

Programming with Google Maps

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Introduction

- Google Maps is a free web mapping service by Google that provides various types of geographical information.
- The service itself provides API (Application Programming Interface) and thanks to that this technology can be easily integrated into any web page (or application, see later) by customizing and displaying maps or getting various geolocation information.

Motivation

- Searching for a specific place or get a path from one place to another
- Directions for biking, driving, walking or transit with estimated times
- Specific real-time information about a given path at certain point like traffic (snarl-up on highway)
- Viewing panoramic street level images of many cities all around the world

Technology

- Google maps uses Geolocation - identification of the geographic location of a user or computing device via a variety of data collection mechanisms - network routing addresses or internal GPS devices. It must be enabled in browser.
- Web (javascript), Web Service (requests and responses), but also iOS and Android
- Cross platform, it supports desktop browser Microsoft Edge, IE 10 and 11, Firefox, Chrome, Safari

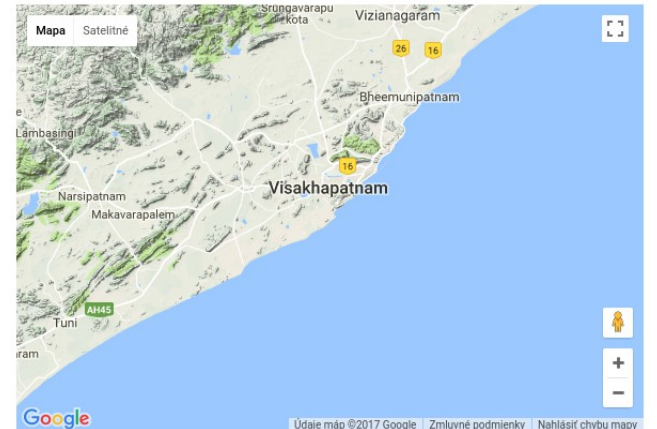
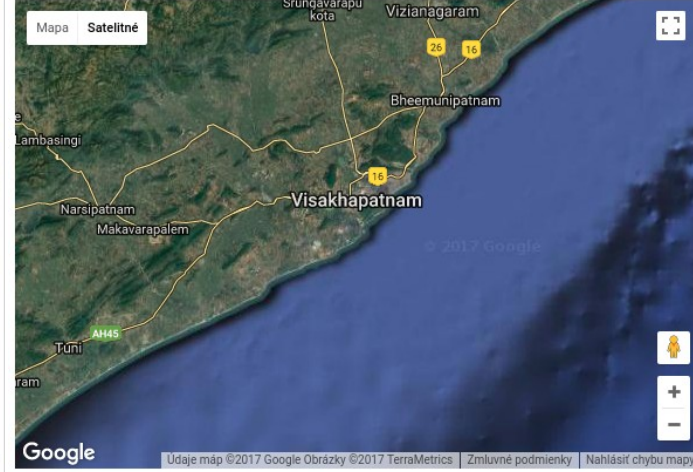
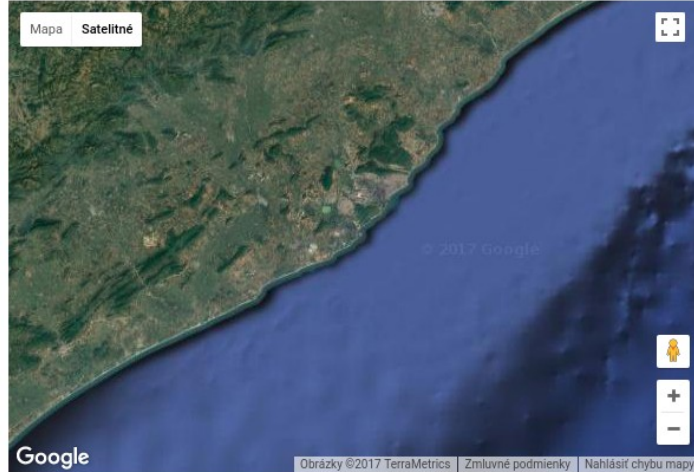
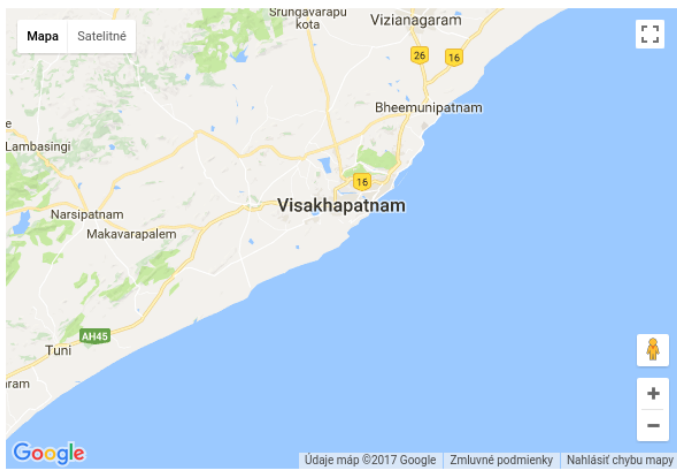
Features

- Map zooming, positioning
- Map types, street view
- Language localization of map
- Custom markers
- Drawing objects: polylines, polygons, rectangles and circles
- Adding symbols or windows on some certain coordination on the map
- Adding listeners on various events like zooming the map when an user clicks on the marker

API key

- API keys are free, available here: <https://console.developers.google.com>
- Obtained key is then included in following:
`<script src="https://maps.googleapis.com/maps/api/js?key=YOUR_KEY&callback=myMap">
</script>`
- Google allows any website to call Google API 25,000 map loads per 24 hours for free. After exceeding the free usage limits, billing at \$0.50 USD / 1000 additional requests, up to 100,000 per 24 hours.

Types of maps



From left to right: Roadmap, Satellite, Hybride and Terrain



Code examples
API here:

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

Discussions

Questions?