Computer Science For All – The U.S. Experience

Bobby Schnabel, University of Colorado

In The Beginning

Organizations / Programs Formed:

- Computer Science Teachers Association, 2004 (Chris Stephenson)
- ACM Education Policy Committee, 2006 (Cameron Wilson, BS)
- National Science Foundation CS10K initiative, ~2010 (Jan Cuny)

At national and state levels:

- Lack of awareness of computing job demand
- Lack of inclusion of computer science in STEM legislation/policy
- Very little inclusion of computer science in K-12 (pre-university)

Transformative Steps

- Annual Computer Science Education Week created, supported by resolution of U. S. Congress (2009)

- Running on Empty report published by ACM Education Policy Committee, publicized in Washington D.C. events (2010)

- Inclusion of Industry: Computer in the Core created ~ 2010

- Creation of "CS Principles" AP course begins, launched 2016/7

Adolescence / Scaling

- code.org launched, Hour of Code launched and integrated into Computer Science Education Week by code.org (2013)

- CS for All initiative launched by Obama administration (2016)

- CS Advanced Placement Exam Enrollments grew from 20K in 2007 to 136K in 2018

- Majority of US States have adopted standards/requirements for computer science education at K-12 (school) level

Lessons

- Major progress is possible

- Industry involvement is key (in addition to education and government sectors)

- Needs dedicated leadership effort