



Ain Makkah : Applying an Argument Reality Technology to Present History of Kaaba

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Abstract

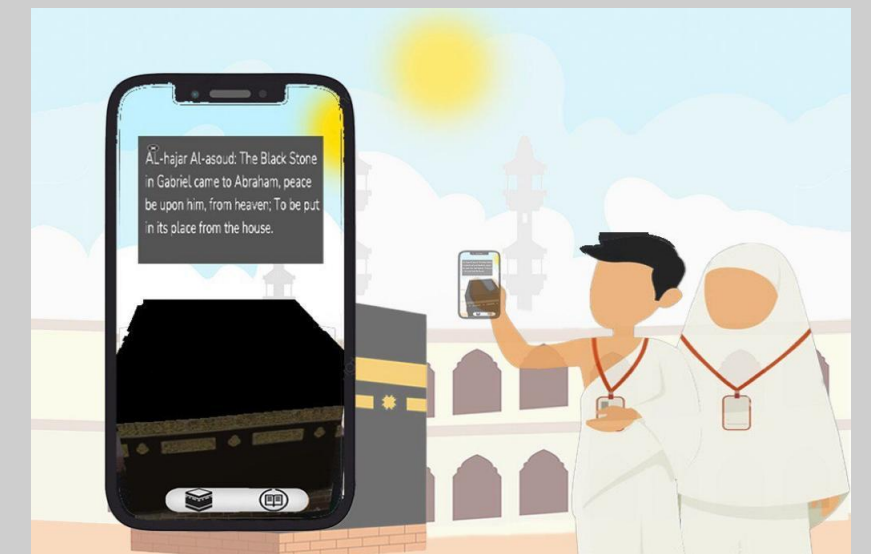
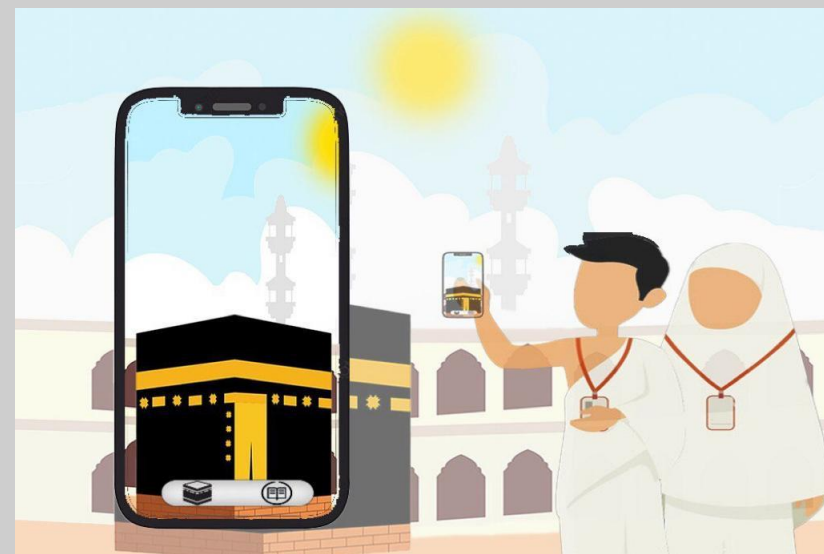
Makkah Al-Mukarramah is the capital of Islamic world. It receives special attention from the Saudi government's rulers to transform it into a smart city for the benefit of millions of pilgrims. One of the 2030 vision objectives is to transform Makkah Al-Mukarramah into smart city with advanced technological facilitation. Augmented reality is an interactive technology that enhances/augments the physical real world with computer-generated information to the object. AR is the enhanced version of the real world. AR is the technology based on projecting 3D objects. AR allows simulation of real objects with 3D virtual objects. In the last few years, many applications have been developed using augmented reality technology. We were inspired by the idea of Ain Makkah to achieve the vision of 2030 to transform Makkah into a smart city, applying Ain Makkah supports the projection of three dimensional models in Makkah.

Objective

- 1.To enable visitors of Makkah to know the history of Makkah by using technology.
- 2.“Ain Makkah” uses Augmented Reality to view the history of Al-Kaaba
3. A 3D model will overlay the Al-Kaaba to show it years ago.
- 4.Ain Makkah will use Augmented Reality to build a 3D model to overlay Al-Kaaba
- 5.Through the application, the visitor or tourist can see the shape of the Kaaba
- 6.years ago with all the related information when placing the mobile camera on Al Kaaba.

Methodolgy

Ain Makkah is spatial displays digital information on physical objects it works on a smartphone as an input device, it uses a digital camera to identify the object, GPS to measure the position of the object, accelerometers, and compass are used to measure the directions. It utilizes Marker-based augmented reality to show the history of Makkah Al-Mukarramah for the visitors by projecting a 3D model on Al- Kaaba. An internet connection is not required in Ain Makkah service because when the place is located, the 3D models stored on the application will be retrieved from the application and the historical information will be retrieved from the database based on the period of time that users choose. The application allows visitors to choose the period time to know and show the history.



Result

- 1.The application will present the history of Al-Kaaba by directing the camera to Al-Kaaba and the virtual old Kaaba will automatically projected.
2. The application will present the historical information about Al-Kaaba at 1400H.
3. Appropriate and easy-to-use interface design.
- 4.The application will present the kaaba from inside

Conclusion

- Using technology that impact and make visitors of Makkah live the history of Makkah.
- Projection 3D model of old Kaaba during a certain period of time with historical information make an impact and unforgettable memory for history of Al-Kaaba
- Ain Makkah apply an advanced technology to present history of Makkah with mobile phone.
- More Historical sites will be provided for future work.

Demo



Reference

