1. Proposal 1: Identify all people in each frame thanks to previously trained models in class detection like Tensorflow. Define the colour range of both teams' jerseys and the referee's. For each person in the field, extract all pixels that are inside each of the colour ranges and then decide which team they are on based on pixel count.

   Proposal 2: Label the players manually and specify their team, and train the system with this data. This method would be more automated as it would not only recognise people but would label them on its own as well, and it would be adapted to the particulars of the match.

2. Proposal 1: The fact that we would be working with a previously trained model to classify people means less workload but could lead to not identifying players in a football field optimally. As always a good image set that adjusts to your needs and is varied enough will produce the best results. Also, player occlusion could lead to ID switching if we're using a previously trained model as it would have no way of identifying the different players.

   Proposal 2: This method would need time to train so it could be too heavy depending on the situation. We still would have occlusion issues but the program shouldn't switch IDs as easily because it would recognise the players to a certain degree. The lack of richness in the training samples could also lead to unanticipated issues like the one in the previous exercise, for example not recognising a new player when there's a change or not being able to recognise the goalkeeper in another role (as a striker in a corner).

3. Proposal 1: As we didn't train the algorithm for any particular sport, the drawbacks that we may have with specific cases at least compensate us with flexibility. If we had set any restrictions in terms of the maximum number of players in the field, that can easily be changed. But still some colour schemes may be more favourable than others for a generic detection. In particular, a worst-case scenario of this method would be white jerseys in hockey, since a high white pixel count on the other team (because of the ice on the background) could lead to incorrect team classification.

   Proposal 2: It could serve for other sports as long as we did the training for each particular case, and as this method would learn from each situation in theory it would be more adaptable. It shouldn't have as much weakness in terms of colour schemes like in the previous case, but different play styles could still have a dramatic impact. For example, melees in rugby where we have several players' occlusion would give problems to many algorithms.