

Spatial Interaction – Bringing Off-Screen Content On-Screen



INVENTORS: Dr. Christopher Collins; Mr. Erik Paluka

OVERVIEW: Spatial Interaction techniques that enable interaction with off-screen content that make use of the space around a display to bring off-screen content on-screen.

PATENT PROTECTION: US Provisional Application: 62/292,667

VIDEO DEMO/IN DEPTH OVERVIEW: <http://www.erikpaluka.com/research/off-screen-desktop/>

TARGET MARKETS: surgical units; gaming; navigation; finance; everyday computer use.

TECHNOLOGY OVERVIEW

The research led by Dr. Christopher Collins and Erik Paluka has led to a novel technology that enables users the ability to store and then rapidly navigate the stored information in the virtual space surrounding traditional displays. The technology is a spatial navigation techniques that make use of the space around the display to extend direct manipulation beyond the desktop screen. In order for this technology to work the researchers have developed a number of techniques that visually transform the information space without affecting its interaction space. This allows a person to interact with the information space as if it physically extended beyond the boundaries of the display. Off-Screen Desktop is characterized by its implicit transience where the applied visual transformations are automatically reverted when the hand leaves the associated spatial interaction space. The technology illustrates this “Off-Screen Desktop” with the design of three different techniques, which include Dynamic Distortion, Paper Distortion, and Point2Pan. The technology has been fully validated in a comparative study with standard mouse panning. We also demonstrate their applicability with a number of use cases that have matched the proposed target markets. Study results show that Spatial Panning was overall significantly faster than the other Off-Screen Desktop techniques when employed in two different navigation tasks.

BUSINESS OPPORTUNITY

UOIT looks to work with companies in a way that helps develop a relationship that is tailored around their interests. Thus, we are happy to explore collaborations, licenses, options, assignments, etc. It is the belief that only through enabling the company to utilize their business model will the UOIT technology be able to make impact within the marketplace.

ABOUT UOIT

UOIT conducts high-quality, rigorous research designed to meet the research and development needs of business and industry and benefit society. Whether the focus is on developing hydrogen-from-nuclear or fuel-cell technologies, improving network security or understanding youth crime, we are committed to interdisciplinary research and development that addresses social, environmental, health and economic challenges.