

# ChildArt

The Magazine of the International Child Art Foundation

October-December 2018



## EDITOR'S NOTE

Dear reader,

The idea for this issue on Virtual Reality and Education sprung from a conversation I had with Marie Graham who teaches VR at the Mount Vernon Presbyterian School in Atlanta, Georgia. We thank Ms. Graham for taking the lead in producing this issue and are grateful to her brilliant students for serving as editors and interviewers. We thank her devoted colleagues for embracing the idea and Ms. Rikki Hagerty for designing this issue.

It is the notion that your sense of 'presence' is highest in VR than in any screen media like YouTube, movies or television that makes VR the future of education and intervention. While the prospects for VR, Augmented Reality or Mixed Reality are manifold as you will discover in this magazine, we also need to be careful that these new technologies are used sparingly so as not to misshape the brain and are not misused for brainwashing or indoctrination. Bearing this in mind, you can evaluate how you can best utilize VR to enhance your creative potential and freedom of expression.

Happy reading,



Ashfaq Ishaq Ph. D.  
Chairman

## INTRODUCTION

Virtual and augmented reality are exciting new ways to learn and engage in the world around us, but technology is only meaningful if it is used for the betterment of humankind. **How might we tell each other stories, heal those who are hurt, and find ways to help move closer to one another?** In other words, let's use these new virtual worlds we create to lift each other up and move our society forward. Our cultures and geography may be quite different, but so much of the human experience is shared: friendship, loss, family, and love.

This issue is a special one because it is written and edited by a team of students just like you! Eleven 14 and 15-year-old students were given the amazing opportunity to be guest editors of this magazine, and what a journey it has been! We have spoken to many interesting people, interviewed, listened, researched, written, and edited. We all learned so much from this process, and my students and I, along with the support of our school, Mount Vernon, in Atlanta, Georgia, USA, are beyond grateful for this opportunity.

We are reminded and would like to remind you that learning is best done by doing, by being unafraid of failure, in fact, of expecting and welcoming it. This magazine is the result of an opportunity, the students' willingness to risk, and of our supportive and enthusiastic community coming together.

Virtual and augmented reality is about the experience, and so I encourage you to jump right in wherever you can. Also, remember that creating is most important. If you have an idea, make it come to life! The field of creating VR and AR is new, and you do not have to be a professional to start; most of the software is free. My hope is that you feel emboldened by our taking the risk to edit this magazine, and that you will take risks of your own.

Sending best wishes from all of us at Mount Vernon School to you from Atlanta, Georgia! Happy Reading!

Marie Graham

Published since 1998, ChildArt is a commercial-free arts learning, self-discovery, and global education periodical expressly written for 10- to 14-year-old creatives, but useful as a teaching tool for educators and inspirational for creative individuals of all ages. Subscribe to ChildArt online at [www.icafe.org](http://www.icafe.org) or mail your check to: ICAF, P. O. Box 58133, Washington, DC 20037. All rights reserved. Reproduction of the whole or any part of the contents without written permission is prohibited. ChildArt (ISSN 1096- 9020). Copyright 2018 International Child Art Foundation (ICAF), a 501(c)(3) nonprofit.

ChildArt is published quarterly by ICAF. Submissions may be edited even when accepted. Submissions of artwork and other material to ChildArt are made at the risk of the sender.

You can also make a donation to ICAF by sending a check to:

International Child Art Foundation  
P.O. Box 58133  
Washington, DC 20037, USA  
Tel: (202) 530-1000  
E-mail: [childart@icafe.org](mailto:childart@icafe.org)



# VIRTUAL REALITY AND EDUCATION

# CONTENTS

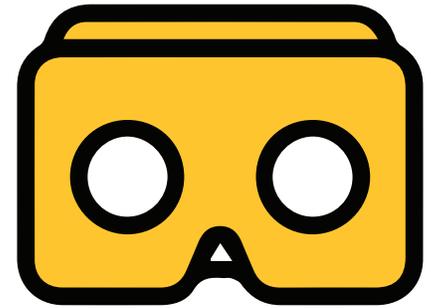
- 2 INTRODUCTION**
- 4 BASICS OF VR/AR**
- 6 HOW TO CREATE VR/AR CONTENT**
- 8 CURRENT VR RESEARCH AROUND LEARNING**
- 10 DESIGNING A VR MUSEUM**
- 12 SCHOOL VR LAB: TECHNOLOGY FOR GOOD**
- 16 TAKE-PAUSE MINDFULNESS FOR TEENS**
- 18 NICK SAVO: ALIENWARE GENIUS**
- 20 VIRTUAL REALITY ARTIST: KEVIN MACK**
- 22 DR. SCOTT SATKIN: LIMBIX, PHOBIA, AND OTHER MEDICAL WORK**
- 24 WALTER GREENLEAF: NEUROSCIENTIST AND HEAD OF STANFORD VR LAB**
- 26 JOHN BUZZELL: YOU ARE HERE VR LAB**
- 28 AARON WALSH ON IMMERSIVE EDUCATION AND IMMERSIVE REALITY**
- 30 TOM FURNESS: I AM THE GRANDFATHER OF VR**
- 32 LET'S BUILD A VR HEAVEN**
- 34 CONTRIBUTORS**

# THE BASICS OF VR/AR

REDIET YONAS

## WHAT IS VIRTUAL REALITY?

You are standing on the edge of a cliff. You can hear the wind whistling in your ears and can see trees swaying around you. You look straight down. It is a steep, even deadly drop; your heart rate speeds up, your breath becomes shallow, your mouth is suddenly dry. You feel you may fall at any moment and as if by instinct reach out to grasp at something, anything, to steady yourself. Your friend screams, you yank off the virtual reality headset. Both of you look amazed.



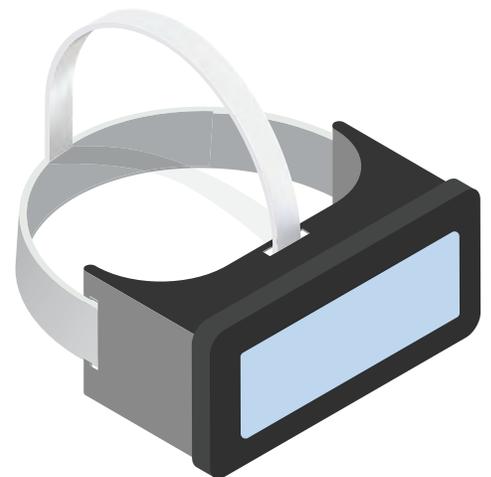
Virtual reality, commonly known as VR, immerses one into a virtual world using a headset placed over the eyes - similar to oversized glasses. The person in the new world becomes removed from his or her real environment, which is now blocked out, becoming present in the new one. The illusion is strong, and emotions and reactions often arise as they would in real life. The effect is strong because VR is 360 degrees and often allows for a great deal of interactivity. While you have the headset on, you can look around and see an environment around you that was not there before. There can be trees with leaves falling all around you, you can bend down and see a worm crawling through an apple. Depending on the creator of the world you are observing, there can be great detail in the smallest things.

## GETTING STARTED

There are many different headsets and other methods of experiencing virtual reality. New products are flooding the market as VR becomes more popular. Google Cardboard is an inexpensive option, which runs around \$7. A smartphone is required to use it, along with a couple of apps that are usually free. There are medium-priced headsets, such as the Oculus Go, that do not require you to insert your phone, with better quality graphics. Currently, the price for this device is approximately \$175.

For the more advanced VR user, the HTC Vive (\$500) or the Oculus Rift (\$400) are great options. It is important to note, though, that in order to use either one of the more advanced devices, you need to have a gaming computer, which is quite expensive, around \$1000, to run the actual device. This is due to the high quality graphics that these VR headsets are able to display.

All and all, you can get a basic headset that works with your phone for \$20, and you will have an amazing experience. Malls and VR gaming facilities are great places to try out the more expensive headsets.

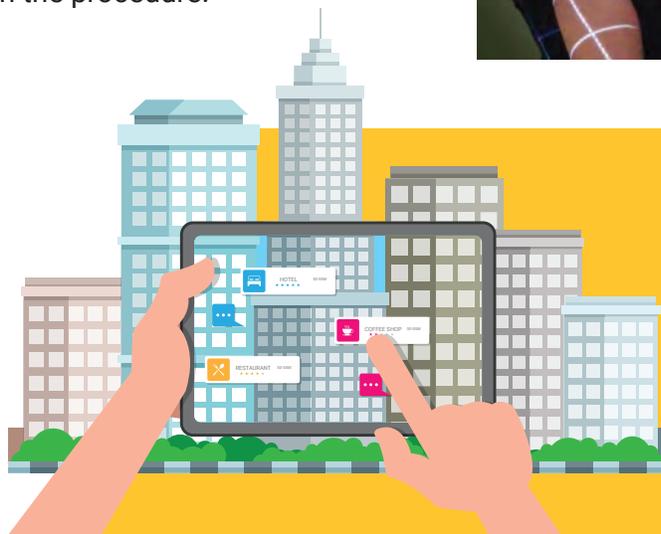




## WHAT IS AR?

A lot of people don't know the difference between augmented reality (AR) and virtual reality (VR). Augmented reality isn't a whole new world; it is an addition to the world you already live in. A good example would be Pokemon GO. In this game, characters called Pokemon appear in the real world on your screen. Another interesting example of AR is the hugely popular social media app called Snapchat. There are lenses like the dancing hotdog, where a dancing hotdog appears in your own environment, exactly where you place it. Also, filters that add to your own face or hair are also examples of AR.

Doctors also use augmented reality glasses. Imagine you are a physician, and you have to move or laser something inside of a person's body. If you were wearing AR glasses, you could more accurately visualize and then more accurately interact with the patient in the procedure.



# HOW TO CREATE VR/AR CONTENT

JACK METTE & BRENDEN WICKER

## HOW DO I LEARN TO CREATE CONTENT?

Has the creation bug bitten you? Are you ready to try your hand at creating VR/AR content? You don't have to be a professional, and most of the content creation software is free and available to you. These are the times of online learning. There are YouTube and website tutorials galore. Don't be scared; ride this brand new wave of technology and add your own personal contribution to content. With little knowledge, you can create an amazing VR experience to show off to your family and friends. Or aim higher-- careers in these fields jumped up 800% in 2017!

## UNITY AND UNREAL

The two most powerful VR/AR content-creation tools are *Unity* and *Unreal Game Engine*. Both of them are free but cost money to buy additional assets (anything you add to your game or experience, such as sounds or objects). Neither of them require a lot of coding experience but it depends on what you're making. These tools are extremely powerful and can create professional VR and AR experiences. In fact, most of the games that are sold on STEAM (an online gaming platform) are made using Unity or Unreal Engine. Some people say that Unreal Engine is easier to learn if you do not have a coding background. By the way, if you do want to learn to code to make more complicated AR/VR experiences, then for Unity, you need to know C#, and for Unreal Engine, you need to know C++.

## BRIOVR

BRIOVR is another example of a website that requires no experience in the programming field to create a fulfilling VR experience. One of the cons of this website is that you can't be as creative because all of the objects that you can drop into the template are already pre-made by someone else. For many students, it only took 5 minutes or so to make a really cool VR experience. They have all kinds of different backgrounds and scenes that you can add to a blank canvas. One student decided to add a cartoon battle scene and make it giant. Next, they have these things called waypoints. You create a path so once you are finished and ready to experience it in VR you will be taken along that path at a steady pace, almost like a roller coaster taking you through the scene. So, again, if you are a beginner in the VR world this would be one of the best options for you.

## MIRRA

Mirra is a specialized website that can create a massive and interesting world without having to worry about learning to code. By using drag and drop, Mirra makes it simple to create VR. You can even upload 360 videos and photos into the scene itself. The scenes are easy to create and to view. Most people could produce content after reading only one or two tutorials. Some people just jumped in and created without any instruction at all! There is a fourteen-day trial, then you choose a plan that works for you.

## ZAPWORKS

An alternate website for making AR content is ZapWorks. ZapWorks is one of the best websites for creating AR, mostly because of how advanced it is. This can be either a good thing or a bad thing for some people because this website does require programming experience in order to make the best looking AR. Luckily, there is a beginner's option. Also, it does cost a little bit of money after 30 days. Many students love this content-creation platform because of how creative you can be: almost anything can come to life with sound and movement. Also, the possibilities are endless. People can make all sorts of things, from interactive birthday or business cards to actual AR mini-games or 3D art masterpieces.

# DON'T BE SCARED TO LEARN TO CODE!

Coding is just like learning a language for computers, and anyone can do it, even small children. There are many online tutorials and camps that teach coding. If you have Unity or Unreal Engine, there are many tutorials built right into the website, and on YouTube, there are hundreds of tutorials that are updated constantly.

Codecademy is a good website for starting to learn how to code. Codecademy teaches you how to code on Python and other languages, as well. Even though Codecademy isn't free, you can get a seven-day free trial to begin to learn to code.

Other online websites are freeCodeCamp, Coursera, edX, Codewars, and Khan academy, which has free coding tutorials and lessons.

VR and AR are exciting and fun to experience, but they are even better to create! Don't hesitate or second-guess yourself. Anyone is capable of joining in this next exciting phase of technology!



# CURRENT VR RESEARCH AROUND LEARNING

**TUCKER RAMSEY**

## AN INTERVIEW WITH LISA CASTANEDA

Lisa Castaneda is the CEO and founder of Foundry10. This organization develops research to investigate non-traditional learning and ideas of what learning can look like both inside and outside of school environments. One of these initiatives is virtual and augmented reality in education.



## HOW DID YOU GET STARTED IN THIS FIELD AND WHAT MOTIVATED YOU TO BE A VR EDUCATOR?

A teacher in the Seattle area was teaching Computer Science and he reached out to me. He asked if his school's educators could get a few virtual reality headsets for their classrooms. Before agreeing, we asked if we could come to the classrooms to see if the students would be interested. The kids were really excited about using VR, which inspired us to put VR in more classrooms, not just in computer science, but in other subject areas, too. It sparked a passion for VR.

I started by letting grade-school children use basic VR headsets like Google Cardboard so they could have their first experience.

Then, we moved to older students, all the way up to college level. The older kids used HTC Vives which is a more advanced piece of technology.

I've learned that playing, using, and learning virtual reality is fun, but at the same time can be complicated. People are extremely passionate about VR and believe it will revolutionize the field of education.

## HAVE YOU EVER HAD ANY JOBS OUTSIDE OF VR?

I used to be a teacher. I taught math, but I also taught hip-hop dance. This was like a fourth job to me, and in my organization, we sometimes do activities related to hip-hop and sometimes have jobs outside of VR, as well.

## WHAT IS YOUR FAVORITE VR APP FOR FUN AND FOR EDUCATION?

My favorite non-educational VR application is called Superhot. I enjoy this because it is a human simulation that allows you to lose track of what is real and engage in crime and serious danger. My favorite school-related VR is Nature Treks. This application is excellent not only because the mechanics are exquisite and clever, but because it allows a person to experience complete relaxation in order to meditate.



## WHAT DO YOUNG READERS SUCH AS PRE-TEENS NEED TO KNOW OR UNDERSTAND ABOUT VR?

Occasionally when middle school aged students use VR we will hear one of them say, "I am afraid of heights" or "I am terrified of roller coasters." Virtual reality gives people like this a chance to conquer their fears and try something out of their comfort zone. On the other hand, there have been some cases where a student believes they have no fear of heights, but to their surprise, when they use VR they become extremely anxious and scared. One thing is for sure, VR truly does feel real. The fear that these people experience is real. Another common fear we see often is being underwater. It is recommended to not go into the Blue experience if this fear applies to you, because you are put in a virtual reality that takes place while submerged. People have this idea in their mind that VR does not feel real. That could not be further from the truth. It is important to consider fears you have in real life before getting involved with VR.

## WHAT DO YOU THINK THE FUTURE HOLDS FOR VR?

We've seen some really cool stuff, and we are doing some work with Oculus in Seattle. All sorts of industries are using VR, ranging from the healthcare industry all the way to construction companies. For example, construction workers are talking about how they can look at pipes through walls, as well as move and transfer structures virtually.

There are a numerous amount of intriguing applications that allow people to practice movement through learning. Virtual reality truly has so much potential, but it is very important to make sure the quality of the content is up to par. You don't ever want to feel like you wasted your money on something that is not the best it could be.

There is also so much opportunity in the field of visual art and music. In addition, there are applications in VR that help patients in hospitals who are bedridden feel like they are walking, or being outside.

## WHAT ARE SOME OF YOUR HOBBIES?

Outside of VR, I am into martial arts. I think martial arts is very important. Currently I am not taking classes, but I've studied taekwondo, karate, and kickboxing. I do a lot of sports, and I am also an avid reader.

In addition, I recently got two rescue dogs, so I've been spending time with them and am very excited about that. Although I am a dog and cat lover, I truly have to say that I absolutely LOVE dogs! Cats always seem to be in their own world, but dogs are always thrilled to see you and love unconditionally!

In conclusion, there are many types of learners. Some are fast, some are slow, some are auditory learners, some are visual learners, some are great at memorizing, and some aren't. But one thing we all can attempt to do, is try learning with virtual reality. You can't knock it until you try it.

# foundry10

**"Learning is something all humans do. It can be flexible and can fit any individual. In order to maximize our potential to learn, we need to understand the process and how it happens, even outside of traditional settings and structures. We work directly with the people who are most impacted by education research: students and teachers. By reaching outside of standard institutions and with a philanthropic approach, we uncover new ideas, methods, and tools to bring greater value to learners all over the world."**

# DESIGNING A VR MUSEUM

## THE FUTURE OF THE ART EXPERIENCE

### AN INTERVIEW WITH JOHAN VAN LIEROP, INTERNATIONAL ARCHITECT

Johan van Lierop, a Brooklyn-based Dutch architect, was asked to design a museum for the Kremer Collection, a private curation of 17th century Dutch Masters, such as Rembrandt and Frans Hals.

A museum is expensive to build, could take years to construct, and can be costly to operate and maintain once it is open. That is when a Virtual Reality museum came into play.

For an architect to design a space that is not bound by budget, gravity, technical requirements (such as plumbing and electrical, or even building codes), it becomes a completely different challenge.

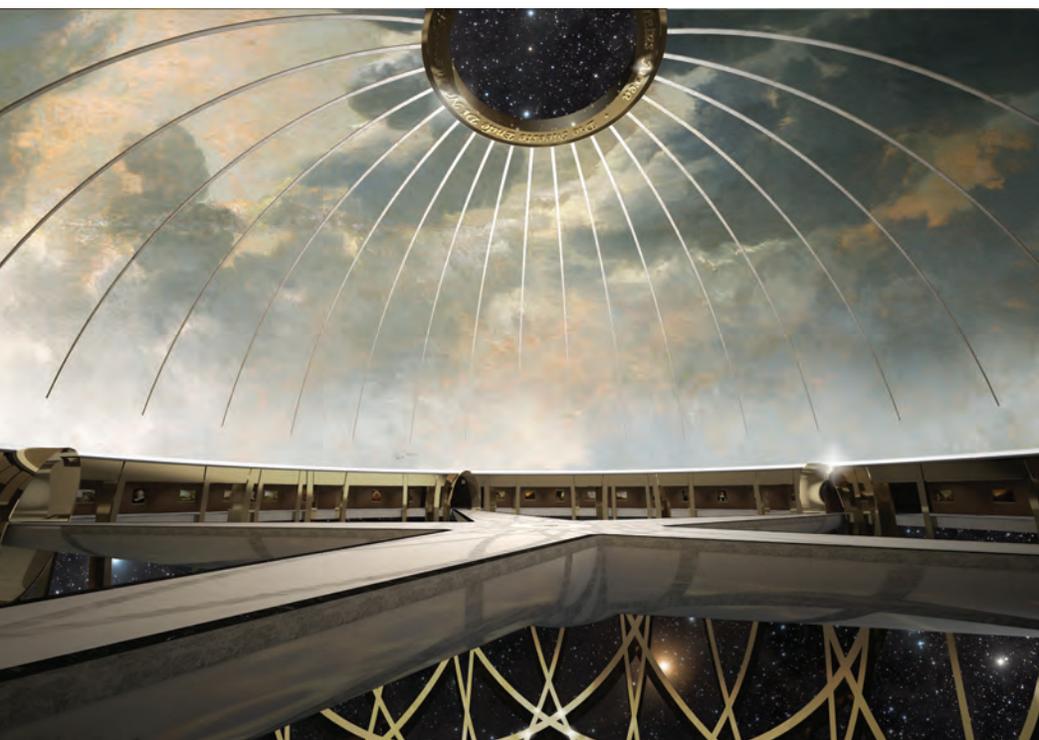
Johan describes his design, "one is really emerged in the gallery and can be very up-close and

personal with the paintings. The Museum space itself is suspended in the universe and is inspired by the astronomical and scientific instruments of the Golden Age. The center stage of the museum is a dramatic celestial sphere featuring a vaulted ceiling with a painted Dutch sky, a trademark of the Dutch Masters. The innovative aspect of the museum, apart from the architectural space, is the technique with which the paintings themselves have been photographed. They have such a high resolution that when you stand in front of a painting and you move around, the light changes how it hits the painting. It reveals every brush stroke and you can come up very close to the painting and study it in great detail which is very unique."



The museum used "photogrammetry" to capture the paintings. This is a technique where every pixel has a depth, so it's like a survey of the painting's surface in 3D. Every painting is not just one photograph, but is built from three to four thousand photos per painting. Johan adds, "So, you are basically capturing the painting from all different angles in very high resolution, so you can view it from all angles."

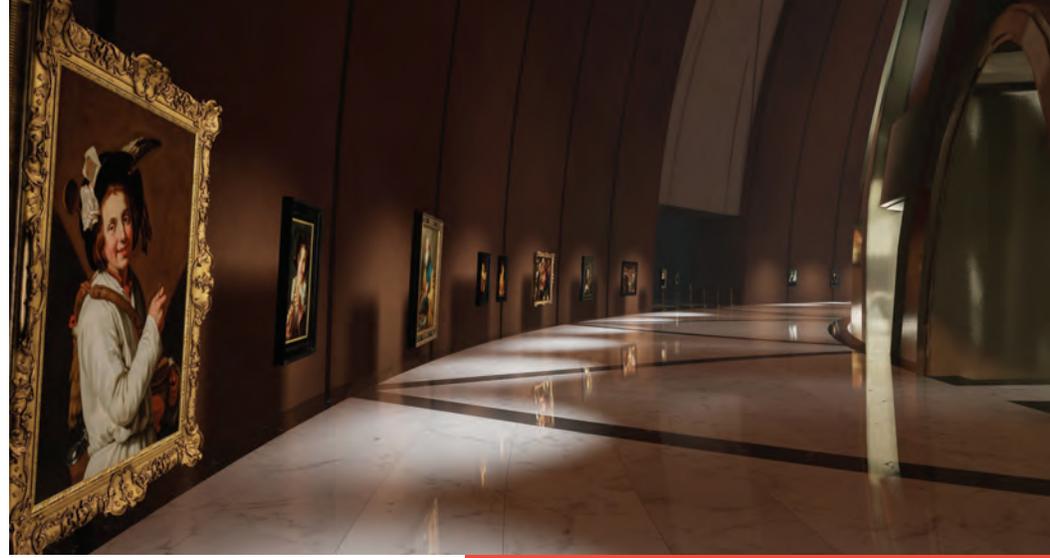
Johan thinks that VR museums are the future for viewing famous artwork; it is easily available for people around the world, providing a unique experience. "If I go to the Louvre in Paris to see the Mona Lisa, first I have to wait in line, then once in the gallery there are hundreds of people gathered in front of the painting and everyone is trying to take a selfie. The painting itself is kept at a distance for safety purposes, and there



is a thick glass plate in front of it. So, I am not really getting personal with the painting and don't have the opportunity to study it closely. I see the image, but it is only the notion that this is the original masterpiece that makes it exciting. However, at the Kremer Museum you are right in front of the painting; there is nobody around you, just you and the Masterpiece. You can even go behind the painting to see if the artist placed notes on it or if there are other marks left throughout its history. I see the backside of the painting as its passport. Revealing this creates an intimate view of the painting." Johan explains.

When asked where his love for architecture came from, Johan senses it might have started at a very young age, inspired by his grandfather who was a carpenter and a contractor who built houses, furniture and made woodcarvings. "I observed him making beautiful things out of wood, masterfully. I think this gave me a real sense of craftsmanship, respect for quality and the creative process."

Johan grew up in a rural area in The Netherlands. When he was twelve,



he had to bicycle seven miles to his high school in a nearby town. "In Holland, everyone bikes, rain or shine. The bike path took me through a forested area, really beautiful with the smell of pines. After school my friends and I would often take a break on the way back and sit in the woods and enjoy nature. I believe it was this sense of freedom, and moments of clarity that allowed my thoughts and ideas to grow freely inside my head."

At present, Johan is a Principal at Studio Libeskind in New York City and has his own design practice, Architaales, in Brooklyn.



"Going back to see my grandfather making such beautiful furniture and sculptures, is the most powerful inspiration. No matter what you do, regardless of your profession, when you do it with passion you will excel at it, because it means that you are pouring your complete soul into it and that is always the best ingredient."



# SCHOOL VR LAB

# TECHNOLOGY FOR GOOD

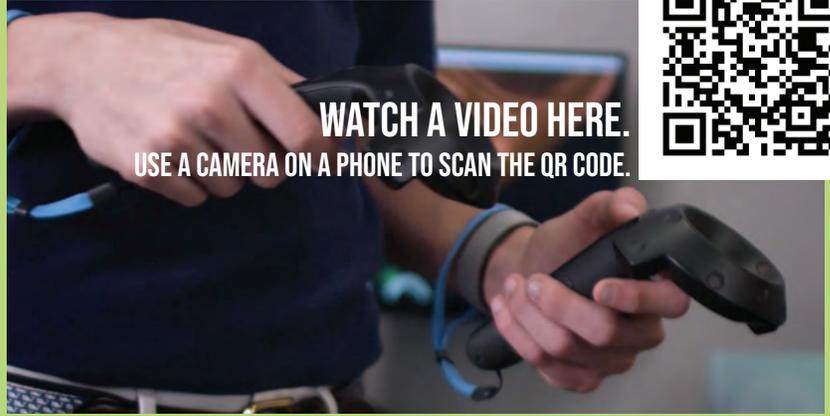
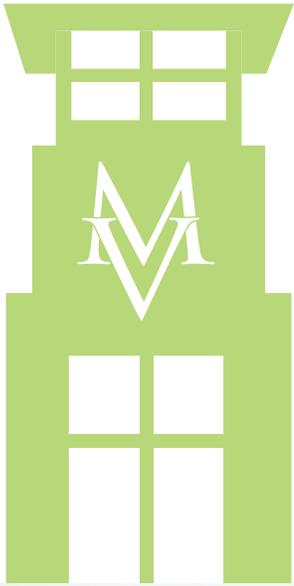
## ABOUT OUR SCHOOL AND TECHNOLOGY LAB

How might we use the newest technology for good? How might we add to what is being created, not just use what is already there? These are questions we ask ourselves at Mount Vernon Presbyterian School. Since 2016, our middle and high school students have been hard at work, partnering with Dell Alienware, and other companies, to use our technology to help others, to generate empathy, and to make an impact.

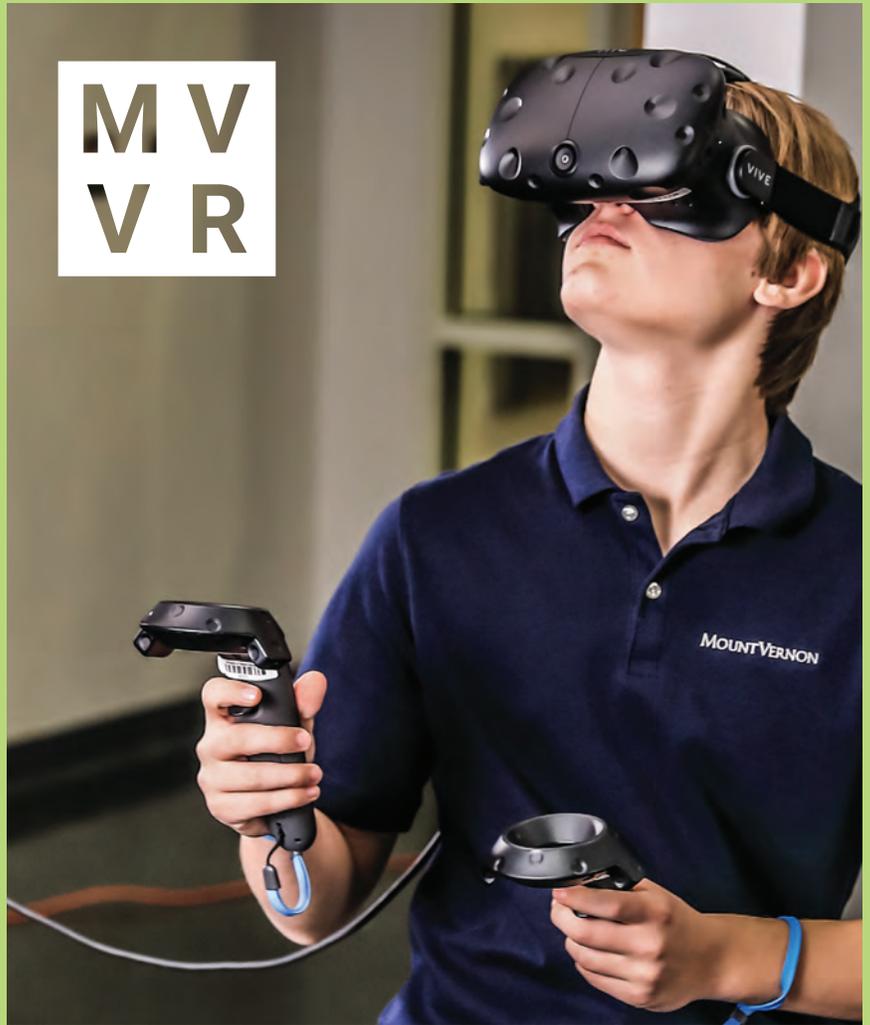
Our school in Sandy Springs, Georgia, which is just north of Atlanta, is currently working with large companies such as Children's Healthcare of Atlanta and Delta Air Lines, in addition to several museums and a small village school in India -- all to create working VR/AR labs to advance their technology. A quote from the *Mount Vernon Students Launch National Virtual Reality Lab*: "Our young entrepreneurs are ready to face current challenges, work with industry leaders, and make an impact in the world right now. We are helping students learn to lead in the newest fields of technology," shares Marie Graham, Director of Virtual and Augmented Reality at Mount Vernon.

## SOFIA WISE & ELLA WAGNER





M V  
V R



*design a better world*

# CURRENT SCHOOL VR PROJECTS

## TEAM MEMBER INTERVIEWS

### GEORGE WHISSLE

SENIOR VR DESIGNER AND TECHNICAL LEADER

Please tell us about one of the experiences you are making with the Children's Hospital Project:

One of our VR projects is our ongoing partnership with Children's Healthcare of Atlanta (CHOA), which has been ranked among the "Best Children's Hospitals in the nation" by U.S News and World Report. My team and I are working to help disabled patients practice movement and direction using VR.

A lot of the work we are doing helps kids who have been in serious accidents, resulting in injuries to their bodies and/or brains. An example of a prototype we are working on is an interactive grocery and toy store. Once you put the headset on, you are put into a grocery store, It simulates someone buying ingredients for some sort of recipe or toys to play with. It helps those who physically cannot walk or move, by putting them straight into the VR world and help them rehabilitate. These experiences try to make patients more comfortable with their situations by trying to ease them back into the real world.



## MARIE GRAHAM

VR LAB DIRECTOR

### How do you connect globally with VR at your school?

This year, we have an incredible opportunity to connect and help students in a small Indian village called Muvalia. We, with an amazing entrepreneur named Sondra Phifer and a philanthropist, are designing and creating a small VR lab for the kids in the village school. It is exciting to think of how this lab might help open up the world to people, many of whom have never left their own village. VR allows people to experience different places, emotions, and objects in a way that has been inaccessible to many until now. At Mount Vernon, we hope to keep growing and making impact around the globe. We gather ideas, we talk to people and find needs, we create prototypes, and then we try them out. If we fail, we try again and again until we succeed. We want to use this new technology to do the best work!

## JUSTIN BLUMENCRANZ

SENIOR VR DESIGNER AND  
LAB LEADERSHIP TEAM

### We heard you were working on creating a VR website! Please tell us more!

We have been hard at work with creating a VR/AR Directory for students and educators, which is still in the process. This project is about making a single database where you can find all kinds of VR/AR content from a number of different sources, genres, backgrounds, and it's going to be a big search engine for VR/AR content. I am working on making this directory full of easy to find information that is honest and clear. I love the VR Lab teacher Mrs. Graham and my whole team, who are always coming up with new ideas to help impact the world right now!



# TAKE-PAUSE MINDFULNESS FOR TEENS

SARA MCLEOD



**Dumeetha Luthra** is a virtual reality rockstar who uses her expertise in the virtual reality field to help teens find their inner peace hiding behind all of their stress. She is the highly-skilled founder and CEO of Take-Pause, a virtual reality program for teens and students. Prior to her work at Take-Pause, she worked as an award-winning BBC war correspondent, traveling to the most violent areas of the Middle East for her reports. During her times as a war reporter, she began to believe that she wasn't doing enough, that she wasn't leaving a big enough legacy and impact for herself and others.

Dumeetha decided to change that by using her experiences, surrounded by war and violence, to help those who were afflicted by conflict and stress. She began to meditate and reflect constantly, which helped her to feel calm and resilient. Dumeetha shares, "While

I was reporting, I would have to internalize the conflict. It was only when I learned to practice mindfulness that I was able to take a deep breath, and take a step back from a situation. I wanted to help others learn that skill, too." Approximately one in five teens struggle with high levels of stress and anxiety. So, she decided to be a part of the movement to change that statistic, to help those teens with high levels of stress and anxiety. That is when she decided to create Take-Pause.

The company's mission is to create an environment that has an impact on lives and helps kids/teens learn how to be calm, have resilience, and focus for everyday life. The target audience of Take-Pause is teens/students with high stress, low focus, or for those who just need a break from the real world for a little while. Take-Pause's VR animations use mindfulness

techniques to help reduce stress and anxiety. The company is currently testing out a demo in hospitals to schools.

When asked if she could share some advice, Dumeetha shared, "Breathe in, breathe out and find your peace inside of you. Everyone has a peaceful side. However, most of the time that peaceful side is being held back by events happening in the real world and can take a toll on your happiness. Take some time for yourself and practice being kind to yourself."

For those interested, they are taking applications to be a part of the pilot program. Please get in touch at: [info@take-pause.com](mailto:info@take-pause.com)

# Q AND A

## WITH DUMEETHA LUTHRA

### WHAT IS THE MOST VALUABLE THING YOU HAVE LEARNED WHILE BEING A BBC CORRESPONDENT AND CREATING YOUR COMPANY?

Find peace in everything. Even when you are busy and stressed, take time for yourself to meditate or do whatever works for you to find your inner peace.

### WHO HAS HELPED YOU ALONG YOUR JOURNEY OF TAKE-PAUSE?

There are so many people who have been helpful and I am grateful to them. We were connected by Dr. Walter Greenleaf, a medical VR pioneer who is at Stanford, he has been a fabulous mentor. The Take-Pause demo was created by NYU students who have been generous with time and support. There are so many people!

### WHAT IS SOMETHING YOU WOULD TELL YOUR YOUNGER SELF?

Be kind to yourself. Nothing is as important as you think it is. Look after yourself always. Constantly check in with yourself. Nothing is personal. Know your triggers.

### WHAT WOULD YOU SAY IS YOUR BIGGEST ACCOMPLISHMENT WITH TAKE-PAUSE?

I love hearing about how this program has affected the users; that is the most rewarding part. A pediatric ER in New York is about to begin a clinical trial using Take-Pause to reduce anxiety. That Take-Pause is already in hospital settings makes me very proud.

### FOR ANYONE WHO WANTED TO GET INVOLVED WITH TAKE-PAUSE, HOW COULD THEY?

Get in touch through the Take-Pause website. There are a few pilot programs we are about to launch for different uses and you can be a part of that. [Info@take-pause.com](mailto:Info@take-pause.com), [www.take-pause.com](http://www.take-pause.com)

# NICK SAVO

## ALIENWARE GENIUS

Nick Savo is a University of Michigan electrical engineer graduate, who works for Alienware, a major distributor of gaming computers used for virtual reality. He is the go-to-go market manager for VR, software, and non-standard tech and travels around the country interacting with people, who regularly use virtual reality.

### HOW DID YOU END UP IN A VIRTUAL REALITY CAREER?

When I was in school, I was kind of a good math and science kid, and that prompted me to look at engineering as an option for my career. This eventually led me into becoming an electrical engineer, or someone who evaluates or creates electrical systems. After



I graduated from the University of Michigan, I was hired by Intel, a company that builds processors for computer companies like Apple or Dell. I worked several jobs for the company and during the early 2000s, I started to work with making motherboards, or the principal components for a computer, for Dell's gaming division which at the time was Alienware. This caused me to develop a relationship with the gaming division at Alienware. After working with Intel for a total of 14 years, I applied for a job with Dell's gaming division and have been working for Dell for the past year.

### WHAT IS ALIENWARE AND HOW IS IT PARTICIPATING IN "TECHNOLOGY FOR GOOD?"

"Most computers are very similar and have the same components such as the graphics card, the processor, and the memory. We can all pick those same products to put in our machines, so it really comes down to what things do you do outside of just putting components in a box that makes your products unique and makes your products better than the competition. An example of this would be the thermal control on the Alienware computers. This means preventing overheating so the computer can run more smoothly and use less battery life.

MICHAEL BARWOOD



I love gaming and I think that drives a lot of the consumer VR that's out there. However, utilizing VR and AR technology that actually solves a problem or fuels human progress, is really more exciting to me.

So, I think moving forward, AR and VR are growing by leaps and bounds. What someone can do with AR and VR is mind blowing. The things that I've seen as I work with VR companies is that the sky's the limit on what you can do with it.

Being able to view products in VR and AR, and have collaborative sessions where people can work together virtually, are really neat examples. I could be in VR right now, and you could be in VR, as well. We could be looking at the next computer from Alienware and be talking about the way that it looks-- the size and shape and things like that.

## WHERE DO YOU THINK VR AND AR ARE HEADED?

We are going to see a lot more AR and VR used to help solve problems, such as training. Instead of looking at a PowerPoint presentation on how to work at an industrial plant, you'll be learning how to do that through AR and VR as if you were actually there. Instead of sitting in a classroom and having to get a book, you'll be using AR and VR technology to learn and educate people. I think you're going to see a lot more of that.

One of the other cool technologies that's coming out is wireless VR to eliminate some of those cables that you have. This will give you a little more freedom. We're working with HTC on that. We're really excited about working with them on this next wave of technology.



# VIRTUAL REALITY ARTIST

## KEVIN MACK

KENDALL SLAYDEN

When immersed in a world through Virtual Reality, your surroundings are painted by shapes and colors that consume you into a state of bliss as you fly freely through the air to explore the canvas of Kevin Mack's art. These creations are designed to put one's mind at ease and inspire creativity and curiosity through therapeutic practice.

Kevin Mack is an Oscar-winning pioneer in artistic virtual reality. He has created an innovative perspective on art, finding a way to bring his masterpieces to life with his Virtual Reality worlds: Anandala, Blortasia, and Zen Parade. These VR worlds are mainly showcased through Shape Space, a company he has developed to display and explore the endless possibilities of abstract art. His VR worlds are composed of living art entities called Blorts, which are three dimensional, abstract, complex figures that help bring his work to life.

Kevin majored in Fine Art, Illustration and Film at the Art Center College of Design where he worked in the film industry and experimented with art and music. He later expanded into the field of digital art and design where he developed his skills in computer graphics and visual arts. Kevin's work is attributed to many well-known films, and he was recognized for one of his works on *What Dreams May Come* in 1999, when he received an Oscar for best visual effects.

Soon after that, he began studies in the medical field where he discussed the topic of perception and visualization and was awarded the title of Honorary Neuroscientist from UCLA's David Geffen School of Medicine and later received an honorary Doctorate of Science degree for his motion visual effects in 2007. He continued to include medical practice into his work through art.

Since VR is meant for the mind to escape reality, it is the perfect tool to use when trying to overcome fear and anxiety. He designed his VR worlds for the purpose of helping others in such a way that helps maintain a healthy mental state.





## WHEN AND HOW DID YOU FIRST GET INTO VR?

I actually got into this when I was a little kid and had visions and ideas of virtual reality when I was four years old, but there was no such thing as VR back then. I also drew a lot as a child and got into computer graphics as I got older. I have always had a passion for art and technology.



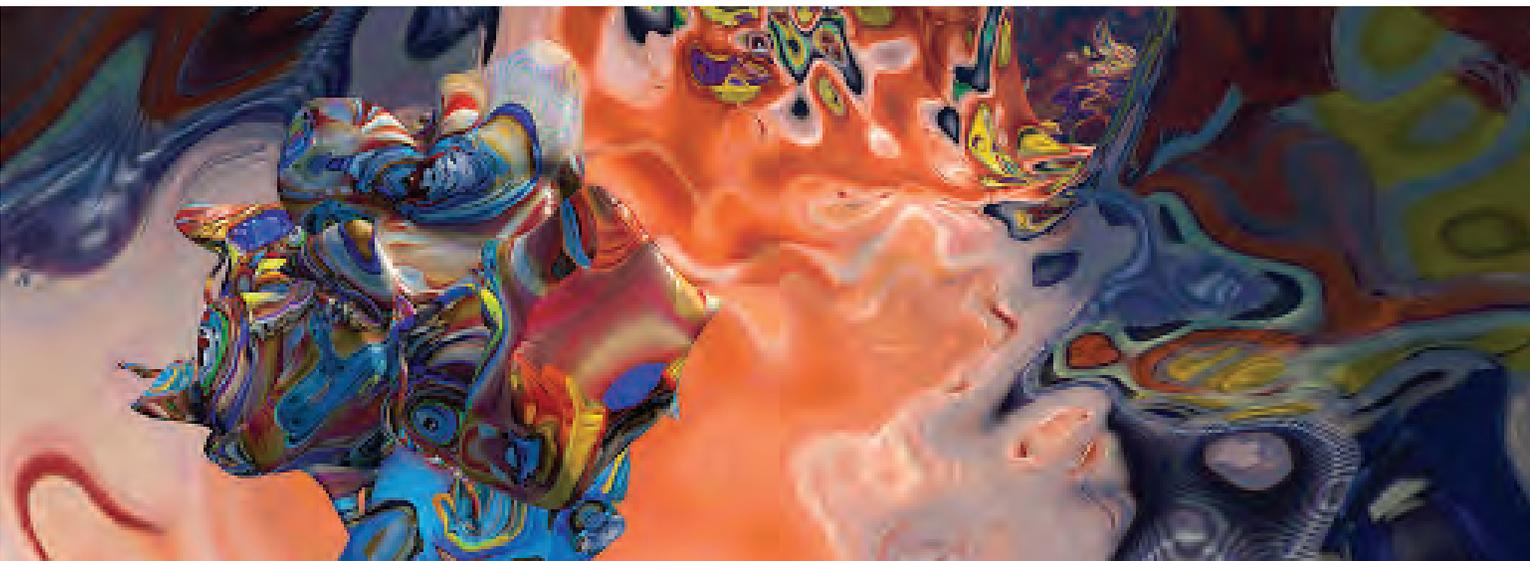
## WHAT EXACTLY DO YOU DO NOW?

I create VR and abstract art designed to engage the imagination, inspire awe, and enhance well-being. I try to create experiences that make people happy.

Through studying neuroscience, I have learned that there is a great deal that can be done to alter people's consciousness by using shapes, sound frequencies, and color. I apply all of that to my art.

The fundamental innovation of virtual reality is spatial presence - the sensation of being present in a different place. The ability to directly communicate the first person subjective experience of spatial presence brings an entirely new dimension to communication. Art is particularly well suited to this new medium because it is experiential.

The potential of virtual reality as an art form is mind-boggling. I've always dreamed of using technology to transport people to places and experiences beyond imagination. Virtual reality has made my lifelong dream an actual reality.



# DR. SCOTT SATKIN

## LIMBIX, PHOBIA, AND OTHER MEDICAL WORK

LEXI ELIAS



Dr. Scott Satkin is a virtual reality (VR) rockstar. For not having much experience at all in this field before he got his PhD, he has now done a huge amount of work with it. While currently working as the Chief Technology Officer of Limbix, a company that uses virtual reality to treat phobias, anxiety, pain, trauma, depression, and addiction-related disorders, he uses his expertise to lead the engineering team, which includes designing different VR experiences and putting them into action.

### WHAT LED HIM INTO VIRTUAL REALITY?

Prior to working with Limbix, Satkin worked for Google with the street-view team, capturing fascinating images to teleport people to the greatest places around the world. Additionally, he assisted the original VR Google Cardboard team, which became a concerted effort for Google.

### WHAT IS LIMBIX?

Limbix was specifically designed to improve mental health for a user. It immerses patients into exposure therapy through a VR headset, outfitted with a tablet for controls. As an example, if a patient had a fear of heights, a therapist could help them work through their anxiety by taking them on an elevator using virtual reality, and talk to them about the feelings they are having. If someone had a

fear of flying, they could attempt to calm their fears on a real live plane, incurring expense and a commitment of time. Thankfully, with virtual reality, this person could take off hundreds of times, right from their therapists' office. Individuals can try things they are afraid of, taking it to the extreme. Therapists can control how intense the treatment is, using graduated exposure, turning up and down the intensity, and customize it for each individual patient.

### WHAT HAS LIMBIX CREATED?

Limbix created something called the teleporter, which gives patients the ability to transport themselves anywhere in the world using Google Maps Street View. Say you are anxious about a trip out of the country. Your therapist can take you right to where you will be, so that you can process all of the things you are anxious about before you

go on the trip. Or, you can be taken back to your childhood home, school, or even church which gives patients the opportunity to start opening up about their past.

Limbix is partnering with researchers to develop protocols that are meant to be used independently. Harvard conducted research on adolescent depression and created a PowerPoint presentation, allowing teenagers to click through to learn how their brain is changing and how it affects their personality. The results of this experiment were impressive. Children and parents were surveyed six to nine months after the presentation, and what they found is that they were less anxious, stressed, or depressed, and their communication skills had improved. However, the way the content was delivered was considered to be dry, so Limbix wants to take that information and translate it into VR so it is more interactive and relatable.

## WHO CAN USE LIMBIX?

Limbix first launched their product with private practice therapists since at first, it was free and they simply wanted feedback. Now, the company is focused on clinics and hospital settings. They are focusing on two different types of content. First, therapist-guided content, which is used with a therapist present. Second, tools designed to be used between therapy sessions by the patient him-or herself, so that they get the most out of this experience.

## WHAT WOULD YOU SAY IS THE MOST REWARDING PART OF YOUR JOB?

This application enriches people's lives with virtual reality, but most VR is focused on games and things that don't matter as much. What is most rewarding is to be able to help people who struggle with depression and addiction. When people overcome these problems, there is nothing more rewarding. Also, knowing that these methods are actually proven to help mental health issues around the world and partnering with known researchers while getting feedback from them, is exactly what the company wants.



## WHAT WERE YOU LIKE AS A TEENAGER? WHAT DID YOU THINK YOU'D BE WHEN YOU GREW UP?

When I was a kid, I spent countless hours creating origami. Instead of setting up a lemonade stand, I would go door-to-door selling origami ornaments, bouquets, and jewelry to neighbors. Growing up, I thought I would become a professional origamist. Although I didn't make a career out of origami, my passion for geometry and 3D art has led me to the field of VR. Twenty years later, I still have a passion for 3D art and sculpture, in particular glassblowing.



**“Here are some previews of our environment for people with a fear of driving. This environment is customizable via a tablet interface -- therapists can change different variables such as the location you're driving, whether it is day or night, clear or rainy.”**

**Dr. Scott Satkin**



# WALTER GREENLEAF

NEUROSCIENTIST AND HEAD OF STANFORD VR LAB

**KENDALL SLAYDEN & MARIE GRAHAM**

Dr. Walter Greenleaf is an internationally known and celebrated research neuroscientist at Stanford University. He is also known as a pioneer in the field of Virtual Reality and has over three decades of experience. But, that is not what makes him so exceptional. He is a man who spends his life trying to help others.



## WHEN YOU WERE YOUNG, WHAT DID YOU WANT TO BE WHEN YOU GREW UP?

I had an aunt who was a high school science teacher, and I thought I wanted to be a biologist. I am not even sure I knew what that meant, but I knew that's what I wanted to be.

## WHAT PROJECT MAKES YOU MOST PROUD?

We worked on a project called Project Brave Heart. We used a 360 camera to film the experience of a pediatric surgical heart patient's experience from arriving at the parking lot to sitting in the waiting room to getting prepared for the actual heart surgery. We gave the VR experience with a headset to patients to prepare them for what was ahead of them. We found that the patients that watched the VR experience felt much more prepared, more comfortable, and less stressed the day of their procedures.

## DO YOU HAVE ANY CONCERNS ABOUT THIS TYPE OF TECHNOLOGY?

With Virtual Reality, you are looking at a high definition screen that is a couple of inches from your eyes. Also, we learn to see 3D by visual clues and this system develops over time. I do have some concerns about problems stemming from visual systems.

Also, very young children have trouble separating their imaginations from reality, and as we build better virtual environments, that line will blur. For older children, it is not as big as an issue. When we watch something on a video screen, we know it is not real, but I worry about the distinction between imagination and reality for very young children.

## WHAT WOULD YOU CHANGE?

Technology is developing so fast, and we are so excited about it. A new smartphone comes out every year with better computer technology. Our technology exceeds our ability to make ethical decisions. I think we need better procedures to look at the long-term consequences of these developments.

## WHAT DO YOU THINK THE FUTURE HOLDS FOR VR AND AR, AND WHAT IS YOUR GOAL?

Just like we use computers all the time now, I think these will be the powerful tools we use for work, especially with communication and interaction. It will be used in training work, mostly with VR and medicine. My main goal is to help the medical establishment change and embrace technology in a way that is cost-effective and safe.

## HOW DO YOU FEEL ABOUT YOUR CAREER CHOICE?

To me, the definition of a scientist is someone who measures things and draws conclusions from what they measure. Musicians, creative writers, artists, and philosophers are scientists, too. Professional scientists go deeper to design experiments and draw conclusions. We begin to understand more about how the world works. To me, it is fun to see what is going on beyond the surface.

# JOHN BUZZELL

## YOU ARE HERE VR LAB

MARIE GRAHAM

### AS A LEADER IN THE FIELD OF AUGMENTED REALITY, WHAT HAVE YOU DONE THAT YOU ARE MOST PROUD OF? WHAT IS YOUR GREATEST ACCOMPLISHMENT?

I'm honored to be talking with you, thanks! I've been working with computers my entire career - often one of the first people to be using new technologies for business. This happened with CD-Rom, the early Internet, hi-speed internet/broadband, mobile phones, social media, and now augmented reality (AR). My proudest moment in AR was definitely launching something for Porsche with the iPhone X in 2017. It was an extremely hard project, but the result was amazing and people are still wowed by it.

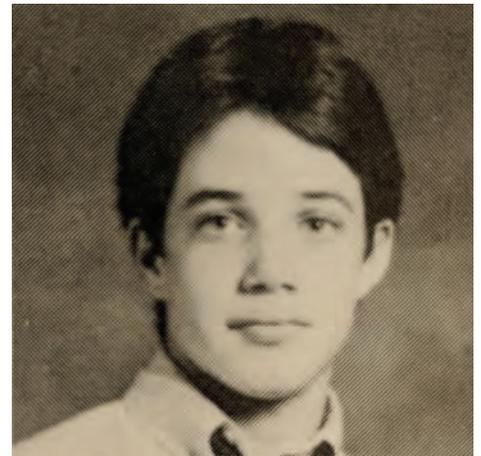
### WHERE IS THE FIELD OF VR/AR HEADING? WHERE WILL IT BE MOST HELPFUL AND/OR MOST EXCITING?

VR/AR is the future of "screens." Humans have been looking at these glowing rectangles for over 100 years: at the movies, at work, at home, in cars, planes and everywhere they go. In a future where everything is connected and

everyone has something to say, we will need technology like AR to help us make sense of it all. It's already showing up in many helpful ways, to keep us safer in cars, become more productive at work, and to help us understand tough concepts at school. The most exciting uses right now are in entertainment where "Location-Based Entertainment" (LBE) centers are popping up around the world to give people a high-def experience as a Ghostbuster™, living in the Star Wars™ universe, and much more. AR will help us with the real world, and VR will allow us to take part in stories like never before.

### WHEN YOU WERE YOUNG WHAT DID YOU WANT TO DO WHEN YOU WERE GROWN?

I'm really lucky. I was about 8 years old when the very first video games came out, and I thought it was the coolest thing ever. I wanted to make video games of my own - writing stories, drawing characters, animating creatures, and coding actions. In college, advertising seemed like a grown-up way to do some of the same thing. As digital technologies emerged, things got interesting; and since then I've found ways to put the two together, creating games and fun digital experiences that people enjoy.



## IS THERE ANYTHING THAT SHOULD CONCERN PEOPLE ABOUT THIS EXPLODING TECHNOLOGY?

1) Stay balanced. Technology is exciting, but it is important to take time to stay grounded in physical reality. As someone who has spent the better part of their life looking at computer screens, you must remember how to stay human.

2) Guard your privacy. Companies and brands love technology too, not only for what they can show you, but also what they can learn from your watching habits. Everything you do on or around a device is being measured to help businesses. You can choose to share all this data, but be aware that nothing is "free."

## HOW DID YOU GET INTO THE FIELD OF VR/AR?

This is actually the third time in my career I have been involved with VR/AR. In the 1990s, I first experienced VR in an arcade, shooting pterodactyls. In the mid-1990s, I experimented with making my own VR experiences, creating virtual dinosaurs, dungeons and more. In 2013, we started using VR at work to help people walk through building designs, and AR to help people see the data of complex networks. I think VR/AR is the best way to bring your ideas to life, and it moves so fast it's constantly surprising and exciting to see what you can do. At my company in Atlanta, You Are Here Labs, we help brands and companies figure out what to do with VR and AR and then we design and build those experiences for them.

## TELL US THREE SURPRISING THINGS ABOUT YOU AS A PERSON.

1) Even at almost 47 years old, I'm still an avid gamer. I play games on every video game system (Xbox One, PS4, Switch, PC, mobile). My favorite games right now are Spiderman on the PS4 (amazing graphics, fun, open-world) and Warhammer: Vermintide 2 on PC (great multiplayer).

2) For someone who's not a sports fan, I've had some fantastic sports moments - walking inside the ropes with Tiger Woods at the PGA Championship, standing on the NASCAR starting grid at Talladega Superspeedway, being behind the scenes for the NBA All-Star game, and hanging out in the Atlanta Braves locker room.

3) These days, the earth takes a backseat in our daily lives. Although my life has been technology, my dream is to leave that behind a while and hike the Appalachian Trail. It's over 2,000 miles from Georgia to Maine and takes most people about six months to complete.



# AARON WALSH ON

## IMMERSIVE EDUCATION

Though Aaron Walsh has been involved with virtual reality (VR) and video games from his early years, today he leads efforts to bring Blockchain and education together, exploring how advances in technology and pedagogy can benefit students and teachers.

Blockchain is a way of securely protecting information, making that information available around the world. "In a simple sense, Blockchain is a secure, reliable, network technology that is going to have a big impact on a lot of what we do in the future," Walsh says.

The concept of Blockchain started with Bitcoin in 2008. "Blockchain is the underlying network technology that cryptocurrencies, such as Bitcoin, use to secure their currencies on the network and to allow them to be safely stored online and exchanged online."

There are a variety of ways to use Blockchain for education. The Immersive Education Initiative, which Walsh founded and directs, is developing a digital incentivization and reward token called a Knowledge Token® or Knowken. "The skills students learn are recorded permanently and reliably on the network using Blockchain technology. They get Knowkens in return for the skills that they have learned, and then they can spend those (to buy items online). The Knowledge Token® is used to incentivize and reward learners. And the part that is most important, related to the Blockchain, has to do with the students' information. What they have learned, when they learned it, and how they learned it, is stored as a certified and un-hackable record that students can use like a resume and also as credits in high school or college. In this way the Blockchain is central to the Knowledge Token® ecosystem.

"I think that generally Blockchain technology will slowly, but certainly, begin to replace some of the core networking infrastructure that schools rely on. Primarily because

it is very reliable technology, and very robust, and proven to be very secure. It revolves around security and securing information, which is very important to schools," says Walsh.

"It will take a little more time before the Blockchain will be utilized enough for a university to use it for admissions, but that is exactly what the Knowledge Token® Blockchain is for: to record all of that information so that it cannot only be used for college admissions, but also for colleges to use it themselves by adding to it. The Knowken Blockchain is essentially the transcript of the courses, grades and even activities that students participate in. The intention is that students can start with the Knowledge Token® Blockchain in preschool and they can earn these tokens and credits all the way through their high school career, along the way accruing Knowkens that they can redeem for products, games, iPads, iPhones, computers, etc., and that they can also use to pay for college tuition. When students are looking for jobs, a potential employer can look at their record on the Blockchain and say 'OK, these are the courses they completed, these are the grades they got, this is the degree they actually earned, these are the skills they have mastered' and so forth."



# IMMERSIVE REALITY

Walsh was born in San Francisco then his family moved to La Junta, Colorado—a town that grew when the Gold Rush and Westward Expansion came through. “My father and mother were responsible for my creative development. My mother was an artist, and my father was a writer. He also taught creative writing at the college La Junta, so between the two of them, I believe most of my creativity came from the home.”

In the summer between sixth and seventh grade, Walsh started taking college courses in computer science. His father would drive him, back and forth, to the college in Pueblo. By the time he finished high school, he had the equivalent of an undergraduate degree in computer science. At the age of eighteen, he was hired by Boston College as a professional in the university’s Information Technology department.

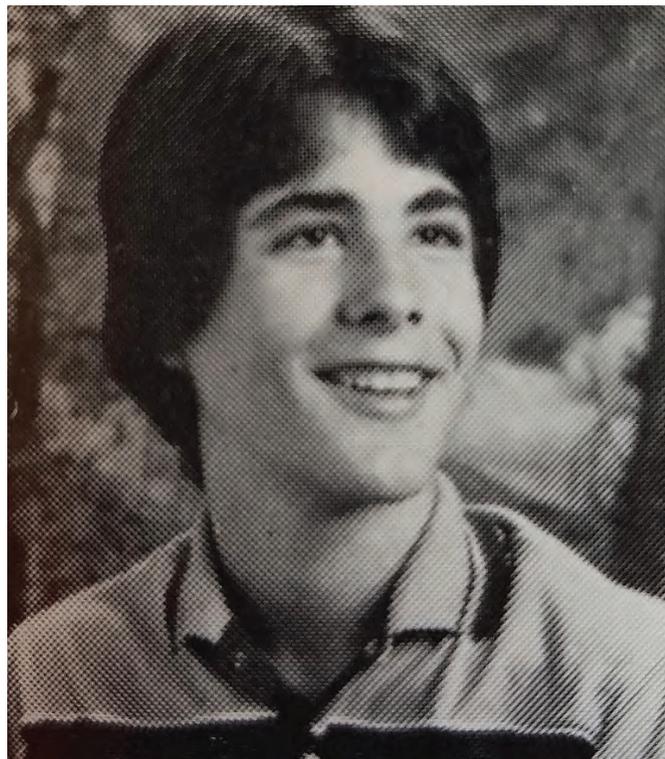
Before moving to Boston, he had read about the Boston Freedom Trail, the Boston Massacre, Paul Revere’s Ride and the Boston Tea Party ship, but was not particularly interested in these stories. All of a sudden he was actually walking on the Freedom Trail, visiting Paul Revere’s House, stepping on the site of the Boston Massacre, and boarding the Tea Party ship. “Something that I really didn’t have much interest in at all when

I was studying it in high school, suddenly became very real to me. I fell in love with the events of the American Revolution, and became very excited about them because I became immersed in these experience in my real life. With my own eyes I could see these things, and with my own body I could experience these things. That was very, very powerful.

I was working with virtual reality at the time, and was one of the first people in the world to build a personal virtual reality system. After I built it, which I did with my boss at Boston College in 1990, I started to think that VR could be used for education. I could make it possible for people to have that same immersive, realistic experience that I had myself when I was walking the Freedom Trail when I first came to Boston.

My vision was that in the future, students would be able to experience fully immersive learning experiences over the Internet, right from home, allowing them to become truly excited about things that may not interest them by just reading or watching a video. And so, Immersive Education started because of my own personal experience of sitting in

class, reading textbooks, looking at black and white pictures, and having very little interest in some of these subjects because they seemed so far away from me. And then suddenly, by being immersed in reality in Boston, by actually being around these things, the way I felt changed. I became engaged, excited, and was prompted to learn more about these things all by myself simply because I was able to visit these places in person. Shortly after that I built one of world’s first personal virtual reality systems and started thinking about the ways we could apply the concept of digital immersion to education, as I felt certain that immersive technologies could be used to deeply engage students no matter where they were.”



# TOM FURNESS-I AM THE GRANDFATHER OF VR



My mother thought that I was a strange child. While most kids would ride their tricycles, I spent more time taking mine apart and putting it back together. Mom said I would tape or wire various objects to my trike. When asked, I would tell her that this was a carburetor or that was a generator. She said I would hover over my father as he did minor car repairs. I would point at an engine part and ask what is that...what does it do...why...oh. I always wanted to know how things worked. Often to the consternation of my parents, I would disassemble toys to see what was inside, like what caused the clown to pop out of the box on "Pop goes the weasel!" But they always supported my interests, making sure to renew my *Popular Science* and *Popular Electronics* magazines. When I was ten years old in 1953, we got our

first television. Most kids would watch Howdy Doody with Buffalo Bob and Clarabelle the Clown. But I loved to watch Mr. Wizard's Science Secrets, often trying to duplicate the experiments I saw on TV. My patient mother would use her lunch breaks to buy parts at the electronics store for my home contraptions.

When it came to any artistic expression I thought I was a failure. I would look with envy at sketches made by my friends in 4<sup>th</sup> grade class and realize that I had no talent, so I stopped trying. Mind you, I could make 'engineering drawings' and the like, but sketching, no way. It was when I was in my mid-40s, that I realized I could actually do it. Turns out I was just trying too hard -- trying to follow the 'rules' in my head instead of sketching what I saw with my eyes.

Even though I made good grades in school, I spent a lot of time daydreaming and staring out the classroom window. I think this showed up on my report card. Outside of school, one of my favorite past times was to make pretend robots out of cardboard boxes with toilet paper rolls for eyes and ears. To accompany the robot, I built a cardboard remote control panel with all kinds of switches, dials and indicators. I would place the robot outdoors and with my control panel inside the house (and under the grand piano, my favorite hiding place), I would pretend to operate the outside robot. I would go on all sorts of adventures in my imagination as I twisted the knobs on my control panel and pretended to look through the eyes of my robot. My parents and grandparents thought I was a little wacko but this was my entertainment for countless hours.





In spite of all my imaginary ventures, my most favorite place was outdoors. I loved the forest. My childhood home bordered on the Pisgah National Forest. My friends and I would play all day in the woods. We would build log forts and fashion spears and swords out of small trees and play Knights of the Round Table. I would often go hiking and camping alone over several days with my dog Kookie. Just the two of us... exploring, wandering, wondering.

In 1957 I was in the 7<sup>th</sup> grade. My teacher told the class about the International Geophysical Year and that the USA was planning to orbit an artificial satellite. But, the Soviet Union beat us to it. While Sputnik was flying over our continent my parents and others were terrified. I thought it was cool. I even built a short-wave radio so that I could tune into the transmissions from Sputnik. All of this excitement stimulated my interest in rockets. I started building rockets and formulating my own rocket fuel using a home chemistry set. Then I thought it would also be fun to build some electronics into my rockets to measure acceleration and vibration as they blasted off. I turned this into a science fair project and won the North Carolina State Science Fair when I

was 15. Not long after that I met three of the Mercury astronauts, Alan Shepard, Gus Grissom and John Glenn as they were preparing for their first flights into space. I wanted to be like them, but I failed the eye test to get into the Air Force Academy to become a pilot. So, it looked like I wasn't going to make it into space.

Perhaps my greatest epiphany as an adult was when I discovered that if I put together all the stuff I was working on for Air Force fighter cockpits (head-mounted virtual displays, head, eye and hand tracking and 3D binaural sound) I could create a virtual world. This meant that the things I had only imagined, could be made into a three dimensional world to share with others. I have never been so excited (except when I married the love of my life, had children and grandchildren). The whole virtual reality concept meant that we could create unlimited worlds where people can go to be enlightened, lifted and entertained. Wow...how cool. That was over fifty years ago. People today can experience this for themselves in ways that I never imagined then.

Recently, I was invited to NASA Houston to visit the lab where they were using some of my virtual reality technology to train Space Shuttle astronauts how to repair the Hubble Space Telescope. They asked if I wanted to do it. YES! And there I was, suited up, in the Shuttle Bay, orbiting the earth and working on a virtual replica of the telescope. I looked down to see the earth and up to see the stars. So, finally I did make it into space....but it was a different kind of space...virtual space...where anything is possible.



# LET'S BUILD A VR

# HEAVEN

INTERNATIONAL  
CHILD ART  
FOUNDATION



You must have imagined what heaven looks like, perhaps the first time when you heard about Eden or paradise. The idea of heaven has been around since ancient Mesopotamia and it still shapes the lives today of 2.4 billion Christians, 1.7 billion Muslims, and people of some other faith traditions.

Recent advances in virtual reality, augmented reality, and mixed reality make it possible to bring an imagined heaven to earth, so you can experience what Eden or paradise looks like. But whose idea of heaven? Schoolchildren's! Heaven as imagined by the world's children.

The late Harvard neuropsychiatrist Robert Coles—who authored more than eighty books and 1300 articles, nearly all of them concerned with human moral, spiritual, and social sensibility and reasoning, relating especially to children—conducted a 30 year project on the inner lives of children. He gathered data from interviews and collected drawings from children initially to document the illusionary quality of religion, but was surprised to witness the positive and often life-changing quality of children's spirituality. In *The Spiritual Life of Children*, Coles describes how his research helped him to see children as “young pilgrims” because across diverse cultural, ethnic, and religious boundaries, children demonstrate themselves to be spiritual beings in their paintings and by their own revelations in conversations.

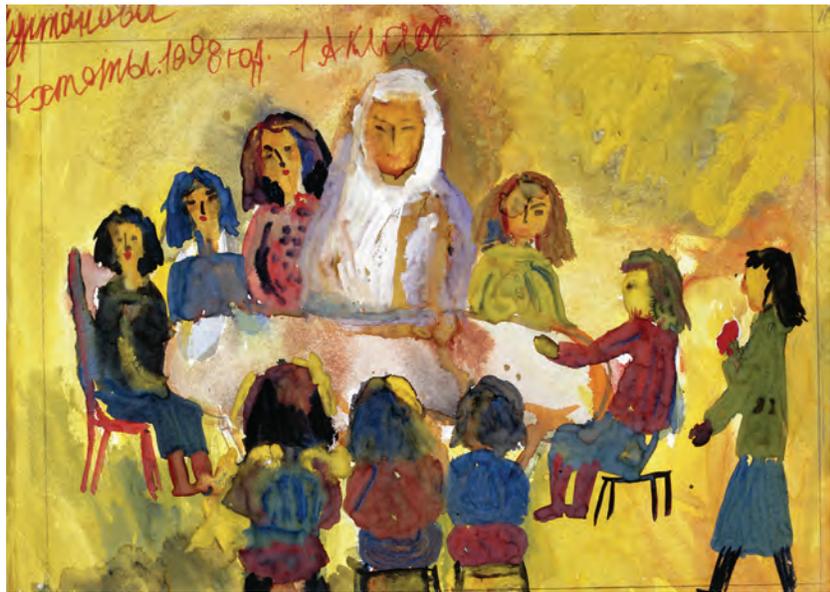
**The International Child Art Foundation—a nonprofit based in Washington, D.C. that serves American children as their national arts organization and the world's children as their global arts organization—plans to build a VR Heaven by engaging some of the world's most creative and imaginative children.**

This year the ICAF is organizing its 6th Arts Olympiad—the world's largest art program for schoolchildren. Through school art contests, most artistically creative students in participating U.S. school districts and nearly 100 countries will be selected. These creative students will convene for three days in July 2020 on The



National Mall in Washington, D.C. at their 6th World Children’s Festival (WCF)—the children’s “Olympics” held every four years. Unlike the Olympic Games, the purpose of the WCF is to imbue children’s creativity with empathy through collaborative activities and a celebration of diversity and unity.

Prior to the WCF, two hundred of the young delegates will be selected for the VR Heaven Project. These young artists will be asked to paint their visions of heaven and bring these masterpieces along to the WCF. On the first festival day, they will share their depictions of heaven and examine other’s works. On the second day, they will explore how they can collectively be more creative in depicting heaven. On the third day, they will collaboratively paint ten murals that depict their collective visions of heaven.



**These ten murals will provide the basis for the construction of heaven as a VR experience. The VR Heaven will be built by the members of the Virtual World Society working under the direction of its founder, Professor Thomas Furness (see pages 30-31). One of the leading technology companies is likely to join this uniquely important global project.**





## MARIE GRAHAM

Marie Graham is a teacher who loves brainstorming with bright sticky notes; sipping iced vanilla lattes; traveling (minus the flying part); being at home relaxing with her family; learning anything she can about everything (from people, books, movies, blogs, podcasts, online courses); listening/dancing to 80's music, and jumping into, imagining, and creating VR/AR experiences. She doesn't like palmetto bugs or cilantro.



## MICHAEL BARWOOD

Michael Barwood is a freshman and is an animated student. He loves acting and participating in film club; sprinting on the cross country team; and kicking the ball in soccer. He has lived in four states: Illinois, Texas, California, and Georgia, and has gone to seven different schools. He doesn't like mushrooms or Hawaiian pizza, but will never say no to a good steak. He loves traveling and has been more places that he can count, and loves to cheer on his favorite baseball team, the Chicago Cubs.



## SARA MCLEOD

Sara McLeod is a student who loves cold weather, being with her friends, and spending time with her two dogs. Some things that you may not know about her are that she loves calligraphy and has been at Mount Vernon Presbyterian School since she was three years old. Sara's favorite foods include tortilla chips and chocolate. Her biggest weaknesses are dancing and painting her nails. She loves to travel and her next big adventure will be to go to Iceland. She dislikes the cooking spice ginger, bugs, and green tea.



## JACK METTE

Jack Mette is a high school student who loves Latin the most out of all his classes; watching football all day every Sunday unless the Cowboys lose; eating Italian food, especially pasta that has some seafood in it; waking up at 8:30 on weekends because it's not too late so that he loses the whole day but not too early; going to the beach with his family and just chilling all day; watching "Indiana Jones" because it has just the right amount of action; spending time in the fall because it's kind of cold but still hot enough to where it's not uncomfortable. He dislikes a Dallas Cowboy loss, food that's too spicy, and Lacrosse.



## ELLA WAGNER

Ella Wagner a student who loves eating cheese dip; watching romantic movies; dancing to music when she is home alone (even though she can't dance); loves cheering at football games; being with her friends; training to be a nurse when she is older; thrift shopping; procrastinating; meeting new people; making vlogs; and going to llama farms. She doesn't like knuckle-cracking, learning math, getting in trouble, being older than everybody, or losing in Subway Surfers.



## TUCKER RAMSEY

Tucker Ramsey is a freshman living in Atlanta, Georgia. Some activities he enjoys are building and constructing lego blocks; cooking and eating exquisite, worldwide foods; drawing and creating fun, innovative ideas; playing golf and improving his golf game; learning about firearms throughout history; watching movies, especially horror movies during the night; loves walking on the beach; sharing his feelings; and enjoys watching hockey. Tucker dislikes repeating what he says, especially if it is long; getting shot down by haters; and ads on short videos. Tucker is also currently single.

# CONTRIBUTORS



## REDIET YONAS

Rediet Yonas is a patient, innovative, and original kid who enjoys video games like Fortnite; TV shows like Gotham, Arrow, Naruto, and more; and he absolutely loves music. He couldn't go a day without music and his various playlists. He enjoys playing basketball in his free time, usually with friends. He was born in Georgia but the rest of his family was born in Ethiopia. The things he dislikes most are anything that flies, buzzes, or crawls; boredom; lag when playing video games, and sticky things.



## KENDALL SLAYDEN

Kendall Slayden is a 15-year-old girl who is adventurous, athletic, social, laid back, intelligent, and open-minded. She likes playing softball and tennis; creating anything related to art; traveling to new places and trying new things; shopping with her friends and expressing her style; binge watching shows on Netflix while procrastinating; eating lots of food, especially from Chick-Fil-A; wearing fuzzy socks, pajama shorts, and big sweatshirts. She doesn't like raw tomatoes, tree sap, buzz cuts, or haters.



## TYLER LONG

Tyler Long is a student that loves all sports including football, baseball, wrestling; eating Thai takeout; traveling to far away places; animated TV shows; all music from the late 60's to the early 2000's; Fridays, Saturdays, but not Sundays; Christmas; cool ranch Doritos; spicy things; holiday, comedy, and action movies; Madden 14, The Show, Call of duty, Halo (all of them), Mario Kart, Kirby, Legend of Zelda, and Battlefield; spending time with his friends; his family; God; Ivy (his dog); Winter, and the Shrek movies. He doesn't like people who lie.



## SOFIA WISE

Sofia Wise is a student who loves playing softball; eating Spanish food; creating new things; listening to 60's through 80's music; competing in anything that's not even a competition; watching and crying to romance movies; getting into trouble with her friends; being with her favorite teacher Mrs. Graham; making fun of her sister (but still loves her); writing; singing (even though she can't); getting her nails done; shopping with her mom; taking care of her pets; and acting silly when she is alone. She doesn't like smacking lips; knuckle-cracking; or being forced to read.



## BRENDEN WICKER

Brenden Wicker is a ninth grade student who loves bicycle riding in the forest, filming, cooking and eating new foods, hanging out with friends, swimming (especially at beaches), riding roller coasters and water slides, traveling (especially on planes), sunny days, zip lines, exotic animals, road trips, watching movies, plays and anime and drawing anything that comes to his mind. He doesn't like dolls or heavy metal music.



## LEXI ELIAS

Lexi Elias is a freshman student who is optimistic, outgoing, and independent. She loves traveling, shopping, and listening to her many playlists on Spotify. She is always busy and is always on the go. She is a competitive dancer who dances for 15 hours a week. While she loves to go out on the weekends with her friends, eat at cute restaurants and take pictures, she also loves a good day relaxing at home with her family and dog. She dislikes cockroaches, tomatoes, and math.

## OTHER CONTRIBUTORS

**RIKKI HAGERTY**- Graphic Designer, Mount Vernon Presbyterian School

**ANNE KATZ**- Head of Marketing and Communications, Mount Vernon Presbyterian School

**JULIA DAKIN**- ChildArt Assistant Editor



## PLEASE ADOPT THE ICAF AS YOUR CHARITY THIS GIVING SEASON!

Though many problems beset our nation and the world today, a sheer lack of creativity or empathy is too often their root cause. Creativity cultivates ideation, discovery and invention, while empathy grows compromise, consensus and collaborative innovation.

The International Child Art Foundation fosters schoolchildren's creativity and develops empathy through the arts—children's universal language.

Founded in 1997 as a 501(c)(3) nonprofit, ICAF is independently ranked among the 25 Top Children's Charities in the United States.

Currently, students around the world are participating in the school-based 6th Arts Olympiad—a free program that fosters their creative development. In July 2019, they will convene on The National Mall at their 6th World Children's Festival to develop mutual empathy.

Your support will help the ICAF democratize creativity and develop empathy universally as building blocks for global prosperity and world peace.

You can donate online at  
<https://ICAF.org>  
or mail your check to  
ICAF, Post Office Box 58133, Washington, D.C. 20037

The International Child Art Foundation (ICAF) provides unique learning opportunities that enhance global competency, sharpen creativity, and build a resume worthy of leading colleges and universities. For further information, send email to [info@icaf.org](mailto:info@icaf.org).

You can subscribe online to  
ChildArt at [ICAF.org](https://ICAF.org).  
To post comments, visit  
[www.facebook.com/ICAF.org](https://www.facebook.com/ICAF.org).

**INTERNATIONAL  
CHILD ART  
FOUNDATION**

P. O. Box 58133  
Washington, DC 20037