ECOTEK
Science at Work!

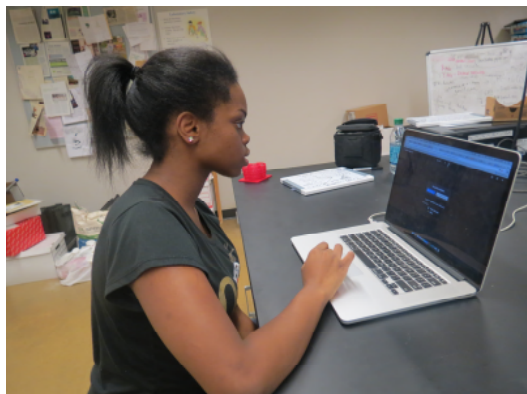# Student Scientist Develops Virtual Reality Application to Help YoungXplorers Expedition Team to Climb Mount Saint Helens

Technology is moving at lightning speed. From mobile applications to virtual reality systems, the information age is taking shape right before our eyes. The real question is how does one keep up and stay current on the latest technology without getting left behind.

Bria Harris, a student scientist in Ecotek Lab and a 11th grader at Detroit Edison Early College of Excellence, is using her talents in computer programming, graphic design and art to explore the world of virtual reality (VR) application development. She is not developing video games like most people. She is using the technology to improve how scientists conduct research.

Above: Bria Harris working on VR application for Mount Saint Helens expedition

Bria's flagship VR research project involved using Unity3D to develop a virtual realty environment to mimic the ecology and landscape of the Mount Saint Helens Volcanic Monument region. She worked tirelessly on the application to make sure that every detail of the ecosystem was accurate, from tributaries and lakes to the hiking trail in Gifford Pinchot National Forest to the lava rock fragments in the boulder field, no detail was overlooked. The YoungXplorers expedition team used Bria's VR application to become familiar with the environment. Having this tool also enabled the team to design its navigation strategy at different elevations.

Bria learned how to navigate through the application; manipulate technical parameters to give the landscape definition; and add custom java code. She also successfully performed unit testing, integration testing and stress testing on the final version of her application and learned the process for rendering across IT platforms so that it can be viewed on an Android compatible phone using Google Cardboard.

Having Unity3D as her foundation, Bria has now turned her attention to learning how to develop custom VR applications using LeapMotion, another high tech virtual reality development platform. The goal is to use the application to allow users to manipulate a virtual reality environment in real time. Bria has set the standard for application development for other student scientists to follow in Ecotek Lab. Outstanding!

Bria using Google Cardboard to view VR application in "action"
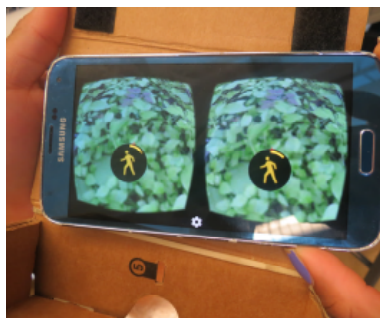
Front view of Mount Saint Helens VR application on Android phone

Bria unit testing application code for Mount Saint Helens VR in Unity3D platform

About the Ecotek Science Program
Ecotek is a science research lab program for young inventors and researchers in grades 5 thru 12. Student scientists work on projects aligned with the issues being addressed by world leaders at the United Nations. To learn more about Ecotek Lab go to http://www.ecotek-us.com