

Testing the Impact of Landmarks on Navigation through the Use of Mobile-Based Games

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Abstract : The aim of this paper is to understand the effect of landmarks on spatial navigation. For this study, a mobile-based virtual game, 'Sea Hero Quest' (SHQ), was used. At the beginning of the game, participants were asked to look at maps which included the specific locations of players and checkpoints. After the map disappeared, participants were asked to navigate a boat and find the checkpoints in a pre-given order. By analyzing this data, we aim to better understand an important component of cities, namely landmarks, on spatial navigation. Game levels were analyzed spatially and axial-based integration, choice and connectivity values of levels were calculated to make comparisons. To make this kind of a comparison, we focused on levels which include both local and global landmarks and levels which include only local landmarks. The most significant contribution of this study to urban design and planning fields is that it provides mounting evidence about the utility of landmarks and their roles in cities due to the fact that the game was played more than 2.5 million people. Moreover, by using these results, it can be possible to encourage cities with more global and local landmarks to have more identifiable/readable areas.

Keywords : landmarks, mobile-based games, spatial navigation, virtual environment

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