

# Incentivisation as a Design Feature: Lessons Learned from VoxBox

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## ABSTRACT

In this paper we focus on a design feature of VoxBox, our tangible system for gathering public opinion. We discuss observations around a ball tube that step by step releases a stress ball during the interaction with our system, which is implemented to encourage participation and completion. Based on our observations around this feature that makes incentivisation inherent to the system's design, we highlight the lessons we learned about designing for incentivisation.

## Author Keywords

Playful interaction, incentivisation, public opinion, crowd engagement, tangible interaction, design research.

## INTRODUCTION

When organizing any type of event, be it a festival, fair, or conference, it is always useful to know what attendees thought about the event and how it may be improved. Typically, feedback is gathered through surveys, either during the event or afterwards. The first approach can gather feedback in situ but people may not be interested in interrupting their activities to fill out a survey, or they may not feel free to give honest answers if they have to hand their forms back to the organizers. Surveys after the event are often ignored unless attendees feel strongly positive or negative. Moreover, they may have already forgotten details that would have provided useful feedback. Alternatively, systems can be designed that aim to gather crowd opinions in situ without interrupting the event experience. Previous research has, for example, introduced large screens [e.g. 2] or simple voting systems [e.g. 1] that have had various levels of success in gathering opinions. However, these systems are often limited in the extent to which they engage people and encourage them to take part, or they only collect a limited amount of information, such as a single vote. We designed a system, called VoxBox, which gathers detailed opinions from crowds at events by using a range of tangible input and output mechanisms

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within a physical questionnaire (Figure 1). A deliberate incentivisation strategy is used to encourage people to take part and complete our survey in the form of an implemented ball tube at the side of our machine that releases a stress ball (the incentive) step by step as people go through the survey. The ball is only released to take away upon completion. We present VoxBox as a system in which incentivisation is an inherent design feature, and discuss the role this played in encouraging people to take part.

## BALL TUBE RATIONALE AND IMPLEMENTATION

VoxBox is implemented as a large (1.5 meters high) modular system that consists of five question modules that each use different input mechanisms – buttons, sliders, rotary knobs, spinners, and a phone handset – to, respectively, ask questions about a user's demographics, mood, experience within the crowd, and opinion about the event, and finally ask an open question. At the reverse side of the device real-time visualizations are shown of the collected data on small screens that are embedded in portholes to give the impression of looking into the VoxBox (see Figure 2). In addition to these input and output mechanisms a ball tube at the side of the VoxBox drops a stress ball one step at the time after completion of each question module (Figure 2). This ball tube fulfills a number of functions. First, the balls that are released contain the URL of the project website, which also shows the collected data. In this way, a ball forms a physical link between taking part in the survey and the collected results. We aim to create a stronger link between participation and results because we feel this is often missing in traditional



Figure 1. VoxBox: a tangible system to gather opinions.

surveys. We do this by making the (link to the) results quite literally roll out of the action of partaking. Second, we aim to encourage participation and completion by using the ball as a reward that can only be obtained at the end. Third, the ball tube functions as a physical progress bar that shows users clearly at what stage in the survey they are and how much they have left to do. The ball tube is implemented using a tailored construction from laser-cut plywood and a transparent tube, which is connected to a transparent ball compartment. Servo motors with an extended arm are used to drop the ball step by step.

## DEPLOYMENT FINDINGS

VoxBox has been deployed at three different events: a one-day research conference, and two fan park events for the Tour de France in London. In total around 175 people used VoxBox at these events, which were all provided with a ball at the end of the experience. We give a brief overview of our observations around the use and reactions to the balls and ball tube. We saw many positive reactions to receiving a ball, such as "Amazing! Really?", "'A prize!", "I won a ball!", "Yay free ball!", and "Very clever." Unsurprisingly, children were particularly enthusiastic about getting a ball, although sometimes the color was an issue: Father to his daughter who did not want to take the ball: "Do you want to put it back?" Researcher: "Do you want another color?" Father: "I think she wants a pink one. Now you're excited, right?" Because of the positioning of the ball tube at the side of the VoxBox it was not very visible that the balls were dropping through and if people had not seen others do it before, they often did not notice until it was pointed out to them by a researcher. This caused surprise and excitement afterwards and most people were happy to keep their stress balls. A few users gave it back, e.g. "I'm going to give this [ball] back to save your money!" However, there were also plenty of people who did realize their ball dropped through during the interaction and several went to check after completing each module if the ball had dropped. We saw excitement and a few people seemed particularly eager to finish so that they could get their ball, or tried to take the ball out while it was still stuck in the tube.



Figure 2. The ball tube at the side of the VoxBox drops the ball through step by step after completing question modules.

## LESSONS AROUND INCENTIVISATION

Through our implementation and deployment of the ball tube as a design feature for incentivisation we can highlight some lessons were learned around designing for incentivisation. First, because of its position the ball tube functioning was not always seen and understood by users so it did not always function as a primary incentive for participation. While people who had seen others interact or had approached the system from the side were enthusiastic about seeing their ball go through, for many people it came as a surprise afterwards that they had earned their ball. The enthusiasm around getting a ball clearly shows that handing out a low-cost physical object that is incorporated in the design and interaction can form an incentive for participation. However, it seemed that the fun and engaging experience VoxBox offered was a stronger incentive for participation than the physical reward. *We thus encourage designers to think about how to design systems that people want to interact with purely for the positive experience;* tangible interaction forms a promising starting point.

Second, we saw different positive reactions from people who realized beforehand that they would get the ball at the end, and those who did not realize this; we saw engagement and excitement with the progress bar function during interaction, and surprise and excitement afterwards, respectively. Both reactions can be desired in different design applications, so *we encourage designers to think about how much they want users to know about the incentive beforehand.* While telling them about a reward beforehand may be a good way to encourage participation, surprise about an unexpected incentive after the experience may be a successful alternative approach, e.g. users may encourage their friends to take part because of the positive memory and surprise.

Third, the effects of the positioning of our ball tube made us realize the importance of visual appearance. Although it was not always clear to users what was happening at the side of VoxBox, the visual appearance of the ball tube and the colorful ball compartment was very successful in drawing people in and triggering intrigue about our system. *We thus finally encourage designers to think carefully about how and where their incentivisation design feature is visible to the user,* and how it may be used to draw them in and encourage participation even before they fully realize what the incentive will be.

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