HERE Maps API - Route planning and journey plotting

This article uses the HERE Maps JavaScript API to calculate a route and display it on the map, and to display the current position of the user based on their GPS co-ordinates.

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This article refers to an outdated version **2.1.x** of the API. Since version **2.2.x** the syntax has changed.

Unfolding the magic

Lets first have a car and a route ready for the journey.

```
// Get the DOM node to which we will append the map
var mapContainer = document.getElementById("mapContainer");
// Create a map inside the map container DOM node
var map = new nokia.maps.map.Display(mapContainer, {
 // Initial center and zoom level of the map
 center: [71.23, 23.23],
 zoomLevel: 17,
 components:[
        new nokia.maps.map.component.ZoomBar(),
        new nokia.maps.map.component.TypeSelector(),
        new nokia.maps.positioning.component.Positioning(),
        new nokia.maps.map.component.Behavior()
    ]
});

var router = new nokia.maps.routing.Manager();
var tcoord = new nokia.maps.geo.Coordinate(71.23, 23.23)

var imageMarker = new nokia.maps.map.Marker(
  tcoord,
  {
   icon: "http://www.worcestershire.gov.uk/cms/images/car.png",
   $id: "marker",
   anchor: {x: 22, y: 8}
  }
 );

map.objects.addAll([imageMarker]);
```


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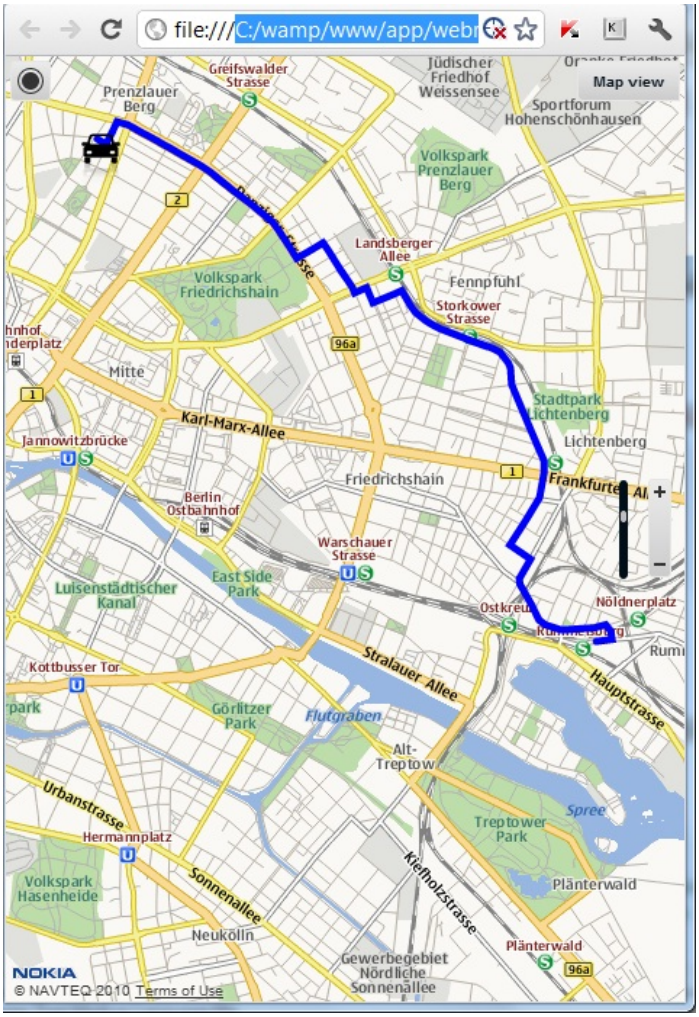

We are now ready with the car and the route, what we need now is continuous coordinates from the GPS device to track the position of car on the map. To access GPS device we have to use `nokia.maps.positioning.Manager()` Nokia API.

We will be using watchPosition method to continuously get feed of the GPS sensor coordinates to position the car icon. The **watchPosition** (successCallback, errorCallback, options) function returns a Number *Starts periodically watching the positioning sensor and fires events containing the data, if there are changes ocurring*

```
/* The positioning manager is only available if the browser used supports
 * W3C geolocation API
 */
if (nokia.maps.positioning.Manager) {
 var positioning = new nokia.maps.positioning.Manager();

 // Gets the current position periodically, if available the first given callback function is executed else the second
 positioning.watchPosition(
  // If a position is provided by W3C geolocation API of the browser
  function (position) {
   var coord = position.coords;
   tcoord = coord; //set the coordinates to a temporary variable which will be further used to calculate the route.
  },
  // Something went wrong we wee unable to retrieve the GPS location
  function (error) {
   var errorMsg = "Location could not be determined: ";

   // We determine what caused the error and generate error message
   if (error.code == 1) errorMsg += "PERMISSION_DENIED";
   else if (error.code == 2) errorMsg += "POSITION_UNAVAILABLE";
   else if (error.code == 3) errorMsg += "TIMEOUT";
   else errorMsg += "UNKNOWN_ERROR";

    // Throw an alert with error message
    alert(errorMsg);
   }
  );
}

// The function onRouteCalculated will be called when a route was calculated
var onRouteCalculated = function (observedRouter, key, value) {
  if (value == "finished") {
   var routes = observedRouter.getRoutes();

   //create the default map representation of a route
   var mapRoute = new nokia.maps.routing.component.RouteResultSet(routes[0]).container;
   map.objects.add(mapRoute);

  } else if (value == "failed") {
   alert("The routing request failed.");
  }
 };

/* We create on observer on router's "state" property so the above created
 * onRouteCalculated we be called once the route is calculated
 */
router.addObserver("state", onRouteCalculated);
```


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```
function update_map(){
 var modes = [{
  type: "shortest",
  transportModes: ["car"],
  options: "avoidTollroad",
  trafficMode: "default"
 }];
 map.set("center", tcoord);
 imageMarker.set("coordinate", tcoord);
 var waypoints = new nokia.maps.routing.WaypointParameterList();
 waypoints.addCoordinate(new nokia.maps.geo.Coordinate(tcoord.latitude, tcoord.longitude));
 waypoints.addCoordinate(new nokia.maps.geo.Coordinate(tcoord.latitude + 0.01, tcoord.longitude + 0.01));
 router.calculateRoute(waypoints, modes);
 // Force immediate re-render of the map display
 map.update(-1, true);
}

window.setInterval("update_map()",300);  //Map Update frequency, which can be set to a upper value. We can also set it dynamic so th
```

Demo

- http://planmyroute.info/gps_drive.html

This demo currently only works for Desktop browsers but not mobile. We are working on it to make it compatible with Mobile Browsers.

TODOs

- In this example, we are not allowing user to set his destination. The destination automatically gets set North-East side.

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