

# **Visualising Library Locations with Mobile Augmented Reality (Lib-MAR)**



**RESEARCH MANAGEMENT INSTITUTE (RMI)  
UNIVERSITI TEKNOLOGI MARA  
40450 SHAH ALAM, SELANGOR  
MALAYSIA**

**BY :**

**HEAD OF PROJECT**

**NURHIDAYAH BINTI HASHIM  
AHMAD NADZRI BIN MOHAMAD  
TENGKU ADIL BIN TENGKU IZHAR (DR)  
MOHAMMAD FAZLI BIN BAHARUDDIN  
MAZWANI AYU BINTI MAZLAN**

**MARCH 2017**

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# 1. Letter of Report Submission

Tarikh : 14 Mac 2017

No Fail Projek : 600-IRMI/DANA 5/3/LESTARI (0049/2016)

Penolong Naib Canselor (Penyelidikan)  
Research Management Centre (RMC)  
Universiti Teknologi MARA  
40450 Shah Alam  
**SELANGOR**

## LAPORAN AKHIR PENYELIDIKAN

Tajuk : *VISUALISING LIBRARY LOCATIONS WITH MOBILE AUGMENTED REALITY (MAR)*

Dengan segala hormatnya perkara di atas adalah dirujuk.

2. Sukacita dimaklumkan, projek penyelidikan bertajuk *VISUALISING LIBRARY LOCATIONS WITH MOBILE AUGMENTED REALITY (MAR)* telah berjaya ditamatkan dengan jayanya.

3. Kerjasama dan perhatian dari pihak puan selama kami menjalankan dan melaksanakan projek penyelidikan ini amat dihargai dan didahului dengan ucapan terima kasih.

Sekian, terima kasih.

Yang benar,

NURHIDAYAH BINTI HASHIM  
Ketua Projek Penyelidikan

## 5.2 Enhanced Executive Summary

(Abstract of the research) – 1 page only

Massive developments of computing application create an opportunity for library administrators to engage with users in an interactive manner. One of the emerging applications is the use of Mobile Augmented Reality (MAR). In essence, various studies reported cost and technical knowledge as a fundamental component in MAR success. However, free and low-cost MAR platforms were made available for navigational purposes but less demonstrated in the literature. Hence, the objective of this study was to demonstrate the use of Mobile Augmented Reality (MAR) and its processes involved in mapping of Tun Abdul Razak Libraries, Universiti Teknologi Mara (UiTM), Shah Alam, Malaysia. For this purpose, location-based MAR application was used and integrated with geographical data on Google Maps through Keyhole Markup Language (KML) file. Relevant data and locational information was also incorporated to aid visualisation of library locations through smartphone. As a result, a new AR world was created and named "*PTAR Mobile Augmented Reality (Lib-MAR)*". Library users can use this AR tool with their smartphone as a guide to library locations on university surroundings. Technique shown in this study is applicable for library administrators to engage and aid users in library navigation, improving accessibility and resources discovery.

### 5.3 Introduction

Massive developments of computing application create an opportunity for library administrators to engage with users in an interactive manner. One of the emerging applications is the use of Mobile Augmented Reality (MAR)<sup>1</sup>. In general, MAR has been used in numerous fields, among others, marketing, education, engineering, geography, tourism, history and medicine<sup>2-7</sup>. Mobile Augmented Reality (MAR) is relatively a growing technology in today's world. MAR is described as the technology that complements real world with digital information such as 3D models, video, image and sound<sup>1, 8</sup>. The general principle is to equip real world with digital information.

Realising this prospect, MAR has been adapted into library environments to provide new learning experiences. To this end, libraries have integrated AR to provide mobile learning experiences. One example of MAR usage is to enrich user experiences on library wayfinding<sup>1, 9, 10</sup>. This allows library patrons to wayfind library locations in a university and facilitates access to resources. This will aid library patrons or even first-time library visitors to comprehend library navigation. Another practice is to embed MAR with library instruction such as information literacy and library orientation<sup>9-12</sup>. As such, the audience can be familiarised with the library building, collection arrangement, facilities and services by using their smartphones. However, librarians need to create MAR contents beforehand and audience has to download and use the MAR application with their smartphone throughout the navigating process<sup>1</sup>.