17 How mobile apps can draw families to the forest

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Introduction

Forestry England has a history of producing children's activity trails at their forest sites based on popular media characters such as Zog and Stickman. The aim of these trails is to engage children and families with the forest through forest-based activities with stories which are meaningful to children. For a recent trail based on Shaun the Sheep (an animated film by Aardman Animations), Forestry England partnered with Sport England to also encourage increased physical activity.

Some of the trails have been app-based, using technology to provide visitors with challenges and fun interactive and augmented reality elements. Activity packs are sold on site with stickers and activity booklets linked with the apps which are free. Signposts or statues of characters provide clues along the trails. Previous surveys have shown that the trails, especially the Gruffalo Spotters in 2017, have brought a high number of visitors to the forest.

Encouraging increased visits to forest sites and other natural environments brings multiple, physical, psychological and social benefits to visitors (O'Brien et al., 2011; Houlden et al., 2018; Twohig-Bennett and Jones, 2018). Further benefits can be gained from undertaking physical activity in forest settings (O'Brien, 2019).

The Forestry England trails are targeted at younger age-groups, usually ranging somewhere between 3-12 years. With mental disorders among children and young people on the rise (NHS, 2018), coupled with concerns about children's lack of engagement with nature, it is important to design interventions for children that provide opportunities for nature-based social interactions, physical activities and cognitive restoration.

The Forestry England trails provide such opportunities through designing attractive mobile apps based on much loved children's characters. Time used by children on electronic media is negatively correlated with time spent in nature and connectedness to nature, and can lead to physical and psychological health problems (Larson et al., 2019). However, the two are not mutually exclusive and Human-Computer Interactions (HCI) technology can improve both time spent in nature and connectedness to nature. Exploratory technology such as the Forestry England apps help "encourage children to explore outdoors in nature" (Anggarendra and Brereton, 2016)

Methods

We conducted an evaluation of the Shaun the Sheep app-based trail to understand the health and wellbeing benefits to visitors as well as the benefits to Forestry England. Data will also be gathered on the Gruffalo Spotters 2021 trail and early results will provide additional insights.

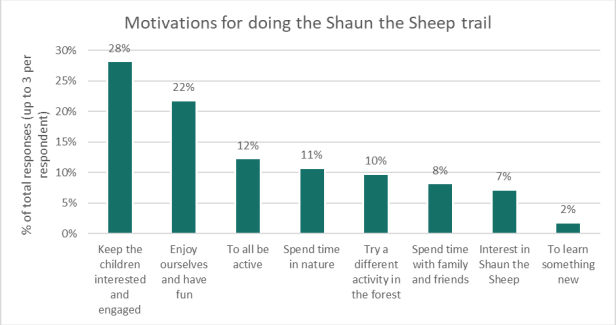
Questionnaires for the Shaun the Sheep trail were administered face-to-face with trail users at four forest sites in 2019 and 184 were completed. The questionnaires contained a mix of closed and open questions based on data collected for Forestry England's Active Forests Programme. Qualitative feedback was sought from adults and children through informal discussions. Furthermore, children chose three words that best described their experiences of the Shaun the Sheep trail. Visitor numbers were calculated using pack sales, group sizes and site visitor data.

Results

The Shaun the Sheep trail was very well received by users. Awareness of the trail was mainly spread by social media and word of mouth. Specifically, some visitors had seen photographs of friends and families' children with interactive characters taken using the app on social media. Of the trail users, 21% were first time visitors. Evidence from a past trail evaluation shows that the proportion of first-time visitors to the forest sites was higher among trail users than general visitors. The main motivation to participate was "Keeping the children interested and engaged" (Fig. 1), and feedback on the app was overwhelmingly positive. Physical activity also came out as both a prominent motivator and benefit from the trail. The trails were all over 2 km in length ensuring a certain level of exercise, and 70% of

groups said the trail made the children breathe faster. Connection with the forest surroundings and social benefits were more diffuse; these scored lower in the questionnaires but tended to be indirectly mentioned in discussions. Finally, around 80% of respondents reported that they were more likely to undertake future activities in the forest or as a group.

Figure 1. Motivations for doing the Shaun the Sheep trail



Discussion

The results indicate that the addition of the app and activity packs was effective in drawing families to the forest, enhancing their experience, and increasing physical activity. It appears that in a digital age where people of all ages and demographics have a smartphone, these devices can be used to encourage a wider audience to visit forests. It is noteworthy that the same devices that often drive inactivity and directly compete with time spent in nature can be used to promote the opposite. Examples of other such apps include Pokemon Go and Geocaching (Anggarendra and Brereton, 2016; Larson et al., 2019). Yet, the use of "sustainable HCIs" in connecting children to nature has been overlooked and understudied (Anggarendra and Brereton, 2016). Further research is needed to understand the contributions of HCIs towards long-term benefits of activity trails and whether they help shape meaningful social and natural experiences.

References

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