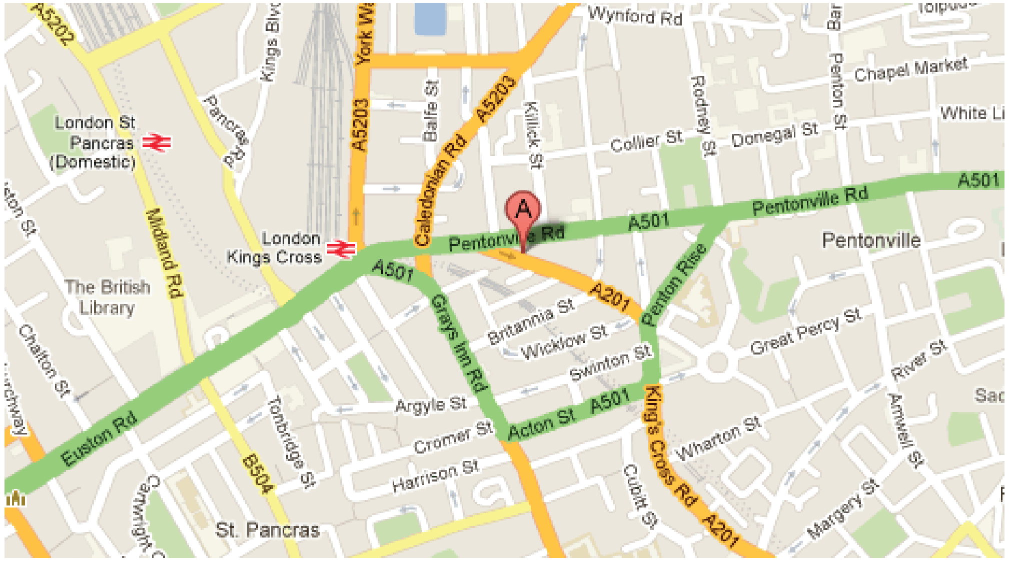
HTML5 geolocation API



geolocation?

* detects current position in real time

* follows users while they move

* very easy

* extremely powerful with google map api

* creates maps

* calculates distances

* displays routes and much more...

how does it get your position?

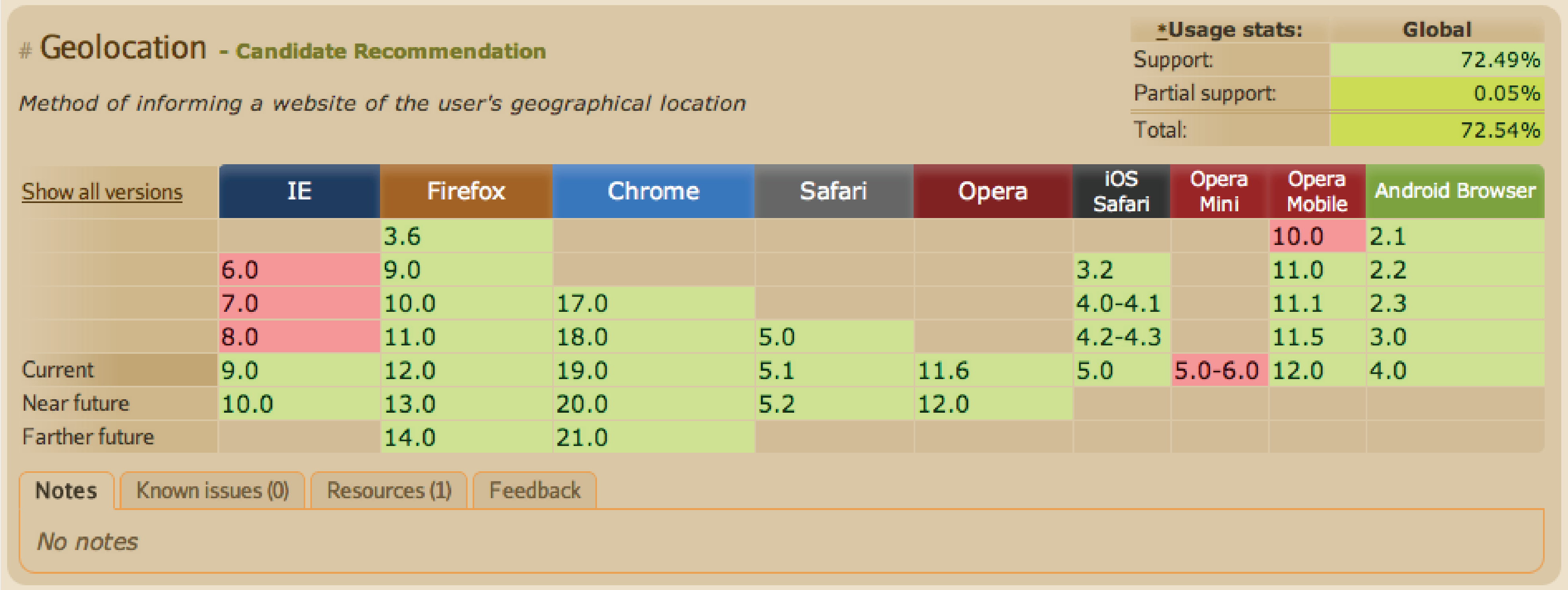
* GPS devices (accurate, but does not work indoor)

* IP addresses, quite accurate

* Cell phones triangulations (accuracy depends on cell phone towers prossimity)

* Wi-fi connections

what about geolocation support?



Geolocation - Candidate Recommendation

Method of informing a website of the user's geographical location

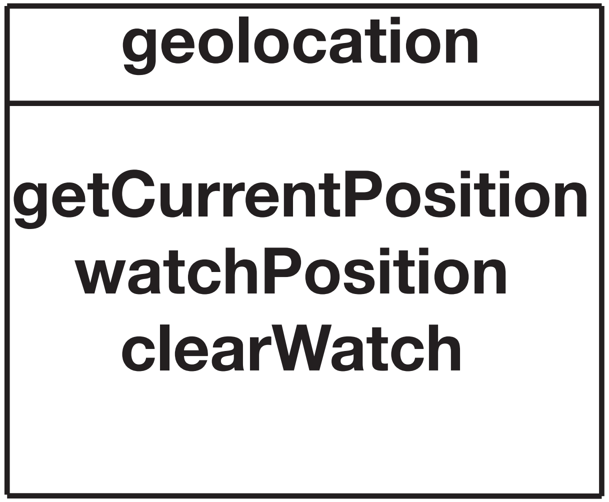
*Usage stats:	Global
Support:	72.49%
Partial support:	0.05%
Total:	72.54%

Show all versions	IE	Firefox	Chrome	Safari	Opera	iOS Safari	Opera Mini	Opera Mobile	Android Browser
		3.6						10.0	2.1
	6.0	9.0				3.2		11.0	2.2
	7.0	10.0	17.0			4.0-4.1		11.1	2.3
	8.0	11.0	18.0	5.0		4.2-4.3		11.5	3.0
Current	9.0	12.0	19.0	5.1	11.6	5.0	5.0-6.0	12.0	4.0
Near future	10.0	13.0	20.0	5.2	12.0				
Farther future		14.0	21.0						

No notes

* GREEN LIGHT: well supported

quick geolocation UML



geolocation

getCurrentPosition
watchPosition
clearWatch

getCurrentPosition:
retrieves position

watchPosition:
follows position

clearWatch:
stops following

*** http://dev.w3.org/geo/api/spec-source.html**

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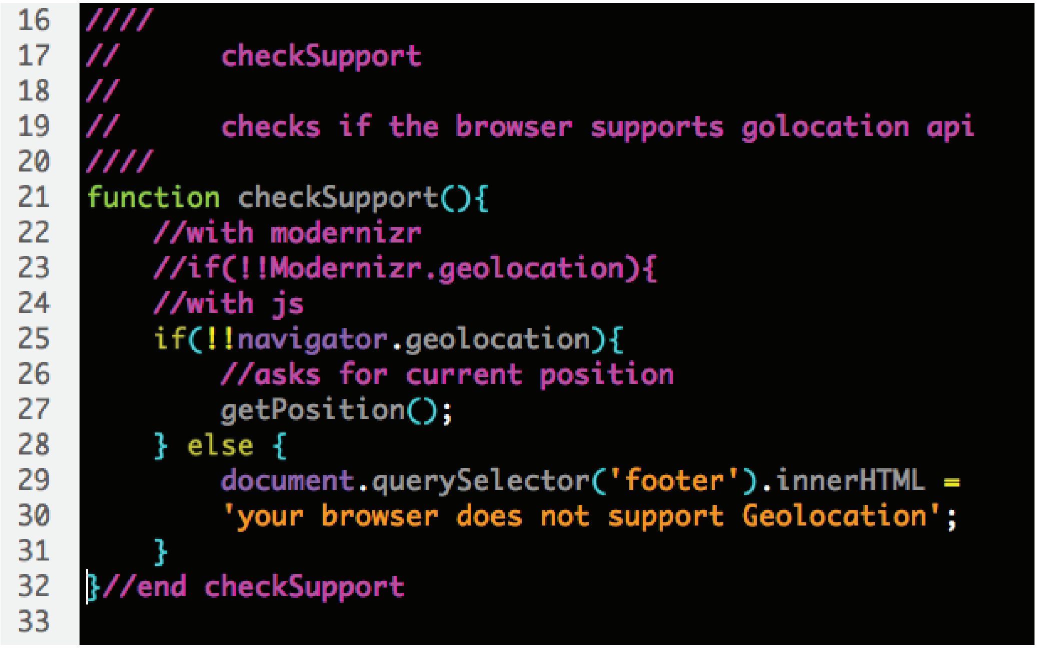
geolocation application

1. check browser’s support

navigator.geolocation

or

Modernizr.geolocation

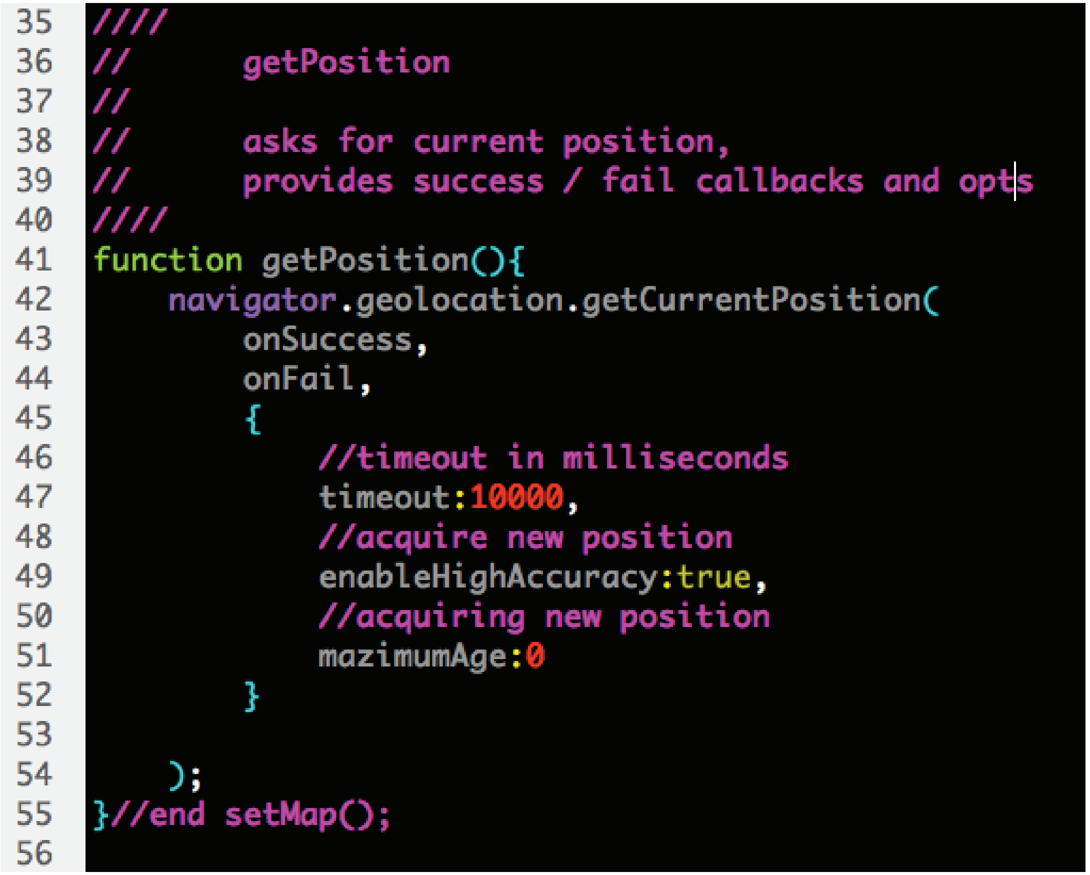


```
////
//      checkSupport
//
//      checks if the browser supports golocation api
////
function checkSupport(){
    //with modernizr
    //if(!!Modernizr.geolocation){
    //with js
    if(!!navigator.geolocation){
        //asks for current position
        getPosition();
    } else {
        document.querySelector('footer').innerHTML =
        'your browser does not support Geolocation';
    }
}//end checkSupport
```

geolocation application

2. get position, provide callbacks and opts

navigator.geolocation.getCurrentPosition

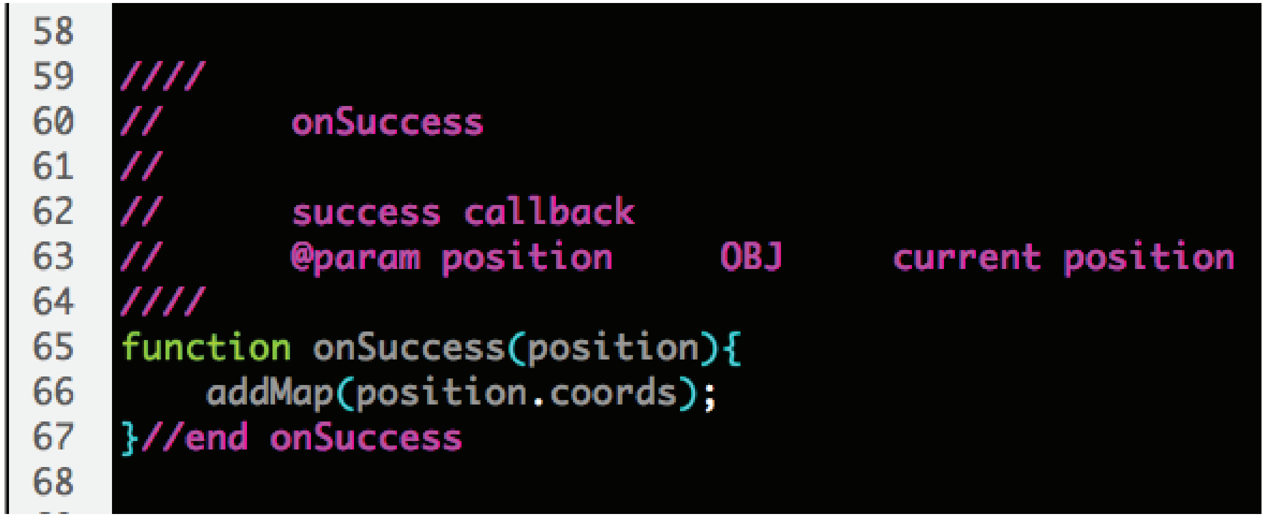


```
////
//      getPosition
//
//      asks for current position,
//      provides success / fail callbacks and opts
////
function getPosition(){
    navigator.geolocation.getCurrentPosition(
        onSuccess,
        onFail,
        {
            //timeout in milliseconds
            timeout:10000,
            //acquire new position
            enableHighAccuracy:true,
            //acquiring new position
            mazimumAge:0
        }

    );
}//end setMap();
```

geolocation application

3. success callback will receive a position object

console.log(position) to see position members



```

////
//      onSuccess
//
//      success callback
//      @param position     OBJ     current position
////
function onSuccess(position){
    addMap(position.coords);
}//end onSuccess

```

geolocation application

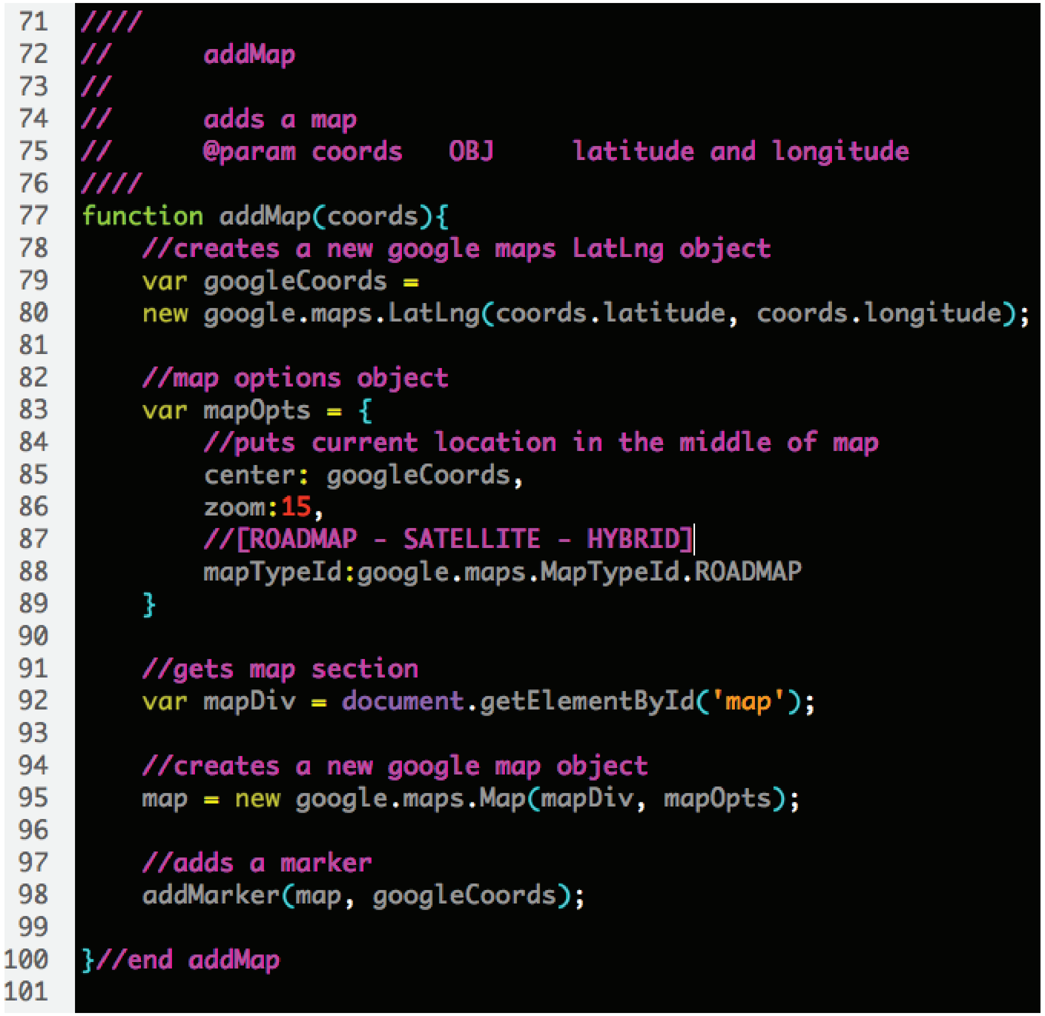
4. create a map with google maps API

API:

https://developers.google.com/maps/documentation/javascript/

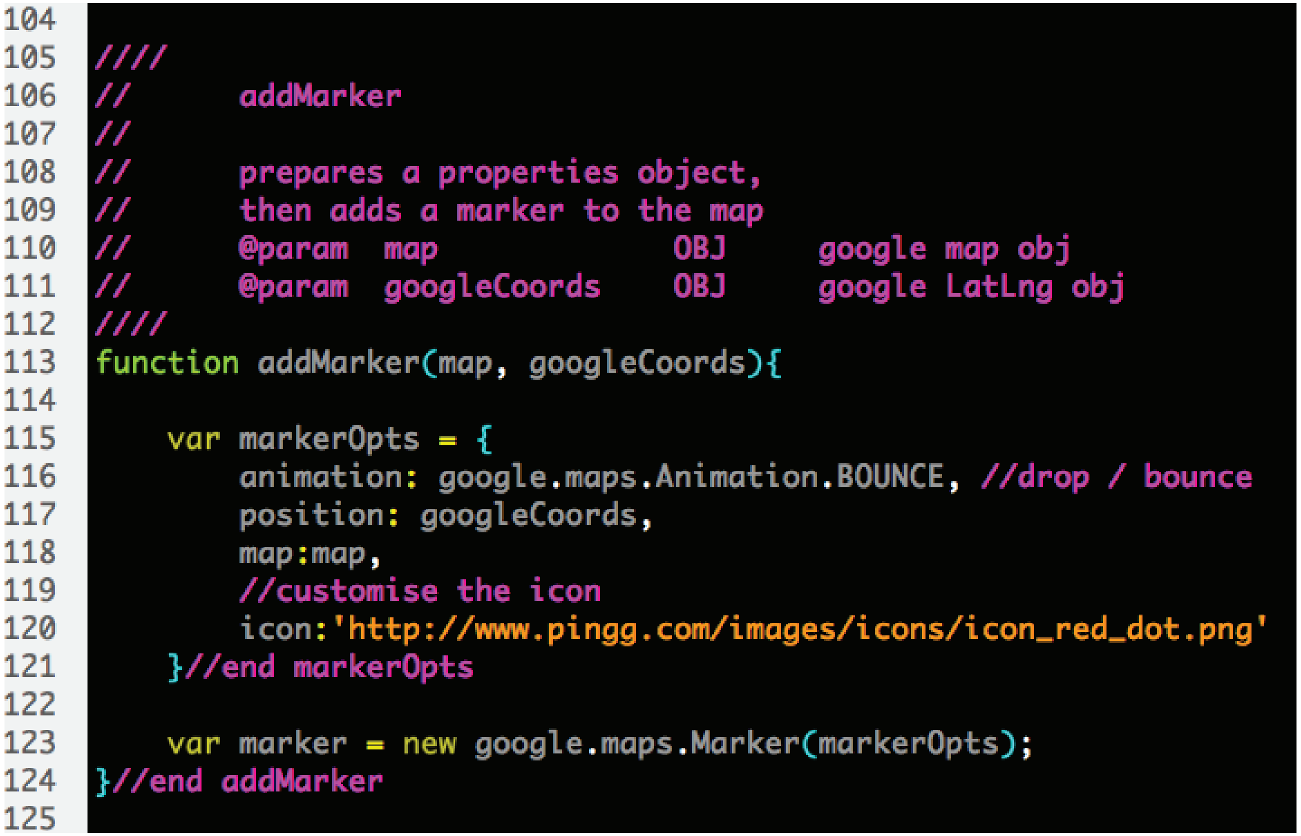
link to google maps:

<!--googlemap API no key-->
<script src="http://maps.google.com/maps/api/js?sensor=true"></script>



```
////
//      addMap
//
//      adds a map
//      @param coords   OBJ     latitude and longitude
////
function addMap(coords){
    //creates a new google maps LatLng object
    var googleCoords =
    new google.maps.LatLng(coords.latitude, coords.longitude);

    //map options object
    var mapOpts = {
        //puts current location in the middle of map
        center: googleCoords,
        zoom:15,
        //[ROADMAP - SATELLITE - HYBRID]
        mapTypeId:google.maps.MapTypeId.ROADMAP
    }

    //gets map section
    var mapDiv = document.getElementById('map');

    //creates a new google map object
    map = new google.maps.Map(mapDiv, mapOpts);

    //adds a marker
    addMarker(map, googleCoords);

}//end addMap
```

5. add a marker to the map

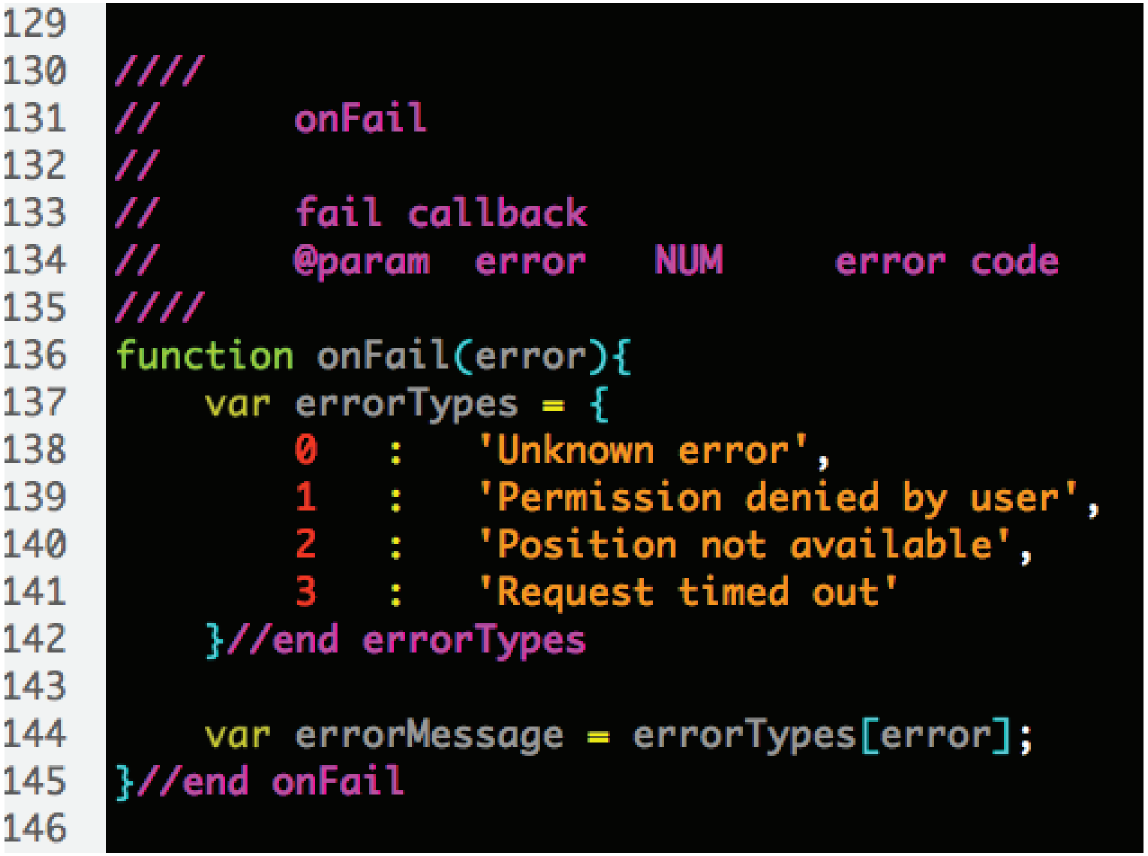


```
////
//      addMarker
//
//      prepares a properties object,
//      then adds a marker to the map
//      @param  map             OBJ     google map obj
//      @param  googleCoords    OBJ     google LatLng obj
////
function addMarker(map, googleCoords){

    var markerOpts = {
        animation: google.maps.Animation.BOUNCE, //drop / bounce
        position: googleCoords,
        map:map,
        //customise the icon
        icon:'http://www.pingg.com/images/icons/icon_red_dot.png'
    }//end markerOpts

    var marker = new google.maps.Marker(markerOpts);
}//end addMarker
```

x

6. fail callback to handle errors

0 : 'Unknown error',
1 : 'Permission denied by user',
2 : 'Position not available',
3 : 'Request timed out'



```

////
//      onFail
//
//      fail callback
//      @param  error   NUM     error code
////
function onFail(error){
    var errorTypes = {
        0   :   'Unknown error',
        1   :   'Permission denied by user',
        2   :   'Position not available',
        3   :   'Request timed out'
    }//end errorTypes

    var errorMessage = errorTypes[error];
}//end onFail

```