

# Lecture 9 - Geolocation

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## **Geolocation**

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# What we are going to do

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- Introduce the geolocation API with a simple example

# Geolocation

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- An opt in feature
- Enables location to be determined and tracked
- Uses a range of tools to provide an “approximate” location:
  - IP addresses; cell towers; GPS; WiFi networks
- The geolocation API is asynchronous

## Test if the browser supports geolocation

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```
1  $(function() {  
2    if (navigator.geolocation) {  
3      // geolocation is supported  
4    }
```

## Three useful methods

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- `getCurrentPosition( )`
  - Returns an object containing
    - latitude; longitude; accuracy
    - if available: altitude; altitudeAccuracy; heading; speed; timestamp
- `watchPosition( )`
  - continues to return updated position as user moves
- `clearWatch( )`
  - stops the above

## Simple example site

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```
1 <!DOCTYPE html>
2 <html lang="en-GB">
3   <head>
4     <meta charset="utf-8" />
5     <title>Geolocation</title>
6     <script src="http://code.jquery.com/jquery-2.1.1.min.js"></script>
7     <script src="scripts/geolocation.js"></script>
8     <link rel="stylesheet" type="text/css" href="stylesheets/normalize.css">
9     <link rel="stylesheet" type="text/css" href="stylesheets/geolocation.css">
10    <meta name="description" content="Geolocation demo." />
11  </head>
12  <body>
13    <section id="locationInfo">
14      <h1>Scary detail about You!</h1>
15      <p>See how much detail you can give away if you choose to.</p>
16    </section>
17  </body>
18 </html>
```

## Handling the success callback

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```
1  $(function() {
2      if (navigator.geolocation) {
3          // geolocation is supported
4          navigator.geolocation.getCurrentPosition(success_handler, failure_handler);
5      } else {
6          console.log("Geolocation is not supported");
7      }
8  })
9
10 function success_handler(position) {
11     var latitude = position.coords.latitude;
12     var longitude = position.coords.longitude;
13     var url = "http://maps.google.com/maps?q=" + latitude + "," + longitude;
14     $("<a href=" + url
15     + ">Click here to see your location</href>").appendTo("#locationInfo");
16 }
17
```

## Handling the failure callback

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```
18 function failure_handler(error) {
19     switch(error.code) {
20         case error.PERMISSION_DENIED:
21             msg = "User refused permission";
22             break;
23         case error.POSITION_UNAVAILABLE:
24             msg = "Cannot obtain current position";
25             break;
26         case error.TIMEOUT:
27             msg = "Timed out";
28             break;
29         default:
30             msg = "Don't know what's happening here!";
31             break;
32     };
33     $("
```



Try me!

# What we have done

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- Quick introduction to the geolocation API
- Shown how to grab a single shot of a user location
- Use `watchPosition()` to obtain continuous monitoring
  - But use with care as it will quickly kill the battery!