

Google Analytics

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Really?



"On the Internet, nobody knows you're a dog."

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Key learning Objectives for Google Analytics training

In this workshop you will:

- Understand how Google Analytics (G.A.) works.
- Discover what web analytics can tell you.
- Gain a clear sense of immediate, practical next steps.
- Get your questions about Google Analytics answered.



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Morning Session: Analytics 101

- An introduction to web analytics and Google Analytics
- How Google Analytics works
- Understanding Google Analytics account essentials
- Navigating in the reporting interface
- Understanding Google Analytics standard reports
- Interpreting data to create actionable information
- Go beyond counting visitors: how data relates to your business
- Analytics Terminology



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Analytics Process

Measure: Data

Learn: Analysis

Hypothesis: Insights & Information

Take Action: Revise and repeat



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Creating a Measurement Plan

- Objective for business
 - Strategy to achieve objective
 - Tactics to carry-out strategy
 - KPIs for measuring success



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About Web Analytics

Web involves *analyzing data, creating information, and generating insight*. It includes information about:

- Who is visiting pages (audience)
- How they arrived (acquisition)
- Pages being visited (behavior)
- Did visitors do what you wanted (conversions)



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G.A. provides

- a wealth of visitor information
- Data analysis tools
- Data segmentation tools



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G.A. does *not* provide

- Personally identifiable information (PII)
- Analysis
- Insight
- Interpretation



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G.A. helps determine marketing & advertising ROI

Paid Search
Display
Social
Email
Affiliates



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How web analytics can be used

- Determine what works (or doesn't work) on a site
- Analyze trends: trends tend to be more important than individual snapshots of data
- Monitor the effectiveness of advertising and marketing campaigns to determine:
 - Which campaigns and mediums generate the most actions
 - What is the lowest cost per action
 - What campaigns have the most conversions



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How you should use web analytics

- Analytics involves measuring, collection and analysis of data for the purpose of optimizing and understanding your business.
- The data isn't the end-goal; use the data to:
 - create information
 - help you and your organization make better decisions
- The data itself can provide information overload



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Data is driving online decisions

- There are more than 50 million sites using Google Analytics
- Data-driven decisions about marketing are expected
- Data makes it possible to deliver better experiences that meet business objectives
 - Remove poor performing pages or screens
 - Address technical issues
 - Expand content that is successful



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Google Analytics is On-site

- Provides data about a specific site
- Requires you own, manage, or have access to site
- Requires you prove ownership or control of site
- Only reports data to authorized users
- Other analytics type is off-site, which lacks specificity



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How on-site analytics works

- Javascript code is inserted into website or app being monitored
 - Google provides the unique code for each site
 - Occurs "behind the scenes"
- Javascript sends data to analytics provider
 - Google receives the data if using Google Analytics
 - There are other analytics options: Adobe (Omniture), Webtrends, IBM (Coremetrics)
- Provider collects, processes, organizes, then displays data from site visitors when you log-in
 - If you advertise with Google, analytics data can be combined with adwords data



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Google Analytics setup

- Place .js code on the site you wish to monitor
 - Only use the code on a single site
 - Each site should have its own unique tracking ID
 - Set-up multiple sites with unique code per site
- Types of .js you may see
 - ga.js is the legacy code
 - analytics.js is the current code
 - GTM.js



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Users, Accounts, Properties, Views



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Google Analytics account access

- User must have google account
 - Google account can be your @companyname.com domain or even gmail
- User must be granted access to Google Analytics data for each specific site on which they wish to work
- Each account can access multiple web sites (properties)
 - You can access 50 web properties per account
 - Each user login can access 50 accounts
 - Each account is individual, thus data is not combined between accounts
 - If you want to roll-up data together from multiple divisions, then put them under a single account



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Users

- Individuals who have permission to view data
- Permissions can be assigned at different levels:
 - Account
 - Property
 - View
- Various roles define permissions
 - Admin
 - Edit
 - View



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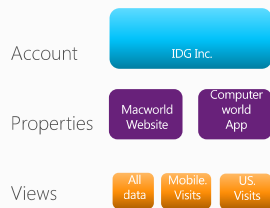
Account structure

- Account, Properties, and Views are established in the Administrative areas
- Ability to add, edit, or remove depends upon access rights assigned to user's log-in.



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Accounts, Properties, and views



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Google Analytics Account Hierarchy

- **Accounts:** Parent folder containing related websites or apps. Each account may monitor many different websites. A user can have access to multiple accounts.
- **Properties:** Websites or apps being monitored.
- **Views:** Data from properties are reported through views. Views may be configured to display partial sets of data or all data using filters.
 - Some data may be intentionally omitted via views, such as visitors from company network
 - Set-up to remove or refine data occurs manually.



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Account

- Top-level access for a site or collection of sites (or apps)
- Your account may be attached to multiple web properties.
- Account may also be attached to different Google services, such as Webmaster tools or Tag Manager



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Property

- Each specific website is generally a property
- Each app is generally a property
- A single Google Analytics account can monitor multiple properties



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View

- Defined view of visitor data from a property
- Views may be filtered or unfiltered
- Views are not retroactive; they filter data going forward
- It is possible to filter all website data
- Best practice is to create *at least* three views
 - Raw / unfiltered: do not edit this
 - Test: For dev / staging
 - Working: Use this for live data



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An unfiltered view is a good idea

- An unfiltered view provides a safety net for all data
- Once your data is filtered, it can't be recovered
- Once filtered it cannot be reprocessed



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Other view examples

Beyond Production, Test, and Unfiltered, other views can provide specific perspectives on visitor behavior. Example views may include:

- External visitors: visitors not from company network / IP
- Mobile visitors: Only visitors on mobile devices
- Visitors from specific geographies
 - By Country
 - By Region (State / Province)
- Authenticated visitors: Those who are logged-in
- Anonymous: Visitors who are not logged-in



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Accounts, Properties, & Views in action

- Log-in to existing G.A. account
or
- Access G.A. demonstration account



Google Analytics demo account login

- Log-in to your Google account
 - Can be gmail or IDG email address that has been granted access to Google account
- This link provides access to demonstration Analytics data:
<https://analytics.google.com/analytics/web/demoAccount>
 then click **—>ACCESS DEMO ACCOUNT<—**
- If you already have a Google Analytics account, the demo site data is added to the sites you already monitor.
- If you have a Google account but not an Analytics account, one is created and the demo account is added to it.



Reports, Metrics, and Dimensions



Understanding the User Interface

- **Administrative menu** is bottom-left gear icon
 - eg: add new users; set up properties, views, filters, and goals
- Select **property** and **view** to work with on top left
- Home provides dashboard of metrics perceived as relevant for your site; each section provides links to more in-depth reports
- Select **reports** to view along left side
- Middle section of left side selects type of reports



Home Screen

- Dashboard
- Varies from site to site
- Rarely provides actionable information



Standard Reports

Use standard reporting to understand your audience, including information about:

- **Audience:** Who is visiting
- **Acquisition:** How your visitors found you
- **Behavior:** What visitors did on the site
- **Conversions:** Any goals you've set for your site visitors



Overview reports

Available for audience, acquisition, behavior, and conversions

- Can change what is displayed
- Modify date range displayed
- Compare different: date ranges and metrics
- Add notes (annotations):
 - Annotations can be public or private



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Audience Overview

- Default Metric is sessions (visits)
- You'll can change the metric displayed
- You can select a second metric for comparison
- Displays information for the view (profile) you are viewing; not all sites



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Understanding Averages

- Average numbers tend to be skewed by outlying numbers
- Extremes may create unreliable numbers
- Trend analysis tends to be more valuable



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Bounce rate

- Bounce is any visitor that only sees one page during a session
- Bounce can signal poor performance
 - Use comparisons for benchmarking – compare bounce rate of:
 - devices
 - browsers
 - pages
 - traffic sources
- More about bounce rate
 - Depends upon the objectives of the page
 - If goal is to drive visitors further into the site, bounce rate should be low
 - If objective is to provide a single piece of information, a higher bounce rate may be expected.



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General Reporting interface

Most reports include the following:

- Line graph
- Explorer Data Table
- Dimensions (rows)
- Metrics (columns)



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Date ranges and reporting

- Can customize time period
- Can compare range
 - By default to the previous day/week/
 - Can chose comparison to any other time period that you customize
- Traffic graph along bottom shows dates
- Can compare date ranges
 - When comparing two periods: always try to compare same day of week to same day of week



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Adding notes to Google Analytics

- Notes added to line graph in standard reports
- Annotations can be private or shared
- Add along bottom of line graph
- Available within all reports



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Analytics Terminology

- User
- Visit
- Session
- Pageviews
- Bounce rate
- Unique _____
- Hit



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Reports

- Information gathered for you regarding site visitors
- Accessed via left-side of interface
- Separated into:
 - Audience
 - Acquisition
 - Behavior
 - Conversions



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View types within standard reports

- Data, percentage, performance,
- Table view: big picture overview
- Pie charts (not always useful with more than a few dimensions)
- Performance
 - Can sort any column by clicking on it when in a performance view
 - *Spend time covering various ways to sort in the performance view*



Exporting Reports

- Reports can be exported and shared
 - Download XLS or CSV for additional manipulation;
 - download PDF to share with someone who does not have GA access
- Customizing reports and saving for future access is possible
- Reports can be emailed on a schedule
- Multiple data visualization options exist



Real-Time Reporting

- Provides only a brief snippet in time
- Useful for QA but generally not for reporting



Metrics

- Metrics are measurements that Google Analytics displays
- Displayed in blue when selecting those to display
- Metrics are displayed in columns



Examples of Metrics

- Bounce rate
- Visits
- Time on site
- Conversions
- Time on Page
- Clicks
- Impressions
- Unique Page views



Metrics can be viewed within

- Scorecards in overview reports
- Columns within tables
- Graphs
- Dashboards
- Custom Reports



Metrics can be customized

- Examples of custom metrics
 - Tokens collected
 - Dollars spent
 - Distance of trip
- Custom Metrics requires
 - Setup within G.A.
 - additional JavaScript added to pages where used or displayed



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Dimensions

- Dimensions are attributes describing data.
- Dimensions are generally text (exception is *age of visitor*)
- Displayed in rows
- Displayed in green when selecting those to display



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Examples of Dimensions

- Browser
- Operating System
- Country
- City
- Campaign
- Landing page
- Language
- Device



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Dimensions can be customized

- Examples of custom metrics
 - User ID
 - Product Purchased
 - Product color
- Custom Metrics requires
 - Setup within G.A.
 - additional JavaScript added to pages where used or displayed



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Dimensions and Metrics in action

Mobile Device	Users	New Users	Sessions	Bounce Rate	Pages / Session	Avg. Session Duration
Apple iPhone	4257	4073	5336	46.12%	3.57	120.27
Apple iPad	746	705	907	44.32%	4.29	150.61
Google Pixel	443	412	603	40.46%	3.71	115.75
Google Nexus SX	358	347	426	62.68%	2.87	85.06



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What were the percent of new visits for the past three months for the site you are measuring?

What percent came from mobile?

What is the bounce rate for this period?



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Audience Reporting



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Dimensions: Primary & Secondary

Most reports support primary dimensions

Examples of Primary Dimensions

- Query: What user typed into Google
- Source: Who sent the traffic
- Medium: How (email, organic, paid, referral)

Secondary Dimensions

- Adds another way to organize data
- Examples:
 - Medium (cpc, referral, etc.)
 - Country
- Viewing and removing secondary dimensions



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Plot rows within reports

- Clicking checkbox to left of dimension
- click "plot rows"
- Rows displayed on line graph



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Demographics & Interests

- Age, gender, hobbies
- Must be enabled
- Information taken primarily from:
 - Cookies: visitor's browsing history
 - Google properties



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Geography

Language

- Language used is a function of browser
- Browser doesn't tell you too much as user might be Hispanic but working with an English browser, for example.

Location

- Population centers being measured can affect results
- May want to remove or focus on visitors users from different countries
- May want to remove visitors from outside your region or country
- Filter out unrelated traffic
- Can also filter internal (corporate) traffic using segments



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Behavior

New vs. Returning

- New Visitors: Is site seeing enough new interest to allow for growth?
- Return Visitors: Tend to be most likely to take action: is this number consistent or growing?

Frequency & Recency

- How frequently do visitors return?
- How much time do users take between visits?

Engagement

- How often do visitors return to site



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Technology

Does the user's device or browser impact their experience?

- Browser: Is site developed on one browser but not tested on others?
- OS: Are mobile or desktop users seeing the site differently?

Network

- On which networks are users who visit site?
- Bulk coming from primary ISPs
- For B-2-B: search for college, university, corporation



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Mobile

- Mobile devices used
- Device branding
- Operating system



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Time on Site

- Time on site calculated as entry time until the next click
- If visitor visits two pages on the site, but never clicks a link on the second page
 - The only page visited that counts is the first page
 - The time on the final page is not counted
- Visitors only hitting a single page will show as zero seconds, regardless of time spent on that page



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Splitting Content to more accurately collect time on site data

- Split content amongst pages rather than a single page
 - Allows for better tracking of time on site
 - Can also help SEO
- Alternatively, use events or virtual pageviews on long pages



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Page depth and object visibility

- Require modifications to standard tracking
- Standard analytics.js requires customization
- GTM offers tags for both depth of scroll and visibility



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Cohort Analysis

- See how similar visitors performed over time
- Date of visit is initial cohort option
- Performance metrics can be selected within report
- Can compare different segments within same cohort



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Visitor Flow

- How visitors locate then travel through your site
- From entry to exit
- Duration
- Devices
 - Can get a better understanding UX concerns by looking at bounce rate and visit duration for specific device types



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- What are the top three states from which traffic visits your site?
- What percent of your traffic is from mobile devices over the past 30 days?



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Google Analytics 201

- Create unfiltered views (profile)
- Creating Custom Audience Segments
- Understanding what drives traffic to a site (*acquisition*)
- Understanding what visitors do on a site (*behavior*)
- Tracking your marketing initiatives with campaigns
- Determining if site visitors are doing what you want with goals
- Customizing G.A.
 - Alerts
 - Events
 - Dashboards



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Acquisition: Traffic Sources



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Channels

High-level groupings of how traffic arrived on your site

- Search: Organic, Paid
- Direct: The page directly typed-in or bookmarked
- Referral: Link from another site
- Social: Facebook, Twitter, etc.
- Display advertising



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Channels can be customized

- Can create grouping for unique business needs.
- Example: Traffic from your own company domains could be grouped into a channel reflecting this traffic source
- Requires administrative setup to define the custom channel



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Source & Medium

- Source: Who sent the traffic
 - Google
 - Bing
 - Direct
- Medium: Category for the source
 - Organic
 - CPC (paid search)
 - Display
 - None (for direct traffic)



Campaigns

- Google automatically adds tracking codes to campaigns placed on their network
- Tagged links that point to your site



Acquisition Reports

Reports are available based upon each channel type. Use to:

- Determine if one source of traffic is better than others
- See if certain traffic sources under-perform
- Compare similar traffic sources within a single category
- Evaluate paid search traffic performance



Evaluating Organic Search

- Most organic search terms or keywords are not reported
- Generally need to add secondary dimensions to understand visitor search or intent



Not Provided & Not Set

- Not provided: Google has decided to not share the information
- Not set: Google does not have the information



Matched Search Query

- Provides exact search phrase for PAID search ads



Behavior



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Behavior overview

- Provides an understanding of what visitors do on site / app



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Site Content

- When Viewing All Pages section, can be helpful to switch to view by Page Title rather than URL
- Provides page-level metrics rather than site level metrics
- *Navigation summary* for specific pages (selected across the top) shows page visited before and pages visited after
- Landing Pages: Where people are entering your site
- Exit pages: Where people are leaving your site



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Exit Page

- Last page visitors saw before leaving or ending session
- Can be any page encountered at any time on the site
- Use to identify pages where visitors encountered problems which may include:
 - Browser compatibility
 - Page speed
 - Page content



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Bounce vs. Exit

Page	Pageviews	Entrances	Bounce Rate %	Exit %
Page 1	3	3	33%	33%
Page 2	2	0	0	50%
Page 3	1	0	0	100%



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Reducing bounce and exits

- Improve speed
 - Minify js
 - Reduce size of images
 - Keep JS so it doesn't render-block
 - Use CDN
 - Use GTM if many tags
- Improve User Experience
 - Focus on user needs not simply visual design
 - Optimize for all devices and all browsers



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Site Speed

- Page Timings: Faster load time is tied to SEO and conversions
- Page Speed Insights provides detailed reports
- Should optimize page load time so it is decreasing
- Can reduce page load time with
 - Optimized images
 - Optimizing JS
 - CDN
 - GTM
- Use Page Speed Insights for details on specific pages



Site Search

- Provides insight as to what site visitors are seeking but not able to easily locate
- Reports on the most commonly used search terms
- Not enabled by default – requires configuration
- To use:
 - Site must offer search to visitors
 - Visitors query must be written to the URL so it can be detected



Conversions: Goals achieved



Understanding Goals and Conversions

- Google Analytics is at its most powerful when you have goals
 - Goals are essential because they provide the lens through which you see performance
- When you reached a goal you've achieved a *conversion*.
- Having clearly defined goals in place is essential for the optimal use of G.A.
- Not just specific revenue goals – but also
 - What is the purpose of your organizations' digital footprint?
 - What are the goals of your website?



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Goals and the conversion funnel

- The conversion process includes the lifecycle for a customer
 - From prospect to customer to repeat customer
- **Attract > Engage > Convert > Retain > Advocate**
- The value of conversions tends to increase as you move from attraction to advocate.



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Customer journey & G.A. role

- Attract
 - Visit site – Measure: source, bounce-rate
- Engage
 - View a product; Watch a video; download PDF – Measure pageviews, % exits
- Convert
 - Add to cart; sign-up for newsletter
 - Measure ecommerce transactions; newsletter sign-ups; sources for these visitors
- Retain
 - Repeat purchase – Measure: Retargeting clicks; repeat visits; repeat purchases
- Advocate
 - Social media share; write a review
 - Measure: social media mentions; visits from social media; from review sites



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Customer journey and goals

- Many visitors make small, incremental steps towards final commitment: micro conversions
- Google Analytics goals can identify both smaller or larger steps in purchase or commitment process.
- These steps are goals, which are unique to each site



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Micro and Macro goals

- Macro Conversions:
 - Measurable with a dollar impact
 - Ecommerce sales;
 - Lead Generation
- Micro Conversions:
 - Steps along customer journey
 - Downloading a brochure or whitepaper
 - Generally show that the site delivering customer value
 - Show interest in your site or service
 - Examples
 - Playing a video; playing it to the end
 - Downloading a PDF



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Conversion funnel

Top: Many visitors

Middle: Fewer visitors; micro conversions

Bottom: Smallest number of visitors, macro conversions

Create goals at all steps in the funnel process

- Segment goals into top or bottom
- Create both micro goals and macro goals



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G.A. measures if visitors are meeting your specific goals and objectives

- Sign-up for newsletter
- View a video
- Download a PDF
- Access a coupon
- Obtain driving directions
- Add an item to their shopping cart
- Complete a Purchase



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G.A. allows quantification of

- How many leads came from a marketing event
- How many sales came from advertisement
- How valuable are leads or customers from specific sources



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Conversion reporting

- Conversions show goals that have been achieved
- Conversions can be tracked by:
 - Category
 - Source
 - Medium
- Funnels can be created with goals
- Funnel report shows where drop-off occurs within the funnel



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Goals can track

- Activity
- Interactions
- Time spent on site



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Goal types

- Destination
- Duration
- Pages per session
- GA Event



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Examples of goals

- Reaching a destination URL
- Spending a specific amount of time on the site
- Visiting a certain number of pages
- Events: watching a video; downloading a white paper



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Goals can require a funnel

- Optional
- Allows you to define a specific conversion path
- Allows you to define different conversion goals that might have the same result
 - eg: Facebook ads that lead to a sale vs. Adwords spending with same result



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More about goals

- Goals are set at the view (profile) level
 - Part of the administrative area
- You can have
 - Four sets of goals
 - Five goals per set
 - Total of 20 available goals
- Once goals are set, they can't be removed



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Matching URL goals

- Exact match: regular URL
- Head match: Eliminates trailing characters
- RegEx match: Allows you to specify a pattern to match



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Other conversion considerations

- Attribution: Multi-Channel Funnels
- Ecommerce



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Multi-Channel Funnels

- Site visitors arrive and return via different processes
- Last-click attribution model is default:
last traffic source receives 100% of credit for conversion
- MCF allows for attribution across different sources
- Must have Goals or Ecommerce enabled to use MCF
- Access reports via Conversions > MCF > Assisted
- Reports include:
 - Time lag between visits
 - Sequence of visits
 - Number of visits



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Questions goals can help answer

- On what sites should we continue to advertise?
- On which keywords should we bid?
- What sources and mediums generate the most goals
- What landing page leads to goals being achieved
- What stories in email newsletter brought the most conversions?



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Campaign Tracking



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Most Popular Campaign Dimensions

- source: where did they come from
 - Website or social media site
 - none
- medium: what's the marketing channel
 - Organic or Paid search
 - Manual tags: email, social, tv, newspaper, magazine, radio
- campaign
 - What was this tied to (what do we want people to do, what is the campaign all about? What is the initiative? Similar to Mad Men style campaigns)
 - Awareness
 - New sales
 - Remarketing
 - Use campaigns liberally: there's no limit to the number of campaigns used



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Campaign Classification Examples

Source	Medium	Campaign
Twitter	Social	Product-launch
Facebook	Social	Product-launch
LinkedIn	Social	Product-launch
Google	CPC (paid search)	brand
Client list	email	June-newsletter



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More examples of campaigns

Source	Medium	Campaign
Google	CPC (paid)	Remarketing in NY
Twitter	social	free monthly trial



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Other Campaign Dimensions

- keyword: keywords searched for when using search engine
 - When SSL search is used, value is *(not provided)*
 - To determine "not provided" look at landing page as a secondary dimension to see what users were expecting when searching
- content: Identifies specific links in a custom campaign
 - Use if you have multiple call to action links in an email, you can use *content* to determine which of the calls to action is most effective
 - Can be call-to-action, or a more specific drill-down
 - time email was sent
 - different subject line in an email, etc.
 - specific ad size
 - specific ad creative



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Ways to use Campaigns

- Tag source, medium, and campaign to determine what marketing efforts are most successful
- For example, a nonprofit could use:
 - campaign = donations
 - medium = social
 - source = (each specific source used in the campaign).



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Campaign Example

- Determining success of an email campaign: Test email subject lines to measure effectiveness
 - Source: weekly email blast; or name of list (where names were acquired)
 - Medium: Email
 - Campaign Name: Date of email campaign
 - Content:
 - add subject line A for first email subject used
 - add subject line B for second email subject used



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Campaigns and Organic Search

- Source and Medium are defined for organic search
- campaigns are not set for organic campaign
- Example
 - source = bing
 - medium=organic
 - campaign=not set
 - keywords=american graphics institute
- Possible source and medium combinations
 - Google/Organic
 - Bing / Organic



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Tracking offline efforts

- Examples
 - Radio
 - TV
 - Newspaper
 - Billboard
 - Direct Mail
- Track via
 - Custom URL
 - Custom landing page



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Applying custom tags

- Apply tags at the end of the url string
- Place a question mark (?) then follow with tag
- Placing an ampersand (&) between each tag used
- Tags to use are
 - utm_source=
 - utm_medium=
 - utm_campaign=
 - utm_term=
 - utm_content=

• Register for our spring conference: http://www.perio.org/spring-conference?utm_campaign=spring-conference&utm_medium=social&utm_source=facebook



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Additional considerations for custom campaign tags

- Without utm parameters, campaigns appear as "not set" in Google Analytics
- Don't add tags for Google ads as Google applies tags within its network
- Campaigns report show up in the Campaigns section of the Sources
 - Can use a secondary dimension of Medium to determine where campaign was generated from, or you can do this for source



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Additional considerations for custom campaign tags (continued)

- Don't tag internal links
 - Internal tags will override how users arrived on the site
 - Events can be set-up to tag internal links (covered in 301)
- Tagging offline ads: magazines; billboards
- Use redirects on the site, and the redirect inserts the parameters



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Campaign URL builder

- Use to build URLs
- Track via spreadsheet



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Campaign Tracking Examples

Story	Source	Medium	Campaign	Term	Content
Grant funding	client-list	email	summer-newsletter	apply-now	grants
Guide dog	client-list	email	summer-newsletter	read-more	guide-dog
New Courses	client-list	email	summer-newsletter	see-courses	courses
Certificate Programs	client-list	email	summer-newsletter	learn-more	certificates



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Create a table for tracking an upcoming email campaign

- Source
- Medium
- Campaign
- term
- content



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SEO: Determining search topics

- Source / Mediums to evaluate
 - Google / Organic
 - Bing / Organic
 - Yahoo / Organic
- Secondary Dimensions



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SEO: On-site considerations

- URL structure and hierarchy
 - Parent / Child relationship between pages
- Page Structure
 - Page Title describes page content in most-common search terms
 - Single H1 headline aligns closely with Page Title
 - Multiple H2 headlines to support H1
 - Body copy matches theme of page content
 - Images support the main theme of page with names and alt tags
 - No images are used as headlines



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Filters & Advanced Filters



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Filters: General Information

- Filters are applied on the view (profile) level
 - predefined filters are available
 - custom filters can be created
- *Data cannot be reprocessed as raw after it has been filtered.*
 - **Always keep at least one unfiltered profile.**
- Filter types
 - Include
 - Exclude
 - Modify data
- Applied sequentially if multiple exist



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Predefined filters

- Exclude from domains: excludes traffic from specified domain names
- Exclude traffic from an IP address:
- Include traffic to subdirectories:
 - Use this to allow a profile to view traffic to only one part of a website (eg: blogs)



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Custom filters

- Include / exclude: use this to exclude certain visitors, such as those from an IP range
- Search / replace: Use this to replace codes with plain language. For example, id=100 could be "shoes"
- Uppercase / lowercase: Use to standardize URLs because Google Analytics sees uppercase and lowercase URLs differently, even if they display the same data.
- Advanced: Can combine data from multiple fields.
- Exclude referrers: Use to exclude traffic sent from a domain that you do not want to track. Available for domain or IP address.



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Custom filter examples

- Only show app traffic
- Exclude desktop traffic: show only mobile
- Exclude paid search



Filtering within reports

- Non-destructive
- Temporarily masks data



Segments



Understanding Segments

- Segments allow filtering of data
- You can redefine segments
- You can apply them retroactively
- You can create and save custom segments
 - Custom segments can use regular expressions
 - Can share or edit custom advanced segments



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Sequences can define segments

- Specific landing page visited
- Certain Events



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Examples of custom segments

- morning visitors
- time on site
- branded keywords
- non-branded keyword (use "exclude" to remove the keywords)



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Comparing segments

- Compare up to 4 segments



Use Secondary Dimensions to get detailed page-level data

- Source: Determine home page typed-in directly by users
- Referrals: Can view campaigns and impact on traffic to pages



Additional behavior reports

- Site Search
- Events
- AdSense
- Experiments



Page Speed

- Page Speed Insights provides full report
- GA provides subset of data



Custom reports

- Creating custom reports



Regular Expressions

- Understanding common RegEx
- Applying RegEx to filters



Events



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Not everything is tracked (by default)

Some of what is missing:

- Video plays
- PDF downloads and clicks
- Ecommerce
- Some site searches



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Event tracking

- Events are used to track non-page clicks, similar to a Virtual Pageview, but more granular.
- When using events, keep the following in mind:
- Events do not create a page view
- You can organize events into categories
- Events appear in the Events panel (a separate section — so they don't surface as easily when looking at overview reports)



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Event data

- Category: "bucket" (eg: videos)
- Action: What occurs with the event (eg: play)
- Label: name (eg: admissions)
- Value: numerical (eg: time of video)



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Implementing Event tracking

- The code you use for events with analytics.js:
`ga('send', 'event', [eventCategory], [eventAction], [eventLabel], [eventValue], [fieldsObject]);`
- An example event:
`ga('send', 'event', [product-videos], [play], [printer2020]);`
or use
`ga('send', {
 hitType: 'event',
 eventCategory: 'product-videos',
 eventAction: 'play',
 eventLabel: 'printer2020'
});`



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Evaluating Events

- Total events: The total number of times an event occurs.
 - Example: If the play button is being tracked, and it is pressed five times, the value would be five.
- Unique events: The number of times an event occurs per visit
 - Example: If one user presses the same play button five times, it only would report as one.



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Virtual Pageviews

- You can use virtual pageviews to track items that Google Analytics might otherwise ignore:
- PDF downloads
- Click of video link



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About Virtual Pageviews

- You can provide the filename to identify the name of the pageview
- Virtual pageviews appear as regular pages within Google Analytics reports
- You could create a profile to display only virtual pageviews to separate them for reporting



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Implementing Virtual Pageviews

- The code you use: `ga('send', 'pageview', [page], [fieldsObject]);`
- An example for a PDF file:

```
<a href="http://www.agitraining.com/sample.pdf"
onClick=ga('send', 'pageview', [/sample.pdf], [fieldsObject]);>
```
- Note that code is placed inside the `<a>` tag within the HTML for standard a href links
- Can be added to events, videos, or via GTM



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Dashboards



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Custom Dashboards

- Create from templates or from scratch
- Access shared templates
- Single page view across all report types



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ecommerce



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eCommerce Tracking

- Collects transaction data such as products sold and purchase amounts within Google Analytics account.
- eCommerce transactions display as goals
- Can use to determine value of visitors and marketing efforts
- Not enabled by default
- Requires additional code be added to site



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eCommerce Tracking

- Learn what sells well
- Determine revenue spent per transaction
- Number of items sold in each transaction
- How long it takes & number of visits for customer to purchase
- Determine how devices, browsers, and marketing impact sales



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eCommerce Tracking – what it tracks

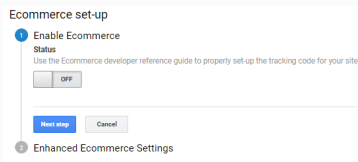
- Transaction ID: transaction number for purchase
- Name: What was purchased
- SKU: stock code of item sold (optional)
- Category: category of item sold (optional)
- Price: per-unit price of item sold (optional)
- Quantity: Number sold (optional)



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eCommerce Tracking – setup within GA

- Enabled at the View level
- Enable via admin area



eCommerce Tracking – setup on site

- Must add code to transaction pages
- Either add
 - eCommerce.js to pages
 - or
 - Use GTM to create new trigger



Enhanced eCommerce Tracking

- Tracks more data within transactions
- Uses different code



Ecommerce tracking

- Standard ecommerce: Tracks purchases
- Enhanced ecommerce: Tracks products, skus, items added to cart
- Either requires additional JavaScript



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Enhanced Ecommerce tracking

- Clicks on product links
- Views of product detail page
- Clicks on internal promotions
- Number of times products are added or removed from cart
- Setup is also via Admin > Settings
- Additional changes include updating JavaScript and passing variable data to G.A.



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Filters for Data Clean-up

- ✓ Create a profile and apply filters to it.
- ✓ Understand how filters are processed.
- ✓ Remove internal traffic from your data.
- ✓ Clean up messy URLs in your data.
- ✓ Understand options for using filters to manipulate your data.
- ✓ Explain the differences between using filters and advanced segments.



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Regular Expressions in G.A.



Optimize and Testing

- Why Test
- What to test
- How to test



Customization



custom alerts

- Examples:
 - bounce rate changes
 - traffic decreases / increases



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Custom Dashboards

- Mix Various reports into single, simple UI
- Widgets: reporting elements displayed on page
- Widgets:
 - high-level: tables limited to 10 rows
 - Can be filtered
- Dashboards can be automated via email



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Customizing Channels

- Custom Channels
 - Group visitors by how they arrived
 - Creates a new dimension
- Customize existing channels
 - eg: change definition of social to include or exclude a certain site
- Can create new channels as well
- Customizations set-up in Admin area



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Content Groupings

- Group together similar pages, regardless of their location / URL
- Grouping only impacts reports, not site itself
- Set via administrative area



Custom Dimensions

- Tend to be business specific
 - Examples
 - Is visitor employee, partner, or customer
 - Cartridge type for printer supplies
- Can be applied across reports
- Require JS to push custom dimension to GA
- Requires setup in Admin area
- eg: Print Cartridge Type
- 20 custom dimensions for standard users; 200 for GA 360



Custom Metrics

- Custom Measurement for a business
 - Number of items sold
- Setup like custom dimensions



Calculated Metrics

- Customized result of manipulating other metrics
 - Add
 - Subtract
 - Multiply
 - Divide
- Example: Pageviews of a product page divided by number of registered users who visited the site
- Setup via the Admin area (Admin > View > Calculated Metric)
- Access the new metric via dashboards, custom reports, and unsampled reports



User ID

- Overrides Client ID (supplied by Google)
- User ID is supplied by you – the site owner
- Useful for tracking logged-in users
- Can combine anonymous browsing and logged-in browsing via Session Unification option
- Need to create a separate view to see UserID known visitors
- New reports are available when using UserID
 - Audience > Cross Device report
Shows how the same users interact with the same site across different devices
- Setup via Admin > Property > Tracking > User ID



Custom Reporting Types

- Explorer: Standard report - line graph, data table, search/sort
- Flat table: static table
- Map overlay: heat map



Custom Reporting Options

- Metrics: up to 10 metrics
- Dimensions: up to 5 dimensions
- Scope of metric and dimensions must align
 - Must both be for the same: hit, session, or user
 - eg: Event category and Time on Page don't align and would yield no result
- Filters: Can filter data before report is processed
- Create multiple tabs to group similar custom reports
- Display reports with specific views or all views
- Can share report template



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Create a custom report

- Mobile visits
- Example could include:
 - Metrics: Users, Session, Bounces
 - Dimensions: Operating System, Content, Landing Page,



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Standard Cookie Limits

- Just fine in basic situations ... but consider the following:
 - – Multiple domains
 - – Sub-domains
 - – Excluding internal traffic
 - – E-Commerce tracking
 - – URLs with lots of query parameter junk
 - – Frames and iFrames
 - – Redirects
 - – AJAX and Flash
 - – Non-HTML files (PDF, MP3, etc.)



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Setting Cookies

- `__utma`: Visitor identification (2 years)
- `__utmb` & `__utmc`: Maintain session (30 minutes or close)
- `__utmz`: Information about the source (6 months)
- `__utmv`: Optional, custom visitor information (2 years)



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Cross Domain tracking

Track visitors across different domains and subdomains

- Requires modifying code on all pages
or
- Use Google Tag Manager to deploy code across all pages on all sites to be tracked together
or
- Create Roll-up property if using G.A. 360



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Google Tag Manager



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Google Tag Manager

- Consolidates JS code into single container
 - Makes managing multiple JS code snippets easier
 - Often helps with load time
- Allows for specified users to add/remove tracking without providing full site access
- Separate Google Service
- GTM code replaces Analytics code
- Code must be placed on every page to be measured



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GTM

- Account
- Container
 - Tags – what is being collected
 - Triggers – when it should be collected



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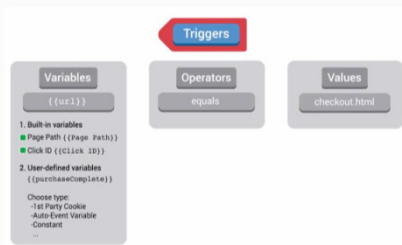
GTM Triggers

- Triggers use the following to determine if Tag should fire
 - Variables: eg: Page Title
 - Operators: eg: equals or does not equal
 - Value: eg: name of page



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GTM



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Additional GTM benefits

- Many pre-defined tags, triggers, variables
- Page-depth reporting
- Event tracking
- Supports third-party JS
- Consolidate multiple tags into one container
- Easiest way to perform cross-domain tracking



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Other 360 Services



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Data Studio

- Connect to Data
- Visualize Data
- Share reports



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Data Studio: data sources

- Start by selecting data source
 - Analytics
 - Adwords
 - Google Sheet
 - MySQL
 - Uploads...



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Data Studio: visualization

- Set reports to display
 - Charts
 - Graphs
 - Scorecards
 - Set date range
- Adjust page layout as desired
 - Background
 - Arrangement of reports



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Data Studio: Sharing

- Report may be embedded via HTML
- Share reports
 - May provide View or Edit access
 - Editors can collaborate in real-time



Optimize

- Create A / B page versions (or multivariate)
- Edit in Web U.I.
- Determine which percent of traffic to send to versions
- Evaluate performance on page versions



Surveys

- Create survey to ask questions
- Specify audience composition
- Google hosts questions and responses on their servers
- Google solicits participation via their advertising network



API Access



Access data via API

- Manage Accounts
- Control Tracking
- Generate Reports



Exploring: Queries, Dimensions, Metrics

- Determine results from various queries before writing them
- Query Explorer Web UI
- Metric Explorer Web UI



Hit Types

- Pageview
- Event
- Transaction



Scope of Hits

- User
 - Example: New or returning
- Session:
 - Example: Device type
- Hit:
 - Example: Page Title

Reports in GA pair sessions and metrics of the same scope.



Other topics



Internal Site Search

- Discover what users are searching for on your site
- Requires search query parameters in the URL
 - eg: ?q=search-terms
- Use to compare goal completions for visitors who use search vs. visitors that don't
- Use to determine what content users are having difficulty locating
- Site search shows start page, destination page, search terms used



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Data Sampling

- Google Analytics doesn't always display full data
- Data is sampled when:
 - More than 500K visitors
 - More than 50K of rows of data
- Data sampling icon displayed near date range, in upper right corner
- If sampling occurs, there are ways to get more accurate data:
 - Increase precision of sample set
 - Reduce date range to minimize sampling
 - Sampling tends to happen more on custom segments when G.A. needs to calculate data



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Useful GA tips



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Use Secondary Dimensions to get detailed page-level data

- Source: Determine home page typed-in directly by users
- Referrals: Can view campaigns and impact on traffic to pages



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Not Provided

- In organic search results, "Not provided" is from users that are logged-in to a Google account
- As more users stay logged-in, and default of Chrome is to remain logged-in, this number will increase



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Data Sampling

- Google Analytics doesn't always display full data
- Data is sampled when:
 - More than 500K visitors
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- If sampling occurs, there are ways to get more accurate data:
 - Increase precision of sample set
 - Reduce date range to minimize sampling
 - Sampling tends to happen more on custom segments when G.A. needs to calculate data



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Create Custom Dashboards

- Pull together data from Audience, Acquisition & Behavior
- Create from templates or scratch
- Can access shared templates



Questions?

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