

Teaching Art Creation with Augmented Reality (AR) and Aero

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ABSTRACT

Our project aims to provide a snapshot of the possibilities of Augmented Reality (AR) art creation using Aboobe Aero within a limited timeframe, offering participants a taste of their creative potential within augmented reality. We introduce different types of audiences, ranging from middle schoolers to college students, to the world of AR via several workshops. We plan to survey our audiences, then analyze the results of these surveys and present the results of our endeavor in our poster.

CCS CONCEPTS

• **Applied computing** → **Interactive learning environments;**
Media arts.

KEYWORDS

Augmented Reality, AR, Aero, Blender, TAP, Outreach, Information Technology

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1 INTRODUCTION

We are a team of students at Georgia Gwinnett College (GGC) enrolled in the Technology Ambassadors Program (TAP) this Spring 2024. During our classwork, we are developing a fun project to introduce diverse audiences to Augmented Reality (AR) art creation, intending to let them discover how fun and creative the field is and ultimately attract them to Information Technology (IT) and STEM fields.

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2 THE TECHNOLOGY AMBASSADORS PROGRAM (TAP)

The Technology Ambassadors Program (TAP) has a focused commitment to service learning and addresses the need to increase the number of students who persist in Information Technology (IT), particularly those underrepresented in computing. The program provides enhanced technical, communication and leadership skills, via technical, yet fun and engaging projects, aimed at attracting audiences to IT [3, 4].

3 PROJECT: ART CREATION WITH AR AND AERO

Our project aims to lead students on a transformative journey into the world of art creation by integrating Augmented Reality (AR) and digital art. The project will include an introduction to the application software, Adobe Aero [1] and its contributions to augmented reality artworks, along with an introduction to Augmented Reality (AR).

Then, students will learn step-by-step how to craft interactive three-dimensional art pieces that showcase their creativity using Blender [2], while understanding the functionalities within the Aero application.

4 RESULTS: OUTREACH WORKSHOPS

We plan to offer three different workshop opportunities: TAP Expo, Super Saturday Series (S3), and In-Class Workshops.

TAP Expo is a demonstration event where college students are able to see a demo of our project and interact with AR.

Super Saturday Series (S3) is a workshop event that is geared towards middle school and high school students. Students learned the basics of AR, Blender and Aero and how to create art using these tools.

The in-class workshops will be an hour long and consist of a pre-survey, a demonstration of the capabilities of AR and Aero, and a lesson on understanding how to create your own 3D art using Blender. We then will let the participants experiment with these tools by creating their own art pieces. We finished each workshop with a post-survey.

The workshop will highlight the Aero [1] application, a new AR art development platform. Aero offers a comprehensive suite of tools for creating immersive AR experiences. Our team will create an adept library for the students to engage with and create their unique three-dimensional pieces. Our creations would be made

using Blender with the help of our team, however all interactions students will have will be limited to the Aero application.

Each workshop will include different lessons targeting the appropriate audience.

4.1 Workshop Lessons

- (1) **Overview:** This micro-lesson offers our students a rapid introduction to the application of Aero and Augmented Reality (AR). Participants will engage in a condensed yet immersive exploration, gaining a snapshot of these innovative technologies.
- (2) **Introduction To Aero:** Aero is an AR tool that allows artists to create new dimensions of art by linking classical with digital art. The digital layer opens doors to a whole new world of possibilities. Artists can take visitors on a journey through time, explain what lies underneath, enhance the art with animations, or show how the artworks were made [1]. Aero's mission is to take your favorite places and create spatially aware interactive experiences. "Aero is the most intuitive way to build, view, and share robust immersive storytelling experiences in mobile AR" [1]. The main focus of this lesson would be learning how to use the platform.
- (3) **Digital Art Sprint:** Following the introduction, students will engage with the platform to create their 3D art pieces. Armed with the library (created by our team with the Blender application) students will be encouraged to mix and match the mediums made available to create unique variations. This digital art sprint is a condensed yet immersive exploration,

offering participants a snapshot of the limitless possibilities that arise at the intersection of Aero and Augmented Reality. Participants will leave the lesson not only with newfound skills in digital art creation but also with a profound understanding of how to leverage AR for their artistic expressions and hopefully with the desire to experiment on their own.

We will conduct pre and post-surveys at the beginning and at the end of the workshop, respectively. We will analyze the results of these surveys to assess the effectiveness of our workshops and we will present our findings in our poster at the conference.

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