

Classroom
Tools



Voice

The Voice of K–12 Computer Science Education and its Educators

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You are Invited!
2014 CSTA Annual Conference
The Pheasant Run Resort
St. Charles, Illinois

July 14: 3-Hour Hands-on Workshops
July 15: Keynotes and Breakouts

Opening Keynote: Yasmin Kafai
Connected Code: A New Agenda for K–12 Programming in Classrooms, Clubs, and Communities

Closing Keynote: Michael Kölling
What's Next for CS Education: Thoughts on Topics, Tools, and All The Rest

The 2014 CSTA Annual Conference provides professional development opportunities for K–12 computer science and computer applications teachers who want practical, relevant information to help them prepare their students for the future. This year's conference includes more workshops and sessions than ever before.

Visit www.cstaconference.org to view our terrific line-up of speakers, workshops, and sessions, and to register for the conference.

The 2014 CSTA Annual Conference is generously sponsored by Oracle Academy and Universal Technical Institute.

CSTA ELECTION

April 2, 2014
to
May 5, 2014

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your ballot

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Creative Computing Online Workshop

A MOOC for Scratch Educators

Karen Brennan

SCRATCH (*scratch.mit.edu*) is a free visual programming environment, developed by researchers at the MIT Media Lab. With Scratch, kids can code their own interactive games, stories, animations, and art—and then share their creations with others in an online community. The Scratch online community, which was launched in May 2007, now includes hundreds of thousands of members (mostly between the ages of 8 and 18, from all around the world) and more than 4 million projects. But Scratch is more than just a programming language or an online community. Scratch is also an approach to learning—an approach that emphasizes the importance of learning through creating and connecting with others.

As Scratch increasingly enters into formal learning environments, such as K–12 classrooms, teachers need support for understanding Scratch both as a tool (the programming language and the online community) and as an approach to learning (learning through creating and connecting). The ScratchEd online community (*scratch-ed.org*)—initially launched at the MIT Media Lab, and now a project at the Harvard Graduate School of Education—has been one source of support, offering access to stories of classroom practice, resources such as curriculum and activity guides, and discussions about technology and pedagogy. Since its launch in 2009, more than 10,000 educators have registered as ScratchEd members.

Workshops have served as another important source of support, enabling teachers to participate in the kinds of learning experiences with Scratch that would most benefit young learners. With support from Google's CS4HS program, we have been hosting in-person Scratch workshops for teachers called "Creative Computing." In these multi-day workshops, teachers learn Scratch through creating (engaging in hands-on, project-based learning) and connecting (discussing and reflecting on their experiences with educator colleagues). Unfortunately, these in-person workshops are space-constrained and each year we have received hundreds of applications for a limited number of workshop seats.

Motivated by a desire to make the Creative Computing workshop accessible to a broader audience, and with additional support from Google's CS4HS program, I led the development of the Creative Computing Online Workshop (*creative-computing.appspot.com*), a large-scale online learning experience. The workshop was built using Google's Course Builder platform, which provided the infrastructure for building a MOOC (a massive open online course).

Like the in-person workshop, the Creative Computing Online Workshop (a.k.a. CCOW) was organized as an experience for teachers to learn about Scratch, both as a tool and as an approach to

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CSTA Voice is a quarterly publication for members of the Computer Science Teachers Association. It provides analysis and commentary on issues relating to K–12 computer science education, resources for educators, and information for members. The publication supports CSTA's mission to promote the teaching of computer science and other computing disciplines.

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learning. CCOW was hosted for six weeks in the summer of 2013, during which participants watched workshop videos 24,000 times, created 4,700 Scratch projects, wrote 3,500 discussion posts, shared 180 final projects, and maintained online design journals that served as a record of, and reflection on, their participation (*creative-computing.appspot.com/participants*).

They defined and pursued independent learning projects, such as designing curriculum, hosting workshops for kids, and exploring the connections between programming and art. They interacted

with workshop colleagues through comments on design journals and discussions in online forums.

I invite you to explore the Creative Computing Online Workshop. Although the synchronous elements of the workshop are no longer open, all of the activities, videos, and readings are still available for you to learn more about Scratch as a tool and learning approach, and to remix and reuse in your teaching practice. The Creative Computing community continues to grow beyond the formal boundaries of the workshop—and I would love for you to be a part of it.

Ensuring Equal Access for Students with Disabilities

Brianna Blaser

BASED AT THE UNIVERSITY OF WASHINGTON, the Alliance for Access to Computing Careers (*AccessComputing*) is a nationwide project funded by the National Science Foundation.

AccessComputing works with educators, students, and stakeholders to:

- help students with disabilities successfully pursue undergraduate and graduate degrees in computing fields, and
- increase the capacity of postsecondary institutions and other organizations to fully include students with disabilities in computing courses and programs.

Although individuals with disabilities pursue undergraduate majors in information technology at similar rates to their non-disabled peers, they are less likely to pursue graduate degrees or obtain employment in the field. It is important to ensure that students with disabilities enter postsecondary education with knowledge of computing careers and adequate preparation to pursue career options.

Increasing the participation of individuals with disabilities in computing is important not just from a social justice perspective. In order to satisfy the sizeable need for computing professionals, it is necessary to draw from a large and inclusive talent pool. Beyond this, the per-

spectives of individuals with disabilities can serve to enhance computing fields, leading to products and tools that are better designed to serve, not only individuals with disabilities, but everyone.

Students with disabilities face a number of challenges in pursuing computing careers. These barriers include not only attitudinal barriers from educators, but also difficulty accessing specific information technology. For example, many tools used in computing classrooms may not be accessible to students with vision impairments or with particular mobility impairments. It is important for educators to be aware of and address these challenges.

Considering tenets of universal design can make a class or program more accessible to individuals with disabilities. Universal design ensures that a class is as accessible to as many individuals as possible without the need for accommodations or adaptation. For example, educators can ensure their classroom is welcoming to all, utilize diverse examples, use multiple delivery methods to teach, and ensure that resources and information technology are accessible.

In the last year, *AccessComputing* has redesigned its website with a new look and feel as well as new navigation, search capability, content, and new features that may be useful *continued on page 4*



Let us know if
your contact
information changes.

I.clayborn@csta-hq.org

Contribute to the CSTA Voice

The editorial board of the **CSTA Voice** is dedicated to ensuring that this publication reflects the interests, needs, and talents of the **CSTA** membership. Please consider sharing your expertise and love for computer science education by contributing newsletter content.

Potential writers for the **CSTA Voice** should send a brief description of the proposed article, estimated word count, statement of value to members, author's name and brief bio/background info, and suggested title to the editor at: cstapubs@csta.acm.org. The final length, due date, and title will be negotiated for chosen articles. Please share your knowledge.

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Letters to the Editor are limited to 200 words and may be edited for clarification.



ACM founded CSTA as part of
its commitment to K–12
computer science education.

Congratulations CSTA Chapter Mini-grant Winners!



**\$5,000
Virginia
Wisconsin**

**\$3,000
Northern & Central
New Jersey**

**\$1000
Connecticut**

These were made available through the generosity of the ACM SIG Governing Board.



MOBILIZE PRIME DATA PD

Alabama

**Central &
Northern Virginia**

Greater Boston

**Indiana Hoosier
Heartland**

Wisconsin

Dairyland

This PD is supported by an NSF Math Science Partnership grant through UCLA.

ENSURING EQUAL ACCESS FOR STUDENTS WITH DISABILITIES

continued from page 3

for the CSTA community. The new Choose Computing (www.washington.edu/accesscomputing/get-informed/why-choose-computing) area encourages high school students with disabilities to pursue computing and IT careers. There you'll find profiles of successful computing students and professionals who happen to have disabilities.

The profiles include students like Cheryl, an informatics major with a learning disability; Jason, a web developer who is deaf; Kavita, a computer science Ph.D. student with a mobility impairment; and Randy, a systems analyst who is blind. Their profiles share information about their career paths and advice for students considering careers in computing. Choose Computing provides a variety of resources for learning more about careers in computing and examples of computing projects.

With the new website, *AccessComputing* has also launched Replication Packages (www.washington.edu/accesscomputing/get-involved/educators-employers/replication-packages) that provide everything that educators or professionals need to replicate activities that successfully address *AccessComputing's* goals of increasing the participation of individuals with disabilities. The Replication Packages include in-depth descriptions of activities such as TechNights for Children with Hearing Impairments, a Summer Academy for Advancing Deaf and Hard of Hearing in Computing for high school students, and more.

AccessComputing also offers a curriculum for an Introduction to Web Design & Development course designed especially for high schools (www.washington.edu/accesscomputing/webd2). The curriculum,

piloted in 200 classrooms in the fall of 2012, has been used by educators around the world. Over 4,000 individuals have registered to use the instructor version of the curriculum. (For more information see *Teaching for Diversity through Web Design* by Terrill Thompson in the July 2013 issue of *CSTA Voice*.)

AccessComputing offers a variety of other resources that support students with disabilities through critical junctures towards college and careers in computing. High school, college, or graduate students with disabilities who are interested in computing fields can become a part of the *AccessComputing* student team to receive mentoring, learn about opportunities and self-advocacy, and engage with a community of peers and mentors. More information is available at doit-prod.s.uw.edu/accesscomputing/get-involved/students.

AccessComputing also welcomes educators. They can apply for mini-grants to request funding for activities that promote computing careers for students with disabilities. Past mini-grants have supported outreach activities and camps, teacher trainings, and a variety of other activities. By joining one of *AccessComputing's* online Communities of Practice, educators can participate in discussions about topics related to *AccessComputing's* goals.

Educators can also find a variety of resources related to topics such as web accessibility, universal design, and working with students with disabilities. Online resources include a knowledge base with hundreds of articles that address specific disability-related issues. More information for educators is available at: www.washington.edu/accesscomputing/get-involved/educators-and-employers.

Increasing the Number of Women in CS

Rane Johnson-Stempson

THE U.S. DEPARTMENT OF LABOR STATISTICS predicts that by 2018 there will be 1.4 million open technology jobs in the U.S. and, at the current rate of students graduating with degrees in computer science (CS),

only 61% of those openings will be filled—and just 29% of applicants will be women. The need is all the more critical when you realize that the latest advances in improving healthcare, protecting the environment,

and upgrading manufacturing have come from technological innovations. At Microsoft Research, we believe that to build the most innovative technology solutions that solve the world's toughest problems, we need to ensure our research and development teams are diverse.

The courses a girl takes in middle and high school can play a key role in determining her path in college and beyond. This is one reason why Microsoft helps build technology tools and programs

Microsoft Research and STARS will collaborate to disseminate a CS Toolkit for outreach to K–12 students.

designed to show young women the power of technology. Free tools include: Kodu, .NET Gadgeteer, Pex for Fun, and Touch Develop (research.microsoft.com/en-us/collaboration).

Microsoft also works with key partners who have proven to be effective at growing the number of young women interested in entering careers in computing. We are proud supporters of CSTA, NCWIT Aspirations in Computing, and AspireIT programs. We believe these are critical in encouraging more young women to pursue careers in CS.

Since not every classroom around the country can be visited by a technical woman, we have produced six profiles of women in computing so that students can see real women who have succeeded in the computing field. Each quarter we will be adding more career profiles and research talks (research.microsoft.com/en-us/collaboration/focus/womenincomputing/profiles.aspx).

Typically, women enrolled in CS majors also want opportunities for peer support, role models, and career opportunities for social impact. Microsoft Research supports a wide variety of scholarships, internships, fellowships, research opportunities, seed funds, and awards designed to inspire young women to pursue computing as a career path and encourage them to stay in the major. Learn more about our work at: research.microsoft.com/diversity.

Here are three of the K–16 programs that Microsoft is launching this year:

CS Online Middle Girls Community

CS Online is a partnership with the University of Wisconsin-Madison and Microsoft Research. It is a girls-only community focused on teaching CS through game design targeted at middle school girls. It is intended to be a safe and fun environment that encourages young women to learn about CS. One unique aspect of these groups is that girls will participate in real-world challenges from Microsoft product teams, such as designing a new

education mobile application for Windows Phone to teach children scientific concepts. We hope to launch the beta sometime in late 2014 or early 2015. We plan to work with teachers and after-school organizations to help us pilot the project. If you are interested, contact: ranej@microsoft.com.

STARS & CS Girls Toolkit

Microsoft Research and STARS will collaborate to disseminate a CS Toolkit for outreach to K–12 students. The overall goal is to increase interest in STEM and computing, while also helping these students learn computational thinking, an important 21st century skill.

The International Women's Hackathon

The Hackathon is a crowdsourcing event designed to empower young women leaders in CS. By providing a fun and safe environment in which to explore computing, the Hackathon is intended to encourage and support young university women around the world to become producers of future innovations in technology and help solve today's challenges. The event is sponsored by Microsoft Research, NCWIT, ACM Committee on Women, and the Institute of Electrical and Electronics Engineers Women in Engineering. We have also extended this activity to high school students 16 and older. Visit research.microsoft.com/en-us/events/womens-hackathon2013 for more information.

Meet the Authors

Ryan Barone

iD Tech

Ryan is a Marketing Manager working to engage students with innovative technology camps, academies, and online education.

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University of Washington

Brianna is a project coordinator for *AccessComputing*. Previously, she was Project Director of Outreach for AAAS & Science Careers where she developed career resources.

Karen Brennan

Harvard

Karen is an Assistant Professor in the Graduate School of Education where she leads the ScratchEd project. Her research explores the intersection of computers, communities, and constructionism.

Daryl Detrick

Warren Hills Regional HS

Daryl teaches CS in Washington, NJ. He is president of CSTA CNJ and a CSALT member.

Joanna Goode

University of Oregon

Joanna is an Associate Professor of Education Studies. She is the Chair of CSTA's Equity Committee and co-author of *Stuck in the Shallow End: Education, Race, and Computing*.

Rane Johnson-Stempson

Microsoft

Rane is the Education and Scholarly Communication Principal Research Director, where she engages with academics worldwide and identifies high-impact areas for research.

Karen Lang

Massachusetts Academy of Math and Science

Karen teaches CS in Worcester, MA. She is the 9–12 Representative on the CSTA Board of Directors.

Erica Sandbothe

Author

Erica learned her codecraft at Carnegie Mellon University, where she graduated in CS and in creative writing.

Equity Initiatives

Faces of Computing Awards

Joanna Goode

In honor of Computer Science Education Week, CSTA announced the winners of the 2nd annual “Faces of Computing” student poster contest in December. This year, over 640 posters were entered into the contest, from eight countries and 25 U.S. states.

The judging process was both challenging and rewarding, as the creativity and design process of these posters were phenomenal. CSTA is pleased to award robots to the classrooms of the top three winners in each category. All winning posters and the names of student designers can be viewed at: csta.acm.org/Advocacy_Outreach/sub/CSEdWeek.html.

Elementary School

First Place: *Hale Kula Elementary in Wahiawa, HI*

Teacher: Megan Cummings

Second Place: *St. Margaret's Episcopal School in San Juan Capistrano, CA*

Teachers: Stefani Baker and Londa Posvistak

Third Place: *Djura Jaksic Elementary, Serbia*

Teacher: Jasmina Jerkovic

Middle School

First Place: *Roberto Clemente Middle School in Germantown, MD*

Teacher: Ebony Glover

Second Place: *Corvallis Middle School of Arts and Technology in Norwalk, CA*

Teacher: Margaret Munoz

Third Place: *Ann and Nate Levine Academy in Dallas, TX*

Teacher: Sharolyn Brown

High School

First Place: *Grant High School; Valley Glen, CA*

Teacher: Aimee Dozois

Second Place: *John D. O'Bryant; Roxbury, MA*

Teacher: Denise Traniello

Third Place: *Lincoln Public Schools IT Focus Program; Lincoln, NE*

Teacher: Steve Carr

Spotlight

Introducing CSTA Western Massachusetts

Karen Lang

CSTA Western Massachusetts is a recent addition to the list of CSTA local chapters. With the support of CSTA Boston and the Commonwealth Alliance for Information Technology Education (CAITE), about 30 computer science (CS) educators gathered at the Massachusetts Green High Performance Computing Center (MGHPCC) in August 2013 to form a new chapter.

“Teachers in the Greater Boston chapter have helped raise the profile of CS education in Massachusetts,” said Rick Adrion, professor emeritus of CS at UMass Amherst and director of CAITE. “After the CSTA Conference in Boston in 2013, we sensed a critical mass existed in western Massachusetts to create a new chapter here.”

According to Tom Galanis, chapter secretary, “Each of us will play a role to ensure that we are successfully promoting the

teaching of CS and computing disciplines, which is CSTA's core mission. We envision the CSTA Western Massachusetts chapter as a place to bring inspired people together to ensure that our students remain at the cutting edge of technology and have access to CS education to prepare them for the future.”

Due to the wide geographical area that the chapter covers, chapter meetings will be held in person bi-monthly and virtually in the alternate months. The chapter is located in a technology rich area, with UMass Amherst close by. In-person meetings in the fall were hosted at MGHPCC in Holyoke. MGHPCC is a data center dedicated to computing research and is operated by Boston University, Harvard University, MIT, Northeastern University, and the University of Massachusetts. Attendees to the initial meeting of the Western Massachusetts chapter were treated to a tour of the facility.

The chapter's main focus for the first year has been recruiting and maintaining a solid membership through outreach at local technology and education events. Leaders are also working hard to make sure that meetings provide value for members. So far, the meetings have dealt with general networking, professional development and grant opportunities, and CS Education Week.

In addition to members sharing about innovative strategies in their respective classrooms, the chapter has invited members of the larger CS community to talk about their work. John Heffernan spoke about his book, *Elementary Robotics Pre-K through Grade 6 Curriculum* at a recent chapter meeting. CSTA Western Massachusetts hopes to start an informal book club; members will be encouraged to read and discuss pertinent computing and educational books.

The chapter is also hoping to partner on events with the Greater Boston chapter and so they invited Boston Area co-President Kelly Powers to attend the January meeting. The officers and new members are excited at the possibilities for raising awareness of the impact of CS education for students and teachers in the western Massachusetts.

Out and About the Community

Building Skills and Finding Careers

Ryan Barone

Jobs in STEM are growing at twice the national average and, as a result, one million technology positions are projected to go unfilled by the year 2020. Because only one in ten high school students has access to computer science (CS) courses in schools—and far fewer at the K–8 level—their ability to prepare for this booming job market is limited during the school year. But what about during the summer?

iD Tech, a leader in summer technology education, is at the forefront of a learning revolution making STEM education accessible to students outside the traditional classroom setting. Entering its 16th season, iD Tech has expanded to 28 states and will now offer over 40 tech courses at more than 80 university locations nationwide, including Stanford, UCLA, Princeton, and Northwestern. Record enrollment is expected in 2014 with well over 30,000 students.

During the summer of 2014, weeklong iD Tech Camps for students 7–17 years of age are being offered in several new locations, including the University of Pennsylvania, Georgetown, Yale, and 10 others. There are also two-week, intensive, pre-college, teen academies for ages 13–18 at iD Programming Academy, iD Game Design & Development Academy, and

iD Film Academy. Next summer’s courses are built around additional Minecraft offerings, plus others featuring Torchlight II™, Arduino™ electrical engineering boards, PHP, MySQL, Autodesk® Maya®, Scratch, and Adobe® products.

This expansion comes at a pivotal time for technology education. Common Sense Media recently revealed that the percentage of children younger than eight with regular access to a smartphone or tablet has jumped to 75%. Technology has become a staple for modern youth, and future jobs in STEM will be abundant. However, most students don’t understand the technologies they use daily.

An unconventional teaching style sets iD Tech apart. Courses in programming, app development, video game design, robotics, web design, and visual arts are delivered in a hands-on, high-energy blended learning environment. Student-to-instructor ratios of 8:1 are guaranteed, and students work one-on-one with hip, tech-savvy instructors.

In our ever-popular Minecraft courses, students learn to design levels or program with Java to implement their creative visions into the game. The curriculum covers variables, data types, operators, conditionals, loops, and functions—knowledge that could lead to a career in CS or the gaming industry. “Kids and teens learn more effectively when they are engaged, having a great time, and learning from cool people who love what they do,” says iD Tech CEO Pete Ingram-Cauchy. “We teach in an inspired and relevant way, while providing opportunities for students to problem-solve, innovate, collaborate, and build critical 21st century tech skills.”

Chapter News

Panel Discussion at CSTACNJ

Daryl Detrick

In an effort to promote communication among K–16 computer science (CS) educators and to learn more about CS education at the college level, the Central New Jersey chapter of CSTA (CSTACNJ) hosted a college panel discussion with educators from Princeton, Rutgers, Kean, The College of New Jersey (TCNJ), and Raritan Valley Community College (RVCC) who introduced their CS programs and answered a variety of questions from the 25 CSTACNJ members in attendance.

Here are the questions the speakers were asked and their collected responses:

How can we better prepare students at the high school level?

- Promote technical writing skills.
- Provide more opportunities for programming.

- Help students develop persistence in solving challenging problems.
- Encourage students to take a senior-year math class (not a requirement in NJ).
- Encourage proficiency in algebra and a background in discrete math, with an emphasis on algorithms.

How should we respond to students interested in a game development career?

- Gaming is relevant in many fields such as flight, business, and medical simulations.
- Game development is a good way to get students started in CS and can be a tool that teaches many CS skills.
- Game programmers work in teams that often include graphic designers and musicians.
- Employment can be very cyclical based on game launches.

What opportunities exist for CS graduates?

- The opportunities have increased and most of our students stay in New Jersey.
- Some are employed by finance, telecommunication, and pharmaceutical firms. Every industry needs CS majors.
- Recent grads work with a variety of companies including Microsoft, Google, DropBox, AT&T, Verizon, Johnson & Johnson, ESPN, ADP, JP Morgan, New York Times, Dow Jones, State of NJ, military branches, Accenture, and more.
- About 10% go directly to graduate school.
- Most community college graduates go on to four-year universities.

Approximately what percentage of your CS majors are women?

- TCNJ: 20%
- Princeton: 34%
- Kean: 16%
- Rutgers: 10–15%

Most of the panel members have seen an increase in CS enrollment over the last few years and noted a trend toward fewer students in introductory classes with high school programming experience.

By hosting the panel as a chapter activity, CSTACNJ provided the participating K–12 teachers with many ideas they can share with their students and use to enhance their CS education advocacy efforts. The college educators also gained ideas for supporting CS education in New Jersey and promoting their programs with students. Working together, we plan to make CS a vital part of K–16 education in New Jersey.

New CSTA K-8 Binder

To access the articles in the new CSTA K–8 virtual binder, go to your CSTA binders and click on the “Add a colleague’s binder” link. This link will display all of the new binders available. If you have not yet set up your binder access, go to csta.acm.org/Resources/sub/VirtualBinders.html and follow the instructions to set up your ACM web access and locate the CSTA binders. There are currently binders available for Careers, Computational Thinking, Equity, K–8, and Teaching Strategies. Each binder is filled with key articles on these topics chosen especially for K–12 educators.

SHOW ME THE NUMBERS

CSTA Membership Growing Worldwide

Countries with CSTA members	139
International members	5717
New International members between July and December 2013	521
New International members in October 2013	90
International institutional members	4

Source: CSTA Membership Report 2013



We're on the Web: csta.acm.org
Like our Facebook page!

Classroom Tools

Codecrafter: A Literary Introduction to CS

Erica Sandbothe

Sometimes, all it takes is a spark—a single moment when a child realizes that there is more to computers than what they see on the surface. A moment when a child thinks, “This is something I can do.” I wrote *Codecrafter* to provide that spark. *Codecrafter* is not a workbook, a textbook, or a software package framed in a story. *Codecrafter* is a fantasy novel for 10–14 year-olds, set in a world where all magic is accomplished through programming. All of the code within the book is written in C, and all of the ideas reflect real-life programming.

The story is about Tagg, a young girl who is on her way to Tilde to become a sorcerer. She does not know much of coding and magic, but she is eager to learn—especially if it can help save her father’s kingdom. In Tilde, Tagg is asked to think, to question, to make mistakes, and to learn what it means to be a sorcerer. In doing so, Tagg faces many of the prejudices and preconceptions about computer science (CS). Ultimately, she decides that the art is too beautiful and fulfilling to let anyone else’s opinion stand in her way.

Children travel with Tagg as she takes her first step into CS. Tagg learns the basics of compiling with the help of lang-monsters, creatures which consume her code and spit back magic spells. She learns discrete math and induction, subjects made simple and applicable to her daily challenges. She also learns the importance of clearly ordering her thoughts, of trying and failing, skills critical to the art of programming.

Too often programming and CS seem inaccessible, difficult, and full of buzzwords which can chisel away the confidence of a young programmer. *Codecrafter* provides familiarity.

Setting the story in a medieval fantasy land of kings, queens, and magic, places the young programmer in a world they have visited often with King Arthur and Harry Potter. A child who has visited Tilde can use the experience as a frame of reference when they learn the bigger challenges of CS. They may not know all of the details of for-loops, but they will recall the tale of Tagg and her successful encounter.

At its core, *Codecrafter* is a jumping-off point with the goal of inspiring students to want to learn more (www.codecrafter.org).

Keep up with CSTA!

The CSTA conference, advocacy efforts, CS education news, chapter events—you name it and you’ll find it on Twitter (@CSTeachersA and #csta13), Facebook (Computer Science Teachers Association), and soon, LinkedIn.

Join the conversation with the connection of your choice.

MARK YOUR CALENDAR

Technovation Challenge

March 1, 2014, registration deadline
iridescentlearning.org/programs/technovation-challenge

Mobilize Data Science Workshop

March 22, 2014, Marlboro, Massachusetts
Contact Kelly Powers kelpowers@gmail.com

Mobilize Data Science Workshop

March 28, 2014, Richmond, Virginia
Contact Rebecca Dovi dovimath@gmail.com

CSTA Online Election Begins

April 2, 2014

Consortium for Computing Sciences in Colleges (Southwestern)

March 14–15, 2014, San Marcos, California
www.ccsc.org/southwestern

Consortium for Computing Sciences in Colleges (Central Plains)

April 4–5, 2014, Fulton, Missouri
www.ccsc.org/centralplains

Consortium for Computing Sciences in Colleges (Mid-South)

April 4–5, 2014, Memphis, Tennessee
www.ccsc-ms.org

Mobilize Data Science Workshop

April 5, 2014, Milwaukee, Wisconsin
Contact Andrew Kuemmel andykuemmel@gmail.com

Consortium for Computing Sciences in Colleges (South Central)

April 11–12, 2014, Austin, Texas
www.ccsc.org/southcentral

Mobilize Data Science Workshop

April 12, 2014, West Lafayette, Indiana
Contact Phil Sands psands@purdue.edu

Mobilize Data Science Workshop

April 19, 2014, Birmingham, Alabama
Contact Carol Yarbrough cyarbrough@asfa.k12.al.us

Consortium for Computing Sciences in Colleges (Northeastern)

April 25–26, 2014, Providence, Rhode Island
ccscne.org/conferences/ccscne2014

CSTA Online Election Closes

May 5, 2014

2014 CSTA Annual Conference

July 14–15, 2014, St. Charles, Illinois
www.cstaconference.org

Check the most recent CSTA events on the CSTA website csta.acm.org/ProfessionalDevelopment/Sub/TeacherWorkshops.html
List your CSTA event by contacting l.clayborn@csta-hq.org