

'Cool Coding' for All

Academy Reaching Out With Special Training



John Qualls

With all of the STEM and STEAM initiatives, it is no secret that technology impacts all industries within the economy and there are significant issues filling the current job demand. In the United States, there are over half a million unfilled jobs in information technology (IT) across a variety of sectors.

In Indiana alone, computer and IT job opportunities are growing at twice the rate (17%) compared to any other job sector (8%), according to the 2015 TechPoint Central Indiana Workforce Study.

Aside from the numerous positions available, computer and IT jobs also have an economic impact on the community. The average annual pay for jobs in the computer and IT sector is \$75,000. This amount is almost double the pay of average jobs in Central Indiana. The ripple effect of an increased average salary for communities can include further economic development, better funding for schools and increased community programs.

As a whole, Indiana attracted a 150% increase in tech companies in 2015 compared to 2014. As this economic trend continues, it will be important for Hoosiers to keep pace with the growing demand and increase our pipeline for tech and IT talent. In order to do so, Hoosiers need to be able to understand what coding is and how it affects everyday life.

Eleven Fifty Academy is launching a series of events called "Cool Coding Awareness Week," an interactive weeklong program hosted in 20 communities across Indiana in partnership with TechPoint Foundation for Youth and NexTech. Launching in March and running through December 2016, communities selected through a competitive application process will be exposed to specific curricula developed to stimulate minds in students ranging from age five to 105.

Starting with kindergarteners and first graders, the partnership will provide 1,000 kids with a book – *Programming Languages ABC++* – by Hoosier authors Michael and Martine Dowden. As parents and software consultants, the Dowdens wrote this book to introduce programming languages in a child-friendly yet technically-accurate format. Classroom activities and fun ABC posters are included, as well as a letter to parents encouraging their participation by exploring further resources.

Students in second through sixth grades will enjoy participating in the Hour of Code, a one-hour introduction to computer science, designed to demystify code and show that anybody can learn the basics. Popular Hour of Code activities are based on *Minecraft*, *Star Wars* and Disney's *Frozen*.

Seventh-grade students through high school sophomores will experience coding by working with Raspberry Pi, a credit-card sized computer that plugs into a monitor, keyboard and mouse. These devices enable students to explore programming through languages like Scratch. High school juniors and seniors

will step inside the mind of a coder as one of our Eleven Fifty Academy instructors demonstrates free-form coding in Code Cram sessions by building an app from scratch within one hour.

The Cool Coding Awareness Week will end with two community-focused experiences: a two-day Intro to Coding class for ages 16-plus and the start-up tools for a CoderDojo. The intent is to get coding to be part of the regular course catalog so that coding is a standard skill taught in the schools.

Skills developed during Cool Coding Awareness Week will be sustained and even enhanced through the CoderDojo.

CoderDojo is a global movement of free, volunteer-led, community-based programming clubs for young people who want to learn how to code, develop web sites, create games and explore technology in a creative environment with help from a variety of mentors. Originally started in Ireland, this movement has spread around the world as young people, between seven and 17, are looking to meet like-minded people and be exposed to the creativity and possibilities of technology.

Within the CoderDojo Movement, there is a focus on community, peer learning, youth mentoring and self-led learning – with an emphasis on showing how coding is a force for change in the world. This unique approach teaches kids more than just how to code: Their collaboration with other adolescents promotes teamwork and a sense of community among them. It's all about encouraging creativity and fostering mentorship in a fun environment.

Skills developed during Cool Coding Awareness Week will be sustained and even enhanced through the CoderDojo. A Dojo will be formed in each of the 20 communities along with tools left behind to help them grow. The partnership will appoint a state coordinator to assist with the efforts in each of the communities. This person will not only be a point of contact to coordinate events but will aid in mentor resources to help ensure the success of each Dojo. While the impact of the Dojos won't be able to be measured for some years, the intent is to create a pipeline of coding Hoosiers to increase our state's viability as a coding talent hub.

AUTHOR: John Qualls is president of Eleven Fifty Academy, where the mission is to build an ecosystem of software development talent that financially benefits the individual, their employer and their community. He is passionate about helping mentor and advise young people, especially from an IT perspective, on ways to navigate the right path for their futures. Learn more at www.elevenfifty.org/outreach