

## Leveraging public participation in urban planning with 3D web technology

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### **ABSTRACT**

In this paper we present a web-based platform that makes use of HTML5 technology and WebGL to facilitate public participation in urban planning. It consists of components that enable city administrations to present urban plans to the public and to engage with stakeholders. One of these components uses the open source library X3DOM to visualise 3D content---for example, a city model containing a 3D representation of a planned building. Since X3DOM does not need additional software to be installed on the user's system our implementation is more portable than previous work. Our solution is based on the open source software Liferay which allows it to be configured for various urban planning projects. In order to enable communication between different web application components residing in inline frames (iframes) we implemented a special message bus based on HTML5 postMessage. In this paper we describe implementation details, but we also intensively discuss the possibilities of modern web technology for urban planning. We motivate the use of such technology through three examples that can be implemented using our web application. In this paper we also present results from evaluating our application in user workshops carried out within the project urbanAPI that is funded by the European Commission. Finally, we draw conclusions and discuss possibilities for future urban planning use cases.