Daily Herald

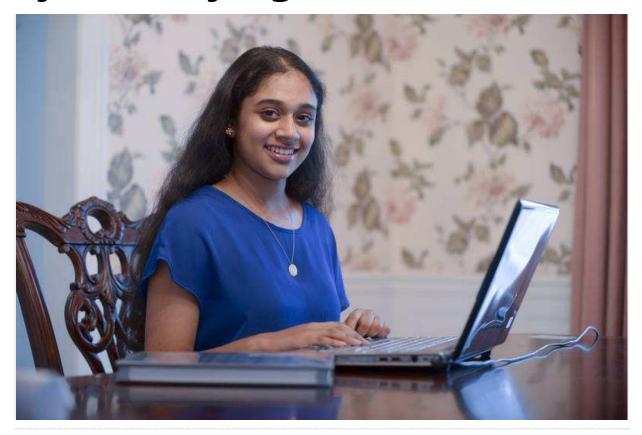**News** | posted: 9/14/2014 7:30 AM

Naperville teen programmer takes on cyberbullying

Fourteen-year-old Trisha Prabhu of Naperville is one of 15 finalists in the Google Science Fair. She's entered her Rethink program, which she believes will help prevent teens from posting offensive messages online.

Mark Black | Staff Photographer

Marie Wilson

"You are so ugly!"

"Go get a life, loser!"

Fourteen-year-old Trisha Prabhu of Naperville is on a mission to rid the world of such online

messages.

"I knew I had to do something to stop this problem," she said of cyberbullying, which affects roughly 50 percent of teens, according to studies she found while researching the topic. "No one deserves to be afraid to go to school."

Trisha is 80 percent finished with coding an add-on program for the Web browser Google Chrome that she's calling Rethink. It will provide a pop-up warning whenever someone attempts to post a potentially harmful or offensive message on social media.

Through her own research, she learned that teens, given a chance to reconsider, are much less likely to post mean messages.

Her efforts began as a class project but morphed into an endeavor that vaulted her into the global finals of the Google Science Fair, to be held Sept. 20-23 in California.

Trisha said she's excited to gain such a prestigious platform for her idea and her findings about the effects of teenage brain development on online bullying behavior.

"I will say I have been cyberbullied when I was younger. That's something that has affected me," the freshman at Neuqua Valley High School said. "But I have very thick skin. I'm not someone who gets easily hurt or damaged. I don't respond to these people's comments. I brush them off and move on with life."

But Trisha, the only child of two computer scientists, realized other kids might not be so resilient. So when the Rethink pop-up appears and says, "This message may be offensive to some. Are you sure you want to post this message?" Trisha hopes teens will just say "No."

Brain science

Trisha started her project for Kim Krupicka's eighth-grade gifted science class at Scullen Middle School, trying to determine if age affected a person's likelihood of posting an offensive message. Reading of an 11-year-old who committed suicide after severe cyberbullying motivated Trisha to learn more.

"I was shocked, to put it lightly," she said.

Trisha noticed the more social media accounts a person has, the more likely he or she is to post offensive messages. In searching for solutions, Trisha turned to her "love of STEM" (science, technology, engineering and math) and her favorite organ in the body -- the brain.

Neurological research has shown the prefrontal cortex, the area that helps control impulses and weigh potential outcomes, is not fully developed until a person reaches age 25, Trisha

and Krupicka said.

"That's why the younger age group doesn't think about decisions as much as they should," Trisha said. "No one really thought to draw that idea to cyberbullying as well, but that is, in fact, what happens. They (teens) don't think about what they're doing; they don't realize the consequences that go along with it. ... Even if they're trying to hurt someone, they don't realize fully what hurting someone means."

But teens can make sound decisions if they pause and sort through their options, shifting the problem to other areas of the brain that are fully developed, Krupicka said. A pop-up message could provide that prodding to ponder more deeply before posting an online comment, Trisha realized.

So she tested the idea.

A chance to Rethink

Using online coding skills she has been building since age 10, Trisha developed two surveys.

The first showed participants five potentially hurtful or offensive messages and asked if they would post that content to a social media site. The other survey, called "Rethink," asked participants whether they would post the same potentially hurtful or offensive messages, and then displayed a pop-up message, giving those students who said they would a chance to change their mind.

Trisha hypothesized -- and her teacher agreed -- that students would be less likely to post offensive messages after seeing the Rethink warning. When she wasn't in class, reading, playing basketball, running, biking or participating in student government, Trisha tested 150 girls and 150 boys randomly selected from her school and at the 95th Street Library in south Naperville. With each student answering five questions, she had 1,500 trials to analyze.

The results were clear.

Students who took the Rethink survey initially were willing to post the offensive messages 71 percent of the time. When presented with the pop-up warning and the chance to reconsider, students decided not to post the content 93 percent of the time.

Trisha called it a "huge decrease" in willingness to post potentially harmful words, and her teacher was impressed.

"I was surprised at the percentage she came up with," Krupicka said. "Not that it did work, but how drastic of an effect that it had."

Phrases Trisha used in the surveys, such as "You are so ugly!" and "Go get a life, loser!", came from the Cyberbullying Research Center at cyberbullying.us

"That was one of my greatest challenges -- finding an effective way to test this and make sure it was accurate," Trisha said.

What is "offensive" varies from person to person, but Trisha said she's 100 percent confident in her findings that providing a teen with the opportunity to rethink can prevent cyberbullying.

Now she's about to test her research against projects with similarly lofty goals: combating world hunger using natural bacteria, converting breath to speech for people with disabilities, and cleaning the world with sunscreen and pencils. Those are among the 14 ideas she'll be up against in the Google Science Fair.

'Give it a shot'

When her project for Krupicka's class ended, Trisha remained so passionate about preventing cyberbullying that she kept researching, kept coding the Rethink program.

That doesn't surprise her mother, Bhanu Prabhu.

"She's a child that believes in doing projects that are meaningful and actually helpful rather than to do a project for the sake of a science fair," Prabhu said. "She definitely persevered and worked hard to put an end to cyberbullying because that was her goal."

Trisha took the Rethink idea to an April entrepreneurial contest in Chicago, where she won first place and $3,000. Then she entered the Google Science Fair, thinking, "Why not give it a shot and work on this because this is something I really care about."

She's practicing to present to judges who could award her a grand prize of $50,000 in scholarship money and a 10-day trip to the Galápagos Islands. And she's seeking votes from the public in an online contest at googlesciencefair.com that ends today. She could win $10,000 to continue developing her project.

Science, purpose

Trisha said she's not sure if Rethink will become a business or a product she'll sell, although her mom says Trisha has "an entrepreneurial bug." Mostly, she wants to make the program, which will use "artificial intelligence" to determine when the warning message needs to pop up, available to as many young Internet users as possible, as soon as possible.

She likely will start with Indian Prairie Unit District 204, where teachers like Krupicka could

allow the Rethink program to be installed on school computers and promote the program to parents.

Once she finishes the add-on for Google Chrome, she plans to develop versions for other Internet browsers and smartphone systems. That way, no matter how a teen accesses the Internet, the Rethink program can offer protection against cyberbullying.

Outside the world of Rethink, Trisha said she wants to run for public office someday and keep studying science so she can "unravel the secrets of the brain for the rest of my life."

"My real feeling with science is that it's not about mixing chemicals," she said. "It's more about finding something that you really care about and working to make a difference."