# Research Direction for Android Based Indoor Navigation Solution for Shopping Malls through Augmented Reality-EasyMap

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Shopping malls have become extremely popular among society because they are very convenient. A shopping mall is a collection of shops and stalls in one large space. When clients are unfamiliar with the shopping area, it can sometimes be difficult to determine where the store is located, hence time wasting. Requirement gathering and data analysis techniques such as surveys, interviews and literature survey clearly provide the best idea of existing systems, used methods, techniques and their pros and cons. Through the above-mentioned requirement gathering techniques, the best solution for a problem domain is the proposed application for visually indoor navigation. The mobile application is the best way to release it to the masses with indoor navigation to find the destination by using step-by-step directions. Augmented Reality is one of technologies that is rapidly evolving and can deliver new experiences to the world. It can guide visualized directions to users for navigating to the destination through the Augmented Reality environment. Other than the navigation feature, this application provides more different functionalities, such as the user can search the destination using a shop's name or product's name they need to purchase, and categorize the shops and stalls in a shopping mall. The development of this app involves a different variety of interesting tools and software such as IndoorAtlas, ARCore and Android studio SDK. Throughout this paper, a smart solution for the above-mentioned problem and design, used technologies and how they have evolved to the implementation of Android-based Indoor Navigation Solution using Augmented Reality for shopping malls are discussed.

**Keywords:** *mobile application, indoor navigation, shopping mall, augmented reality*