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# Development of Mixed Reality Software Applications for the ATLAS Experiment

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Visualisation plays an important cognitive role in understanding and learning different facilities and processes in high energy physics experiments. It can synthesise Augmented Reality and Virtual Environment to create Mixed Reality Applications with detector descriptions and high-level interactions like gesture or touch controls, easy and minimalistic UI and Lego-like interactions with geometries, for better cognition.
Several Mixed Reality detector display applications can be considered according to user-specific requirements - (ART) - Augmented Reality Table, an application where users will be able to place the detector in the desired location and interact with geometry using a real-time hand recognition system or touch controls and select or grab different components of the detector; (ARD) Augmented Reality Door, where users can place a virtual door in a real-life environment and navigate through the facilities; (LND) Augmented reality landscape, by this application users can place full-sized detectors in real-life environments; (ARB) Augmented Reality Book, users will scan certain images in books or leaflets and see corresponding 3D objects placed on paper.
This paper represents the methods and tools for the creation of the above mentioned Augmented Reality applications.

## I read the instructions

## Secondary track (number)

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