

Google™



Stepping up: Porting V2 JavaScript Maps API applications to V3

Daniels Lee
2010/05/19

Google Wave at I/O

<http://goo.gl/uGZG>

View live notes and ask questions on Google Wave

The screenshot displays the Google Wave interface. On the left is a navigation sidebar with links to Inbox, All, By Me, Requests, Settings, Trash, and Spam, along with sections for EXTENSIONS, SEARCHES, and FOLDERS. Below this is a 'Contacts' section showing a list of people including Susan, Roger, Mina, Aseem, Christian, Yanka, and Vida. The main area shows a list of waves under the group 'group:io2010-wave@googlegroups.com tag:io2010'. The waves include 'Google I/O 2010 Main Wave', 'Live Wave: Google Charts Toolkit', 'Live Wave: Knowledge is (less) power', 'Live Wave: Bringing Google to your site', 'Live Wave: Google Wave and the enterprise environment', 'Google I/O 2010: Open source Google Wave', 'Google I/O 2010: Google Wave and the enterprise', 'Google I/O 2010: Map once, map anywhere', 'Live Wave: Building context-aware extensions for Gmail', 'Live Wave: Scripting Google Apps for business process', 'Live Wave: Launch your app inside of Google Apps with', 'Live Wave: OpenID-based single sign on and OAuth data', 'Live Wave: Connecting your enterprise applications with', 'Live Wave: A beginner's guide to Android', 'Live Wave: Writing real-time games for Android redux', and 'Live Wave: Fireside chat with'. On the right, a detailed view of the 'Live Wave: A beginner's guide to Android' is shown. It includes a header with the title and a list of participants. Below this is a message from 'Google I/O 2010 Bot, Pamela Fox and 3 others' dated May 2, which contains the text 'Live Wave: A beginner's guide to Android' and a link to 'Wednesday May 19, at 10:45am-11:45am, Room #6'. A callout box with an arrow points to this text, containing the text 'Porting V2 JavaScript Applications To V3'. Below the message is a 'Google moderator' section with a question 'Can you write Android apps in Python?' and a 'Submit a question' button. At the bottom, there is a 'Recent activity' section and a 'Live Notes' section with tags 'android1' and 'io2010'.

Google wave preview

Navigation

- Inbox
- All
- By Me
- Requests
- Settings
- Trash
- Spam

EXTENSIONS

SEARCHES

FOLDERS

Contacts

Susan

Search contacts

Roger hellow world

Mina how many inboxes am i supposed to check?

Aseem

Christian

Yanka

Vida

Manage contacts

group:io2010-wave@googlegroups.com tag:io2010 1 - 31 of lots

New wave

group:io2010-wave@googlegroups.com tag:io2010

Follow Unfollow Archive Inbox Spam

Google I/O 2010 Main Wave – To make it easier to find these 2:52 pm 1 msg

Live Wave: Google Charts Toolkit: Google's new unified 1:57 pm 2 of 2

Live Wave: Knowledge is (less) power: Exploring the Google 1:56 pm 2 of 2

Live Wave: Bringing Google to your site – Wednesday May 19 1:50 pm 2 of 2

Live Wave: Google Wave and the enterprise environment – 8:41 am 3 of 3

Google I/O 2010: Open source Google Wave: Building your 7:42 am 1 of 1

Google I/O 2010: Google Wave and the enterprise 7:40 am 1 of 1

Google I/O 2010: Map once, map anywhere: Developing 7:37 am 1 of 1

Live Wave: Building context-aware extensions for Gmail - 6:33 am 2 of 2

Live Wave: Scripting Google Apps for business process 6:33 am 2 of 2

Live Wave: Launch your app inside of Google Apps with 6:32 am 2 of 2

Live Wave: OpenID-based single sign on and OAuth data 6:30 am 2 of 2

Live Wave: Connecting your enterprise applications with 6:30 am 2 of 2

Live Wave: A beginner's guide to Android – Wednesday May 19 1 of 2

Live Wave: Writing real-time games for Android redux – May 2 2 of 2

Live Wave: Fireside chat with May 2

Save search

Susan JohnnySnow @15437545 |Terms|Privacy|Help|Sign out|Report a bug

Live Wave: A beginner's guide to Android

Google

Reply Edit Playback Follow Spam Read Unread

Everyone has access to this wave.

Google I/O 2010 Bot, Pamela Fox and 3 others: May 2

~~Live Wave: A beginner's guide to Android~~

Wednesday May 19, at 10:45am-11:45am, Room #6 (More Info)

#android1 | Tweet This | Post to Google Buzz

Attendees:

Add Your

Porting V2 JavaScript Applications To V3

Google moderator

A beginner's guide to Android 1 votes on 1 questions from 1 people

View in Moderator

"Can you write Android apps in Python?"

Pamela Fox, Sydney

Submit a question View topic

Recent activity Expand

Live Notes:

Tags: android1 io2010

Agenda

Session Goals Summarize V2



Why V3

Migration Planning

Migration Tips

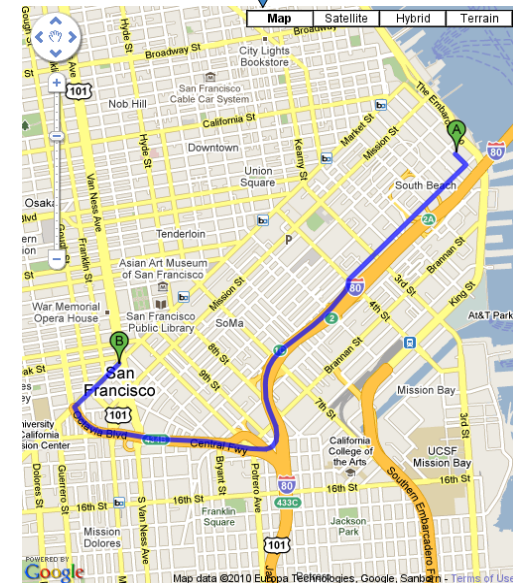
Questions

"Knowledge is the antidote to fear."

Ralph Waldo Emerson

Session Goals

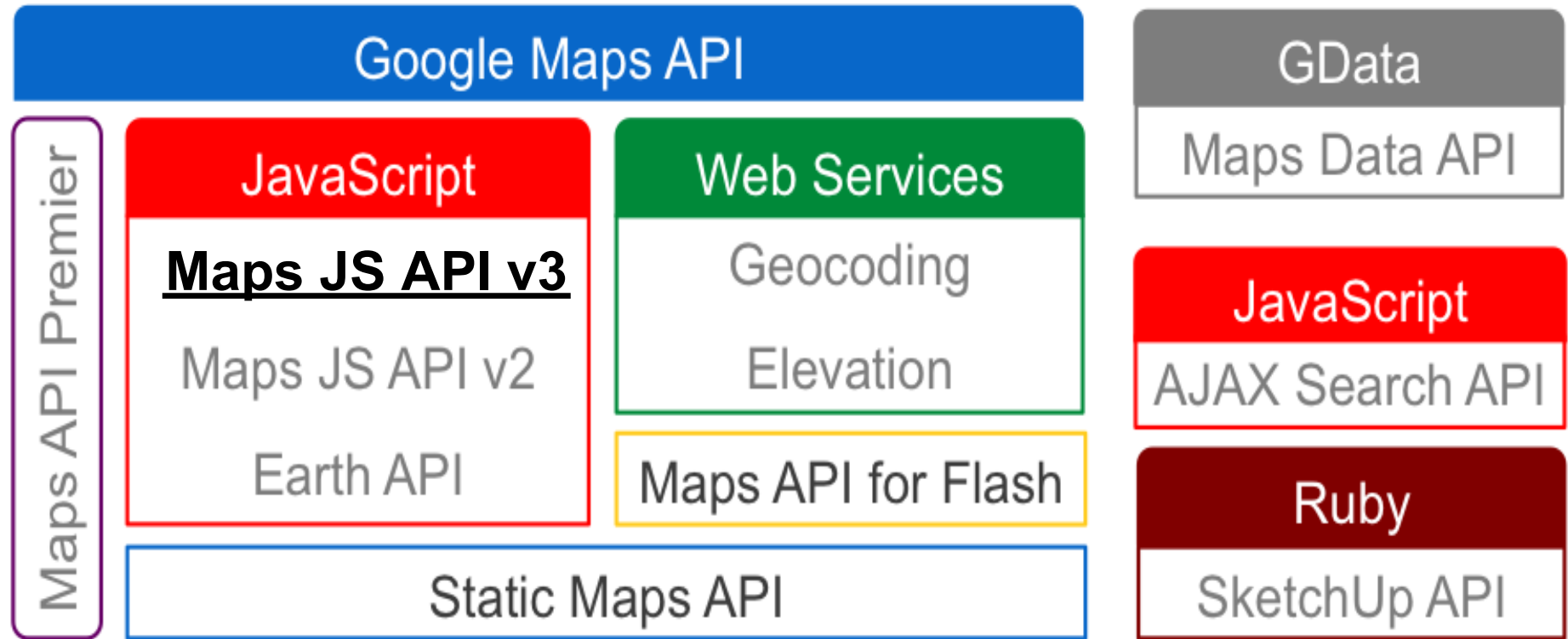
- Plant the seed on migration
- Understand why
- Understand the benefits
- Know what to expect



Why attend this session?

- Learn more about V3
- What's different between V3 and V2?
- Planning future roadmaps
- You're an existing V2 developer

Google Geo API Landscape



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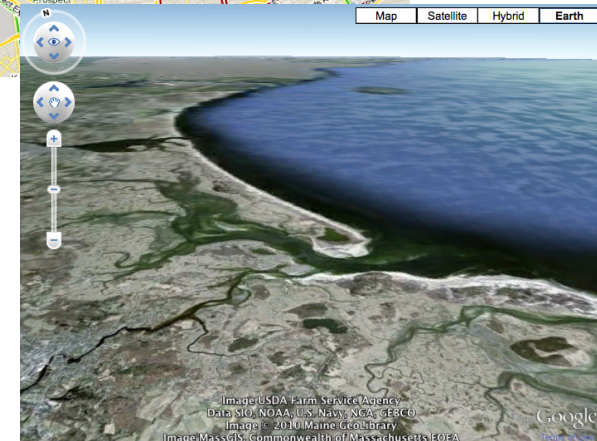
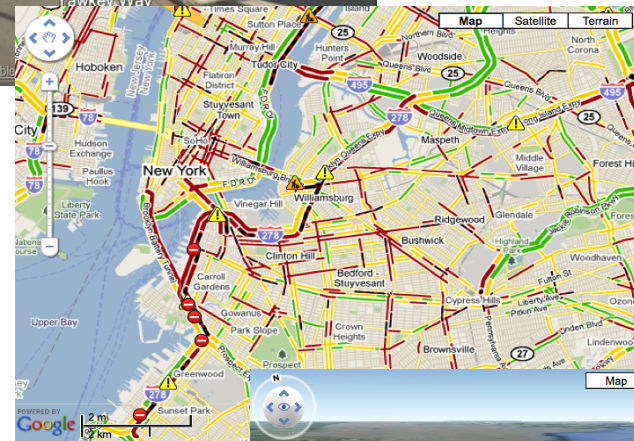


V2: Summary

- Browser support: IE6+, FF2+, Safari3.1+, Chrome
- Over 350K active sites
- Versioning: v=2.s, v=2, v=2.x
- Utility libraries: MarkerClusterer, DragZoom, etc
- Strong developer community (~43K members)

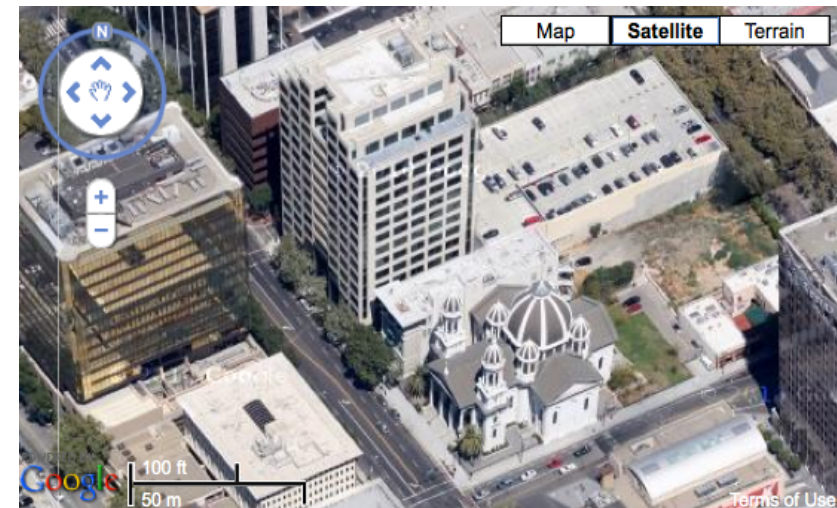
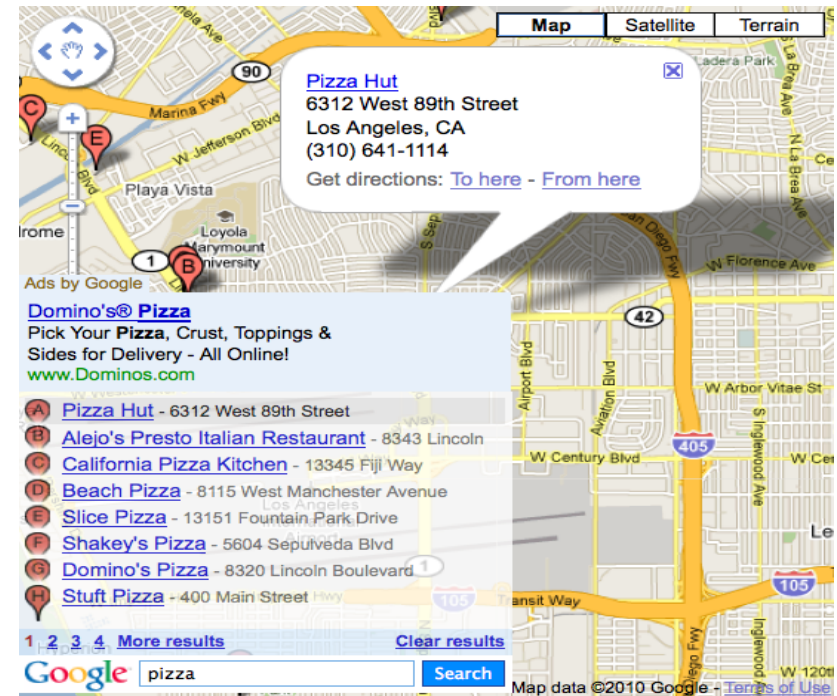
V2: Strong Feature Set

- Street View
- Traffic Overlays
- Google Earth Plugin



V2: Strong Feature Set

- KML/KMZ/GeoRSS Layers
- Tile Overlays
- Custom Map Types
- Monetization:
GGoogleBar, GAdsManager
- Aerial Imagery
- Directions
- Geocoder



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Demo: V2 and V3, Side by Side

1. Map on mobile:

V2 => <http://goo.gl/j5Qq>

V3 => <http://goo.gl/DWEA>

2. Add **N** markers

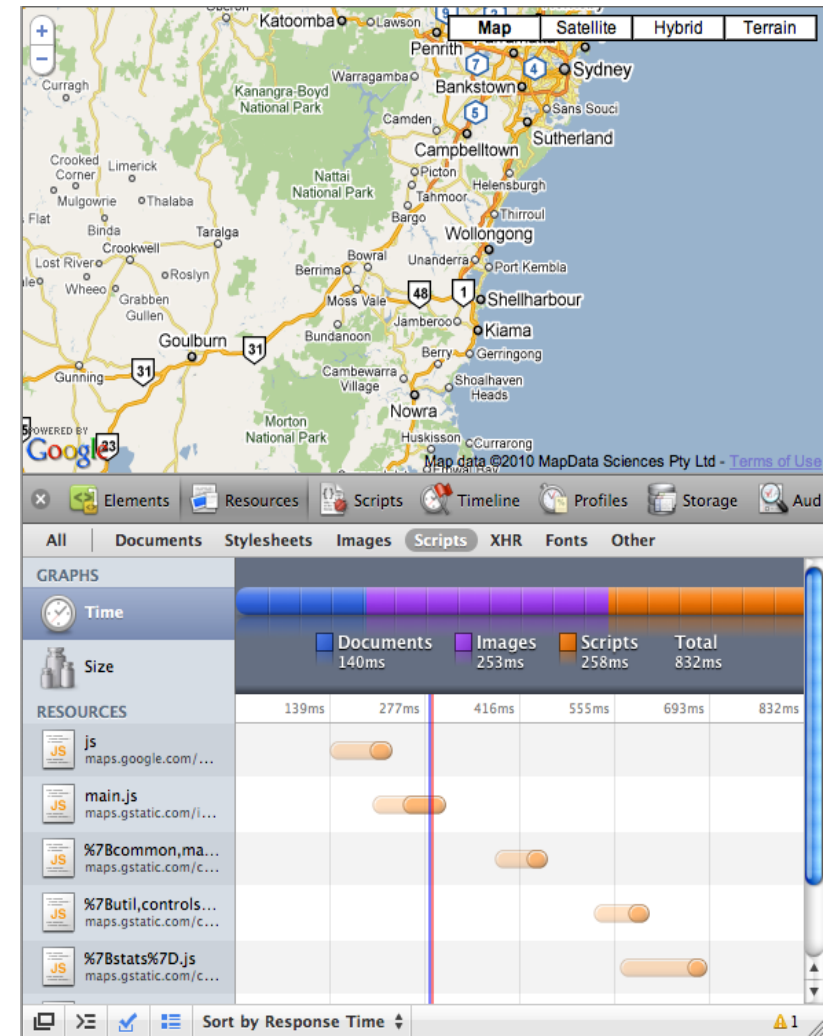
3. Add **N** markers (using MarkerClusterer)

What are some problems with V2?

- Not optimized for mobile
- Older design: GMap, GMarker, GControl, GLatLng
- Large JavaScript file sizes
- Requires a Maps API key

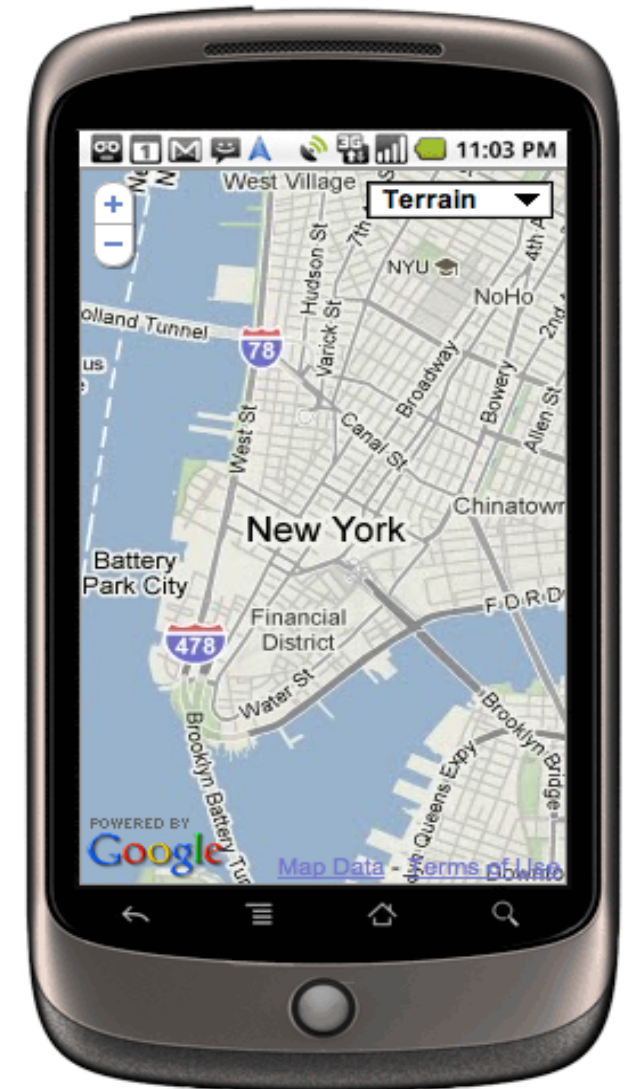
V2: Performance

File	Size (KB)	Gzip (KB)
loader	16.4K	5.1K
main.js	184.4K	66.0K
tiles	38.6K	12.8K
Total	~245K	~85K



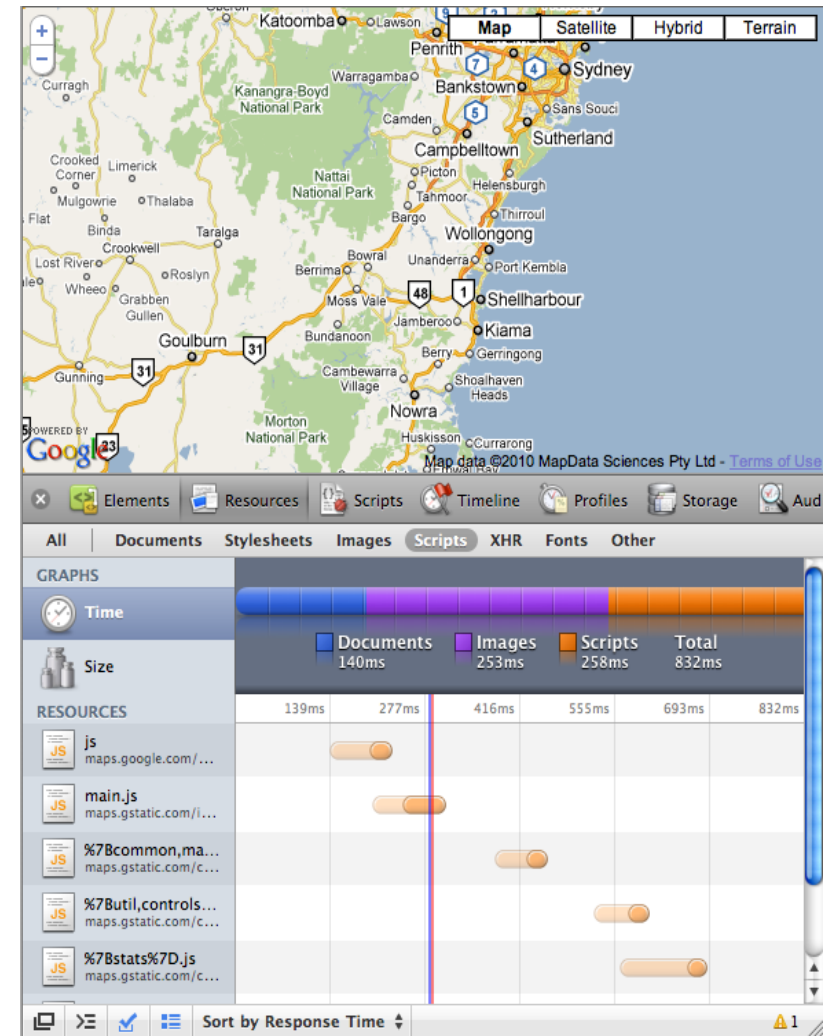
What does V3 offer?

- Mobile browser support: Android, iPhone
- Performance
- New architecture: MVC
- Better namespacing: google.maps.*
- New features, e.g. Biking directions, Elevation service



V3: Performance

File	Size (KB)	Gzip (KB)
loader	3.3 K	0.7 K
main.js	37.1 K	13.8 K
tiles	45.5 K	15.1 K
Total	~86K	~30K



Performance Comparison: V3 and V2

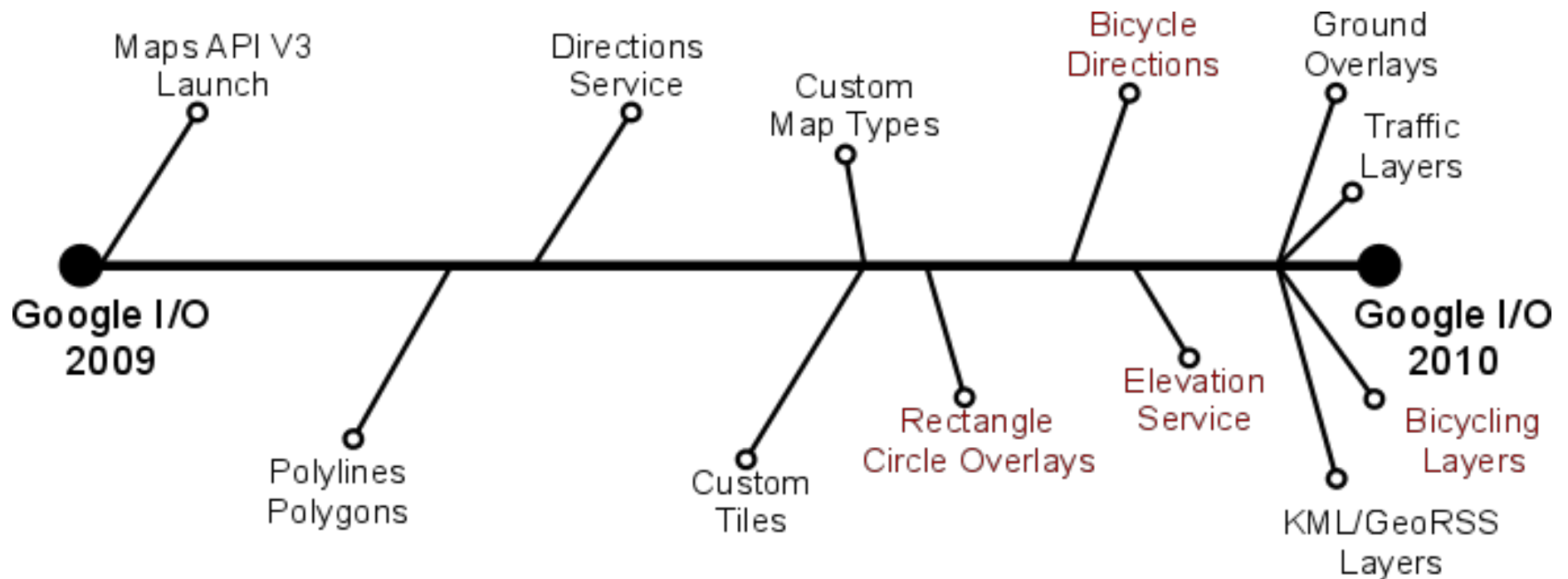
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V3

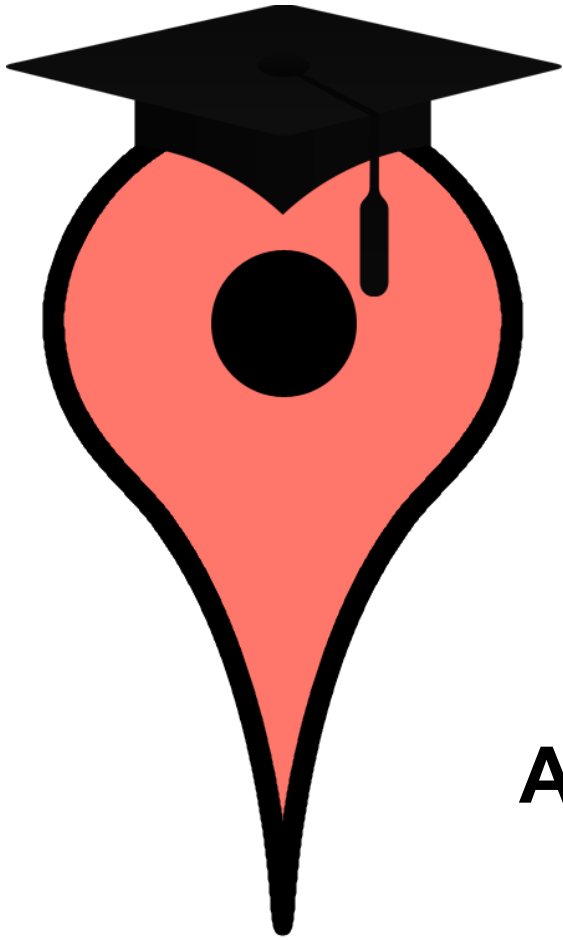
Size (KB)	Gzip (KB)
16.4K	5.1K
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38.6K	12.8K
~245K	~85K

V2

V3: Looking back



Announcements



- V3 graduating from Google Code Labs!
- V2 deprecation (3+ year support plan)

All Geo sessions focusing on V3

Agenda

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Summarize V2

Why V3

Migration Planning

Migration Tips

Questions



V3 Summary

- Browser support: IE7+, FF3+, Safari4+, Chrome, Android
- New versioning scheme: v=3, v=3.1
- Utility libraries: MarkerClusterer, InfoBox, KeyDragZoom
- Growing developer community (~15K members)

V3 Features

- Core objects: Map, Markers, Info Windows, Polys
- Custom overlays, controls, tiles
- Geocoder
- Directions service

New features:

Bicycling layer

- Ground overlays
- KML/KMZ/GeoRSS layers
- Traffic layers

Elevation service

Rectangle/Circle overlays

MVC objects

What are some challenges?

- Feature parity
- Syntactical changes, e.g. namespace
- Overlays => Map, not the reverse
- New Geocoder request/response specification
- New Directions service + renderer

Migration Planning

Good to think about before getting started

- What API features does my V2 application use?
(Break down your existing application, not literally)
- Which features are available in V3?
- Take baby steps; Start small, build upon it

Migration Planning

Good to think about before getting started

- Where to get help if needed?
<http://groups.google.com/group/google-maps-js-api-v3/>
- How to file bugs and feature requests
<http://code.google.com/p/gmaps-api-issues/>

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Migration Tips

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Migration Tips

Start with the basics

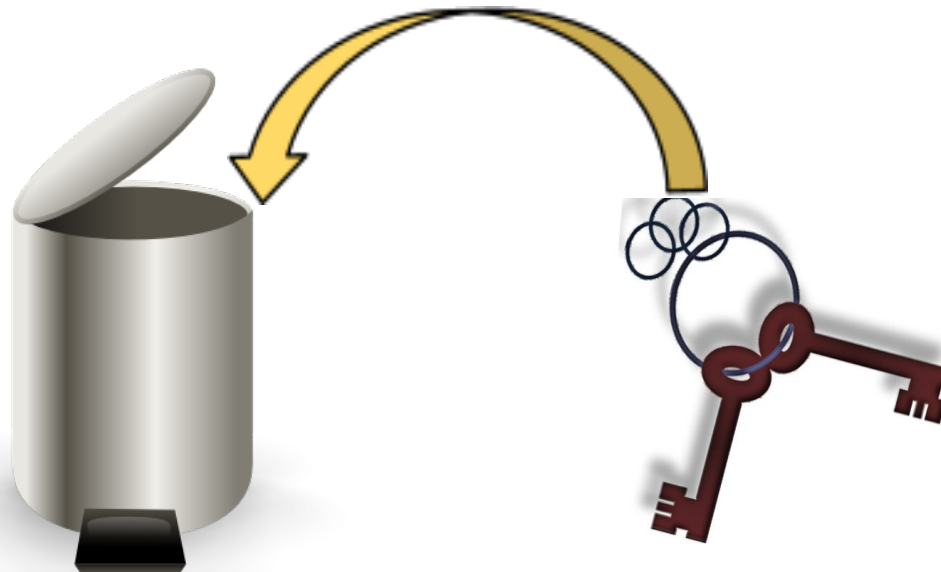
V2

```
<script src="http://maps.google.com/maps?  
file=api&v=2&key=abcdefg&sensor=true" type="text/javascript"></script>
```

No more API keys!

V3

```
<script src="http://maps.google.com/maps/api/js?sensor=true" type="  
text/javascript"></script>
```



Migration Tips

Start with the basics

V3: Bad

```
<script src="http://maps.google.com/maps/api/js?sensor=set_to_true_or_false"  
      type="text/javascript"></script>
```

Sensor parameter is ***required***

V3: Good

```
<script src="http://maps.google.com/maps/api/js?sensor=true" type="  
      text/javascript"></script>
```

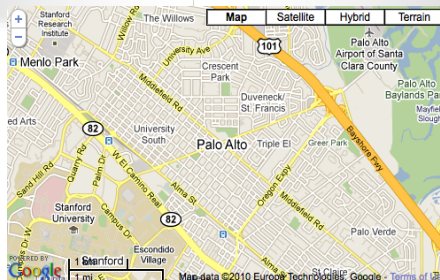
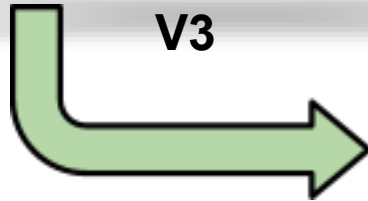
Migration Tips

Start with the basics: Display a map

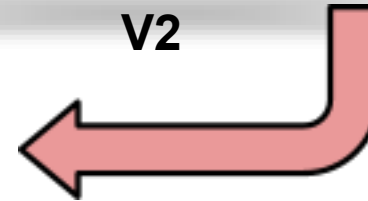
```
<div id="map-canvas" style="width:500px; height:300px"></div>
<script type="text/javascript">
function initialize() {
  var myOptions = {
    zoom: 13,
    center: new google.maps.LatLng
(37.4419, -122.1419),
    mapTypeId: google.maps.MapTypeId.
ROADMAP
  };
  var map = new google.maps.Map(
    document.getElementById("map-
canvas"),
    myOptions);
}
</script>
```

```
<div id="map-canvas" style="width:
500px; height: 300px"></div>
<script type="text/javascript">
function initialize() {
  if (GBrowserIsCompatible()) {
    var map = new GMap2(document.
getElementById("map-canvas"));
    map.setCenter(new GLatLng(37.4419,
-122.1419), 13);
    map.setUIToDefault();
  }
}
</script>
```

V3



V2

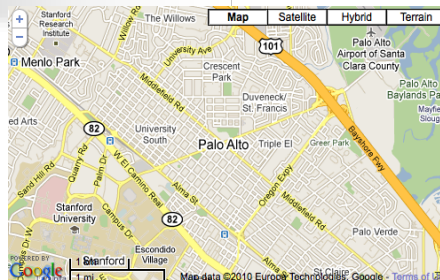
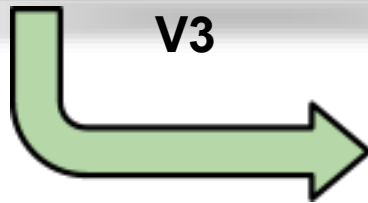


Migration Tips

Start with the basics: Display a map

```
<div id="map-canvas" style="width:500px; height:300px"></div>
<script type="text/javascript">
function initialize() {
  var myOptions = {
    zoom: 13,
    center: new google.maps.LatLng
(37.4419, -122.1419),
    mapTypeId: google.maps.MapTypeId.
ROADMAP
  };
  var map = new google.maps.Map(
    document.getElementById("map-
canvas"),
    myOptions);
}
</script>
```

- No GBrowserCompatible
- Required fields: mapTypeId, zoom, center
- Map options specification
- GMap2 => google.maps.Map



Migration Tips

Overlays

- Map knows nothing about what overlays it holds
- Overlays add/remove themselves to Map, not the reverse

V2

```
Map.addOverlay(Marker)  
Map.removeOverlay(Marker)
```



V3

```
Marker.setMap(Map)  
Marker.setMap(null)
```

```
Map.openInfoWindow()  
Map.closeInfoWindow()
```



```
InfoWindow.open(Map)  
InfoWindow.close()
```

Migration Tips

Overlays

- Avoids bloating the `google.maps.Map` object with add/remove functions
- Initial download size stays low
- Great for mobile

Migration Tips

Adding overlays

```
var marker = new google.maps.Marker();  
marker.setPosition(map.getCenter());  
marker.setMap(map);
```

```
var infoWindow = new google.maps.  
InfoWindow();  
infoWindow.setContent('I love it here!');  
infoWindow.open(map, marker);
```

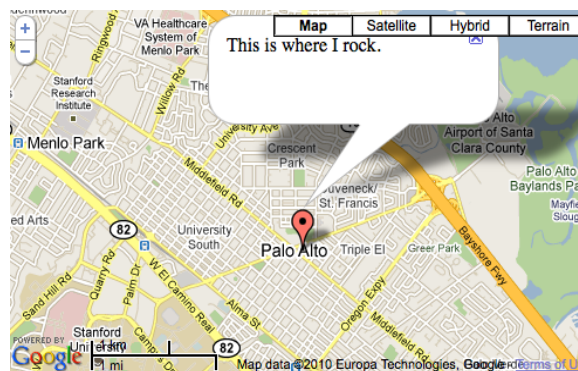
V3



```
var marker = new GMarker(map.  
getCenter());  
map.addOverlay(marker);
```

```
map.openInfoWindowHtml(  
  map.getCenter(),  
  'I like it here!');
```

V2



Migration Tips

Removing overlays (unbinding)

```
marker.setMap(null);  
infoWindow.close();
```

V3

```
map.removeOverlay(marker);  
map.closeInfoWindow();
```

V2

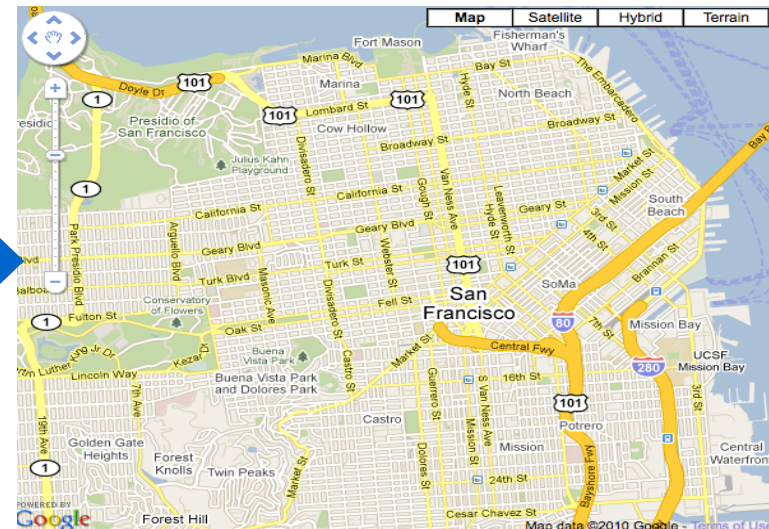
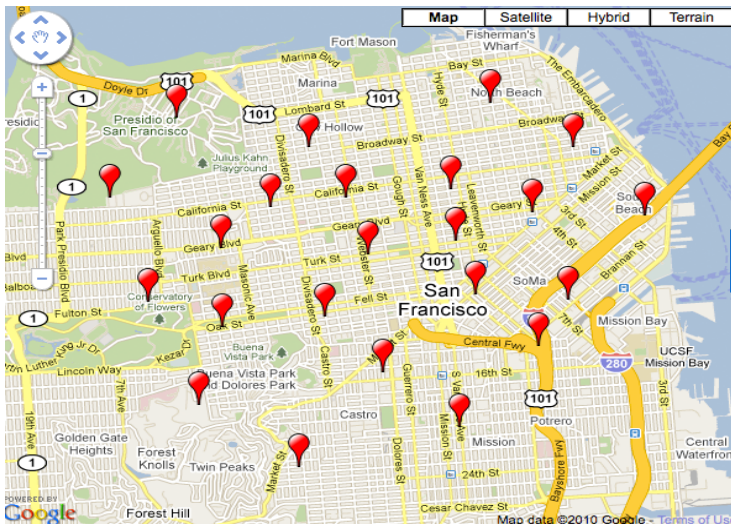
No `map.clearOverlays()`

Problem: How to remove all overlays from a map?

Migration Tips

Removing all overlays

1. Maintain a collection of Overlays added to the map
2. On clear, unbind each Overlay using `setMap(null)`



Migration Tips

Removing all overlays: Step 1

```
var overlays = [];
```

Create a collection of Overlay objects

```
function addMarker(map, latLng) {  
  var marker = new google.maps.Marker({  
    position: latLng,  
    map: map  
  });
```

```
  // Add Marker to Overlays collection  
  overlays.push(marker);  
}
```

Add Overlay to collection when displaying on a Map

Migration Tips

Removing all overlays: Step 2

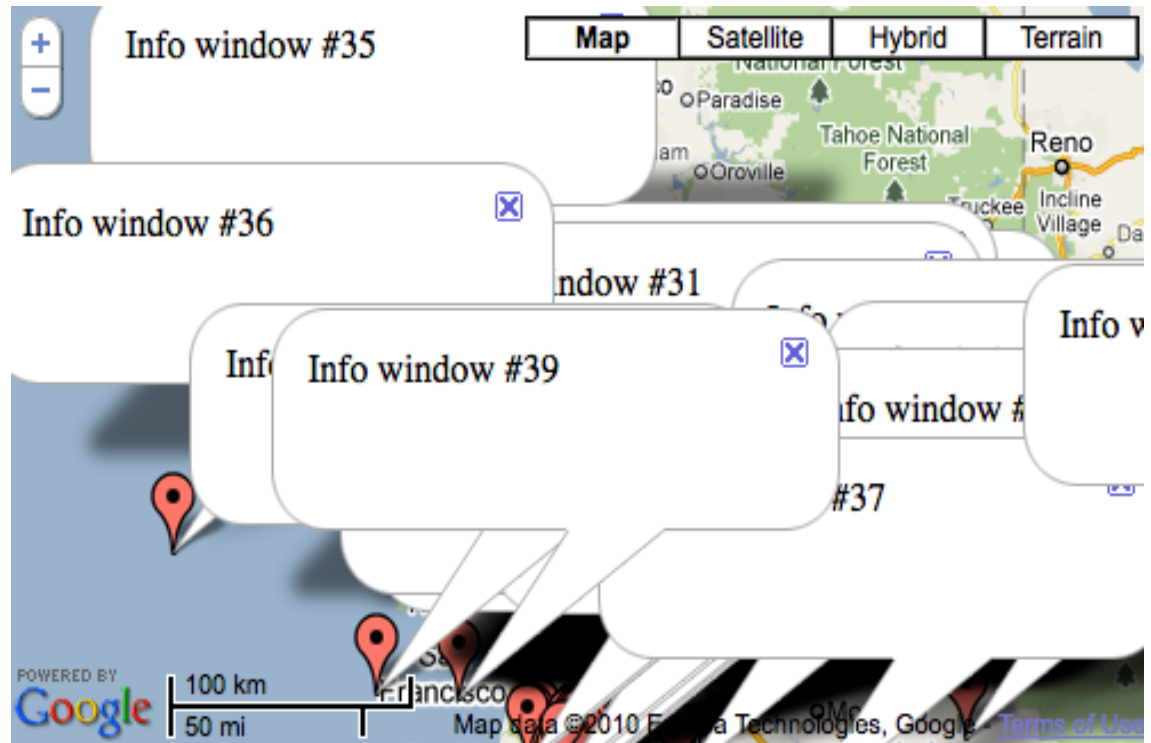
```
var overlays = [];  
function clearOverlays() {  
  for (var n = 0, overlay; overlay = overlays[n]; n++) {  
    overlay.setMap(null);  
  }  
  
  // Clear overlays from collection  
  overlays = [];  
}
```

- Iterate through collection
- Unbind each Overlay from the Map

Migration Tips

Info windows

- Lightweight
- Same as Overlays
- Have more than one



Problem: I only want a single info window!

Migration Tips

Info windows: Using only one

```
// Global variable holding the one Info Window object
var infoWindow = new google.maps.InfoWindow();

function openInfoWindow(map, latLng, content) {
  infoWindow.setPosition(latLng);
  infoWindow.setContent(content);
  infoWindow.open(map);
}
```

- Create one global InfoWindow object
- Update its position, content, and map

Migration Tips

Custom Controls

What's different?

- No GControl class
- Custom controls are just HTML Elements:
`document.createElement('div')`
- Familiar concept

Migration Tips

Custom Controls: Creating a "Home" button

```
var homeLatLng =  
new google.maps.LatLng(41.850033, -87.6500523);  
function createHomeControl(map) {  
  var div = document.createElement('div');  
  div.className = 'home-control';  
  div.title = 'Click to set map to Home';  
  div.innerHTML = 'Home';  
  
  google.maps.event.addDomListener(div, 'click', function() {  
    map.setCenter(  
    homeLatLng  
    );  
  
  });  
  return div;  
}
```



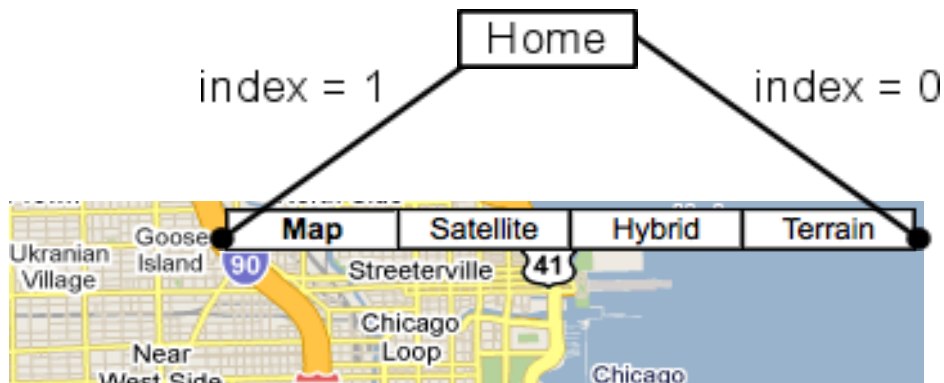
Home

- Custom control is just a DIV
- Add DOM listeners if necessary

Migration Tips

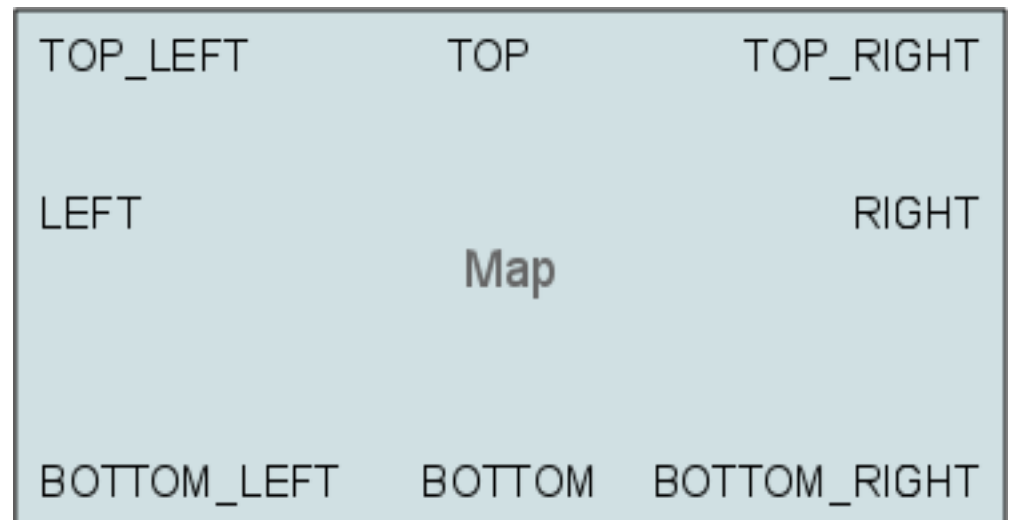
Custom Controls: Placement and Positioning

```
var homeControlDiv = createHomeControl(map);  
homeControlDiv.index = ???;  
map.controls[google.maps.ControlPosition.???].push(homeControlDiv);
```



Placement

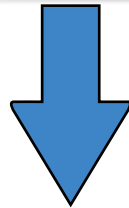
Control Positions



Migration Tips

Custom Controls: Placement and Positioning

```
var homeControlDiv = createHomeControl(map);  
homeControlDiv.index = 1;  
map.controls[google.maps.ControlPosition.TOP_RIGHT].push(homeControlDiv);
```



Migration Tips

Requesting Directions in V2

```
function loadDirections(map, container) {  
  directions = new GDirections(map, container);  
  directions.load("from: 500 Memorial Drive, Cambridge, MA to: 4  
Yawkey Way, Boston, MA 02215 (Fenway Park)");  
  GEvents.addListener(directions, 'load', doSomethingOnLoad);  
}
```

- Single Map / HTML container per GDirections object
- Single request string too loosely defined:
"from: my starting point to: my destination point"
- Event listener to know when request completes

Migration Tips

New Directions Service + Renderer

From: 345 Spear St, San Francisco, CA
To: 1600 Amphitheatre Pkwy, Mountain View, CA

By car Imperial Go!

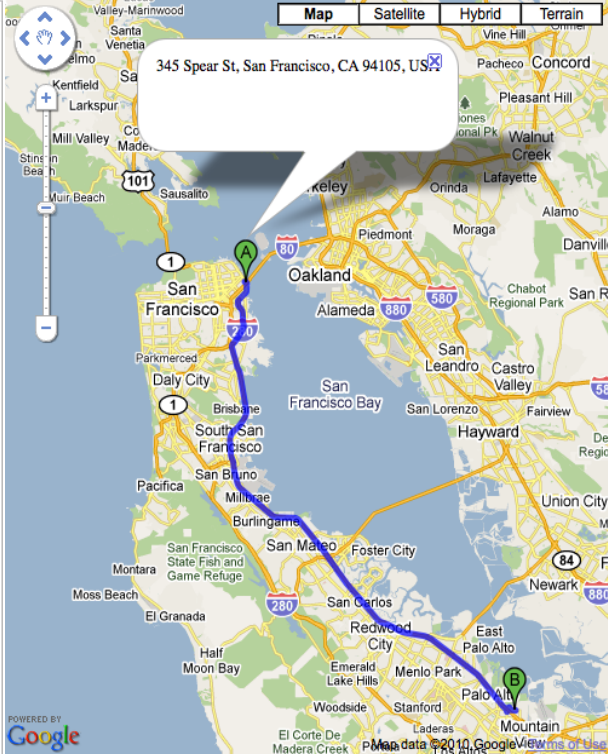
A 345 Spear St, San Francisco, CA 94105, USA

36.4 mi - about 43 mins

1. Head **southeast** on **Spear St** toward **Harrison St** 384 ft
2. Take the 1st **left** onto **Harrison St** 348 ft
3. Turn **right** at **The Embarcadero** 0.5 mi
4. Continue onto **King St/Willie Mays Plaza** 0.7 mi
5. Continue onto **Southern Embarcadero Fwy** (signs for **I-280 S**) 0.5 mi
6. Continue onto **I-280 S** 2.4 mi
7. Take the exit on the **left** onto **US-101 S** toward **San Jose** 31.2 mi
8. Take the **Rengstorff Ave** exit 459 ft
9. Keep **right** at the fork, follow signs for **Amphitheatre Pkwy** and merge onto **Rengstorff Ave** 0.3 mi
10. Turn **right** at **Charleston Rd** 0.5 mi
11. Turn **left** at **Huff Ave** 62 ft
Destination will be on the left

B 1600 Amphitheatre Pkwy, Mountain View, CA 94043, USA

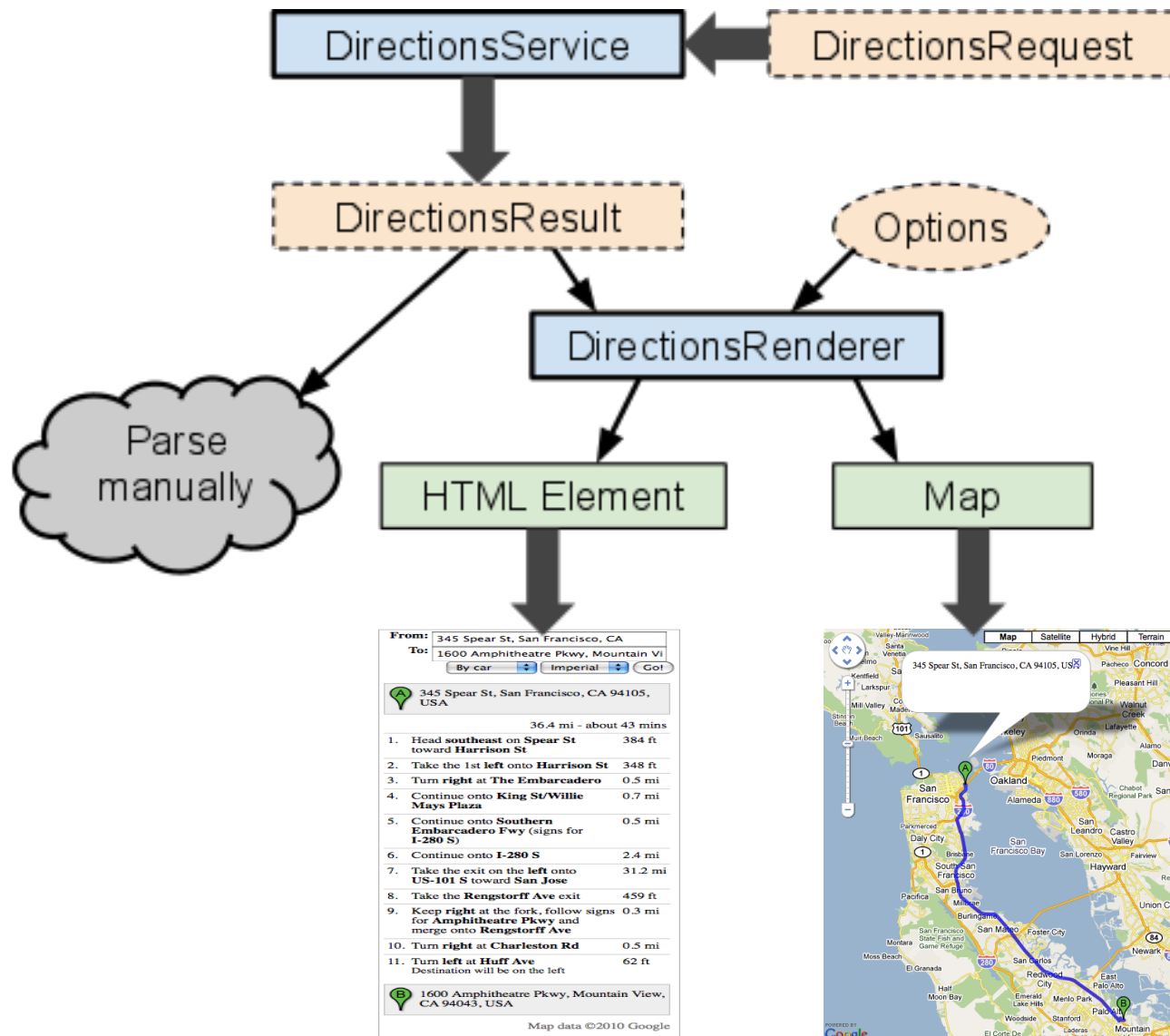
Map data ©2010 Google



- Modular interface consistent with overall API design
- Start/end point properties
- Separate data from rendering
- Renderer settable to any Map and HTML Element

Migration Tips

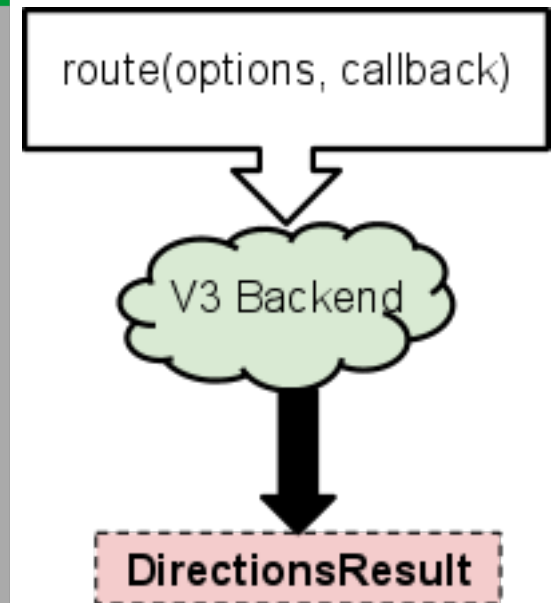
Directions Service + Renderer



Migration Tips

Directions Request Specification

```
var dirService = new google.maps.DirectionsService();  
function requestDirections() {  
  var requestOptions = {  
    origin: 'Sydney, Australia',  
    destination: 'Moscone Center, SF, CA',  
    travelMode: google.maps.DirectionsTravelMode.  
DRIVING,  
    unitSystem: google.maps.DirectionsUnitSystem.METRIC,  
    avoidHighways: true,  
    avoidTolls: false,  
    provideRouteAlternatives: true,  
    region: 'us'  
  };  
dirService.route(requestOptions, handleResult);  
}
```

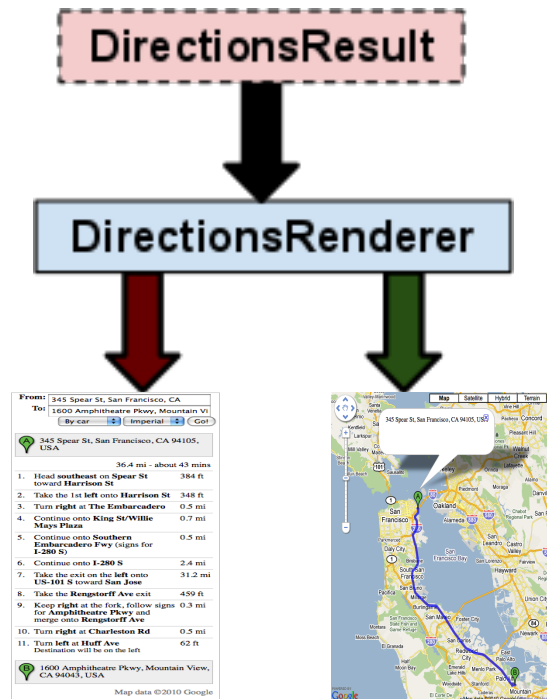


Migration Tips

Directions Renderer

```
var dirRenderer =  
  new google.maps.DirectionsRenderer();  
function handleResult(dirResult, dirStatus) {  
  if (dirStatus !== google.maps.DirectionsStatus.OK) {  
    alert('Directions failed: ' + dirStatus);  
    return;  
  }  
  
  // Render directions on a Map and container.  
  dirRenderer.setMap(map);  
  dirRenderer.setPanel(container);  
  dirRenderer.setDirections(dirResult);  
}
```

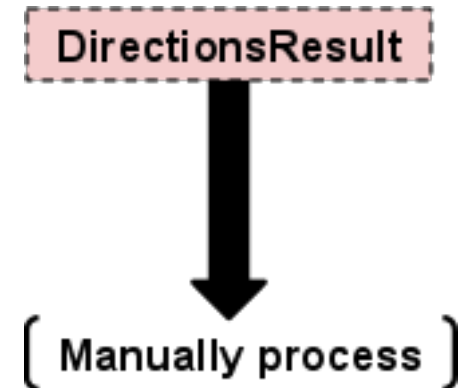
- Pass direction results to renderer
- Renderer uses a standard default UI



Migration Tips

Directions Result

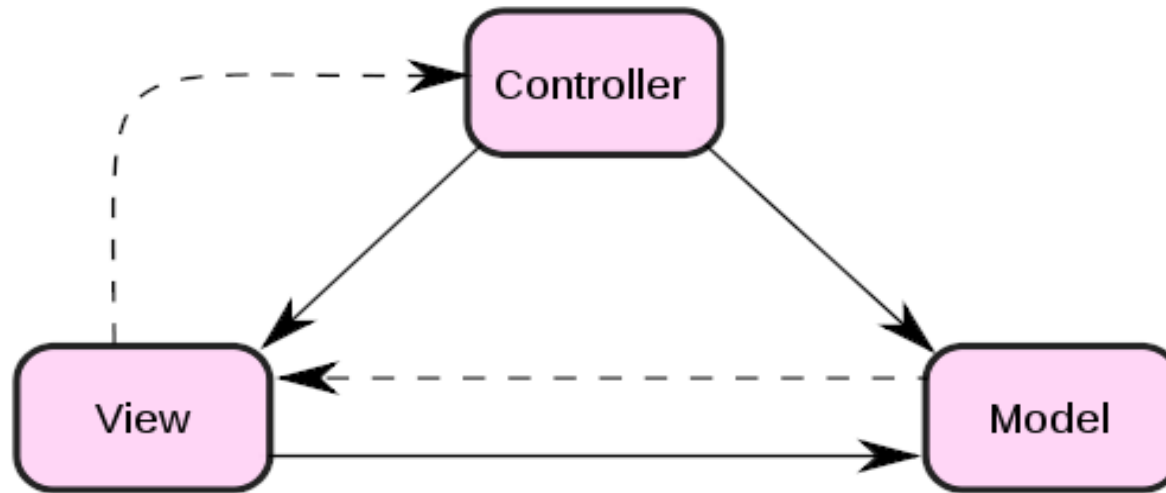
```
function handleResult(dirResult, dirStatus) {  
  if (dirStatus != google.maps.DirectionsStatus.OK) {  
    alert('Directions failed: ' + dirStatus);  
    return;  
  }  
  
  // Find total distance of the first route  
  var distance = 0;  
  var route = dirResult.routes[0];  
  for (var k = 0, leg; leg = route.legs[k]; k++) {  
    distance += leg.distance;  
  }  
  alert('First route distance: ' + distance);  
}
```



... or process `DirectionsResult` on your own

Migration Tips

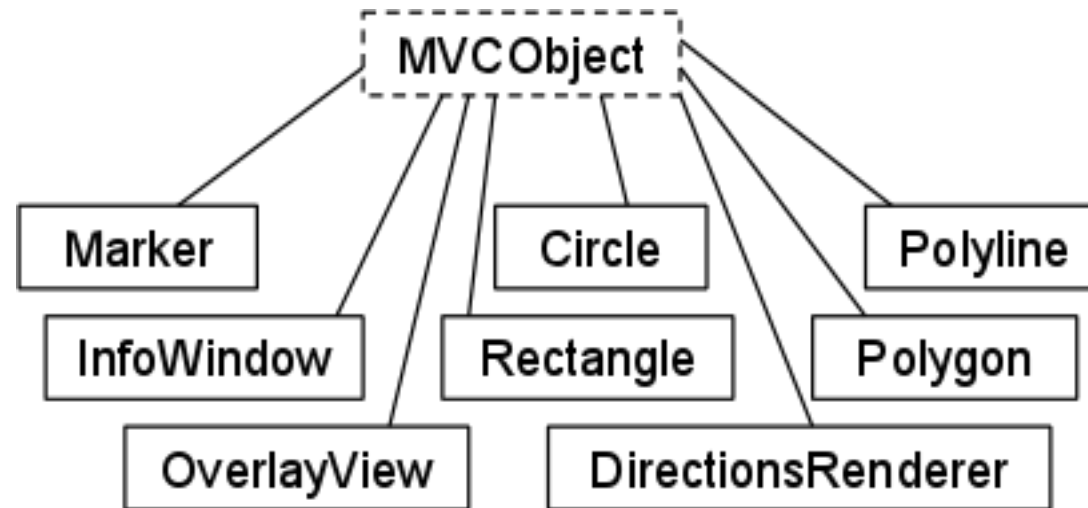
Models, Views, Controllers



- Isolates data from input and presentation
- Write more efficient code
- Use binds to keep MVC properties in sync

Migration Tips

Using MVC in V3



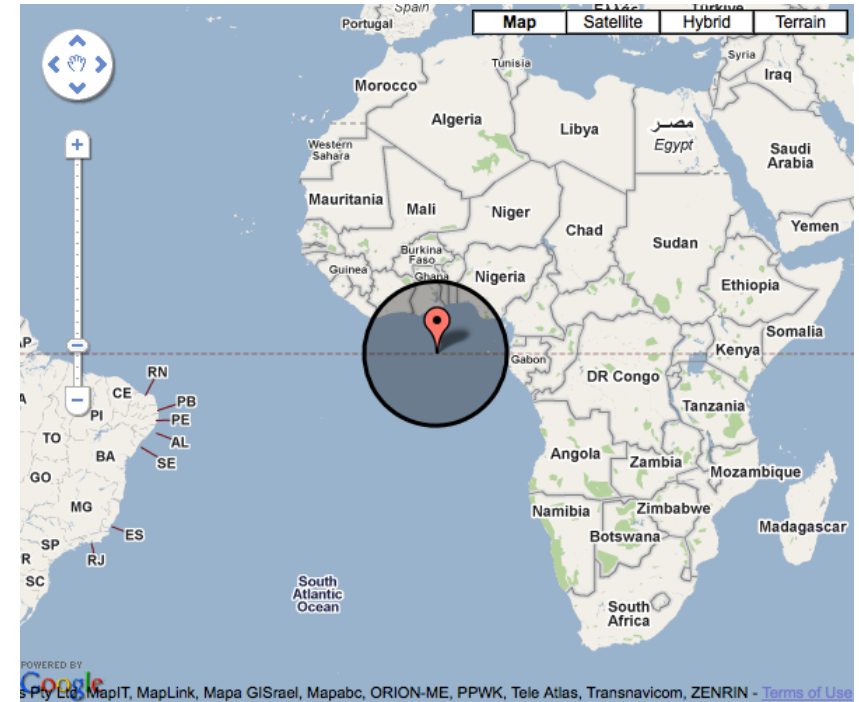
- Know what model properties are bindable
Hint: Look in the *Options specification
- Common properties: Map, LatLng, zIndex, color
- Extend MVCObject to create your own custom objects

Migration Tips

Using MVC in V3: Binding Marker to a Circle Overlay

```
// Create a draggable marker
var marker = new google.maps.Marker({
  map: map,
  position: map.getCenter(),
  draggable: true
});

// Add a Circle overlay to the map.
var circle = new google.maps.Circle({
  map: map,
  center: marker.getPosition(),
  radius: 1000000 // 3000 km
});
```



Problem: Drag marker to move the circle

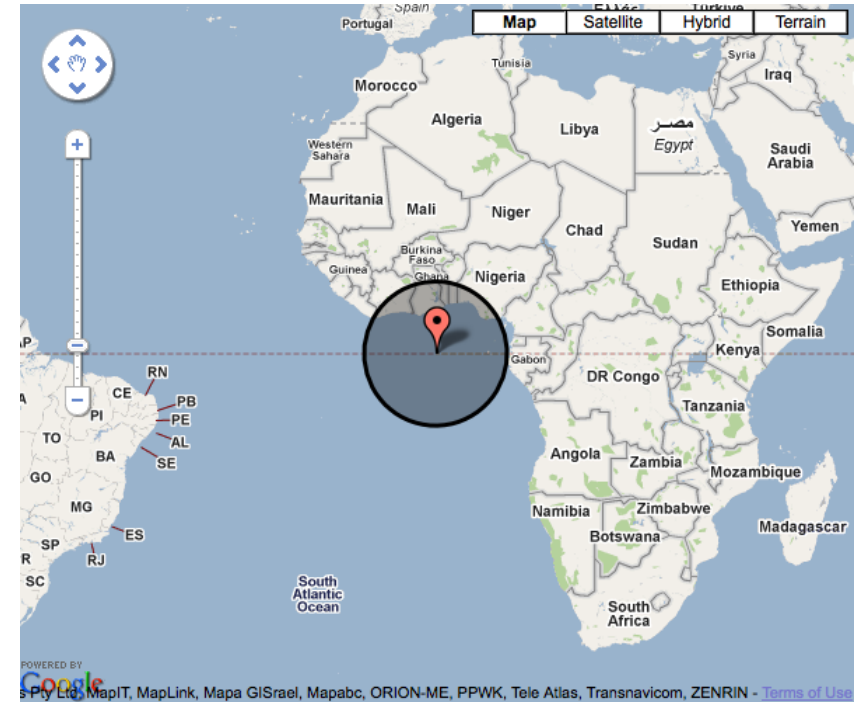
Migration Tips

Using MVC in V3: Binding Marker to a Circle Overlay

```
// Create a draggable marker
var marker = new google.maps.Marker({
  map: map,
  position: map.getCenter(),
  draggable: true
});

// Add a Circle overlay to the map.
var circle = new google.maps.Circle({
  map: map,
  center: marker.getPosition(),
  radius: 1000000 // 3000 km
});

google.maps.event.addListener(marker,
'drag', function(e) {
  circle.setCenter(e.latLng);
});
```



Without MVC

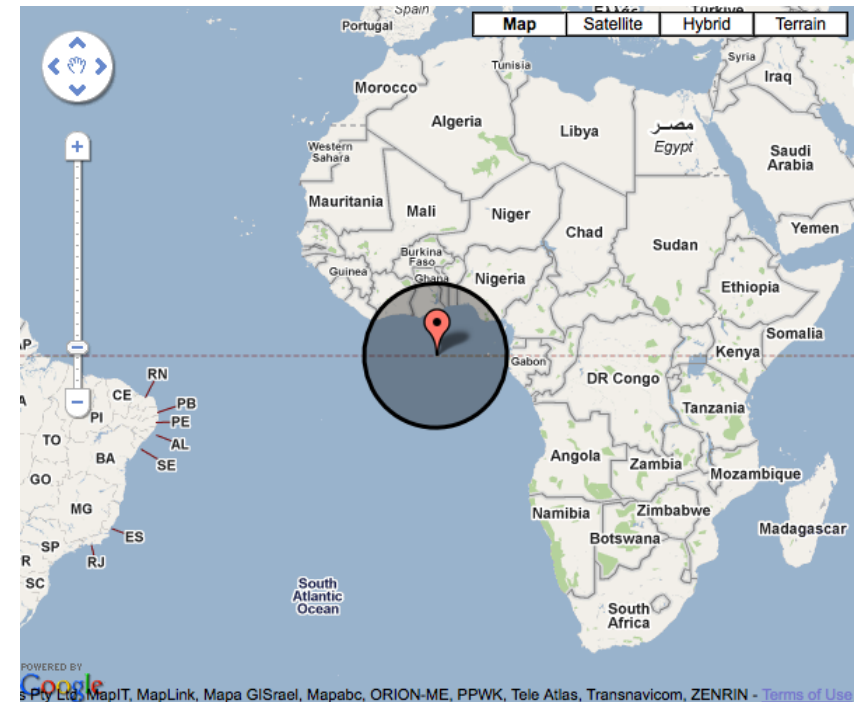
Migration Tips

Using MVC in V3: Binding Marker to a Circle Overlay

```
// Create a draggable marker
var marker = new google.maps.Marker({
  map: map,
  position: map.getCenter(),
  draggable: true
});
```

```
// Add a Circle overlay to the map.
var circle = new google.maps.Circle({
  map: map,
  center: marker.getPosition(),
  radius: 1000000 // 3000 km
});
```

```
circle.bindTo('center', marker, 'position');
```



Using MVC binds

Migration Tips

Using MVC in V3: Demos

1. Bind Circle to Marker
2. Binding Map to Map
3. Twitter search (pending time)

Topics Not Covered

- Geocoder
- Polygons / Polylines
- Layers (Bicycling, Traffic, Ground, Tile, KML)
- Custom overlays, map types
- Elevation service

Geo Sessions at Google I/O

Wednesday, May 19th

1:45pm: **Map once, map anywhere**

Developing geospatial applications for both desktop and mobile

3:00pm: **Geo Session TBA**

4:15pm: **Unleash your map data**

Cloud computing for geospatial applications

Geo Sessions at Google I/O

Thursday, May 20th

11:30am: **The SketchUp 3D API**

Working with 3D geospatial data

2:15pm: **Mapping in 3D**

Tips and tricks for Google Earth API and KML

3:30pm: **Moving beyond markers**

Advanced Maps API customization

4:45pm: **How Maps API V3 came to be (Tech Talk)**

Tips, tricks, and lessons learned in developing a cross platform desktop and mobile API (not specific to map applications)

Geo Sessions at Google I/O

Wednesday, May 19th

1:45pm: **Map once, map anywhere**

Developing geospatial applications for both desktop and mobile

Street View available now in V3!



[No Flash]

Google Developer Qualification



Chrome
Extensions



Gadgets



Search



App
Engine



JS Maps API



KML



3D

Google Wave at I/O

<http://bit.ly/ch4DKt>

View live notes and ask questions on Google Wave

The screenshot displays the Google Wave interface. On the left is a navigation sidebar with links for Inbox, All, By Me, Requests, Settings, Trash, and Spam, along with sections for Extensions, Searches, and Folders. Below this is a 'Contacts' list showing names like Susan, Roger, Mina, Aseem, Christian, Yanka, and Vida. The main area shows a list of waves under the group 'group:io2010-wave@googlegroups.com'. The waves include titles like 'Google I/O 2010 Main Wave', 'Live Wave: Google Charts Toolkit', 'Live Wave: Knowledge is (less) power', 'Live Wave: Bringing Google to your site', 'Live Wave: Google Wave and the enterprise environment', 'Google I/O 2010: Open source Google Wave: Building your', 'Google I/O 2010: Google Wave and the enterprise', 'Google I/O 2010: Map once, map anywhere: Developing', 'Live Wave: Building context-aware extensions for Gmail', 'Live Wave: Scripting Google Apps for business process', 'Live Wave: Launch your app inside of Google Apps with', 'Live Wave: OpenID-based single sign on and OAuth data', 'Live Wave: Connecting your enterprise applications with', 'Live Wave: A beginner's guide to Android', 'Live Wave: Writing real-time games for Android redux', and 'Live Wave: Fireside chat with'. The right pane shows a detailed view of the 'Live Wave: A beginner's guide to Android' wave. It includes a header with the wave title and participants, a message from 'Google I/O 2010 Bot, Pamela Fox and 3 others' dated May 2, and a question 'Can you write Android apps in Python?' by Pamela Fox, Sydney. A callout box points to the wave title with the text 'Porting V2 JavaScript Applications To V3'. The bottom of the right pane shows 'Recent activity' and 'Live Notes'.

Google wave preview

Navigation

- Inbox
- All
- By Me
- Requests
- Settings
- Trash
- Spam

EXTENSIONS

SEARCHES

FOLDERS

Contacts

Susan

Search contacts

Roger hellow world

Mina how many inboxes am i supposed to check?

Aseem

Christian

Yanka

Vida

Manage contacts

group:io2010-wave@googlegroups.com tag:io2010 1 - 31 of lots

New wave

group:io2010-wave@googlegroups.com tag:io2010

Follow Unfollow Archive Inbox Spam

Google I/O 2010 Main Wave – To make it easier to find these 2:52 pm 1 msg

Live Wave: Google Charts Toolkit: Google's new unified 1:57 pm 2 of 2

Live Wave: Knowledge is (less) power: Exploring the Google 1:56 pm 2 of 2

Live Wave: Bringing Google to your site – Wednesday May 19 1:50 pm 2 of 2

Live Wave: Google Wave and the enterprise environment – 8:41 am 3 of 3

Google I/O 2010: Open source Google Wave: Building your 7:42 am 1 of 1

Google I/O 2010: Google Wave and the enterprise 7:40 am 1 of 1

Google I/O 2010: Map once, map anywhere: Developing 7:37 am 1 of 1

Live Wave: Building context-aware extensions for Gmail - 6:33 am 2 of 2

Live Wave: Scripting Google Apps for business process 6:33 am 2 of 2

Live Wave: Launch your app inside of Google Apps with 6:32 am 2 of 2

Live Wave: OpenID-based single sign on and OAuth data 6:30 am 2 of 2

Live Wave: Connecting your enterprise applications with 6:30 am 2 of 2

Live Wave: A beginner's guide to Android – Wednesday May 19, 2010 1 of 2

Live Wave: Writing real-time games for Android redux – May 2 2 of 2

Live Wave: Fireside chat with May 2

Save search

Susan JohnnySnow @15437545 |Terms|Privacy|Help|Sign out|Report a bug

Live Wave: A beginner's guide to Android

Google

Reply Edit Playback Follow Spam Read Unread

Everyone has access to this wave.

Google I/O 2010 Bot, Pamela Fox and 3 others: May 2

~~Live Wave: A beginner's guide to Android~~

Wednesday May 19, at 10:45am-11:45am, Room #6 (More Info)

#android1 | Tweet This | Post to Google Buzz

Attendees:

Add Yours

Questions:

Google moderator

A beginner's guide to Android 1 votes on 1 questions from 1 people

View in Moderator

"Can you write Android apps in Python?"

Pamela Fox, Sydney

Submit a question View topic

Recent activity Expand

Live Notes:

Tags: android1 io2010

Porting V2 JavaScript Applications To V3

Resources

- Documentation:
<http://code.google.com/apis/maps/documentation/v3>
- General discussion group:
<http://groups.google.com/group/google-maps-js-api-v3>
- Issue tracker:
<http://code.google.com/p/gmaps-api-issues/>
- Demo gallery:
<http://code.google.com/apis/maps/documentation/v3/demogallery.html>

Questions?

Google™

