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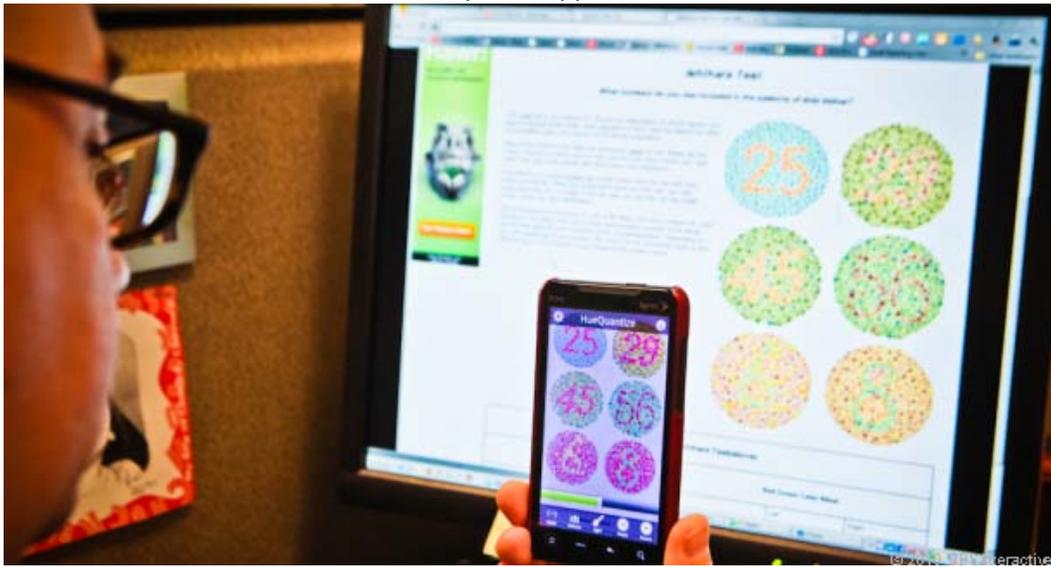
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DanKam smartphone app aids the colorblind

by [Elinor Mills](#)

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Distinct colors pop when DanKam is used to view the Ishihara color test online.
(Credit: James Martin/CNET)

When Jeff Sparkman draws his comic book-style superheroes with colored pencils he often has to ask other people to tell him what color his masked men turned out to be because he's colorblind.

Now, a new smartphone app can help him figure out what colors he's using and how the picture looks to most everyone else.

The **DanKam app**, available for **iPhone** and Android for $2.99, is an augmented reality application that turns the vague hues that 1 percent of the population with colorblindness sees into the "true" colors as everyone else sees them.

"DanKam takes the stream of data coming in through the phone's camera and changes the colors slightly so they fall within the range that people who are colorblind see," developer Dan Kaminsky told CNET. "You can tweak it to fit your needs. There is a spectrum and not everyone who is colorblind sees things the same."

Kaminsky, a security researcher more well known for **uncovering holes in the Internet** infrastructure than being a graphics nerd, released the app this week after working on it for a year as a side project. "It's been nice to be working on something that has absolutely nothing to do with DNS (domain name system)," he said.

He came up with the idea after watching the 2009 film "Star Trek." He asked a friend who was with him what he thought of a female character whose green skin was amply displayed. "There was a green girl??? I thought she was just tan!" his friend replied.

Sparkman, a copy editor at CNET, tried out the app and was pleased with
the results. "It would be useful for dressing for a job interview," he said.
But using it for his art "is the most practical application."

It worked well on LED and other lights on electronic gadgets, which means Sparkman can now identify the power light on his computer display as green. And it would be helpful in playing the computer game Bioshock 2 in which a player must quickly differentiate between different colors on a console, except that it would be impractical to use a smartphone app when playing the game because you need both hands on the controller.

Kaminsky said he is fascinated by colorblindness and by a theory of its
origin proposed by evolutionary neurobiologist **Mark Changizi** that it

developed so humans could be able to judge the health of a person by seeing changes to skin tone based on the amount of oxygen in the blood stream.

"Most people are not dichromatic. They are anomalous trichromats, meaning their green sensor is a little shifted towards red," Kaminsky said. "It's what got a security guy so fascinated by green girls."

The Bioshock 2 console as seen through the DanKam smartphone app, designed to help the colorblind.
(Credit: James Martin/CNET)

Elinor Mills

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Elinor Mills covers Internet security and privacy. She joined CNET News in 2005 after working as a foreign correspondent for Reuters in Portugal and writing for The Industry Standard, the IDG News Service, and the Associated Press.

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