Media Arts VR Art Gallery

Project Description

As a creativity activity, this project is to build a media arts VR art gallery that can not only showcase students' 3D modeling art, but also create immersive navigation experiences for visitors. The main objective for this creative project is to expose students, faculty, and local art lovers to the future of art & design and new games in the VR environment. As a research project, the other objective is to investigate and document "design" research data collected in this project regarding how identified programing, game design, and art & design skills for the digital platforms can be successfully or unsuccessfully incorporated and applied to the VR platform. The issues and challenges as well as lessons learned will be used to make recommendations for future research and practice.

Methodology

The steps preceding project completion are based on the game development process including concept development, proof of concept, game design document, prototype, and player testing. While the virtual gallery is not a typical game in the standard sense, this virtual space requires the same design skill sets for game design such as world building (art & design), navigation, interactivity and interaction, information, and interface for overall user experience. An explanation of each step is as follows:

Concept development – The objective of this stage is for basic outlining of the project. The intention of this stage is not to form a detailed description of each element, simply to create a very rough draft.

Proof of Concept – The objective of this stage is to research topics in the concept to distinguish what ideas are viable or not. An example of this would be the architecture for the virtual gallery. Research will be done to find references of non-virtual galleries. Once we have these references, we will decide making 3d models is feasible with the software we are using (Unity, Autodesk Maya, and Autodesk 3ds Max). This task is very feasible and is simply being used as an example of the process, however we will still need references to infrastructure to get a feel of what an art gallery looks like.

Design Document – The objective of this stage is to make a full document describing the entirety of the project. The document is to include a description (much like this document), objective, target audience, and design principles (goals, rules, mechanics, audio, etc.).

Gallery Prototype – The objective of this stage is to create and implement design principles (3D models, environment, mechanics, audio, etc.) of the virtual gallery. This step will also have an in-house (closed) player testing; which means a player testing by the developers of the project and individuals selected by the developers of the project.

Usability/Player Testing – The objective of this stage is to have an open player testing of the art gallery. This player testing will involve students and faculty of both the College of Communication, Fine Arts & Media and the College of Information Science & Technology. This phase will also consist of reflections and revisions that are identified during the player testing before project completion.

Suggested Project Timeline

The tentative timeline for this project starts in January 2019 and extends to December 2019. The bulk of creative design and programming will happen during the Spring 2019 and will end with a playtest, reflection, and revisions. During the Summer 2019 and Fall 2019 semesters the main areas of work will be cycles of playtests, consisting of different focus groups, and revisions to finalize the project. The project will conclude at the end of December with a project report and presentation showcasing out collected data and lessons learned. A timeline of these phases is shown below.

Month and Major Goal	Description
February – Concept and Design	– Research and test scripts on how to navigate a Unity game world in VR via Oculus VR headset – Concept Development, proof of concept, design document – Gallery prototype in Unity, design issues, and reflection
March/April – Gallery Development	– Gallery construction and internal usability test in Unity and VR – Importing ART 4140 students' 3D art into Unity and VR – External usability in Unity and VR – Design and development issues and reflection
May – Playtest	– First round playtest by students (media arts, game design, graphic design, studio art, IS&T), playtest issue and reflection
June & July – Revision	– Revision
August – Playtest and Revision	– Second round playtest by SOA faculty members – Playtest issue, reflection, and revision
September – Playtest and Revision	– Third round playtest by IS&T faculty members – Playtest issue, reflection, and revision
October – Playtest and Revision	– Fourth round playtest by UNO students and faculty – Playtest issue, reflection, and revision
November – Playtest and Revision	– Importing Art 4180 student 3D art to the gallery – Last round playtest by local folks and art fans – Playtest issue, reflection, final revision, and final design document
December – Wrap-up	– Project report and presentation of findings

Suggested Project Timeline extended

Each week, during Spring 2019 semester, there will be a mandatory 2-hour work session in the CMAV Lab overseen by Dr. Lilly Lu. These meetings will continue as needed for the Summer and Fall 2019 semesters. This comes to a total of at least 30 hours of lab work. Beyond the mandatory meeting times I believe, from previous game development experiences, that I will spend at least 150 hours on development. The majority, about 100 hours, of that time will likely be spend developing 3D models while the rest will be spent developing code and scripts to create the virtual environment in Unity. With these two estimations, 30 hours and 150 hours, the total time for this project is at least 180 hours.

Project Roles

My role as a student in this project is to be the lead developer. Having ample experience in game creation and 3D modeling I will be able to prioritize the programming and modeling projects appropriately. My faculty mentor, **Dr. Lilly Lu**, will advise me throughout the entirety of the process, making sure that I reach milestones at the appropriate times in order to ensure that the vision of the project is ultimately met. She will recruit media art students as volunteers to join the team led by me to help with this VR project. My faculty mentor will also have the key role of collecting student works from CFAM, which we will place into the virtual gallery, as well as selecting individuals for the closed player testing and setting up the public player testing.

Budget

- $2000 stipend

The stipend requested for this project is $2000 which compensate me for time spent on the project. A stipend total of $2000 for a minimum of 180 hours comes to a total of $11.11/hr. I am currently a full-time student and have a part-time STEM education job which pays $25 an hour. Time from my part-time job will be taken away to develop this project and the stipend will partially compensate me for this loss.

References

This is not a complete list of citations that will be used to help guide this project, there will likely be more readings that are found during the process. As for now, this is a list of references that will be used.

De Byl, Penny. (2017). *Holistic game development with Unity : an all-in-one guide to implementing game mechanics, art, design and programming*. Boca Raton, FL : CRC Press, Taylor & Francis

Macklin, C., Sharp, J., & Gibson, J. (2015). *Introduction to Game Design, Prototyping, and Development + Livelessons*. Addison-Wesley Professional.

Hocking, J. (2018). *Unity in action: Multiplatform game development in C#.*

Dear FUSE Grants Committee: January 20, 2019

I am writing this letter to indicate my wholehearted support for my student Joey Ralston's proposal "Media Arts VR Art Gallery " and application for the FUSE grant. In this letter, I will begin by testifying to Joey's preparation and qualifications, explain the potential and contribution of this project combining research and creativity, verify the viability of the objectives and budgets, and show my commitment and methods to mentor and supervise Joey's progress throughout the completion of this project.

Joey was an A+ student in my Art 4180 Advanced Game Design course last semester. He had many innovative ideas for creating his unique games; he is very good at managing time to complete assignments and deliver quality outcomes by deadlines. He demonstrated not only excellent programming, game design, and user interface design skills for the digital game projects, but also effective leadership and teamwork skills in the team project. He was proactive in offering help to support other team members' work and facilitate communication among team members. Although his major is computer science, he spent extra time outside the course to self-learn and experiment with advanced 3D modeling programs, animation, and virtual reality apps to unlock and nurture his artistic and creative talent and potentials. Currently, Joey is working on a simulation game project with a client under my supervision in the Creative Media and Visualization (CMAV) Lab. I found that he has exhibited professional manners and the capability to lead, develop, and implement a project independently.

Joey and I share similar interests and vision regarding the future of games and game art and design in virtual reality. Virtual reality is a fast-growing trend, but still in its infancy for gaming, media arts, and art education. There is not sufficient design research regarding game art and design in VR. Thus, Joey and I would like to work as a pioneer team (mentor and lead project manager) to explore ways to bring programming, game design, and art and design together to create art exhibit space in VR. In this learning by doing/creating approach, we will generate first-hand knowledge and experience as "design" research data and will complete both navigable and interactive art spaces in VR as creative outcomes/products to exhibit media art students' 3D virtual art. The objectives of this creative research project are:

1) Research and learn how to program scripts that connect VR headsets to Unity and run a Unity-based game world as an art exhibit space in VR.
2) Research, learn, and test the technical skills necessary to successfully import 3D digital art into VR.
3) Research, learn, and test how to successfully apply art and design skills to create the visual content/virtual space as art in VR.
4) Research, learn, and test how to successfully apply game design skills to create a navigable and interactive art exhibit environment in VR.
5) Document the technical, art and design, and game design issues, solutions, and challenges to bridge the design research gap between theory and practice and make recommendations for the field of game design, media arts, and art education.

I verify that Joey's proposed objectives and budget are viable and deliverable in the FUSE time frame. I plan to ask Joey to document his progress and complete reflections in a weekly design/learning journal as research data. I will have a weekly meeting with Joey to review his progress and challenges and provide my mentoring and feedback. Also, I'll help Joey to recruit additional media art students for his design team and locate other expert programmers or Unity game designers when he encounters difficult technical challenges if needed. Finally, I'll help Joey find students, faculty, and local art lovers to playtest the VR gallery, analyze and discuss the players' feedback with him, and suggest the direction and design solutions for revisions.

As his mentor, supervisor, and prior instructor, I am very confident that Joey Ralston is well prepared and capable of executing this proposed project with all the required skills, experiences, and professional manners. I strongly believe that he will successfully implement this proposal and complete the expected project outcomes by the deadline if he can receive the stipend and the funds from the FUSE grant. I will be happy to answer any questions you might have about Joey and his proposal.

Lilly Lu

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