

Girls Who Code

SNAPSHOT	
Organization(s)	Girls Who Code
Project Name	Closing the Gender Gap in Technology
Location	United States of America
Date(s) of Implementation	2012 – Present
Funding Amount	CAD 1,500,000
Partner(s) / Funder(s)	Accenture
Number of Youth Beneficiaries Trained	Total: 50,000 Women: 50,000 Men: N/A
Number of Youth Beneficiaries Employed	N/A
Type(s) of Digital Work	Digital Entrepreneurship Private Sector – IT Sector Private Sector – Non-IT Sectors
Source of Metrics	Internal monitoring & evaluation

ABOUT GIRLS WHO CODE

[Girls Who Code](#) was founded with a single mission: To close the gender gap in technology. Girls Who Code believes: 1) All girls are creators and able to make a positive impact on the world through computer science; 2) All girls of varying interests can be passionate about and interested in computer science; 3) Graduates of Girls Who Code programs will go on to deepen their computer science learning and redefine cultural beliefs around what a computer scientist looks like.¹

As a corporate partner of Girls Who Code, Accenture’s investment in Girls Who Code reflects the company’s belief that attracting, retaining and advancing women is critical for any high-performance business. Accenture’s partnership with Girls Who Code led to more than 570 girls gaining technology skills year to date. Paul Daugherty, Accenture’s Chief Technology & Innovation Officer, says, “Accenture and Girls Who Code share a commitment to inspiring young women to pursue careers in computer science, and we’re excited to help these women capitalize on a broad spectrum of opportunities.” In 2016 Accenture surpassed its goal to reach 40% women new hires.² By 2025 Accenture aims to achieve a gender-balanced workforce.³

By tripling the number of women in computing by 2025 to 3.9 million, women would rise from 24% to 39% of the computing workforce and generate USD 299 billion in additional cumulative earnings.⁴

¹ Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.

² Accenture (2017). *Accenture Sets Goal to Achieve Gender Balanced Workforce by 2025*. New York, NY: Accenture.

³ Ibid.

⁴ Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.

Girls Who Code focuses on three keys to improvement:

- **Capabilities:** Offering learning opportunities for students and alumni to deepen their computer science skills as well as their confidence.
 - **Career:** Creating clear pathways for Girls Who Code alumni from middle and high school into the computing workforce.
 - **Community:** Building a supporting sisterhood of peers and role models who help students and alumni persist and succeed.
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FIGURE 1 Accenture Hosts a Field Trip for Girls Who Code Participants



Accenture hosted field trips to Fjord, part of Accenture Interactive, where Girls Who Code participants learned about applying user centered design methodology to solve real-world issues

PROJECT DESIGN & IMPLEMENTATION

Program Design	Supply-Side Components		Demand-Side Components	
	Training & Skills Development	✓	Improving Access to Finance for SMEs	×
	Employment & Intermediation Services	✓	Capacity Building & Information Provision	✓
	Subsidized Employment	×	Targeted Sector-Specific Approaches	×

ACTIVITIES

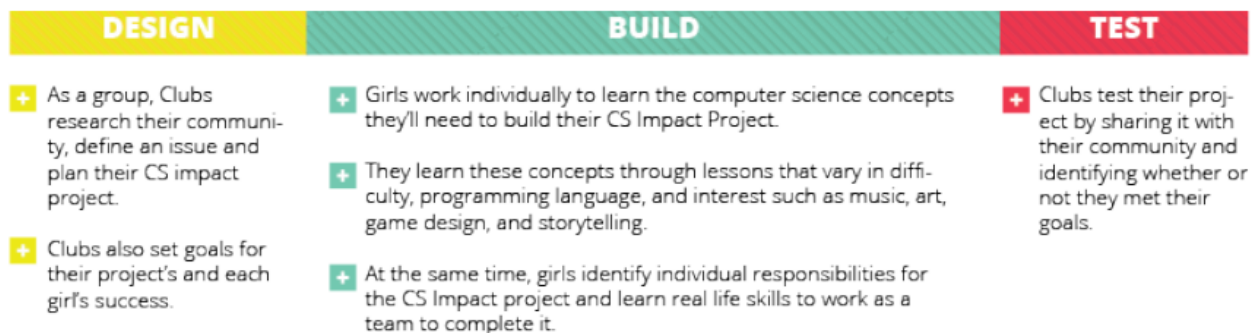
Girls Who Code Clubs

Girls Who Code Clubs are free programs for 6-12th grade girls to learn to use computer science to impact their community and join a sisterhood of supportive peers and role models. Clubs meet for two hours per week after school or on the weekend for 11 weeks during the academic year, and girls can join at any point in time. Clubs take place in schools, libraries, community centers, and more. Corporate partners such as Accenture provide volunteers who serve as club facilitators and guest speakers.

The curriculum is designed for students with a wide range of computer science experience, and facilitators need no prior experience in coding. The broad set of soft skills taught include teamwork, confidence, time management, and communication. The fundamental computer science concepts taught are loops, variables, conditionals and functions that form the basis for all computer programming languages.

A core part of the Girls Who Code Clubs is the Computer Science Impact Project, where girls develop and use these soft skills and computer science skills to solve a problem relevant to the specific Club and community.

FIGURE 2 Girls Who Code Clubs Curriculum Roadmap



Source: Girls Who Code 2018.

Summer Immersion Programs

Summer Immersion Programs (SIPs) are free 7-week programs in Computer Science for 10th and 11th grade girls to learn coding and get exposure to technology jobs. SIPs offer learning opportunities for students to deepen their computer science skills as well as their confidence and grit. Girls can apply for the program through a short online application—recommendations and proof of grades are not required to apply. Girls may also apply for a summer stipend, available for those who may need assistance covering travel or living expenses. In 2018 the program will take place in 17 cities across the U.S., running Monday through Friday, from 9:00 am to 4:00 pm. Corporate partners such as [Accenture](#) host the programs in their offices and serve as guest speakers, workshop presenters, mentors and more. Accenture hosts Girls Who Code SIP students in its Atlanta, Chicago and New York City offices.

Campus Programs

Campus Programs are two-week, condensed computer science summer programs for girls aged 10 to 18 held at local schools and universities. Each program covers a specific topic and is designed for a range of skill levels and ages. The four courses offered—chosen after close consultation with schools, teachers, parents, and students—are Introduction to Computer Science, Website Design and Development, Wearable Technology & Fashion Design, and iPhone App Design. Campus Programs are currently offered in six cities across the U.S.

#HireMe Alumni Network

#HireMe is Girls Who Code's job and internship board for alumni in 11th grade and beyond. The platform offers internship and job opportunities from our #HireMe pledge partners plus a resume builder and workshops to help girls stand out in the hiring process. More than 60 companies are sharing internship and job opportunities with Girls Who Code alumni. Accenture was one of the first companies to sign Girls Who Code's #HireMe pledge, committing to help to build a college to career pipeline for young women majoring in high tech fields. Girls Who Code alumni are joining Accenture as 2018 summer interns and Accenture has tapped the alumni network for full-time hires. Accenture volunteers also help plan and execute workshops for Girls Who Code alumni to keep them engaged in tech. Workshop topics include cybersecurity, cloud computing and technical interview preparation.

IMPLEMENTATION CHALLENGES

Achieving Breadth and Depth. Girls Who Code has more than 3,000 clubs in all 50 states, and has plans for a significant expansion—doubling the number of clubs in 2018 to 2019. Although the rapid scaling of Clubs has allowed Girls Who Code to reach a large population of girls, such an expansive network makes it difficult to gather statistically meaningful evidence on implementation and impact. As a result, Girls Who Code is constantly working on ways to increase the quantity and quality of data from our Clubs.

As a part of this effort, Girls Who Code recently launched HQ, a custom, Web-based curriculum platform. Using HQ, Girls Who Code passively collects data on Clubs implementation, providing a window into the Clubs experience at unprecedented scale. For example, HQ allows Girls Who Code to download data on time spent on curriculum-related screens (e.g., Women in Tech Spotlights, Core4 activity sets) as well as CS Impact Project uploads. Girls who Code also uses HQ to conduct facilitator and participant surveys, and to host registration materials (e.g., launch questionnaire, student enrollment forms).

Understanding the impact of our programs is a priority at Girls Who Code to continue working towards achieving depth at the same time as breadth.

Scaling Impact with Existing Programs at Capacity. In the last five years, Girls Who Code has quadrupled the pipeline of women in tech. Yet every year, Girls Who Code programs would reach capacity and turn away thousands of girls from Summer Immersion Programs. At one point, Girls Who Code had eight girls applying for every one spot in the summer programs.

Girls Who Code needed a way to scale its impact when existing programs reached capacity. That meant getting creative.

Girls Who Code published a book series to reach the girls who might not otherwise have access to a Girls Who Code classroom. These books include explanations of computer science concepts using real life examples; relatable characters and profiles of women in tech. It is one of the first times that the story of computer science has been told through so many girls' voices.

Last year, Girls Who Code launched a new summer program called Campus to further scale its impact by allowing organizations to reach a wider demographic of girls in terms of age. Campus offers Girls Who Code's first-ever specialized coding courses to help middle and high schools girls get an edge for college and connect with other girls with similar interests.

BENEFICIARY EXPERIENCES

By spring 2018, Girls Who Code will have reached 50,000 girls in all 50 states, successfully inspiring girls to consider studying computer science and paving the path for future careers in technology.⁵ Nearly 90% of Girls Who Code alumni say they are more likely to pursue a career in technology because of their participation in Girls Who Code programming.⁶

In addition, after participating in a Girls Who Code program, girls express a high interest in further studying computer science:⁷

- 84% Summer Immersion Program participants are interested in or want to major or minor in computer science
- 65% Clubs participants are more interested in or are considering majoring or minoring in computer science
- 80% of Campus graduates say that they intend to major or minor in Computer Science because of Girls Who Code.

"I love coding. It's actually very shocking how much I love it."

Sneha, Accenture SIP student, Atlanta

"It gave me a taste of what I want my future to be like."

Annabelle, Accenture SIP student, Chicago

⁵ Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.

⁶ Ibid.

⁷ Ibid.

Some participants, motivated by the experience, have subsequently encouraged others to get involved in coding. For example, one exciting program developed by Accenture SIP participants in New York City is [Say Yes to CS](http://projects.girlswhocode.com/project/say-yes-to-cs/). The program was created by five girls who sought to make learning computer science “fun, easy, and approachable. Through interactive tutorials, Say Yes to CS helps people understand how coding can be used to create personalized websites. The news page also helps introduce users to what is going on in the tech world. Together, we can all Say Yes To CS!”⁸

EMPLOYMENT OUTCOMES

This increased interest in computer science has contributed to a higher likelihood of advanced study in the topic. For example, 74% of alumni who took Advanced Placement Computer Science in high school reported taking the course after participating in Girls Who Code. This is particularly striking since in recent years only 20% of exam takers have been female.⁹ In addition, of the 4,700 college-aged Girls Who Code alumni, the rate of girls deciding to major in computer science or related fields is 15 times higher (at 60%) than the national average (at less than 4%).¹⁰ Alumni are entering college and declaring majors in large numbers for the first time in the organization’s six-year history. Alumni have also engaged in additional opportunities to build on their skillset. For example, Xiomara, a freshman at Georgia State University and Accenture SIP alumna, who intends to major or minor in computer science, participated in a competitive coding event with other former SIP students in which they used APIs to make a program for babies and moms involving nursery songs.⁹

FIGURE 3 Girls Who Team Participants at Work



Girls Who Code team members working together on a robotics project at Accenture’s Atlanta office.

⁸ <http://projects.girlswhocode.com/project/say-yes-to-cs/>.

⁹ CollegeBoard (2017).

¹⁰ Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.

By 2022, at current course and spend, Girls Who Code programs today will help fill 13% of the roughly 11,000 entry-level computer science jobs needed to be filled by women to be at gender parity in the U.S.¹¹ At this pace, Girls Who Code programs have put the U.S. on track to achieve gender parity in computer science in under ten years. By 2027, thanks to the generosity of Girls Who Code partners and thousands of supporters across the country, women will be entering technology at rates equal to men.

KEY FINDINGS

- 1. Early Exposure Drives Interest in Computing Among Girls.** Exposure to computing must start in junior high. The [Cracking the Gender Code](#) research found that 74% of women working in computing were exposed to computing in junior high, compared to 49% of those who are not working in computing.¹² In addition, girls with early exposure to computer games are four times more likely to go into computing and coding roles as adults.¹³

To support this early exposure to computing, Girls Who Code has a program focus of girls aged 11 and older, and has developed a range of curricula that enables customization to the individual skill level.

- 2. Girls Need Women Mentors.** You cannot be what you cannot see. Too often, girls do not imagine themselves as coders because they do not see women coding. They see men coding. In fact, portrayals of men as computer scientists and engineers in family films outnumber portrayals of women by 14.25 to 1.1.¹⁴ The data bears this out, girls are more likely to become inventors in a field if they grow up in an area with more female inventors in that field.¹⁵

Efforts need to be made in the media industry, at school, and on a national level to tackle these stereotypes. If girls think computing is cool and “for girls,” they will have a 25% higher interest in computing than those who do not.¹⁶

To that end, all Girls Who Code programs feature Women in Tech Spotlights. These spotlights feature a diverse range of women and give girls a chance to see that, no matter their background, race, ethnicity, ability, income or zip code, they can learn to code and change the world.

These spotlights provide girls with role models they might not otherwise have, and start to change the culture of coding that says only men are capable of being creators, inventors, and coders. Girls who are encouraged by a role model are much more likely to major in computing/coding.¹⁷

- 3. Facilitators Do Not Need to Have Coding Experience.** Prior to 2016, Girls Who Code facilitators were required to have a certain level of coding experience. Upon realizing just how dramatically this requirement limited the facilitator pool, Girls Who Code did away with the requirement and then, in 2017, put in place facilitator training to support non-technical volunteers in leading a Club.

¹¹ Ibid.

¹² Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.

¹³ Ibid.

¹⁴ Smith, Megan (2016). *Computer Science for All*.

¹⁵ Raj, Chetty (2018). *The Lost Einsteins*.

¹⁶ Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.

¹⁷ Ibid.

Now, Girls Who Code educators can be engineers and engineers can be educators. Today, there are more than 7,000 facilitators hosting Girls Who Code clubs in cities across the country.

- 4. Social Impact is a Powerful Motivator for Girls.** There is little awareness among parents and students that applying computing and coding to real societal problems can help change the world, which can be a powerful hook for girls and a magnet for women.

To drive enthusiasm for coding and make the link between computing and coding to social impact, Girls Who Code has made the Computer Science Impact Project, where girls use the skills developed in the program to solve a community challenge, a core part of its Club curriculum.

- 5. National and Local Campaigns to Raise Awareness About the Gender Gap in Coding & Drive Program Enrollment and Participation.** Girls Who Code continues to undertake both national and local media campaigns to raise awareness about the gender gap in coding and drive program participation.

Girls Who Code's national campaigns aim to drive awareness of the technology skills gap, the gender disparity between men and women entering technology fields, the need to drive girls' exposure to computing and coding girls at a young age, and the role that Girls Who Code plays in addressing these issues. National campaigns leverage social media (e.g., Facebook, Twitter, Instagram), online and print publications (e.g., coverage in the New York Times, Washington Post, CNN), and television (e.g., Good Morning America, BBC, CNBC) to increase awareness about the need to close the gender gap in tech.

Local campaigns aim to drive participation in Girls Who Code programs by raising awareness about the gender gap in computer science, tech as a future jobs-creator, and the field as one that gives girls an edge in college and in their careers. Girls Who Code works with local partners (e.g., corporations, schools, community centers, libraries, etc.) to increase awareness of the programming offered. To support these efforts, Girls Who Codes provides partners with a media kit with materials and guidelines on stakeholder engagement, program positioning and branding, promotional materials, and answers to frequently asked questions.

Girls Who Code's recruitment team consists of Community Partner Managers who focus on building large partnerships with school districts, library networks, other non-profits and more to launch 5+ Clubs. Notable partners include Miami Dade County, Utah School Districts, Chicago Public Schools, Los Angeles Unified School District, Charlotte-Mecklenburg Schools and more.

RECOMMENDATIONS

- 1. Consider Alternative Channels to Increase Capacity.** Alternative channels, including online and virtual platforms, are one way to expand reach of interventions. The channel selection should carefully consider the audience to ensure that target beneficiaries have access and the appropriate skillset to take advantage of the additional offering.
- 2. Drive Local Relevance to Scale.** For other organizations looking to scale, it is important keeping in mind the importance of local and personal relevance. Girls who Code programs encourage girls to solve problems facing them and their communities. Girls Who Code have chosen to address the water crisis in Flint, Michigan; others have created apps to curb bullying; and still others have worked out ways to solve the issue of too-small lockers at school. Girls Who Code provides girls with the fundamental skills they need to solve problems, and then encourages them to choose those they want to solve.
- 3. Engage with Girls at a Young Age.** Programs should introduce girls to coding at a young age and in fun ways through computer games and toys. Programs should also contain elements that are aimed towards girls, such as raising awareness of how applying computing and coding to real societal problems can help change the world, which can be a powerful hook for girls and a magnet for women.¹⁸
- 4. Ensure Facilitators Reflect the Audience.** Organizations that seek to introduce underprivileged girls to computing and careers in technology should implement strategies establish a diverse group of teachers and trainers. Facilitators should mirror the beneficiaries in terms of gender, ethnicity, and background, to inspire girls.
- 5. Empower Grassroots Facilitators.** By implementing facilitator trainers, organizations can expand the pool of potential facilitators beyond those with direct applicable experience in computing. This will increase programming reach without sacrificing impact as the primary driver to facilitating careers in computing and technology is early exposure.
- 6. Raise Awareness About the Gender Gap in Coding.** Designing and executing national and local campaigns can help address a lack of awareness and understanding of careers in computing and technology and the associated gender gap. These efforts can encourage program enrollment and participation.

¹⁸ Accenture (2016). *Cracking the Gender Code*. New York, NY: Accenture.