Abstract

This document describes basic use cases and requirements for geofencing.

Status of This Document

This section describes the status of this document at the time of its publication. Other documents may supersede this document. A list of current W3C publications and the latest revision of this technical report can be found in the W3C technical reports index at http://www.w3.org/TR/.

Comments on this document are welcomed and should be made on the public-geolocation@w3.org mailing list.

This document was published by the Geolocation Working Group as an Editor's Draft. If you wish to make comments regarding this document, please send them to public-geolocation@w3.org (subscribe, archives). All comments are welcome.

Publication as an Editor's Draft does not imply endorsement by the W3C Membership. This is a draft document and may be updated, replaced or obsoleted by other documents at any time. It is inappropriate to cite this document as other than work in progress.

This document was produced by a group operating under the 5 February 2004 W3C Patent Policy. W3C maintains a public list of any patent disclosures made in connection with the deliverables of the group; that page also includes instructions for disclosing a patent. An individual who has actual knowledge of a patent which the individual believes contains Essential Claim(s) must disclose the information in accordance with section 6 of
the W3C Patent Policy.

Table of Contents

1. Introduction
2. Scenarios
   2.1 Alerts when points of interest are in the user's vicinity (derived from [GEOLOCATION-API])
   2.2 Asset Tracking
   2.3 Mobile Marketing
3. Requirements
   3.1 R1: The Geolocation API must provide a way for the application to set a geofence around a centroid.
   3.2 R2: The Geolocation API must provide a way for the application to perform a one-shot query as to whether the device is inside or outside of a geofence defined around a centroid.
   3.3 R3: The Geolocation API must provide a way for the application to register to receive notifications when the device breaches a geofence, including information as to whether the device is entering or leaving the geofenced area.
A. References
   A.1 Normative references

1. Introduction

ISSUE 1

A geofence is a virtual fence that circumscribes a geographical area. In its simplest form, a geofence can be described by a centroid and a radius (this defines a 2 dimensional circular geofence). However, more complex geofences are possible (e.g. polygonal boundaries). This document provides sample scenarios and derived requirements for a geofencing feature in the context of the W3C Geolocation API [GEOLOCATION-API].

2. Scenarios

2.1 Alerts when points of interest are in the user's vicinity (derived from [GEOLOCATION-API])

A tour-guide Web application can use the geofencing-enhanced Geolocation API to monitor the user's position and trigger visual or audio notifications when interesting places are in the vicinity. An online task management system can trigger reminders when the user is in the proximity of landmarks that are associated with certain tasks.

2.2 Asset Tracking
Web technologies are finding a place in mobile devices used for asset or property tracking. A mobile tag attached to an asset could leverage a web-based geofencing solution to trigger alerts when it enters or leaves a geofenced area. For instance, commercial merchandise can be tracked in a warehouse, or construction equipment can be tracked in a building site.

2.3 Mobile Marketing

Internet advertising is often measured by click-through rates, i.e. The click-through rate is the number of unique instances where an user interacts with the ad ("clicks" on it) divided by the total number of ad impressions (the times an advertisement was served). Physical click-through is possible with geofencing. In this case, a retailer can determine if an end user has actually entered an establishment after viewing an ad.

3. Requirements

3.1 R1: The Geolocation API must provide a way for the application to set a geofence around a centroid.

3.2 R2: The Geolocation API must provide a way for the application to perform a one-shot query as to whether the device is inside or outside of a geofence defined around a centroid.

3.3 R3: The Geolocation API must provide a way for the application to register to receive notifications when the device breaches a geofence, including information as to whether the device is entering or leaving the geofenced area.

A. References

A.1 Normative references

[GEOLOCATION-API]