K-12 App Academy: Supporting App Development through Resources for Students and Teachers

Theodore Ogden Hays
School of Computing
Clemson University
1926 Shiloh Road
Seneca, SC, USA

theodoreohays@gmail.com

Christina Gardner-McCune
Human Centered Computing Division
Clemson University
100 McAdams Hall
Clemson, SC USA

gmccune@clemson.edu

As we move MIT App Inventor into classrooms in core subjects (e.g., math, science, and social studies) a number of teachers have asked us for resources to support students in creating apps on their own or apps aligned with their curricular standards. Teachers have also asked for resources to support them in keeping track of students' progress and checking their understanding. To meet this need and our own desire to support computational thinking in the classroom, we have begun creating a series of app development resources that can be used with App Inventor. This has resulted in the iterative development of resources and the creation of the K-12 App Academy website.

Current student and teacher resources available include:
- Computational Thinking Mat Activity: Designed in fall 2013, this 1-week series of lessons involves a 14"x20" printed mat that guides classrooms through both designing an app and learning the principles of Computational Thinking described at https://www.google.com/edu/computational-thinking.
- Interactive Video Tutorials: A database of instructional videos teach students, teachers, and novice programmers MIT App Inventor, including app creation, computing concepts, and code walkthroughs.
- Online Student and Teacher Portal: Designed to house all of the materials and to be a homepage for the project.

To date, two different middle schools, five teachers, and about three hundred 8th grade students have used these resources. This poster will present screenshots of our resources and highlight the features and affordances for learning as well. The team is currently developing a new site at www.k12app.academy and publishing their research on the development of these resources. We look forward to getting feedback on these resources as we are in the process of refining our resources and completing the website with the hope of getting new teachers and schools to integrate App Academy into their classrooms.