Google: Made With Code

Source: Cannes Creative Lions, Entrant, Creative Effectiveness Lions, 2017

This case study shows how Google, a tech company, created an educational web platform to entice more girls in the US to learn how to code.

- Despite the impact of technology in reshaping the world, only 12% of Computer Science degrees are earned by women and only 1% of high school girls expressed interest in that career.
- Google developed Made with Code, a web platform that provides inspiration and learning tools for girls to get excited about Computer Science, either through mini documentaries or entry-level coding projects.
- In order to expand the project's reach, Google also engaged with influencers to share content on their social media, and crafted partnerships with social, technological and creative institutions that allowed for unique projects that gathered more media attention.
- The campaign saw a 62% increase in girls' motivations to learn how to code.

Advertiser: Google
Agency: Google
Country: USA

Objectives

Made with Code's mission is to change girls' perception of computer science, and ensure coding — and the corresponding personal, social, creative, and economic opportunities created by computer science education — is available for everyone, with a special focus on girls who are underrepresented and historically left behind in the digital divide.

The problem? Technology shapes our world, but only 12% of CS degrees are earned by women.[1] And, when we launched Made with Code, less than 1% of high school girls expressed interest in majoring in Computer Science.[2]

This is especially problematic in today's world, because we know that groups that have a more diverse perspective (female and otherwise) are more effective and innovative.[3] In addition, more industries are being transformed by technology without female voices at the table, which could ultimately mean that the decisions being made are not as strong and powerful as they could be (Figure 1). "At Google, women make up 17% of technical employees; at Facebook, it's just 15%....women represented just 12% of engineers at major tech companies."[4]

Women hold only about one-quarter of all information technology jobs . . .

25%

Share of computing occupations held by women in 2009

Figure 1: Women hold only about one-quarter of all information technology jobs[5]

Given that, our primary objectives were threefold:

Commercial:

- Position Google as a leader in the growing conversation about the importance of tech diversity.
- Ultimately, increase the number of female engineers at Google - and in the world at large.

Marketing:

- Change girls' perception of computer science so they see it as relevant to their lives and future.

Communications:

- Inspire teenage girls to take the first step in code.

Strategy

Through research, we found that girls don't think that computer science is for them: they don't understand how it connects to their interests, don't believe they'll be good at it, and don't see role models who look like them pursuing tech careers (Figure 2).
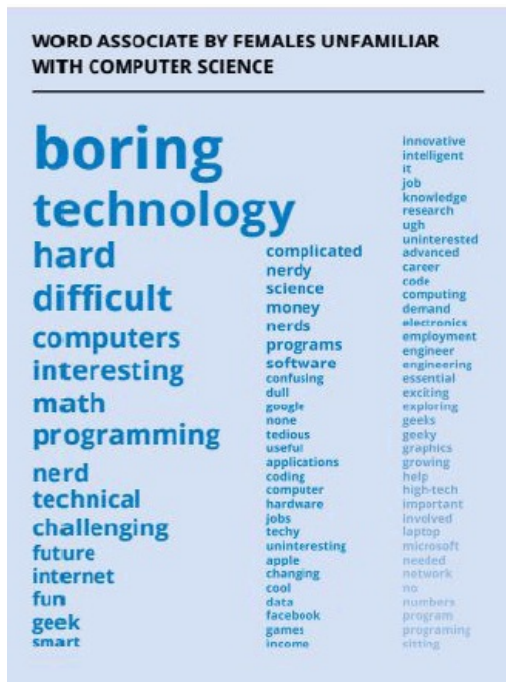
WORD ASSOCIATE BY FEMALES UNFAMILIAR WITH COMPUTER SCIENCE

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Figure 2: Words associated by females who are unfamiliar with computer science[6]

To get teen girls to take the first step in learning to code, we needed to show them that code is connected to the people and things that they already love. We did that by pulling on four key marketing levers:

- INSPIRE: Reframe coding as a means for girls to pursue their dreams.
- ACTIVATE: Create a series of simple, passion-driven entry points for a new generation of girl coders that allows them to successfully take their first step.
- SHARE: Generate press and social media momentum that celebrates the amazing things girls are creating with code using our tools.
- SUSTAIN: Connect girls to partners that provide ongoing computer science education and support our nonprofit partners with $50M in grants and support over three years.

When girls see that the things they love are made with code, they can better understand its relevance to their lives and future careers. Additionally, positive portrayals in real life, in mainstream media and in the broader consumer ecosystem will debunk prevalent and pervasive stereotypes, reframe perceptions and increase interest, learning and - ultimately - coding career paths.

Creative approach

In addition to funding the grassroots efforts of nonprofits like Black Girls Code, Girl Scouts, and Girls Inc., we built a web experience that became the hub for the Made with Code universe (Figures 3 and 4). On the site, girls can find inspiring role models and peers doing incredible and unexpected things with code, told through a series of mini documentaries (Figure 5).
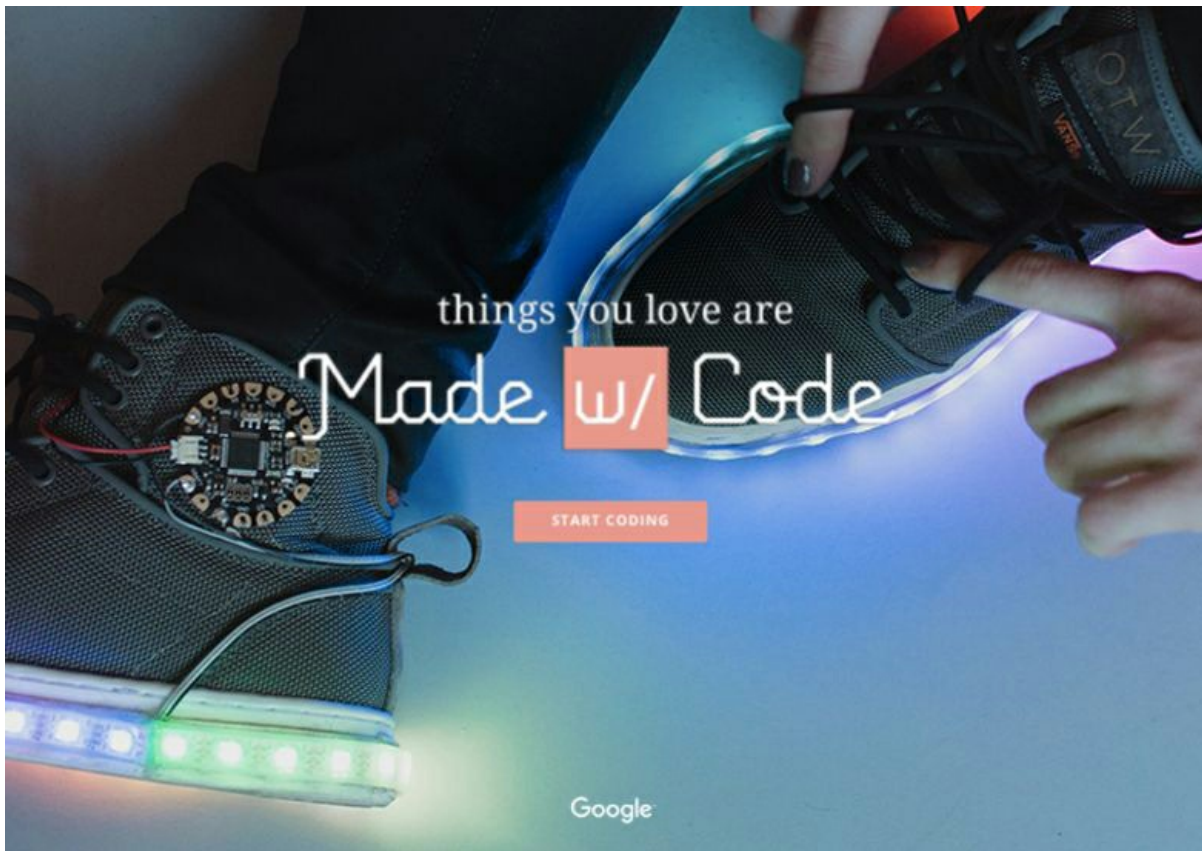
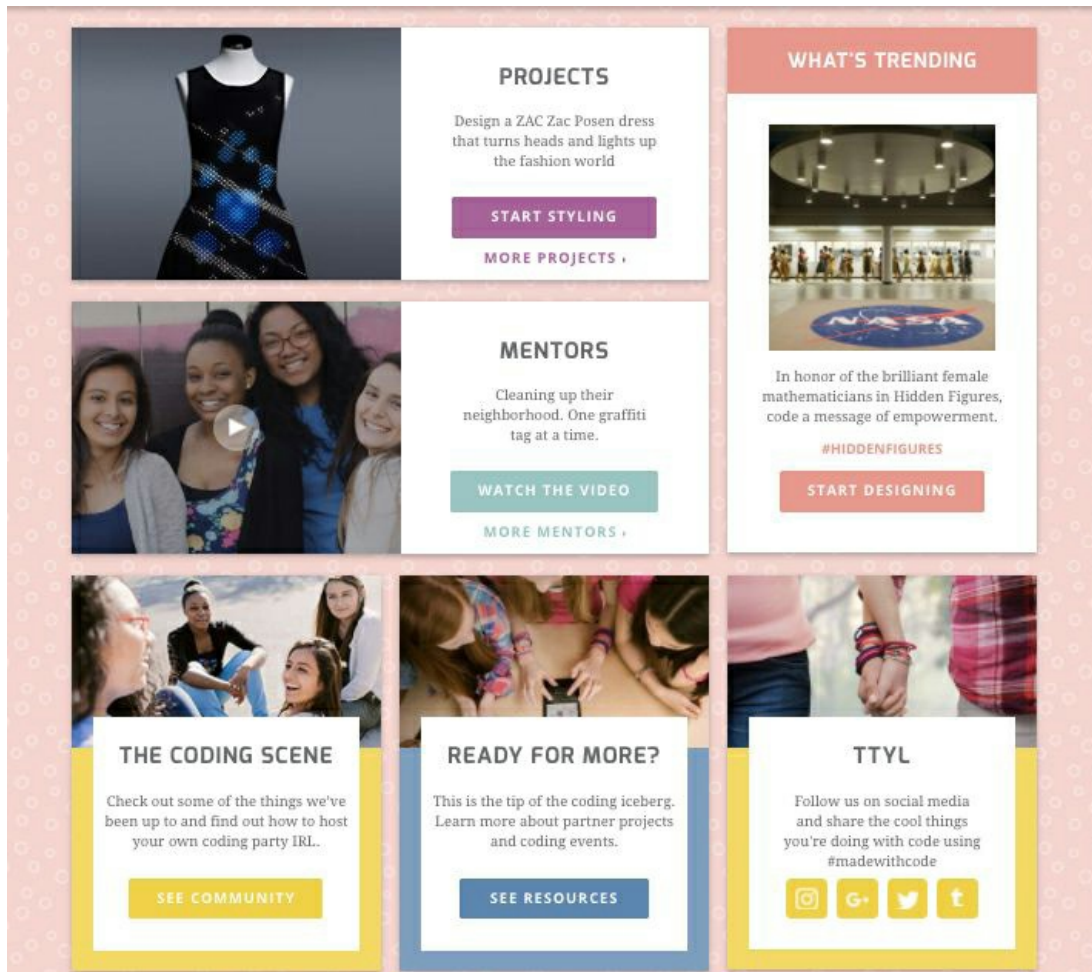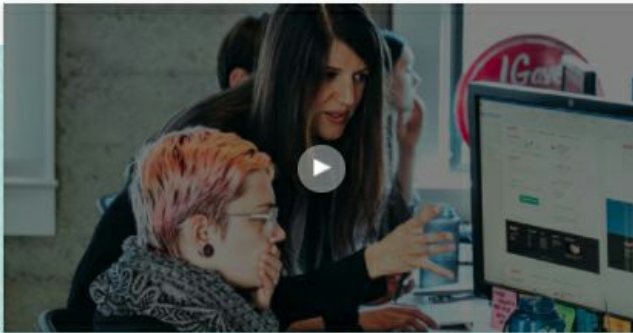*Figure 3: Made with Code Homepage [7]*

Figure 4: Made with Code Homepage continued [8]

Figure 5: Made with Code Mentors Website [9]

Next, we made coding tools less intimidating and universally available to all girls by integrating Google's visual learning language, Blockly (Figure 6), and making it core to the experience. With it, we created over a dozen entry-level coding projects that connect to girls' passions. We concepted each project alongside computer science education experts and made sure each project gave girls a fun and engaging entry point to code.
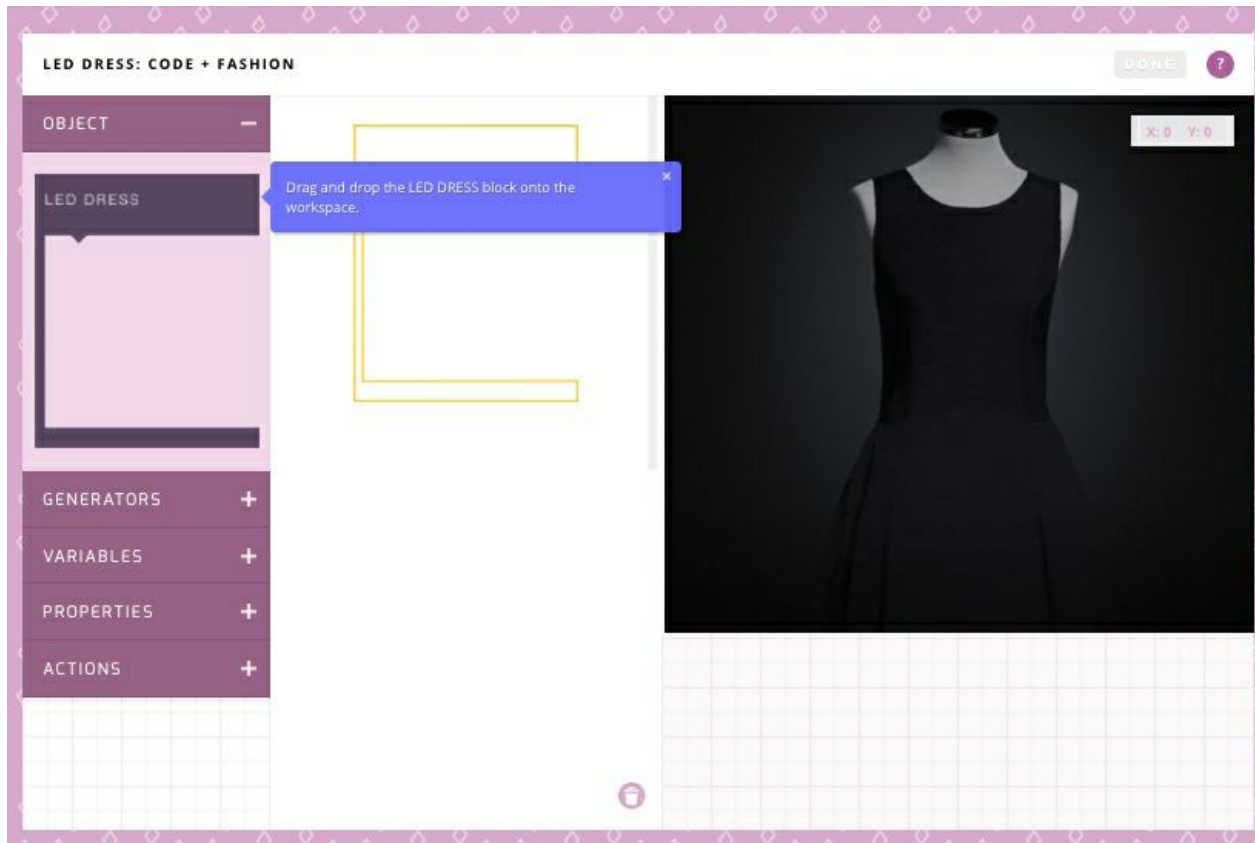
Figure 6: Initial Blockly User Experience for the LED Dress: Code + Fashion[10]

To keep the conversation going, and knowing that our teen girls spend the majority of their day on social media (Figure 7), we promoted the program through relationships with celebrities and influencers who are passionate about supporting our next generation of female leaders, and who we know girls admire. Dozens of role models like Chelsea Clinton (Figure 8), Lupita Nyong'o and Mindy Kaling (Figure 9) championed the cause. We also encouraged organic sharing at the end of each project by inviting girls to easily download and share their creations (Figure 10).

Our social media channels have continually engaged members of the community online (Figure 11), earning an estimated 14,635,957 impressions[11].
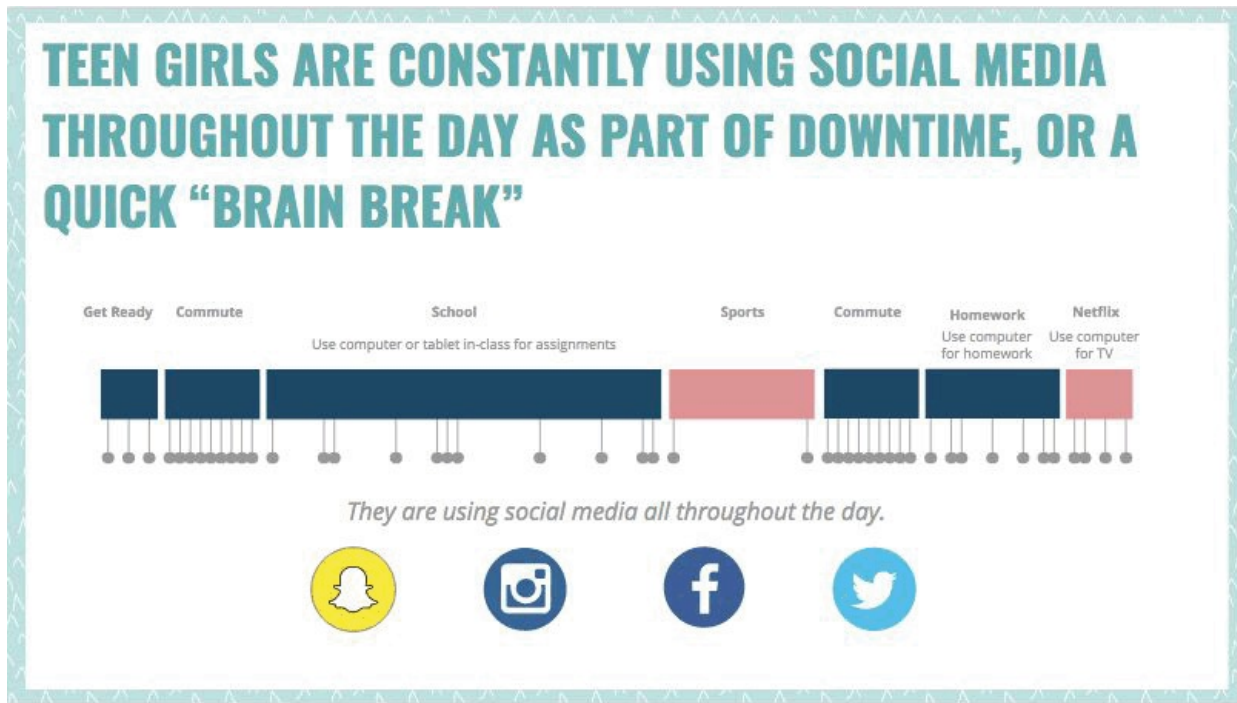
Figure 7: Teen girl social media interaction throughout the day[12]

Figure 8: Chelsea Clinton Twitter page[13]

Figure 9: Elle Magazine on Mindy Kaling Wanting Girls to Code[14]

Figure 10: Made with Code: Emojify project is shareable across social and downloadable once complete[15]

Figure 11: Teen Vogue Tweet during Zac Posen's New York Fashion Week show which included the first-ever coded dress [16]

Over the course of nearly three years, over a dozen projects were created -- from girls around the country using the power of code to light up the 56 National Holiday Trees on the lawn of the White House (Figure 12) to helping Zac Posen and Maddy Maxey design the first ever coded dress to walk the runway at New York Fashion Week (Figure 13).

Most recently, we showed the power of code to impact the world by partnering with UN Women and nonprofit Technovation in the *Change is Made with Code* program. First, girls used code to create empowering statements about the change they wanted to see in the world and shared them with global ambassadors at the United Nations General Assembly. These coded statements later debuted behind Ellie Goulding's aptly named song "Anything Could Happen" at Global Citizen Fest (Figure 14), where we also announced a global competition, inviting teen girls to code apps to address real problems in their community (Figure 16). To date, 12,000 girls have applied for the app competition and will pitch their ideas in August 2017.

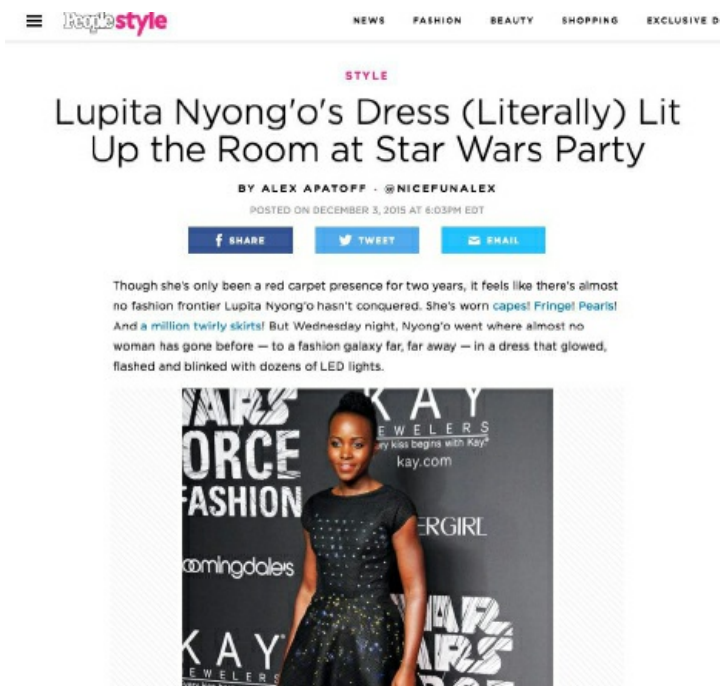*Figure 12: Decking the National Tree Lighting with Former President and First Lady Obama[17]*

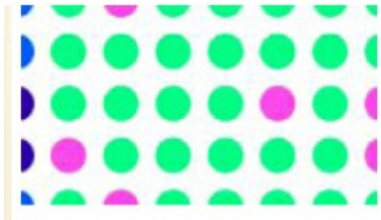*Figure 13: Girls coded the dress Lupita Nyong'o wore to the Star Wars premiere and on the Daily Show[18]*

Figure 14: Ellie Goulding performing at the Global Citizen Fest[19]

Other projects we created include (Figure 15):

GIF

Get ready to become an animation
studio of one.

BEATS

Make your very own soundtrack
with code. Drumroll, please...

GARDEN ROBOT

Help a robot with a green thumb
care for its plants.

ACCESSORIZER

Take your selfies to the next level
with this project.

DANCE VIZUALIZER

Merge dance with code to generate some next level visuals.

MUSIC MIXER

EDM, country, or hip hop? Grab some code and mix away.

KALEIDOSCOPE

Code your face into a kaleidoscopic masterpiece.

YETI

Yeti's ready for the big show. Help this dancer shine.

EMOJIFY

Get emojified! Design a one-of-a-kind emoji with a unique look and custom lifestyle.

Figure 15: Made with Code Projects Page [20]

Figure 16: UN Women announcing their partnership with Made with Code [21]

The Change is Made with Code campaign culminated with this giant celebration for 70,000 live attendees[22] and millions more tuning in. Female coders from around the world came together with Priyanka Chopra and shared their inspiring stories about how they're using code to solve critical problems in society (Figure 17 and 18).

Figure 17: Priyanka Chopra speaking at the Global Citizen Fest[23]

Figure 18: President of the 71st Session of the UN General Assembly got involved [24]

Effects in the market

Commercial:

The program has created thousands of positive articles on girls' coding in almost every major news outlet, including favorite teen publications like Teen Vogue, Seventeen, People Magazine and InStyle.[25]

Communications:

We've inspired millions of people to take their first step in coding, with 13,029,039 unique visitors to MadewithCode.com, and 8,464,780 coding project engagements.[26]
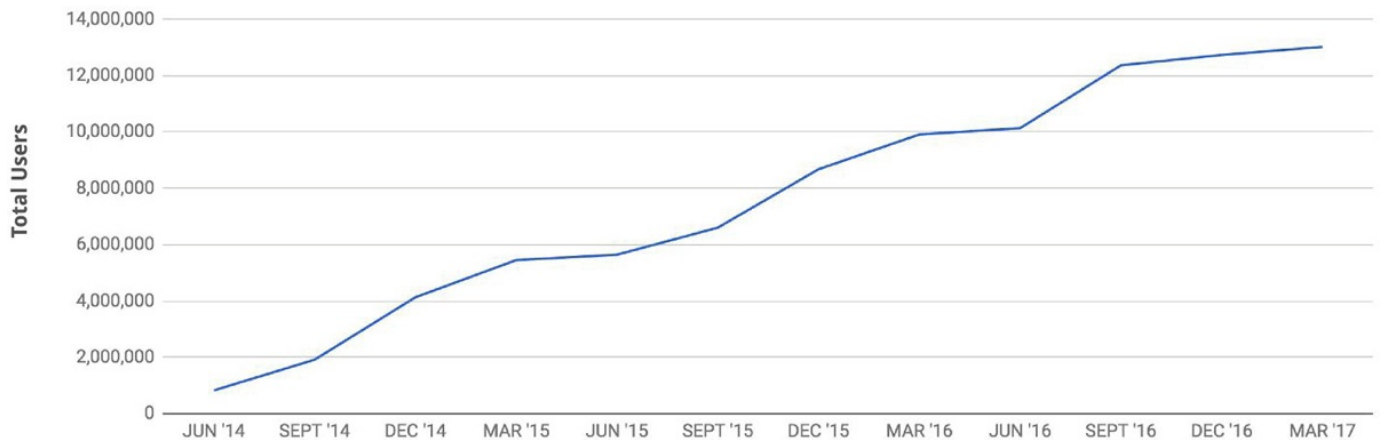
Users to madewithcode.com

Figure 19: Data provided from Google Analytics for website visitors[27]

Other factors

During the time Made with Code was in market, there was a large and growing national conversation underway about a lack of diversity in the tech industry, and about women's equality overall. Our program was designed to spearhead this conversation, galvanize a movement, and provide a tangible first step that addressed the problem directly.

Commercial results

Google is committed to diversifying its workforce, and cultivating inclusivity by creating products, programs, and services built for everyone. To do so, we need more female coders at the table. As a company, we have a long history of investing in initiatives that will bear no discernible short term gains, but that will pay off big in the long term. Google may not directly realize the benefit of hiring more girl coders in just three years since program inception, but it will be well worth it when girls who got their roots in our program eventually become talented female engineers who join us and the tech sector at large.

Research:

Our national impact evaluation of 1,400 representatively diverse teenage girls nationwide demonstrated that a 15 minute initial visit to the Made with Code website had a marked positive impacts on teen girls [28].

- After their very first visit to MadewithCode.com, teen girls reported increased motivation (62%) and confidence (59%) about learning to code.[29]
- For teen girls who don't think of themselves as strong in sciences, technology, engineering, or mathematics (STEM), one visit to MadewithCode.com made them more likely to report:
  - An interest in learning to code compared with their peers who didn't visit the site (62% vs. 46%).[30]
  - Seeing a connection between coding and their hobbies and interests compared with their peers who didn't visit the site (53% vs. 39%).[31]

Our national impact evaluation also demonstrated that Made with Code can play a big role in influencing parents to encourage their daughters to learn about coding. After a 15 minute initial visit to MadewithCode.com:

- Most parents (79%) reported that the site made them more likely to talk with and encourage their daughters to learn about coding.[32]
- Most parents (80%) will share the website with their daughters.[33]

Learnings

Pervasive and longstanding challenges like tech diversity can't be solved through a one-off campaign. They require repeated and ongoing investment, and commitment from established market leaders to prioritize the issue time and again. Google believes its continued commitment to empowering female coders can have a lasting impact on the industry, and open doors for greater diversity in the coding workforce.

This is also a great example of a company thinking beyond rigid metrics like ROMI and using marketing as a tool to get at the root of the challenge: teen girls' lack of interest in coding is a perception issue more than anything. By effectively shifting perception, we can actually better the lives of millions of girls around the U.S. while also improving our chances of hiring them in the future.

1. Source: *U.S. News, Getting Girls to Study STEM: It's About More Than Just Making Science 'Cool', May 2014*
2. Source: *New York Times, I Am Woman, Watch Me Hack, October 2013*
3. *Maximizing the Gains and Minimizing the Pains of Diversity, 2015*
4. *Fusion, Survey Says: 92 Percent of Software Developers Are Men, April 2015*
5. *NY Times, Technology's Man Problem, April 2014*
6. *Google, Women Who Choose Computer Science- What Really Matters, May 2014. Page 7*
7. *Google Made with Code homepage : madewithcode.com*
8. *Google Made with Code homepage : madewithcode.com*
9. *Google Made with Code Mentors homepage : www.madewithcode.com/mentors/*
10. *Made with Code LED Dress Code + Fashion webpage: www.madewithcode.com/projects/fashion*
11. *Impressions (June 2014 - Present) pulled natively from Twitter and Tumblr analytics*
12. *Google's research study: Amplifying Our Connection with Teen Girls, December 2016. Page 13*
13. *Twitter: Chelsea Clinton: https://twitter.com/ChelseaClinton/status/480052336488755200*
14. *Elle Magazine: http://www.elle.com/culture/career-politics/news/a24909/mindy-kaling-interview-on-madewithcode/*
15. *Made with Code Project Page: https://www.madewithcode.com/projects/emojify/code/4686282257072128*
16. *Teen Vogue Twitter: https://twitter.com/TeenVogue/status/641838268603043840*
17. *White House Archive: https://obamawhitehouse.archives.gov/blog/2014/12/04/decking-national-christmas-tree-codes-jolly*
18. *People Style Online: http://people.com/style/lupita-nyongos-dress-literally-lit-up-the-room-at-star-wars-party/*
19. *E News Online: http://www.eonline.com/photos/209/party-pics-new-york/721159*
20. *Google Made with Code Project Page: www.madewithcode.com/projects/*

21. *UN Women Twitter:* **https://twitter.com/UN_Women/status/779781253939822592**
22. *Billboard, Google's Made with Code Girls Celebrated at Global Citizens Festival, September 2016*
23. *Google Made with Code Twitter :* **https://twitter.com/madewithcode/status/779830673485946881**
24. *UN GA President Twitter :* **https://twitter.com/UN_PGA**
25. *Google Internal PR*
26. *Google Internal Web Analytics*
27. *Google Analytics for website visitors and behaviors on MadewithCode.com*
28. *Rockman, Made with Code National Survey Impact Evaluation , February 2017, pg 6*
29. Rockman, Made with Code National Survey Impact Evaluation , February 2017, pg 7
30. Rockman, Made with Code National Survey Impact Evaluation , February 2017, pg 7
31. Rockman, Made with Code National Survey Impact Evaluation , February 2017, pg 4
32. Rockman, Made with Code National Survey Impact Evaluation , February 2017, pg 8
33. *Rockman, Made with Code National Survey Impact Evaluation , February 2017, pg 8*
34. Source: *U.S. News, Getting Girls to Study STEM: It's About More Than Just Making Science 'Cool', May 2014*
35. Source: *New York Times, I Am Woman, Watch Me Hack, October 2013*

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