



Educational video games typically focus on teaching specific skills – such as reading or math – which they can do effectively. What’s missing is that these games often end up removing the parent from the learning process, which is detrimental to the development of the child’s social-emotional skills. These skills are important throughout life, and they rely on the foundational brain pathways formed during childhood. First Pathways: Go is a new approach to educational gaming. Within a cooperative role-playing mobile platform, the child – age 4 to 10 – and their parent must work together as superhero and sidekick to beat bad guys and solve problems around their community. By fostering teamwork between parent and child, First Pathways: Go promotes social-emotional brain development while they play.

Technology Description

First Pathways: Go uses GPS and vision processing technologies to create an augmented reality experience. These technologies create a more engaging experience to encourage parents and children to play in a developmentally-positive way. The ability to choose where the game is played encourages people to get out into their communities. As with other location-based games – such as Pokemon Go, which currently sustains about 65 Million Monthly users – when players are out on their adventures, they are much more likely to interact with others. Strangers become neighbors as they explore their locale.

Advantages

- Focuses on education as well as entertainment
- Fosters good parent-child interactions as a means of promoting healthy brain development
- Strengthens brain pathways for social-emotional skills that will be important for high-functioning in personal interactions with others throughout life
- Encourages children and parents to explore their neighborhoods and interact with neighbors

Applications

- Home educational gaming
- Classroom enrichment
- Bridging the home-school gap

Stage of Development

Prototype currently under development

IP Status

Intellectual Property disclosure filed through the Innovation Institute

Innovators



Judy Cameron, PhD

Professor of Psychiatry, Neuroscience, Obstetrics, Gynecology & Reproductive Sciences, and Clinical and Translational Science
University of Pittsburgh

Dr. Cameron is a Professor of Psychiatry, Neuroscience, Obstetrics, Gynecology & Reproductive Sciences, and the Clinical Translational Institute at the University of Pittsburgh. She is a neurobiologist who studies brain development. She has been translating this science to legislators and health care professionals for the past 20 years in her capacity as a member of the John D. and Catherine T. MacArthur Foundation Network on Early Life Experience and Brain Development and a founding member of the National Scientific Council on the Developing Child. In 2015, Judy and Alexandra launched the Working for Kids: Building Skills™ program, translating the message of how experiences shape brain development directly to impoverished and stressed communities where children are most affected.

Education

PhD Physiology University of Arizona
BS Physiology University of California, Berkeley

Publications

- Knudsen EI et al. Economic, neurobiological and behavioral perspectives on building America's workforce. *World Economics* 7: 17-41, 2006.
- Sabatini MJ et al. Amygdala gene expression correlates of social behavior in monkeys experiencing maternal separation. *J. Neurosci.* 27: 3295-3304, 2007.
- DeCampo DM et al. Early social stress in infant monkeys alters expression of neural maturation gene *tbr-1* in the amygdala paralamina nucleus. *Dev. Psychobiol.*, in press, 2016.



Alexandra Miragaia, MD

PhD Student
Neuroepidemiology
University of Pittsburgh

As an undergraduate at Duke University, Alexandra successfully founded and sold the startup company Shoeboxed, Inc. that today has over one million customers. After attending medical school, Alexandra took an interest in early childhood brain development and began working with Dr. Cameron on translating important developmental principles to the general public.

Education

MD Univ. Federal de São Paulo, Brazil
BA Mathematics Duke University



Patrick Healy

Undergraduate Student
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Patrick Healy is an undergraduate studying Computer Science, Information Science, and Philosophy at the University of Pittsburgh. He works with Dr. Cameron, developing educational materials and researching applications of gamification and serious games. His ultimate goal is to research and develop game design strategies to educate the public on health issues.