RefBox 2016

Towards a benchmarking solution

IRIS Lab

Institute of Electronics and Telematics Engineering of Aveiro

Universidade de Aveiro
Portugal

*This work was partially supported by RCF

Summary

- Motivation
  Objectives
  System Architecture
  Control Interface
  Teams World State
  Audience Data Show
  Referee Data Show
  On going and Future Work

Motivation

- Rules have been changing over the past few years
- RefBox has been stable but has not evolved together with the rules
- Need for a inter team cooperation has been emerging
- Requirements for:
    - Better debugging tools
    - Information from both teams during the game
    - More realistic info for the audience
    - Effective benchmarking tools

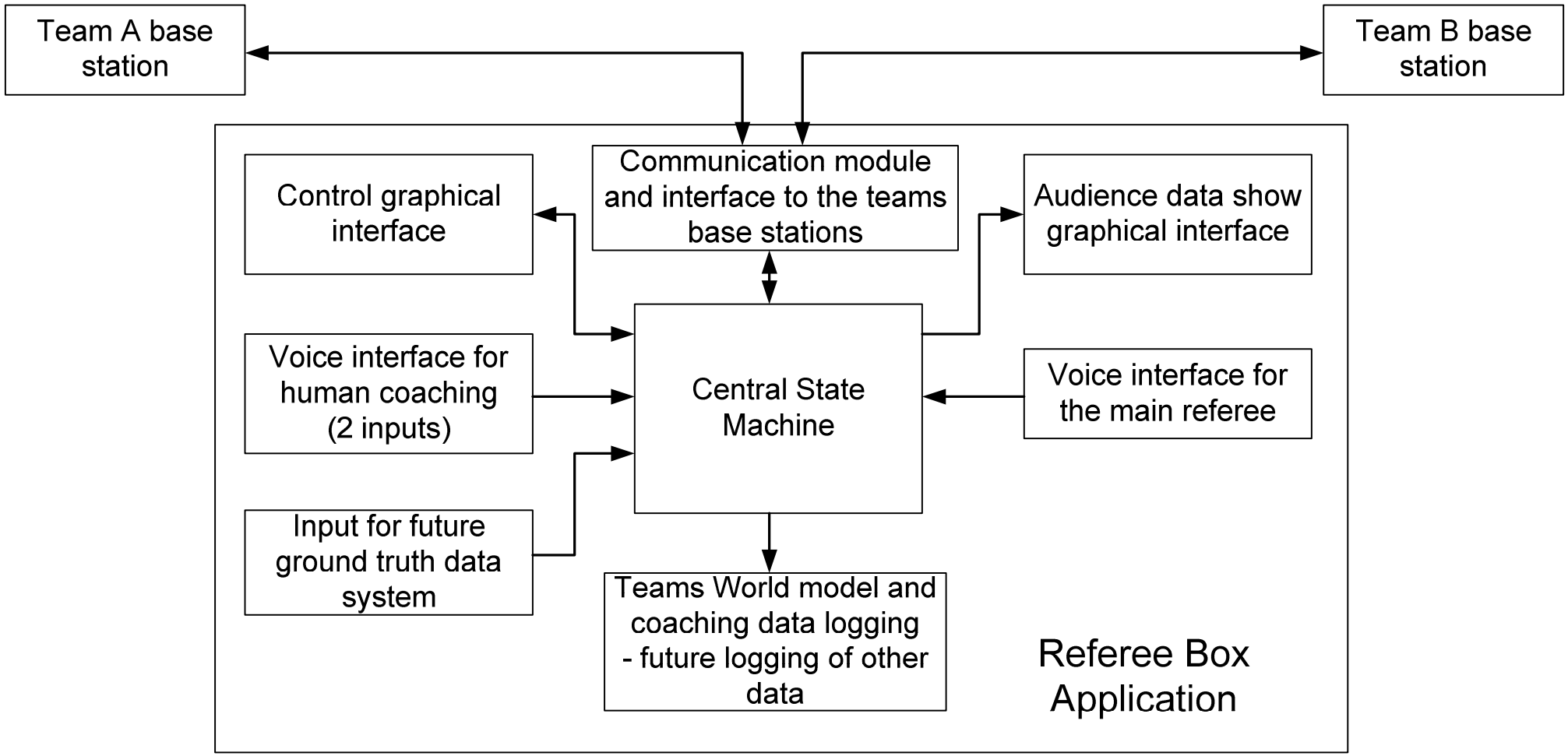
Objectives

- Create a platform independent application, written in Java.
- Support for fast action modes with interlock capabilities, depending on the game status,
- Prevent (as much as possible) human errors by the assistant referee
- Extension of the currently used protocol

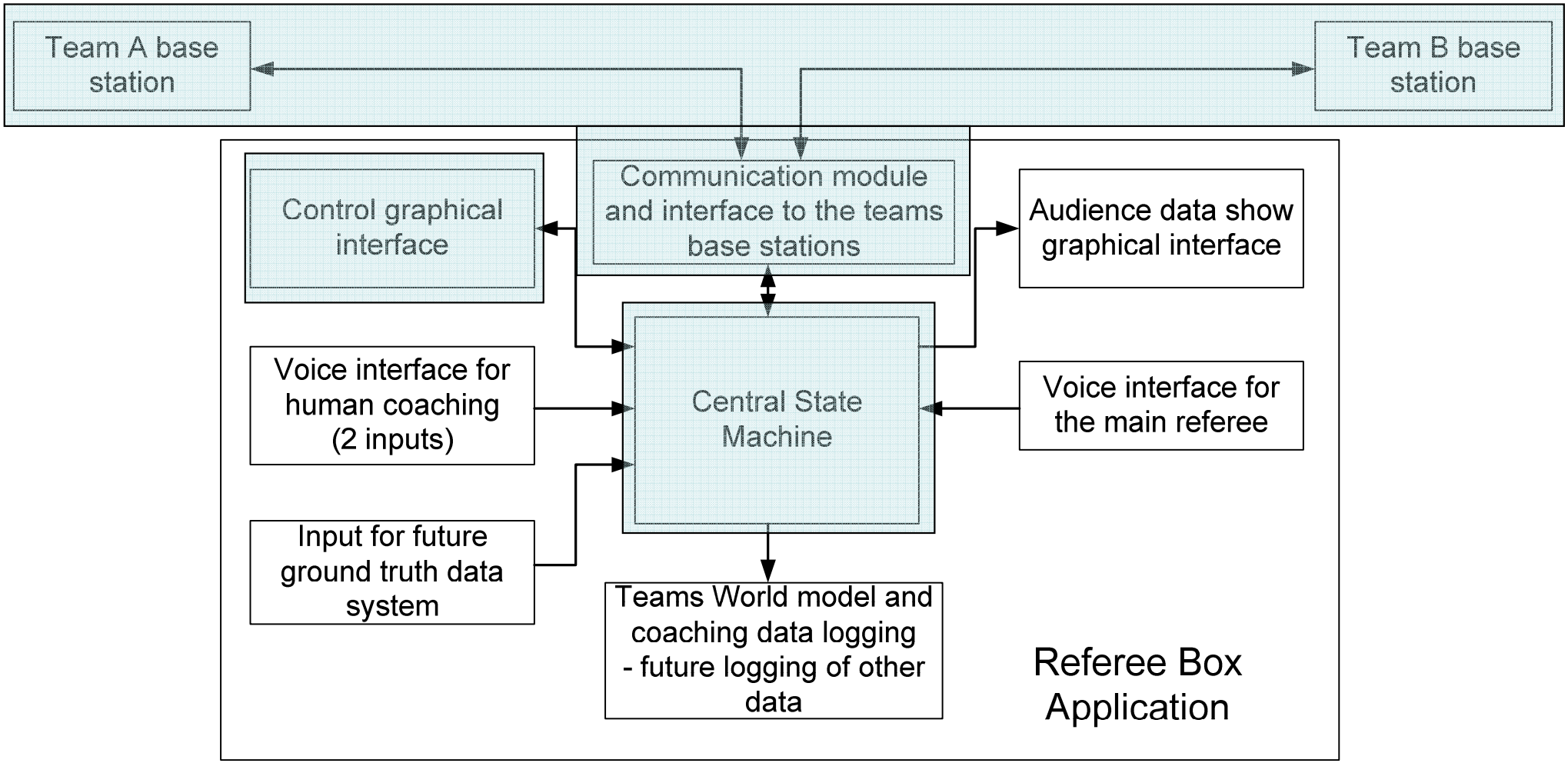
Objectives

- Extensive log data
- Easy configuration
- Remote audience data show and field referee data show
- Ready for voice interface for human coaching
- Teams world model gather and logging.
- Fully configurable and open source.

System Architecture

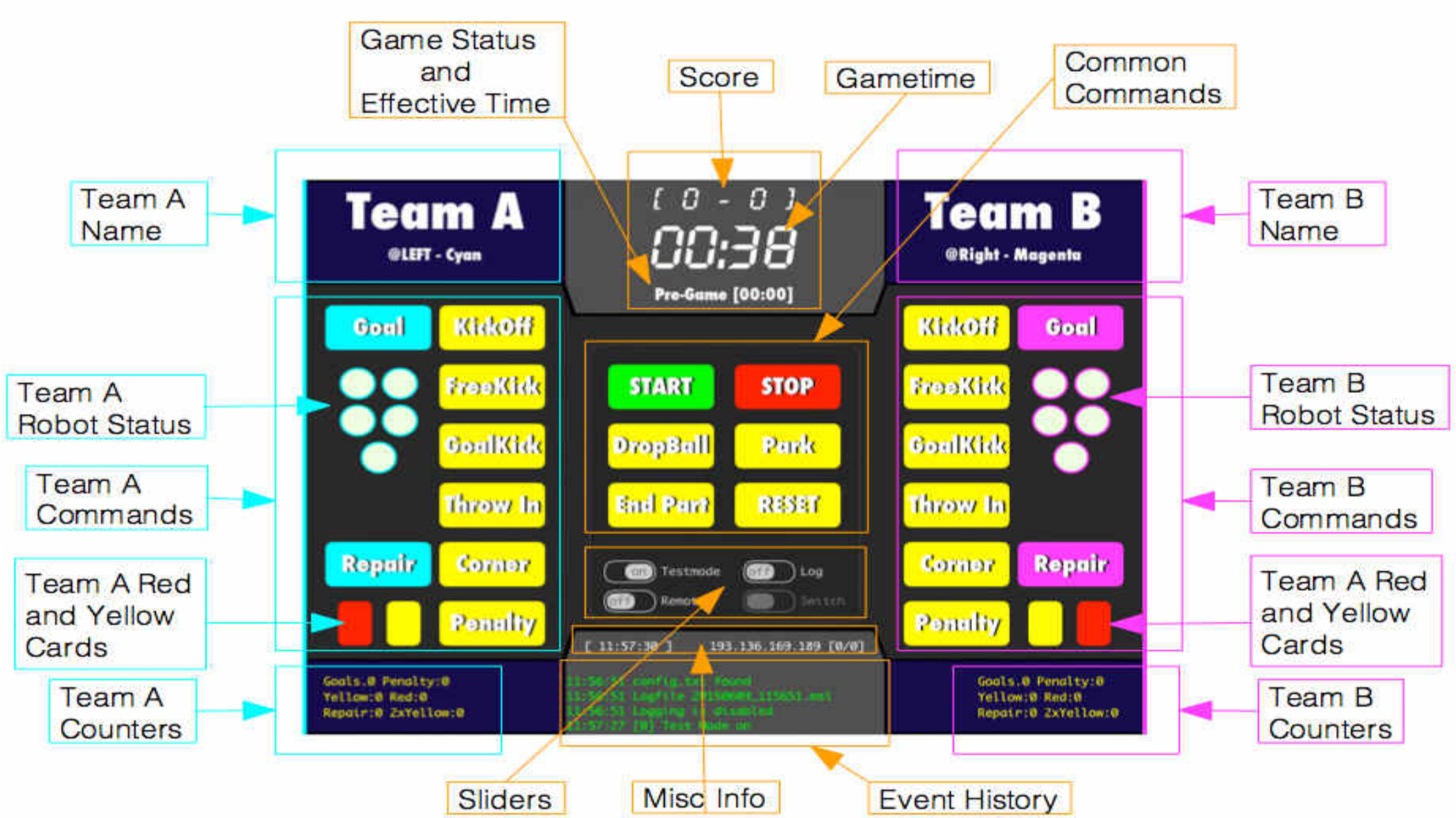


System Architecture

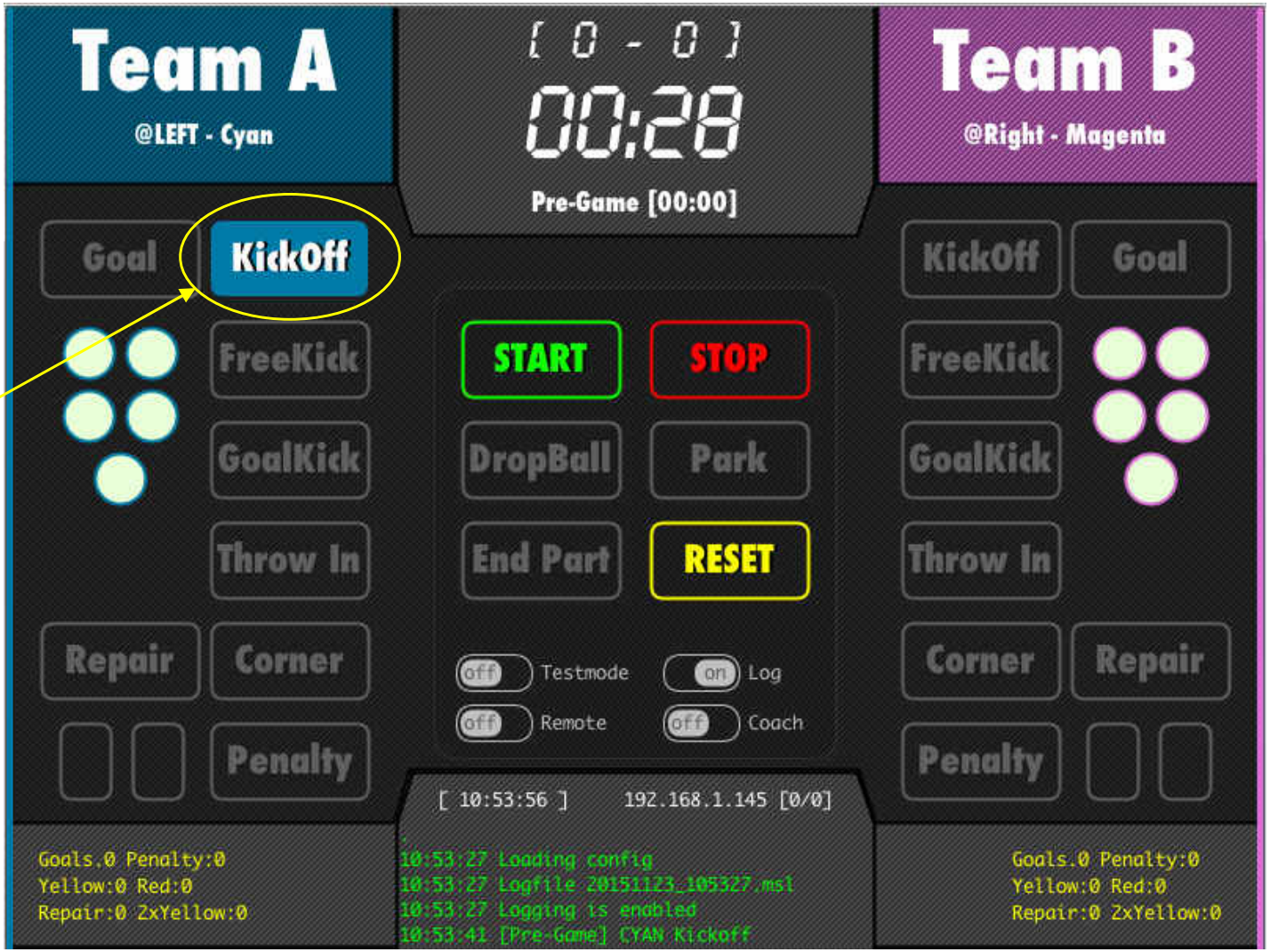


Control Interface

Control Interface



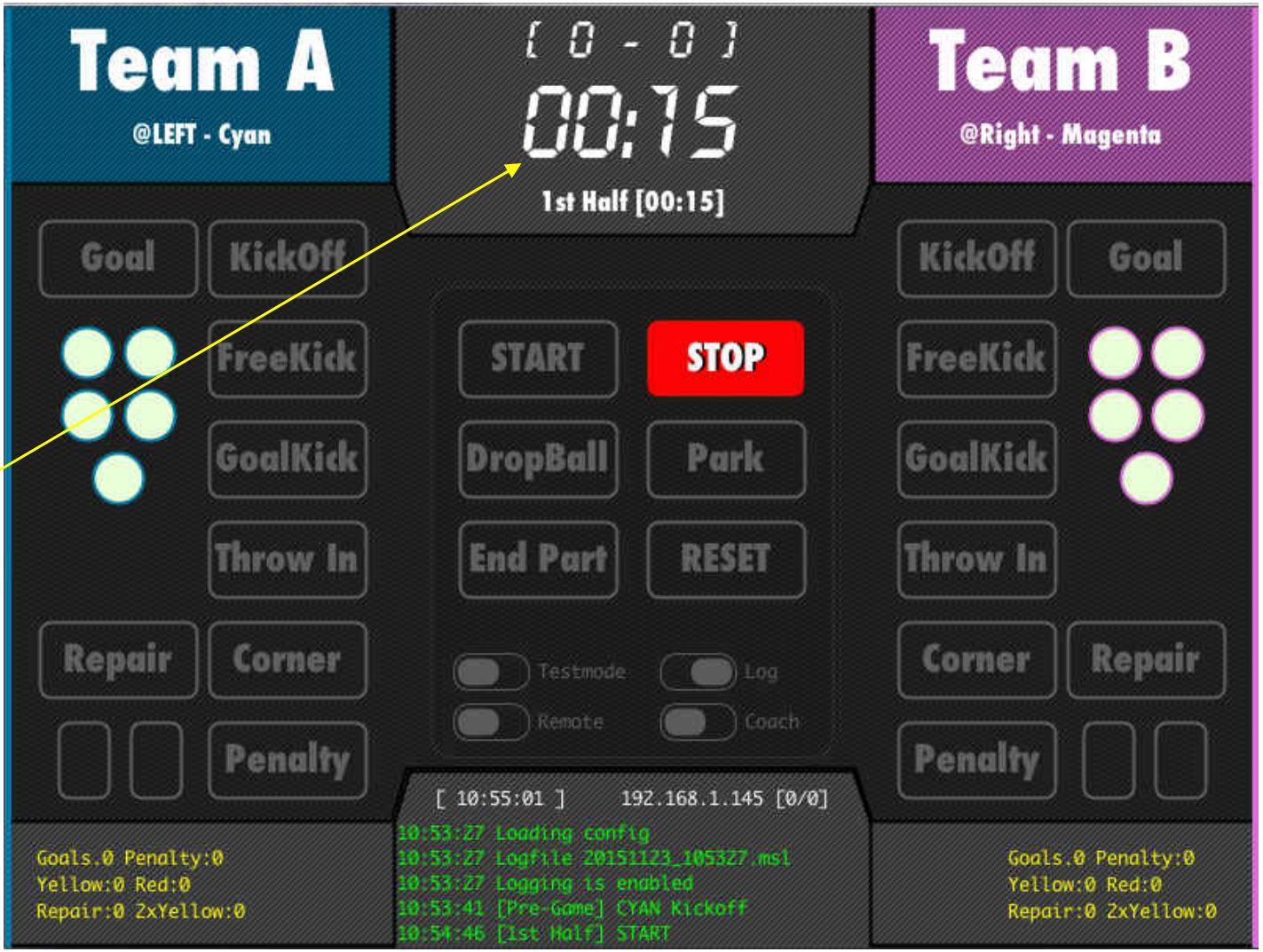
Control Interface



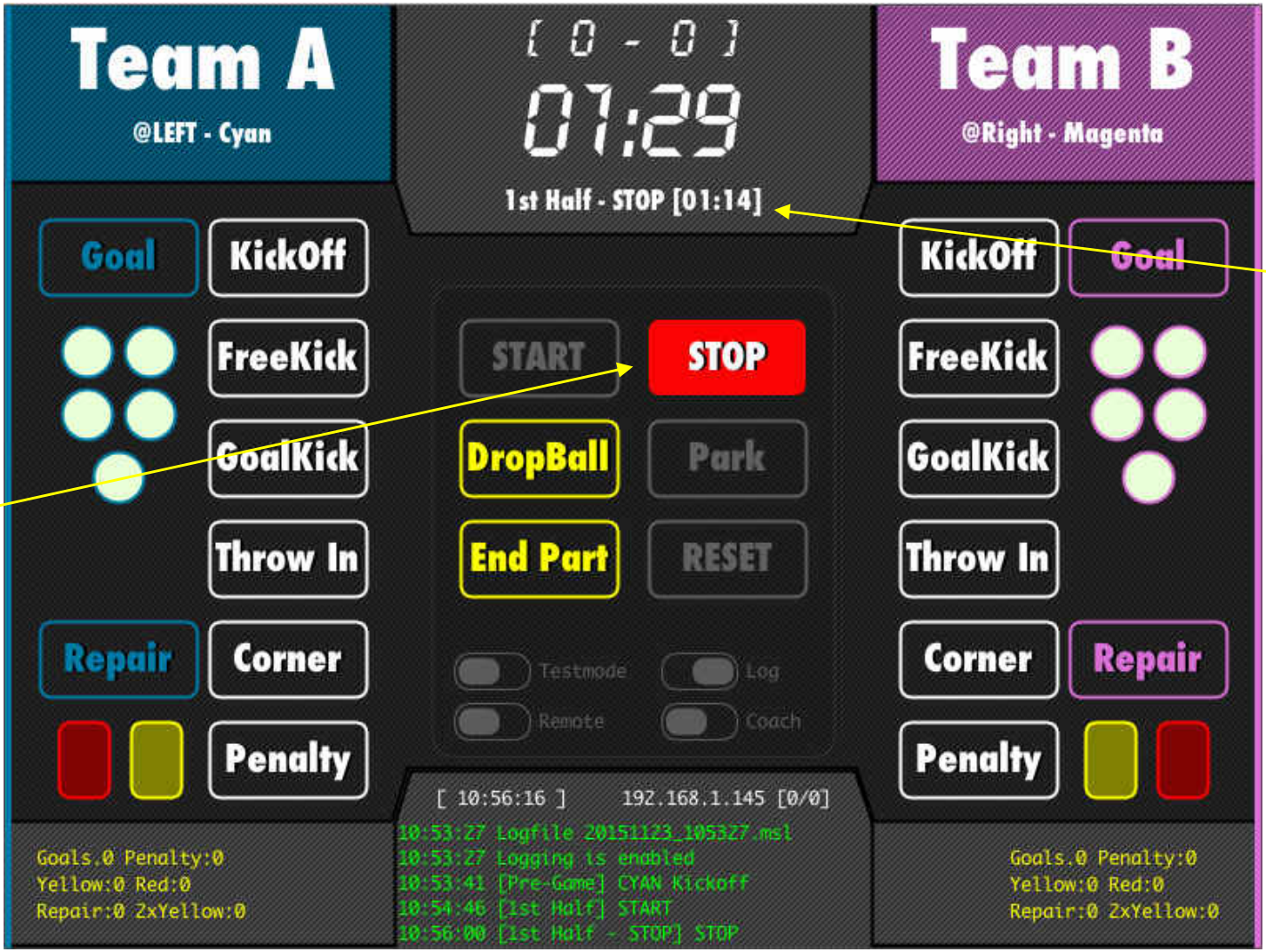
KickOff for Cyan

Control Interface

Play ON



Control Interface



Effective game time

Game Stoped

Control Interface

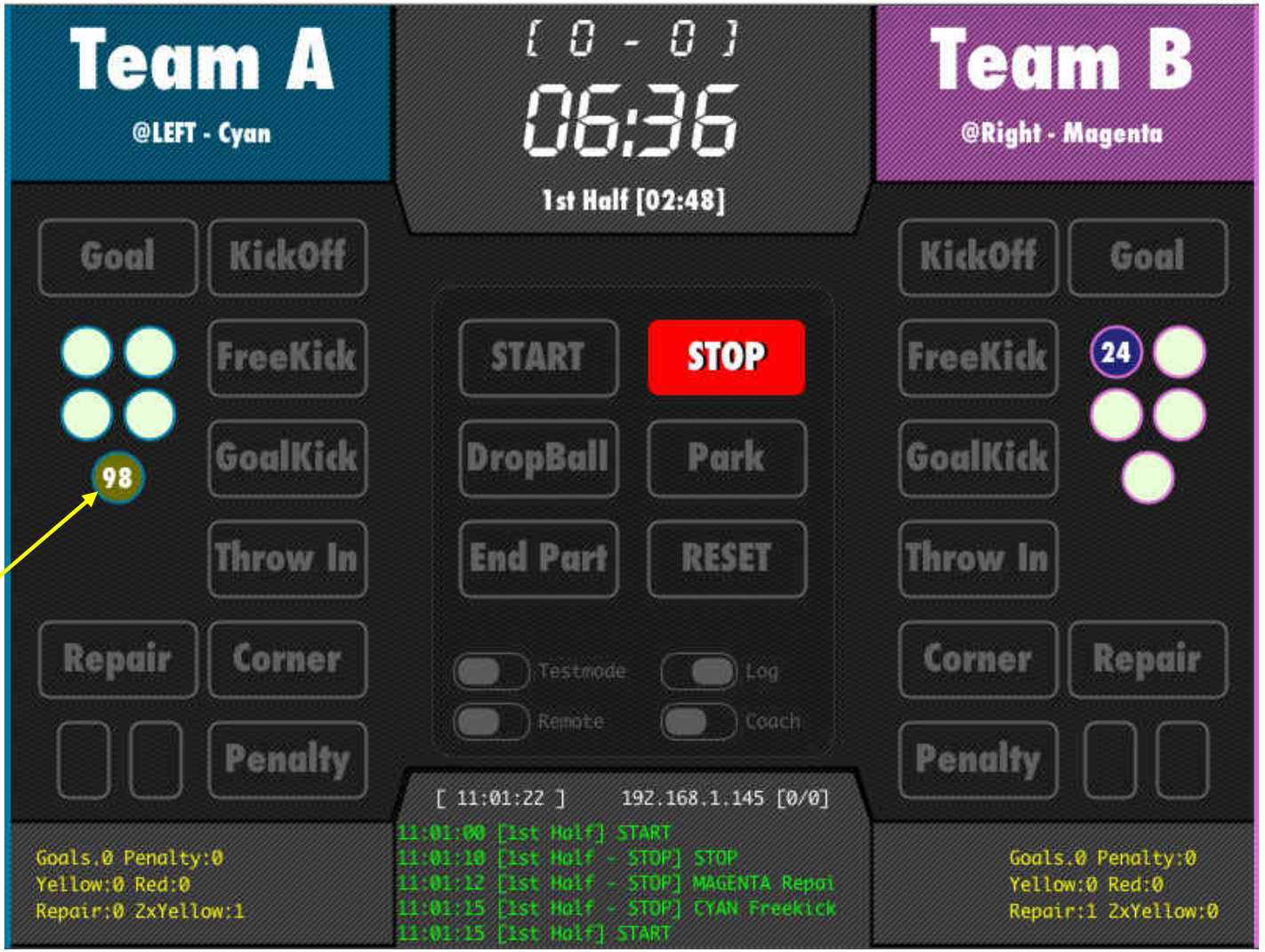
Yellow card given

Player out. 26 seconds remaining

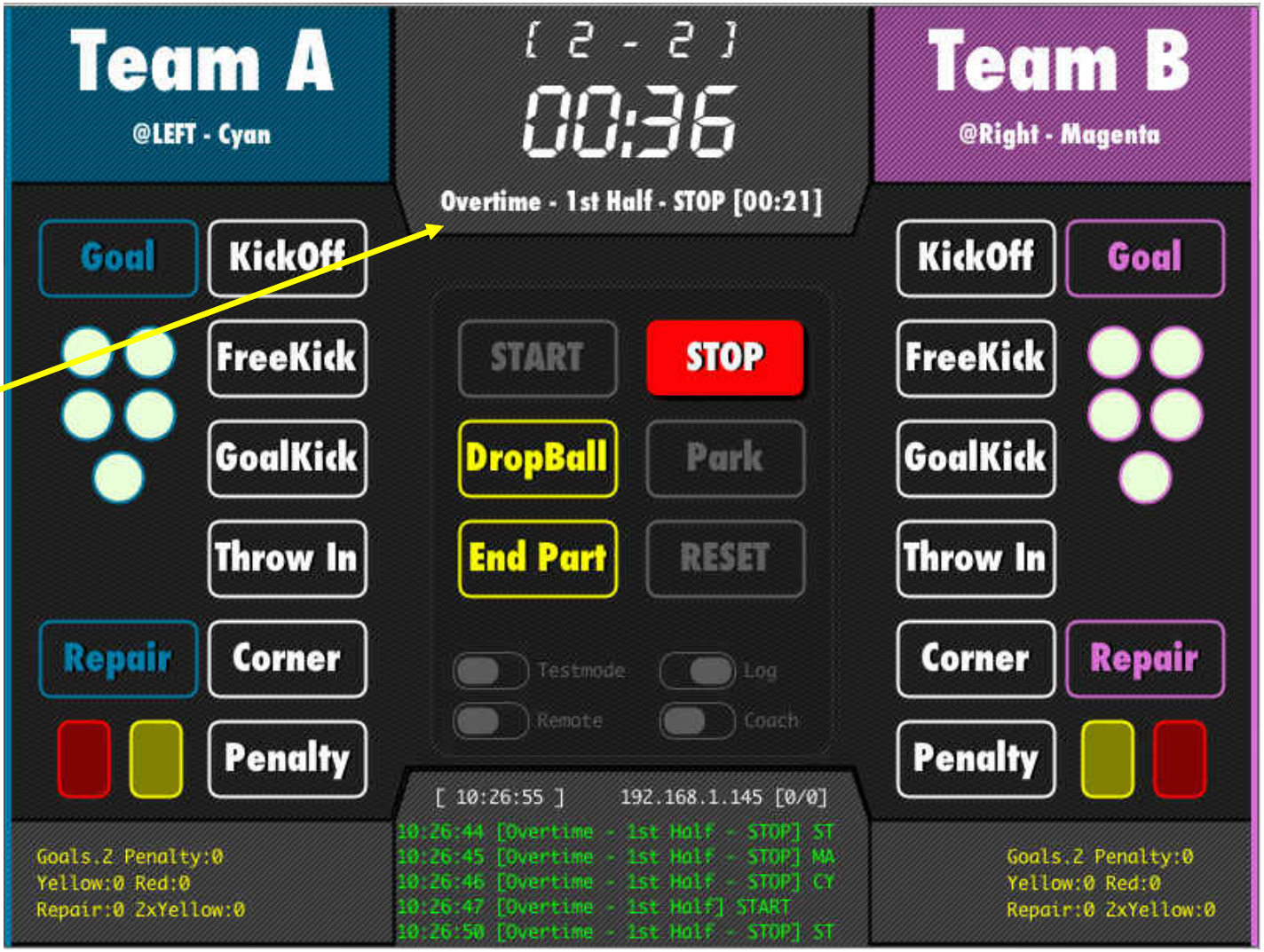
Control Interface

Second yellow card

Player out for more 98 seconds



Control Interface

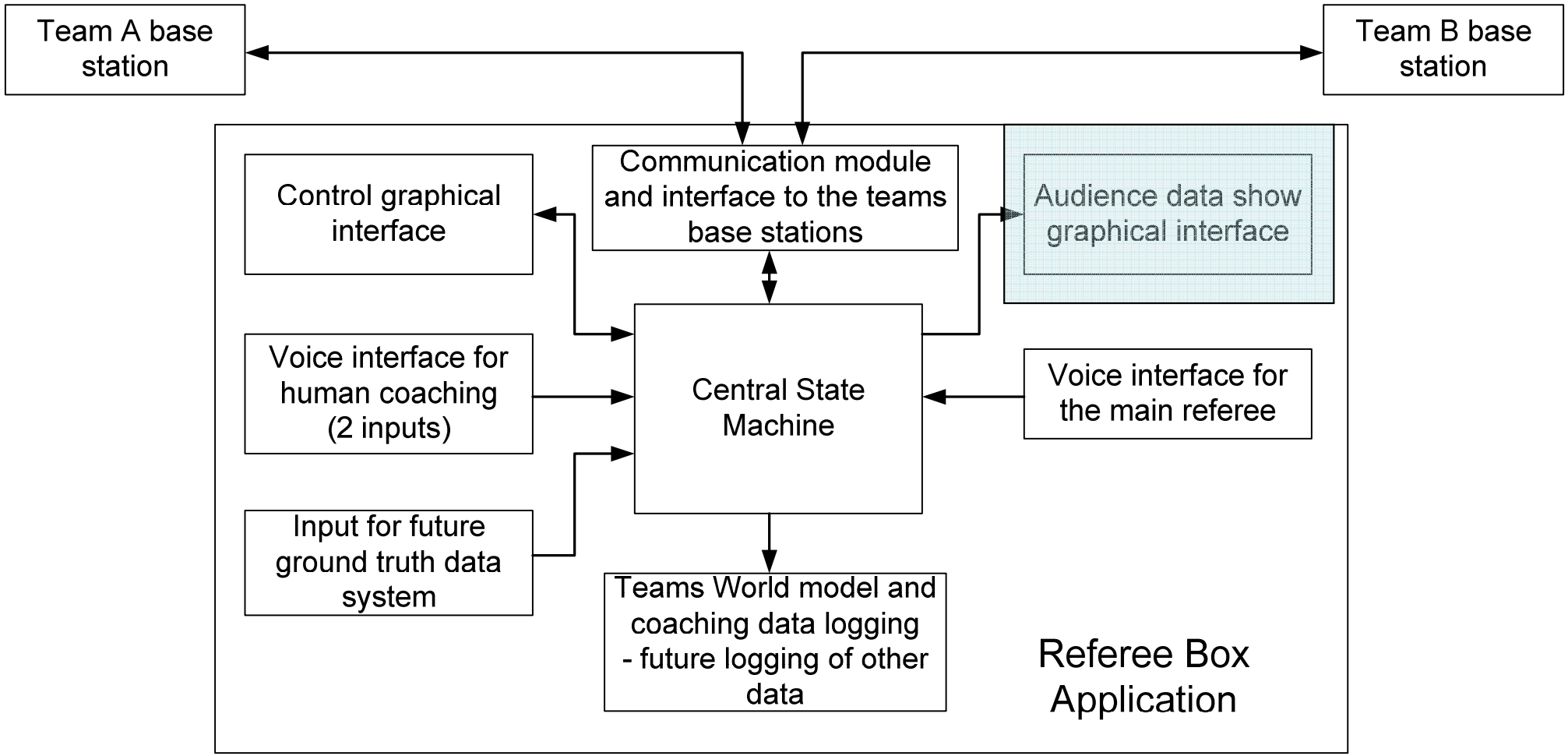


Overtime after a draw

Teams World State

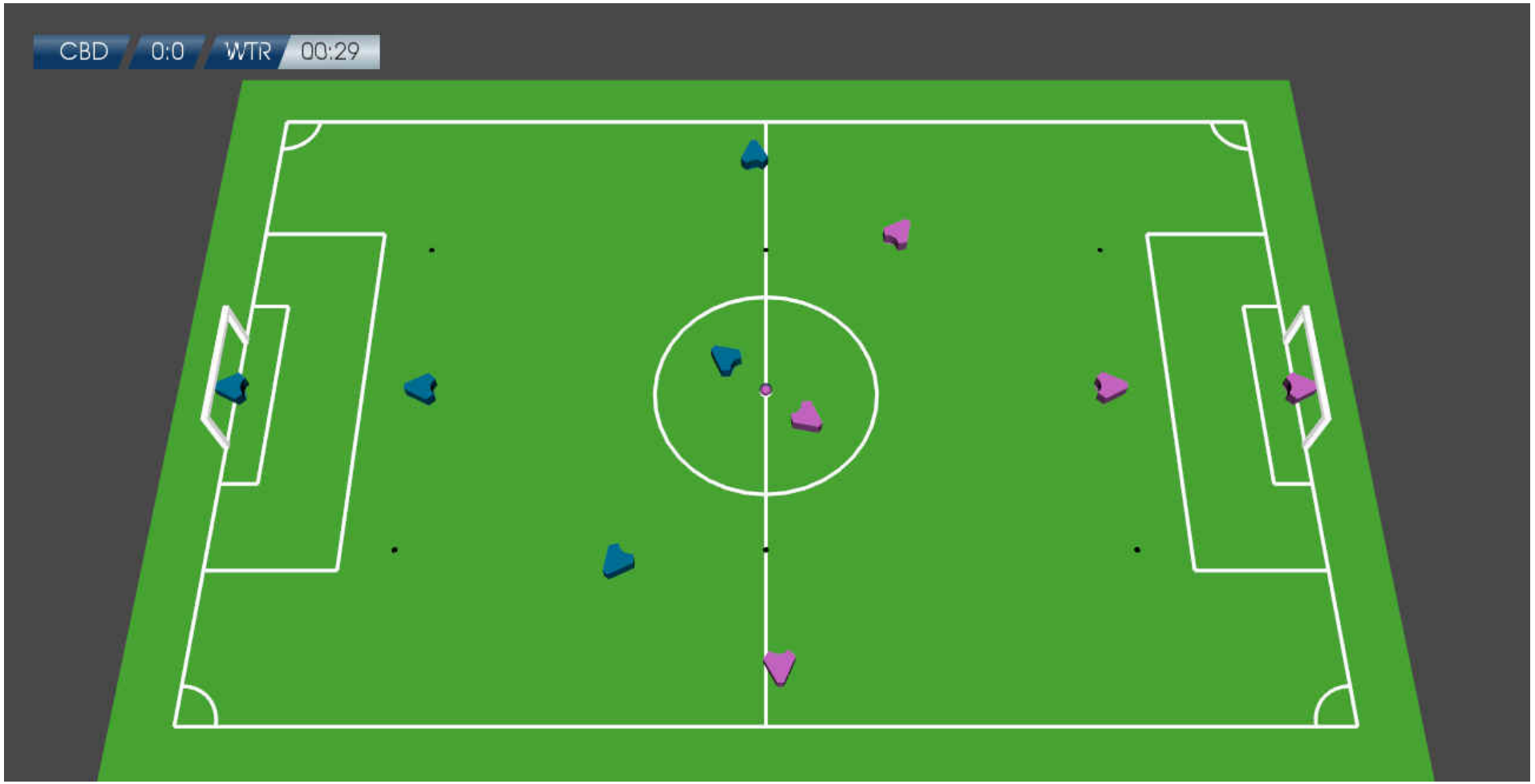
- During game, teams World State is requested on a periodic base
- This information is relayed to local storage and to the audience data show
- Information regarding all the states of the game is also stored
- All these information is deployed to both teams at the end of the game

Audience Data Show



Audience Data Show

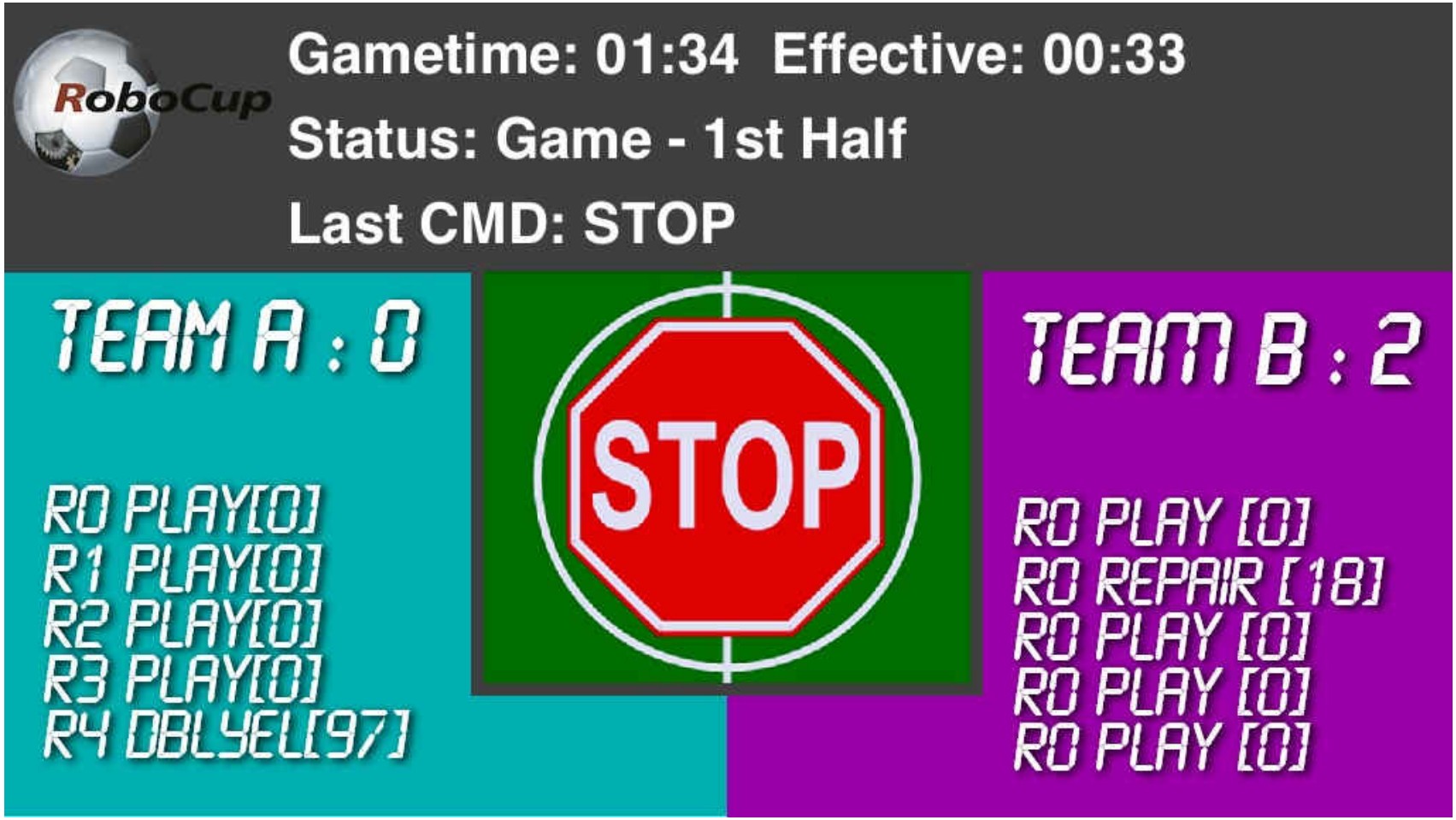
Players shown according to their World State information



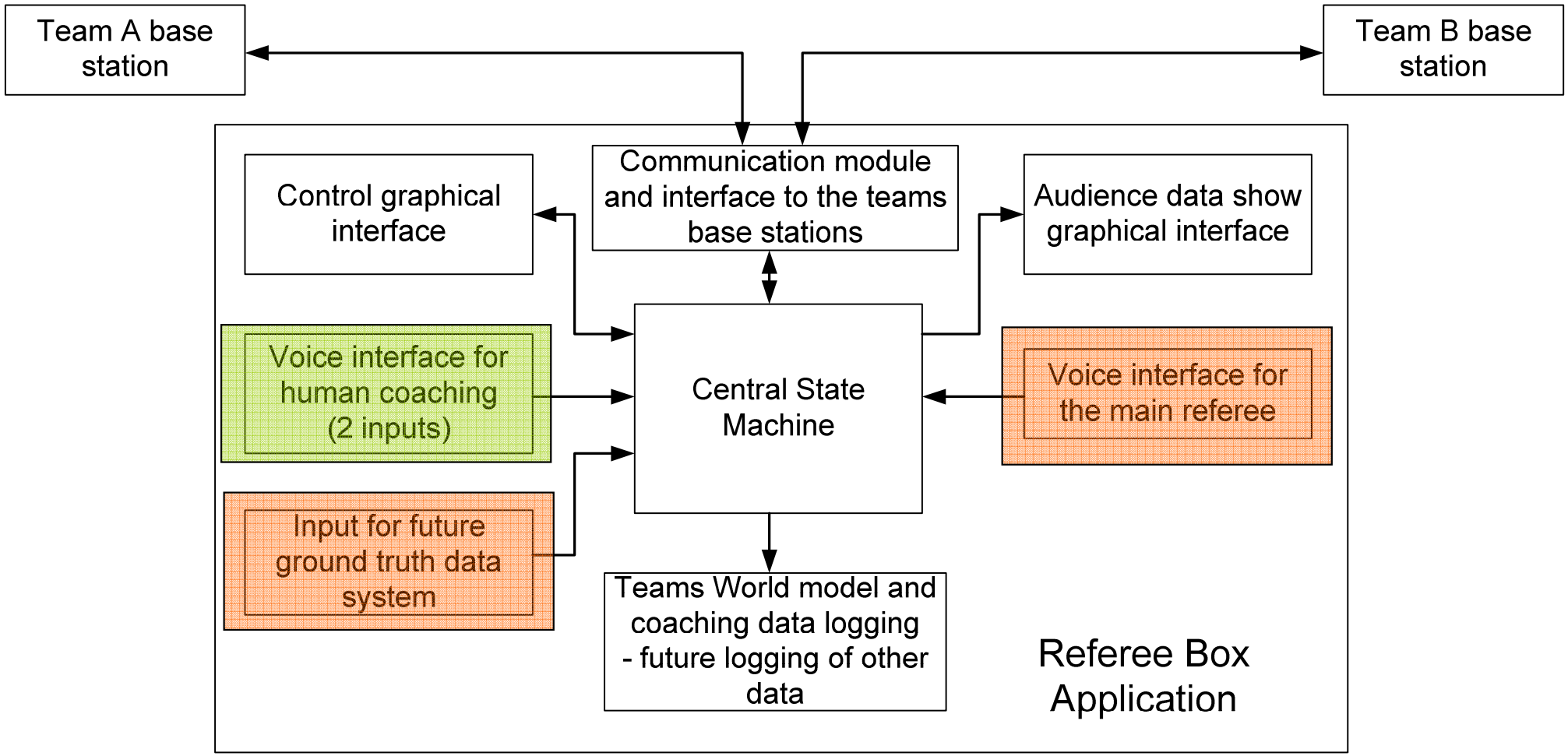
Audience Data Show

Game status shown according to RefBox data

Main referee Data Show



On going and future Work



On going and future Work

Thank you!