ABSTRACT

Urban planners play an important role, communicate plans with developers on behalf of the city and its inhabitants. They also function as shepherds for a developer’s development application, communicating with civic technicians, who ensure adherence to bylaws, civic committees, and the public. As a communication proxy between all these different stakeholders, urban planners often find themselves at the center of miscommunications, often due to assumptions and discussions made over paper-based sketches. This study employs interviews and observations with twelve urban planners from a major Canadian city to investigate the communication challenges around technical activities of the design review process, also to explore tools and technologies that are used within the design review process. Thus, the goal of this study is to arrive at a set of design recommendations to create a mobile, interactive communication medium that can potentially support the participatory communication and technical activities of the design review process.

Design Review Process: Can New Technology Improve the Art of Participatory Communication?

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INTRODUCTION

Design review is a complex participatory process where multiple stakeholders brainstorm, articulate, negotiate, and refine plans for future developments. Work conducted within the design review process is complex because it requires enhancements to the participatory communication aspects; participatory communication refers to creating shared understanding, perception, and knowledge between urban planning stakeholders within a collective decision-making environment. Moreover, participatory communication within the design review process should empower the voice and visibility of urban planning stakeholders through simple visualization, thus discovering solutions to their complex design problems. Furthermore, beyond the creative design sessions, a developer may have with the urban planning department, the approval process also involves civic review at various stages. Depending on the complexity of the development application, the urban planner may need to consider land use bylaws, environmental, health, and transportation policies. This review process can reveal violations in a developer’s plan, which may be costly for developers to amend their plans. Urban planners

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in charge of the application review may also need to engage staff from other city departments. In most cases, the urban planner in charge of the review process will also need to engage the public in consultations and discussions on the merits of the application (Forester, 1987; Forester, 1989; Tufte & Mafelopulos, 2009).

As a communication conduit between developers and the city, urban planners are often engaged in technical and socio-economic-political processes. Moreover, urban planners are asked to act in the public’s best interests by enforcing the city’s bylaws, while helping developers to devise creative solutions that address concerns raised by various departments within the city. This is a difficult task, as the goals of these different parties are often in conflict. For instance, a developer may want to build a large mixed-use facility comprised of commercial space with residential space placed above, while the community opinion may oppose buildings which are massive in scale. What makes this situation complex is that plans such as massive buildings are often allowed under a city’s existing bylaws, regulations, and master plans. However, members of the community may assert sufficient political pressure to stop a development that is permitted under the existing bylaws. In some cases, developers may ask for a relaxation (variance) in the bylaw, thus allowing them to increase the amount of developable space (size of a building is usually controlled by the Floor Area Ratio (FAR) which is the ratio of a building’s total floor area to the size of a building’s parcel) (Forester, 1987; Forester, 1989).

While this example is perhaps very brief in its description, most instances within the design review process are far more subtle and complex. For example, the urban planner is usually required to interpret the city’s bylaws and regulations, and apply them to each unique case. This review often requires some calculations. Making this more complex, the analysis can involve sophisticated computer-based tools, frequently making the entire process less than ideally transparent. However, given the long-term nature of the design review process, where a medium-sized development application can take three years from initial phases to permit release, urban planners play an important role in approving development applications. From the urban planner’s perspective, it is difficult to develop a shared understanding and common language to discuss problems as they arise. The tangible consequences of this process are that the design review process is delayed, which is costly in terms of time from the developer’s perspective. Furthermore, urban planners engage in a number of participatory design practices that aim to give each party a voice and increase transparency with the aim of producing creative solutions to problems. Nevertheless, communication can break down during this process. Meetings also often make use of conventional tools, such as paper, pen, pencil, tape measure, large binders, multiple stacks of bylaws, and so on. However, using these simple aids has several deficiencies because these tools do not easily lead themselves to participatory communication and the visualization of building plans and bylaws (Forester, 1987; Forester, 1989; Brail & Klosterman, 2001; Norman, 2010).

There is now a wide array of immobilized, single-user digital media that could support information and visualization needs of the design review process (Brail & Klosterman, 2001). However, mobility is fundamental for visual perception (Gibson, 1986). Specifically, the design review process requires mobility that supports spontaneous interaction and participation, exchange of useful information, local communication, and mutual awareness. Technology for this process should support self-explanatory operations without significant training through mutual intelligibility of individuals and technological interactions (Suchman, 2007; Norman, 2010). Yet, these aspects of the design review process are not supported by exiting technology that is tied to desktop computers and afford explicit communication (Bellotti & Bly, 1996; Luff & Heath, 1998). There is, however, an absence of intelligent and intelligible 3D visualization media that allows participatory communication and ubiquitous, interactive behavior. Having such media could reduce the time needed to ex-
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