



ENABLING SMART CITIES WITH GEOFENCING

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WHAT IS A SMART CITY?

- ◆ A smart city is an urban development vision to integrate multiple information and communication technology (ICT) and Internet of Things (IoT) solutions in a secure fashion to manage a city's assets



- ◆ The goal of building a smart city is to improve quality of life by using urban informatics and technology to improve the efficiency of services and meet residents' needs.

Text: Source: Wikipedia. Image Source: Financial Tribune

WHAT IS GEOFENCING?

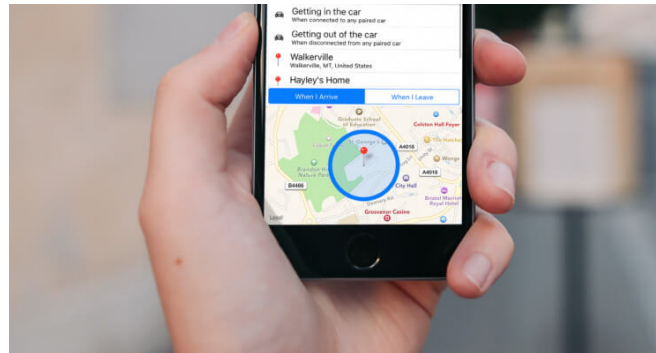
- ◆ To Create a virtual geographic boundary around (an area) by means of GPS or RFID technology, enabling software to trigger a response when a mobile device enters or leaves the area.



- ◆ **Usage Example:** The company has now geofenced the locations of 180,000 US schools
Text Source: Wikipedia, Image Source: Geomarketing.com

WHY GEOFENCING MATTERS

- ◆ Thirty percent of the world's population is already using location based services
- ◆ Most users want to get location-based alerts. Example: Reminders App (iPhone):



- ◆ Can target users in physical locations
- ◆ Allows triggering of right message (place and time)
- ◆ Increases loyalty, sales and “stickiness”
- ◆ Influences decisions

Image Source: tapsmart.com

APPLICATIONS OF GEOFENCING

◆ Social

- Government (Local and National) can use geofencing for improving services such as:
 - Fight Crime
 - Fix Potholes
 - Track Health code violations

◆ Commercial

- Companies can use geofencing to:
 - Push Marketing Promotions
 - Survey customers
 - Track competitors



HOW DOES GEOFENCING WORK?

Long Range



Global Positioning System (GPS)

Satellite navigation system that provides location information pretty much anywhere in the world

Medium Range



Wi-Fi

A wireless networking technology that allows computers and other devices to communicate over a wireless signal

Short Range



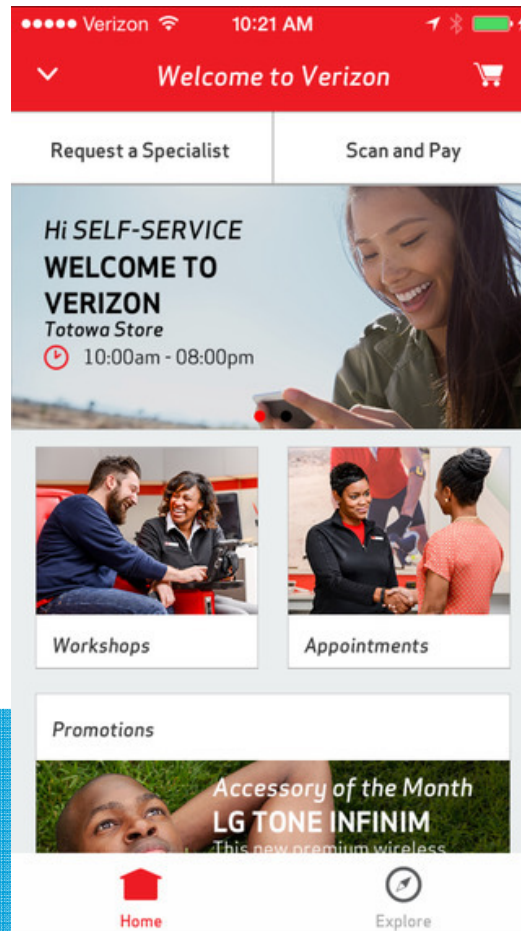
Beacons

Small wireless transmitters that emit a signal recognized by Bluetooth-enabled devices within range

Image Source: phunware.com

APPS: VERIZON

- ◆ Smart App uses Geofencing using both Wi-Fi and Beacons

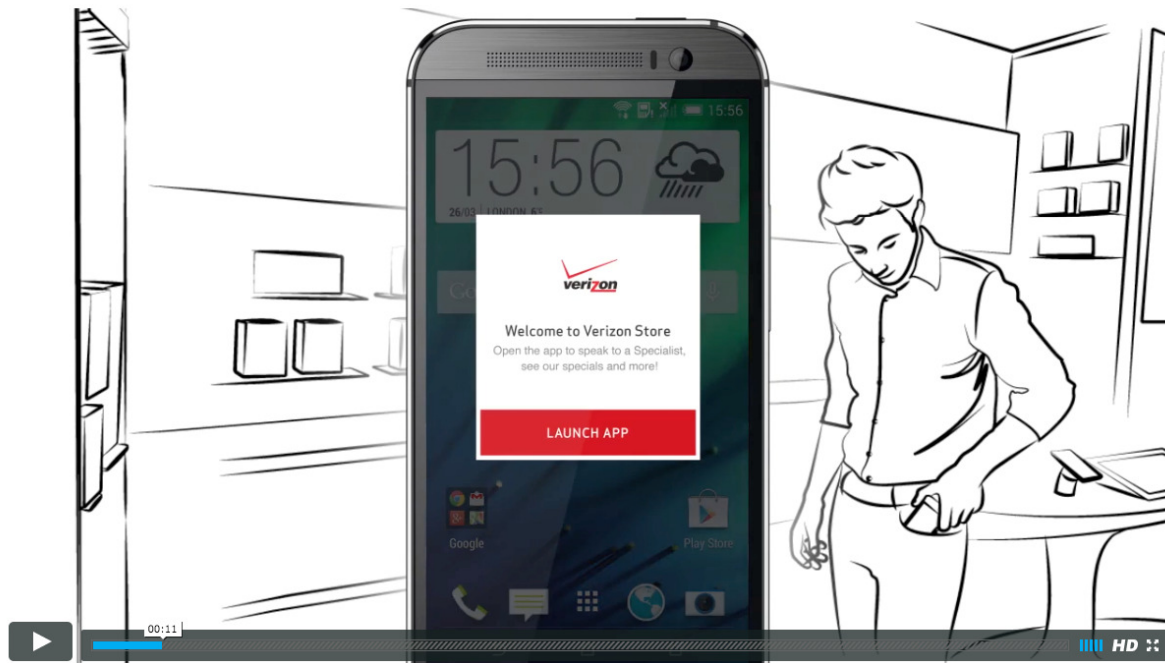


VERIZON SMART APP VIDEO OVERVIEW

Project info -

Verizon Smart App

The Verizon Store Guide turns your smartphone into a personal assistance at Verizon stores. The app feeds product and content that are relevant to your personalized information by using iBeacon. It provides a shopping experience that is simple, intelligent and seamless. Role: Art Director, UX, Agency: AKQA



ISSUES

- ◆ Privacy Concerns (Opt In/Opt Out)
- ◆ Security Breaches
- ◆ Smartphone Battery Drain



QUESTIONS

