

MSc Wirtschaftsinformatik

KETE: Key Technologies (HS 2020)

LB6a: Web Services

EXAMPLE - Web APIs (Geolocation API)

Source:

https://github.com/sawubona-gmbh/KETE-HS21-WORK/blob/master/LB6a-WebServices/Example_Interactive-MAP.html

Version 2 – updated for HS21/dbe

Version 1- initial/heba

Heba Said

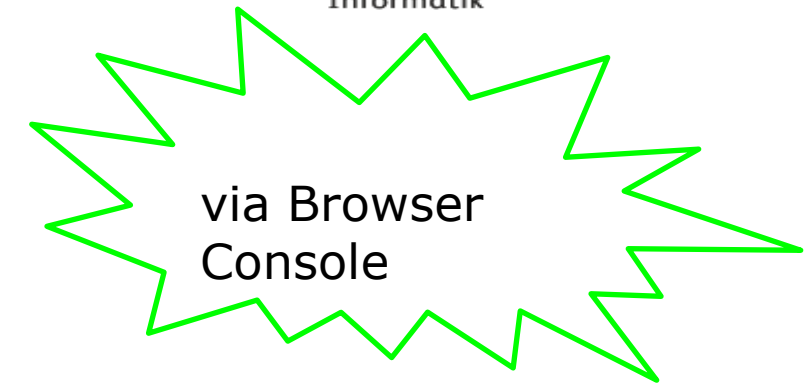
heba.said@hslu.ch

The **Geolocation API** allows the user to provide their location to web applications if they so desire. For privacy reasons, the user is asked for permission to report location information.

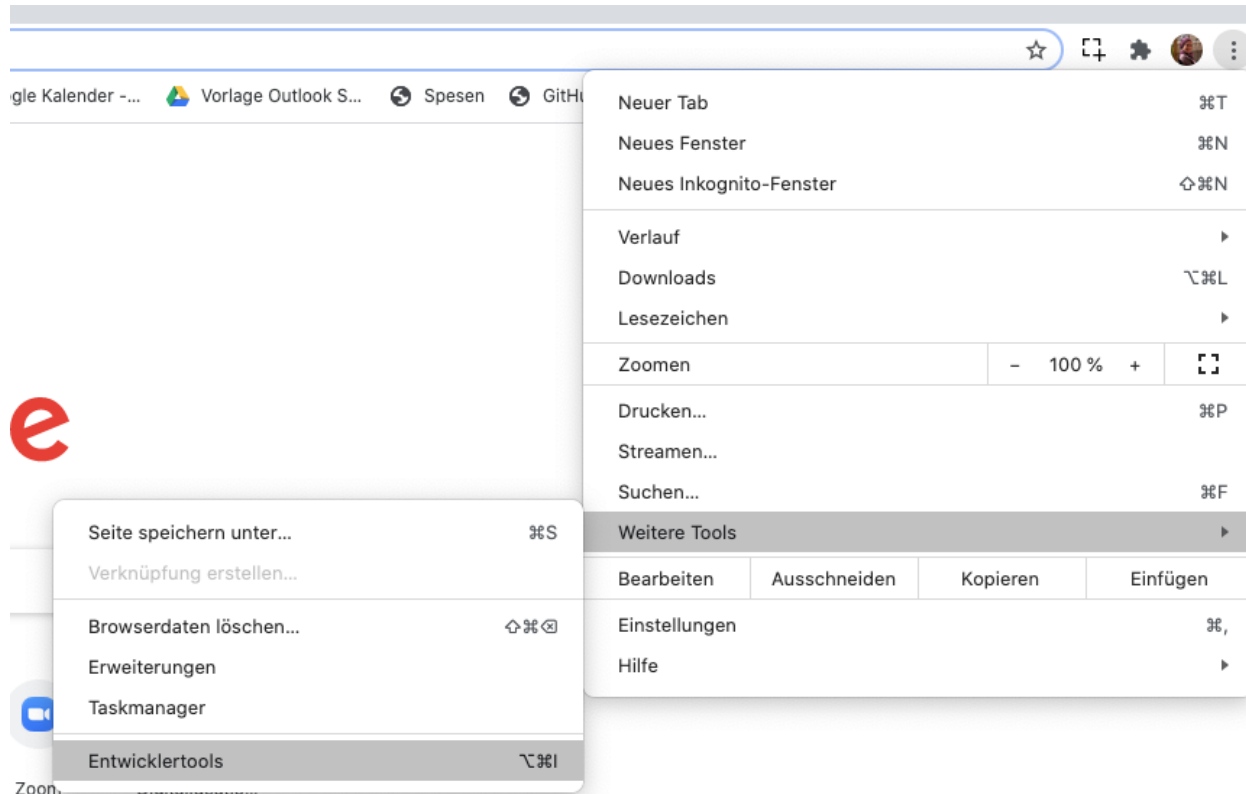


navigator.geolocation

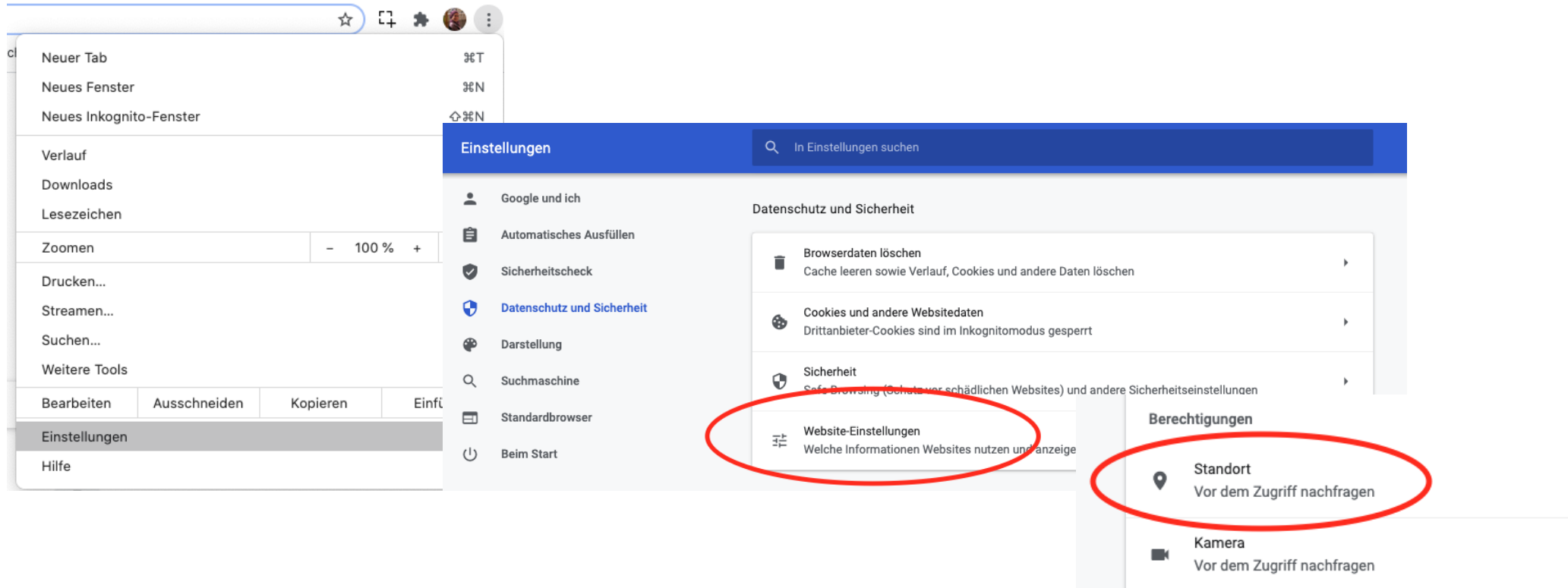
Checks if browser allows
geolocation functionality.



> navigator.geolocation
< ▶ *Geolocation {}*



Activate Geolocation functionality



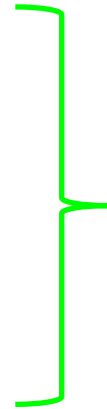
See

<https://docs.buddypunch.com/en/articles/919258-how-to-enable-location-services-for-chrome-safari-edge-and-android-ios-devices-gps-setting>

navigator.geolocation.getCurrentPosition()

```
navigator.geolocation.getCurrentPosition(success[, error[, [options]])
```

```
if (navigator.geolocation) {  
  navigator.geolocation.getCurrentPosition(  
    (position) => {  
      const pos = {  
        lat: position.coords.latitude,  
        lng: position.coords.longitude,  
      };  
    }  
  );  
}
```



```
var options = {  
  enableHighAccuracy: true,  
  timeout: 5000,  
  maximumAge: 0,  
};
```



```
function handleLocationError(browserHasGeolocation, infoWindow, pos) {  
  infoWindow.setPosition(pos);  
  infoWindow.setContent(  
    browserHasGeolocation  
      ? "Error: The Geolocation service failed."  
      : "Error: Your browser doesn't support geolocation."  
  );  
  infoWindow.open(map);  
}
```



Karte

Satellit

Current Position Coordinates

Google Map API Key

Markers



Google Maps API

1. Create a billing Account
2. Create a project
3. Enable APIs (e.g. Maps Javascript API)
4. Get and restrict an API Key
5. Add the API Key to your project

```
<script  
  src="https://maps.googleapis.com/maps/api/js?key=YOUR_API_KEY&callback=initMap&libraries=&v=weekly"  
  defer  
></script>
```

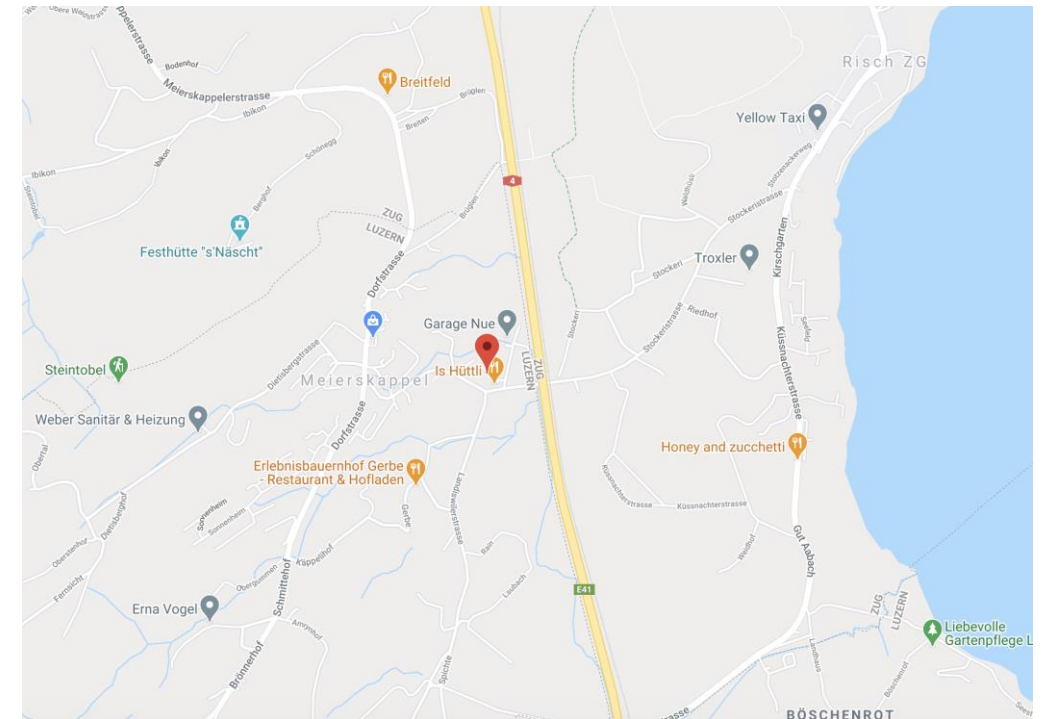
<https://developers.google.com/maps/gmp-get-started>

Google Maps Marker

```
var marker = new google.maps.Marker({position: pos, map: map});  
marker.addListener("click", () => {  
    map.setZoom(15);  
    map.setCenter(pos);  
});
```

See

<https://developers.google.com/maps/documentation/javascript/examples/marker-simple>




```
let map, infoWindow;
```

```
function initMap() {
  map = new google.maps.Map(document.getElementById("map"), {
    center: {
      lat: -34.397,
      lng: 150.644,
    },
    zoom: 6,
  });
  infoWindow = new google.maps.InfoWindow();
```

Initialize the map.

```
// Try HTML5 geolocation.
```

Check if browser allows geolocation functionality

```
if (navigator.geolocation) {
  navigator.geolocation.getCurrentPosition(
```

Get current position

```
(position) => {
  const pos = {
    lat: position.coords.latitude,
    lng: position.coords.longitude,
  };
  map.setCenter(pos);
```

Plot the coordinates to the map

```
var marker = new google.maps.Marker({position: pos, map: map});
marker.addListener("click", () => {
  map.setZoom(15);
  map.setCenter(pos);
});
},
() => {
  handleLocationError(true, infoWindow, map.getCenter());
}
);
} else {
  // Browser doesn't support Geolocation
  handleLocationError(false, infoWindow, map.getCenter());
}
}
```

Use Markers and use them to zoom in to the current location

Error handling function

Links and Resources

Web APIs

<https://developer.mozilla.org/en-US/docs/Web/API>

Geolocation API

https://developer.mozilla.org/en-US/docs/Web/API/Geolocation_API

https://www.w3schools.com/html/html5_geolocation.asp

Code Samples

<https://developers.google.com/maps/documentation/javascript/examples>

Error Messages

<https://developers.google.com/maps/documentation/javascript/error-messages#deverrorcode>

Google Maps API

https://www.w3schools.com/graphics/google_maps_intro.asp

Google Cloud Platform

<https://cloud.google.com>