



First, the state of K-12 computer science

January 12, 2016 - It's been two and a half years since Code.org hired our first salaried employee. We've been humbled to watch the landscape change in K-12 computer science (CS) over that time. This teacher-powered movement has reached hundreds of thousands of classrooms and millions of students. We've never been more confident in our ability to realize our vision - that every student in every school should have the opportunity to learn computer science.

Although only 25% of U.S. schools teach computer science and computer programming, the field is growing at a rapid pace. Enrollment in computer science is exploding. Over 10% of all U.S. students in grades K-8 registered accounts to begin coding in just the last 2 years. CS is the fastest-growing AP course of this decade. For the first time, the diversity of participating students is improving, with enrollment growth by women and students of color outpacing enrollment growth by White and Asian males.



AP Computer Science: the fastest growing course of the 2010s

Computer Science is still only available in under 10% of U.S. high schools: 2,915 schools, but even that number is up from 2,137 schools three years ago (source: College Board).



Across 8M students in Code.org courses, 43% are female and 37% are Black or Hispanic

Code.org's own courses continue to grow in enrollment, especially among younger students, and with a more diverse student population compared to the average for the field.

20,000 new CS teachers trained nationwide

Over the last two years, Code.org and its partners have trained 20,000 new CS teachers (up from the 15,000 **reported by USA Today** in September).



The largest U.S. cities have embraced CS

In just two and a half years, over <u>100 school districts</u> have decided to expand access to CS, including the seven largest school districts in the country. Chicago has <u>pledged</u> to make CS a high school graduation requirement. San Francisco has <u>promised</u> to teach it to every student in every grade. New York City has <u>pledged</u> to teach it in every school. Some of these large districts, such as Broward County in FL, or Charles County in MD, already teach CS in every high school.

In all of these school districts, Code.org provides curriculum and professional development to teachers, working with a fantastic team of partners, facilitators, and affiliates. Code.org can't work with every single school district, so to provide options, we have identified <u>curriculum and training partners</u> ready to capitalize on the momentum behind CS.

Policy support for CS at the state and national level

In just two and a half years, community advocacy efforts led by nonprofits and corporations have resulted in policy changes across <u>17 states</u>, including enabling CS to count for high school graduation credit, funding expansion of CS, and (in Arkansas) requiring schools to offer CS courses.

Additionally, over 100 K-12 and university experts have joined forces with state and local education leaders to to define a <u>Framework for K-12 Computer Science</u>.

At the national level, U.S. law finally recognizes CS as part of STEM education, and classifies CS in the recommended list of "well rounded education subjects".

Internationally, in this same short time, 6 countries have announced nationwide plans to embrace computer science: the UK, South Korea, Saudi Arabia, Argentina, Australia, and Italy.

It has been an incredible two and a half years for computer science. We're so proud of the progress that has been made thanks to the combined efforts of so many organizations who share our vision.



Julainee is a ten year old who lives in a low income housing area in New York, and resides with her mother, grandmother, and five siblings. She is a fifth grader at a Title 1 school, where she was first introduced to Code.org's online curriculum. She fell in love with computer programming. She would go home every night and hand-write a program, showing up to school the next morning begging to see her code in action. Not only has Julainee become increasingly engaged with CS, she is now using her CS skills to connect with other students. She has included students with autism and English language learners on her journey. CS has the power not only to help students learn skills, but also to help them be important community members who make positive impacts on other people's lives.

Code.org by the numbers

At Code.org we are big believers in using metrics to measure our impact.

Our cumulative impact over 2.5 years

Code.org Goal	End of 2013	End of 2014	End of 2015
Inspire students and increase diversity with the Hour of Code	20 million served	90 million — 48% female	195 million served. 49% female
Engage classrooms and students in our computer science courses	10,000 classrooms, 500,000 students	90,000 classrooms, 4M students	250,000 classrooms, 8M students
Improve overall diversity in CS	N/A	Our students are 43% female, 37% African American or Hispanic	43% female, 37% African American or Hispanic (New survey pending)
Help school districts implement CS curricula	10 district partners	60 district partners	100 district partners
Train new CS teachers across grades K-12	N/A	4,000	20,000
Lead a coalition to set policies supporting CS. Policies changed in:	5 states	16 states	17 states, including \$9M in CS funding
Go global	30 languages supported	34 languages, 7 international partners	46 languages, 70 international partners
Team size	14	38	54

Total \$ spent (since founding)	\$3.2M	\$12.1M	\$26.3M
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Expanding participation and diversity in CS

Growing awareness and changing perceptions



Code.org's marketing campaigns have reached over a hundred million students and parents to grow interest in computer science. Recent studies suggest that CS has achieved broad awareness. While it's impossible to measure how much is due to our work, the data clearly shows that Americans widely support our vision that every student in every school should have the opportunity to learn computer science:

90% of parents want their child's school to teach computer science.

75% of Americans believe computer science is cool in a way it wasn't 10 years ago.

67% of parents and 56% of teachers believe students should be required to learn computer science. This demand is highest among parents or teachers of low-income students.

50% of Americans rank CS as one of the two most important subjects of study after reading and writing (70% also chose math), ahead of other sciences, history, arts, or foreign languages.

Sources: surveys by Gallup (sponsored by Google) and by Horizon media, 2015.

The Hour of Code



The Hour of Code campaign, which culminates in Computer Science Education Week each year, aims to break stereotypes and show that anyone can learn computer science. This campaign has mobilized almost 400 partners worldwide in a grassroots campaign that has engaged 200,000 educators across every country globally to reach tens of millions of students. This year we released headline tutorials built in partnership with <u>Star Wars</u> and <u>Minecraft</u>, as well as dozens of other options including a new set of <u>teacher-led lesson plans</u>.

"I loved it, purely and wholly. It was fun to do, I want to just do that over and over again because I really enjoyed what I could do with it. I enjoyed its interactivity and how it felt to control what happened, it felt really satisfying to me. I wish we could do it every day."

— a middle school student on the Hour of Code Nampa, Idaho

For Computer Science Education Week in December, participants logged a cumulative 50 million <u>hours</u> <u>served</u>, roughly double the prior year, bringing the all-time total to 195 million hours served.



During the week we were inundated with powerful stories from all corners of the globe.

- Every student in Oakland did an Hour of Code this year and on the other side of the world, every person (grown-ups and kids) on the Cocos Islands did an Hour of Code.
- Volunteers in war-torn regions hosted coding activities in Nigeria, Libya, Iraq, Palestine, and Afghanistan.
- The national education ministries of Russia and Italy asked *every* school to participate.

The 2015 Hour Of Code

After the Hour of Code, we asked participating organizers how it went and the <u>results are fantastic for our</u> <u>field</u>.

- 98% had a good or great experience.
- 85% of those new to computer science said the Hour of Code increased their interest in teaching computer science.
- 49% said they plan to continue teaching computer science beyond one hour.
- 18% said they began teaching computer science after a previous Hour of Code campaign.
- 87% said their students did more than just one hour of coding.

Source: Code.org survey of over 40,000 participating educators, Dec 2015

Diversity results

We recently published <u>our approach to growing diversity</u> in K-12 CS, explaining how we have deliberately weaved a plan for diversity throughout all our programs. In a field that is typically dominated by White and Asian males (with women or students of color representing less than 20% of students), we are encouraged by our progress:

Code.org program	Scale (students)	% female	% students of color (Black, Hispanic, Pacific Islander, Native American)
Hour of Code	Tens of millions	49%	38.7% (U.S.)
CS Fundamentals for K-8	Millions	45%	49% (U.S.)

Exploring CS - high school intro class	Tens of thousands	37% (U.S.)	56% (U.S.)
CS Principles - high school AP class	Thousands	30% (U.S.)	57% (U.S.)

The Hour of Code has an almost perfectly balanced representation of students, presumably due to the broad global reach of the campaign. In our high school classrooms, ethnic diversity is significantly higher, arguably due to much of our work occurring in urban <u>school districts</u> in the U.S.

Code Studio learning platform and K-12 curriculum pathway

Code.org is building a full K-12 curriculum pathway on our <u>Code Studio learning platform</u>. Our pathway begins with <u>CS Fundamentals</u> for elementary grades, <u>CS Discoveries</u>* for middle grades and early high school, and <u>CS Principles</u> for high school. In addition, we partnered with <u>Bootstrap</u> and <u>Project GUTS</u> to provide two offerings - <u>CS in Algebra</u> and <u>CS in Science</u> - to integrate into middle school math and science classes.

***Note:** Our CS Discoveries course is still in the early stages of development, to be a successor to the Exploring CS course that is taught in our high school classrooms today. The rest of the above courses are already being taught in hundreds or thousands of classrooms.

Basic usage stats on Code Studio	
Registered student accounts	8,553,924
Last 90 day active student accounts	4,417,525 (skewed by Hour of Code)
Registered teacher accounts	256,340
Last 90 day active teacher accounts	128,675 (skewed by Hour of Code)

20,000 teachers trained

In just two and a half years, Code.org and our partners and affiliates have trained 20,000 new CS teachers (up from the 15,000 <u>reported in September by USA Today</u>). These teachers span numerous courses and grade levels, although the vast majority of them are trained in <u>CS Fundamentals</u> curriculum (K-5).



"This was the best professional development ever."

The majority of teachers who attend our professional development workshops rank them the "best ever" training they've received. While it's a big compliment, this isn't only about the work of Code.org — it's because we're part of a teacher-led movement to empower teachers to bring new opportunities to their students and classrooms, and it's because of the fantastic facilitators, Affiliates, and partners we work with to run these workshops.

- Among teachers, our <u>Net Promoter Score</u> is 83, which is <u>extremely high</u> for any technology service.
- We recently published an evaluation report summarizing the feedback from teachers.

To recruit a local school or teacher to support computer science and join the movement, send them <u>this</u> <u>letter</u>.

Costs per teacher and per student

This past summer our first cohort of teachers finished a complete cycle of professional development, allowing Code.org to calculate our all-in cost per teacher.*

	Estimated cost per teacher who completes PD	Estimated cost per student enrolled
High school	\$4,400	\$33
Middle school	\$2,300	\$8
Elementary school	\$150	\$1

*These costs were accumulated starting from Aug 2013 through Aug 2015, and they include all of Code.org's organizational costs to prepare these teachers to offer computer science in classrooms. (see more details on the methodology and comparables for these numbers)

100 school district partners, including the largest 7

We are now in partnerships with over 100 U.S. school districts. In the last 2.5 years, most of the largest cities in the United States have committed to expanding access to CS courses, across grades. In the last twelve months, New York City, San Francisco, and Oakland all joined this movement:

New York City - Expanding access to every student across grade bands, \$80M invested over 10 years Los Angeles - Expanding access to every high school with Code.org Chicago - Pledged to make CS a requirement for graduation by 2017, in partnership with Code.org Miami-Dade County - Partnership with Code.org Clark County (Las Vegas) - Partnership with Code.org Broward County (6th largest school district) - Already offering CS in every high school, in partnership with Code.org Houston - Partnership with Code.org San Francisco - Pledged to teach CS to every student in every grade Oakland - Partnership with Code.org Charles County (Maryland) - Offering CS in every high school, and elementary school, in partnership with Code.org

This year we also announced a **landmark partnership with the College Board** to collaborate in spreading computer science in U.S. schools, and we're already seeing benefits from the partnership.

A full list of 100 cities and districts in partnership with Code.org is <u>here</u>.

Policy changes across the United States



In 2015, along with our coalition partners, we decided to expand beyond our "<u>Make CS count</u>" effort to build deeper relationships with states that wish to grow CS offerings in K-12 schools, with a focus on standards, funding for CS, and deeper partnerships.

This year's biggest wins were legislation <u>in Arkansas</u> requiring all schools to teach CS, and in Washington, providing funding to expand CS at the K-12 and the university level.

Code.org has also begun forging implementation partnerships at the state level, collaborating with state-level education departments or affiliated nonprofits to implement CS in schools. We've established partnerships in Idaho, Utah, Georgia, and Alabama.

Below summarizes what has changed among states in the 2.5 years since we began our work. None of this would have been possible without the amazing collaboration by our coalition of partners and other community stakeholders.

High school graduation policy

Establishing state-level standards for CS

States that have developed or are evaluating development of state education standards for computer science: AR, FL, GA, ID, IN, IA, MA, MD, TX, UT, WA. (California is incorporating computational thinking into their curriculum framework for science)

Funding for CS

States that have allocated funding specifically to computer science (in 2015): AR, GA, MA, WA - \$9M in total across these 4 states. (Others are evaluating following suit)

Partnerships with Code.org to expand access in schools

States that have established state-wide partnerships with Code.org to expand computer science: ID, UT, AL, GA

Requiring schools to teach CS

Arkansas has required every high school to teach CS, <u>tripling the number of students taking courses within</u> <u>months</u> (Texas has too, but without supporting funds for implementation). Other states are evaluating similar moves (e.g. Iowa's STEM Council has recommended making CS a graduation requirement for all students).

To advocate within your state, see our <u>map</u> and state-specific factsheets. For details on what is happening on a state-by-state basis, see this <u>detailed document</u>.

A Framework for K-12 CS Education

For most states and school districts, the notion of CS for every student is a relatively new and unexplored topic. States and school districts are now thinking about how to make CS part of core academic work. They are asking big questions of the computing community: What is the appropriate scope and sequence for K-12 CS? What does the community expect every student to learn in elementary school, in middle school, or by the time they graduate high school? And why?

Code.org has joined forces with the <u>Computer Science Teachers Association</u> (CSTA) and the <u>Association for</u> <u>Computing Machinery (ACM), along with more than 100 advisors within the computing community (higher</u> <u>ed faculty, researchers, and K-12 teachers), several states and large school districts, technology</u> <u>companies, and other organizations to steer a process to build a framework to help answer these questions</u> in 2016. A steering committee initially comprised of the CSTA, ACM, and Code.org will oversee this project, which is housed at K12CS.org

International impact



While the focus of Code.org is on K-12 schools in the United States, our work leaves a long tail of global impact. The work we do internationally is limited to harnessing the passions of others - whether volunteers to translate our courses, or partners to help spread the Hour of Code.

We have established 70 international partnerships to expand the Hour of Code campaign, and translated the Hour of Code tutorials into 46 languages. Thanks to our partners and volunteer translators, the 2015 Hour of Code was the largest ever, and over 40% of the participating classrooms were outside the US.

Our full CS Fundamentals course is translated into 16 languages, and many of our international partners are helping spread the course globally.

Entire countries adopting CS curriculum

In 2015, Australia, Argentina, Italy announced nationwide plans to roll out CS as part of the national curriculum, joining the UK, South Korea, and Saudi Arabia that made similar announcements last year. Code.org plays little or no role in these announcements, although in many of these cases the local organizations in these countries have forged partnerships with us to collaborate on the work. For details, see our <u>crowdsourced state of international K-12 computer science education</u>.

Donors, partners, and volunteers



Code.org is grateful to its generous <u>donors</u> and partners, who have enabled us to advance our mission and create significant impact to advance CS education. Code.org is funded by philanthropic donations from corporations, foundations, and generous individuals like Ballmer Family Giving, Google, Infosys Foundation USA, Microsoft, and Omidyar Network. Every gift counts, large or small, so please consider a donation to <u>support our work</u>.

Code.org is also grateful to its hundreds of corporate, nonprofit, and education <u>partners</u> who have helped us in so many ways over the past years.

In 2015, Code.org launched a new employee engagement program to leverage skills-based volunteerism and provide students with an opportunity to learn more about careers in tech. Over 10,000 corporate employees signed up to volunteer in classrooms globally.

Where our money was spent in 2015

For calendar year 2015 our total expenses were \$14.3 million. The chart below paints a general picture of how this money was spent.



The information above is based on audited financials and was updated on May 2016.

The table below shows the total cost breakdown of our headline achievements since founding.

Areas of effort / Achievements in 2013 - 2015	Fully-loaded cost (including admin)
Marketing: Hour of Code campaign, <u>200M served</u> , 198,000 events in 196 countries. 48% female participation	\$6.0 million
Curriculum + Code Studio learning platform: ~300 hours of coursework created, 250,000 teacher accounts. 8.5 million student accounts. 43% female, 37% black + Hispanic	\$9.3 million

Partnership + professional learning: <u>100 school district partners</u> , 20,000 new CS teachers trained across grades K-12. (\$3.2M spent on grades K-5, \$6.3M on grades 6-12)	\$9.8 million
Government affairs: <u>Policies changed in 17 states</u> , \$9.5M in state budgets allocated to CS, 2 Federal bills recognize CS.	\$1.4 million
TOTAL SPENT (2013-2015)	\$26.5 million

We'd like to close this report by thanking our donors and partners, the millions of students and parents and volunteers who support us, and especially the educators without whose effort none of this would be possible. Your support has fueled a sea-change in education, both in the United States and globally.

Thank you, Hadi Partovi and the Code.org team

Note: As of September 2020, this document contains outdated language or graphics referencing "underrepresented minorities." To see our current language policy around race, ethnicity, and gender, <u>view</u> <u>this support article</u>.

