

AR Door to the History of TCD

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Utilising publicly accessible frameworks and tools, this application based research contrives the design and implementation of a mobile application that enables full scale simulation of the Front Square of the Trinity College Dublin (TCD) campus using Augmented Reality (AR). The application generates a Gateway (Portal) on any valid detected surface that is tapped, through which people can walk into a virtual 3D environment representing the Old Trinity Campus. The 3D mesh of the Trinity Campus also features virtually simulated crowd in vintage costumes that walks inside the 3D mesh of the Front Square, which is precisely overlaid on top of the real campus. As the buildings have not vastly changed since the 18th century, the environment looks more realistic but with completely different articles augmented to the real world, providing a convincing illusion of the old TCD. This research also discusses the optimisation of 3D meshes for mobile AR and the investigation carried out to determine the better approach between marker based and marker-less AR for similar applications.