PIANO TECHNICIANS GUILD VIRTUAL REALITY PROPOSAL

BY SPACEPOST

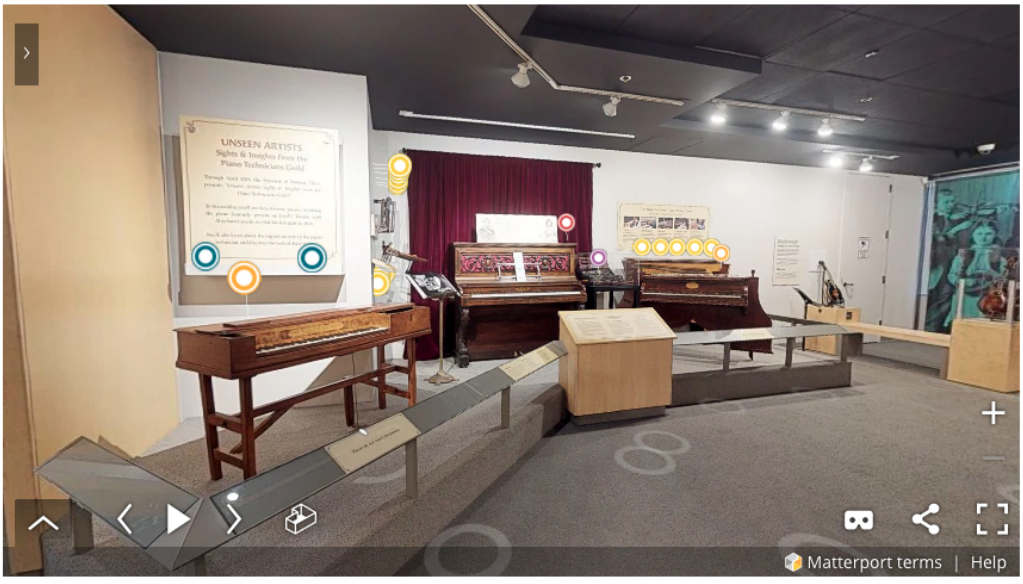
In this document we explore a possible road map towards the design, construction, and distribution of a VR PTG museum interactive experience. This roadmap is broken up into three steps, which can be summarized as follows:

1. **Imaging:** Travel to and asset capture of the piano technican guild museum as a series of fully 4k VR capable 3d models, one imaging per point of interest.
2. **Stitching:** Construction of a complete spatial model through stitching of the point of interest models.
3. **Interactivity:** Design and deployment of a fully explorable VR app, with interactivity layers including per-exhibit information (in H.U.D. form), animated/dynamic exhibits, and narration/music audio layering.

As described in the proposal steps, this process is estimated to be deliverable within a month of start, and have total project cost of $4 - 5 thousand dollars, including expenses.

The core deliverable will be a multi-platform virtual reality and 3D tour web-app, which may be embedded within the PTG website... and will be compatible with all modern windows, osx, linux, andrioid, and ios systems.

Update 4/11/18 : We've started work on the project, you can see what we've done so far in the scan below.



Step 1: Imaging

TRAVEL DETAILS

Spacepost will send an agent to the PTG exhibit to conduct asset capture and development.

This process will take 2-3 days at most, and encompasses capture of video, audio, and 3d models.

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MATTERPORT DETAILS

The Matterport is a virtual reality camera, which uses an array of IR triangulation modules to construct a true 3D model of any space.

Spacepost is happy to be one of the first Matterport partners offering full 4k-resolution imaging with the brand-new Matterport Pro2.

IMAGING DETAILS

The museum will be broken up into 'points of interest,' and a Matterport deployment will be conducted at each point.

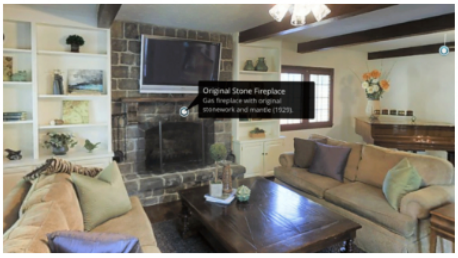
Alongside these deployments will be capture of curated "meta-data", which will allow curation of key interest points through animation and HUD.

Step 2: Stitching

POINT OF INTEREST CAPTURE

The Matterport camera will be placed at each point of interest, along with a high-fidelity audio capture device.

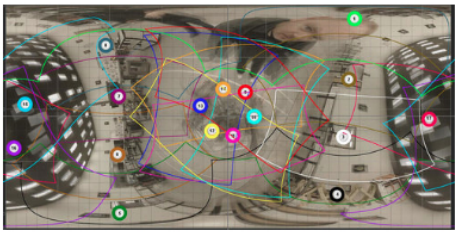
Each placement captures a 200-foot-diameter sphere about the placement, resulting in a VR-exploitable model of each point of interest.



CAPTURE STITCHING

Once the point of interest models are captured, they are stitched together to create a total model.

Spacepost uses an custom in-house procedure to maximize scan quality and smoothness of exploration.



FINISHED MODEL

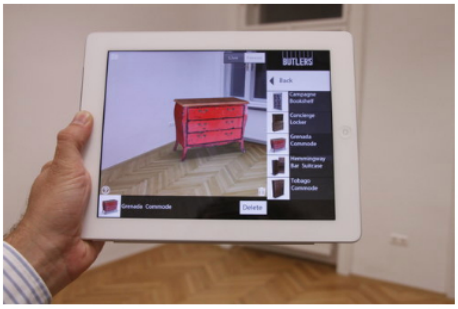
The finished model will be a fully exploitable 4K imaging of the museum.

This model is deployable as an embedded website, a mobile app, and a Google VR-platform experience.

Step 3: Interactivity

REFERENCE LAYERING

Each point of interest will have a floating HUD to display textual content such as exhibit name, history, description and references for additional learning.



ANIMATION LAYERING

Points of interest with motion dynamics (such as a piano mechanism) will have their actions imaged. These action images will be viewable while exploring the virtual museum.

ROOM-SCALE EXPLORATION

The final layering step involves the addition of spatial data, allowing room-scale exploration of the space through the HTC Vive VR platform.

This asset will be fully compatible with emerging multi-player VR systems such as Facebook Spaces... potentially allowing users from all over the world to interact socially within the virtual museum.

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Deliverables

VR-CAPABLE IMAGE OF MUSEUM

A 4K resolution 3d ob file, spanning the entire PTG museum, with ultra high resolution capture of the key exhibits.

MUSEUM APP FOR VR AND MOBILE DEVICES

A explorable VR PTG museum app with interactive media layering. This will be accessible to anyone with a modern smartphone or PC.

In addition to our VR services, Spacepost is a full stack web development group... so we will be happy to integrate the app with the current website stylistically, or execute a site overhaul.

ROOM-SCALE EXPLORABLE

A full room-scale educational experience for the HTC vive, allowing virtual museum goers to walk around as if they were there.

This asset is fully compatible with the emerging VR social space technology such as Facebook Spaces.