

Project report: Co-designing a mobile application with football fans to promote physical activity

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Introduction

This collaborative project between Northumbria University, the University of Glasgow, and Healthy Stadia was funded by the EPSRC GetAMoveOn Network+. We engaged with male football fans to explore the role of mobile technology for promoting healthy lifestyles. The work contributes qualitative insights and design-knowledge for producing technology for men's health.

Background: Men's health, masculinity and football

According to the Men's Health Forum [1]: middle aged men in the UK are twice as likely as women to have diabetes, and twice as likely not to know they have diabetes; four in five suicides are by men, with a recent sharp increase among men aged 35-54; and men are more likely than women to smoke, eat too much salt, eat too much red and processed meat, eat too few fruit and vegetables, and to drink alcohol at hazardous levels. Some challenges faced by men are specific to being biologically male, but most relate to masculinity. As Robertson explains:

"The processes of being or becoming a man usually negatively influences men's health practices and outcomes" (p17) [2].

Many men internalise or feel under pressure to conform to hegemonic masculine ideals such as strength, stoicism and invulnerability. These ideals can lead men to celebrate risk taking, and to avoid seeking help. Swain [3] has studied how masculine values and identity are reproduced in everyday life, particularly among adolescents. He notes how at school in England, adolescent boys' success at and interests in football are strongly linked to their developing masculine ideals. In adulthood, football culture remains closely linked to the

reproduction of problematic forms of masculinity. An example given by Feasey [4] of problematic masculinity in adult football is:

“When footballer Michael Owen played for Newcastle United in the Barclays Premier League just eight days after a double hernia operation that would normally demand over four weeks of recuperation, the commentators did not question his ability or his right to play, but simply established the physical and mental toughness of the player because they had ‘no idea how he’s doing that’” (p98) [4].

However, this connection between football and problematic forms of masculinity is not inevitable. Several healthy lifestyle programmes have been created that draw upon men’s ‘love of the game’ to encourage positive changes. For example:

- FFIT - Football Fans in Training (<http://spfltrust.org.uk/projects/football-fans-in-training/>) is a 12-week programme run at football clubs in Scotland. It was originally aimed at men but now supports men and women. The programme has been shown to help a large proportion of men to lose a clinically important amount of weight [5].
- EuroFIT - The European Fans in Training programme is a 12-week programme run at clubs in Europe. This programme has been shown to lead to improvements in physical activity [6].
- Man V Fat (<https://manvfat.com/>) is a weight loss programme in England where men play football in a league. The men are weighed at the start of a match and extra goals are given to team members that have lost weight.
- The 12th Man (<https://nufoundation.org.uk/health-and-wellbeing/>) is a free, 12-week programme run for men in Newcastle. The football themed programme focuses on exercise, diet, sleep, stress, anger and coping strategies.

Bunn et al [7] have taken a “social practice perspective” to analyse how programmes such as these operate. Focusing on the Football Fans in Training (FFIT) programme, they explain how positive health practices can become incorporated into masculine identities and behaviour:

“Rather than simply challenging hegemonic forms of masculinity, the FFIT programme allows men to refashion their own masculine identities in relation to specific behaviours and to take part in a collective re-negotiation of uncritical equations of destructive health practices with gender orthodoxies” (p13) [7].

It is important to remain cautious about football based men’s health programmes: not all men identify with football clubs or can attend sessions at stadia; meanwhile many women do enjoy football; a focus on men’s health can also reproduce problematic gender binaries; and the focus on men’s health may sometimes distract from important issues that affect men and women, including health inequalities. This said, football centred interventions have been shown to be successful and are an important focus for future work.

The Study

Football themed interventions such as those described above are run face-to-face at stadia. They do not currently make extensive use of digital technology. A key question, particularly with scalability of interventions in mind, is to what extent can mobile applications be of value in this area? In this study we have explored whether football themed mobile applications can replace or augment existing face-to-face programmes.

Focus Groups with Football Fans

We have conducted four focus groups with fans at two football clubs in England: Newcastle United F.C. and Sunderland A.F.C. Four sessions were conducted in total, two at each club. Eighteen male fans with an average age of 42 participated in the focus groups. Several of the participants were already enrolled in programmes such as Man V Fat and the 12th Man.

Our discussions with the fans covered a range of topics, several of which we summarise below. Firstly, something emphasised by all the fans was how football forms an integral part of their social and emotional lives:

“It does your mood the world of good, you know ... meet up with mates and just talk about football, that you don’t really get the chance to with the other half or whatever.” (Sunderland Fan).

For those attending programmes such as Man V Fat and the 12th Man, the opportunity to go to their club, to engage with it and to see behind the scenes was valued:

“It’s so motivational because it’s linked to the football team. We were buzzing weren’t we. Every week, we were coming. Even when we were lying outside in the horrible dirty terraces and doing push ups.” (Newcastle Fan).

However, an important reason for choosing to attend these programmes was that the men knew they would be there with like-minded others:

“If you’re going to go to a group that is ran from a stadium and you’re a fan of the club you’re probably thinking, well I have something in common with some of the people there at least. So, you know you can go and talk about football, whereas if you just go to a gym, maybe we all said in the 12th Man, we all said about gyms nobody particularly likes them.” (Newcastle Fan)

Financial concerns were also an important factor. Programmes such as the 12th Man and Man V Fat are free or low cost:

“As bad as it seems, I mean the 12th Man was a free course essentially so that’s a big appeal.” (Newcastle Fan).

Money was reportedly a major concern and barrier in physical activity:

"If we book the pitches upstairs just for a kickabout, we'll be paying five pounds a man easily." (Sunderland fan)

The participants used technology for supporting healthy lifestyles. One of the important apps they referred to was actually WhatsApp for communication. Apps such as this can be used to organise team sports, but also WhatsApp groups that are ostensibly for sports can also be used for friendly 'banter' and relationships:

"I had WhatsApp on my phone through work years ago but I'd never used it again until I came here. Now, I'm never off WhatsApp" (Sunderland fan)

Several participants used self-tracking apps and wearables. Fitbits were the most referred to:

"Yeah, when I started a lot of people had Fitbits and I could see there was a bit of competition between them. I'm not a very competitive person really but when I got this it turned me into an animal." (Newcastle fan)

Some had experience with using food tracking apps, but reported that food choices were often made in the context of family shopping and meals and so dietary decisions were not solely in their hands.

"I go to Greggs and I get a soup and a bread bun for my lunch every day at work. I know exactly what I've had for lunch. I've got to ask my wife what I have for tea every day." (Sunderland Fan).

Few participants used technologies relating to mental health and wellbeing, and there generally seemed to be a lack of awareness of these technologies. The participants thought that mental health is an important topic that holds difficulties for men:

"It's kind of that persona of being like manly if you like, you know, and not showing that you kind of, I don't know you're shrinking, you know, into, there's a little person, you know, you want to kind of just have that reputation of being one of the lads." (Sunderland fan)

The idea of tracking for monitoring and improving mental health and wellbeing received positive attention during the sessions.

Paper prototypes

We produced four paper prototypes (see fig. 1) and discussed these with the focus group participants. Each prototype was presented as a low fidelity, hand drawn sketch. Presenting ideas in this way is used in interaction design to underline that the designs are early stage and open to criticism and comment [8]. The prototypes were designed to demonstrate that

a range of behaviours and health related parameters can be tracked, and with reference to diverse behaviour change techniques. The same designs were shown at each football club, but they were tailored for each club (for example with different team names, club crests, and fixture lists in the apps). The designs were:

- A “role models” app (fig. 1, top left) that enables users to track their physical activity via step counting and their mental wellbeing via an in-app survey (based upon the Warwick Edinburgh Mental Wellbeing Scale [9]). A user can become a role model for other fans if they meet designated criteria, and if so, get to share their tips and advice with other fans of their team.
- A “contract” app (fig. 1, top right) that enables users to sign a health contract with their football club. The contract includes eating the recommended amount of fruit and vegetables and drinking within the recommended units, as well as a minimum step target.
- An “action planning” app (fig. 1, bottom left) that enables users to plan their day to day physical activity, including how they can walk or cycle to home and away football matches.
- A “persuasive sources” app (fig 1, bottom right), where a professional footballer gives different advice each week related to WHO physical activity guidelines. The app quantifies progress to achieving this guideline each week.

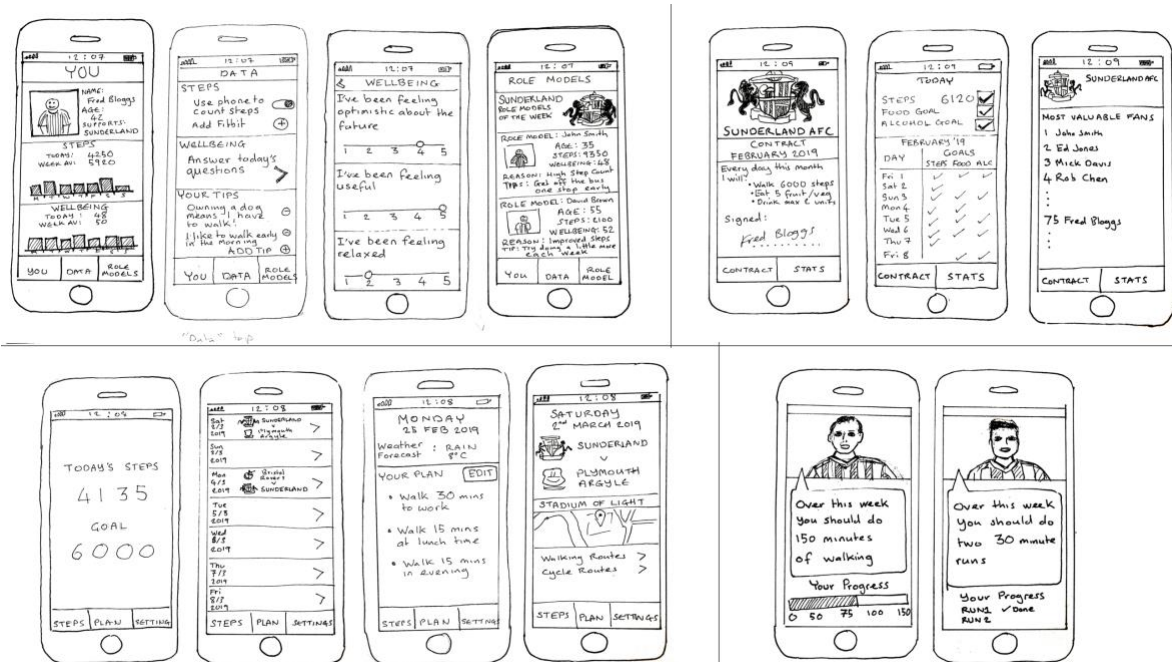


Figure 1: Sketches (Sunderland versions). Top left: role models app; top right: contract app; bottom left: action planning app; bottom right: persuasive sources app.

The feedback on the prototypes included a range of positive and negative points. Positive points included:

- The ability to track mental health (sketch 1) was seen as novel and important
- Social and competitive applications were valued (sketch 1 and 2)
- Including a club's crest is valued and signing a contract with a club would have high symbolic value (sketch 2). Several participants made positive comparisons between sketch 2 and the video game Football Manager.

Negative points included:

- Interacting and competing with other fans may be valuable, but other fans may not be trustworthy when it comes to self-report (sketch 1 and 2).
- Men may not want to share information about mental health and wellbeing with others (sketch 1 and 2).
- Action planning centred on football fixtures is not viable because the fans will already know the fixtures list and they often have set routines on match days for meeting friends and following superstitions (sketch 3).
- Most participants were reticent to limit their intake of alcohol as they felt this was incompatible with being a fan and would limit their opportunities to socialise (sketch 2).
- Football players are not credible authoritative sources for middle age men (sketch 4). Legends and coaches may be more credible and relatable.

Overall, sketches 1 and 2 were preferred to 3 and 4. The participants suggested mixing and matching certain features, and were particularly interested and supportive of tracking for mental health. More broadly, participants suggested looking at ways to digitise existing face-to-face programmes, including ways for supporting follow-on activities and friendships. Giving health applications a football theme can offer symbolic value (e.g. via signing a contract) but the participants were also highly interested in the chance for 'freebies' from apps that tie in with their club. However, there may be more value in considering how existing technology, including existing health apps, messaging apps, and meet-up apps could be promoted and supported among football fans.

Mobile Application

For the final stage of the project we have created a functional mobile application. For this application we decided to take forward the interest in tracking mental wellbeing. In order to keep the prototype simple and manageable we have created a minimal viable product [8] designed to juxtapose step counting and the quantification of wellbeing. To quantify wellbeing, the app uses the Warwick Edinburgh Mental Wellbeing scale. The prototype has been developed for iOS devices, making use of Apple Health for step counting and Apple Research Kit for the wellbeing survey and in-app consent.



Figure 2: Mobile application. From left: Main screen showing steps and wellbeing score; history page showing weekly data; bar chart breakdown of weekly data; wellbeing survey and example question based on Warwick Edinburgh Mental Wellbeing Scale.

The prototype is currently being trialled with students. Future versions could include social functionality and if agreements can be made with football clubs and related organisations it will be possible to create a more overt football theme. Future trials with middle aged male football fans will also be conducted.

Conclusion

We have taken an exploratory, design-based approach to investigate the potential for mobile applications that tie in with football fandom in order to promote men’s health. By discussing low fidelity sketches with male fans, we were able to gain rapid feedback on what ideas are acceptable for this group. We also found that while there is scope for such applications, it should not be assumed that apps might simply serve to replace existing face-to-face interventions. Instead, technologies could be used in conjunction with existing interventions to promote healthy lifestyles and to help men overcome barriers they face. Self tracking may be important here, but supporting friendships and low-cost ways of meeting to exercise together may reduce important barriers to being active.

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