

# Tracking Data and Tactical Diagrams in Football

Bachelor Thesis Topic – Social Networks Lab

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**Background:** In association football (soccer), coaches routinely visualize their instructions on tactics boards. Whiteboards with magnets and markers are ubiquitous, and apps on tablets or touchscreens increasingly common. The latter may even include repositories of training exercises and animations of set piece routines.

**Goal:** Develop and implement an interactive system to review, create, annotate, and manipulate static and dynamic tactical diagrams.

**Approach:** After a thorough review of existing systems and literature, specify a list of requirements as the basis for the rest of the project.

Minimum capabilities include the integration of tracking and event data, integration of video footage, static and dynamic tactical diagrams, and their manipulation with annotations such as highlighting, area marking, zoning, runs, defensive lines, and shapes. Likely milestones:

1. list of system requirements
2. visual language design and conventions
3. creation of diagrams from match data
4. annotation of diagrams
5. interactive creation of diagrams

Video annotation and multi-touch interactions are considered beyond the scope of this thesis, as are training setups and predictive tools to evaluate game states.

**Outcome:** A written thesis that is self-contained and consist of (at least) an introduction, a review of relevant literature, a detailed description of the approach and its realization, an empirical evaluation, and a conclusion.

Any implementations used to obtain results or carry out experiments are to be made available upon completion of the thesis for verification and replication.

Shortly after handing in the thesis, an oral presentation of its main results should be given.