Mobile Mapping

With Google Technologies

IEEE-NATEA Joint Conference

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Developer Advocate

What is a Maps Mash-up?

Provided by API Provider:
- Map Tiles
- JavaScript code
- Routing data
- Controls

Provided by developer
- Data provided by developer

Possibly the first Maps Mashup: Housing Maps
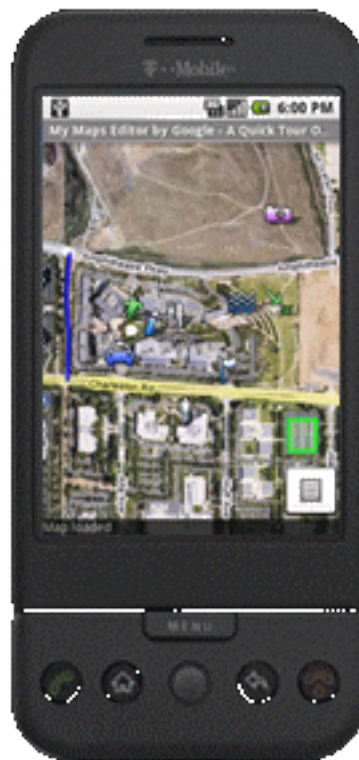
Why we care about mobile maps

- Most people in world use mobile phones
- Mobile devices have location potential
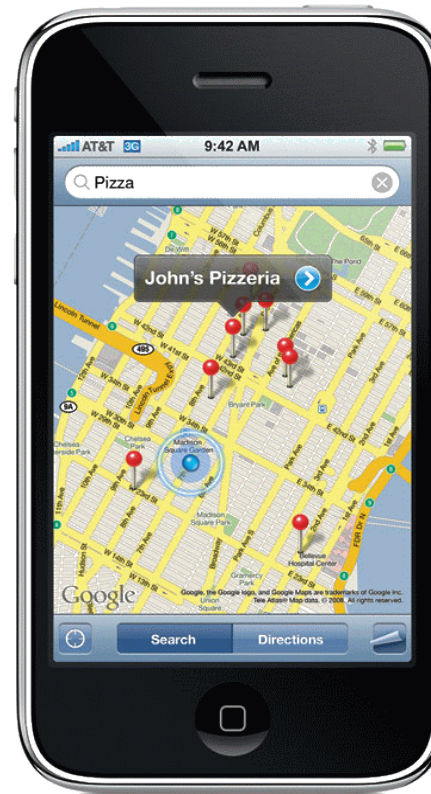- Location based services
- Our developers care

What are (were) the API options?

Lowest common denominator:
Static Maps

Android, iPhone:
Native APIs

iPhone, Android, Nokia, Palm, etc:
JavaScript API

Browsers vs Native Apps

Google

- Many different platforms

- Let us solve the cross-device issues

- Mashups available on desktop as well as mobile

- No download

- We can release features (and bug fixes) faster

What makes mobile browsers tricky?

- Screen size

- User interface and interaction

- Speed

- Use cases

What is Latency?

- Page load: the time until all components of the page are loaded, visible, and usable

Console HTML CSS Script DOM Net ▾					Options
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt0.google.cn	11 KB		724ms
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt1.google.cn	13 KB		758ms
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt2.google.cn	7 KB		753ms
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt3.google.cn	8 KB		447ms
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt1.google.cn	11 KB		426ms
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt1.google.cn	10 KB		411ms
⊞ GET v=cn1.11&hl=zh-CN&	304 Not Modified	mt3.google.cn	9 KB		392ms
⊞ GET vp?spn=0.005712,0.0	200 OK	ditu.google.cn	?	377ms	
⊞ GET gen_204?imp=maps_	204 No Content	ditu.google.cn	?		919ms
⊞ GET poweredby.png	200 OK	maps.gstatic.cn	4 KB		1.48s
⊞ GET mapcontrols3d5.png	200 OK	maps.gstatic.cn	3 KB	332ms	
⊞ GET openhand_8_8.cur	200 OK	maps.gstatic.cn	326 B	789ms	
37 requests			318 KB (241 KB from cache)		13.09s

- User perceived: the time until the page appears to have loaded
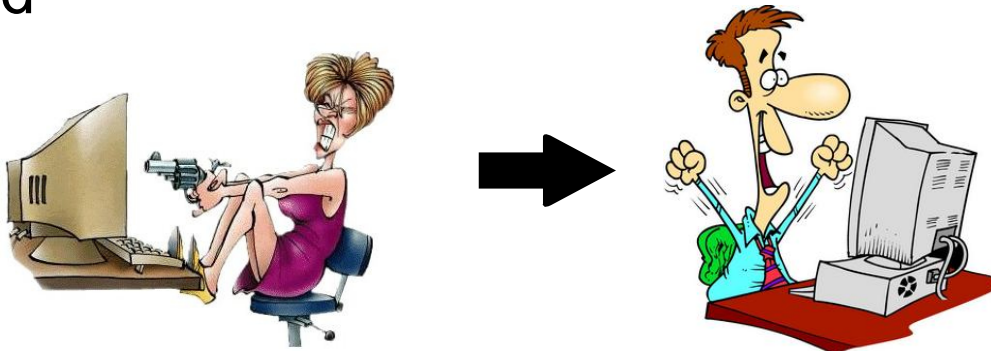
Causes of Latency

- Serving data

- Download time
  - Bandwidth vs latency
    - 3G networks have reasonably high bandwidth but low latency
    - Loading small and big files take a surprisingly similar amount of time

- JavaScript parsing time (iPhone Safari)

Maps API v3

Search

Google Maps JavaScript API V3 (Labs)

Sign up for an API key

Create a KML Sitemap

Maps API Version 3

⊟ Developer Guide

   Tutorial

   Events

   Controls

   Overlays

   Services

API Reference

Samples
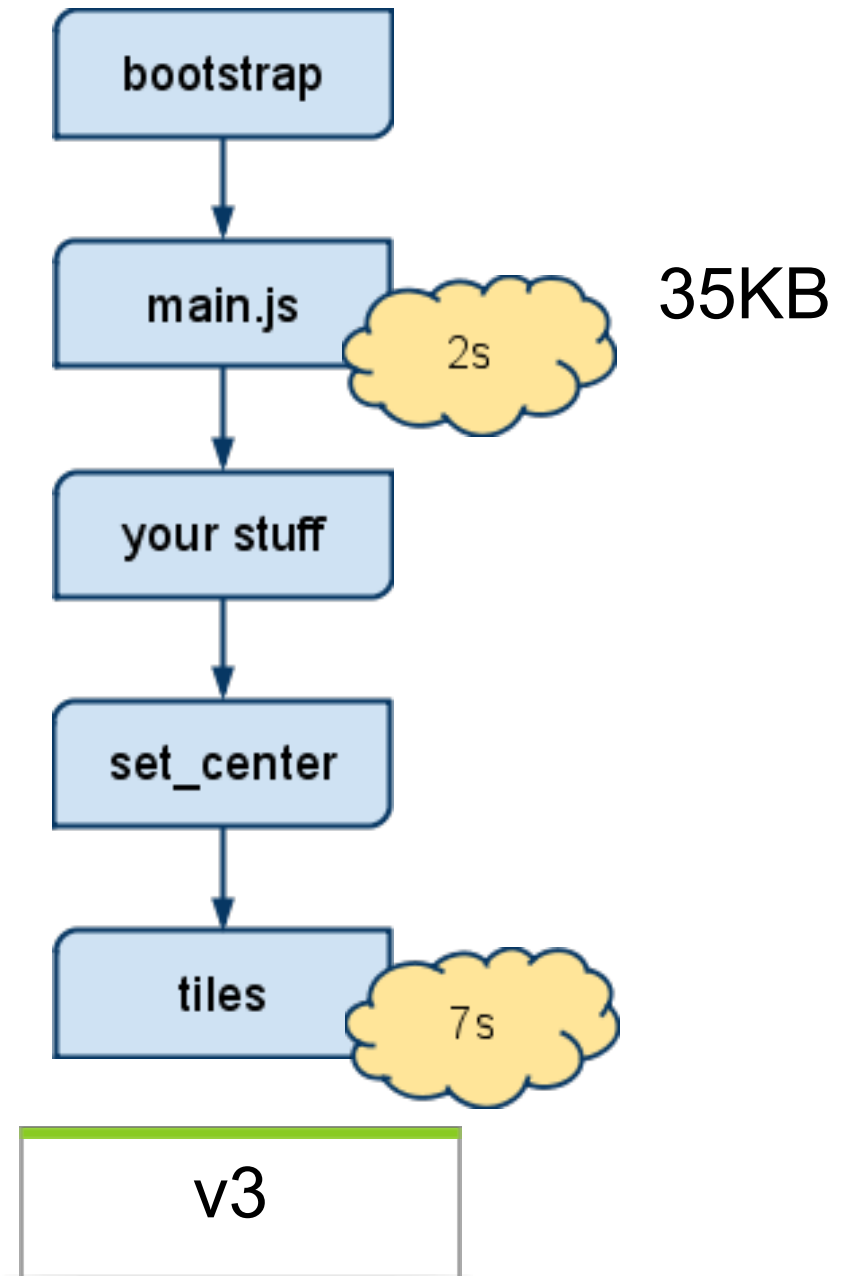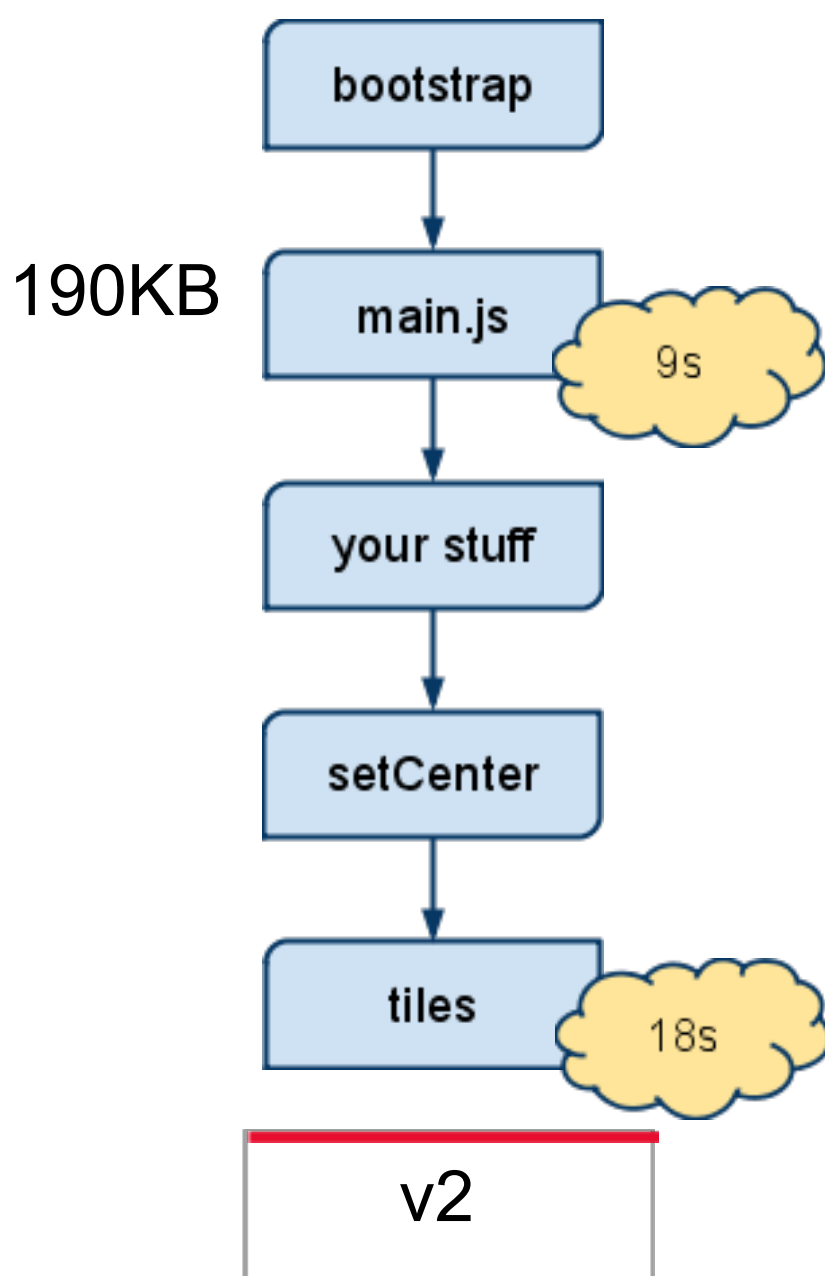
Demo Gallery

Known Issues

The Google Maps API V3

Welcome to Version 3

Audience

Specifying the Sensor Parameter

Versioning

Troubleshooting

Welcome to Version 3

Welcome to the release of version 3 of the Google Maps API. This JavaScript API will loo
Maps API. However, much has changed under the hood: Version 3 (called V3 within this
especially on mobile browsers such as Android-based devices and the iPhone™. The init
available in the V2 API. We will migrate additional features from V2 while working to keep
maintain our optimized loading speeds. We welcome your feedback and comments on th
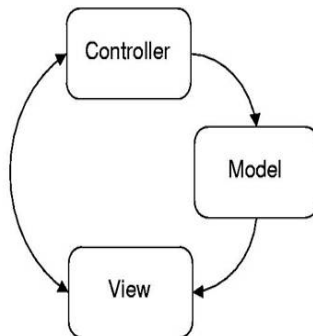Google Maps API V3 discussion group.

Speed Comparison

190KB

v2
bootstrap → main.js (9s) → your stuff → setCenter → tiles (18s)

35KB

v3
bootstrap → main.js (2s) → your stuff → set_center → tiles (7s)

How Does v3 Accomplish This?

- Start with static map

- MVC Architecture

Controller

Model

View

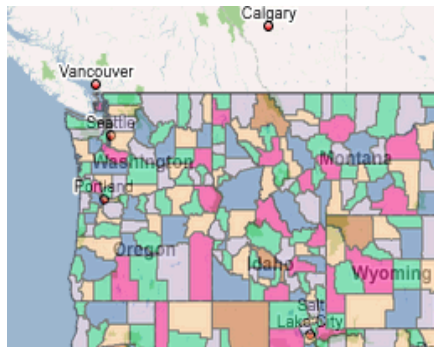- Remove unneeded code, Untangle code

Causes of Latency

```
var map = new google.maps.Map(
  document.getElementById("map_canvas"),
  { center: new google.maps.LatLng(37.442, -122.142),
  zoom: 13,
  mapTypeId: google.maps.MapTypeId.ROADMAP
  });
var marker = new google.maps.Marker(
 {
  position: map.get_center(),
  map: map
  });
```
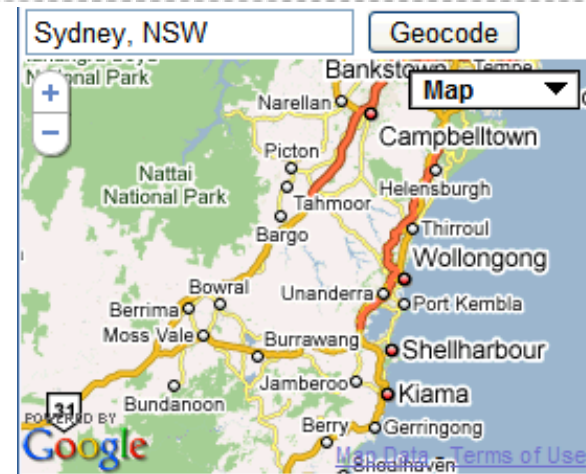
[Simple Map](#)

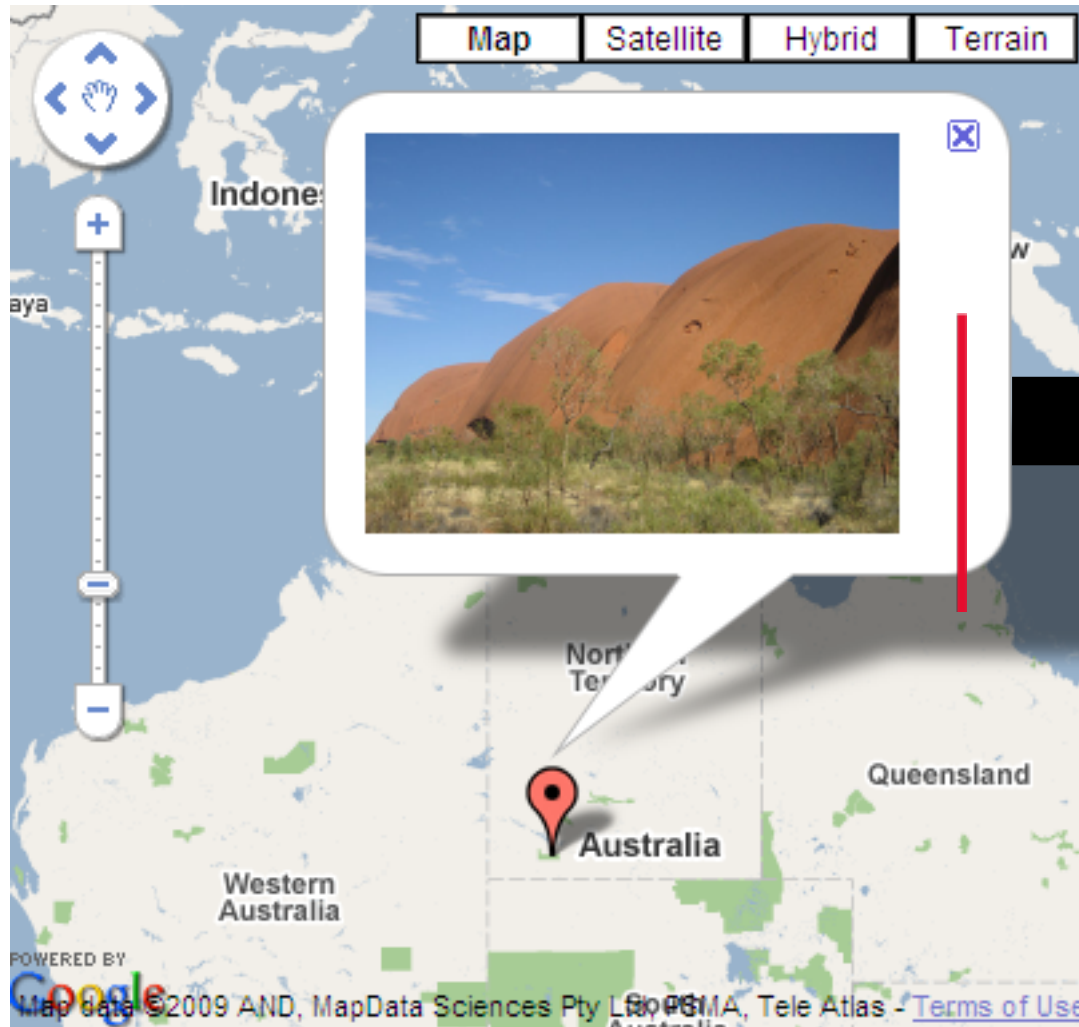# What Can You Do With v3?

Markers, Controls, InfoWindows

Geocoding (Forward/Reverse)

Custom Overlays

Screen Size Dependant Default UI

Learn more at http://code.google.com/apis/maps/

Get Qualified: http://code.google.com/qualify/

Questions