CS4HS @ MU
Summer 2012

Computer Science for High School Teachers
Computing-centric fields comprise much of the current best-paid careers, and are much in demand.

- Enormous projected increases in demand and salary.
- Driving force in 21st Century science and technology.
- National priority to increase K-12 computing presence.
Meanwhile...

- Precipitous drop in enrollments
  - (Some recent good news)

- Astonishingly poor diversity

- Decreasing number of schools offering AP CS -- while all other exams are going up
A majority of school districts aren't even offering their students a path into the highest growing and best paying sectors of the 21st Century American economy.
State of the State

- WI 405 license for teaching CS
  - State early to recognize specific credentials should be required for teaching CS
  - [http://dpi.wi.gov/tepdl/fqlcode.html#compsci](http://dpi.wi.gov/tepdl/fqlcode.html#compsci)

- Other states envy the fact that we have standards for this.
However...

- Small and dwindling number of teacher education programs offer CS Ed major.

- Little demand from schools for more CS licenses.
  - (But when a district wants one, very hard to find.)

- What teachers there are work HARD to get students enrolled into their existing courses.
How Bad Is It?

What percentage of active Wisconsin AP CS A teachers are here in the room?
- 31 WI districts offered AP CS A
- (5 online)
- ~ 200 students enrolled
- ~ 25-30 AP CS teachers statewide

Reporting by school districts to WI DPI, 2011
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Wisconsin AP CS A map  Workshop Map
Estimate perhaps another 40 - 60 WI teachers offered some kind of programming course (Java, C++, VB)
● 102 member of Joe Kmoch's WI-csandit-teachers Google Group
  https://groups.google.com/forum/?fromgroups#!members/wi-csandit-teachers
  ○ JOIN US!

● 151 members of CSTA in WI
  ○ Does this include you?
  ○ http://csta.acm.org/
What Can We Do?
What Can We Do?

1) Advocate
Don't have to do this alone. Much expertise here in the state, and we have national, state government and university resources to help.
2) Educate

- Take advantage of professional development opportunities, and encourage others to do the same.
- Need more active, licensed CS AP A teachers.
2) Educate

- Take advantage of professional development opportunities, and encourage others to do the same.

- Need more active, licensed CS AP A teachers.
  - Won't happen overnight.
  - Need increased student demand.
  - Need precursor courses in place.
  - Need to improve pedagogy.
2) Educate

- Need teachers ready to teach the new AP CS Principles course.
  - Special professional development courses being prepared to address this in-depth.
  - If CE21 grant funded, will be ready to start next summer, and most or all tuition will be covered.
  - Paths for current 405 licenses and current teachers with no computing background.
2) Educate

- Need teachers ready to teach the new Exploring Computer Science course.
  - Special professional development courses being prepared to address this in-depth.
  - If CE21 grant funded, will be ready to start next summer, and most or all tuition will be covered.
  - 405 license not required.
  - PD designed for non-CS teachers.
  - Two summer courses, ready to pilot course after first summer.
2) Educate

- Need STEM teachers to incorporate Computational Thinking into existing core courses.
  - Huge portion of future STEM jobs computing-centric.
  - Must prepare our students to be active participants -- not passive consumers -- in the 21st century economy.
  - Future CS4HS workshops
  - Strands at Green Lake, etc.
  - Local CSTA chapter as resource.
3) Organize

- Little chance for progress as long as every CS teacher alone in their district.

- A local CSTA chapter will provide regular opportunities:
  - Gather and network
  - Share resources, peer mentoring
  - Influence policy and administrations
  - Build better opportunities for our students
3) Organize

- When Joe asks for volunteers to propose sessions at Green Lake -- jump in!

- When Dennis asks for session ideas and session leaders for next summer's workshop -- jump in!

- When Andy asks for session ideas and session leaders for our first local CSTA chapter meeting in October -- jump in!
What can WiCSTA do to help?

What can you do to help?
Discussion

- Workshop ideas?
- CSTA chapter meeting ideas?
- Repository of lesson plans and curriculum resources?
- Another regional student programming competition?
- High school / university collaborations?
- Industrial partners?
Evaluation

- Please fill out final daily evaluation: [http://tinyurl.com/MUCS4HS3](http://tinyurl.com/MUCS4HS3)

- PLEASE fill out Google's CS4HS Workshop Evaluation: [https://docs.google.com/a/google.com/spreadsheet/viewform?formkey=dENGLXdHTjh0YlhNd0ZrNnY1WnLB3c6MA#gid=0](https://docs.google.com/a/google.com/spreadsheet/viewform?formkey=dENGLXdHTjh0YlhNd0ZrNnY1WnLB3c6MA#gid=0)

(See your e-mail or the site webpage)
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