AP Computer Science Principles Training

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Introduction

The *AP CS Principles* project is intended to improve the recruitment of students into Computer Science. We are training High School teachers and developing resources to help pilot this course.

What We've Done

- We offered a course for High School Teachers to learn the concepts and technology
  - Teachers who completed exercises received a stipend
- We developed a bank of 300 multiple-choice questions that can be used to make quizzes and tests
 - These questions match a course blueprint approved in Wake county

The Beauty and Joy of Computing

The Beauty and Joy of Computing is a course developed as a pilot for the AP CS Principles Syllabus, focusing on a non-technical introduction to computing.

The Big Ideas

- Abstraction
- Data
- Algorithms
- Programming
- The Internet
- Impact on Society
- *Computing as a creative activity*
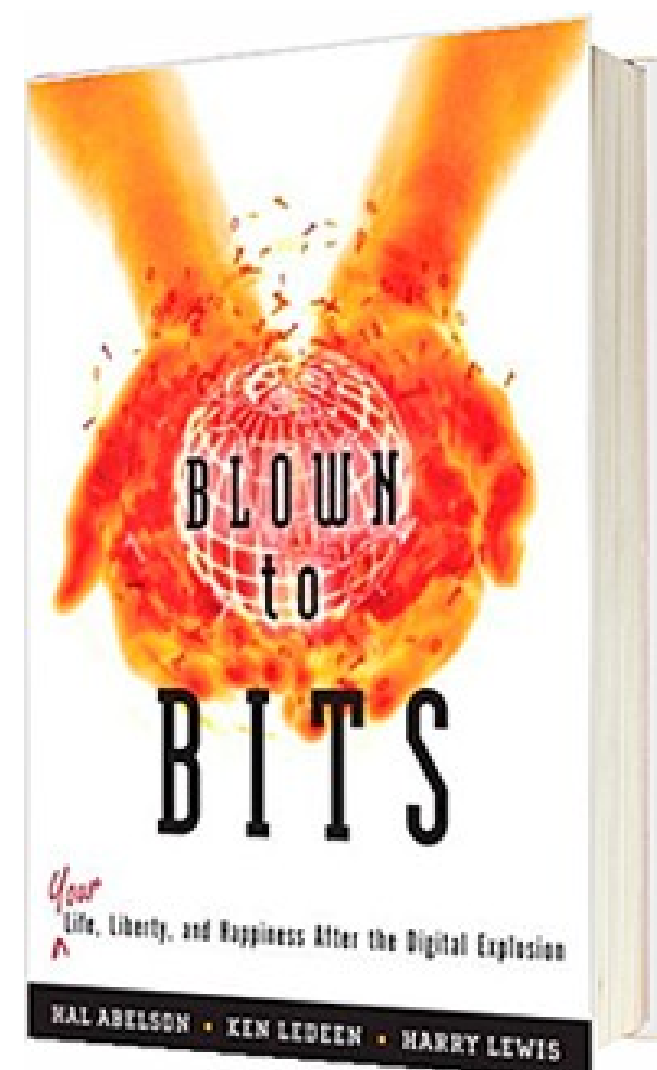
The textbook for AP CS Principles: *Blown to Bits* by Abelson, Ledeen, and Lewis.

Technologies

- *CS Principles* does not mandate any particular language
- *BJC* primarily uses graphical programming languages
  - GameMaker
  - App Inventor
  - Scratch
- The emphasis is on intuition over syntactical details
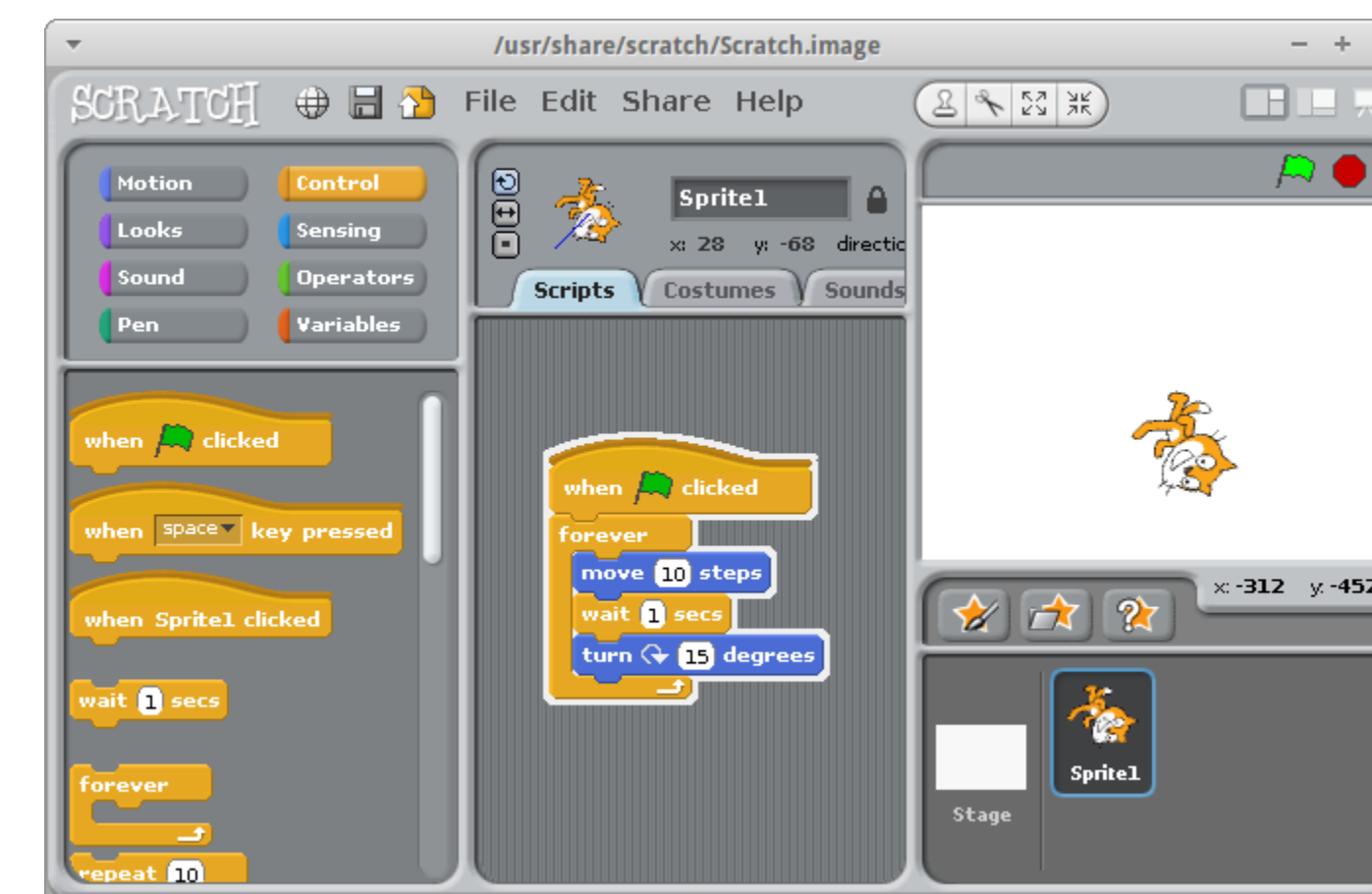
A screenshot of a very simple program written in Scratch.

Conclusion

The *CS10K* project seeks to train 10,000 new teachers by 2016, in time for the planned launch of the *AP CS Principles* Exam. Our assessment items will assist our teachers in meeting this goal.

Future Work

- The HS Teachers will soon begin teaching their pilot courses
- We will develop additional resources for assessment
  - Rubrics for open-ended problems
- Hold "office hours" via Skype each week to keep teachers connected

Acknowledgements