



UNIVERSITY  
OF HULL

# The use of virtual reality in professional football

---

## Introduction

Dear player,

The purpose of contacting you is to ask if you would be willing to contribute to a research study that we are conducting. The project aims to examine and quantify the understanding and use of virtual reality within professional football. The online survey will enable us to examine players perspectives of their acceptance of technology, alongside their knowledge, expectations and potential barriers of using virtual reality within professional football training environments.

The survey consists of 8 sections (Section 1: General information; Section 2: Technology acceptance; Section 3: Knowledge of virtual reality; Section 4: Performance expectancy; Section 5: Social influence; Section 6: Using virtual reality; Section 7: Facilitating conditions; Section 8: Behavioural intention to use virtual reality)

Your completion of this survey will help us to ensure that our work is of practical relevance to people like yourself, and in return we will provide you with details of our research findings on completion.

Only the research team will have access to information disclosed in Section 1 (General information). In accordance with the 2018 General Data Protection Regulation, all information will remain anonymous and confidential to all co-researchers and will only be used as a point of reference when analysing the data. The survey will ask for the country your club is affiliated to, to understand the spread of the data, but this will not be

published. All documentation will be kept securely at the University of Hull.

The survey should be completed in one sitting and will take approximately 5 minutes. You will not be able to save and return to the survey at a later date so please consider this before starting. Data from this survey will only be submitted when clicking the finish button on the final page. No data will be collected whilst taking part in the survey and you will be able to exit the survey at any point by closing the browser or survey tab. Should you wish to withdraw your data after submission, you will be allowed to do so by contacting any of the research team up until 01/05/2020. When contacting please provide your unique reference number which will be provided on submission of the survey. Withdrawal requests made without this number will not be possible due to the data being anonymous and therefore individual responses can't be identified. Any withdrawal requests after the 02/05/2020 might not be possible due to data analysis having already taken place.

If at any time you have questions related to the survey, please contact any of the supervisory team using the details found below.

Thank you in advance for taking the time to complete this survey.

Kind regards,

Ben Greenhough

PhD candidate                      t: 07909202620  
The University of Hull            e: B.Greenhough-2018@hull.ac.uk

Dr Grant Abt                        t: 01482 463397  
The University of Hull            e: g.abt@hull.ac.uk

Dr Chris McLaren-Towlson    t: 01482 466047  
The University of Hull            e: c.towlson@hull.ac.uk

Dr Steve Barrett  
Playermaker                        e: steve.barrett@playermaker.com

By clicking on the 'yes' button below you agree that you have:

- \* Read and understood all the information provided above.
- \* You understand that participation is voluntary and you're able to withdraw at any time.

**Do you consent to taking part?**

Yes                       No

## Qualification question

Do you currently have a professional contract within a professional football club?

Yes

No

## Qualification question

Are you 17 years of age or older?

Yes

No

## Qualification question

Have you completed and submitted this survey previously?

Yes

No

# Section 1: General information

This section refers to your general details and background information as an individual contracted to a professional football club.

## Section 1: General information

**What gender do you identify with?**

- Male
- Female
- Prefer not to say
- Other (no explanation necessary)
- Prefer to self describe

If you selected prefer to self describe, please specify:

**What is your age (in years)?**

- 17-21
- 22-26
- 27-31
- 32-36
- 37+

**What country is your club/team affiliated to?** *This data will not be published.*

- England
- Scotland
- Wales
- Northern Ireland
- Republic of Ireland
- United States of America
- Australia
- Other

If you selected Other, please specify:



**What tier of the football pyramid does the first team within your club compete in?** E.g. In England, a tier 1 team would be one that competes in the Premier League and a tier 2 team would be one that competes in the EFL Championship.

- Tier 1
- Tier 2
- Tier 3
- Tier 4
- Tier 5

## Section 2: Technology acceptance

This section refers to your general view on technology and how it has an influence on your life.

## Section 2: Technology acceptance

We are interested in your views on how technology influences your life. Please indicate how much you agree with the following statements.

### **Technology gives me more freedom of mobility**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

### **Technology makes me more productive in my personal life**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

### **Other people come to me for advice on new technologies**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

---

**In general, I am among the first in my circle of friends to acquire new technology when it appears**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

**I keep up with the latest technological developments in my areas of interest**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

**Technical support lines are not helpful because they don't explain things in terms I understand**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

**Sometimes, I think that technology systems are not designed for use by ordinary people**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

**People are too dependent on technology to do things for them**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

**Too much technology distracts people to a point that is harmful**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

**Technology lowers the quality of relationships by reducing personal interaction**

- Strongly disagree
- Somewhat disagree
- Neutral
- Somewhat agree
- Strongly agree

*“These questions comprise the Technology Readiness Index 2.0 which is copyrighted by A. Parasuraman and Rockbridge Associates, Inc., 2014. This scale may be duplicated only with written permission from the authors.”*

## Section 3: Knowledge of virtual reality

This section refers to your general knowledge of virtual reality for personal and professional use.

For the duration of this survey, virtual reality is defined as including a headset worn by a user that covers their eyes, allowing them to experience a virtual world that is created by a computer (**Image A**). This definition does not refer to non-immersive technology that results in an output through a television or other electronic interface (**Image B**). Our definition does not include augmented reality, whereby computer generated images are placed into the real world and viewed live (**Image C**).



(A) Virtual reality headset



(B) Non-immersive virtual reality



(C) Augmented reality



## Section 3: Knowledge of virtual reality

**Based on the definition on the previous slide, have you ever heard of or used a virtual reality system?**

- Yes  No

**Are you aware of virtual reality being used within sport by coaches, support staff or athletes?** (your answer should be based on your knowledge prior to seeing this survey)

- Yes  No

In which sports are you aware that virtual reality is being used by coaches, support staff or athletes?

- Football
- Rugby union
- Rugby league
- Cricket
- American Football
- Baseball
- Skiing
- Golf
- Not sure
- Other

If you selected Other, please specify:

For the remainder of the survey, questions related to the use or knowledge of virtual reality will be in the context of:

*"Virtual reality used by coaches, support staff and players as part of training or personal use within professional football training grounds"*

**Are you aware of virtual reality being used within professional football?**

- Yes  No

Have you used virtual reality within a professional football club? *If you used virtual reality as part of a demonstration or trial, please answer 'Yes'.*

- Yes  
 No

When was your last experience of using virtual reality?

- Within the last year  
 Between 1 - 2 years ago  
 Between 3 - 5 years ago  
 Between 6 - 10 years ago  
 Longer than 11 years ago

## Section 4: Performance expectancy

The next section refers to your expectations of virtual reality being able to improve performance and wellbeing .

## Section 4: Performance expectancy

State your level of agreement (strongly disagree - strongly agree) on your expectations of virtual reality being able to improve the following areas:

**Physical fitness (i.e. Virtual reality used with players to improve areas such as strength, power, aerobic fitness etc.)**

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree or disagree
- Somewhat agree
- Agree
- Strongly agree

**Cognition (i.e. Virtual reality used with players to improve cognition such as decision making, reaction time, visual awareness etc.)**

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree or disagree
- Somewhat agree
- Agree
- Strongly agree

**Technical skill (i.e. Virtual reality used with players to improve technical ability such**

**as passing & shooting accuracy etc.)**

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree or disagree
- Somewhat agree
- Agree
- Strongly agree

**Tactical development (i.e. Virtual reality used with players to improve awareness of team tactics etc.)**

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree or disagree
- Somewhat agree
- Agree
- Strongly agree

**Mental wellbeing (i.e. Virtual reality used with players to improve mental wellbeing such as stress and anxiety etc.)**

- Strongly disagree
- Disagree
- Somewhat disagree
- Neither agree or disagree
- Somewhat agree

- Agree
- Strongly agree

## Section 5: Social influence

The next section refers to social factors that could influence your decision to use virtual reality technology.

## Section 5: Social influence

Using the statements below, please indicate how you might be socially influenced (not at all influenced - highly influenced) to use virtual reality within a professional football environment.

**To be seen using an innovative technology (i.e. I would be influenced to use virtual reality so that others see me using an innovative technology)**

- Not at all influenced
- Slightly influenced
- Somewhat influenced
- Very influenced
- Extremely influenced

**Influential others use virtual reality (i.e. I would be influenced to use virtual reality if individuals that influence me also use it)**

- Not at all influenced
- Slightly influenced
- Somewhat influenced
- Very influenced
- Extremely influenced

**Influential clubs use virtual reality (i.e. I would be influenced to use virtual reality if clubs that influenced me also use it)**

- Not at all influenced
- Slightly influenced



- Somewhat influenced
- Very influenced
- Extremely influenced

## Virtual reality access

**Do you have access to virtual reality within the training ground facilities?** *If your club has virtual reality but the team you play in doesn't have access to it (e.g, available only for use by the academy team), click No. If you're not sure if you club has access to it, click No. \* Required*

Yes

No

## Section 6: Use of virtual reality

The next section refers to how virtual reality is currently being used within your club, or how you would look to use it within your club.

## Section 6: Use of virtual reality

Answer the following questions based on how you use virtual reality within the club you work for.

**Have you used virtual reality within your club, whilst being available for team training and/or match selection?**

- Yes
- No

**How frequently do you use virtual reality within your club?**

- Every day
- A few times a week
- Once a week
- A few times a month
- Once a month
- Less than once a month

**Have you used virtual reality during a period of injury?**

- Yes
- No

**During this period of injury, how frequently did you use virtual reality?**

- Every day
- A few times a week

- Once a week
- A few times a month
- Once a month
- Less than once a month

**Before having access to virtual reality at your training ground, what was your overall opinion on virtual reality technology for use by coaches, support staff and players?**

- Very negative
- Negative
- Neutral
- Positive
- Very positive
- Wasn't aware of its use within football training grounds

**Since having access to virtual reality at your training ground, what is your overall opinion on virtual reality technology for use by coaches, support staff and players?**

- Very negative
- Negative
- Neutral
- Positive
- Very positive

## Section 7: Facilitating conditions

The next section refers to any perceived barriers to using virtual reality.

## Section 7: Facilitating conditions

Please indicate how much each of the following is a barrier (Not a barrier - Extreme barrier) to continual use of virtual reality within your club/team:

**Embarrassing/uncomfortable (i.e. feeling embarrassed in front of peers is a barrier to using virtual reality)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier
- Extreme barrier

**First impression (i.e. first impression of using, seeing or hearing about virtual reality is a barrier to using it)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier
- Extreme barrier

**Time available (i.e. time available within schedule is a barrier to using virtual reality)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier
- Extreme barrier

**Technical bugs/glitches (i.e. technical bugs/glitches causing inaccurate movements or prevention of use is a barrier to using virtual reality)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier
- Extreme barrier



## Section 7: Facilitating conditions

The next section refers to your perceived barriers to using virtual reality.

## Section 7: Facilitating conditions

Please indicate how much each of the following is a barrier (Not a barrier - Extreme barrier) to use of virtual reality within your club/team:

*If you have never used virtual reality before, answer in the context of "I envisage that ...."*

**Embarrassing/uncomfortable (i.e. feeling embarrassed in front of peers is a barrier to using virtual reality)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier
- Extreme barrier

**First impression (i.e. my first impression of using, seeing or hearing about virtual reality is a barrier to using it)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier
- Extreme barrier

**Time available (i.e. time available within the schedule is a barrier to using virtual reality)**

- Not a barrier
- Somewhat a barrier
- Moderate barrier

Extreme barrier

## Section 8: Intention to use virtual reality

The last section refers to your intention to use virtual reality in the future.

## Section 8: Intention to use virtual reality

**Have you previously had access to virtual reality within the training ground facilities?**

- Yes
- No

**If virtual reality technology was made available to you, how likely are you to use it?**

- Extremely unlikely
- Unlikely
- Neutral
- Likely
- Extremely likely

**What is your overall opinion of virtual reality technology for use by coaches, support staff and players within the training ground setting?**

- Very negative
- Negative
- Neutral
- Positive
- Very positive

# Final page

Thank you for taking the time to complete this survey. If you have any questions or you would like withdraw your consent then please contact one of the research team listed below, referencing the receipt number provided above. Failure to provide this number will not allow the research team to discuss your submission or withdraw your data.

Ben Greenhough

PhD candidate

t: 07909202620

The University of Hull

e: B.Greenhough-2018@hull.ac.uk

Dr Grant Abt

t: 01482 463397

The University of Hull

e: g.abt@hull.ac.uk

Dr Chris McLaren-Towlson t: 01482 466047

The University of Hull

e: c.towlson@hull.ac.uk

Dr Steve Barrett

Hull City Football Club

e: steve.barrett@hulltigers.com

---