Work in Progress: Programming is a Snap! Increasing Knowledge and Interest in Computer Science

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Problem / Question

Demand for Computer Science professionals is outpacing supply in the United States. Many high school students do not consider the Computer Science fields of study due to lack of information or interest. Can we increase high school students’ knowledge and interest by engaging them in hands-on activities designed and led by undergraduate students?

Hypothesis

Engaging high school students in a one to two hour hands-on workshop can increase their interest and knowledge in computing.

Research Methods

Materials

- A complete game that is used as a key
- A partial game that students complete in a series of hands-on activities
- Power Point slides that explain concepts
- Hands on exercises
- Pre- and post-participation content quizzes used to assess learning
- Pre- and post-participation questionnaires used to assess increase in interest

Procedure

Step 1: Develop instructional materials
Step 2: Develop Assessment materials
Step 3: Conduct workshops
Step 4: Evaluate effectiveness

Works Cited

SNAP! Build Your Own Blocks 4.0. Vers. 4.0. http://snap.berkeley.edu

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Status

- A working copy of the Snap! game has been developed.
- Instructional slides have been finalized.
- Pre and post tests to assess acquired interest and knowledge have been developed and are undergoing testing.
- Workshops have provided positive feedback.

Future work

- Conduct a trial workshop with local high school students in 2015.
- Analyze results, draw conclusions summer 2016.
- Publish results fall 2016.

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