

# Halifax IDA's internship program attracts talent

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The Halifax Industrial Development Authority has a vibrant internship program that is attracting talented youth through its Southern Virginia Product Advancement Center.

"Attracting and growing the best talent is just as important as attracting and growing the best companies," said Kristy Johnson, IDA manager of marketing and business development. "You have to have both."

Two of Southern Virginia Product Advancement Center's interns, Duncan Simon and Zack Raney, returned to their home-roots in Halifax County this winter break to continue working on projects at the center's Modeling and Simulation Center.

Both Simon and Raney graduated from Halifax County High School and are currently enrolled as computer science majors at Virginia Commonwealth University in Richmond.

Raney and Simon began their internships in 2012 after they participated in Longwood University's Digispired program, which cultivated the programming and virtual-reality skills of students throughout the Southern Virginia region through gaming.

Specifically, over the last couple of years, the authority's internship program has sought to reapply off-the-shelf gaming technology for something that it was not originally intended: fully interactive computer aided design and virtual prototyping.

"What started as an initial interest in gaming, has turned into a much richer set of skills that can be used to solve many real world challenges in today's hi-tech manufacturing environment," said Dr. Douglas Corrigan, Southern Virginia Product Advancement Center's executive director. "We've been able to take technologies that are used throughout the gaming community and piece them together to develop new functionalities for solving design problems in manufacturing."



## Returning to his roots

Duncan Simon returned to his home-roots in Halifax County this winter break to continue working on projects at the center's Modeling and Simulation Center. Simon currently is enrolled as a computer science major at Virginia Commonwealth University in Richmond.

Corrigan managed the internship through use of the special research and development assets the authority has established in collaboration with the community and the tobacco commission and industry partners like Kawasaki Robotics, USA.

"Dr. Corrigan has done a great job of incorporating these assets into the internship program, while allowing the interns to learn by doing," said Johnson.

"We had to test many different technologies and debug a lot of code, but we have finally converged on something that is quite impressive," said Raney.

By integrating a 3D game-design engine (Unity Pro), a 3D virtual-reality head display (Oculus Rift) and hand-tracking technology (Leap Motion), Raney and Simon were able to create a new application that enables designers to import and immerse themselves in a 3D model of a new component, manipulating the model in 3D space using their hands.

"This is on the cutting edge of virtual design and prototyping. What they are doing is truly novel and is pushing the boundaries of the technology in innovative and creative ways. We are really proud of what the students in Halifax County have been able to accomplish," said Corrigan.

By partnering with Kawasaki Robotics USA, the interns have helped develop the first beta-level demonstration of virtual robotic path programming in the fully-immersive environment of SVPAC's "CAVE."

The CAVE is a walk-in theater that displays life-like scaled models and environments. Bringing the virtual model for a manufacturing robot into a fully immersive one-to-one scale virtual environment, demonstrates a new tool that enables manufacturers to test their robotic path programs before they are used on the factory floor.

For more information regarding Southern Virginia Product Advancement Center's Modeling and Simulation Program, contact Corrigan at [dcorrigan@svpac.com](mailto:dcorrigan@svpac.com).