



The Computerworld Honors Program

Honoring those who use Information Technology to benefit society

Final Copy of Case Study

YEAR:
2012

STATUS:
Laureate

Organization name:
Que Innovations Lab

Organization URL:
www.queinnovations.com

Project Name:
KOULE

What social/humanitarian issue was the project designed to address? What specific metrics did you use to measure the project's success?

Our project is designed to tap into children's natural desire to interact with high-tech, cutting-edge electronic/mechanical devices by benefiting two different social epidemics: autism and childhood obesity. Also, we wanted to develop a device that helped take children away from a static, screen-based play into a more physically active, fun play environment. We focused on developing a device that was adaptable enough to help children with autism in a therapeutic manner, such as teaching about emotions and communication with others. Also, the project was designed to encourage all children to move and enjoy engaging in physical activity and to finally help increase learning capacities by combining motion with moving. We based our device on the scientific evidence that movement helps with a variety of essential areas including physical/mental and emotional well being and also cognitive capabilities. We carried out scientific studies at various locations ranging from people's homes to private therapy centres to special needs units at public schools. We measured different metrics including "interaction level," "verbal communication" and "physical movement."

Please describe the technologies used and how those technologies were deployed in an innovative way. Also, please include any technical or other challenges that were overcome for the successful implementation of the project.

Any device aimed at children, and more so children with cognitive or physical disabilities, must meet the highest standards of safety for both the child and the device. A device that is meant to

help in therapy cannot have glitches or robustness issues, nor can it malfunction in any manner. This is extremely challenging when you are considering electronics and moving mechanical parts. We found unique patented ways in which to combine electronics and mechanics in a manner that produced a device that was appealing to the end user, served its role and could perform the tasks set for it without difficulty, and was adaptable enough to meet the needs of a very wide range of end users: children.

Please list the specific humanitarian benefits the project has yielded so far.

The study sizes of the trials performed so far were not significant enough to claim any humanitarian benefit.

Please provide the best example of how the project has benefited a specific individual, enterprise or organization. Feel free to include personal quotes from individuals who have directly benefited from the work.

We have seen children with severe autism laugh and be happy whilst interacting with the device. We have seen increased eye contact whilst interacting with the device. I have also seen a child with paralysis from a head injury exercising by chasing the device and delighting in the action. We have recorded measures of increased communication between children and adults whilst interacting with the device.