A 7-a-side football game

Write a program that simulates a 7-a-side (at least) football game. You should include different types of players (e.g. de- fenders, attackers, mid-fielders, goalkeepers) with different abilities (e.g. defenders may be slower, attackers faster, mid- fielders may have more accurate passing, etc.), characteristics (e.g. right-footed, left-footed, etc.) etc.

Level 1 – F: Fail Includes **screen output** and **keyboard input** and **basic classes**. There are java source files for at least three major classes in the program. Good source comments and code indentation is expected for all implemented parts of the code
Example: The program reads and prints the names of the players of the two teams and their basic characteristics.

Level 2 – E: Borderline Fail Includes **methods** and **variables** for at least three major classes, and all constructions above. At least 3 major methods fully implemented and working for each class
Example: As above, but also the notion of the game between the two teams exists and is displayed.

Level 3 – D: Bare Pass At least three major program classes will be implemented, with **methods working and well designed**, and all constructions above Use of **inheritance** with at least one superclass and three subclasses Class, method and variable naming will be clear and consistent
Example: As above, but also there is a basic simulation of the game, though game details, commentary etc. may be very simple

Level 4 – C: Pass Polymorphism should be used in at least three subclasses, and all constructions above **Exception handling** is used to catch and handle at least three different types of exceptions At least four major program classes will be implemented, with methods working and well designed, Comments are clear and applied to class and method level consistently
Example: As above, but game simulation is more natural, there is a running commentary of the game with major events reported.

Level 5 – B: Satisfactory Use of **Vectors** in all parts of the program, and all constructions above. Exception handling is carried out appropriately in all parts of the program Inheritance is correctly applied to all parts of the program.
Example: As above, but also some events like fouls will be included in the simulation. A basic **GUI** will also be included showing team details and the running commentary.

Level 6 – A: Merit Includes **file input and/or output**, and all constructions above The simulation (including player movement) will be displayed on the GUI Polymorphism will be fully implemented in all parts of the program
Example: As above, with standard football game events captured (fouls, corners, goal kicks, etc.). Players' details should be read from a file.

Level 7 – A+: Distinction Includes everything required for an A grade but also **something special** (using other more advanced constructs or algorithms, or something you just read up on yourself). Make it a program someone would really want to use! **Example:** Keep statistics for each player use a fancy GUI for the simulation. Or ..