

Exploring Pisa Monuments Using Mobile Augmented Reality

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Abstract : Augmented Reality (AR) has taken a big leap with the introduction of mobile applications which co-locate bi-dimensional (e.g. photo, video, text) and tridimensional information with the location of the user enriching his/her experience. This study presents the advantages of using Mobile Augmented Reality (MAR) technologies in traveling applications, improving cultural heritage exploration. We propose a location-based AR application which combines co-location with the augmented visual information about Pisa monuments to establish a friendly navigation in this historic city. AR was used to render contextual visual information in the outdoor environment. The developed Android-based application offers two different options: it provides the ability to identify the monuments positioned close to the user's position and it offers location information for getting near the key touristic objectives. We present the process of creating the monuments' 3D map database and the navigation algorithm.

Keywords : augmented reality, electronic compass, GPS, location-based service

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