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CS 523 – Interactive Design

Rough paper draft

**0. Introduction**

**0.1 Abstract**

0.2 Theory

0.3 Goals

0.4 Keywords

**1. Problem statement**

To design an interactive soccer training environment in assisting Kindergarten - 9th graders in promoting team spirit and acquire important teamwork.

**2. Motivation**

2.2 Team Spirit, team work and player communications

As an amateur coach for a couple of years, I see much disorganized formations and behavioral issues among young soccer players. Some of the issues include:

* Ball hogging (and certain other selfish behavior)
* Foul play
* Refusal to take part in a match
* Intentionally aiding the opponent (rogue behavior / griefing )

In most cases, these are a result of a poor communication between coaches and players, or between players themselves.

Having such system will help train young players about awareness of teamwork, a skill that can be very important later on their life.

2.2 Childhood obesity awareness

Over the past three decades, childhood obesity rates in America have tripled, and today, nearly one in three children in America are overweight or obese. The numbers are even higher in African American and Hispanic communities, where nearly 40% of the children are overweight or obese. Statistically, one third of all American children born in 2000 or later will suffer from diabetes at some point in their lives, and one in tenth adults around the world will have diabetes by 2030 according to the International Diabetes Federation. Many others will face chronic obesity-related health problems like heart disease, high blood pressure, cancer, and asthma.

2.3 Increase popularity of the sport

It has been well known that, although soccer is the most popular sport in the world by far, The United States is one of the few countries where soccer does not enjoy a top spot in terms of popularity.

**3. System Overview**

We are creating a software that is supposed to track the movement of the soccer players on the field by the use of RFID or optical sensors, and based on pertinent information such as ball location, time remaining, wind speed and direction, current scores and coach intervention, calculate the best move for the players, and transmit the best move for the players via the use of Bluetooth headset.

(Note that there are no sensors here in the demo due to cost concerns and technological ability)

**4. Interface**

**5. Algorithm overview / Computational Intelligence**

**6. Materials**

6.1 For Demo

**7. Assessment of Performance and Effectiveness**

**8. Conclusion and Future Expansion**

**9. Reference**

IEEE Computational Intelligence Magazine, May/June 2011

IEEE Transactions for Education, Winter 2010

FIFA Laws of the Game

**Appendix I. Detailed system description**

-Block diagrams

-Simulation instruction

-What the real thing should act like