

# Advanced HTML5

Geolocation

Craig Shoemaker

<http://craigshoemaker.net>

@craigshoemaker



# Outline

- **Introduction**
- **What is Geolocation?**
- **Request Patterns**
- **Options**
- **Position Calculation**
- **Browser Support**
- **Demos**
  - Get Position
  - Watch Position
  - Watch Position Options

# What is Geolocation?



# Request Patterns

One Time

Continual



Asynchronous Requests

## IP Address

## Coordinate Triangulation

## User-Defined

### GPS

### WiFi

### Cell Phone

## Pros

## Cons

Source: Pro HTML5 Programming, Apress

## IP Address

## Coordinate Triangulation

## User-Defined

### GPS

### WiFi

### Cell Phone

## Pros

Available  
Everywhere

Processed Server  
Side

## Cons

Low Accuracy

High Processing  
Overhead

Source: Pro HTML5 Programming, Apress

## IP Address

## Coordinate Triangulation

## User-Defined

### GPS

### WiFi

### Cell Phone

## Pros

Available  
Everywhere

High Accuracy

Processed Server  
Side

## Cons

Low Accuracy

Long Operation

High Processing  
Overhead

Not Optimal for  
Indoors

Hardware Req'd

Source: Pro HTML5 Programming, Apress

## IP Address

## Coordinate Triangulation

## User-Defined

### Pros

Available Everywhere

Processed Server Side

### GPS

High Accuracy

### WiFi

Accurate

Works Indoors

Quick & Cheap Response

### Cell Phone

### Cons

Low Accuracy

High Processing Overhead

Long Operation

Not Optimal for Indoors

Hardware Req'd

Ineffective in Areas with Limited Access Points

Source: Pro HTML5 Programming, Apress



## IP Address

## Coordinate Triangulation

## User-Defined

### Pros

Available Everywhere

Processed Server Side

### GPS

High Accuracy

### WiFi

Accurate

Works Indoors

Quick & Cheap Response

### Cell Phone

Fairly Accurate

Works Indoors

Quick & Cheap Response

### Cons

Low Accuracy

High Processing Overhead

Long Operation

Not Optimal for Indoors

Hardware Req'd

Ineffective in Areas with Limited Access Points

Req. access to cell phone or modem

Ineffective in areas with few cell towers

Source: Pro HTML5 Programming, Apress

## IP Address

## Coordinate Triangulation

## User-Defined

### Pros

Available Everywhere

Processed Server Side

### GPS

High Accuracy

### WiFi

Accurate

Works Indoors

Quick & Cheap Response

### Cell Phone

Fairly Accurate

Works Indoors

Quick & Cheap Response

High Accuracy

Flexibility to Designate Alt. Locations

May be Fastest Option

### Cons

Low Accuracy

High Processing Overhead

Long Operation

Not Optimal for Indoors

Hardware Req'd

Ineffective in Areas with Limited Access Points

Req. access to cell phone or modem

Ineffective in areas with few cell towers

Can be Very Inaccurate (esp. if locations change)

Source: Pro HTML5 Programming, Apress

# Location Options



- **High Accuracy**
  - Boolean (default `false`)
  - Attempt to gather more accurate location coordinates
  - May not do anything
  - May cause request to take longer

# Location Options



- **Timeout**

- Milliseconds (int)
- Determines max time allowed to calculate location
- Default is no limit

# Location Options



- **Maximum Age**
  - Determines how old location value may be before an attempt to refresh coordinates
  - Milliseconds (int)
  - Default = 0 (immediate recalc)

# Browser Support



Chrome  
4.0+



Firefox  
3.5+



Opera  
10.6+

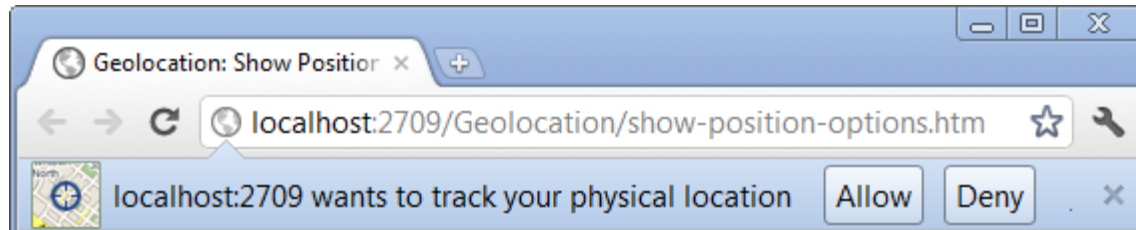


Safari  
4.0+



IE  
8.0+

# Request Permission



# Reset Location Permissions

IE	Chrome	Safari/Firefox/Opera
<ul style="list-style-type: none"><li>• Options</li><li>• Privacy</li><li>• Location</li><li>• Clear Sites</li></ul>	<ul style="list-style-type: none"><li>• Options</li><li>• Under the Hood</li><li>• Privacy</li><li>• Content Settings</li><li>• Location</li><li>• Manage Exceptions</li></ul> <a href="chrome://settings/contentExceptions#location">chrome://settings/contentExceptions#location</a>	Processes each request individually



# Demos

# Summary

- **Ability to get a device's geographic location**
- **"Best Guess"**
  - Accuracy levels vary
  - Granularity levels vary
  - Guaranteed latitude & longitude
- **Fine-tuning options available**
- **Set to request information once or continually**

For more in-depth **online** developer **training** visit



**on-demand** content from authors you **trust**