# Project proposal and planning

## Problem definition

Currently in football the technical staff don’t have the technology to help them analyze their team performance.

## Feasibility study

Q1. What specific problem or need does this project address? Is there a demand for a solution like this in the local market (or target audience)?

In football the technical staff need accurate data of their players so they know where their weaknesses are so they can improve in these areas. The other problem is technical analysis, usually teams face problems in understanding the opponent's tactics, so this program is going to help them understand their tactics and improve their performance.

Our targeted audience is the people who are in love with football matches and like to watch football matches online. There is a big demand in these type of projects in the market and when we presented our project in the “Wyndham Hotel” with our school there was a German who liked our project and told us that he would like to contribute in our program to analyze the. With the rise of technology in sports, there is a significant demand for innovative solutions that can provide real time data and analytics.

Q2. What are the essential resources (materials, skills, equipment, time) required for this project?

For this project we will need computing hardware like computers to process and analyze data. And software like GitHub and VScode to write our code and run it in there. The skills that are needed to get this project done are data analysis, programming languages such as python, and Knowledge of computer vision techniques to track player and ball movements. Time to develop and test the system is approximately 4 weeks. To ensure continuous improvement, we will regularly refine the system based on feedback and evolving requirements.

Q3. What are the potential benefits of this project for the end-users?

There three main categories that will benefit from this project. They are coaches, players, and fans. First of all for coaches they can get detailed analytics that can help them in identifying their teams strengths and weaknesses that can lead to improved training and performance.

For players it will help them in personal development as players will get detailed feedback on their performance from their coaches, helping them to improve specific skills.

For fans they will get a deeper understanding of the game through detailed statistics and insights and they will get enhanced viewing experience with real time data and analytics.

### Problem research

We went online and observed that there aren’t many projects like this and if there are, they are way too expensive for small leagues. So, as IT students we thought we should make a project that can analyze football matches and help small clubs become more efficient.

### Project scope

We aim to support small clubs in enhancing their team performance by providing comprehensive analysis of key metrics, including monitoring and evaluating players' speed, tracking the total distance each player covers during a match, analyzing players' positioning on the field to optimize strategies, calculating the percentage of possession for each team to understand control dynamics, and assessing the positions of referees to ensure fair play and decision-making. We are going to help small clubs in analyzing their teams performance by analyzing the players speed, their top speed, the distance they covered, their positioning, the percentage of possession of each team and the referees positions.