

II. PROJECT INFORMATION

A. Project or Program Title: The Virtual Future

Total # of Students Impacted by the Project: 24 High School, 30+ Middle School
Grade Level(s) and Subject(s) involved: 7-12

B. Austin Ed Fund Priority Content Area(s): Please identify which area(s) are most closely aligned with your project goals and activities.

- Whole Child Every Child
- STEM (Science, Technology, Engineering, Math)
- Literacy

C. Type of Grant (Please check one):

- Idea Grants (Up to \$2,000 per project for an individual classroom)
- Incubator Grants (Up to \$10,000 per project for a campus or team of teachers)

D. Project Description (Max 500 words): Describe the classroom/campus need for the project, the project's specific goals, and how the project is structured to achieve them.

Virtual Reality (VR) is the computer-generated simulation of a three-dimensional image or environment that can be interacted with in a seemingly real or physical way.

*By 2025 VR will be a 80–120 billion dollar business. It is our goal to give students a head start in training for this new industry, which covers 360-degree filmmaking, VR Gaming, and VR Educational tools. Currently, there is no coursework for this new technology at our school.

With the development and viral spread of VR, along with student interest, there is a need to bring this new medium into the classroom. Our goal is to create an after school program giving students the opportunity to design VR systems and create content for entertainment and education.

The program will bring students together with various backgrounds and skill sets in a collaborative environment. Skills like storytelling/ script writing, cinematography, immersive sound design, engineering and design, editing, and interactive game design.

Austin is known for its film industry but it's also a hub for game design. After Austin ISD, the video game industry is the second largest employer in Austin. As this industry moves toward virtual reality, we want our students to be job ready. We plan to bring in industry speakers during the year and try to develop industry partnerships once the seed program has started.

We also plan to bring the technology to our vertical campuses to promote the technology and to develop the interest of incoming students.

- Resource: Forbes "Virtual and Augmented Reality Realistic Revenue Generators" Oct. 2016

Specific Goals

- Students will learn to assemble and program hardware specific to VR development systems
- Students will learn to develop, plan, storyboard, and execute various projects that will be designed to develop skills needed.
- Students will gain knowledge of 360-degree filmmaking challenges and develop problem-solving skills.

Evaluation

Students will be evaluated based on the outcome of their projects and final portfolio.

What we are asking for:

The **Oculus Rift** is a virtual reality headset developed and manufactured by **Oculus VR**. It is a system that completely immerses you inside virtual worlds. It is also the best for developing VR projects because it doesn't need additional hardware such as a smartphone like other systems. Oculus also makes SDK (Software Development Kit) available for free.

The Kodak Pro SP360 is a dual camera pack designed to shoot 360-degree footage. We have determined that the quality and price of this system would work the best for our needs.

VideoStich Studio is post-production software that "stitches" the two video files created with the dual camera setup together to make one immersive 360-degree video file.

Skybox is a set of plug-ins for Adobe After Effects that allows the user to create and edit 360-degree video as well as add text, graphics and effects.

Google Cardboard Kits, VR goggles for use with any smartphone, will be used on our visits to the middle schools to promote the technology and the program.

The other hardware listed in our request is components needed to build the computers.

E. Project Activity Timeline (Max 250 words): List the major activities of your proposed project with approximate target dates (must conclude prior to report due May 18, 2018).

June: Money Awarded

August: Items Purchased, Lesson plans written

September- December:

- Students assemble equipment, install software
- Students execute various lessons/projects designed to teach specific aspects of VR development
- Students design and create “cardboard” VR headset kits for middle school students to assemble.

January-April

- Students work in teams to develop final Virtual Reality Projects.
- Students visit vertical schools to develop interest in the technology by showing the students how to assemble their own “cardboard” VR headsets.

April-May

- Students learn to distribute/market their products.
- Report back to committee

F. Expected Results (Max 250 words): Describe the student outcomes, or changes that will result from your work and the criteria you would like us to use to evaluate your success.

Students will demonstrate advanced proficiency, and develop creative skillsets that will enable them to create compelling content and become valuable stakeholders in the emerging industry. Students will also be able to show

knowledge of different virtual reality systems as well as designing and building those systems. Students will also demonstrate their knowledge by teaching and assisting kids on the vertical team what they have learned during the year. Assessments will be project and portfolio as well as observation based.

Student will be expected to have at three projects completed in their portfolio. Each project will consist of a project statement describing the project, a script and storyboards where appropriate, a production outline and schedule as well as a finished project. The projects will be a 360-degree short film, an interactive game or educational piece, and an immersive art piece.

G. Innovative Aspect (Max 250 words): Describe why this project is a creative, outside-the-box way to work toward achieving student excellence.

This is a brand new technology that is not currently being taught at our school. Our school is a great incubator for this type of project due to the diversity of the campus bringing together musicians, artists, filmmakers, animators, and game developers.

A typical project would start with a brainstorming session. From those ideas, a storyline would be created and project statement would be written. Depending on the type of project, interactive or film, a script and or storyboards would be generated. Students would then decide the best way to execute the project, live action film, computer generated imagery, or a combination of both. A production schedule would then be generated and tasks would be divided among each group. After production is finished, the project would go into post-production, combining all the imagery into a story. Sound, graphics, and interactive programming would then be added if appropriate.

Some examples of how the technology is being used today:

Displaced, a 360-degree video by The New York Times
<https://www.youtube.com/watch?v=ecavbpCuvkI>

The Untold Story of Africa's Middle Class
<https://www.youtube.com/watch?v=uC6joH8xlg0&list=PL8WDJ9YccHa06y11Jp8t7eVwTkYojvzxF&index=8>

NASA released an interactive VR experience aboard the international space station called "Mission ISS"
<http://www.theverge.com/2017/3/9/14870462/oculus-nasa-esa-mission-iss-vr-space-station-simulator>

H. Transformative Potential (Max 250 words): Describe how this project has the ability to take learning to the next level through collaboration, replication, sustainability, and/or connection to real-world applications (Required for Incubator, Optional for Idea Grants).

Virtual reality projects are the products of a collaborative effort between storytellers, artists, filmmakers, programmers, and hardware engineers. Developing these skills sets and learning to work on collaborative projects will not only prepare students to work in the VR industry but any industry. Collaboration is one of the most important skills students can learn and take into the “real” world. Our goal is to eventually bring this out of the after school program and develop this into a new strand that can help create job skills for the industry of the future.

The educators are investing their own resources to help get this project off the ground. The students using resources provided by the educators have already built one of the three Oculus computer systems necessary. We are committed to, and have personal interest in keeping this project going into the future. We have proven our fund-raising capabilities in growing the current AV program, each year bringing the students closer and closer to experiencing what it’s like to work on a professional set and will continue fund-raising for this program to keep up with the current technologies.

Today, we have already created student interest and are developing lessons for both the high school and the vertical team programs.

By bringing the technology into the middle schools and teaching them to create their own VR project and making their own cardboard goggles to view their work in, we will be creating interest for future students to enter the program.

III. PROPOSED BUDGET

A. Add Lines as Needed. Please secure a vendor bid for any item over \$1,000.

Description of Budget Items Requested (e.g. contract services, materials/ equipment, transportation, etc.)	Partner/Vendor (e.g. Arts Partner, Vendor, Supply Company, etc.)	Cost Amount
3- Kodak PixPro SP360 4K Action Camera Dual Pack	B&H Photo Video	\$1898.67
3- Oculus Rift w/Touch	Oculus	\$1794.00
3- AMD RYZEN 7 1700X 3.4 GHZ 8-Core Processor	Amazon	\$1166.97
3- Cooler Master Hyper 212 EVO 82.9 CFM CPU Cooler	Outlet PC	\$74.64
3- Asus PRIME X370-PRO ATX AM4 Motherboard	B&H Photo Video	\$497.97
3- V Series 16 GB (2 x 8GB) DDR4-2666 Memory	Jet.com	\$299.91
3- Samsung 850 EVO-Series 250GB 2.5" SSD	Amazon	\$281.97
3- Western Digital Caviar Blue 1TB 7200RPM Hard Drive	Outlet PC	\$147.99
3-EVGA GeForce GTX 1070 8GB ACX 3.0 Black Edition Video Card	Amazon	\$374.00
3- Mid Tower Case	NCIX US	\$89.97
3- Corsair CXM 550W Semi-Modular ATX Power Supply	Amazon	\$194.97
3- Microsoft Windows 10	OutletPC	\$295.74
3- AOC 12269VW 21.5" 1920x1080 monitor	Best Buy	\$239.97
3- Verbatum 99201 Wired Standard Keyboard	Amazon	\$16.62
3- Logitech M100 Wired Optical Mouse	Amazon	\$26.97
60 – Google cardboard Kits	Newegg.com	\$119.40
3-Skybox V2 360/VR Plug-in for After Effects	B&H Photo Video	\$687.00
1- VideoStich Studio V2	B&H Photo Video	\$295.00

Total Project Cost Amount:	(Add the total budget items from above)	\$8501.76
Total amount of contributions from other funding sources: (Provide the list of sources below in section B.)	(Sum the total amount of contributions anticipated from other sources, such as PTA, Title 1, etc., if any)	\$1753.00
Total Amount Requested from Austin Ed Fund	(List the total amount you are requesting from Austin Ed Fund)	\$6738.76
Total Cost per child	(Divide the total project cost amount by the number of students served.)	\$354.24

B. FUNDING SUSTAINABILITY: List other funding sources you have identified to fund this project, if any (Optional).

Source	Amount of Request	Funding Status (Will Apply, Applied/ Pending, Approved)
Ken and Andrea Rogers	\$1753.00	Approved