



Cross Device Optimization Using Google Analytics

The Google Analytics Developer Relations Team

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Measuring Beyond Web and App

Cross Device Optimization

Online to Offline

Measuring Beyond Web and App

Measurement Protocol

A Generational Platform Shift

St. Peter's Square



Measuring User Interaction



Desktop
Website



Mobile Web
& App

utm.gif

Measurement Protocol



Measurement Protocol - How It Works



Tracking ID (tid)

ClientId (cid)
User

Hit Type (t)
Interaction



Measurement Protocol

```
http://www.google-analytics.com/collect  
?v=1  
&tid=UA-33342138-3  
&cid=555  
&t=pageview  
&dp=/flowers
```



Browser URL Demo

copy paste a URL into browser, see it show up in realtime reports...

Say Boom



RFID Demo

What's super cool is that you can extend the protocol to any case where users interact with content.

For example Demo:

- User is encoded in my Google Badge
- Content is encoded in the RFID reader

- Swipe badge - data sent to Google Analytics
- See data in GA Real time reports

More Boom



RFID Demo Code

Only 5 lines!

BASH

```
while read inputline
do
rfid="$inputline"
curl -s "http://www.google-analytics.com/collect\
?v=1\
&tid=UA-33342138-3\
&cid=$rfid\
&t=pageview\
&dp=/greatSuccess" > /dev/null
done
```



Tracking Scripts - Yeoman

YEOMAN

MODERN WORKFLOWS FOR MODERN WEBAPPS



YO



GRUNT



BOWER



Yeoman

The `webapp` generator is bundled, while others can be installed with `npm install <generator-name>`

Officially supported generators:

`webapp angular backbone bbb ember chromeapp chrome-extension bootstrap mocha karma`

See a list of all available generators with `npm search yeoman-generator`

Usage: `yo GENERATOR [args] [options]`

General options:

- `-h, --help` # Print generator's options and usage
- `-f, --force` # Overwrite files that already exist

Please choose a generator below.

Angular

- `angular:app`
- `angular:common`
- `angular:controller`
- `angular:directive`
- `angular:filter`
- `angular:main`

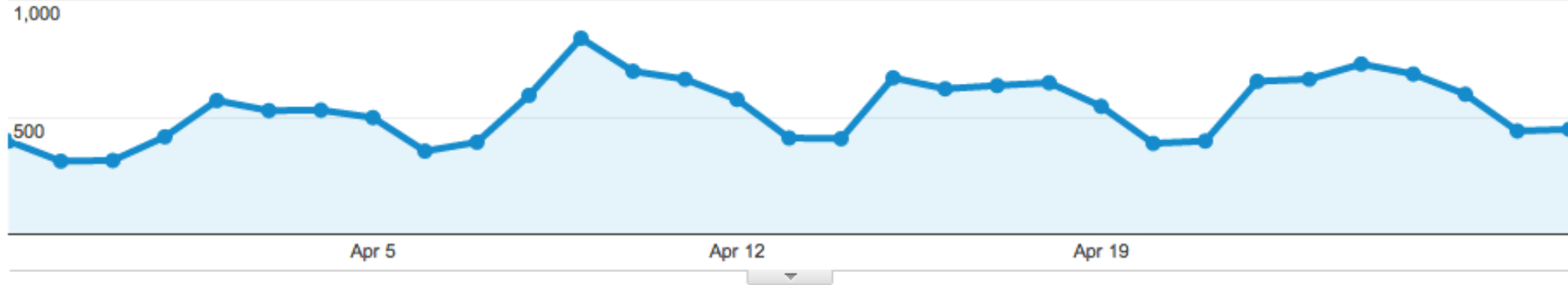


Yeoman Reports

Unique Visitors vs. [Select a metric](#)

Hourly Day Week Month

● Unique Visitors



9,549 people visited this site

Visits

 **24,261**

Pageviews

 **73,876**

Avg. Visit Duration

 **00:08:04**

Unique Visitors

 **9,549**

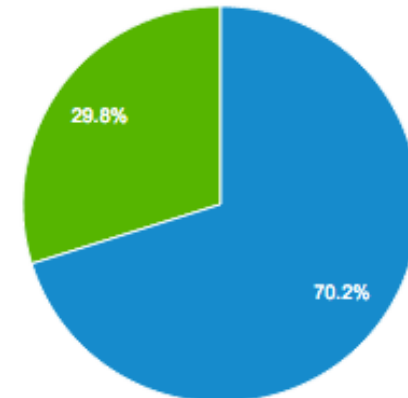
Pages / Visit

 **3.05**

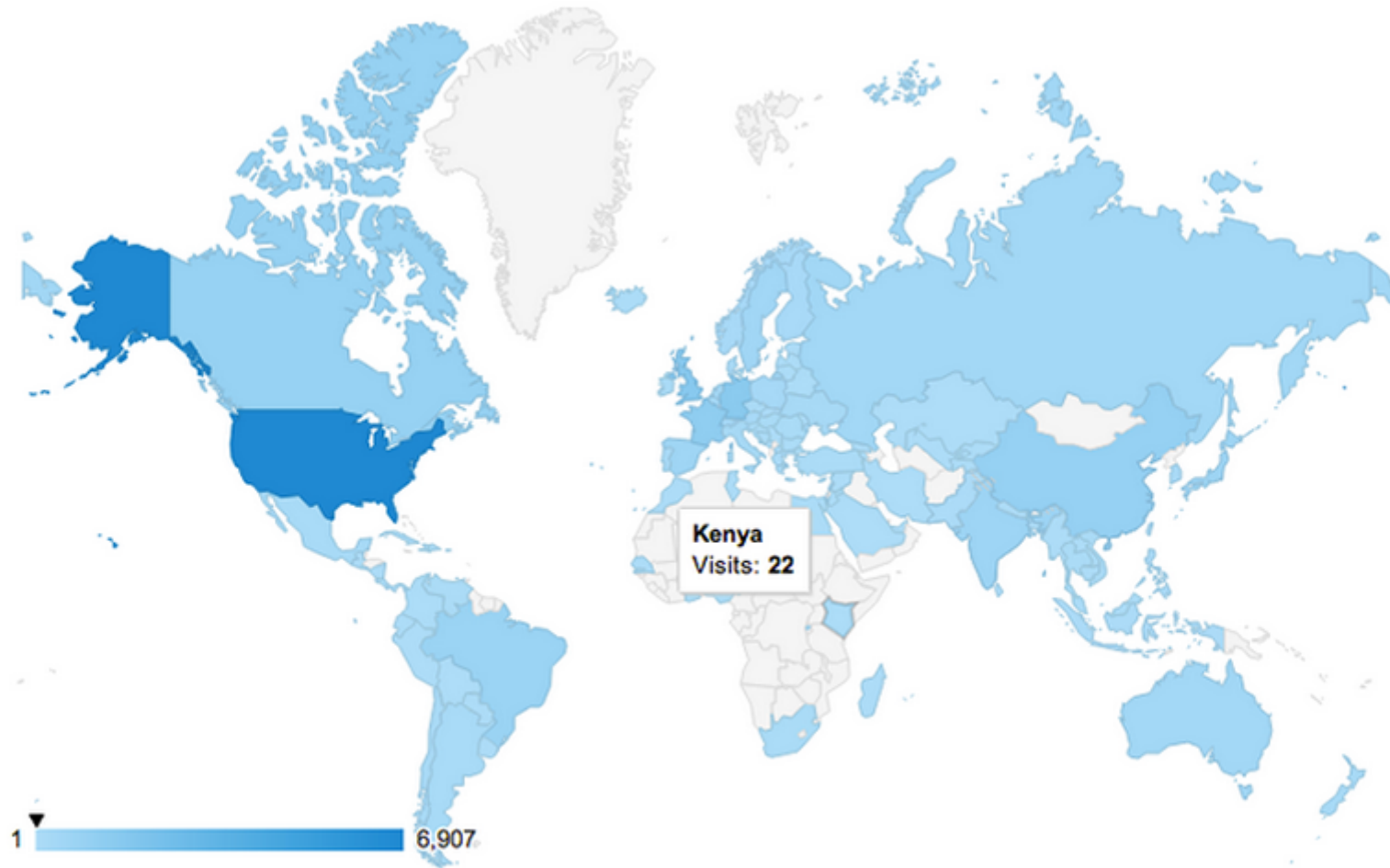
Bounce Rate

 **49.47%**

■ Returning Visitor ■ New Visitor



Yeoman Knowledge



Visits	Pages / Visit	Avg. Visit Duration	% New Visits	Bounce Rate
24,261	3.05	00:08:04	29.78%	49.47%
% of Total: 100.00% (24,261)	Site Avg: 3.05 (0.00%)	Site Avg: 00:08:04 (0.00%)	Site Avg: 29.78% (0.00%)	Site Avg: 49.47% (0.00%)



Yeoman Insights

Top Pages

Page	Pageviews	↓	Unique Visitors
1. /angular	8,067		2,493
2. /webapp	7,235		2,896
3. /backbone	932		376
4. /ember	694		241
5. /jekyll	532		2



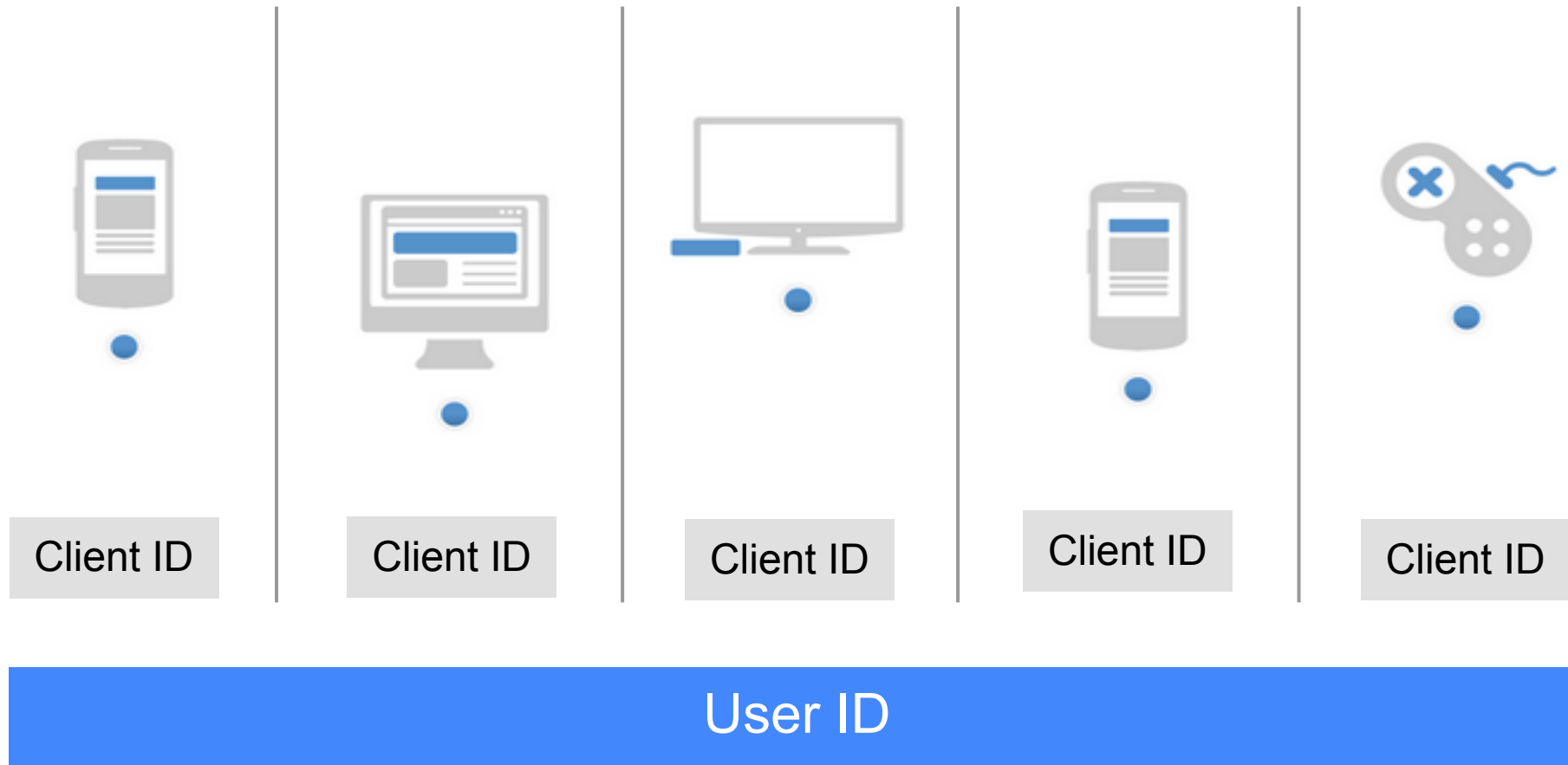
Cross-device Optimization

Analytics for a multi-screen world

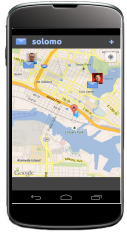
User ID



Breaking Down Cross-device Barriers



Measurement with Client ID



`&cid=111`



`&cid=222`



`&cid=333`

=

3



Unique Visitors



Cross Device Measurement with User ID



`&cid=111`

`&uid=456`



`&cid=222`

`&uid=456`



`&cid=333`

`&uid=456`

=

1



Unique Visitor



User ID

Enables cross-device reporting

Best for signed-in experiences

ID must be non-PII



Setting User ID on the Web

Analytics.js

JavaScript

```
<script>
  ga('create', 'UA-XXXX-Y');
  if (auth.user.isSignedIn()) {
    // Set User ID with non-PII value.
    ga('set', '&uid', auth.user.getId());
  }
  ga('send', 'pageview');
</script>
```



Coming soon: Cross Device Reporting

The image displays three overlapping screenshots of a reporting dashboard. The top screenshot shows the 'Device Overlap' report for the period Feb 22, 2013 - Mar 24, 2013. The middle screenshot shows the 'Device Paths' report for May 8, 2013 - May 9, 2013. The bottom screenshot shows the 'Acquisition Source' report for May 1, 2013 - May 12, 2013. The 'Acquisition Source' report includes a line chart for 'Unique Visitors' and a table with the following data:

	Unique Visitors	Visits	Revenue From Originating Touchpoint	Revenue From Other Touchpoints
	4,051,873	21,522,930	\$243,112.38	\$162,074.92
	% of Total: 100.00% (4,051,873)	% of Total: 88.89% (21,522,930)	% of Total: 48.89% (243,112.38)	% of Total: 48.89% (162,074.92)
1. desktop	3,834,161	20,831,371	\$145,867.42	\$16,207.49
2. tablet	75,409	465,331	\$72,933.71	\$48,822.47
3. mobile	42,303	226,228	\$24,311.24	\$97,244.95

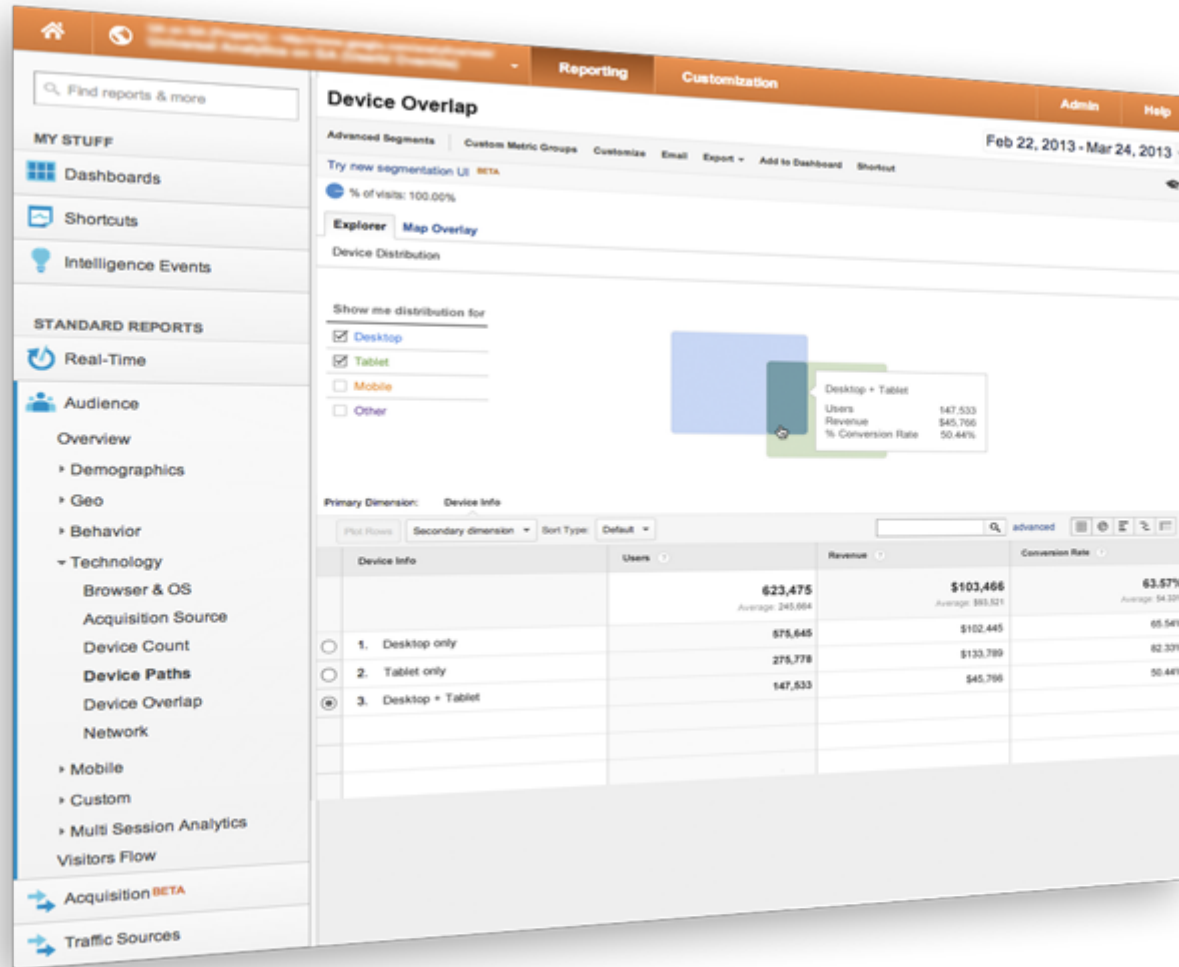
Device Overlap

Device Paths

Acquisition Source



Device Overlap



Segment users and outcomes by device combinations.



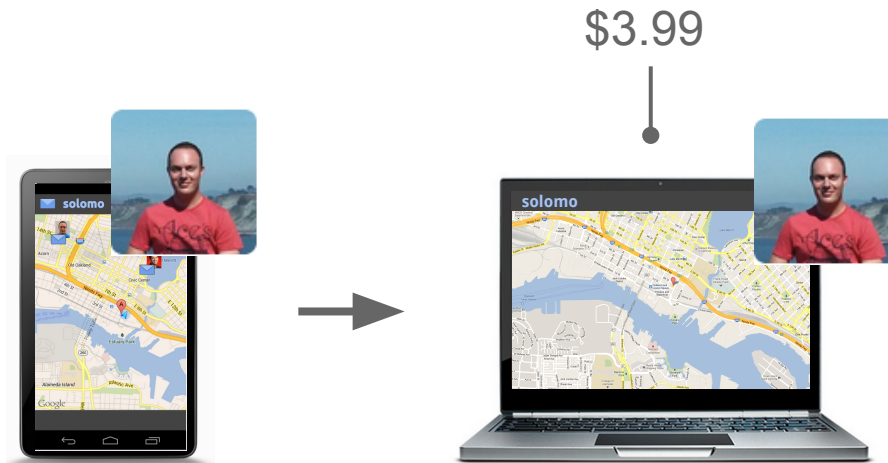
Measuring Device Overlap

<input type="checkbox"/>	Visitor Type	Unique Visitors [?]	↓	Revenue [?]
<input type="checkbox"/>	1. New Visitor			
	Desktop		1	\$3.99
	Tablet Traffic		1	\$0.00



Device Overlap with Cross Device Measurement

Device Info	Users ?	Revenue ?	Conversion Rate ?
	1 Average: 1	\$3.99 Average: \$3.99	100.00% Average: 100.00%
1. Desktop + Tablet	1	\$3.99	100.00%



Device Overlap

Segment users and outcomes by device combinations.

The screenshot displays a 'Device Overlap' report for the period Feb 22, 2013 - Mar 24, 2013. The report is filtered for '% of visits: 100.00%'. The 'Device Distribution' section shows 'Desktop' and 'Tablet' selected. The summary table highlights the 'Desktop + Tablet' segment with the following metrics:

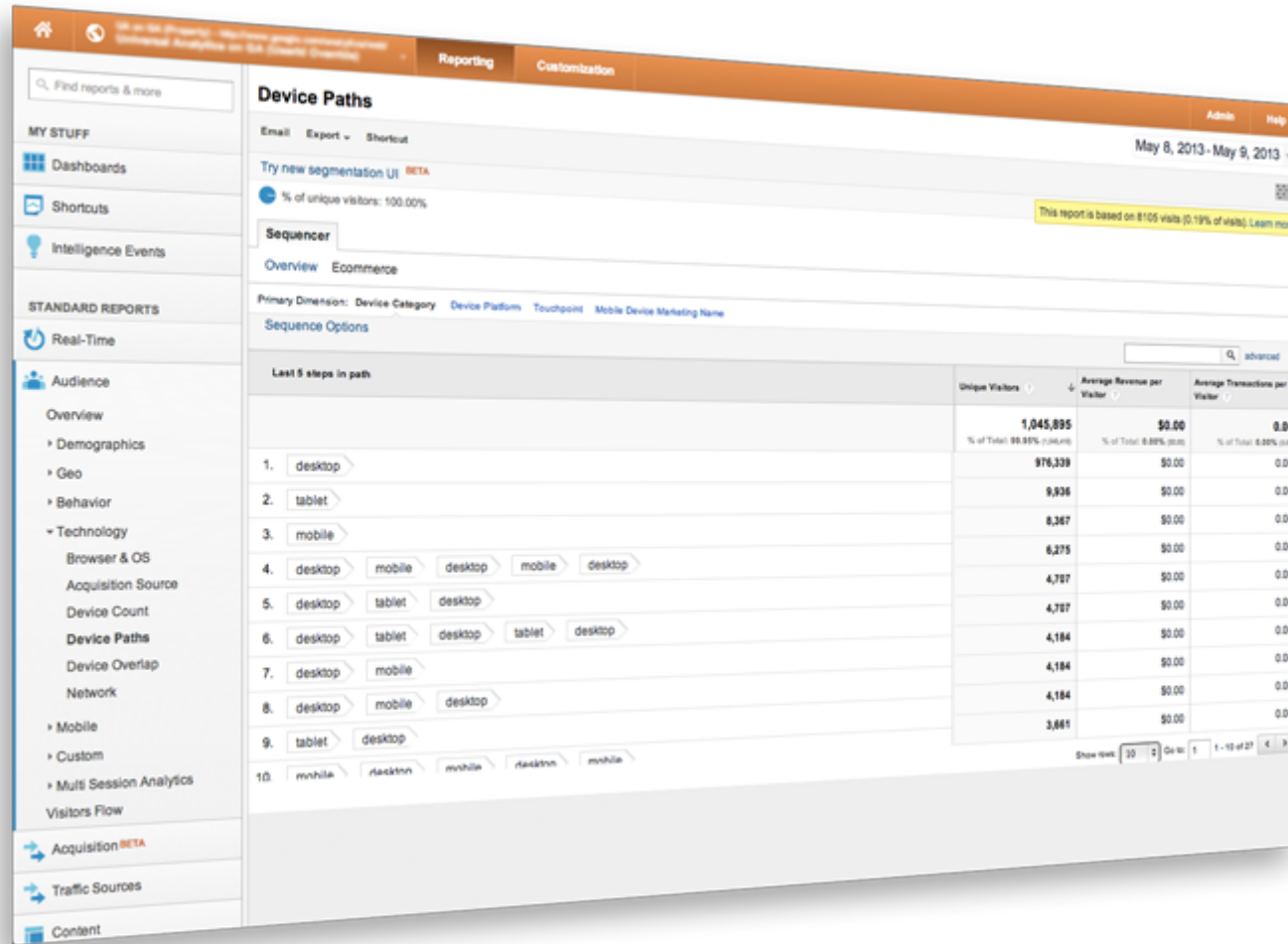
Segment	Users	Revenue	Conversion Rate
Desktop + Tablet	147,533	\$45,766	50.44%

The detailed table below provides a breakdown of device combinations:

Device Path	Users	Revenue	Conversion Rate
1. Desktop only	575,645	\$102,445	65.54%
2. Tablet only	275,778	\$133,799	82.33%
3. Desktop + Tablet	147,533	\$45,796	90.44%



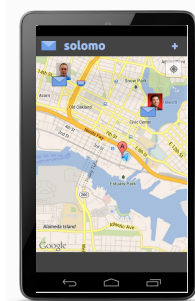
Device Paths



Segment users and outcomes by device paths.



Device Paths



Device Paths with Cross Device Measurement

Sequencer

Overview [Ecommerce](#)

Primary Dimension: [Device Category](#) [Mobile Device Marketing Name](#)

Sequence Options

Last 5 steps in path	Unique Visitors [?] ↓	Visits [?]	Average Duration of Visits per Visitor [?]	Revenue [?]	Transactions [?]	Visitor Conversion Rate [?]
	3,419,320 % of Total: 100.00% <small>(3,419,320)</small>	15,209,437 % of Total: 100.00% <small>(15,209,437)</small>	00:10:12 Site Avg: 00:10:12 (0.00%)	\$0.00 % of Total: 0.00% (\$0.00)	0 % of Total: 0.00% (0)	0.00% % of Total: 0.00% (0.00%)
1. desktop	3,222,917	13,466,232	00:09:59	\$0.00	0	0.00%
2. tablet	29,277	65,873	00:02:37	\$0.00	0	0.00%
3. desktop mobile desktop	24,398	206,159	00:09:25	\$0.00	0	0.00%
4. desktop tablet	17,078	239,096	00:12:29	\$0.00	0	0.00%
5. desktop tablet desktop	14,639	140,286	00:13:15	\$0.00	0	0.00%
6. mobile desktop	13,419	71,973	00:04:47	\$0.00	0	0.00%
7. desktop mobile desktop mobile desktop	12,199	239,096	00:25:20	\$0.00	0	0.00%
8. mobile	12,199	31,717	00:07:30	\$0.00	0	0.00%
9. tablet desktop	12,199	59,774	00:03:42	\$0.00	0	0.00%
10. desktop mobile	9,759	46,355	00:03:13	\$0.00	0	0.00%



Device Paths with Cross Device Measurement

Sequencer

Overview [Ecommerce](#)

Primary Dimension: [Device Category](#) [Mobile Device Marketing Name](#)

Sequence Options

Sequence options

...

Minimum transitions to show in a path

								Visitor Conversion Rate
5.	desktop	tablet	desktop	14,638	140,286	00:13:13	\$0.00	0.00%
6.	mobile	desktop		13,419	71,973	00:04:47	\$0.00	0.00%
7.	desktop	mobile	desktop	12,199	239,096	00:25:20	\$0.00	0.00%
8.	mobile			12,199	31,717	00:07:30	\$0.00	0.00%
9.	tablet	desktop		12,199	59,774	00:03:42	\$0.00	0.00%
10.	desktop	mobile		9,759	46,355	00:03:13	\$0.00	0.00%



Device Paths with Cross Device Measurement

Last 2 steps in path before Any Transaction	Unique Visitors ? ↓	Visits ?	Average Duration of Visits per Visitor ?	Revenue ?	Transactions ?
	3,440,435 % of Total: 100.00% (3,440,435)	15,228,350 % of Total: 100.00% (15,228,350)	00:09:45 Site Avg: 00:09:45 (0.00%)	\$340,890.83 % of Total: 49.56% (\$735,509.34)	12,746 % of Total: 49.56% (25,531)
1. desktop	3,254,744	13,453,974	00:09:31	\$110,240.12	4,303
2. tablet desktop	37,826	472,823	00:19:20	\$84,505.49	2,598
3. desktop tablet	29,229	457,349	00:10:16	\$146,145.22	5,845



Device Paths

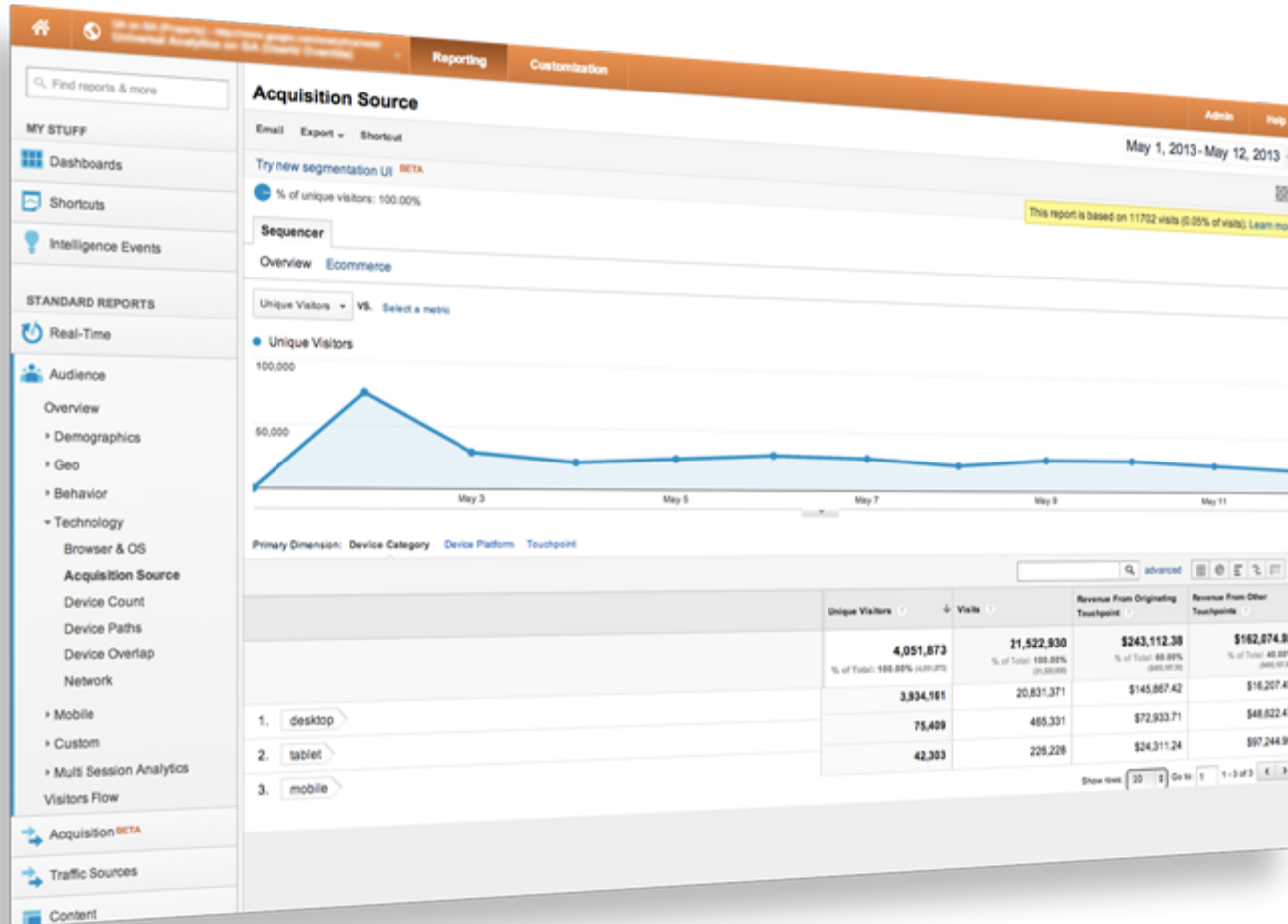
Segment users and outcomes by device combinations

The screenshot shows a web analytics dashboard with a sidebar on the left containing navigation options like 'MY STUFF', 'STANDARD REPORTS', and 'Acquisition'. The main content area is titled 'Device Paths' and includes a search bar, a date range of 'May 8, 2013 - May 9, 2013', and a 'Sequencer' section. A table below the sequencer displays device paths and their corresponding metrics. A callout box highlights the first row of the table, showing 'desktop' and 'tablet' as device paths, with 4,184 unique visitors, an average revenue of \$1.53 per visitor, and 3 average transactions per visitor.

Device Paths	Unique Visitors	Average Revenue per Visitor	Average Transactions per Visitor
desktop tablet	4,184	\$1.53	3
desktop tablet desktop tablet desktop	4,184	\$0.00	0.00
desktop mobile	4,184	\$0.00	0.00
desktop mobile desktop	4,184	\$0.00	0.00
tablet desktop	3,661	\$0.00	0.00
mobile desktop mobile desktop mobile			



Acquisition Source



Get true acquisition value by device.

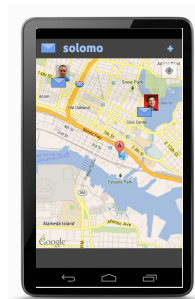
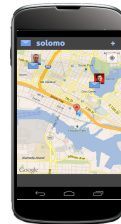


Acquisition Source

Mobile
\$0.99

Tablet
\$2.99

Desktop
\$14.99



Acquisition Source

Visitor Type	Unique Visitors [?]	↓	Revenue [?]
1. New Visitor			
Desktop		1	\$14.99
Tablet Traffic		1	\$2.99
Mobile Traffic		1	\$0.99

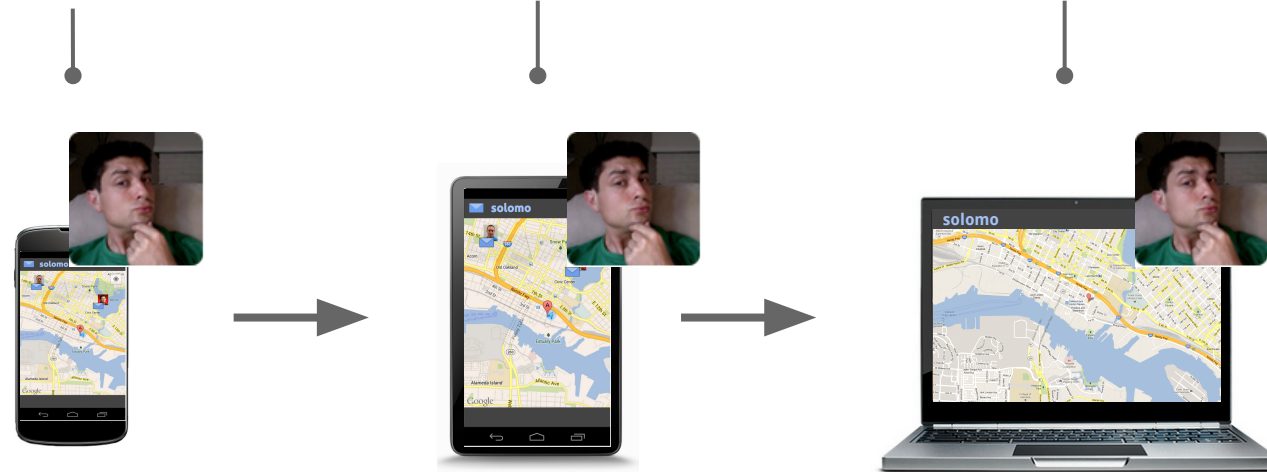


Acquisition Source with Cross Device Measurement

Mobile
\$.99

Tablet
\$2.99

Desktop
\$14.99



Acquisition Source with Cross Device Measurement

	Unique Visitors ?	↓	Revenue From Originating Touchpoint ?	Revenue From Other Touchpoints ?
1. mobile		1	\$0.99	\$17.98



Acquisition Source

Get true acquisition value by device.

The image shows a screenshot of the Google Analytics 'Acquisition Source' report. The main focus is on the 'mobile' device category. A table below the main report provides a breakdown of revenue by touchpoint for mobile visitors.

Device	Unique Visitors	Revenue From Originating Touchpoint	Revenue From Other Touchpoints
mobile	42,303	\$24,311.24	\$97,244.95

Device	Unique Visitors	Visits	Revenue From Originating Touchpoint	Revenue From Other Touchpoints
1. desktop	4,891,873	21,522,830	\$243,112.38	\$162,074.92
2. tablet	3,834,161	20,821,371	\$145,867.42	\$16,207.49
3. mobile	75,428	485,321	\$72,833.71	\$48,622.47



Summary

User ID

- Enables cross device **measurement**
- Non-PII
- In limited pilot

Cross Device Reporting

- Enables cross device **analysis** with User ID
- Coming soon

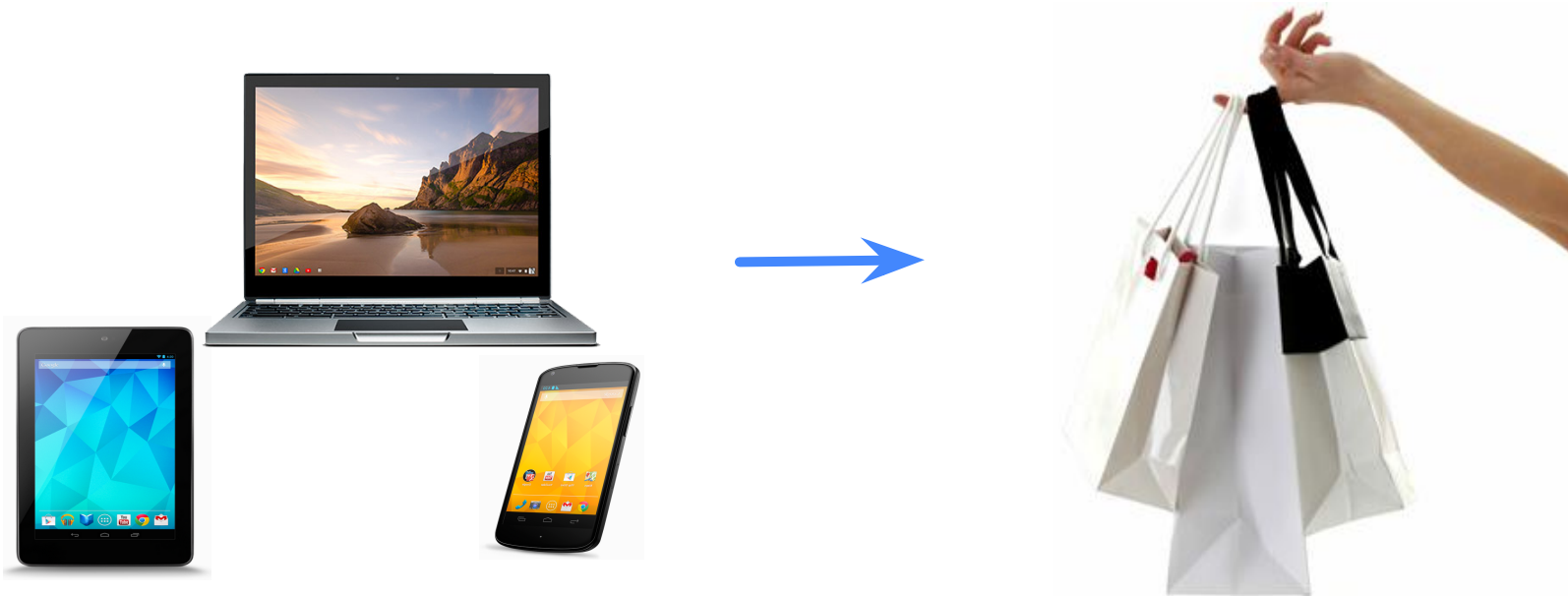


Online to Offline

Hits from the real world

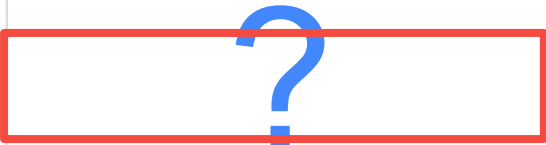
Research Online, Purchase Offline

42% of retail sales in 2012 were online- or web-influenced



Measurement Solution

Campaign	Online Revenue	↓
Summer Sale	\$26,341	
Remarketing	\$25,735	
Newsletter - May	\$25,122	
Blee	\$24,733	
Newsletter - April	\$23,691	
Spring Sale	\$22,554	



What to use for online to offline?

Is there a consistent way to identify a user?

yes

no

User ID

You provide stable ID. e.g.
Auth System, Loyalty program



Client ID

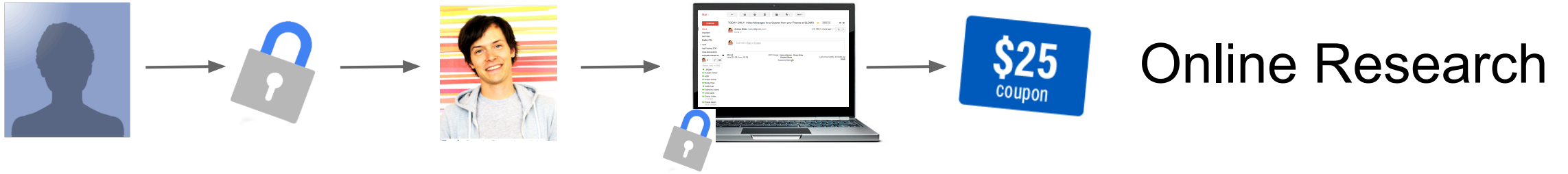
ID generated
by Google Analytics



User ID



Daily Deal Example



Google Analytics Implementation

#1: Online Measurement with User ID



#2: In-Store Measurement with User ID



Online: Measurement with User ID

Analytics.js



```
<script>
  ga('create', 'UA-XXXX-Y');
  if (auth.user.isSignedIn()) {
    // Set User ID with non-PII value.
    ga('set', '&uid', auth.user.getId());
  }
  ga('send', 'pageview');
</script>
```

JavaScript



In-Store: Send Transaction with User ID

Measurement Protocol



```
http://www.google-analytics.com/collect  
?v=1  
&tid=UA-XXXX-Y  
&uid=auth.user.getId()  
&t=transaction  
&ti=12345  
&tr=500
```



Not Just Retail

Bring the User ID anywhere

Loyalty Card

Memberships

Tickets



Client ID



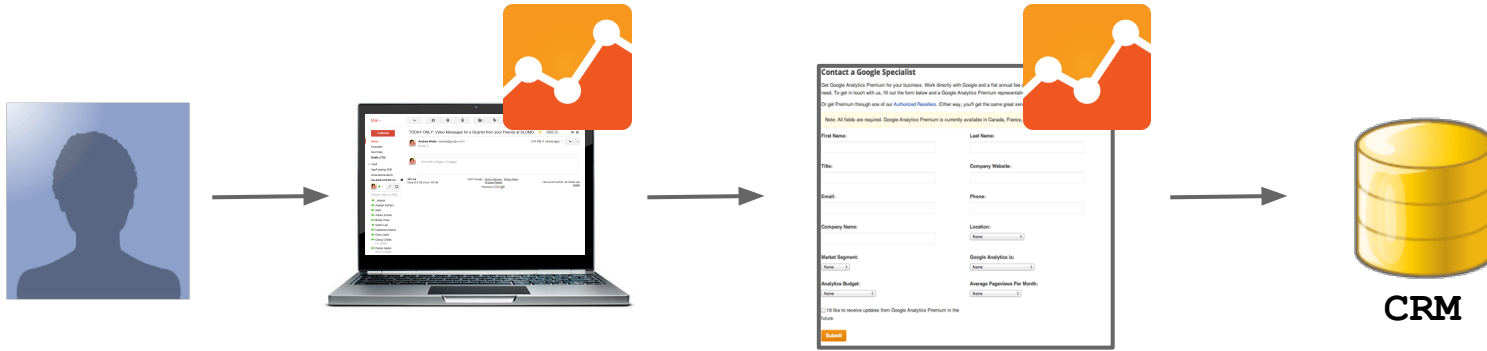
Let's Go for a Test Drive



Test Drive - Implementation

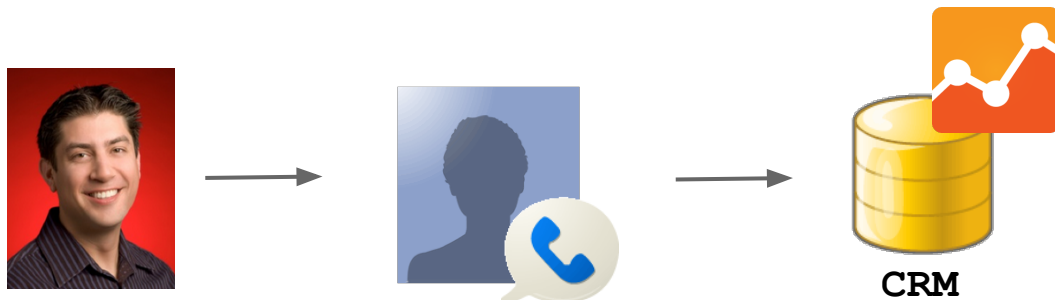
analytics.js

#1. Send Client ID with Form POST



Online Research

#2. Send Test Drive Booked Event w/CID

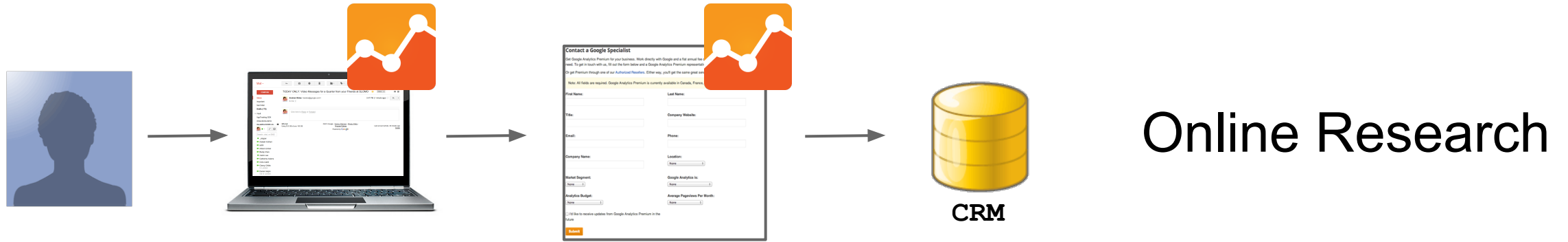


Test Drive Booked



Test Drive - Implementation

#1. Send Client ID with Form POST



Online Research

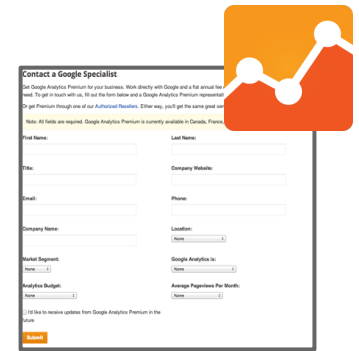


Test Drive Booked



Send Client ID with Form POST

Analytics.js



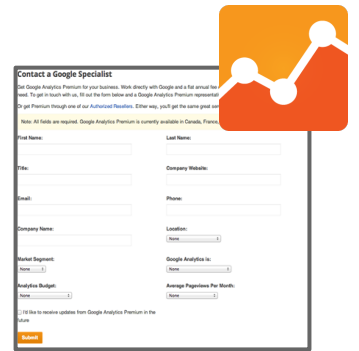
HTML

```
<form id="lead-form" method="POST" action="/lead">  
  <input id="name" type="text"/>  
  <input id="phone" type="text"/>  
  <input type="submit" value="Submit"/>  
  <input id="clientId" type="hidden"/>  
</form>
```



Send Client ID with Form POST

Analytics.js

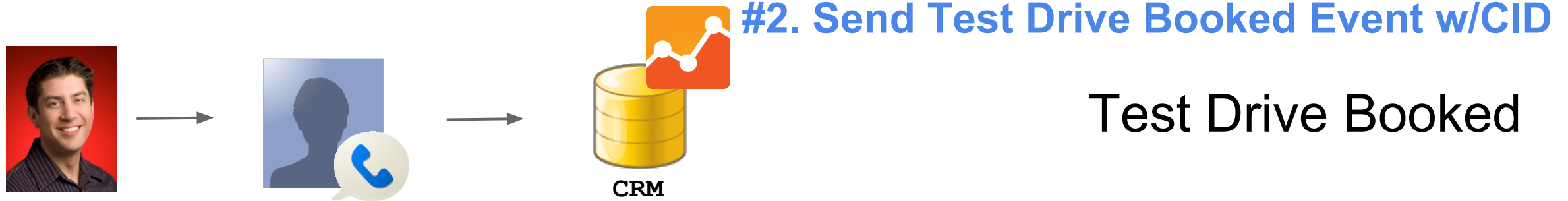
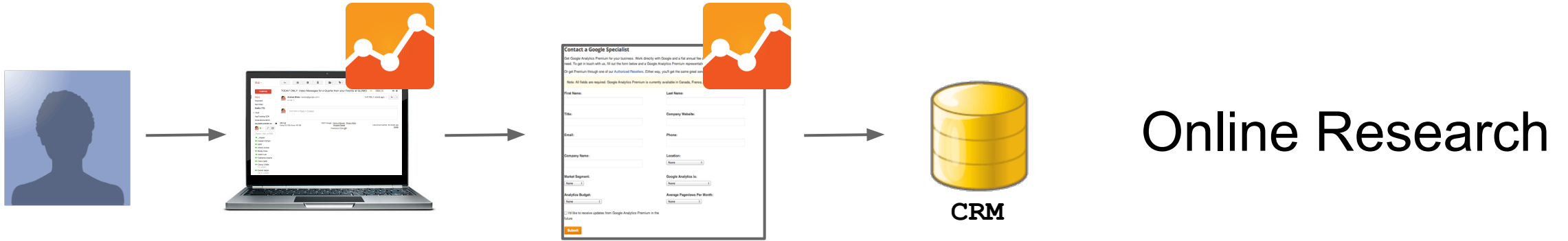


JavaScript

```
<script>
document.getElementById('lead-form').addEventListener(
  'submit', function(event) {
    ga(function(tracker) {
      clientId = tracker.get('clientId');
      document.getElementById('clientId').value = clientId;
      tracker.send('event', 'test-drive', 'new-lead');
    });
  });
</script>
```



Test Drive - Implementation



Send 'Test Drive Booked' Event to Google Analytics

Measurement Protocol



```
http://www.google-analytics.com/collect
?v=1
&tid=UA-XXXX-Y
&cid=crmLead.clientId
&t=event
&ec=test-drive
&ea=booked
```



Online to Offline Summary

Make the connection with **User ID** or **Client ID**



Attribute offline interactions to online



Optimize for the complete story



Measuring Beyond Web and App

Cross Device Optimization

Online to Offline

Next Steps

Measurement Protocol - Available now

User ID - Subscribe to +GoogleAnalytics for announcement

Resources - <https://developers.google.com/analytics/>

Office Hours - Ads Sandbox after session



Thank You

Visit us in the Ads Sandbox

<https://developers.google.com/analytics>

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Andrew Wales - [gplus.to/awales](https://plus.google.com/+awales)

Nick Mihailovski - [gplus.to/nickski](https://plus.google.com/+nickmihailovski)

