#### Project 1: Jumpers for Goalposts

A local football league requires an application to help them manage the next football season. Their current paper-based system is no longer viable, so they would like a software system capable of replacing it. The desired functionality of the system has been broken down into complexity tiers. It is up to students to attempt to deliver as much functionality as they can.

*Basic requirements:*

* The application must have a Java Swing-based GUI.
* The application must represent at least three types of individual – players, coaching staff and referees. Record appropriate details for these individuals as appropriate such as position (GK, DF, MF, FW), preferred formation (e.g. 4-4-2), pay (if any in £), their employment status in the team (full-time vs part-time)
* The application must allow users to create and delete teams. Team must have a home ground with a capacity.
* The application must allow users to create and delete players.
* The application must allow users to add players to teams.
* The application must allow users to remove players from teams.
* The application must allow users to create and delete other types of people, e.g., managers and referees.
* The application must allow users to record results. For each match it shall record the week it was played, the home and away teams, goal-scorers, players, positions they played, substitutions and cards handed out.
* The application must display the league table.

*Intermediate Requirements:*

* The application must auto-compute statistics for the league, e.g. top goal scorer, number of goals scored, number of assists, number of cards.
* The application must auto-compute statistics for a team – top-goal scorer, top assists, clean sheets.
* The application must display match details.
* The application must allow users to view player profiles (goals scored etc).
* All data input to the application must be saved to an appropriate file. Data is always saved when exiting the application.

*Advanced Requirements:*

* The application must be able to load league data from an appropriate file.
* The application must have a search facility, allowing users to search by name or role.

Assume the standard Football Association (FA) rules apply. You may change the sport if you wish. Students are also allowed to use their creativity as they see fit, so long as they operate within the broad confines of the requirements.