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Experience Canvas

(Working Title)

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1.1 Project Overview

Experience Canvas will give customers/audience members a glimpse into the ASB theatre entertainment by interactively producing a collage of theatrical moments on the digital screen. The installation allows for people to use their hands and body movement to open a visual window of the performance happening on the theatre stage. What content of the theatre the person chooses to share is entirely up to them.



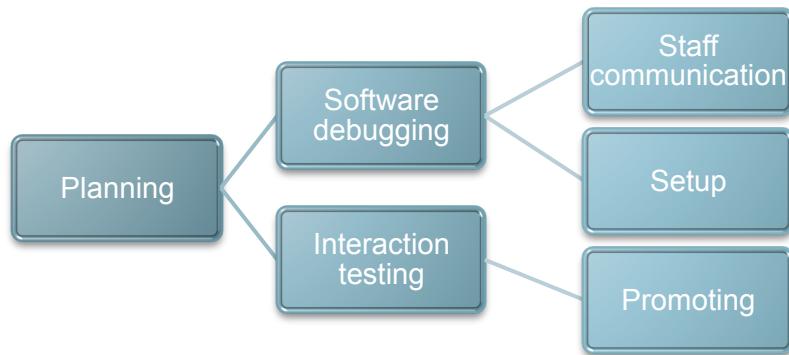
1.2 Phases

Below are the different phases the project is expected to go through in order to complete the installation on schedule:

- Phase I: Secure developers and equipment for selected project timeframe
 - Phase II: Communicate key goals and issues with developers
 - Phase III: Software refinement
 - Phase IV: Demographic audience testing
 - Phase V: Promoting
 - Phase VI: Install
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1.3 Timeline

The following timeline is expected to take place over six months.



Phase	Outlines	Time Period
Planning	<ul style="list-style-type: none"> ▪ Seek developers and user testers ▪ Seek equipment/space ▪ Illustrate and understand key issues and goals and the expected timeframe 	February
Software debugging	<ul style="list-style-type: none"> ▪ Pinpoint video playback freezing error ▪ Refine user detection and intuitive interaction ▪ Implement multiple camera/video viewpoints 	February - April
Interaction testing	<ul style="list-style-type: none"> ▪ Test multiple age ranges of users ▪ Gather feedback ▪ Refine software/visuals towards the consensus 	March - May
Staff Communication	<ul style="list-style-type: none"> ▪ Source all members related to theatre/installation ▪ Give an understanding of agreement to all who are in the video content, live or recorded ▪ Keep staff up to date with setting up, restarting and taking down installation if any problems arise 	June
Setup	<ul style="list-style-type: none"> ▪ Collaborate and test installation in final space ▪ Record/experiment with the recording content 	May - June
Promoting	<ul style="list-style-type: none"> ▪ Utilise social and public spaces to inform of the installation 	May - July

1.4 Resources

Developer

A developer with knowledge in C++ and more specifically openFrameworks in Xcode will be beneficial with understanding and fixing some of the more prominent issues currently upheld with the project. Any use with the Microsoft Kinect or any video or sound manipulation is also advisable. Proficiency with a Mac computer is required.

Technician

A technician is required to gather and maintain the technical equipment needed for testing and final display. They will need to keep up communication with developers to understand what equipment is to be allocated.

Testers

A group of people ranging from different ages and genders will be critical for the testing phase of the project. They will be needed at different time periods of the project and as relatable to the general audience coming into the ASB theatre.

Studio

A space to test out the equipment, software and user interaction for the software debugging and testing phases. A space that is comfortable for both participants and developers. This space will be used for approximate time of developing the installation.

iMac

An iMac computer that is software Lion or higher. **Preferably not Maverick.** It will need software Xcode, Camtwist and a video codec that can record 1080x1920. At least 3 usb inputs required.

Screen/Monitor

A screen will need to be allocated to the studio testing space of at least 1080x1920 resolution.

Cameras

Depending on if the video feed is to be displayed as live footage, the camera to be used in the theater may be needed for testing with the software.

Microsoft Kinect

A Kinect will be required for interaction and user testing. One can be accessed from AUT for week long periods of time however not long term.

1.5 Testing

There will be a testing phase issued to understand user interaction including any complications depending from a person's body size and shape. The types of participants required for this phase would be best targeted for the audience members going to see a theatre entertainment. A range of ages will be necessary to understand the different perceptions of what the installation can do. Selecting audience members from the ASB theatre is also an option. Some of the questions to keep in mind when selecting participants:

- Does the participant understand how their body is being detected?
- Are the participant's hands detectable individually?
- Is there any interference with the participant's interactions?
- Does the participant understand the different types of interactions between using one hand or two hands?
- Does the participant feel satisfied with the reaction the installation gave to their interaction?
- Does the participant like what they see on the screen?

1.6 Issues/Tasks

Below is a table of the current issues with the installation including future goals and outcomes.

Issue/Task	Outline	Solutions
Freezing (Major)	<ul style="list-style-type: none"> ▪ Program freezes occasionally while stopping/uploading video. ▪ It only freezes after a person has interacted with the installation and is changing between video playbacks. ▪ It could be caused by a data leak from the video recorded (although error happens with loading a new video). 	<ul style="list-style-type: none"> ▪ 3 video playbacks alternating, allowing time between a video 'rendering' out and when it is required to play. ▪ Finding an alternative video playback system. ▪ Having 2 video players in the program instead of 2 videos swapping between each other.
Delay (Major)	<ul style="list-style-type: none"> ▪ Video mask delayed compared to rectangle outline. 	<ul style="list-style-type: none"> ▪ Would need to find a way for both live video and live rectangle being on the same screen without rectangle being recorded.
Multiple cameras (Major)	<ul style="list-style-type: none"> ▪ Swapping between camera angles in the live/prerecorded theatre. ▪ Giving the user a choice on which camera to look through. 	<ul style="list-style-type: none"> ▪ If it is prerecorded then it just needs to swap between videos, assignment of video position will need to be researched. ▪ Live video can work but will need to test having 3+ cameras connected to a Mac.
Prerecorded video/Live camera (Major)	<ul style="list-style-type: none"> ▪ Record a show and create a video loop for the audience to interact with. ▪ Have a camera live for users to interact with. 	<ul style="list-style-type: none"> ▪ This will be decided depending on permission for recording theatre performers.
One hand detection (Minor)	<ul style="list-style-type: none"> ▪ Software sometimes does not register a blob when only one hand is visible. Video mask disappears. 	<ul style="list-style-type: none"> ▪ Will need to seek exact spot of where detection of blob is slipping. Most likely an 'if' statement error. As a last resort the option of removing one hand detection is possible.
Usability (Minor)	<ul style="list-style-type: none"> ▪ Difficult for users to understand how close their hands need to be without interference from their stomach. 	<ul style="list-style-type: none"> ▪ User feedback. ▪ Visual cues explaining how to use it ▪ Emphasis on the detection of player's body parts. ▪ Re-do designated hand positions code. ▪ Recalibrate blob detection.

1.7 Budget (TBA)

Item	Cost (\$)
Developers	00.00
Equipment	00.00
Participants	00.00
Studio	00.00
Fees	00.00
Total	0,000.00