 3D Development Team Description

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**Abstract.** This paper describes the main features of the Delta3D soccer 3D development team that is going to take part in RoboCup competitions this year. These include Delta3D ideas and works on development of new tools that they make it possible to be used by vast number of users. We implemented our tools in three categories: Log2Swf that converts monitor log files to SWF files, 3D monitor that shows monitor log files with many new features and Log Analyzer that opens monitor log files and gives much useful information about game.

## 1 Introduction

3D development competition is a new part of RoboCup 3D soccer simulation league. In this year our development team decided to work on some new ideas. We divided our ideas in 3 parts:

- Log2Swf
- 3D Monitor
- Log Analyzer

These ideas started when we want to show games (monitor log files) in other OS such as windows, so we decided to make a program that can be run from windows, this software is 3D monitor and we also made a software for converting monitor log files to SWF files that can be represent in all browsers in most of platforms called Log2Swf , And other ideas were started after that we want to analyze our team further we created a software for analyzing our team that described in following but all parts is not completed yet. All parts of our works describes in three parts. First we describes about tool and then about current features of tool and at last about all things that we want to add later.

## 2 Log2Swf

The SWF graphic file format is a version of the Macromedia Flash Player vector-based graphics format introduced in 1997. The SWF file format is ideal for presenting vector-based interactive and animated graphics with sound for the Web. Vector im-

ages are ideal for graphics with solid areas of color and distinct object definitions. Because a SWF file is vector-based, its graphics are scalable and play back smoothly on any screen size and across multiple platforms. A vector animation usually has a smaller file size than a bitmap animation.

The idea for this tool that convert monitor log files to SWF files grew out from problems in log files such as large size, hard to be understood and need `rcssmonitor_lite` tool to be viewed graphically. By converting log files to SWF files we can have all features of SWF files like small size, cross platform, etc. Macromedia flash players and its plugins for browsers cannot seek movie. You can download Advanced Flash Player that programmed by member of our team that contains many features. It can be downloaded from <http://www.mohsoft.com>

### **2.1 Current features:**

1. Convert all log file or some parts of it by setting start time and end time.
2. Setting frame rate to change speed of play.
3. Compress movie that compress flash files and reduce size of file.

### **2.2 Future features:**

1. Batch converts.
2. Integrate with Log Analyzer

## **3 3D Monitor**

Current monitor of Robocup Soccer 3D is not containing many features. We decided to make a new monitor with many features that help us to improve our soccer team. So we programmed a new monitor that contains some new features and we want to add some others later. This can help us in two ways:

1- It is very important for our team in this year to have a test platform to test new planning algorithms and learning algorithms so we needed a new controllable monitor.

2- In order to analyze previous log files we needed a tool that can shows log files with forward and backward options and other features.

### **3.1 Current features:**

1. Open log files and view them in 3D.
2. Connect to rcsoccer server and show game online.
3. Change position of players and ball in online mode.
4. Save states of game and load it in online mode.

## **2.2 Future features:**

1. Move forward, backward and play log files from any time.
2. More camera positions and movements.
3. Show communications of players.

## **4 Log Analyzer**

This part of our team work in this year is quite similar to last year. Unfortunately we lost our last year source codes and we had to rewrite them again. Log analyzer loads monitor log file and gives some information like count of passes or percent of ball ownership of each team and etc. that are very useful for ranking teams.

### **4.1 Current features:**

1. Analyzing whole game and showing team names, scores, correct passes, wrong passes, outs, number of offside, shoots, maximum sequence passes, ball ownership of players.
2. Viewing movement area of players in field during game.
3. Viewing ball percents in field during game.

### **4.2 Future features:**

1. Keeping analyzed games in a database and shows improvement of teams.
2. Ranking teams by processing all analyzed games.
3. Grouping teams for champions.
4. Viewing defense, middle, attack power of teams.

## **5 Future Works**

We plan to add new features to our tools and complete all works as an integrated tool. Some other future plans are:

- Adding export monitor log files to VRML97 that let log files are viewed in any platform in real 3D.
- Transporting our works in native C++ codes to create cross-platform application with same features.