

Abstract

Digitized Spaces: Law and Policy Issues of Real-time 3D Mapping Technologies

by Joshua W. Abbott

New technologies often raise novel legal and policy issues that tend to defy easy categorization. When new technologies enable behaviors that we as a society wish to discourage, such as electronic identity theft or massive online government surveillance, one challenge is determining whether to apply existing legal tools (and if so, which and how) or to craft whole new solutions. Imagine, for example, discovering one day that someone has created an exact digital model of the interior of your home and made it available through an online game for anyone to enter virtually and behave however they choose, including with graphic violence or obscenity. You may feel, on a visceral level, that this should not be permissible—and most people may agree with you—but assuming no one has trespassed on your actual physical property, what harm have you actually suffered and what legal recourse could or should you have?

Although this scenario is unlikely to occur today, new mobile scanning technologies soon will allow a person to quickly and easily create virtual, digital spaces that exactly model real, physical ones, and to share them worldwide. Project Tango, a Google initiative to be made available to consumers this year, will equip phones and tablets with the ability to scan and measure the precise dimensions of their surroundings and create, on the fly, a virtual, 3D digital model of the space around them—not merely a 360-degree panorama, but a detailed virtual replica of the physical space, similar to what autonomous vehicles use to navigate. Beneficial applications of this technology include disaster relief, search and rescue, architecture, interior design, and many others. But it is also sure to raise numerous issues surrounding privacy, intellectual property, and tort law.

This paper will explore some of the potential legal and policy issues raised by this and similar real-time 3D mapping technologies. While some of these issues overlap with those raised by existing mobile digital technologies, they also present new questions likely to be encountered by courts and legislatures in the near future. Should courts, for example, be willing to extend or create new privacy or IP rights in situations where they determine that some type of harm has occurred but not one that fits easily into a recognized category or cause of action? Or are legislatures better equipped, institutionally, to express the societal values implicated by disputes surrounding these technologies? This paper will address these and other questions.