

SPORT ANALYTICAL AND GRAPHICAL SYSTEM

The new analytical football tools prepare instantaneous statistical and analytical information about current events. It offers audiences to have own analysis and enjoy events more than before. These technologies are based on image processing, machine vision and computer graphic systems.

Sport Analytical and Graphical System is a perfect solution to virtually add some realistic looking 3D overlays to the final TV program streams of a football match such overlays that can visualize the tactics of teams, positioning of players, critical referee decisions, analysis of important moments of match such as goals and free kicks.



« Sport Analytical and Graphical System »

In addition to 3D overlays, Sport Analytical and Graphical System is supported by a rich database of statistics for players and teams to generate CG for live broadcast.

Sport Analytical and Graphical System is based on two powerful engines:

1) Machine vision engine that performs image-based calibration tracking to extract the parameters of broadcast camera (pan, tilt, zoom and position), tracks players

and extracts Chroma key of the field;
2) Rendering engine that provides augmented reality for 3D overlays, generates and renders graphics and virtual advertisements with tied-to-field view.

« Features »

- Generating attractive videos for television broadcasting by overlaying analytical graphics
- Providing content for second screen services based on OTT and IPTV platforms
- Providing content for sport programs
- Creating income by adding virtual advertisement on the football pitch



Creating Virtual Advertisements

The Persian language requires complex pre-processing tasks to provide a unified format to support all its different writing styles that include using or eliminating spaces within or between words, writing words with different spellings, transliterations, Unicode ambiguities and so forth.



Generating Analytical Graphics

The broadcast television program stream is fed to the system and a graphic inserted video stream (e.g. offside line, players marking and etc.) is generated. The user can easily access the sequence of video frames and add desired graphical information at any point of the pitch. The graphic inserted video could be previewed and edited. Some of the system features are as follows:

- Virtual score board
- Distance to the goal
- Free kick circle
- Beam on player
- Lines and arrows
- Magnifying capability
- Graphical data view
- Defense and attack arrangement
- Players list
- Offside line
- Throw-in arrow
- Player indicator
- Player indicator
- Player track
- Hatching an area
- Player marking



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