



MET CS688 C1

# **WEB ANALYTICS AND MINING**

**ZLATKO VASILKOSKI**

GOOGLE ANALYTICS

# Disappearing Data

- From Boston Globe (Preserving Movies)

- “By one back-of-the-envelope estimate, the number of digital photos we snap **in two minutes** exceeds **all** the photographs taken during the entire 19th century.”
- “Tucked away in temperature-controlled vaults, master reels of classics like “Dr. Strangelove” and “Star Wars” have a high chance of surviving for hundreds of years.”
- “But now that filmmaking has gone digital, a new threat to cinema history has surfaced. Preserving digital artifacts.”
- “The cloud isn’t yet robust enough for long-term archival of complex datasets and gigantic master movie files.”
- “The problem of preservation is not unique to the film industry. From scientific papers published up to 80% of raw data collected for studies in the early 1990s is lost.”
- “Lost data also plagues the legal world.”

# Disappearing Data

- “Not everything is worth saving for the long haul.”
- “Even if we could save all data in the cloud, we would have to invest in annotating data to create searchable archives that save useful knowledge for people in the future.”
- “Saving scientific data poses similar economic challenges.”

# Interesting Links

BBC Chinese police spot suspects with surveillance sunglasses

<http://www.bbc.com/news/world-asia-china-42973456>

BBC | Sign in | Menu ▾ | Search | Q

## NEWS

Home | Video | **World** | US & Canada | UK | Business | Tech | Science | Stories | Entertainment & Arts | Health | More ▾

Asia | **China** | India

### Chinese police spot suspects with surveillance sunglasses

🕒 4 hours ago

f t m Share



The budget bill will "break the long cycle of spending crises" says Democratic Leader Chuck Schumer.

🕒 2 hours ago

Merkel clinches Germany coalition deal

🕒 3 hours ago

Trump aide quits amid abuse accusations

🕒 23 minutes ago

#### Top Stories

**US senators agree to raise spending**  
The budget bill will "break the long cycle of spending crises" says Democratic Leader Chuck Schumer.

🕒 2 hours ago

**Merkel clinches Germany coalition deal**

🕒 3 hours ago

**Trump aide quits amid abuse accusations**

🕒 23 minutes ago

#### Features



# Interesting Links

NPR In An Era Of Fake News, Advancing Face-Swap Apps Blur More Lines

<https://www.npr.org/2018/02/03/582767531/in-an-era-of-fake-news-advancing-face-swap-apps-blur-more-lines>

The screenshot shows a news article from NPR's website. At the top, the NPR logo is followed by navigation links: WBUR, news, arts & life, music, and programs. On the far right are links for shop, user profile, and search. The main content area has a header "TECHNOLOGY" and the title "In An Era Of Fake News, Advancing Face-Swap Apps Blur More Lines". Below the title is a play button icon and the duration "4:57". To the left of the main content are buttons for "+ Queue", "Download", "Embed", and "Transcript". Below these are social media sharing icons for Facebook, Twitter, and Email. The article text discusses the rise of deepfakes, mentioning celebrities like Daisy Ridley, Gal Gadot, and Taylor Swift. It quotes Samantha Cole from Motherboard and notes that the videos are created using machine-learning algorithms trained on hundreds of photos.

WBUR news arts & life music programs

shop user profile search

TECHNOLOGY

## In An Era Of Fake News, Advancing Face-Swap Apps Blur More Lines

February 3, 2018 · 8:37 AM ET  
Heard on Weekend Edition Saturday

EMMA BOWMAN LAWRENCE WU

Most people familiar with "face-swapping" know it as an innocuous social media feature. An algorithm captures a person's face and pastes it onto someone else's. The result is rarely seamless and often funny.

But as it grows more sophisticated, that technology has taken a sinister turn: It's now become easier to superimpose the faces of celebrities onto those of actors in pornographic films, resulting in highly-realistic fake videos.

Deepfakes, as the digital form is called, takes its name from the Redditor "deepfakes," the first person known to create these fake porn videos. Celebrities Daisy Ridley, Gal Gadot and Taylor Swift are among deepfakes' early victims.

Samantha Cole, an editor at Motherboard, who first reported on the trend, tells NPR's Scott Simon that the videos are created using a machine-learning algorithm, which is trained by processing hundreds of photos of an individual's face.

# Review of Used Terms

Terms used:

- **Page** - a web document (HTML, text, video files etc.), excludes image files (hits).
- **PageView** - a page loaded by a browser when a visitor types the URL. GA logs a pageview each time the tracking code is executed.
- **Pages/visit** - Number of web pages viewed in a particular visit.
- **Bounce** - Single page viewed by the visitor who leaves promptly.
- **Average Time on Site** – Duration of site visit.
- **New Visits** – page accessed for the first time by a web browser (GA identification by the web browser. By setting a cookie).

# Keywords Used

- **Loyalty** (visitor behavior): Loyal visitors are frequently highly engaged with your brand, and a high number of visits indicates good customer/visitor retention. A high number of new visitors indicates strong visitor recruitment.
- **Recency** (visitor behavior): The frequency with which visitors return to your site can indicate their level of engagement with your brand and their readiness to buy.
- **Length of Visit** (visitor behavior): Length of visit is a measure of visit quality. A large number of lengthy visits suggests that visitors have interacted more extensively with your site. The graph allows you to visualize the entire distribution of visits instead of simply the average time on site taken from all visits. Keep in mind that the average time on site is skewed by visitors leaving browser windows open when they are not actually viewing or using your site. You can see whether a few visits are skewing the average time on site upward or whether most visits to your site have a long average time.
- **Depth of Visit** (visitor behavior): Depth of visit is a measure of visit quality. A large average number of pageviews per visit suggests that visitors interact extensively with your site. The graph allows you to visualize the entire distribution of visits instead of simply the average pageviews per visit. You can see whether a few visits are skewing your average upward or whether most visits to your site result in a high number of pages being viewed.
- **Browsers** (browser capabilities): Which browsers do your visitors use? Optimizing your site with the appropriate technical capabilities helps make your site more engaging and usable and can result in higher conversion rates and more sales.

# Web Analytics

- Collecting relevant raw web data .
- Understand significance contained in the data.
- Analysis is used for understanding and optimizing the web usage.
- Also measuring web traffic can be used as a tool for business and market research.
- Two categories of web analytics
  - **Off-site** web analytics measures on data gathered from sites other than your own (Internet as a whole) and measures potential website audience, including social media.
    - Used to understand how to market your site by identifying the keywords tagged to your site, either from social media or from other websites.
  - **On-site** web analytics measure the actual visitor traffic arriving on your website such as
    - Performance of your website in a commercial context
    - Web page associated with online purchases
    - Audience response to your marketing campaign

# Log Files vs. Page Tagging

- Two unique **on-site** methodologies used by analytics tools to collect web visitor-analytics data.

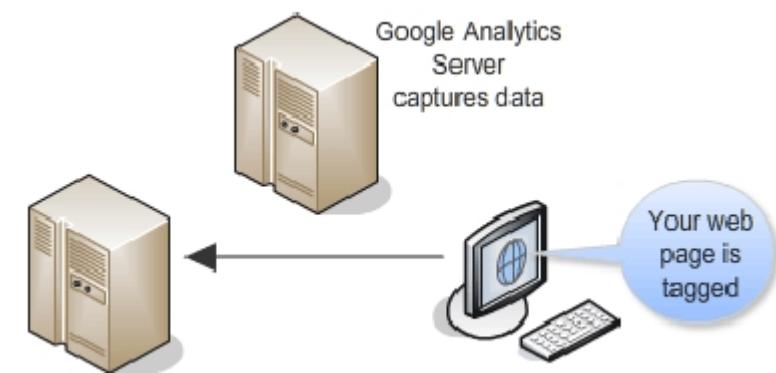
1. Log files approach
2. Page tags approach

## 1. Log files approach (server-side data-collection methodology)

- All requests for web pages, images, PDFs made to your web server are captured.
- Data is collected by your web server and is independent of a visitor's browser.
- Advantages of log file approach is that it is not affected by firewalls or software that can block page tags. Also it can differentiate between a complete download and a partial download.

## 2. Page tags approach

- Motivation to perform web analytics as an outsourced service + corrects the accuracy of log file.
- Involves the tagging of the web pages with special JavaScript.
- A remote server captures all the tagged pages and will report the analytics to you.
- Google Analytics uses this approach to collect web visitor-analytics data.



# Google Analytics

- Standard (and free) tool for generating web analytics reports.
- It uses a **page-tag** approach for capturing analytics data,
  - Special JavaScript needs to be installed (tagged) in each web pages.
- It provides the means to track traffic, analyze it, and report useful metrics, such as site visits, marketing goals achieved, ad revenues generated etc.
- It is used in organizations of all sizes.
- You can install Google Analytics on a personal website and begin using it
  - to track visitors
  - create goals
  - measure success

# Introduction to Google Analytics

- Google Analytics is a page-tag approach to capturing analytics data.
- Free tool that has the following functional uses:
  - Identify visitors or groups of visitors that became customers.
  - See which pages drive the most pageviews on your site. The Top Content report can answer questions you have about your most or least effective pages.
  - Review data for online advertising campaigns by tracking landing-page quality and conversions (goals), and pick out your best-performing ads.
  - Grant other people in your company or organization designing or viewing access to reports. You can also authorize an entire account, with administrator privileges, for anyone you want.
  - See live analytics as customers are interacting with your web site.
  - Study the location your visitors are coming from and what devices they are using (e.g., smartphones or desktops).
  - Leverage more than 80 reports with customizable templates.

# Introduction to Google Analytics

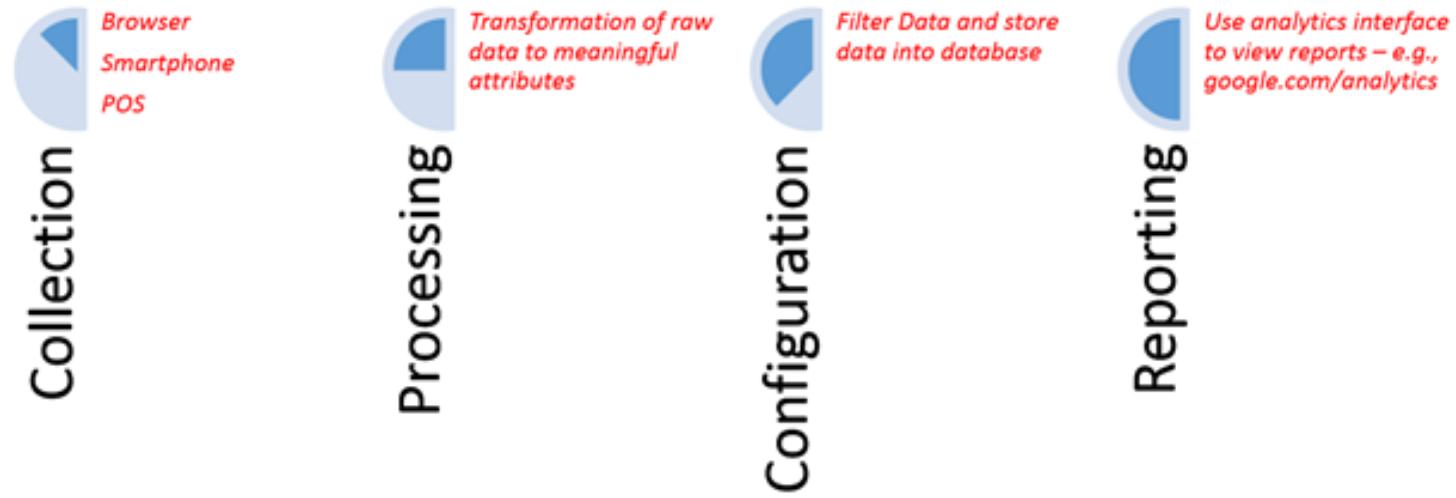
- Examples of Google Analytics metrics:
  - Daily visitors to your site
  - Average conversion rate
  - Top visited pages
  - Average visit time on the web site
  - How often visitors come back
  - Average visit's page depth
  - Geographic distribution of visitors
  - Bounce rate
- As part of a Assignment project you will need to
  - Create and use a Goggle web site.
  - Set up Google Analytics on your web site.
  - Present your analytics

# How Does Google Analytics Work?

- Data about visitors is collected from desktop computers and devices and stored in large Google company databases.
- When we log into Google Analytics, we open up such a reporting database and review the analytics data collected.
- This process does not involve the active participation of the web server that hosts the web site.
- Depending on how much traffic you have, there will inevitably be some variance in how long it takes from the time a visitor views a web page on your company server to when Google reports the analytics data.

# How Does Google Analytics Work?

- According to Google, there are four main components to the Google Analytics system:
  - data collection,
  - configuration,
  - data processing, and
  - reporting.



# How Does Google Analytics Work?

## Collection

- You can collect data from any digitally connected environment, including a kiosk or a point-of-sale (POS) system.
- To track a web site, Google Analytics uses a small piece of JavaScript code, which tracks user engagement.
- You must place this piece of code on every page of the web site.
- When a user arrives at your web site, this JavaScript code will collect various pieces of information about how the user engages with your site. This process will be introduced in the next section.

## Processing

- JavaScript collects information about the web site, the browser or device, and the referring source and sends it to the Google servers for processing.
- This is the “transformation” step in which the raw data becomes useful information.
- For example, during data processing, Google Analytics will categorize users' devices as mobile or non mobile.

# How Does Google Analytics Work?

## Configuration

- In this step, Google Analytics applies any configuration settings you have identified to the raw data.
- For example, you may have used a filter to exclude data from your own internal users, as such data would produce inflated results.
- Once the data is processed, it is inserted into Google's analytics database. Such recording of data is permanent and can't be changed

## Reporting

- The last component of the Google Analytics platform is reporting.
- A simple-to-use web interface found at [www.google.com/analytics](http://www.google.com/analytics) makes it possible to retrieve data from your organization's Google Analytics account.

# Defining Basic Analytics Metrics

- In analytics it is essential to know which numbers are important and why.
- Note that the metric focuses on “Why”.
- Basic Analytics Metrics
  1. Visits and Visitor Sessions
  2. Referrals
  3. Bounce & Exit Rate
  4. Conversion Rate
  5. Engagement
  6. SEO, Social Media, Emails and Metrics

# 1. Visits and Visitor Sessions

- Visitor - an individual (not necessarily a human) or device such as browser which accesses a Web site within a specific time period.
  - Unique visitor within a specific reporting period (no double counting).
- Visit (Sessions) – an interaction with a data source (examp: text and/or graphics downloads) from a single browser (device) during a single session.
  - A visit can consist of a series of page views that a single visitor makes during a period of browsing activity. A visit ends after the visitor closes the browser, clears cookies, or is inactive for 30 minutes (customizable time period).
  - During each visit, users will engage in one or more interactions with the web site pages.
  - Analytics software will automatically track these interactions as “pageviews.” The pageview metric increases every time a page is viewed on your site. Other activity, like watching a video, mouse position, etc. can also be tracked. Such activities are better classified as “events” rather than pageviews.
  - Cookie (persistent or session) is a file on the user’s device that identifies the user’s unique browser.
  - Tracking code looks for cookies. If a cookie is deleted or blocked incorrectly counts unique visitors.

User Type	Sessions
Returning Visitor	1884184
New Visitor	1380522
<b>Total</b>	<b>3264706</b>

## 2. Referrals - Where do visitors come from?

- Referrals indicate the place from which the user clicked to get to the current page.
- It is valuable to know how someone found our web site. Was it
  - through a search engine
  - positive review
  - social-media talk
  - email or e-newsletters
- Referrals are the lifeline for marketing advertisements.
- It's important to know which campaigns helped draw in new visitors or succeeded in getting loyal customers.

### 3. Bounce and Exit Rate

- Bounce rate and the exit rate measure whether users find a web site or a web page useful.
- Bounces are counted for users who land on a page and leave immediately. They do not see the page content.
- Reasons can be site-design or usability issues or many other reasons.
- Typically expressed as percentage of single-page sessions.
  
- If the exit rate is high, the exit-rate metric can be meaningless, and it should not matter.
- Useful to find out if visitors are abandoning the site at a certain point in the middle of an e-commerce transaction.

# 4. Conversion Rate

- In the context of studying goals and outcomes, this metrics is a significant one.
- The conversion rate (as a percentage), is defined as

$$\text{conversion rate} = \text{outcome}/\text{unique visits} * 100$$

- An example of an outcome could be something very simple like clicking on ads or coupons or subscribing to a newsletter.
- Should we use Unique Visitors (browsers) or Visits?
- Common for a unique visitor to visit the same page many times (purchase).
- In this context conversion rate measures the process of converting a visitor into a buyer.
- Conversion rate can be calculated automatically by integrating analytics software with shopping carts.

# 5. Engagement

- This is a qualitative metric hard to measure. The definition can be fuzzy.
- Most analytics software will track event and visit duration.
- This does not provide any information about the quality of engagement.
- What it matters is the time a visitor spends on a web site with engagement.
- The challenge is to distinguish between
  - Reading the information on a web page or
  - Looking for the information and not being able to find it.
- Example: Google Analytics tools allow us to research engagement
  - In-Page Analytics (visual assessment of how users interact with your web pages)
  - Behavior Flow analytics (visualizes the path users traveled from one page or event to the next).
- Both of these contribute to Engagement statistics.
- More on Google Analytics in the next module.

# Donald Trump Organization (Dana McDonough)

Home Updated Sep 28, 2015, 6:52 AM



- I did my website on Donald Trump in hopes to receive a significant amount of traffic at my site
- The site consists of a Home Page, 4 additional pages, and an additional page with an attached PDF available for download

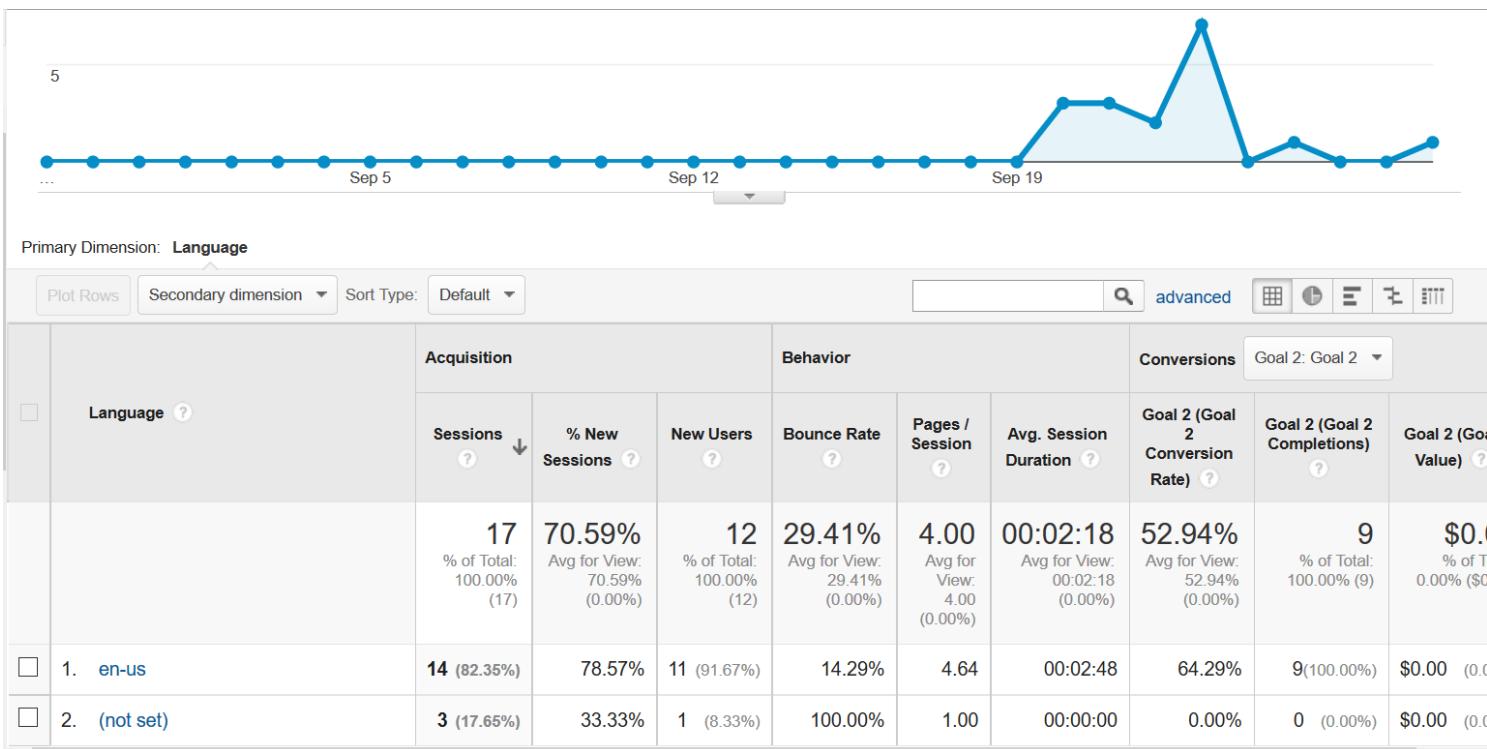
# Goal 1 (Dana McDonough)

Primary Dimension: Language

		Acquisition			Behavior			Conversions	Goal 1: Goal 1	
Language		Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal 1 (Goal 1 Conversion Rate)	Goal 1 (Goal 1 Completions)	Goal 1 (Goal 1 Value)
		17 % of Total: 100.00% (17)	70.59% Avg for View: 70.59% (0.00%)	12 % of Total: 100.00% (12)	29.41% Avg for View: 29.41% (0.00%)	4.00 Avg for View: 4.00 (0.00%)	00:02:18 Avg for View: 00:02:18 (0.00%)	70.59% Avg for View: 70.59% (0.00%)	12 % of Total: 100.00% (12)	\$0.00 % of Total: 0.00% (\$0.00)
1.	en-us	14 (82.35%)	78.57%	11 (91.67%)	14.29%	4.64	00:02:48	85.71%	12 (100.00%)	\$0.00 (0.00)
2.	(not set)	3 (17.65%)	33.33%	1 (8.33%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	\$0.00 (0.00)

- ▶ My first Goal was a conservative goal to hit a duration of greater than 3 seconds per session
- ▶ The conversion rate is at 70.59%

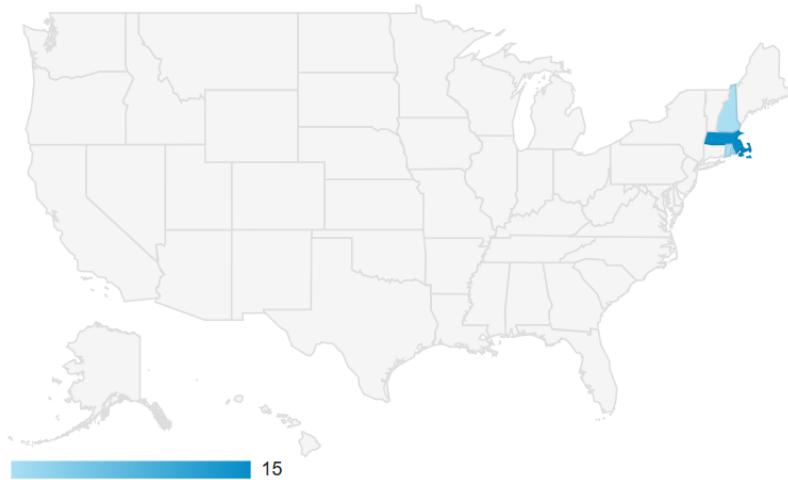
# Goal 2 (Dana McDonough)



- ▶ My second Goal was a conservative goal to hit greater than 2 page/screen views per session
- ▶ The conversion rate is at 52.94%

# Location reporting

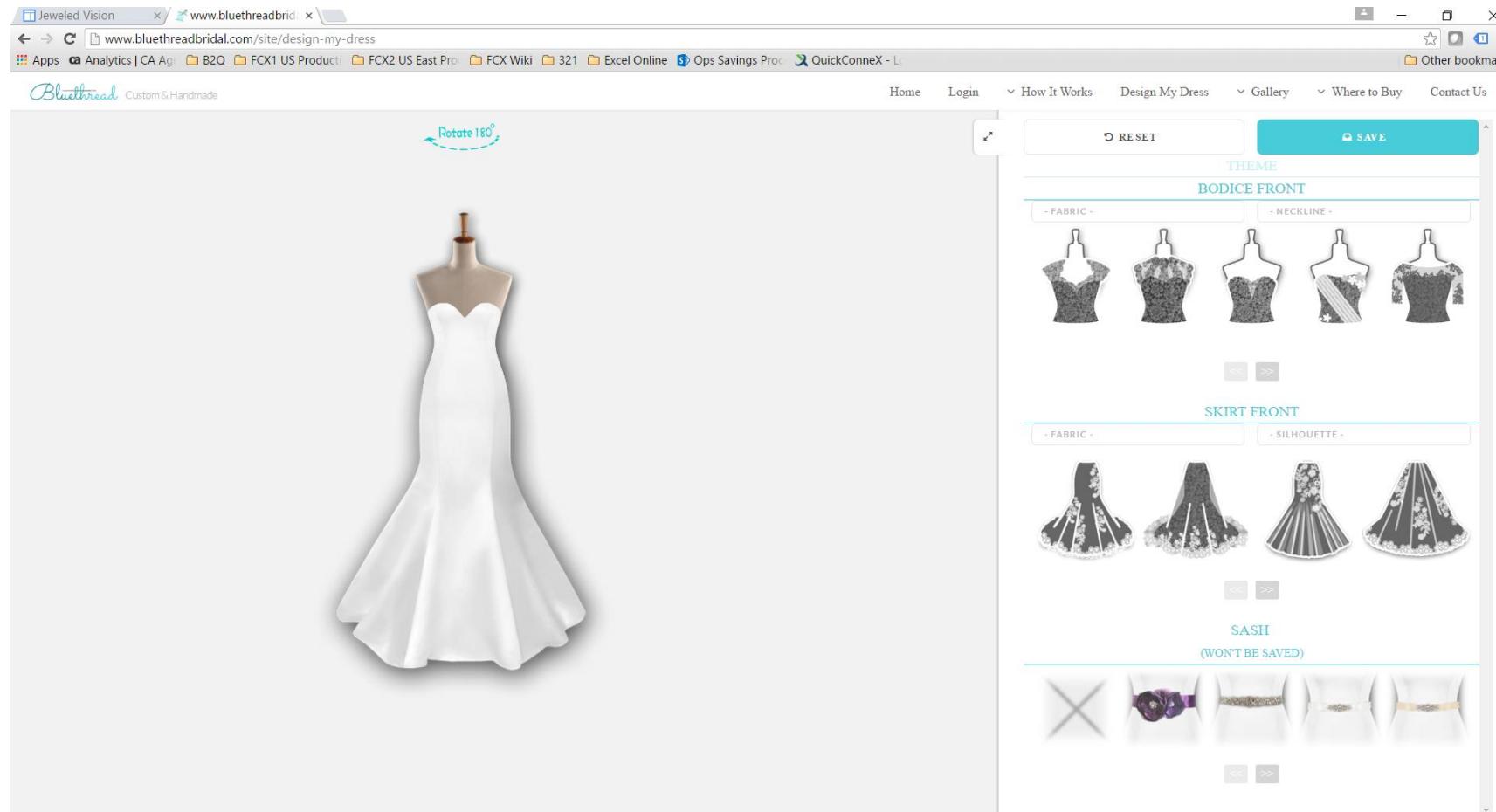
- ▶ All locations reflect classmates in the New England area



Region	Acquisition			Behavior			Conversions	
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal 2 (Goal 2 Conversion Rate)	Goal 2 (Goal 2 Completions)
	17 % of Total: 100.00% (17)	70.59% Avg for View: 70.59% (0.00%)	12 % of Total: 100.00% (12)	29.41% Avg for View: 29.41% (0.00%)	4.00 Avg for View: 4.00 (0.00%)	00:02:18 Avg for View: 00:02:18 (0.00%)	52.94% Avg for View: 52.94% (0.00%)	9 % of Total: 100.00% (9)
1. Massachusetts	15 (88.24%)	66.67%	10 (83.33%)	33.33%	4.00	00:02:35	53.33%	8 (88.89%)
2. New Hampshire	1 (5.88%)	100.00%	1 (8.33%)	0.00%	2.00	00:00:16	0.00%	0 (0.00%)
3. Rhode Island	1 (5.88%)	100.00%	1 (8.33%)	0.00%	6.00	00:00:17	100.00%	1 (11.11%)

# Another Example (Ning Hua)

- Friend's professional Web Site: <http://www.bluethreadbridal.com/>



Audience Overview - Google

https://www.google.com/analytics/web/#report/visitors-overview/a49493163w81237976p84092194/

Reporting Home Customization Admin

sueeus.hn@gmail.com bluethreadbridal - http://www.bluethrea... All Web Site Data

Find reports & more

Sessions

20 20 25 25 30 30 35 35 40

Thursday, September 10, 2015 Sessions: 17

Sep 5 Sep 12 Sep 19

Dashboard Shortcuts Intelligence Events Real-Time Audience

Overview Active Users BETA Cohort Analysis BETA

Demographics Interests Geo Language Location Behavior

Sessions 514 Users 453

Pageviews 986 Pages / Session 1.92

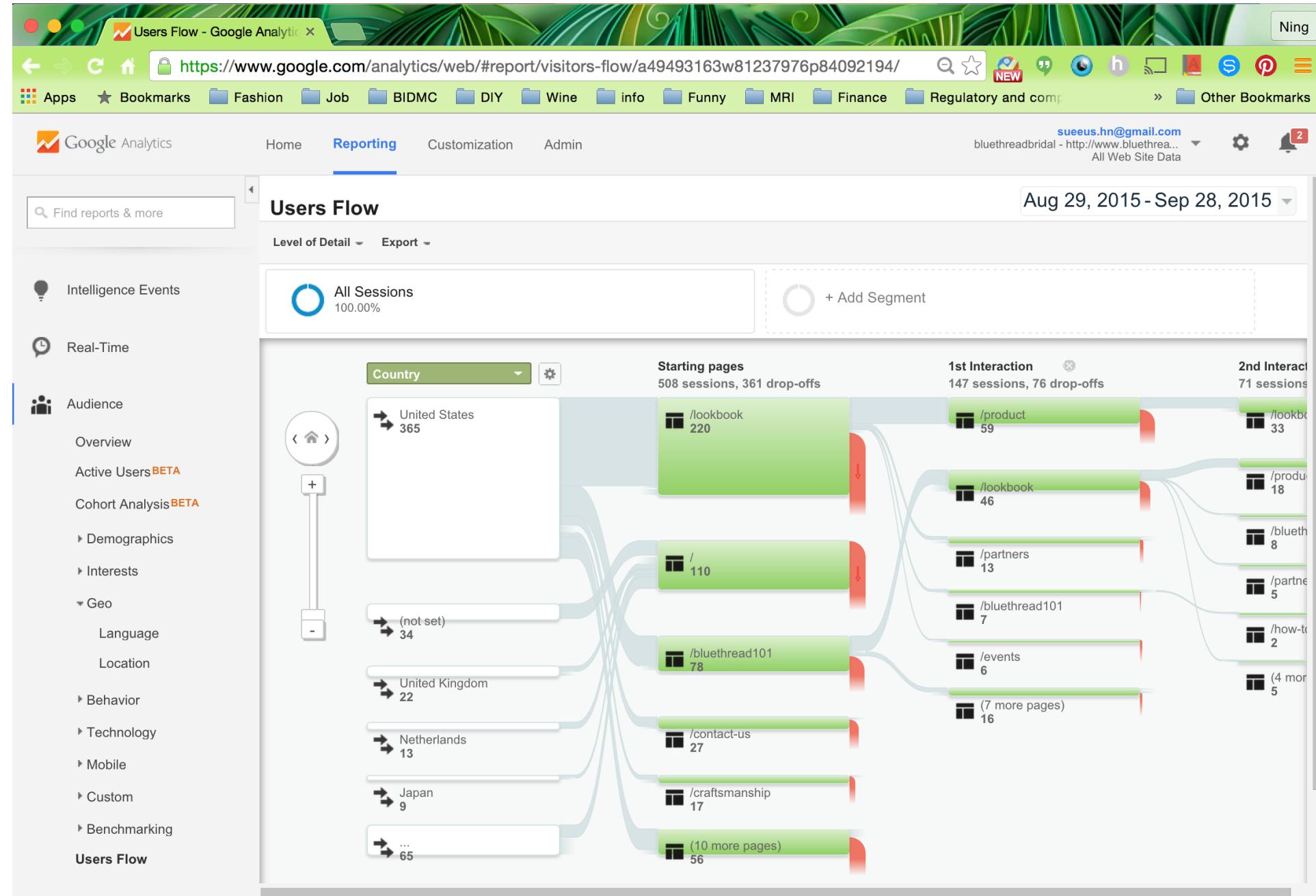
Avg. Session Duration 00:01:07 Bounce Rate 66.93%

% New Sessions 85.02%

New Visitor Returning Visitor

85% 15%

Find reports & more



Active Users - Google Analytics

https://www.google.com/analytics/web/#report/visitors-actives/a49493163w81237976p84092194/

Apps Bookmarks Fashion Job BIDMC DIY Wine info Funny MRI Finance Regulatory and comp Other Bookmarks

Google Analytics Reporting Customization Admin sueeus.hn@gmail.com bluethreadbridal - http://www.bluethrea... All Web Site Data 2

Find reports & more

Active Users Aug 29, 2015 - Sep 28, 2015

Email Export Add to Dashboard Shortcut

All Sessions 100.00% + Add Segment

Intelligence Events

Real-Time

Audience

Overview

Active Users **BETA**

Cohort Analysis **BETA**

Demographics

Interests

Geo

Language

Location

Behavior

Technology

Mobile

Custom

Benchmarking

Users Flow

Active Users

1 Day Active Users  7 Day Active Users  14 Day Active Users  30 Day Active Users

Tuesday, September 1, 2015  
1 Day Active Users: 24

40

20

Sep 5 Sep 12 Sep 19

1 Day Active Users 7 Day Active Users 14 Day Active Users 30 Day Active Users

15 102 214 444

% of Total: 100.00% (15) % of Total: 100.00% (102) % of Total: 100.00% (214) % of Total: 100.00% (444)

This report was generated on 9/29/15 at 9:30:47 PM - Refresh Report



Location - Google Analytics    Bb Online Campus – Blackboard    Ning

<https://www.google.com/analytics/web/#report/visitors-geo/a49493163w81237976p84092194/>

Apps Bookmarks Fashion Job BIDMC DIY Wine info Funny MRI Finance Regulatory and comp. Wine Other Bookmarks

Google Analytics Home Reporting Customization Admin sueeus.hn@gmail.com bluethreadbridal - http://www.bluet... All Web Site Data 2

Find reports & more Location Aug 29, 2015 - Sep 28, 2015

Customize Email Export Add to Dashboard Shortcut

All Sessions 100.00% + Add Segment

Map Overlay Explorer

Summary Site Usage Ecommerce

Sessions ▾

Primary Dimension: Country City Continent Sub Continent

Secondary dimension ▾

advanced

Network - Google Analytics    Bb Online Campus – Blackboard Ning

<https://www.google.com/analytics/web/#report/visitors-network/a49493163w81237976p84092194/>

Apps Bookmarks Fashion Job BIDMC DIY Wine Info Funny MRI Finance Regulatory and comp Wine Other Bookmarks

Google Analytics Home Reporting Customization Admin sueeu.s.hn@gmail.com bluethreadbridal - http://www.b... All Web Site Data Aug 29, 2015 - Sep 28, 2015

### Network

Customize Email Export Add to Dashboard Shortcut

All Sessions 100.00% + Add Segment

Explorer Summary Site Usage Ecommerce

Sessions vs. Select a metric Day Week Month

Sessions

Primary Dimension: Service Provider Hostname

Service Provider	Acquisition			Behavior			Conversions		
	Sessions	% New Sessions	New Users	Bounce Rate	Pages / Session	Avg. Session Duration	Goal Conversion Rate	Goal Completions	Goal Value
	514 % of Total: 100.00% (514)	85.02% Avg for View: 85.02% (0.00%)	437 % of Total: 100.00% (437)	66.93% Avg for View: 66.93% (0.00%)	1.92 Avg for View: 1.92 (0.00%)	00:01:07 Avg for View: 00:01:07 (0.00%)	0.00% Avg for View: 0.00% (0.00%)	0 % of Total: 0.00% (0)	\$0.00 % of Total: 0.00% (\$0.00)
1. (not set)	100 (19.46%)	89.00%	89 (20.37%)	61.00%	2.07	00:01:43	0.00%	0 (0.00%)	\$0.00 (0.00%)
2. comcast cable communications holdings inc	32 (6.23%)	78.12%	25 (5.72%)	62.50%	1.88	00:01:13	0.00%	0 (0.00%)	\$0.00 (0.00%)
3. verizon online llc	32 (6.23%)	78.12%	25 (5.72%)	68.75%	1.38	00:00:50	0.00%	0 (0.00%)	\$0.00 (0.00%)
4. time warner cable internet llc	21 (4.09%)	76.19%	16 (3.66%)	71.43%	1.81	00:00:26	0.00%	0 (0.00%)	\$0.00 (0.00%)
5. comcast ip services l.l.c.	13 (2.53%)	92.31%	12 (2.75%)	46.15%	2.15	00:01:44	0.00%	0 (0.00%)	\$0.00 (0.00%)
6. digital ocean inc.	13 (2.53%)	100.00%	13 (2.97%)	100.00%	1.00	00:00:00	0.00%	0 (0.00%)	\$0.00 (0.00%)
7. rcn	13 (2.53%)	100.00%	13 (2.97%)	76.92%	1.23	00:00:04	0.00%	0 (0.00%)	\$0.00 (0.00%)

# Regarding Google Analytics Assignment

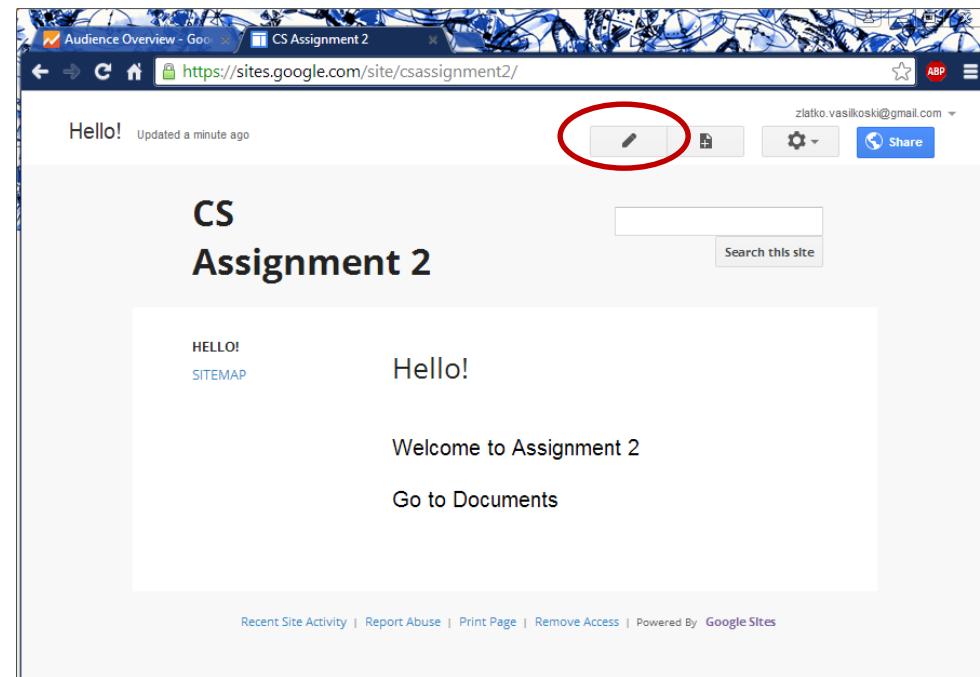
- For the Google Analytics Assignment you can create a
  - Goggle web site
  - or you can choose to create the website somewhere else (Dropbox, OneDrive, etc.).
- Simple enough web site (not a big project) but to fulfill the assignment requirements.
- Also you would need time to build access statistics, as a suggestion share the websites among each other so you can have variety of access statistics and try to use different devices.
- Considering that it takes 24 hours for the analytics to work, and your mutual involvement building this analytics, let's try to finish Google Analytics Assignment at the same time.

# Create a test Goggle web site

- Here is an illustration of a simple web site
  - containing only a “Hello!” index page and
  - a link to a “Documents” page containing
  - a pdf file ready for download.
- Go to: [sites.google.com](https://sites.google.com) click “Create” and name your page.
  - Click on the newly created site
  - Click on the “Pen” tool to edit your index page
  - Add some text that later you are going to link to the other page

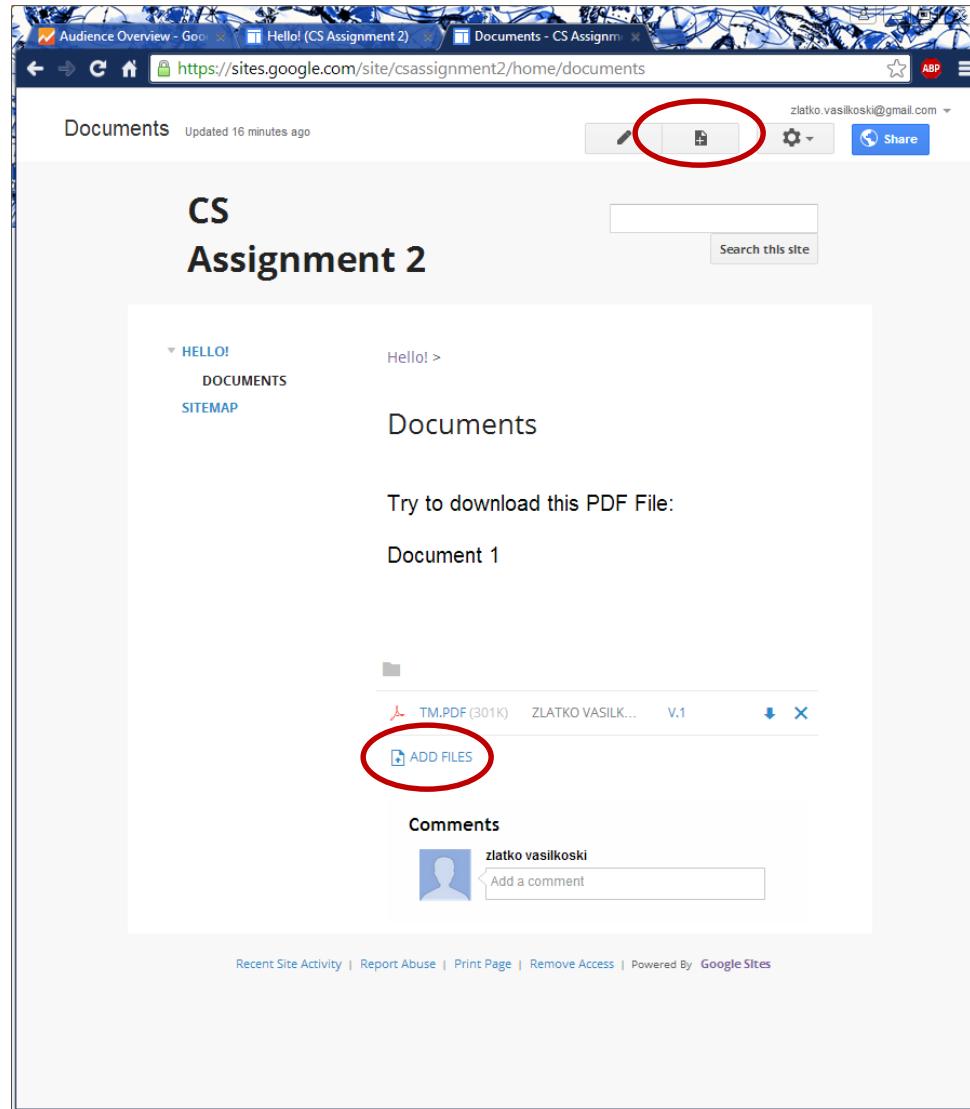
## Sitemap

 CS Assignment 2  
 Hello!  
... Documents



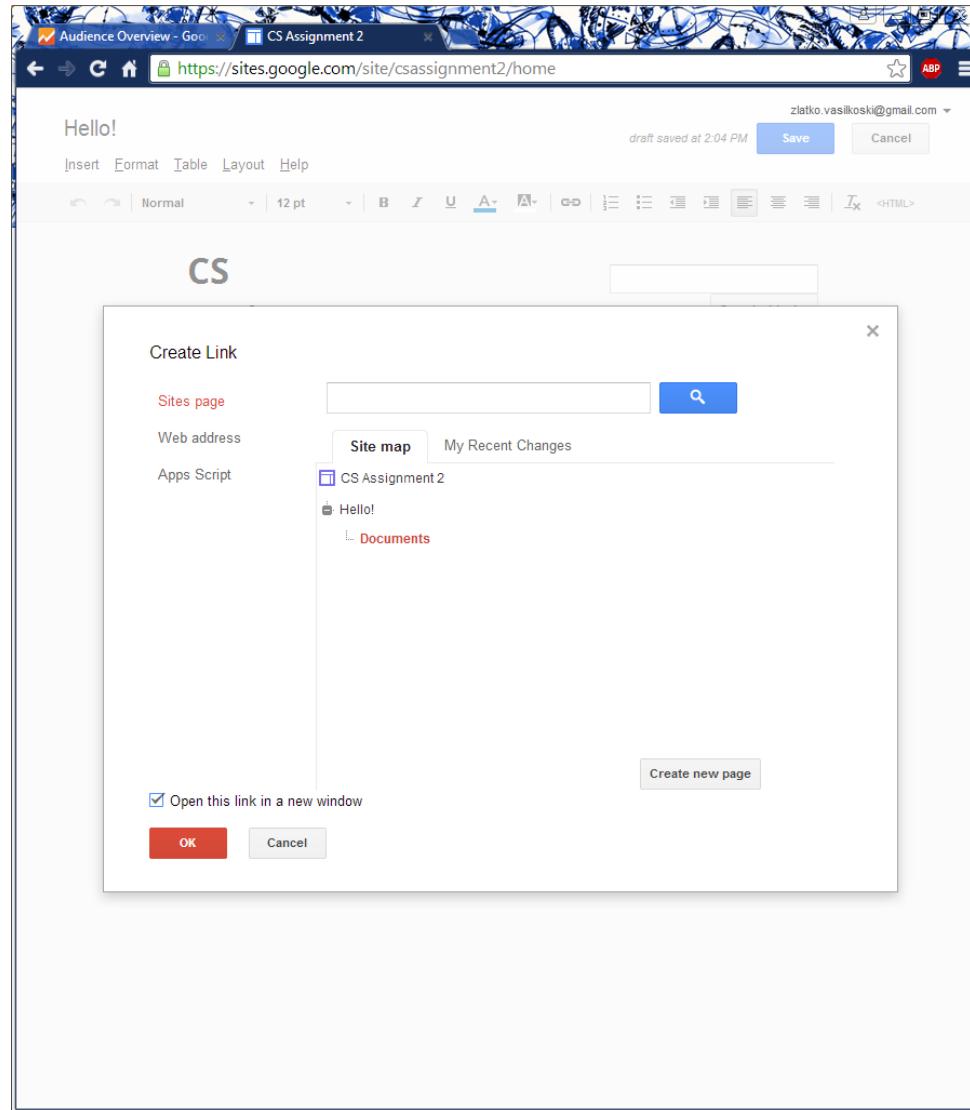
# Create a test Goggle web site

- Use “Create Page” to add the “Documents” page.
  - Add some text
  - Click “ADD FILES” to add a PDF file
  - Add some PDF file from your computer



# Create a test Goggle web site

- Add a link from the index “Hello!” page to the “Documents” page.
  - Use the “Add or Remove Link” tool



# Note

- Google Analytics will not track how many times people download PDFs or other file types.
- For your assignment,
  - either avoid a download as a goal that you would monitor
  - or figure out the ways around it as described online.

## How to Track Downloads in Google Analytics

April 29, 2011 | Joe Christopher | Google Analytics

**UPDATE:** Please reference our updated post on tracking downloads and external links. It is now more efficient and flexible.

Google Analytics uses client-side code (JavaScript) to record pageviews and other interactions (which are then sent as a tracking pixel request to Google's servers). This works great for html pages on your website (regardless of the programming language it was developed in) and it even works great for Flash, Silverlight, and other web technologies.

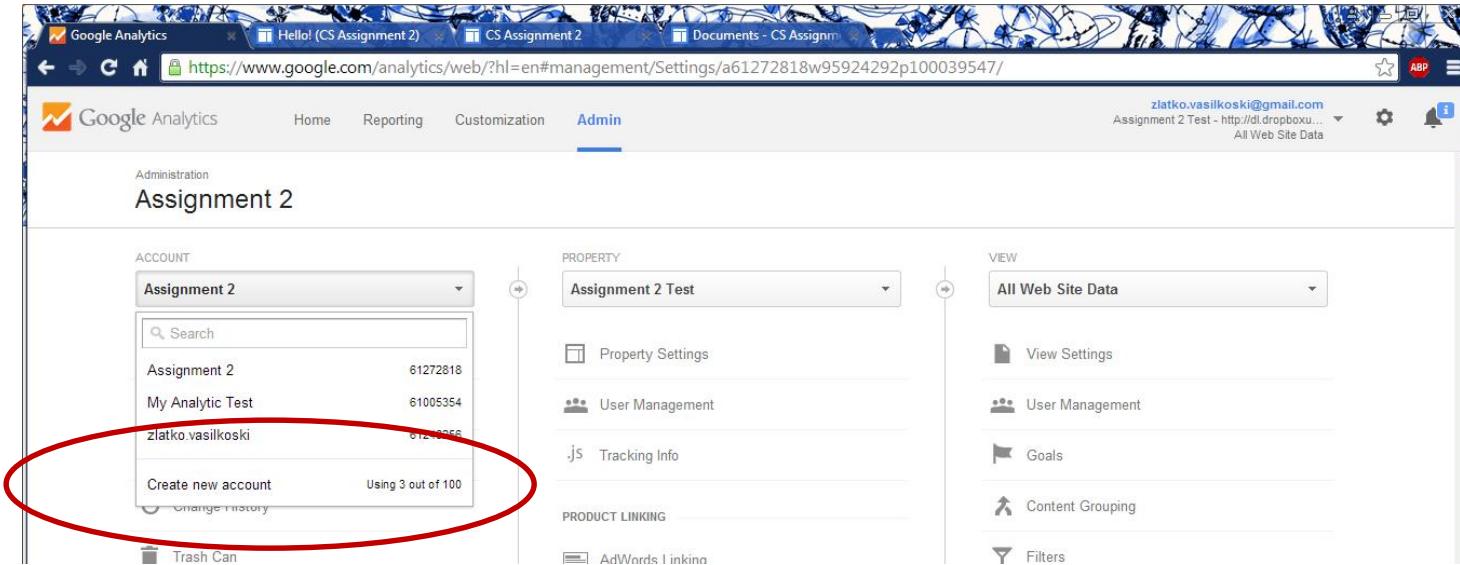
Out of the box, Google Analytics will not track how many times people download PDFs or other file types, simply because those files do not have the ability to request a tracking pixel. In this blog post, we'll be covering the ways to properly track file downloads in Google Analytics.



Throughout this blog post, I'll be assuming that you are wanting to track a PDF download, but keep in mind that you could use this same technique to track the download of a .mp3, .mp4, .xlsx, etc — it really does not matter. Additionally, I recommend tracking file downloads as events

# Create a new Analytics Account for your web site

- A good step by step explanation: <https://support.google.com/sites/answer/97459?hl=en>
- In your Google Analytics account select the **Admin** tab. Create a new Analytics account (for each of your sites).
- **Account Name:** Choose what you want to call this account.
- **Website Name:** Choose what you want to call the website you're tracking.
- **Website URL:** Enter the URL for the site you're tracking (the one you have just created).
- Click **Get Tracking ID ("UA-XXXXXXX-X" ).**



# Configure Google Analytics to your web site

Two slightly different steps:

## 1. Configure Google Analytics for Google Sites.

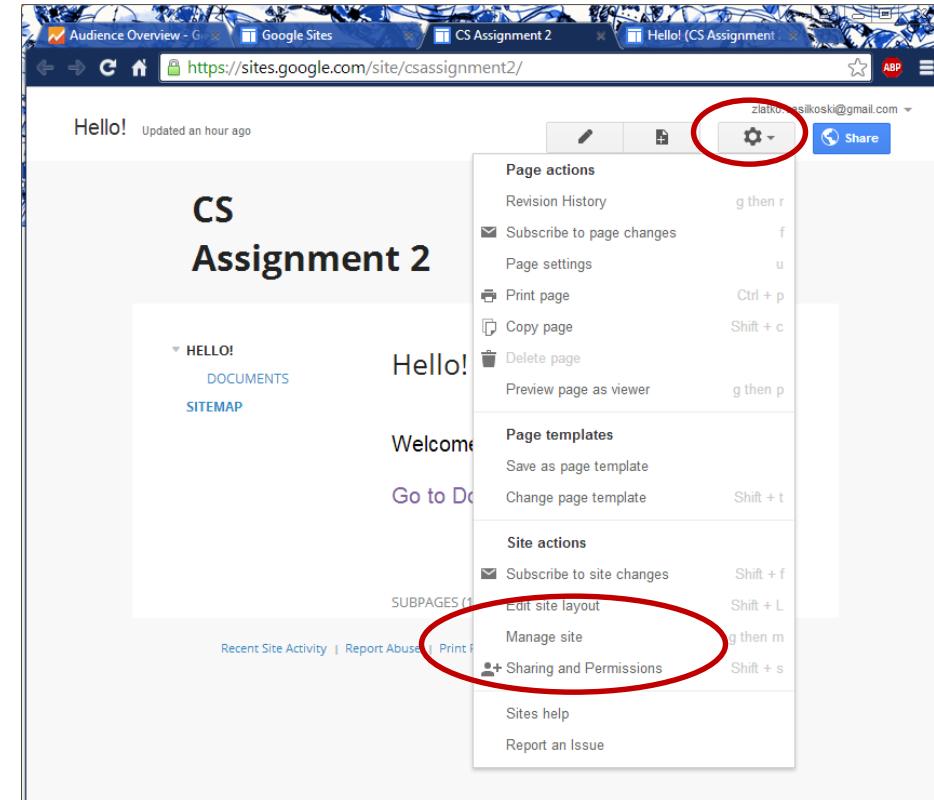
- You just need to add the Tracking ID ("UA-XXXXXXX-X") to your Google web site.
- Google web site will automatically place it on all of your pages on your Google web site.

## 2. Configure Google Analytics to any other web site.

- You need to paste (by hand) the JavaScript code into every webpage you want to track on your web site.

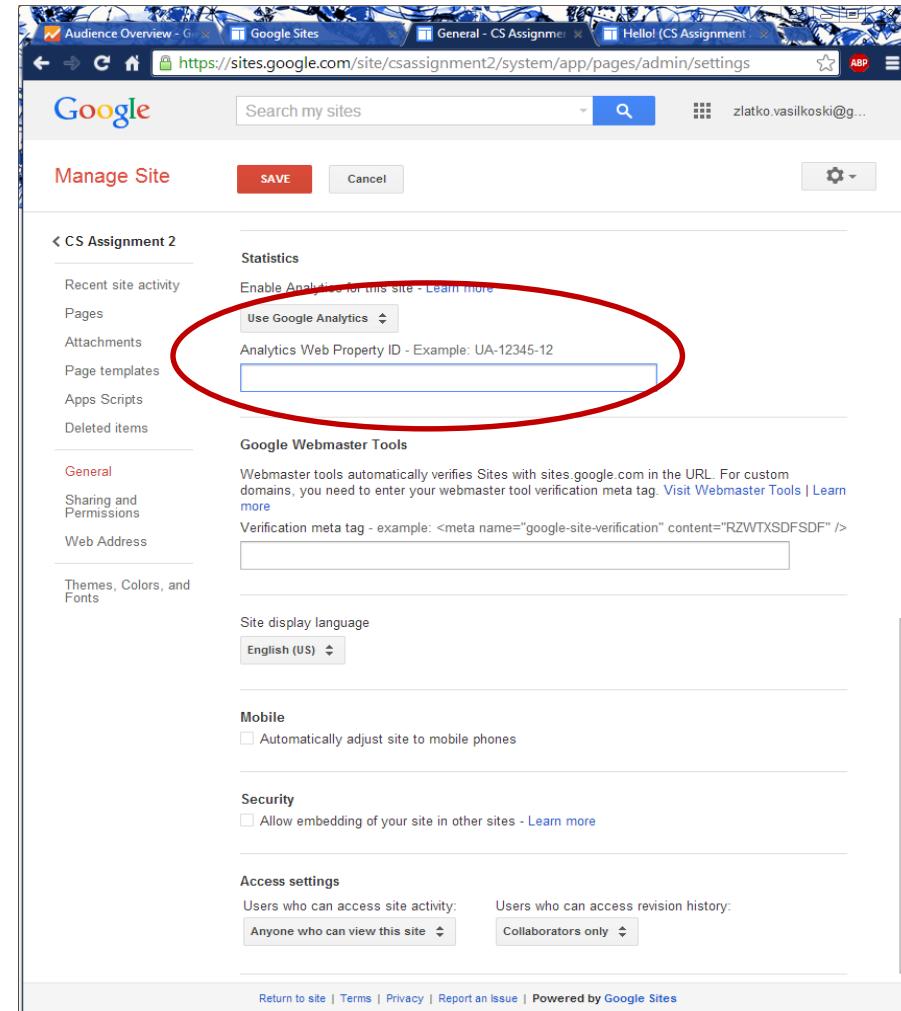
# 1. Configure Google Analytics for Google Sites

- After you create your new Google Analytics account, you will be directed to your Google Analytics profile screen, where the name of your tracked site should appear, followed by a Google Analytics account number in the format, 'UA-XXXXXXX-X' Copy this code - known as your Analytics Web Property ID - and go to the site that you want to track with Google Analytics.
- On your site, click the **Settings** icon in the top-right and select **Manage Site**.



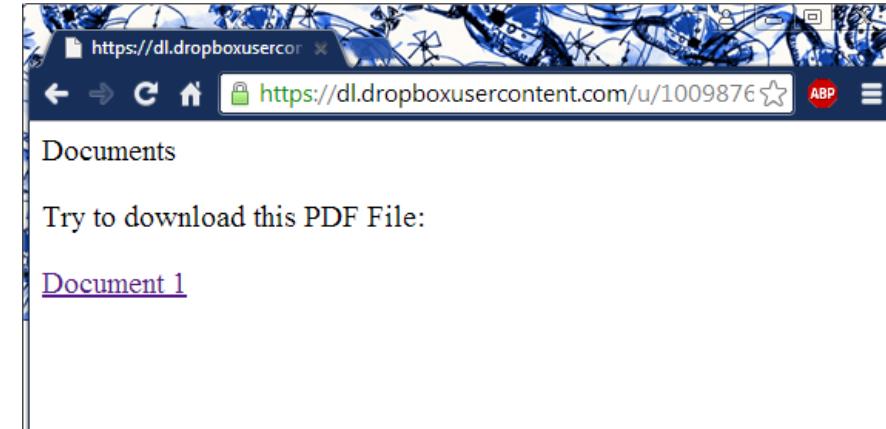
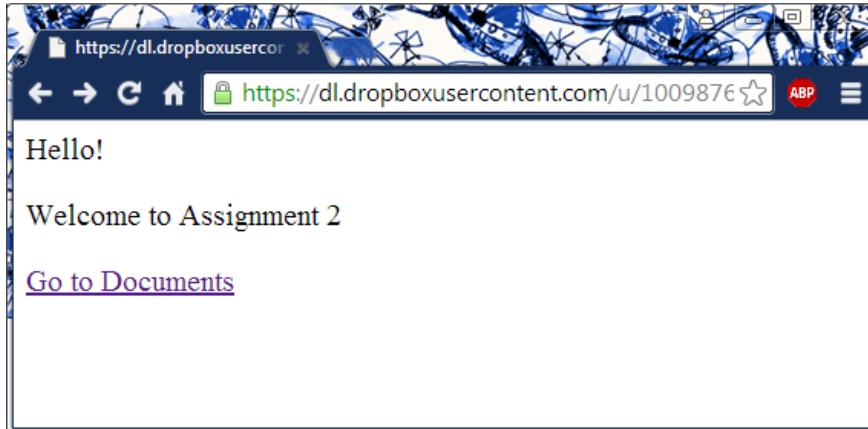
# 1. Configure Google Analytics for Google Sites

- Under the **Site Settings** section, click **General**.
- Click the drop-down menu below "Statistics" and switch to **Use Google Analytics**.
- Enter your Analytics Web Property ID (UA-XXXXXXX-X) in the associated box.
- Click "**Save**" changes.
- In 24 hours or less the Google analytics for your Google web site will work.



## 2. Configure Google Analytics for any other web site

- I'll illustrate by creating the same web site on Dropbox.
  - containing only a "Hello!" index page and
  - a link to a "Documents" page containing
  - a pdf file ready for download.

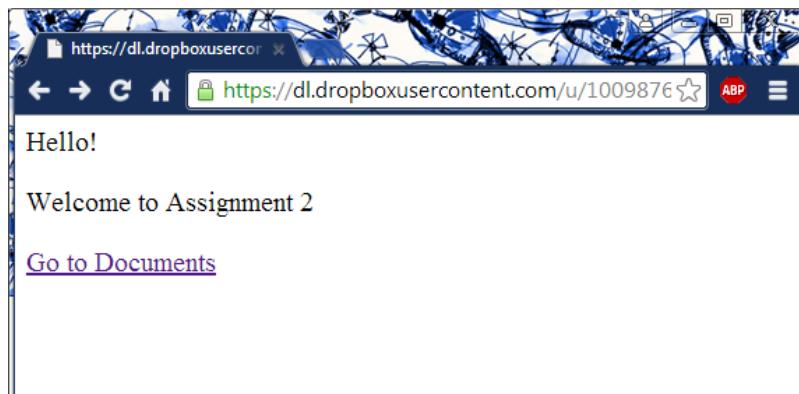


# Create a web site

- I used a text editor to create the simple
  - index page with a link to
  - the “Documents” page with a link to
  - a pdf file ready for download
- All of these 3 files (index.html, pdfdocuments.html and tm.pdf) are in the same folder!

Index page

```
1 <html>
2 <head>Hello!</head>
3 <body>
4
5 <p>Welcome to Assignment 2</p>
6 <a href="pdfdocuments.html">Go to Documents</a>
7
8
9 </body>
10 </html>
```



Document's Page

```
1 <html>
2 <head>Documents</head>
3 <body>
4
5 <p>Try to download this PDF File:</p>
6 <a href="tm.pdf">Document 1</a>
7
8
9 </body>
10 </html>
```



# Get the JavaScript code

- From Google analytics page
  - Select the Analytics account you want to use (Assignment 2)
  - Click Tracking Info/Tracking Code
  - Copy the JavaScript code

The screenshot shows the Google Analytics Admin interface. On the left, under 'ACCOUNT', 'Assignment 2' is selected. On the right, under 'PROPERTY', 'Assignment 2 Test' is selected. A red circle highlights the 'Assignment 2' account selection. Another red circle highlights the 'Tracking Info' link in the sidebar. A large red circle highlights the tracking code area. The tracking code is as follows:

```
script>
(function(i,s,o,g,r,a,m){[["GoogleAnalyticsObject"]]=r;[i[r]]=i[r].length?function(){
([i[r],q=i[r].q||[],push(arguments),i[r].l=1*new Date();a=s.createElement(o),
m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
})(window,document,"script","//www.google-analytics.com/analytics.js","ga");

ga('create', 'UA-61272818-1', 'auto');
ga('send', 'pageview');

</script>
```

Below the code, it says: "Create a PHP file named "analyticstracking.php" with the code above and include it on each PHP template page. Then add the code to your header."

# Insert the JavaScript code in your web pages

- Paste the Google Analytics JavaScript code snippet into the bottom of the content, immediately before the "</body>" tag on every page on the site you want to track.
- In 24 hours or less the Google analytics of your web site will work.

The image shows two code editors side-by-side, each displaying a different web page template with the Google Analytics JavaScript code integrated at the bottom.

**Index page:**

```
1 <html>
2 <head>Hello!</head>
3 <body>
4
5 <p>Welcome to Assignment 2</p>
6 <a href="pdfdocuments.html">Go to Documents</a>
7
8
9 <script>
10  (function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;
11   i[r]=i[r]||function(){
12     (i[r].q=i[r].q||[]).push(arguments),i[r].l=1*new Date();
13     a=s.createElement(o),
14     m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
15   })(window,document,'script','//www.google-analytics.com/analytics.js','ga');
16
17   ga('create', 'UA-61272818-1', 'auto');
18   ga('send', 'pageview');
19
20 </script>
21 </body>
22 </html>
```

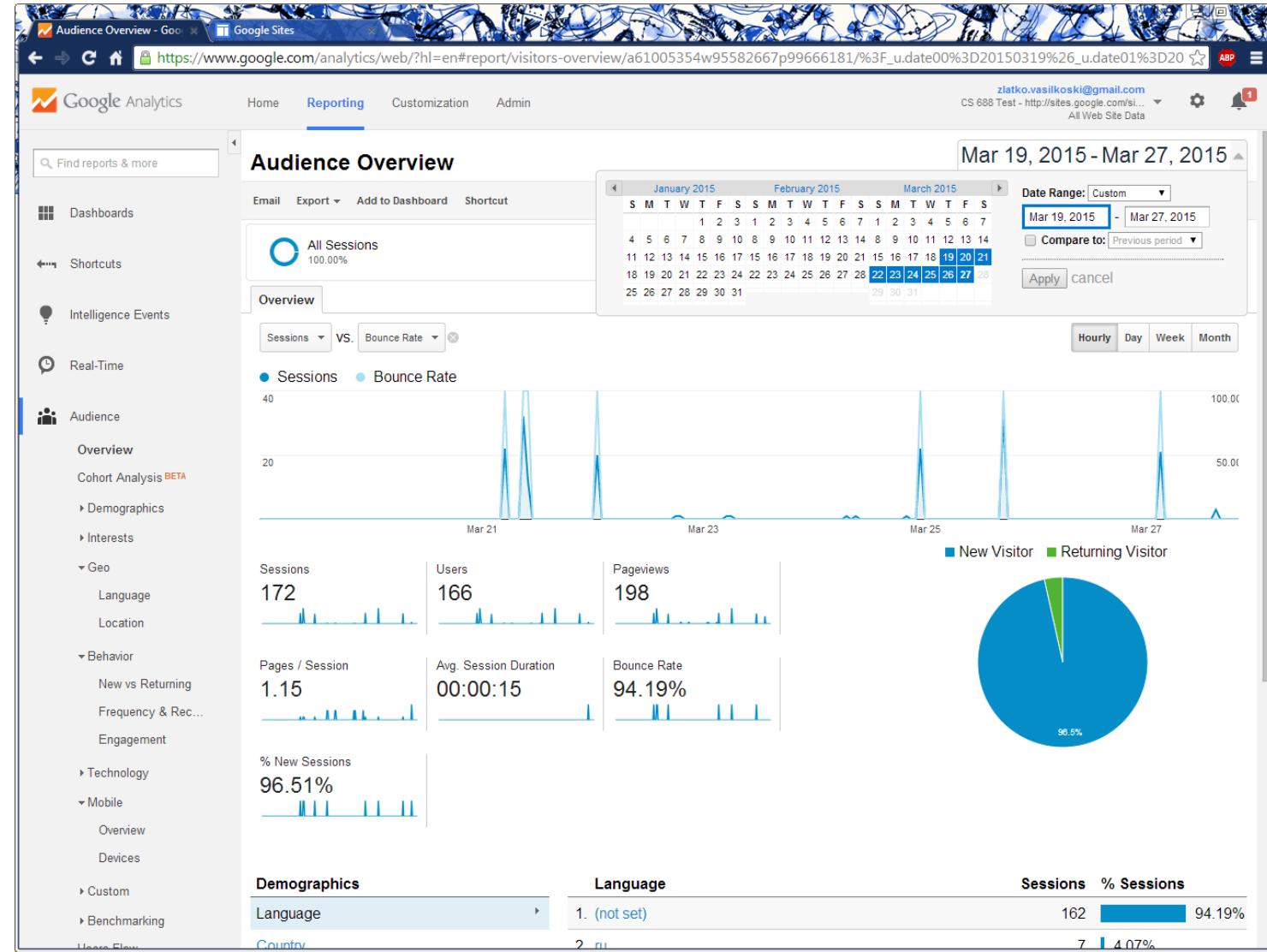
**Document's Page:**

```
1 <html>
2 <head>Documents</head>
3 <body>
4
5 <p>Try to download this PDF File:</p>
6 <a href="tm.pdf">Document 1</a>
7
8
9 <script>
10  (function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;
11   i[r]=i[r]||function(){
12     (i[r].q=i[r].q||[]).push(arguments),i[r].l=1*new Date();
13     a=s.createElement(o),
14     m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
15   })(window,document,'script','//www.google-analytics.com/analytics.js','ga');
16
17   ga('create', 'UA-61272818-1', 'auto');
18   ga('send', 'pageview');
19
20 </script>
21 </body>
22 </html>
```

Both code snippets highlight the Google Analytics script block (lines 9-18) with a red oval, indicating where it should be pasted into the page content.

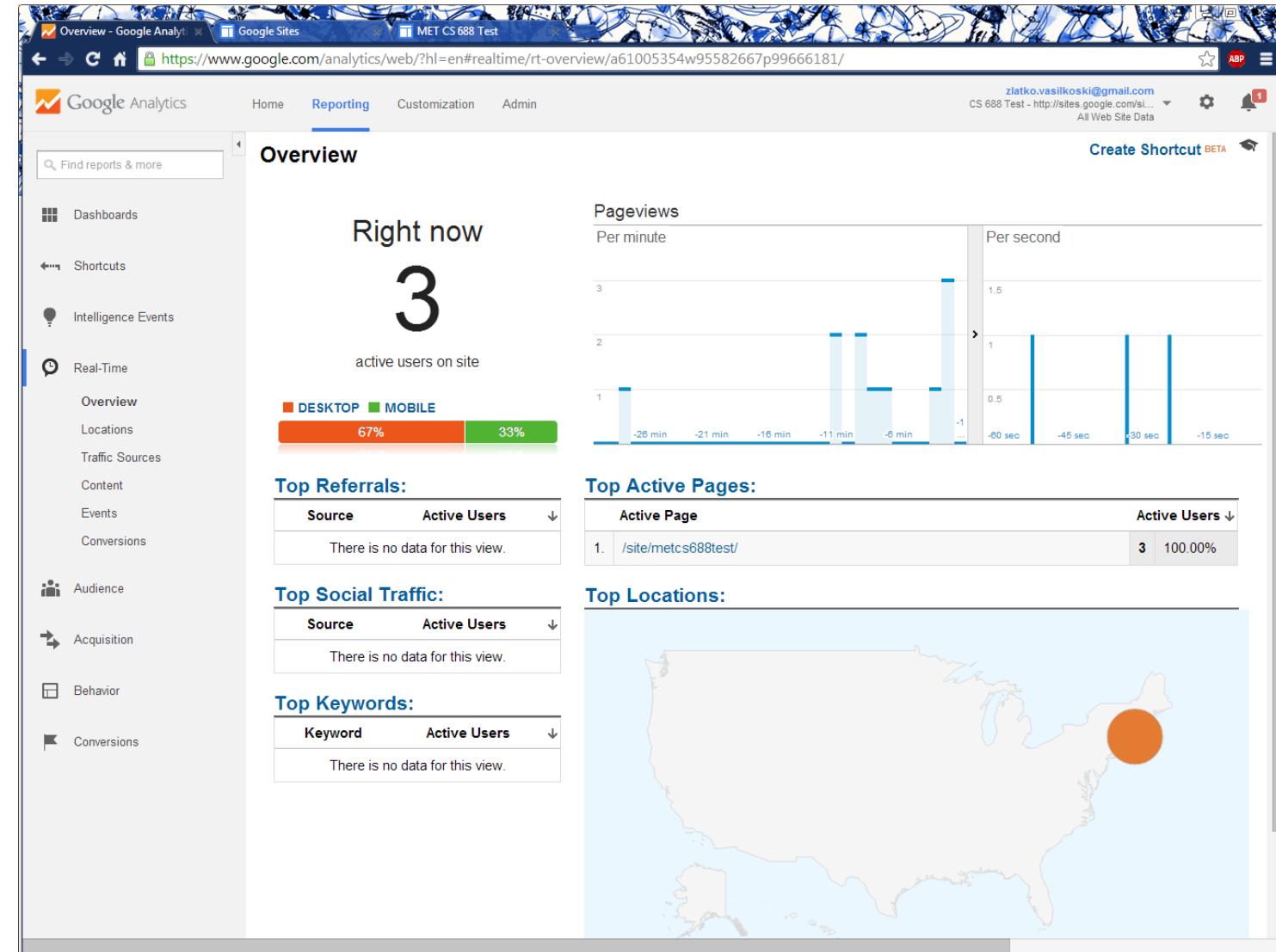
# Selecting Date Range

- Selecting time period for audience overview analytics
- Location



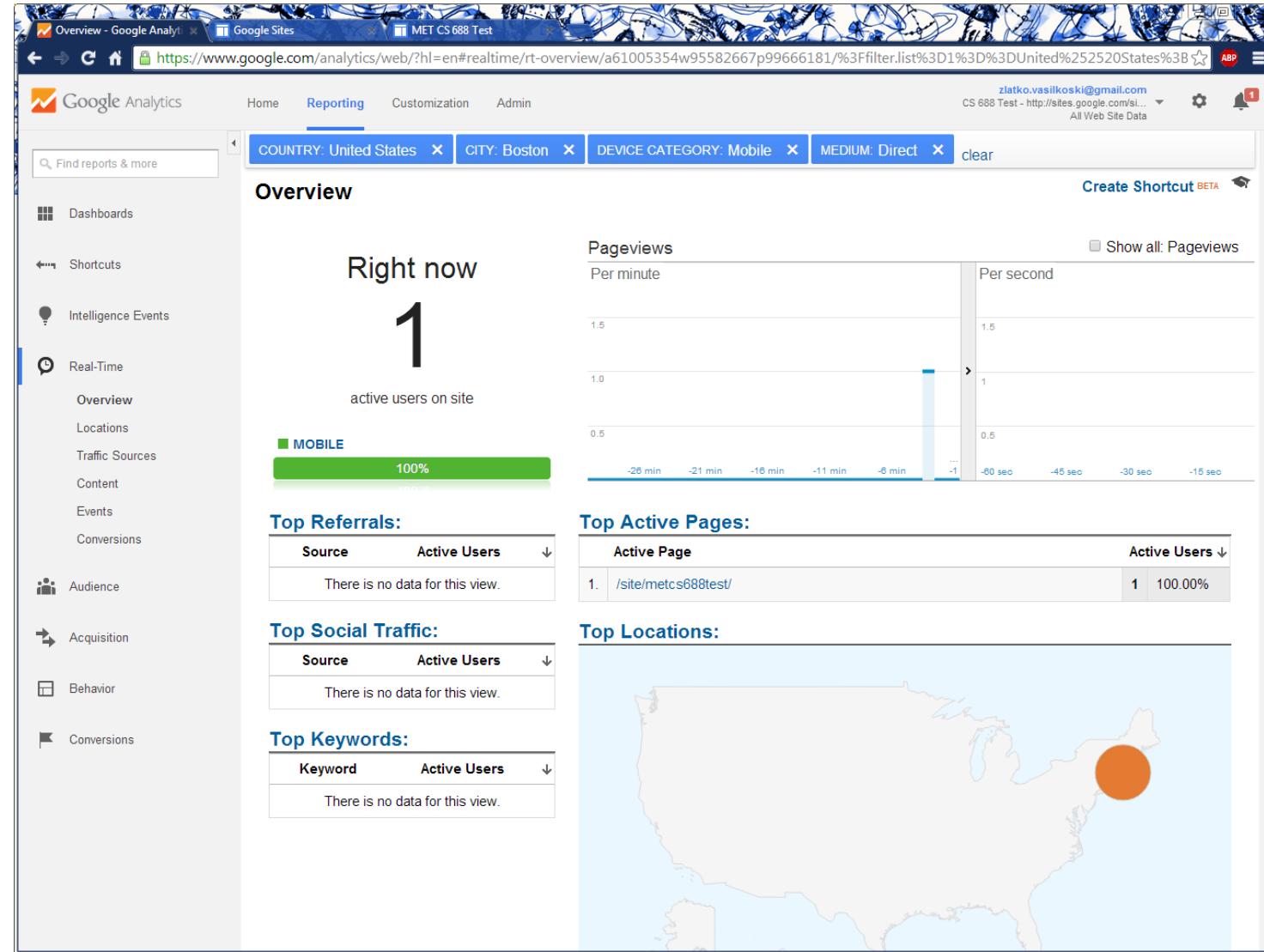
# Real Time Active Users

- Desktop & Mobile
- Location
- Try to share and access each other's web sites to build more diverse statistics.



# Web Analytics

- Select Mobile Only
- Try to share and access each other's web sites to build diverse statistics.
- Also try to use different devices for access if possible



# GA Assignment Suggestions

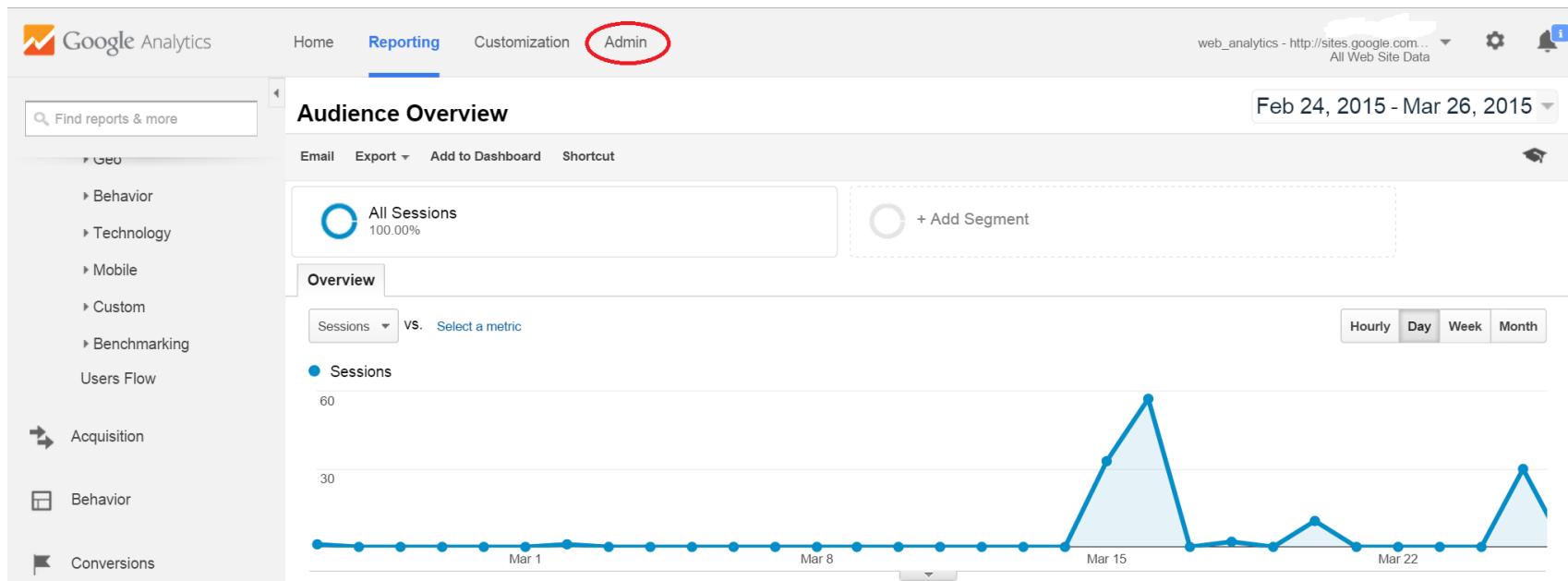
- Design your web site to be just complex enough so you can answer the requirements of Assignment.
  - Create a specific goal (or goals) , so you can describe the goal funnels.
  - The idea behind manual or auto tagging is to bring in new website visitors and minimize bounce rates by tailoring landing pages to each keyword.
  - Regarding e-commerce you can consider the click button that you place on your website for download to be books or any other item that you may sell. Of cause do not place documents of importance containing information that you would not like to share. Depending on the topic you choose just within hours or days your web site will be visited by large number of people from everywhere.

# GA Assignment

- Create a web site (or use friend's website)
  - Goggle Sites or
  - Any other
- Design your web site to be just complex enough so you can answer the requirements of Assignment.
  - Attach Google Analytics to your website
  - Create a goals, according to the function of your website.
  - Collect traffic to your website
  - Create report of the visitors to your website.
- Present your report in 5-10 min.
- Submit on blackboard:
  - PPT (or similar format) version (few slides is enough) of your report.
  - **Include your name on the first slide!**

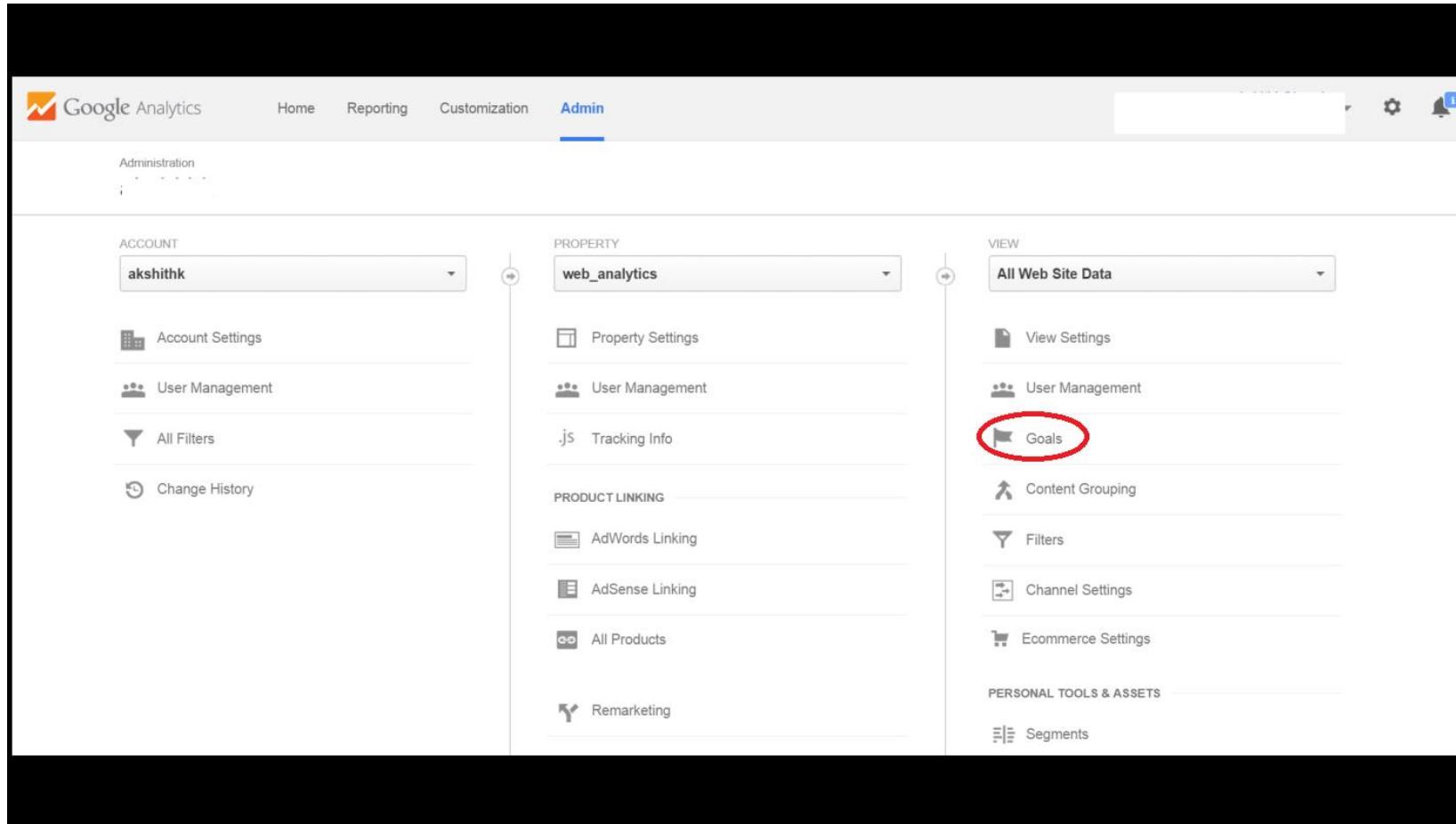
# How to Set Up/Create Goals

- Before Google Analytics can give you reports about a goal, you must define the goal within your account. You can create up to twenty goals in each Google Analytics profile.
- To set up your goals:
- Click the "Admin" option in the tool-bar at the top of the page.



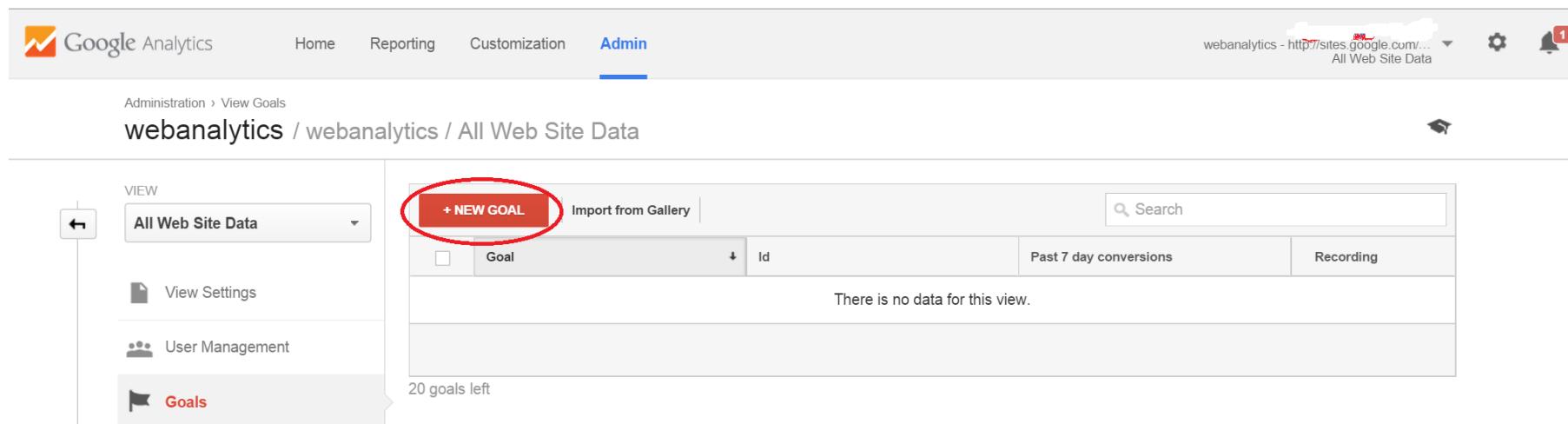
# How to Set Up/Create Goals

- Click the "Goals" option under the "All Web Site Data" tab on the right hand side



# How to Set Up/Create Goals

- Click the " +New Goal " option highlighted in red



# How to Set Up/Create Goals

- Select a template with a pre-filled configuration or choose a custom option to define the kind of goal that you want to setup.

The screenshot shows the Google Analytics Admin interface with the 'Admin' tab selected. On the left, a sidebar menu is open, showing various settings like 'View Settings', 'User Management', and 'Goals'. The 'Goals' item is highlighted with a red box. The main content area is titled 'Goal setup' and has a sub-section titled 'Template'. It says 'Select a template to start with a pre-filled configuration'. There are four main categories: 'REVENUE', 'ACQUISITION', 'INQUIRY', and 'ENGAGEMENT'. Under each category, there are several goal types listed with their descriptions. At the bottom of the template section, there is a 'Custom' option. At the very bottom of the page, there are 'Next step' and 'Cancel' buttons.

Google Analytics

Home Reporting Customization Admin

webanalytics - https://www.google.com/... All Web Site Data

All Web Site Data

View Settings

User Management

Goals

Content Grouping

Filters

Channel Settings

Ecommerce Settings

PERSONAL TOOLS & ASSETS

Segments

Annotations

Attribution Models

1 Goal setup

Template

Select a template to start with a pre-filled configuration

REVENUE

Place an order Completed purchase or pre-order request

ACQUISITION

Create an account Successful sign up, account, or view created

INQUIRY

Contact us Viewed phone number, directions, chat or email

Read reviews Viewed reviews and ratings

Get callback Requested service or a phone call

Live chat Contacted via chat

Update Downloaded or installed new version

ENGAGEMENT

Compare information Compared features, products, or options

Add to favorites Saved product or information to a list

Media play Played interactive media, like a video, slideshow, or product demo

Share / social connect Shared to a social network or emailed

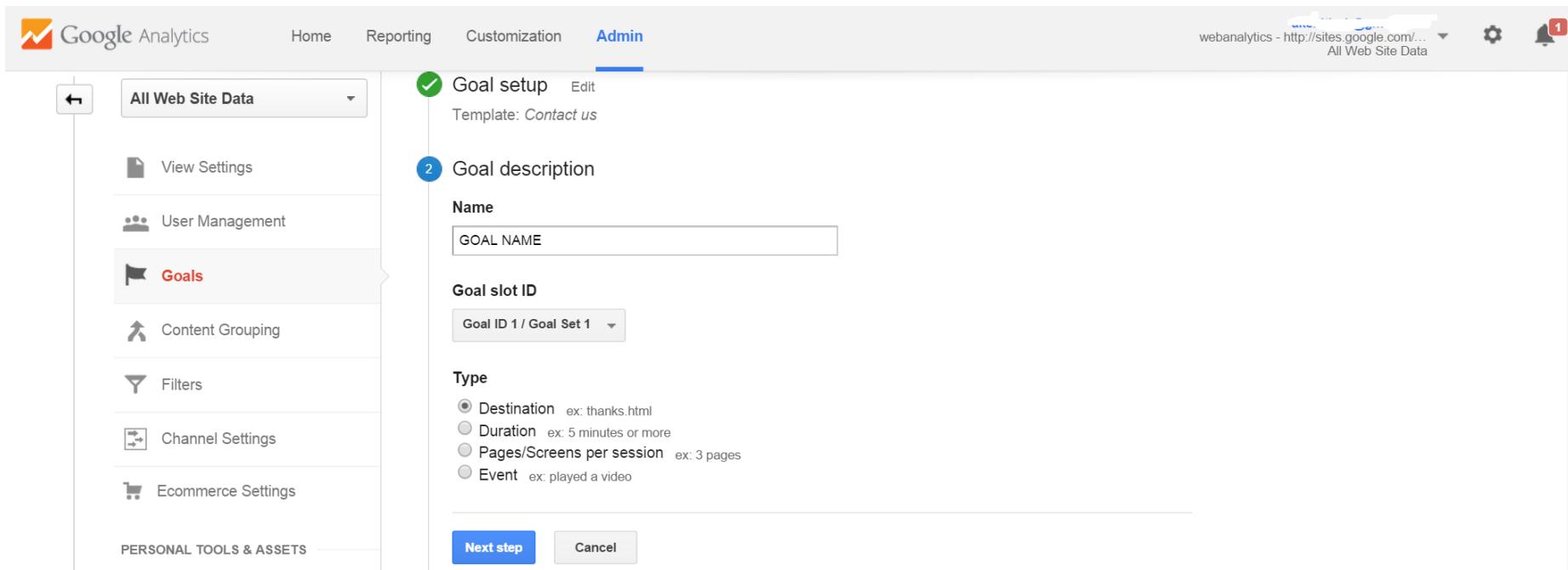
Sign up Subscribe to newsletter, update alerts, or join group

Custom

Next step Cancel

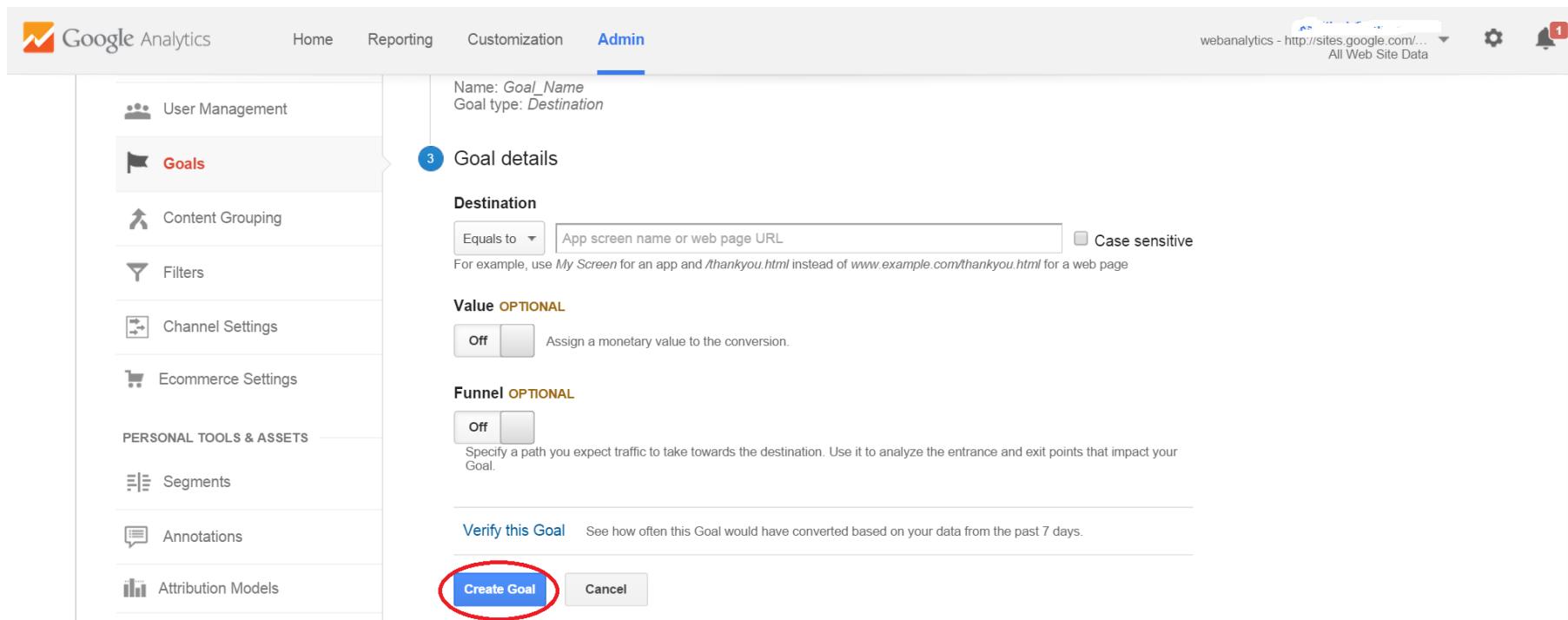
# How to Set Up/Create Goals

- Fill in the Goal description details



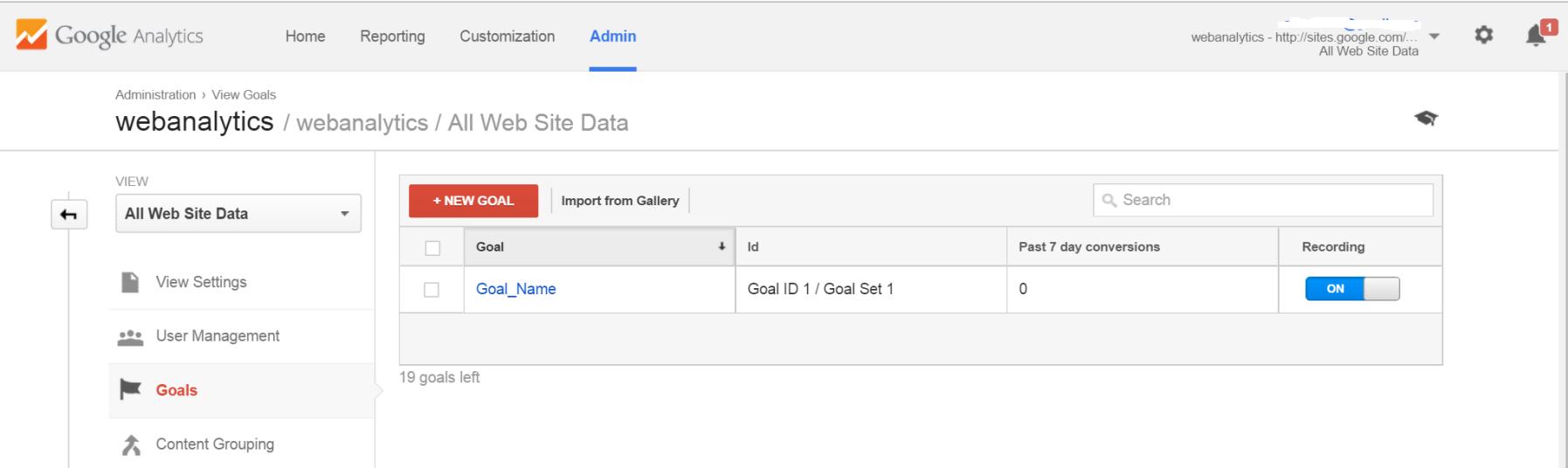
# How to Set Up/Create Goals

- Enter the goal details & then click on " Create Goal " option at the bottom



# How to Set Up/Create Goals

- Once you click on the Create goal option you can view your goal on the following page which looks like this:



The screenshot shows the Google Analytics Admin interface under the 'View' 'All Web Site Data' section. The 'Goals' section is selected. A red '+ NEW GOAL' button is visible at the top left of the main content area. Below it, a table lists one goal: 'Goal\_Name' (Goal ID 1 / Goal Set 1), with 0 past 7 day conversions and the recording switch turned 'ON'. A search bar is also present above the table. The sidebar on the left includes options for 'View Settings', 'User Management', and 'Content Grouping'.

	Goal	Id	Past 7 day conversions	Recording
<input type="checkbox"/>	Goal_Name	Goal ID 1 / Goal Set 1	0	<input checked="" type="button"/> ON

# How to Set Up/Create Goals

- You can create more goals by clicking the +New Goal option. Note that the limit on the number of goals you can create for every Goal ID is 20.

The screenshot shows the Google Analytics Admin interface. The top navigation bar includes 'Google Analytics', 'Home', 'Reporting', 'Customization', and 'Admin'. The 'Admin' tab is selected. Below the navigation, the path 'Administration > View Goals / web\_analytics / All Web Site Data' is displayed. On the left, a sidebar menu lists 'VIEW' (selected), 'All Web Site Data', 'View Settings', 'User Management', 'Goals' (selected), 'Content Grouping', 'Filters', 'Channel Settings', and 'Ecommerce Settings'. Under 'PERSONAL TOOLS & ASSETS', there is a 'Segments' option. The main content area shows a table for 'Goals'. A red '+ NEW GOAL' button is at the top left of the table. The table has columns for 'Goal' (checkbox), 'Id', 'Past 7 day conversions', and 'Recording' (switch). One goal is listed: 'Visitsperday' (checkbox checked), Id 'Goal ID 1 / Goal Set 1', Past 7 day conversions '2', and Recording 'ON' (switch checked). Below the table, it says '19 goals left'.

<input type="checkbox"/>	Goal	Id	Past 7 day conversions	Recording
<input type="checkbox"/>	Visitsperday	Goal ID 1 / Goal Set 1	2	<input checked="" type="button"/> ON

# GA Assignment Suggestions

- Design your web site to be just complex enough so you can answer the requirements of Assignment.
  - Create a goals , so you can describe the goal funnels.
  - The idea behind manual or auto tagging is to bring in new website visitors and minimize bounce rates by tailoring landing pages to each keyword.
  - Regarding e-commerce you can consider the click button that you place on your website for download to be books or any other item that you may sell. Of cause do not place documents of importance containing information that you would not like to share. Depending on the topic you choose just within hours or days your web site will be visited by large number of people from everywhere.

