Fizzees
(Physical Electronic Energisers)

Fizzees is a prototype project that enables young people to care for a 'digital pet' through their own physical actions. In order to nurture their digital pet, keep it healthy and grow, young people must themselves act in physically healthy ways.

Team
Futurelab

Technology
Bespoke wrist device developed by the Research Consortium in Speckled Computing.

Outline

The Fizzees project aims to encourage young people (aged 10 and 11) to undertake greater amounts of physical activity whilst developing a better understanding of the constituent parts of a healthy lifestyle. This will be attempted through the use of a dual sensor device that accurately measures heart rate and accelerometer data, and a complex scoring system that equates the maturation process of the digital pet with the recommended levels (and types) of physical activity for young people.

The prototype accurately measures the player's physical activity, which is then represented visually in the form of a virtual pet (a Fizzee) 'living' on a wrist-worn device. The digital pet's appearance changes depending on the activity levels of the player, and as they investigate the best way to nurture their digital pet, they discover how to best nurture their own physical wellbeing.

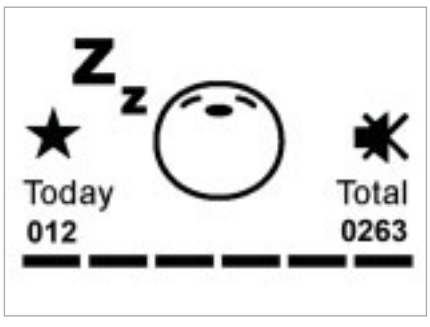
In addition to the wearable technology, a website provides the opportunity for players to compare their Fizzee with others, to swap suggested activities and to find out about other aspects of healthy lifestyles, such as healthy eating. A further important part of the website is for players to interrogate their health data in a variety of forms to investigate their past activity rates and to see how they have developed over time.

There is much discussion about the increasingly sedentary lifestyles of young people throughout the UK, with a particular focus upon rising obesity figures and a decrease in activity levels. Many reports highlight the role of digital technologies in shifting children's play into sedentary experiences with an increase in the number of hours spent watching television and playing computer games.

Fizzees is an attempt to fuse the motivation and engagement of digital games and the desire to nurture a digital pet, with the actual physical activity of the player in order to develop an applied understanding of a more healthy lifestyle.

The scoring system, being developed in partnership between Futurelab and the University of Bristol's Department of Exercise and Health Sciences, rewards long-term real-world benefits to the player with short-term benefits to the Fizzee. As the scoring system is based upon current expert knowledge about recommended amounts of exercise for young people, the system privileges 'real-world' knowledge, enabling players to seek advice from experts both in and outside of their school communities in order to benefit their virtual pet.

Watch components



Fizzee interface

Learning Research Objectives

Futurelab's key aims in developing a prototype of Fizzees are to investigate:

- the potential of new technologies to promote greater physical activity and healthier behaviours in young people
- whether young people are motivated to nurture an external representation (avatar) of their health through engaging in real-life physical activity
- whether this external representation encourages/motivates young people to engage in greater amounts of physical exercise
- whether developing an understanding of the rule system governing the external representation improves understanding of healthy lifestyles
- whether the ability to review changes in 'health' of an avatar and to compare this with the health of other avatars leads to engagement in greater amounts of physical exercise
- the extent to which young people transfer nurture of an external representation of their health (avatar) to nurture of self.

Research and Development Process

The Fizzees project is made up of three key components: the technological developments needed to realise the prototype; the development of a scoring system that relates suggested activity levels to the sensor data; and the development of a learning context that enables young people learning in this way to be supported.

The prototype being developed is a combination of a chest-worn heart rate sensor and a bespoke wearable technology worn on the wrist. The (wrist) wearable technology is a combination of a screen (displaying the constantly updated Fizzee), a processor (which uses the heart rate and accelerometer data within the scoring system to provide appropriate feedback), a battery (allowing up to 12 hours continuous use) and a port for syncing to a computer and recharging the device. An accelerometer is worn to measure movement and to provide further health/activity data that is used within the scoring system. This technology is being developed by the Research Consortium in Speckled Computing.

The scoring system is being developed to privilege the interplay between the dual sensors to provide a greater illustration of personal activity in relation to actual exertion. The scoring system provides a model of 'healthy activity' for the players to achieve and as such, is guided by current research and Government recommendations for activity amongst young people.

The learning context is being developed with practising teachers at secondary and primary levels as well as with advisors in PE and science teaching. The aim is to design class-based activities that help develop the students' understanding of healthy lifestyles, such as using the data that the students collect in and outside of school within the classroom, scaffolding further interrogation of personal health data, and helping students to investigate activities that benefit their Fizzee.

This is a Futurelab idea submitted through our Call for Ideas programme.

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