

1 Map

One of the popular web apps in the world is Google map .
However, it is not free again since 2018. One of the replacement is openmap solution.

The way creating openmap app is as following:

1. acclaim the place to put map in HTML ' s <body> :

```
<div id="mapdiv"></div>
```

2. javascript library required:

```
<script src="http://www.openlayers.org/api/OpenLayers.js"></script>
```

3. define javascript function, getPosition1(lat,lng) , to make map centred at (lat,lng) :

```
function getPosition1(lat,lng){  
    // 1. acclaim map object  
  
    // 2. get that layer of (lat,lng)  
  
    // 3. put marker  
}
```

1. acclaim the map:

```
document.getElementById("mapdiv")
.innerHTML = "";
map = new OpenLayers.Map("mapdiv"
);
map.addLayer(new OpenLayers.Layer
.OSM());
```

2. get that layer of (lat,lng):

```
var lonLat = new OpenLayers.LonLat(
lng,lat).transform(
new OpenLayers.Projection(
"EPSG:4326"), // transform from WGS 1984
map.getProjectionObject()
// to Spherical Mercator Projection
);
```

3. put the marker:

```
var zoom=17;
var markers = new OpenLayers.Layer.Markers( "Markers");
map.addLayer(markers);
markers.addMarker(new OpenLayers
.Marker(lonLat));
map.setCenter (lonLat, zoom);
```

4. HTML body

```
<div id="mapdiv"></div>
<script>
init_p=[25.048834785146223,121.51
4365];
getPosition1(init_p[0],init_p[1])
;
</script>
```

Now try the code.

With geolocation , supported by W3C, we could create a new app to find where the location we are here.

1. create some stuff of HTML, for instance two input columns, displaying the lat/lng we stand and one button want for service:

```
<label for="latitude">Latitude:</label>
<input id="latitude" type="text" value="" />
<label for="longitude">Longitude:</label>
<input id="longitude" type="text" value="" />
<button onclick="getLocation()">I'm
Here!</button><br />
```

where the `getLocation()` , the javascript function, get the location's information:

```

function getLocation(){
    // Check whether browser supports
    Geolocation API or not
    if (navigator.geolocation) { // Supported
        // To add PositionOptions
        navigator.geolocation.getCurrentPosition(getPosition);
    } else { // Not supported
        alert("Oops! This browser does not support HTML Geolocation.");
    }
    getPosition();
}

function getPosition(position){
    // get the (lat,lng)
    lat=position.coords.latitude;
    lng=position.coords.longitude;
    document.getElementById("latitude").value = lat.toFixed(6) ;
    document.getElementById("longitude").value = lng.toFixed(6);
    //re-generate map
    getPosition1(lat,lng);
}

```

In brief, if browser supports `navigator.geolocation` , then get current location,

`getCurrentPosition(getPosition)` and re-generate map centered at current position.

