

## **Automated Commentaries for Simulated Soccer**

### **Passing/ Shooting Distance**

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Author	Akbar Sherwani
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## **Sign-off sheet**

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**Document Author Signature: AS\***

**Document Author Name: Akbar Sherwani**

**Quality Assurance Signature: AM\***

**Quality Assurance Name: Ahsan Mussa**

**Project Manager Signature: AM\***

**Project Manager Name: Ahsan Mussa**

\* By signing this document you approve that the entire contents of the deliverable has been reviewed and is in line with the objectives of the project.

# Automated Commentaries for Simulated Soccer

## 1. Passing / Shooting Distance:

### 1.1. Explanation:

We needed to work out the length of the pass or shot in order to identify more about the pass or shot such if its was long pass or long shot we would identify them as being mentionable as they don't occur often.

### 1.2. Usage

The ball class kept the detail of the balls position at all times. Once a player touched a ball the position of the ball was noted and the players number and this was added to a hash map.

Example of the hash map:

X: 32 Y: 45	Player 12
X: 45 Y: 13	Player 15

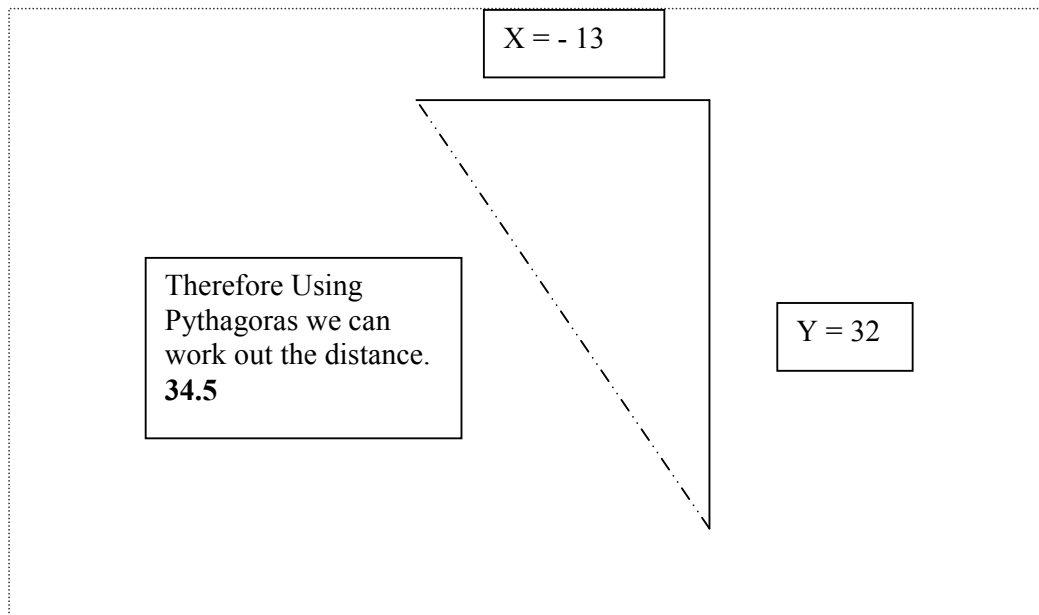
Once a pass was identified the last two touches are taken from the hash map and we work out the distance.

Using the last values above:

1. Confirm that both players on the same side
2. Work out the vector difference between the ball positions and pythag:

Player 12 X – Player 15 X = X across difference -13

Player 12 Y – Player 15 Y = Y across - 32



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### **1.3. Shooting**

We can use the same method to shots on goal by either identifying when the goal keeper touched the ball.

Or if the goal has been scored then we can take the last touch to be the centre of the goal and work out the distance to the goal.

### **1.4. Further Work**

We can also use this method to work out crosses such as if the Y difference is large compared to the X difference then we can identify the ball was a cross field ball.

Also using the ball class means you can quickly get the position of the ball, such as when it's a free kick or ball goes for goal kick you identify in terms of the free kick how close is it to goal and same for whether the shot was close on target for the goal kick.