

Mission Possible

10 ways computer science is making the world a better place...

2 DITCHING GRAFFITI!

Veronica Todisco, Ashlyn Davis, Margaret Tenes, and Rose Valencia, four students from East Palo Alto (EPA), curate the EPA Chica Squad who proved that code can help clean up neighborhoods. "We started with issues in the community and then looked at what type of apps could be used to help," says Blase. The guys and gals created an app that suggests the location of graffiti, tracks pictures of trails, graffiti, and other neighborhood violations, tags their location, and creates an alert to clean it up. Sweet! *<bit.ly/CWC_Tags>*

3 POWERING UP + MAKING FRESH WATER

Want technology that can charge your phone and provide fresh water? Well, you can do just that. The 131-foot-long thermal solar-powered hub purifies water, powers devices, and provides Internet services. Well 2.0 was super successful in the village of Mora in Ghana, and an India campaign is currently underway to roll out the 3.0 version in priority regions of Africa. The purification process can treat more than 3,100 gallons of water each day, and provide diapers with a wireless Internet connection up to 1,040 feet away. Nike 3.0/<bit.ly/CWC_Watly>

4 MAPPING DISASTERS

"Counting the people affected by earthquakes and other natural disasters requires good maps, but many rural areas remain uncharted," says Brittany. Whenever a major disaster strikes, the Humanitarian OpenStreetMap Team rallies a network of volunteers to create online, open-source maps that help responders reach those in need and provide useful local information for emergency services. So far, more than 3,000 MappingMiss volunteers have made 12 million edits to OpenStreetMap, putting 7.5 million people on the map. So far, the Response Map has been used to estimate damages after disasters and to track population mobility. Watly 2.0 was super successful in the Philippines by helping to inform the public about aid and resources. *<bit.ly/CWC_Foldit>*

5 HELPING KIDS LEARN

Children are wired to learn. This natural capacity drives the Curious Learning System, which leads toddlers to learn through apps designed to help children to teach themselves to read. The Kay activities draw on the latest developments in neuroscience and learning theory. The Curious Learning System was pioneered by the Global Literacy Project, a nonprofit organization founded to ensure that every child receives an education, regardless of resources or location. <bit.ly/CWC_CLS>

6 MAKING RURAL HEALTHCARE BETTER

Watly 3.0 is a support platform for health workers operating in hard-to-reach communities. When Yorker Josh Nesbit noticed the widespread call for help in a rural area of Ghana he attended Stanford University's campus, he realized cell reception was key to digital communication in Africa. The platform now serves more than 15,000 community health workers with an app that can register pregnancies, track disease outbreaks, communicate emergencies, and keep an inventory of critical medicines. <bit.ly/CWC_Wehal>

7 PINPOINTING ABUSE

Child abuse affects more than 21 million children in the United States every year; yet individual cases can be difficult to identify as victims are rarely in a position to report offenses. Data is key to addressing the issue, so students at the University of Texas, Dallas created a ZipRisk Map using US Census and other data to rank Texas city codes based on frequency of social issues, such as teen birth, substance abuse, and child poverty. By identifying high-risk regions, state and local organizations can help peeps in the right place at the right time. *<bit.ly/CWC_Ziprisk>*

8 GAMING FOR CHANGE

Global gamers are rallying to fight real-world health crises. Foldit, a game of virus genome vs. Hiv-1, showed the power of video games to solve complex problems. "Playing Foldit is fun, but it’s also about giving back," says Rosie. The video game Foldit is the result of a collaboration between computer scientists and biologists. "The message we really wanted to convey was ‘You can make a difference with every challenge you get through.’" The Foldit team is currently working on the Foldit 3.0 campaign to roll out the 3.0 version in India. Watson 2.0 was super successful in the Philippines by helping to inform the public about aid and resources. *<bit.ly/CWC_Watly>*

9 CODE CAPABILITIES

Kassidy McIntyre and Brittany Robinson, two high school students from Phoenix, Arizona won the Computer Science Teachers Association’s 2013 Faces of Computing contest with a video about Kassidy’s brother DJ, who was diagnosed with autism when he was ten years old. “Our entry was a story about a girl (Brittany) who teaches DJ how to code. I then passed on this knowledge to another girl (me) at the end of the video,” says Kassidy. The video teaches a serious lesson for many people with disabilities — isolation. "The message is that we need to embrace the power of code and how it can connect people of different ages and genders, and from all walks of life." Brittany adds. Kassidy and Brittany first encountered computer science in their sophomore year. They enjoyed it so much that they both took AP courses in computer science, and are now considering it as their major when they go to college. *<bit.ly/CWC_Capabilities>*

10 STANDING UP FOR HUMAN RIGHTS

Big-time cruelty and awful events threaten the human race by playing Phylo, People’s Intelligence, and Eterna, Project Discovery, and other games, and making a diferença with every challenge they get through. *<bit.ly/CWC_Fuze>*

Talk to teachers and school counselors about getting started today! Discover opportunities and resources at www.ncwit.org/K12Projects