

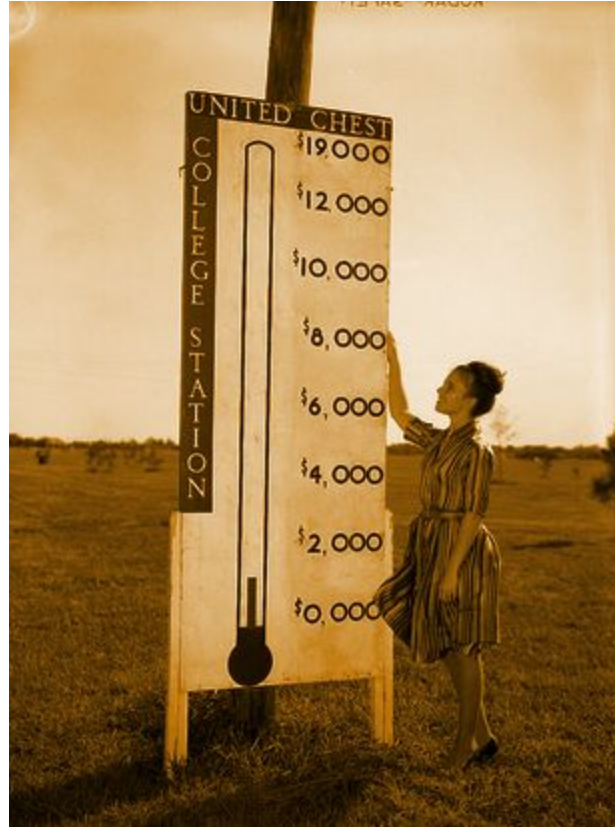
A **@ShrimpingIt** Project Proposal

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PlayBox

An interactive donations box designed exclusively for More Music

by **Cefn Hoile** 3rd March 2017



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Background

@ShrimpingIt's Cefn Hoile works in the West End of Morecambe, creating accessible electronics and internet-of-things projects. He has extensive experience conceiving, implementing and installing interactive artworks over the last 15 years.

The PlayBox arises from work here in Morecambe exploring easily customisable electronics to engage clients and communities in the design of prototype devices. These combine digital programming with participants' other creative strengths flair, visual arts, crafts, and in this case, sound and music.

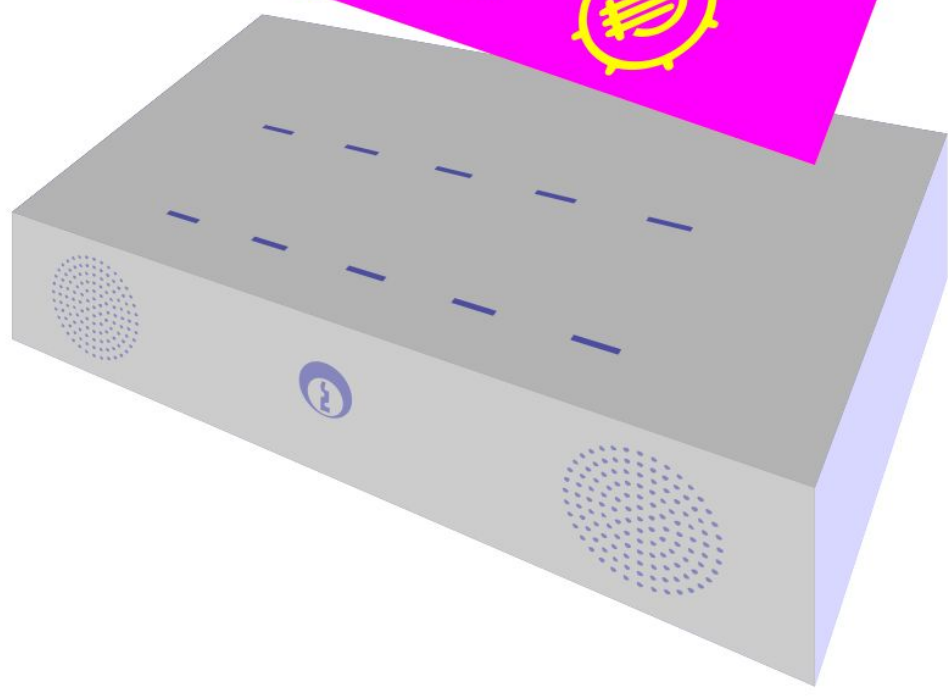
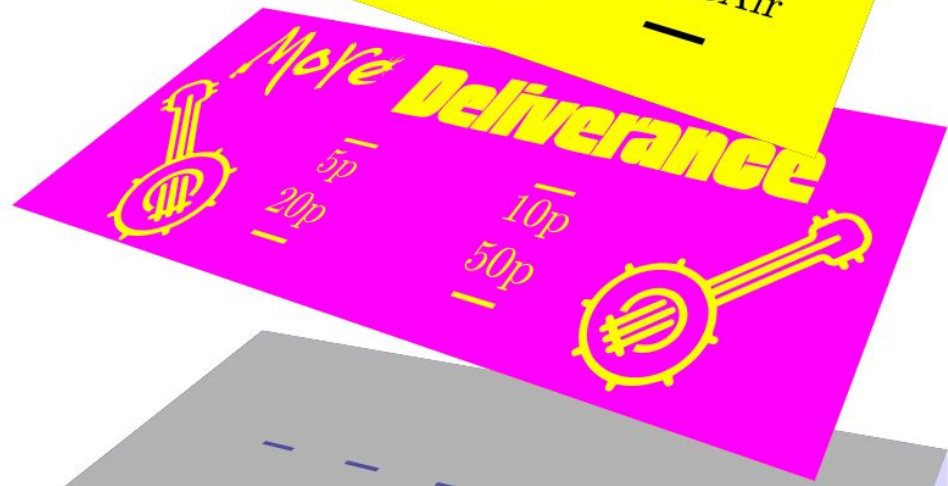
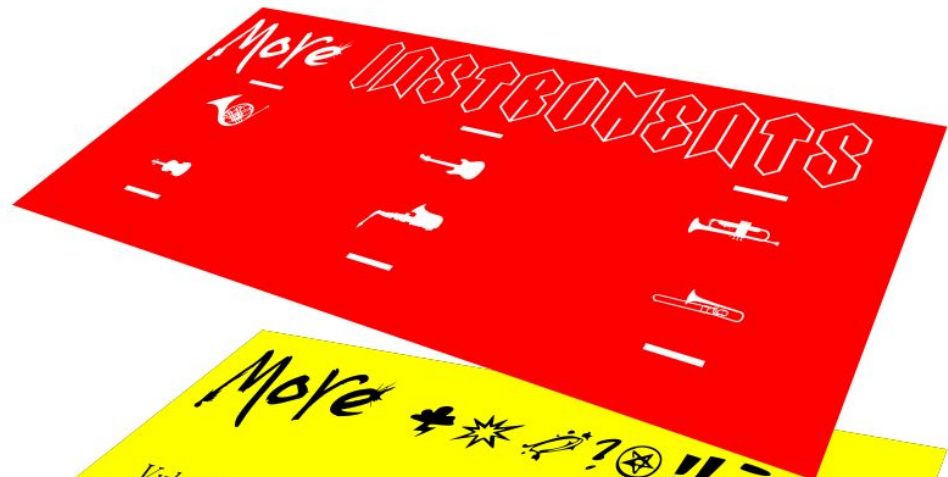
The design outlined below is already sufficiently well-specified to be able to deliver for testing within one month, and fully deployed within two months of commissioning with minimal further input.

However, it is in the nature of @ShrimpingIt projects to engage directly with the client and stakeholders to respond to their needs and involve them to the maximum extent possible. This means that we would prefer to engage directly with those on the ground in More Music to finalise the design, and we are very open to More Music steering and rethinking our design to better meet their needs.

Criteria

The PlayBox has been conceived with the following criteria in mind...

- Provide a functional box for small public donations
- Attract attention, stimulating curiosity about its behaviour when money is inserted
- Sustaining attention, visually telegraphing regular changes in behaviour of the box, encouraging previous donators to remain curious and donate again
- Anticipate routine staff contributions, to take account of security, emptying, maintenance behaviour rotation and further local specialisation
- Near term: Potential for More Music to engage community members, visiting artists and staff members in ongoing specialisation of the box
- Future: potential for More Music to workshop the creation and designing devices which trigger sampled audio



Design

Overview

The PlayBox is a special kind of coin-triggered jukebox. Swappable covers offer up to 10 slots for coin and note insertion, which can trigger up to 10 different audio behaviours housed on swappable SD cards containing MP3s.

Changing covers and SD cards is expected to be rotated on a daily or weekly basis to maintain variety for donators. We have budgeted to deliver 4 separate covers and audio as part of the original delivery, and potential covers and audio behaviours are detailed below.

Detailed Features

The proposed design is structured around a secured cash-box modified to add 10 horizontal slots in the top surface each suitable for the highest denomination UK coins or folded notes to be inserted.

Each slot houses an infra-red reflectance detector, and insertion in each slot can trigger a different audio behaviour. Before powering up the box, an SD card is inserted containing audio files, and a corresponding specialised cover is attached, guiding donators to interact with the audio on the SD card.

Expected behaviour at launch is to play back up to 10 stored MP3 audio samples, (saved as 1.mp3 through 10.mp3 on a conventional SD card), coupled to unique, humorous and engaging cover designs mounted to the top, which stimulate curiosity, and enrich the audio playback. These designs will be produced digitally and manufactured through laser-cutting in hardy materials such as acrylic and two-tone laminate.

Concept work, covering a spectrum from conventional to edgy is provided below to give an impression of the variety of behaviours which can be offered without any further specialisation. However, the cover and audio designs for launch are preferably to be finalised in close collaboration with More Music.

Brand and Vector Art

We anticipate working alongside the design team at More Music to get approved logo vector art and possibly a color palette to select appropriate and complementary colors for laserable materials to fabricate the covers. For the laser-cut typography and designs, we can either originate our own SVG vector art, which will be shared with the design team if they wish to rework the donations box in the future, or alternatively follow vector art provided by the design team. In any case we would expect to review this vector art with More Music's designers before manufacture.

Routine Maintenance

We have anticipated that staff will need to empty the box, and replace SD cards and matching covers without any specialist supervision.

Mounting - Ergonomics and Security

We expect the box to be mounted at a suitable height for youngsters of 5 and over to be able to insert coins. The cash box will be angled forward, so that the covers can be readable, at the same time as being placed directly in contact with the slots in the security steel. Although relying on the physical security of the building is anticipated, the box will also be designed to withstand any routine physical threat (excepting the use of cutting tools), and should not be able to be removed or opened without the key.

Cover+Audio Designs

Overview

The simplicity of copy-pasting MP3s onto the card to specialise the box behaviour is complemented by simple mechanisms for replacing and specialising the top cover.

Cover design considerations

Covers are **colored distinctively** and brightly to ensure that donators notice the box, and any changes in regime.

A cover can be created which can be **specialised through paper inserts** produced via normal office printing and maintainable by More Music staff, held behind transparent acrylic windows.

Cover designs can **limit the slots** to suit different behaviours (not all 10 need to be made available for a given behaviour).

The covers cannot enforce, but can **suggest expected denominations** (from the 8 available UK coin denominations), with potential for a £5 and £10-note slot to populate all 10 slots.

Finally, a container can be provided which allows each slots **insertions to be recorded** separately, allowing donators to effectively 'vote' with their coins. Covers can therefore indicate that coins will be interpreted as 'votes' or 'feedback'.

Examples

The following examples are offered to stimulate discussion. Up to 4 can be selected and delivered as part of the original contract. We also welcome More Music substituting their own modified suggestions for this contract or future bespokeing under separate contract.

More Instruments



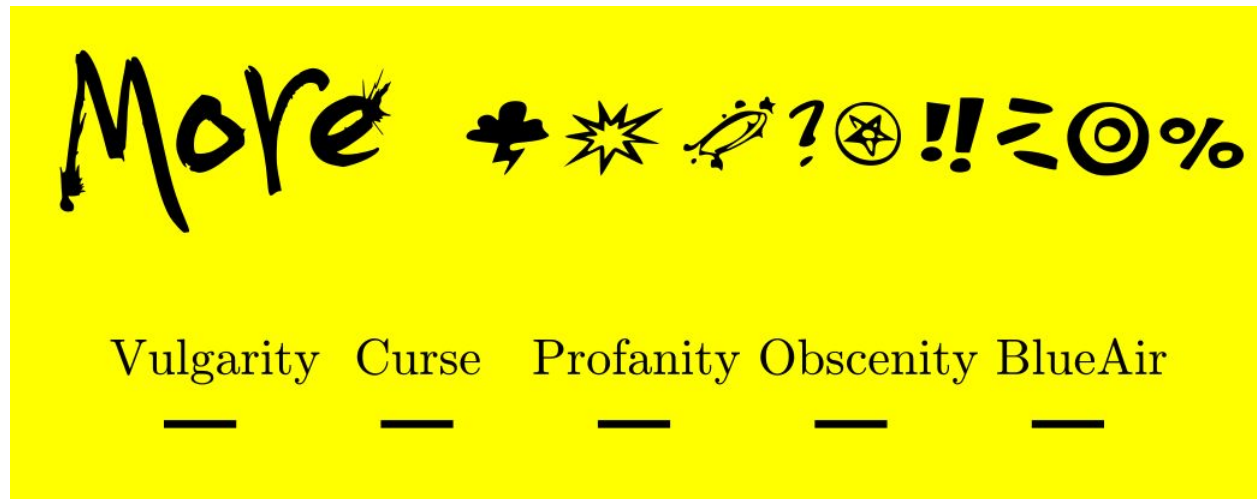
Each slot triggers a carefully sample of virtuoso performance of a given instrument. Slots are annotated with icons or photographs of different instruments. This indicates that coins for a given slot will be used to fund acquisition of that specific instrument.

More Deliverance



This regime combines the duelling banjos of the film score for the movie deliverance, with a suggestion that higher coin denominations will trigger more duelling. The lower denominations only trigger a single riff. 50p or more will trigger a full banjo duel!

More Swearbox



This tongue-in-cheek regime operates like a 'reverse swearbox'. Labels indicate that inserting higher denomination coins will prompt more exasperated 'swearing'.

In fact none of the audio samples are swearing at all - instead using phrases such as 'golly gosh'. People may be encouraged to try all the slots just to know what they can get the box to say.

More Jukebox



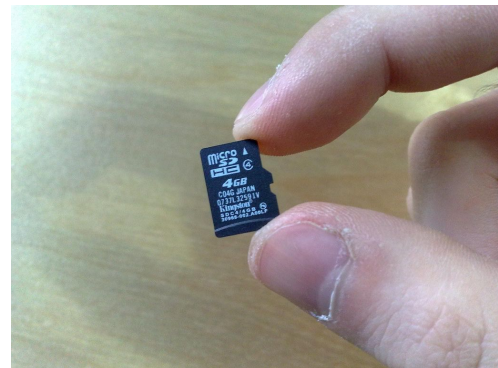
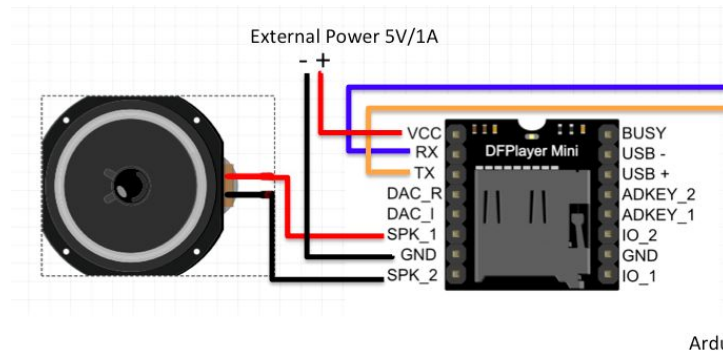
The box will lend itself naturally to the hosting of Jukebox material, for example with artist pictures associated with each slot, or perhaps each slot playing a single track from a locally-produced album.

More Foley



In this regime, each slot triggers a different 'foley' cartoon audio sample, such as the squelch of a boot, the wah wah of the 'sad trombone' riff. Icons could be associated with each slot to stimulate people's curiosity.

Materials and Dimensions



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The Playbox will be constructed around a 12 inch steel cash-box with coin slots spaced approximately every two inches. All cash and electronics will reside inside the cash box, with a 5V USB power supply cable leaving the box and routed to a USB mobile phone charger used for power. The oversized covers will extend beyond the strong box according to the designs agreed with More Music. The box will and physically mounted to the wall a steel bracket. The electronics will be based on a NodeMCUV2 running Python, controlling a DFRobot MP3 Module with sound amplified through drilled holes from speakers in the front of the cash box. SD cards will be provided, but More Music can develop their own audio content according to current projects and scheduled performances. Covers and cover mounts will be manufactured by laser-cutting from Acrylic and Two-tone laminate.

Finance

The budget of £1500 will be divided as follows...

Electronics, software, SD card mounting	2 days at £250 per day	£500
Collaboration Contact	4 x 2 hour design meetings	£250
Box, cover design, laser-cutting	2 days at £250 per day	£500
Materials	All electronics, laser-cut covers, strongbox and mountings	£250
Total		£1500

Schedule

Delivery of an end-to-end working prototype is anticipated by end April, with full delivery met by mid May

Futures: Public Engagement and Service Support

This interactive technology collaboration could underpin future work alongside More Music. We are keen to share the skills and technology underpinning the PlayBox with a public audience. The design can be a basis for future public workshopping creating interactive audio devices to play music or sounds which we would be happy to implement and lead for our normal workshopping day rate - £75 for each two hour workshopping period, and £50 call-out.

Further specialisation of the Playbox is expected to be straightforward without our help. However, as a very local company we also stand ready to provide informal support on an ad-hoc basis. If further specialised covers or audio regimes are required in the future, we are happy to maintain the rates under 'Financials' for the future needs of More Music.



@ShrimpingIt
13 West Street, Morecambe,
LA3 1RB