Travelex: Augmented Reality using Google GeoFences

Mixed Reality Class
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***Abstract*—The tourism is a growing market and every company or local businessinvolved on this are looking for attracting more and more tourists to their destinations.**

This paper explains the use of Google Geofences for providing real-time notifications to tourists who holds a smartphone. The notifications provides information about the near places and some recomendations about the interesting places to visit. The Travelex mobile application is planned to improve the tourists' experience with the ability of knowing what are the most visited places and at the same time it will be providing a way for posting feedback and share with others.

I. Introduction

With the enormous bum of powerful smarth devices like smartphones, wearables and more recently the Google Glasses, th Augmented Reality (AR) is becoming the new trend topic in the world. This combination of virtual and physical world information has not been utilized at all in the Tourism field.

Augmented Reality (AR) is providing an extension of key visual and non-visual elements that are improving user experience in her/his interaction with the technology.

This paper explains how Google Geofences Java Framework can improve the user experience on touristic places. Google provides an innovative API that can provide

A. AR trends

Augmented Reality solutions on this

B. Related Projects

Talk about Prisma Prject

gimbal

1) Research: - tourism in Guadalajara

- Tourism in Mexico Destinations

- Augmented Reality best practices

C. Hardware Requirements

Nowadays that smartphones are being used by a 63.5% of the 4.55 billion of mobile phone users[1], it's a great opportunity to introduce mobile applications that take advantage of mobile technology like 3G/4G and GPS.

In order to run the Travelex application, it's necesary to have a smartphone with the following specs:

- Operative System: Android (15 to latest versions)
- GPS enabled
- Internet connectivity (WiFi or 3G/4G)

1) Justification: Given the current number of Android based smartphones (52.1%)[2], it's a good start point for this application to be released.
It's also easier to implement the Google Geofences on an Android phone because the code can more natively implemented.

D. Programming Techniques

Android is an Operative System is mainly based in Java programming language. The Travelex application was fully developed on Java with the implementation of RESTFul calls for the Google Geofencing API and some SQL queries for the database interaction.

Below are the required development tools and frameworks:

- Programming Language: Java
- Database: SQLite
- API: RESTFul with Google Geofences
- Frameworks: Google Geofences, Android SDK
- IDE: Android Studio

1) Justification:

2) Comparison: - Comparison between Google Geofences/Gimbal

II. Our Work

A. Identifying places of Interest

Based on top touristic places in Mexico

B. Google Geofences Implementation

Flow Diagram

C. Project Schedule

Gant Diagram

1) Personnel Needs: How many developers, testers (internals and externals) (national/internationals)

D. Impact of the project

- Helping the tourists * Economy perspective - Improving local business * Goverment perspective - Generating more jobs

FODA diagram

III. Conclusion

The conclusion goes here.

IV. Future Work

- Adding more Places - Enabling Explore capability - Enabling Near Places capability - Adding feedback mechanism - Adding Visual Recognition - Enabling users updloaded places

References

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