

Product Analytics

DIANE WOODBRIDGE, PH.D



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Contents

Web Analytics

Google Analytics

Tracking Your Website

Google Analytics Reports

- Real-time Reports
- Audience Reports
- Acquisition Report
- Behavior Report
- Conversions Report

Appendix

- More detailed slides (MSAN695 Web Analytics)



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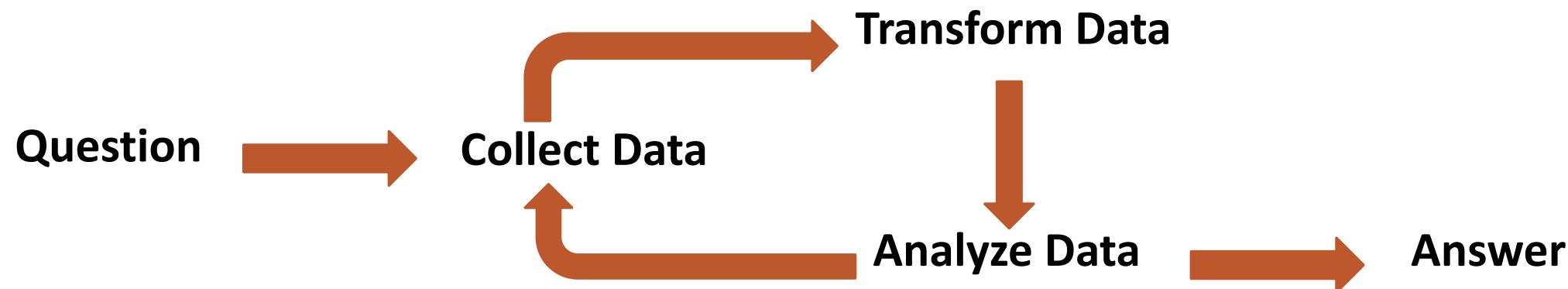
- More detailed slides (MSAN695 Web Analytics)



Web Analytics Overview

Web Analytics

- The analysis of qualitative and quantitative data from your business to drive a continual change of the online experience that your customers and potential customers have which translates to your desired outcomes.
- Consist of a set of business and technical activities that define, create, collect, verify or transform digital data into reporting, research, analyses, recommendations, optimizations, predictions, and automations.



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Google Analytics

An HTTP cookie (also called web cookie, Internet cookie, browser cookie, or simply cookie) is a small piece of data sent from a website and stored on the user's computer by the user's web browser while the user is browsing.

Google Analytics is a web analytics tool using the page-tagging technology by tagging a visitor with a **HTTP cookie** and sends data back to a server.

Collect data by...

- Create a Google Analytics account and add the Analytics tracking code (.js) to each page of your site before closing </head> block in the HTML.

Collects

- The total time a user spends on your site.
- The time a user spends on each page and in what order those pages were visited.
- What internal links were clicked.
- The geographic location of the user.
- Screen size and whether Flash or Java is installed.
- The referring site.
- Type of browser, Device, OS, Language, Traffic source, etc.
- Google Analytics Terms of Service never permit sending personally identifying information (PII).



Example

Browse Cookies from your browser.

- Chrome : Settings → Privacy and security
→ Site settings → Cookies → See all cookies and site data

← instacart.com locally stored data Remove All

_ssid	▼ X
_derived_epik	▼ X
_fbp	▼ X
_ga	^ X
Name	_ga
Content	GA1.2.1109009803.1526424263
Domain	.instacart.com
Path	/
Send for	Any kind of connection
Accessible to script	Yes
Created	



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Tracking Your Website

Go to <https://www.google.com/analytics/>

Choose “Google Analytics Sign Up For Free”.

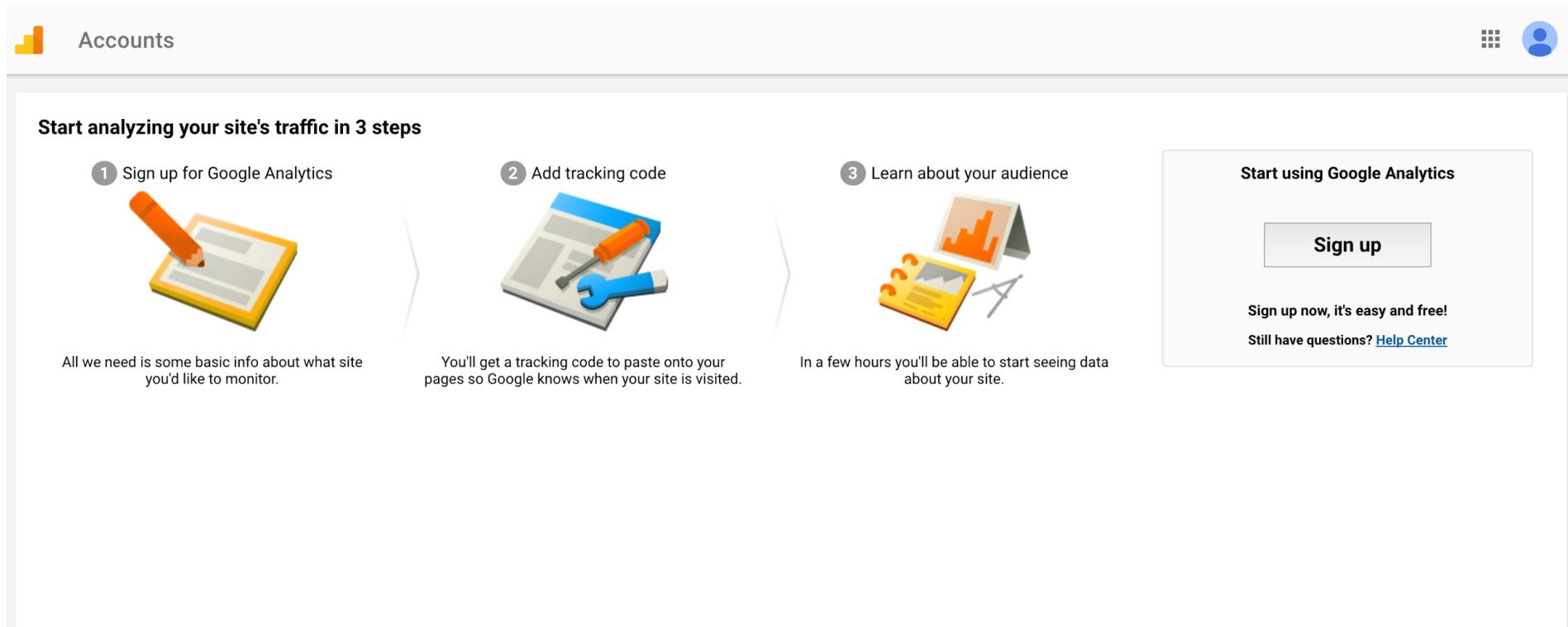
The screenshot shows the Google Analytics Solutions homepage. At the top, there's a navigation bar with links for Analytics, Tag Manager, Optimize, Data Studio, Surveys, Attribution, Audience Center, and Analytics 360 Suite. To the right of the navigation are 'SUPPORT' and 'SIGN IN' buttons. Below the navigation, a banner reads 'SOLUTIONS FOR COMPANIES OF ALL SHAPES AND SIZES.' It features four cards: Google Analytics (yellow icon), Google Tag Manager (blue diamond icon), Google Optimize (red square icon), and Google Data Studio (beta) (blue square icon). Each card has a brief description and a green 'SIGN UP FOR FREE' button at the bottom. A right-pointing arrow indicates more solutions are available.



Tracking Your Website

Creating an Account

- Choose “Sign Up” and fill in your information.



Tracking Your Website

Creating an Account

- Choose “Get Tracking ID”.

New Account

What would you like to track?

Website Mobile app

Tracking Method

This property works using Universal Analytics. Click *Get Tracking ID* and implement the Universal Analytics tracking code snippet to complete your set up.

Setting up your account

Account Name required
Accounts can contain more than one tracking ID.

Setting up your property

Website Name required

Website URL required

Industry Category ?

Reporting Time Zone

Data Sharing Settings ?

Data you collect, process, and store using Google Analytics (“Google Analytics data”) is secure and kept confidential. This data is used to [maintain and protect](#) the Google Analytics service, to perform system critical operations, and in rare exceptions for legal reasons as described in our [privacy policy](#).



Tracking Your Website

Creating an Account

- Copy your tracking code to every page (**within {%** block head %}) of a website you want to track.
 - Make sure to add the correct Google Analytics property ID to which you want to send data.
 - This snippet loads the gtag.js library, establishes the Google Analytics property ID, and sends a pageview hit to Google Analytics.

The code is enclosed in a blue box."/>

All accounts > Week6
All Web Site Data

ADMIN USER

Property + Create Property

Week6

Property Settings

User Management

.js Tracking Info

Tracking Code

Data Collection

Data Retention

User-ID

Session Settings

Organic Search Sources

Referral Exclusion List

Search Term Exclusion List

PRODUCT LINKING

Adwords Linking

AdSense Linking

Ad Exchange Linking

All Products

UA-118111315-1 No data received in past 48 hours. Learn more

Website Tracking

Global Site Tag (gtag.js)

This is the Global Site Tag (gtag.js) tracking code for this property. Copy and paste this code as the first item into the <HEAD> of every webpage you want to track. If you already have a Global Site Tag on your page, simply add the config line from the snippet below to your existing Global Site Tag.

```
<!-- Global site tag (gtag.js) - Google Analytics -->
<script async src="https://www.googletagmanager.com/gtag/js?id=UA-118111315-1"></script>
<script>
  window.dataLayer = window.dataLayer || [];
  function gtag(){dataLayer.push(arguments);}
  gtag('js', new Date());

  gtag('config', 'UA-118111315-1');
</script>
```

The Global Site Tag provides streamlined tagging across Google's site measurement, conversion tracking, and remarketing products – giving you better control while making implementation easier. By using gtag.js, you will be able to benefit from the latest dynamic features and integrations as they become available. [Learn more](#)

Google Tag Manager

Our free tool Google Tag Manager can help you add tags to your site if you have many analytics and tracking tags. Consider using Google Tag Manager if:

- You use multiple analytics and ad performance tracking tools that require site tags.
- Adding tags to your website slows down your ability to run marketing campaigns.

[Learn how to get started with Google Tag Manager.](#)

Additional implementations

available including analytics.js and the

<https://support.google.com/analytics/answer/1008080?hl=en>

<https://developers.google.com/analytics/devguides/collection/gtagjs/>

Example

Add Google Analytics Tracking code to the head block of index.html and check the Real-Time report



Example

Why is this happening?

```
{% block head %}  
    {% include 'head.html' %}  
{% endblock %}
```

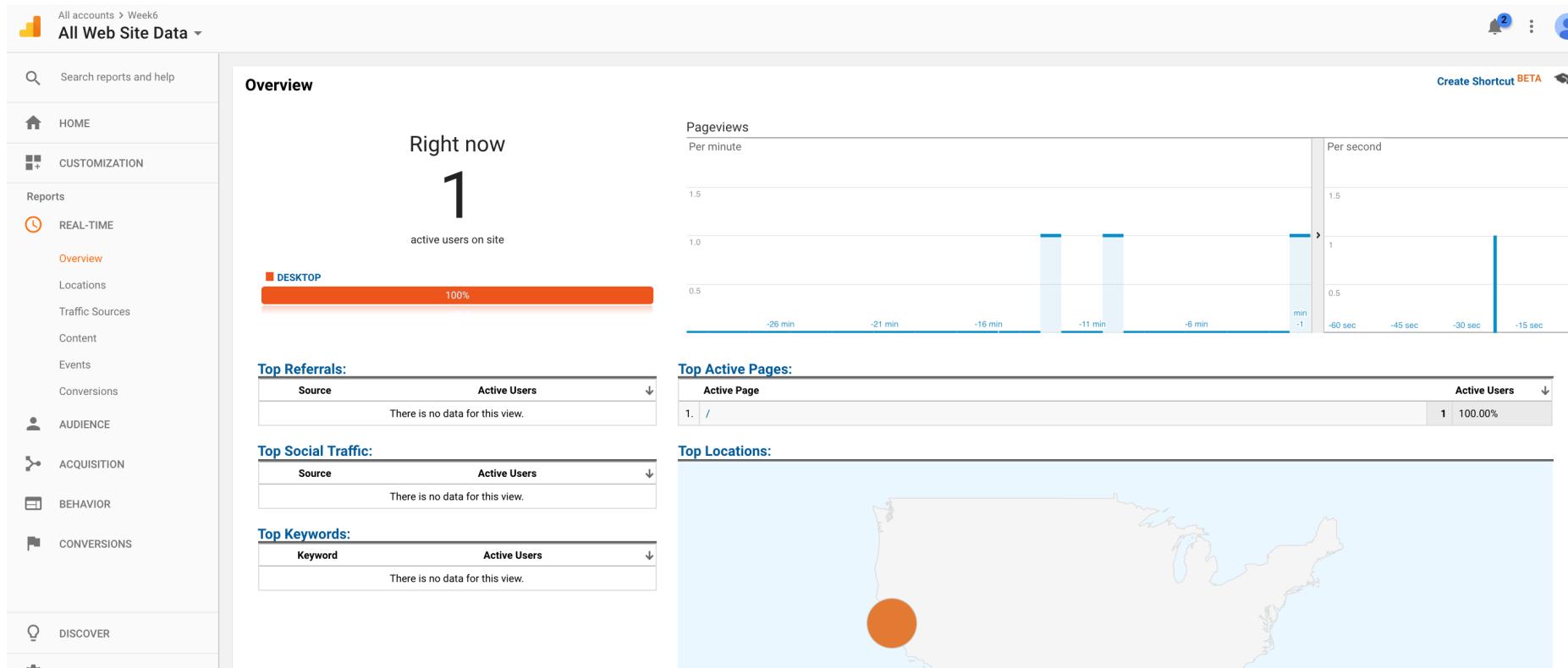
[MSDS603](#)



Tracking Your Website

Tracking

- Visit a page and check the real-time report.



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Reports

- 1. Real-time** : Report live user behaviors including location, traffic sources and conversions.
- 2. Audience** : Report characteristics of users including age, gender, interests and whether they're new or returning.
- 3. Acquisition** : Show which channels, source, medium brought users to your site.
- 4. Behavior** : Report how people engaged on the site including which pages they viewed, and their landing and exit pages.
- 5. Conversion** : Track website goals based on your business goals.

Reports	
 REAL-TIME	
 AUDIENCE	
 ACQUISITION	
 BEHAVIOR	
 CONVERSIONS	

Some Terminologies

- Session
 - Begins when a user navigates to a page that includes the Google Analytics tracking code.
 - Ends after 30 minutes (default) of inactivity/at midnight or a campaign changes.
 - Google Analytics organizes data by session.
- Hit
 - An interaction that results in data being sent to Analytics.
 - pageview - when a user loads a page with the tracking code.
 - event - when a user interacts with a particular element.
 - transaction (e-commerce) - when a purchase happens.
 - social interaction – when a user clicks on social buttons (Likes) embedded in webpages
- Users - Users that had at least one session on your site in the given date range.
 - Users are distinguished by anonymous unique ID using first-party cookies (_ga).
 - New Users: Users with new unique ID.
 - Bounce Rate: The percentage of users who left the site after viewing a single page and taking no actions.



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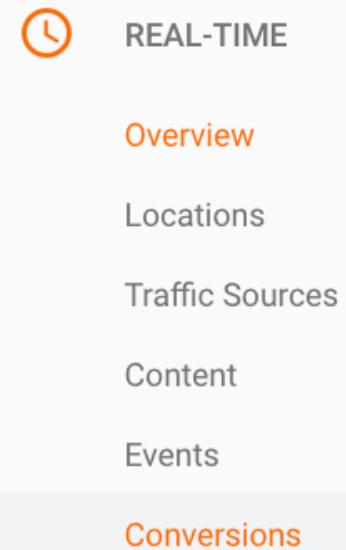
- More detailed slides (MSAN695 Web Analytics)



Reports

Real-time Reports

- Based on active users who have sent a hit within the last five minutes.
- Describe characteristics/behaviors of active users.
 - Location
 - Traffic sources
 - Contents, events and conversions.
- Useful for
 - Testing after a feature update or a marketing campaign launch.



<https://support.google.com/analytics/answer/1638635?hl=en>

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When you first created a Google account, Google asked you...

Privacy and Terms

... addition, when you create an account, we process your information as described in our [Privacy Policy](#), including these key points:

Data we process when you use Google

- When you set up a Google Account, we store information you give us like your name, email address, and telephone number.
- When you use Google services to do things like write a message in Gmail or comment on a YouTube video, we store the information you create.
- When you search for a restaurant on Google Maps or watch a video on YouTube, for example, we process information about that activity – including information like the video you watched, device IDs, IP addresses, cookie data, and location.
- We also process the kinds of information described above when you use apps or sites that use Google services like ads, Analytics, and the YouTube video player.



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CANCEL

I AGREE

Create your Google Account

 @gmail.com

You can use letters, numbers & periods

[Use my current email address instead](#)

Use 8 or more characters with a mix of letters, numbers & symbols

[Sign in Instead](#)[Next](#)

One account. All of Google working for you.

Diane, welcome to Google



suhtwins.ad.ad@gmail.com

We'll use your number for account security. It won't be visible to others.

We'll use it to keep your account secure

Your birthday

[Why we ask for this information](#)[Back](#)[Next](#)

Your personal info is private & safe



Web & App Activity

Saves your activity on Google sites and apps, including searches and associated info like location. Also saves activity from sites, apps, and devices that use Google services, including Chrome history. This helps Google provide better search results, suggestions, and personalization across Google services.

- Save my Web & App Activity in my Google Account

- Don't save my Web & App Activity in my Google Account

[Learn more](#)

Ads Personalization

Google can show you ads based on your activity on Google services (such as Search or YouTube), and on websites and apps that partner with Google.

- Show me personalized ads

- Show me ads that aren't personalized

[Learn more](#)

YouTube History

Saves the YouTube videos you watch and the things you search for on YouTube. This helps Google give you better recommendations, remember where you left off, and more.

- Save my YouTube History in my Google Account

- Don't save my YouTube History in my Google Account



Location History

Saves a private map of where you go with your signed-in devices (even when you're not actively using a Google product) to give you better map searches, commute routes, and more.

- Save my Location History in my Google Account

- Don't save my Location History in my Google Account

[Learn more](#)

Reports

Audience Reports

- Describe the characteristics of the users.
 - Demographics : Age, Gender
 - Interests : Affinity (Movie lovers, shoppers, etc.)
 - Geo : Language, Location
 - Behavior : New/Returning, Frequency, Engagement
 - Technology : Browser, OS, Network
 - Mobile : Device Info
- Useful for
 - Verifying whether you are reaching the right target audience.
 - Choosing marketing and content strategy.



AUDIENCE

Overview

Active Users

Cohort Analysis BETA

User Explorer

- ▶ Demographics
- ▶ Interests
- ▶ Geo
- ▶ Behavior
- ▶ Technology
- ▶ Mobile
- ▶ Custom
- ▶ Benchmarking

Users Flow



Reports

Audience Reports

- Demographics and Interests
 - Before you can see or work with Demographics and Interests data in Analytics, you need to:
 - [Enable Advertising Reporting Features for your property.](#)
 - [Enable the Demographics and Interests reports for the view.](#)
 - Have at least one active [Google AdWords](#) or [DoubleClick Bid Manager](#) account that is [linked to your Analytics account](#).
 - If you are still not seeing demographic data, then the one reason could be your website is driving very low traffic.

<https://support.google.com/analytics/answer/2799357?hl=en>

The screenshot shows the Google Analytics Administration interface for the property 'Diane Personal Webpage / Diane Woodbridge'. The left sidebar includes icons for search, home, properties, users, and settings. The main panel has a header 'Administration' and the property name. It contains sections for 'PROPERTY' (set to 'Diane Woodbridge'), 'Data Collection for Advertising Features', 'Remarketing', and 'Advertising Reporting Features'. Under 'Data Collection for Advertising Features', there is a note about enabling toggles for advertising features. Under 'Remarketing', there is a note about enabling display and search remarketing. Under 'Advertising Reporting Features', there is a note about enabling reporting features like Audience Demographics and DoubleClick Impression Reporting. At the bottom right are 'Save' and 'Cancel' buttons.



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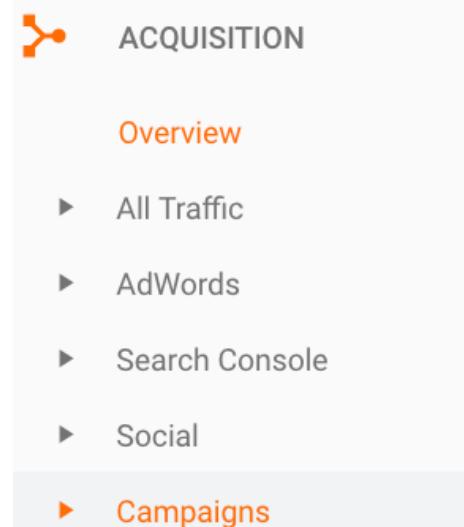
- More detailed slides (MSAN695 Web Analytics)



Reports

Acquisition Reports

- Show which source, medium, channel brought users to your site.
 - Source : The origin of your traffic, such as a search engine or a domain (Ex. google.com)
 - Medium : The general category of the source.
 - Organic : Referred by unpaid search.
 - Referral : Referred by a website other than a search engine.
 - Email : Referred by email marketing campaign.
 - CPC, CPM : Cost-Per-Click, Cost-Per-Mille (1000 impressions).
 - (none) : Typing the URL directly into a browser.
 - Channel : Use general terms for medium.
 - Ex. organic search, paid search, display, other advertising, social, email, etc.
- Useful for
 - Finding which source/medium brings the most new users or high quality users.



Reports

Acquisition Reports

- Marketing Campaign
 - By adding campaign parameters to the destination URLs in your ad campaigns, you can collect information about 1) the overall efficacy of the campaigns and 2) the sources and mediums that the campaigns are more effective.
 - You can track campaigns using Google Analytics.
 - Add to the URL links of your online marketing.
 - Followed by an equals sign and a single word or hyphenated words.
 - You can include source, medium, campaign, keyword, content, etc.
 - Campaign URL Builder - <https://ga-dev-tools.appspot.com/campaign-url-builder/>

```
http://www.example.com?utm_source=adsite&  
utm_medium=admedium&utm_campaign=adcampaign&utm_term=ad-  
keyword&utm_content=discount-v1
```



Example

Create a marketing campaign and call the URL.

- Campaign Source : newsletter
- Campaign Medium : email
- Campaign Name : google_analytics_class

<https://ga-dev-tools.appspot.com/campaign-url-builder/>

* Website URL	localhost
The full website URL (e.g. <code>https://www.example.com</code>)	
* Campaign Source	newsletter
The referrer: (e.g. <code>google</code> , <code>newsletter</code>)	
Campaign Medium	email
Marketing medium: (e.g. <code>cpc</code> , <code>banner</code> , <code>email</code>)	
Campaign Name	google_analytics_class
Product, promo code, or slogan (e.g. <code>spring_sale</code>)	
Campaign Term	
Identify the paid keywords	
Campaign Content	
Use to differentiate ads	

Share the generated campaign URL

Use this URL in any promotional channels you want to be associated with this custom campaign

localhost?utm_source=newsletter&utm_medium=email&utm_campaign=google_analytics_class



REPORTS

Real-Time

Audience

Acquisition

Overview

All Traffic

Google Ads

Search Console

Social

Campaigns

All Campaigns

Paid Keywords

Organic Keywords

Cost Analysis

Behavior

Conversions

Discover

Admin

Campaigns 

SAVE

EXPORT

SHARE

EDIT

INSIGHTS



Google Sheets

Excel (XLSX)

CSV

19 - May 1, 2019

+ Add Segment

Explorer

Summary Site Usage Ecommerce

Users  VS. Select a metricDay Week Month 

Users

1

0.5

Wednesday, May 1, 2019

Primary Dimension: Campaign Source Medium Source / Medium Other 

Plot Rows

Secondary dimension: Source / Medium Sort Type: Default advanced 

	Campaign 	Source / Medium  	Acquisition			Behavior			Conversions		
			Users  	New Users 	Sessions 	Bounce Rate 	Pages / Session 	Avg. Session Duration 	Goal Conversion Rate 	Goal Completions 	Goal Value 
	1. google_analytics_class	newsletter / email	1(100.00%)	0 (0.00%)	1(100.00%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	\$0.00 (0.00%)

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Reports

Behavior Reports

- How people engaged on the site including which pages they viewed, and their landing and exit pages.
- Useful for :
 - Assessing the performance of your content and the actions visitors take on your website.



BEHAVIOR

Overview

Behavior Flow

- ▶ Site Content
- ▶ Site Speed
- ▶ Site Search
- ▶ Events
- ▶ Publisher

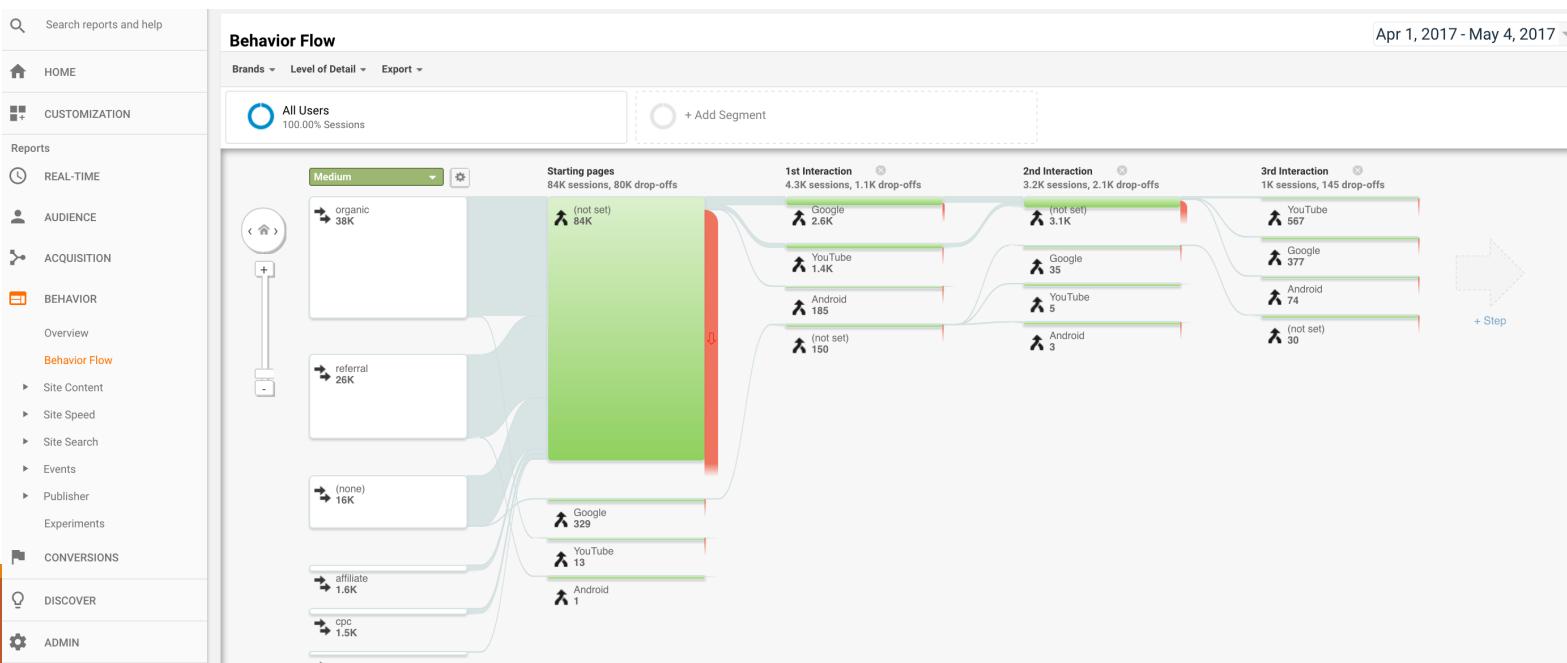
Experiments



Reports

Behavior Reports

- Behavior Flows
 - Visualizes the path users traveled from one page or event to the next.
 - Help you discover what content keeps users engaged.
 - Help identify potential content issues.



Reports

Behavior Reports

- Events Tracking
 - User interactions with content that can be tracked independently from a web page or a screen load.
 - Ex. Downloads, flash elements, video plays, etc.
- Useful for :
 - making sure that users are engaging with your website and performing intended actions.

Reports

Behavior Reports

- Events Tracking
 - HTML Document Object Model (DOM) Listeners and Event Type
 - Mouse Interactions Menu ▾
 - onclick, onmousedown, onmouseup, onmousemove, onmouseover, onmouseout, oncontextmenu
 - Keyboard Interactions
 - onkeypress, onkeyup, onkeydown
 - Forms Username:
 - onfocus, onblur, onchange, onsubmit, onreset, onselect

Reports

Behavior Reports

- Events Tracking
 - Add JavaScript to the individual elements on the site you wish to track.
 - Format : `gtag('event', <action>, { 'event_category' : <category>, 'event_label' : <label>, 'value' : <value> });`
 - `<action>` : string that will appear as the event action in Google Analytics Event reports.
 - `<category>` : string that will appear as the event category.
 - `<label>` : string that will appear as the event label.
 - `<value>` : non-negative integer that will appear as the event value.
 - Example : `onclick="gtag('event', 'reference', { 'event_category' : 'image', 'event_label' : 'usfca', 'value' : 10 });"`

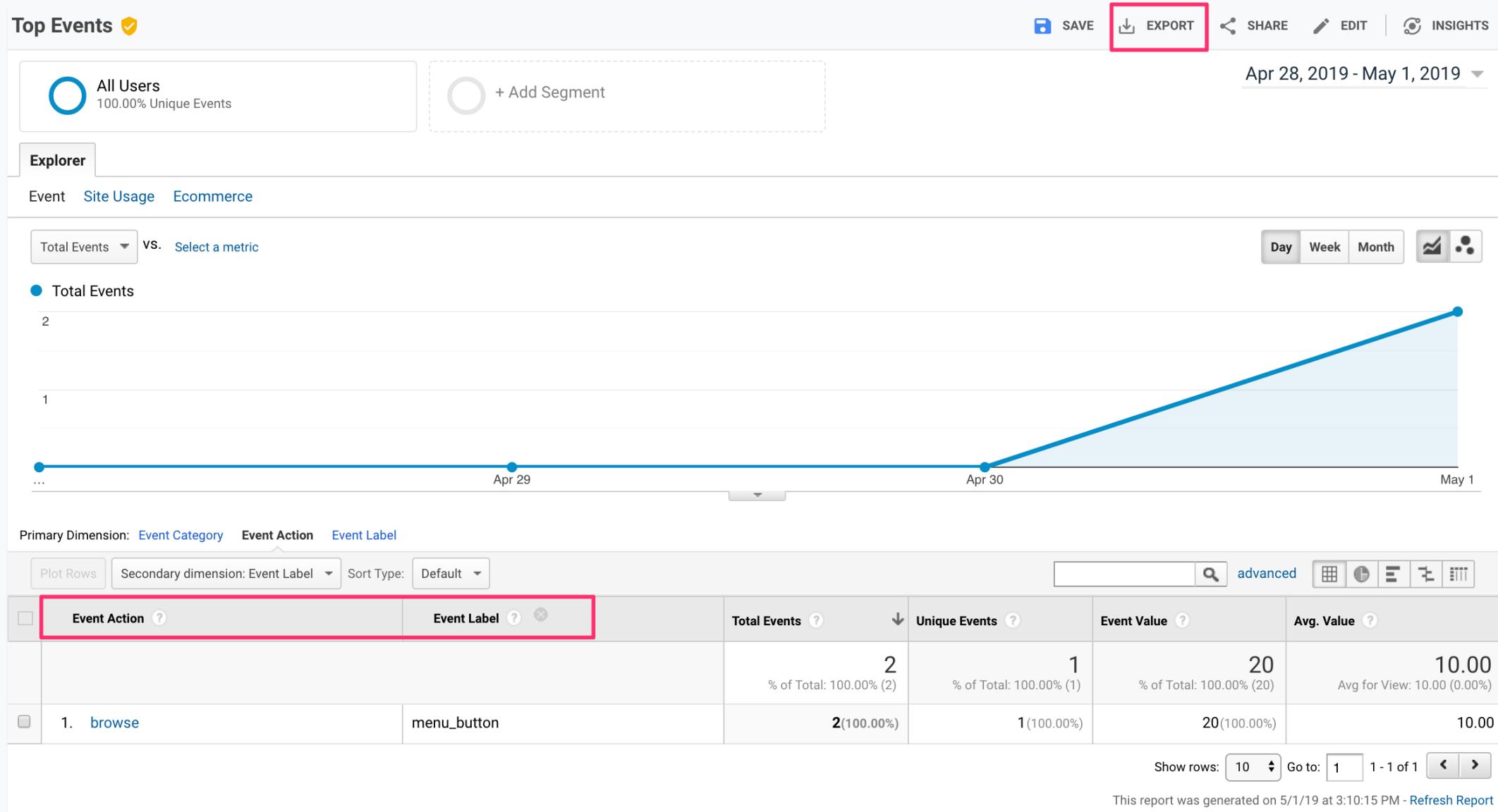
Example

Track an event when the mouse pointer clicks the menu button on dropdown.html with the following attributes.

- Action : 'click'
- Category : 'button'
- Label : 'menu_button'
- Value: 10



- [Home](#)
- [Customization](#)
- [REPORTS](#)
- [Real-Time](#)
- [Audience](#)
- [Acquisition](#)
- [Behavior](#)
- [Overview](#)
- [Behavior Flow](#)
- [Site Content](#)
- [Site Speed](#)
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 - [Overview](#)
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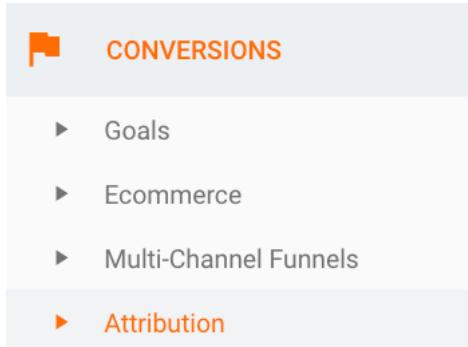
- More detailed slides (MSAN695 Web Analytics (2017))



Reports

Conversion Reports

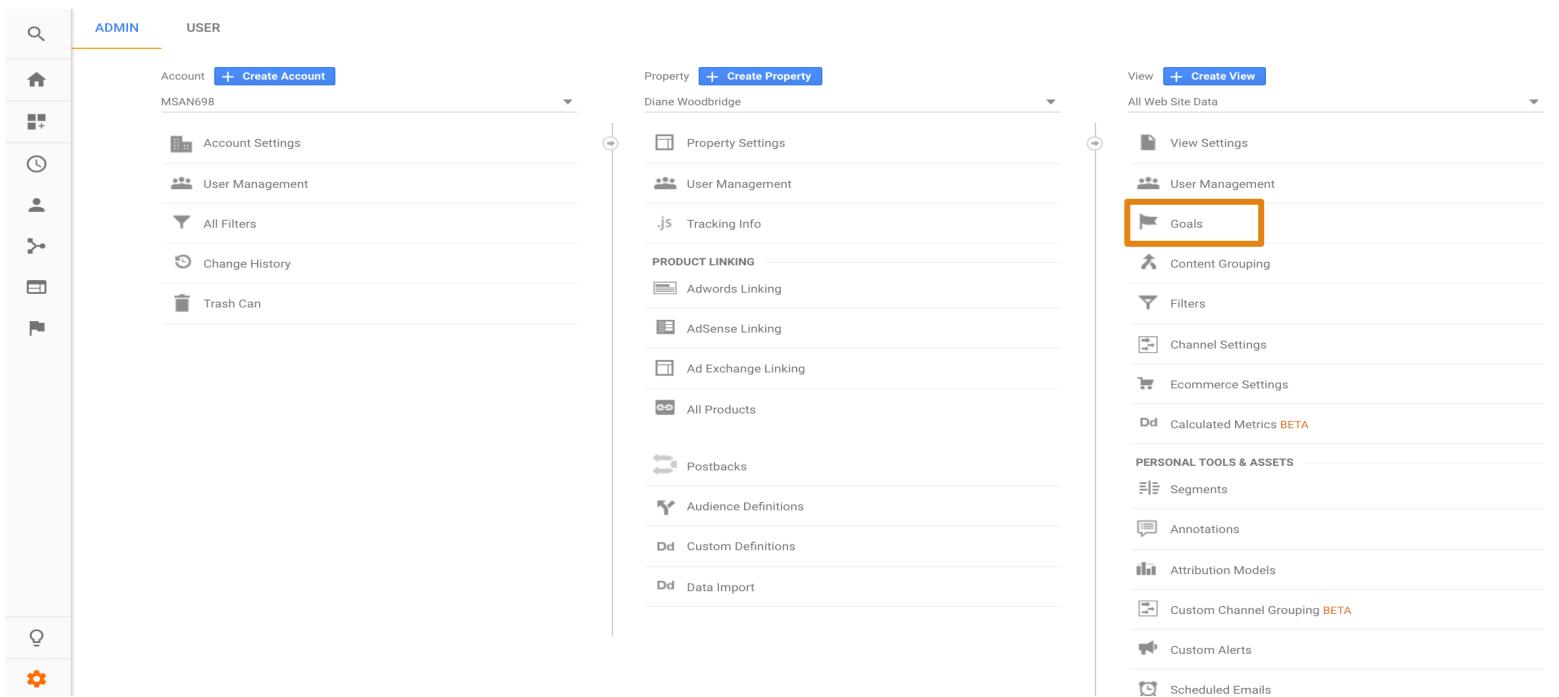
- Conversion : An activity on your site that is important to accomplish the goal.
- Measures goal completions, goal value, conversion rate, abandonment rate, location, source/medium.
 - Goal completions : The total number of conversions per session.
 - Goal value : static numeric value for each goal completion.
 - Conversion rate: % of the number of goal completions per session.
 - Abandonment rate: % of the number of sessions without a goal completion per the sessions which the funnel was entered.
- Useful for:
 - Measuring how well your site or app fulfills targeted objectives.
 - Setting key Performance Indicators (KPI)



Reports

Conversion Reports

- Goal Setup and Tracking
 - Step 1 : Under Admin → View → Goals.



Reports

Conversion Reports

- Goal Setup and Tracking
 - Step 2 : Set up a goal using templates or customization.

The screenshot shows the Google Analytics Admin interface under the 'ADMIN' tab. On the left, there's a sidebar with various settings like View, User Management, Goals (which is selected), Content Grouping, Filters, Channel Settings, Ecommerce Settings, Calculated Metrics, Segments, and Annotations. The main area is titled 'Goal setup' and shows a step 2: 'Goal description'. The name is set to 'Browsing Plotly'. Below it, 'Goal slot ID' is set to 'Goal Id 1 / Goal Set 1'. Under 'Type', 'Destination' is selected with the example 'ex: thanks.html'. Other options include 'Duration', 'Pages/Screens per session', 'Event', and 'Smart Goal'. A note says 'Measure the most engaged visits to your website and automatically turn those visits into Goals. Then use those Goals to improve your Google Ads bidding.' At the bottom are 'Continue' and 'Cancel' buttons. A green checkmark is present at the top of the goal setup section.

Destination - a user reaches a specific page (Funnel visualization supported).
Duration - the length of a user's session.
Pages or Screens per session - how many pages a user views in a session.
Events - specific actions on a site.

Reports

Conversion Reports

- Goal Setup and Tracking
 - Step 3 : Set up a goal description and details.

The screenshot shows the Google Analytics Admin interface under the 'ADMIN' tab. On the left, there's a sidebar with links like View, Create View, All Web Site Data, View Settings, User Management, Goals (which is selected and highlighted in red), Content Grouping, Filters, Channel Settings, Ecommerce Settings, Calculated Metrics BETA, PERSONAL TOOLS & ASSETS (Segments and Annotations), and Help & Support.

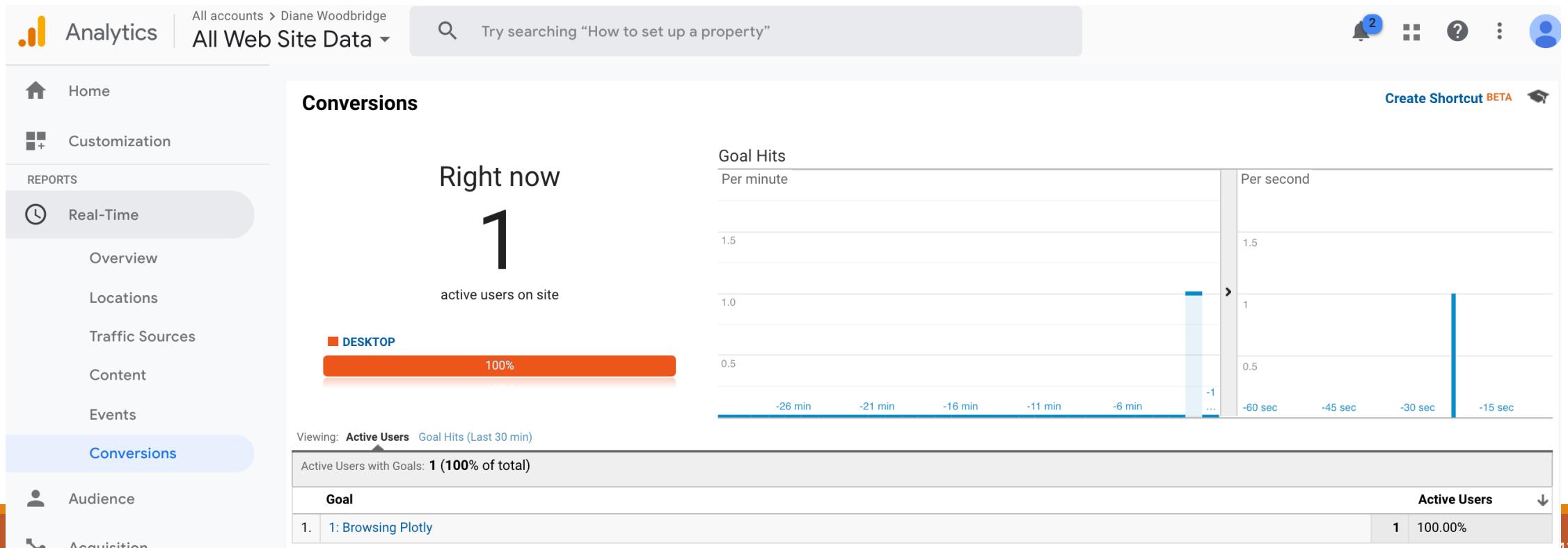
The main area displays the 'Goal setup' section, which is completed (indicated by a green checkmark). It shows a 'Custom' goal named 'Browsing Plotly' with a 'Destination' type. Below this, the 'Goal description' section is also completed (green checkmark) and shows the name 'Browsing Plotly' and type 'Destination'. The 'Goal details' section is currently being configured, indicated by a blue circle with the number '3'. It includes fields for 'Regular expression' (set to 'plotly_example') and 'Case sensitive' (unchecked). A note below says, 'For example, use My Screen for an app and /thankyou.html instead of www.example.com/thankyou.html for a web page.' There are also sections for 'Value' (optional, OFF) and 'Funnel' (optional, OFF).

At the bottom, there are 'Verify this Goal' and 'See how often this Goal would have converted based on your data from the past 7 days.' buttons, along with 'Save' and 'Cancel' buttons.

Reports

Conversion Reports

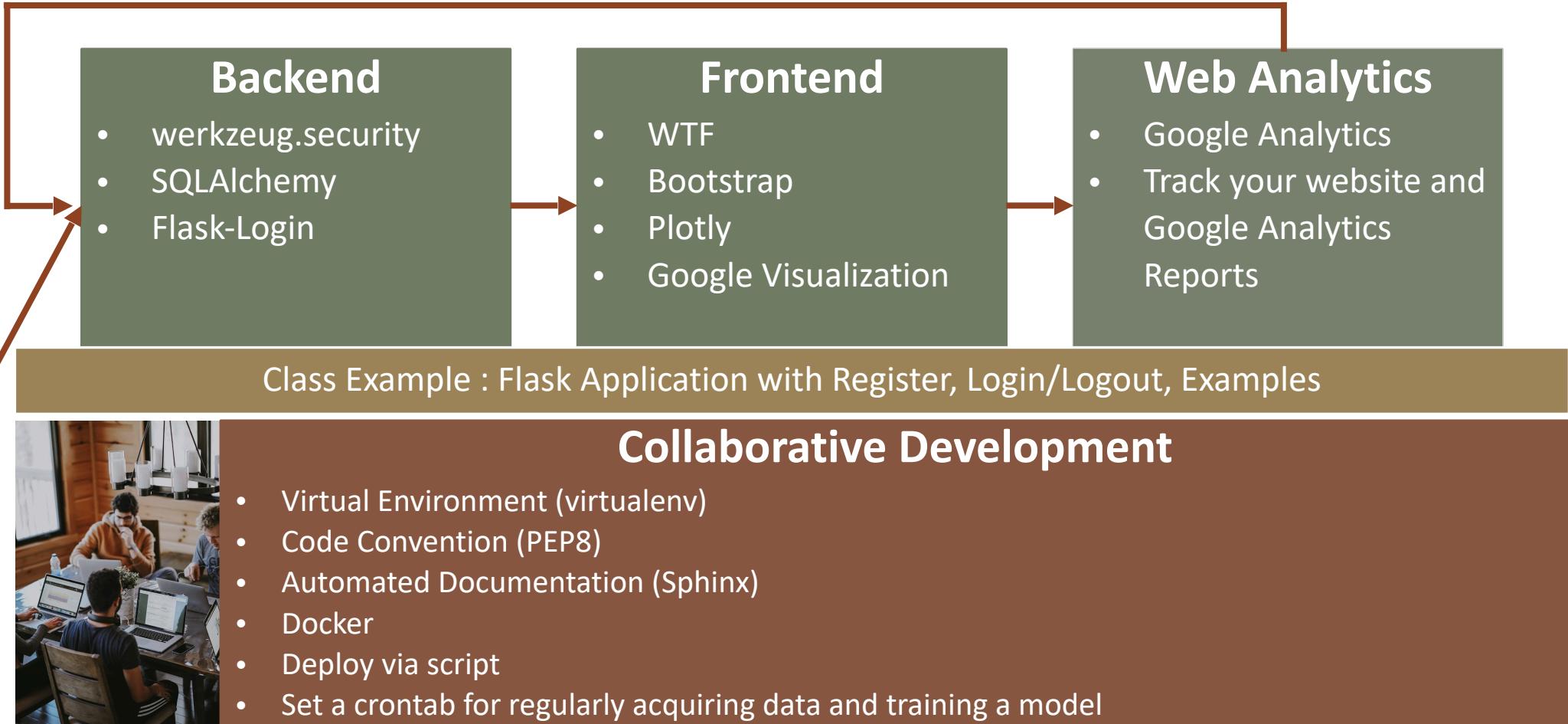
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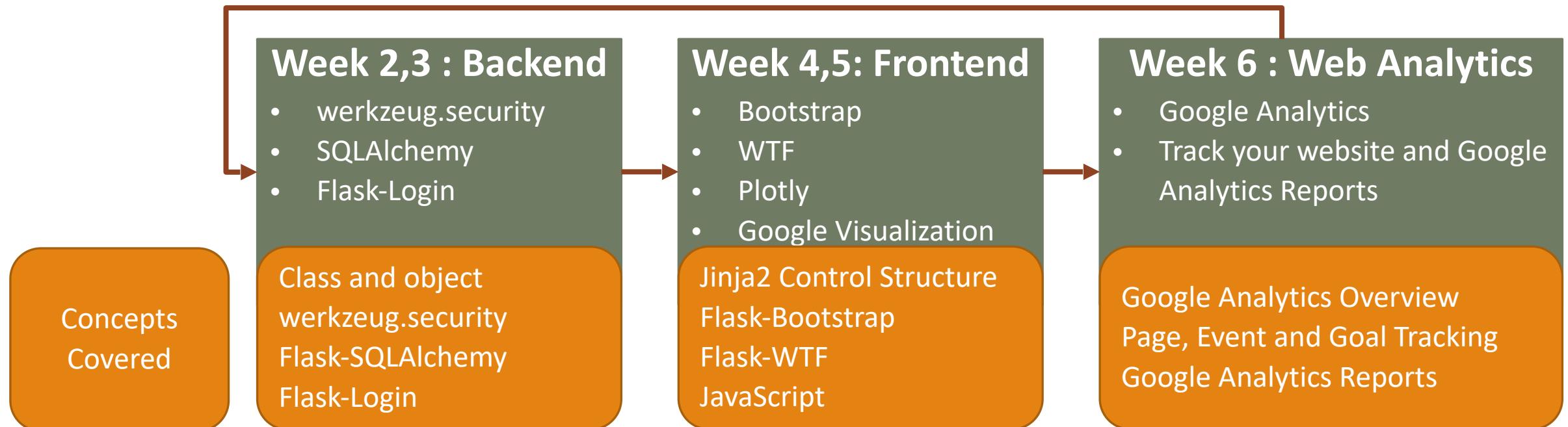
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Class Progress

Project
Proposal



Class Summary



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Appendix

DETAILED SLIDES OF GOOGLE ANALYTICS INTRO AND REPORTS :
PLEASE SEE MSAN695_GA_INTRO.PDF AND MSAN695_REPORTS.PDF



References

Google Analytics Academy (Beginner, Advanced): <https://analytics.google.com/analytics/academy/>

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