

Decision-making using web analytics

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Library

For today

- Analytics at The Graduate School and the Health Sciences Library
- What analytics can and can't tell you
- The basics
- Advanced topics

- Show of hands:
 - Use Google Analytics?
 - Novice? Intermediate? Expert?
- Questions welcome

Analytics at The Graduate School

- Our set up
 - Using Google Analytics since 2007
 - One user
 - Biggest hurdle was linking multiple subdomains:
 - (gradschool.unc.edu, handbook.unc.edu fountain.unc.edu)
 - Various hurdles in achieving desired configuration
- Some uses:
 - Tracking communications efforts
 - Evaluating content placement
 - Deciding which technology to support
- I don't have all the answers

Analytics at the Health Sciences Library

- Our set up
 - Using Google Analytics since 2007
 - IT development group administers
 - Any library staff can access data (15)
 - Some big “oops” in configuration impacted data
 - Privacy statement:
http://www.lib.unc.edu/aoffice/policies/privacy_policy.html
- Tool in “evidence-based librarianship” toolbox
- Some uses:
 - Analyzing trends
 - Debate over whether data is reportable
 - Making content/navigation/homepage decisions
- I don’t have all the answers
- webmasters is a great community of practice

Analytics can tell you

- What is the top used content?
- What content should have more prominence on the site?
- Which of two design alternatives has better usage?
- What is the best time of day for website outages?
- Which browser/operating systems/mobile devices should be supported?
- Where are site visitors coming from?

Analytics can't tell you

- Are users getting the information they need/want?
- Is the site easy to use?
- What should be on the home page?
(Well... analytics identifies usage, but sometimes business needs trump usage data)
- It can be one source of data, but other methods may be more appropriate to directly answer these questions (user observations, usability testing, surveys, etc).

The basics

- Some definitions
- What are patterns in usage (day, week, year)?
- What operating systems, browsers and browser versions are users using?
- Which mobile devices do users use to access site?
- What is the top accessed content?
- Where in the world are users located (or at least their ISP)?
- What language?
- What are users searching for to get to site?
- Once users are on your site, what do they search for?

Definitions: visit, visitor, pageview, unique pageview?

- Each Analytics tool does it differently
- *Visits* represent the number of individual sessions initiated by all the *visitors* to your site
 - First visit = additional visit AND additional visitor
 - Subsequent visit = additional visit NOT an additional visitor
 - Fine print:
 - visits during the time range of the report
 - If user clears cookies, subsequent sessions = additional visit and additional visitor
- *Pageview* represents a view of a tracked page.
- *Unique pageviews* represents the # of sessions during which that page was viewed (aggregate pageviews generated by same user during same session)
 - First view of a page = additional pageview
 - Reload = additional page view.

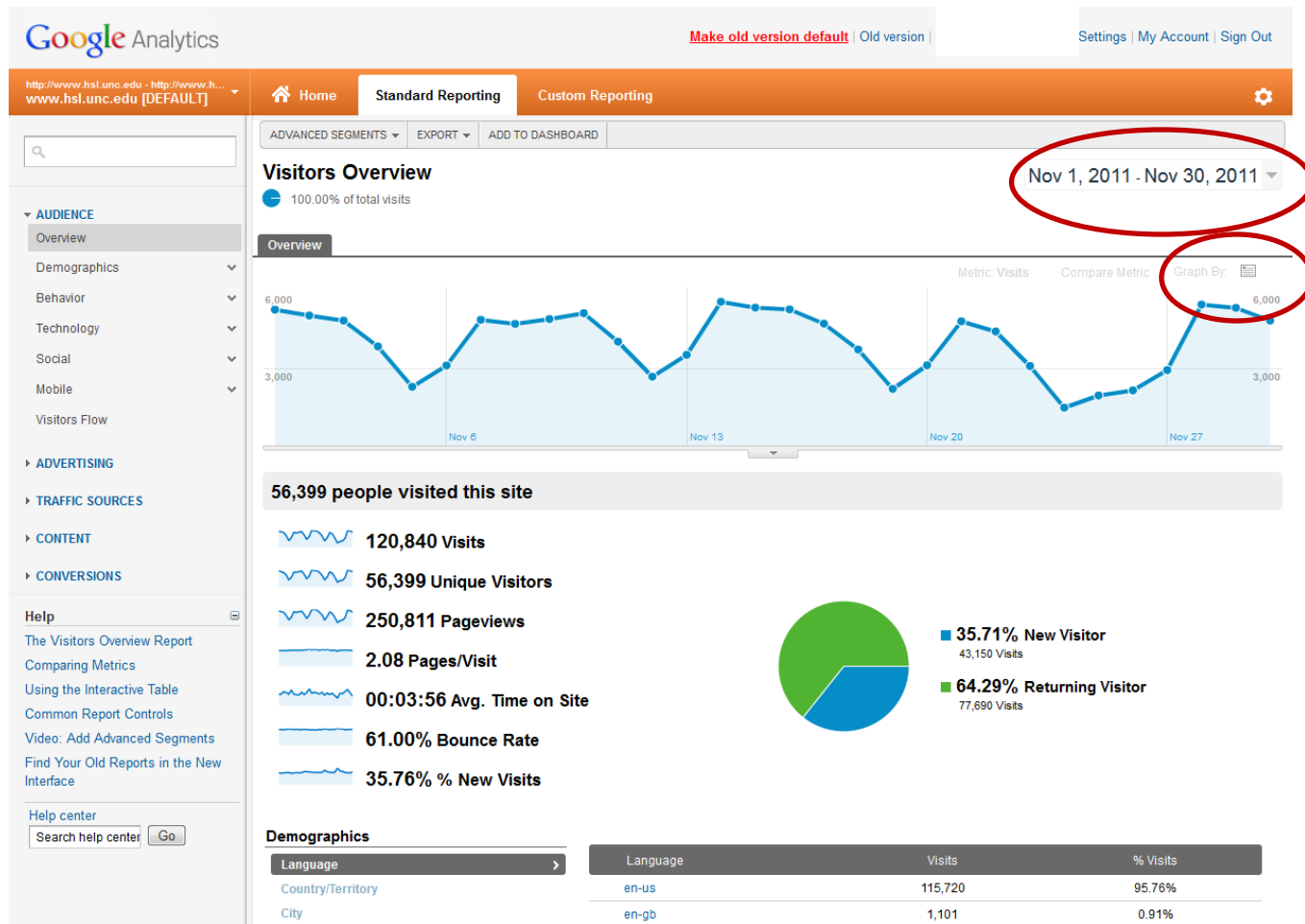
What times are busiest?

- How many visitors view site at candidate times?
- What's the best time for system downtime?
- In Google Analytics
 - Visitors > Overview
 - Change to Graph by Hour
 - Set date range
 - Save to dashboard

What times are busiest?

Visitors Overview

showing visitors (graphed by day) for **November 2011**



What times are busiest?

Visitors Overview

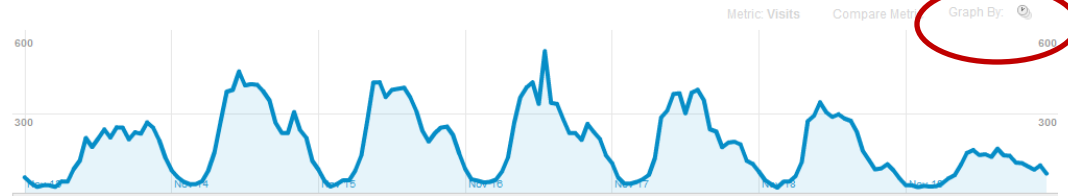
Comparing visitors (graphed by hour) for 11/13 -11/19/11 to 11/20 - 11/26/11 (week of Thanksgiving)

Visitors Overview

100.00% of total visits

Nov 13, 2011 - Nov 19, 2011

Overview



17,635 people visited this site

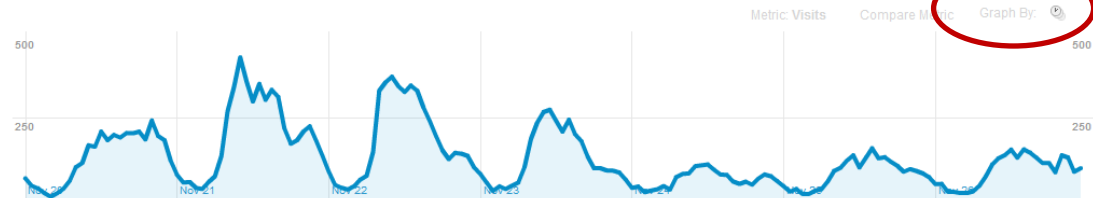
- 30,417 Visits
- 17,635 Unique Visitors
- 64,978 Pageviews
- 2.14 Pages/Visit
- 00:04:08 Avg. Time on Site
- 60.00% Bounce Rate
- 36.29% % New Visits

Visitors Overview

100.00% of total visits

Nov 20, 2011 - Nov 26, 2011

Overview



12,956 people visited this site

- 21,021 Visits
- 12,956 Unique Visitors
- 43,542 Pageviews
- 2.07 Pages/Visit
- 00:03:38 Avg. Time on Site
- 61.84% Bounce Rate
- 37.51% % New Visits



- 37.4% 7,876 Visits
- 62.53% Returning Visitor 13,145 Visits

Fewer visits over Thanksgiving

What times are busiest?

Visitors Overview

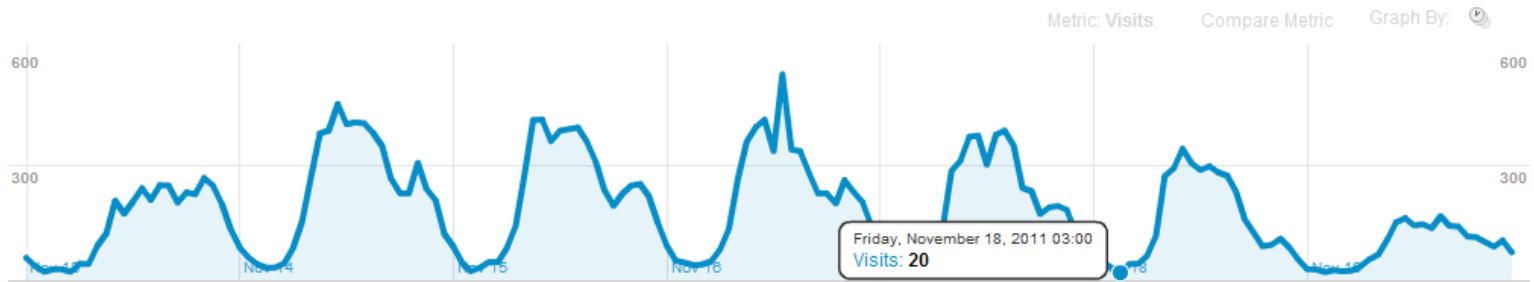
showing visitors (graphed by hour) for **November 2011**,
hovering over graph

Visitors Overview

Nov 13, 2011 - Nov 19, 2011

100.00% of total visits

Overview



17,635 people visited this site

30,417 Visits

17,635 Unique Visitors

64,978 Pageviews

2.14 Pages/Visit

00:04:08 Avg. Time on Site

60.00% Bounce Rate

36.29% % New Visits



36.24% New Visitor

11,024 Visits

63.76% Returning Visitor

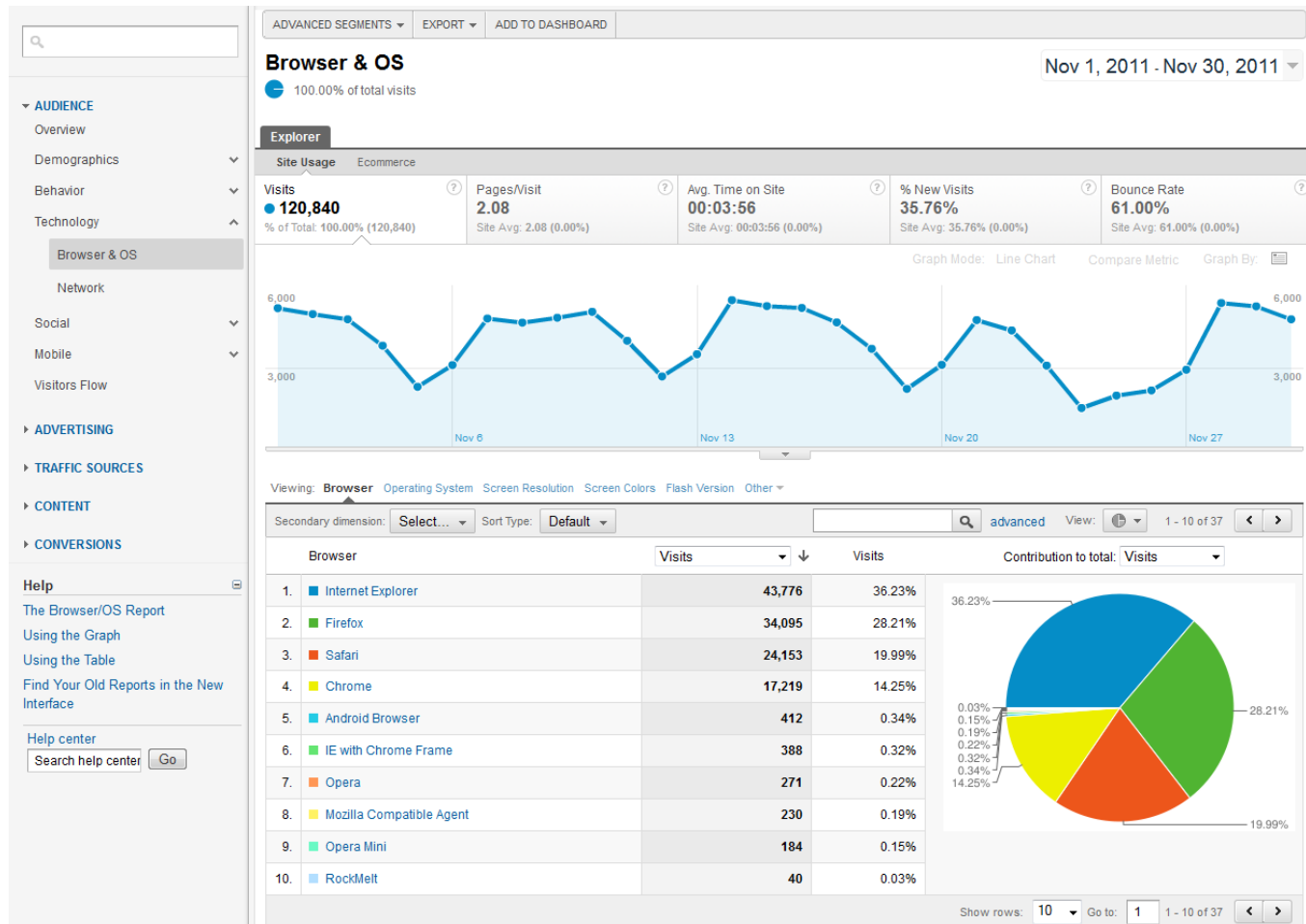
19,393 Visits

Can I give up on IE 6 yet?

- What operating systems, browsers and browser versions are users using?
- In Google Analytics
 - (% of all IE visits)
 - Visitors > Technology > Browser & OS
 - Drill down into IE
 - (% of all visits)
 - Visitors > Technology > Browser & OS
 - Secondary dimension browser version
 - Filter for Browser = Internet Explorer

Can I give up on IE6 yet?

Audience > Technology > Browser & OS



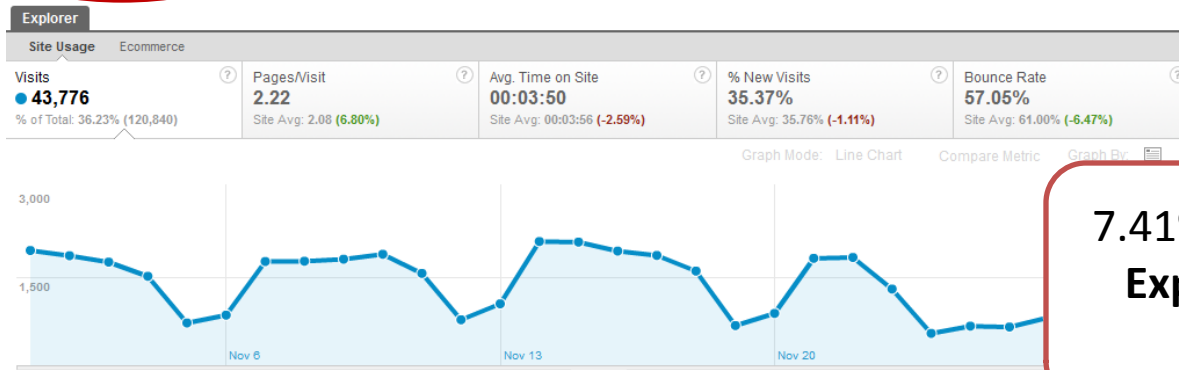
Can I give up on IE6 yet?

Audience > Technology > Browser & OS

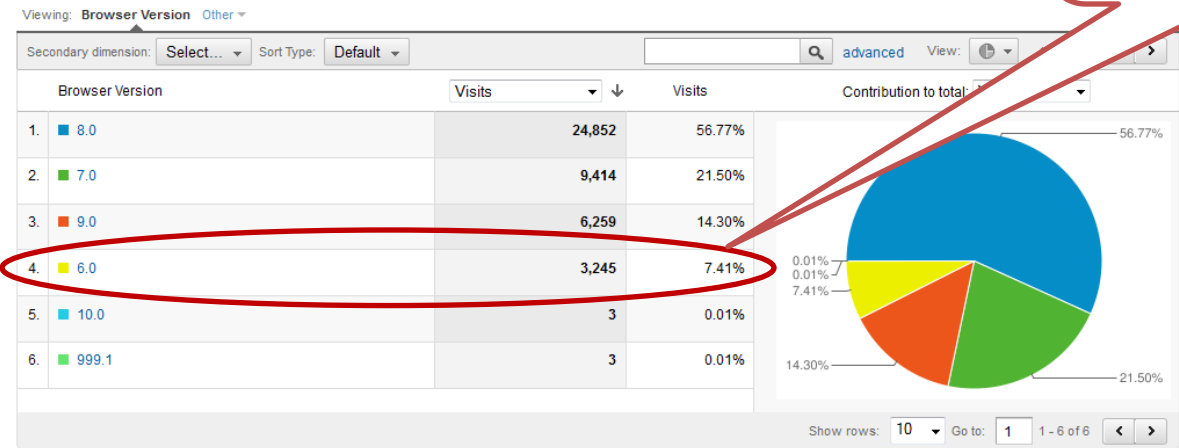
Drill down into IE

Browser & OS
ALL » BROWSER: Internet Explorer
36.23% of total visits

Nov 1, 2011 - Nov 30, 2011



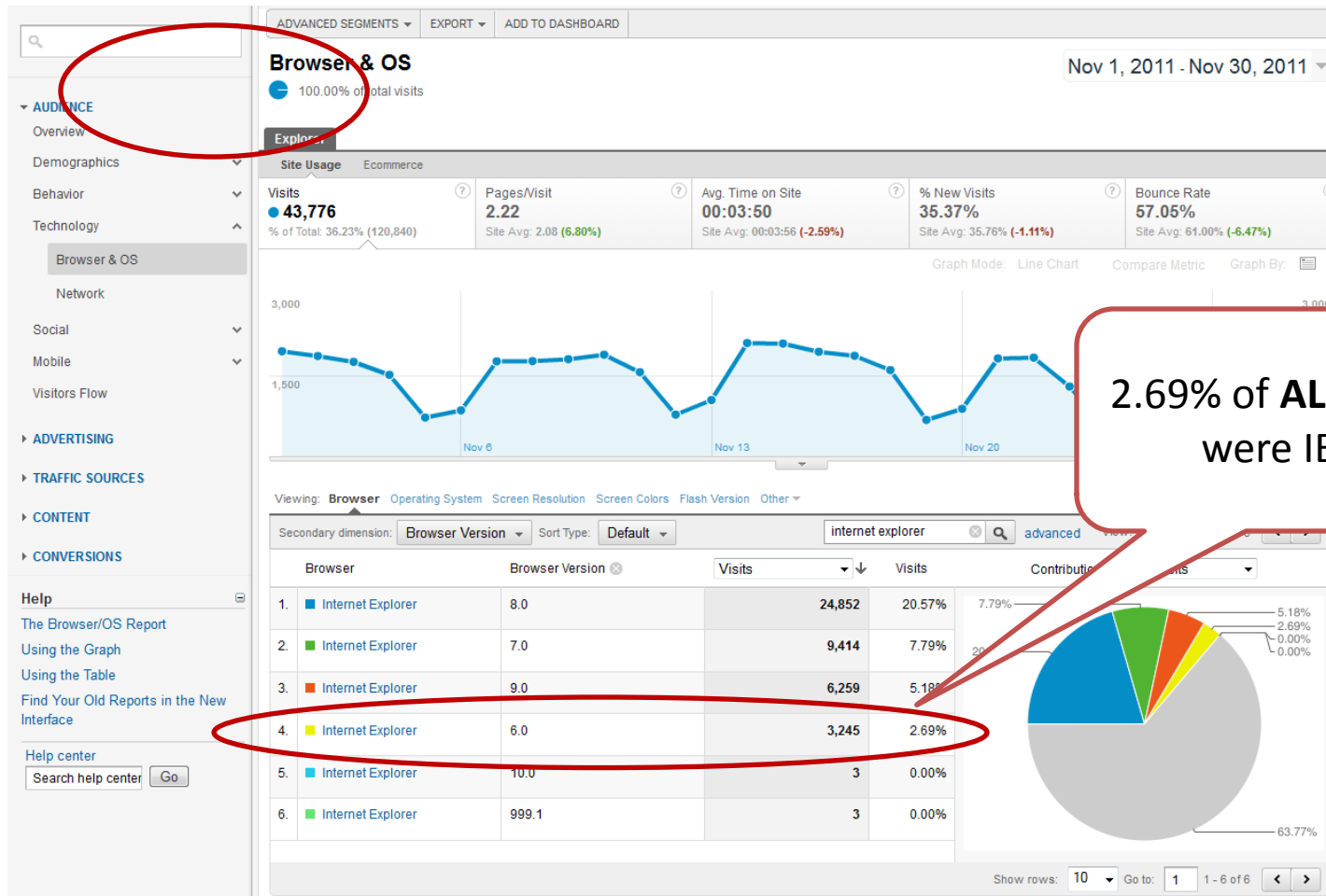
7.41% of Internet Explorer visits were IE6



Can I give up on IE6 yet?

Audience > Technology > Browser & OS

Secondary dimension: browser version, filter: Internet Explorer



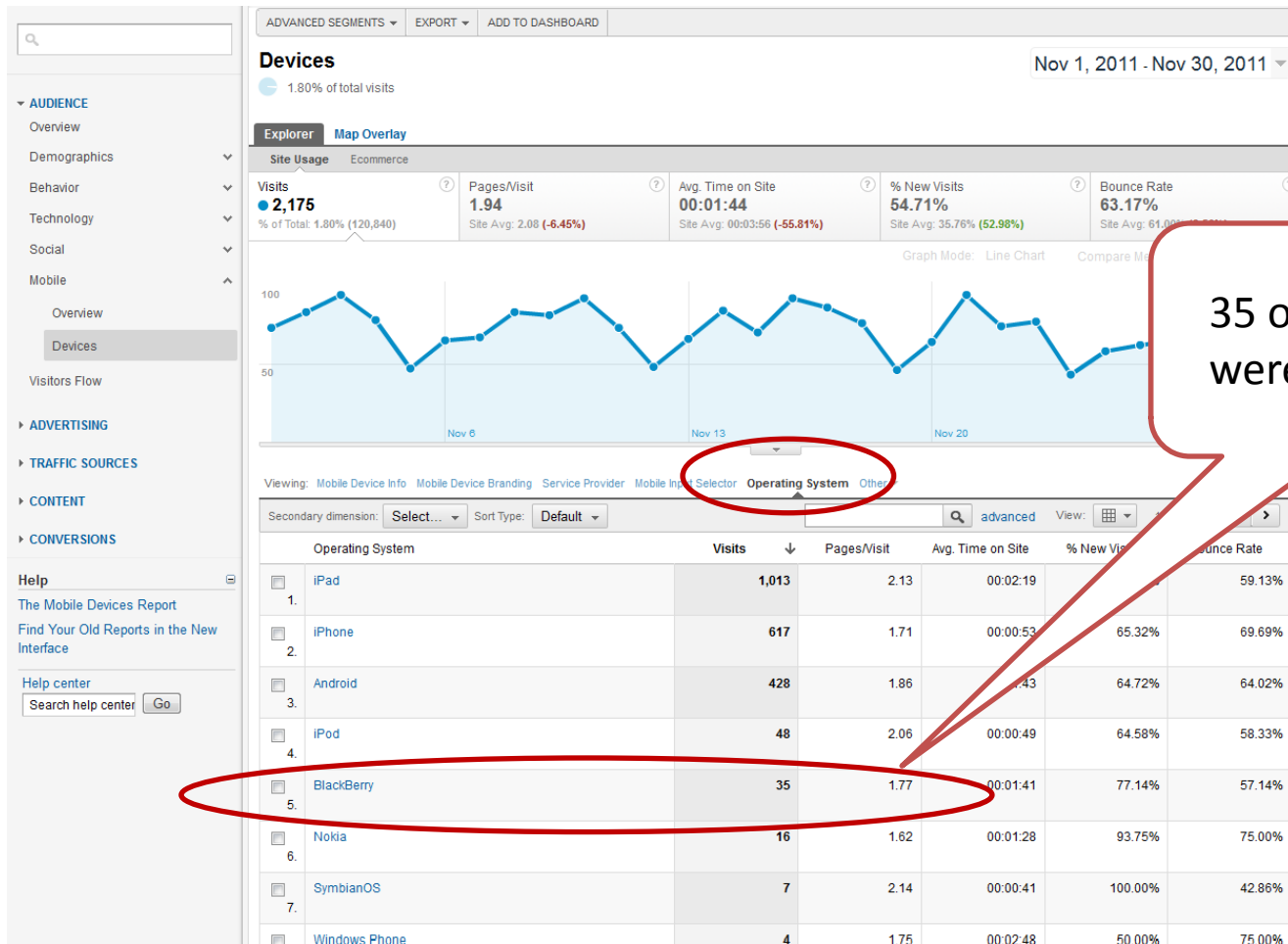
Does anyone use a BlackBerry?

- Which mobile devices do users use to access site?
- In Google Analytics
 - Visitors > Mobile > Devices
 - Long time range
 - Views
 - Mobile Device Info
 - Mobile Device Branding
 - Mobile Input Selector
 - Operating System
 - Screen Resolution
 - Map Overlay

Does anyone use a BlackBerry?

Visitors > Mobile > Devices

view Operating System



35 of 2175 visits were BlackBerry

Does anyone use a BlackBerry?

Visitors > Mobile > Devices

Drill down into BlackBerry

Devices

ALL > OPERATING SYSTEM: BlackBerry

0.03% of total visits

Nov 1, 2011 - Nov 30, 2011

Explorer Map Overlay

Site Usage Ecommerce

Visits

35

% of Total: 0.03% (120,840)

Pages/Visit

1.77

Site Avg: 2.08 (-14.65%)

Avg. Time on Site

00:01:41

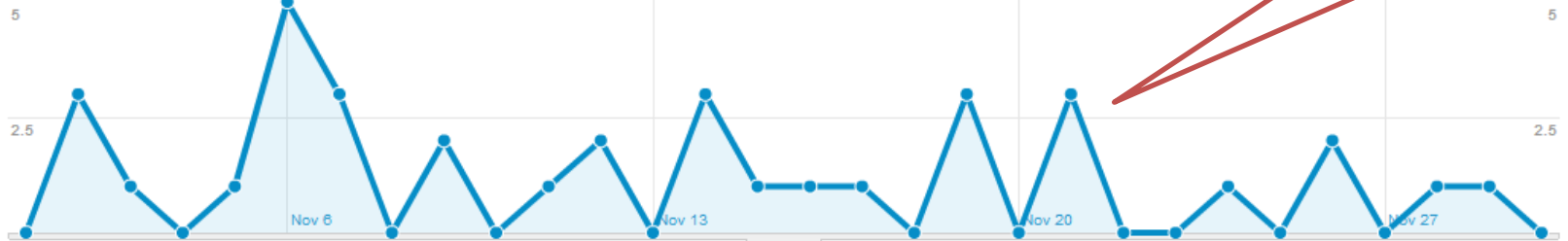
Site Avg: 00:03:56 (-57.15%)

% New Visits

77.14%

Site Avg: 35.76% (115.70%)

Distribution of BlackBerry visits



Viewing: Operating System Version Service Provider Screen Resolution Other

Secondary dimension: Select...

Sort Type: Default

advanced

View: [Grid]

1 - 1 of 1

Operating System Version

Visits

Pages/Visit

Avg. Time on Site

% New Visits

Bounce Rate

(not set)

35

1.77

00:01:41

77.14%

57.14%

1.

Plot Rows

Show rows: 10

Go to: 1

1 - 1 of 1

What is viewed?

- What is the top accessed content?
- In Google Analytics
 - Content > Overview
 - Content > Site Content > Pages
 - Page or Page Title
 - For a specific page
 - Navigation Summary
 - Secondary dimensions (source, continent/country/region/city, browser)
 - Filter simple or advanced (include/exclude, AND, regular expressions, and other dimensions like pageviews)
 - Export to CSV

What is viewed?

Content > Site Content > Pages

View **Page** (default) or **Page Title**

Pages 100.00% of total pageviews

Nov 1, 2011 - Nov 30, 2011

Explorer Navigation Summary

Site Usage

Pageviews 250,811 % of Total: 100.00% (250,811)	Unique Pageviews 191,610 % of Total: 100.00% (191,610)	Avg. Time on Page 00:03:39 Site Avg: 00:03:39 (0.00%)	Bounce Rate 61.00% Site Avg: 61.00% (0.00%)	% Exit 48.18% Site Avg: 48.18% (0.00%)
--	---	--	--	---

Graph Mode: Line Chart Compare Metric Graph By:

Viewing: **Page** Page Title Other

Page	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
1. /index.cfm	79,520	62,768	00:04:42	74.05%	68.72%
2. /pharmacy	13,423	11,208	00:01:32	16.92%	16.87%
3. /clinicalref	8,299	6,999	00:01:53	44.38%	16.87%
4. /pharmacy/lexi-comp online/http://eresources.lib.unc.edu/leidescription.php?resourceid=924&passthrough=yes	8,286	7,058	00:27:25	16.92%	68.33%
5. /journals/ejsearch.cfm	6,934	5,402	00:01:53	71.96%	62.76%
6. /search/site/index.cfm	6,129	1,821	00:00:21	0.65%	10.47%

Page shows path

Page title shows what's in the <title>

Viewing: Page **Page Title** Other

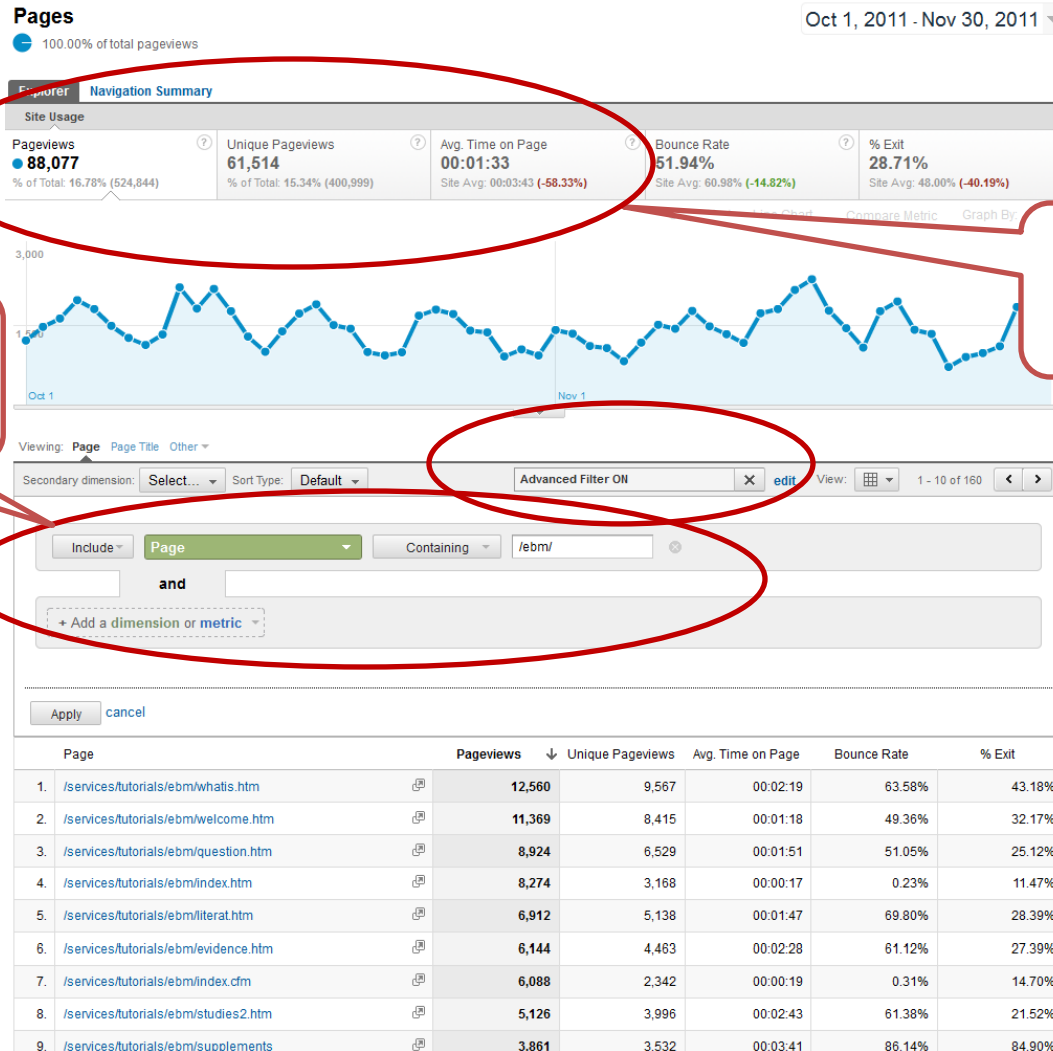
Secondary dimension: Select... Sort Type: Default

Page Title	Pageviews	Unique Pageviews	Avg. Time on Page	Bounce Rate	% Exit
1. UNC Health Sciences Library	165,376	130,644	00:04:31	73.64%	68.16%
2. Introduction to Evidence-Based Practice	68,778	51,543	00:01:50	59.19%	28.54%

What is viewed?

Content > Site Content > Pages

Use **search/filter** for a group of pages

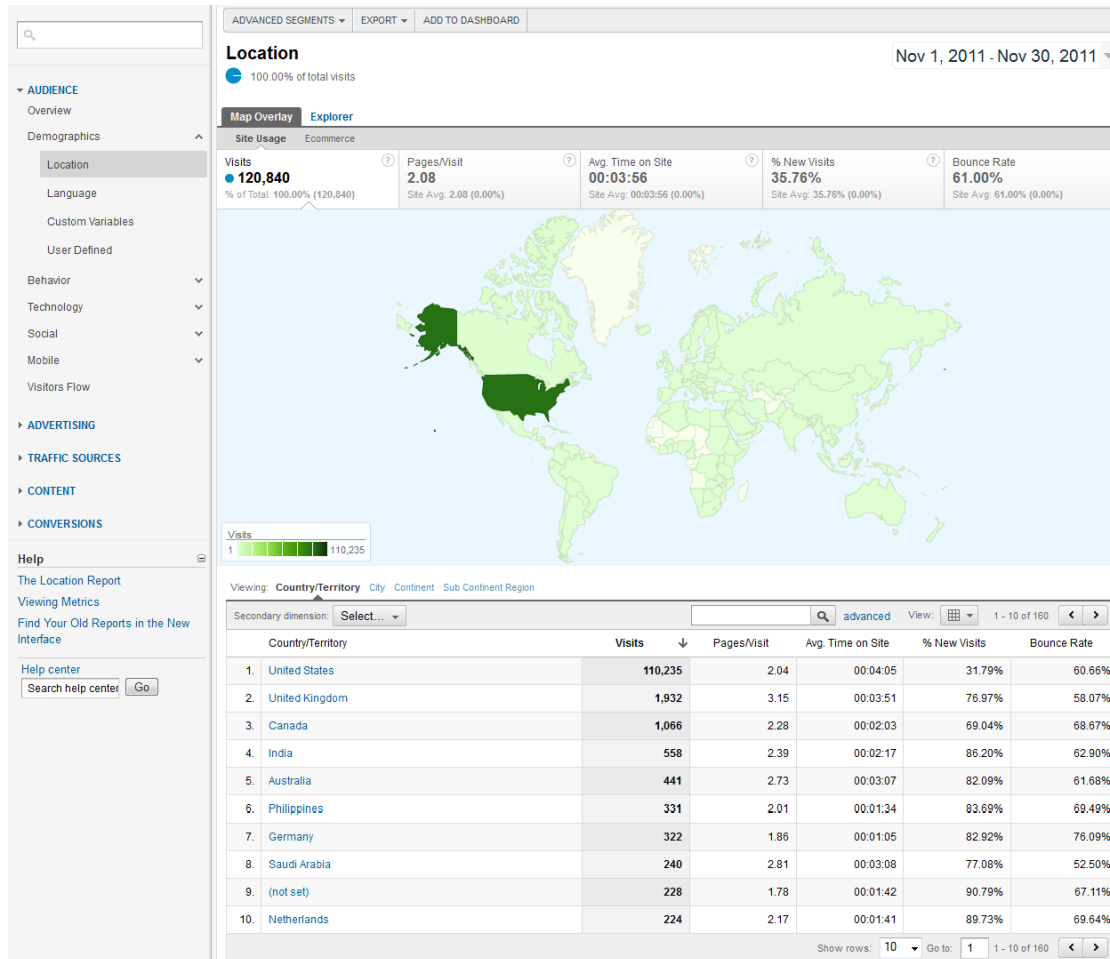


International use? Need multilingual support?

- Where in the world are users located (or at least their ISP)?
- What language?
- In Google Analytics
 - Visitors > Demographics > Location
 - Drill down into smaller areas
 - Secondary dimensions (Source, Keyword – exclude not set)
 - Exclude US
 - Content > Site Content > Pages (for a specific page with secondary dimension of location)
 - Visitors > Demographics > Language
 - Content > Site Content > Pages (for a specific page with secondary dimension of language)

International use?

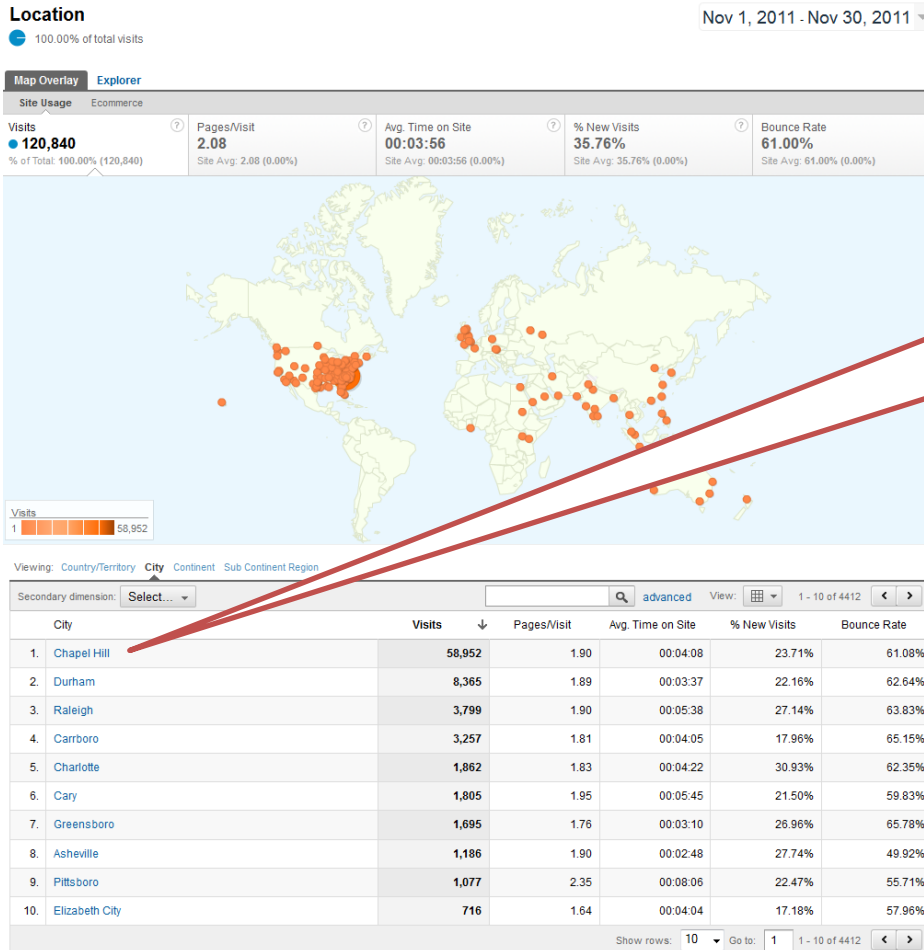
Visitors > Demographics > Location



Local use?

Visitors > Demographics > Location

View by City



Based off of IP address and a 3rd party tool per Google Analytics help *

Yes, Google Analytics collects IP addresses.

“While visitor data in the Overview, Location, and Network reports is derived from the IP address of visitors to your site, Google Analytics does not disclose any IP addresses in order to protect users' privacy. Instead, Google Analytics provides aggregated data to help you make informed business decisions.”

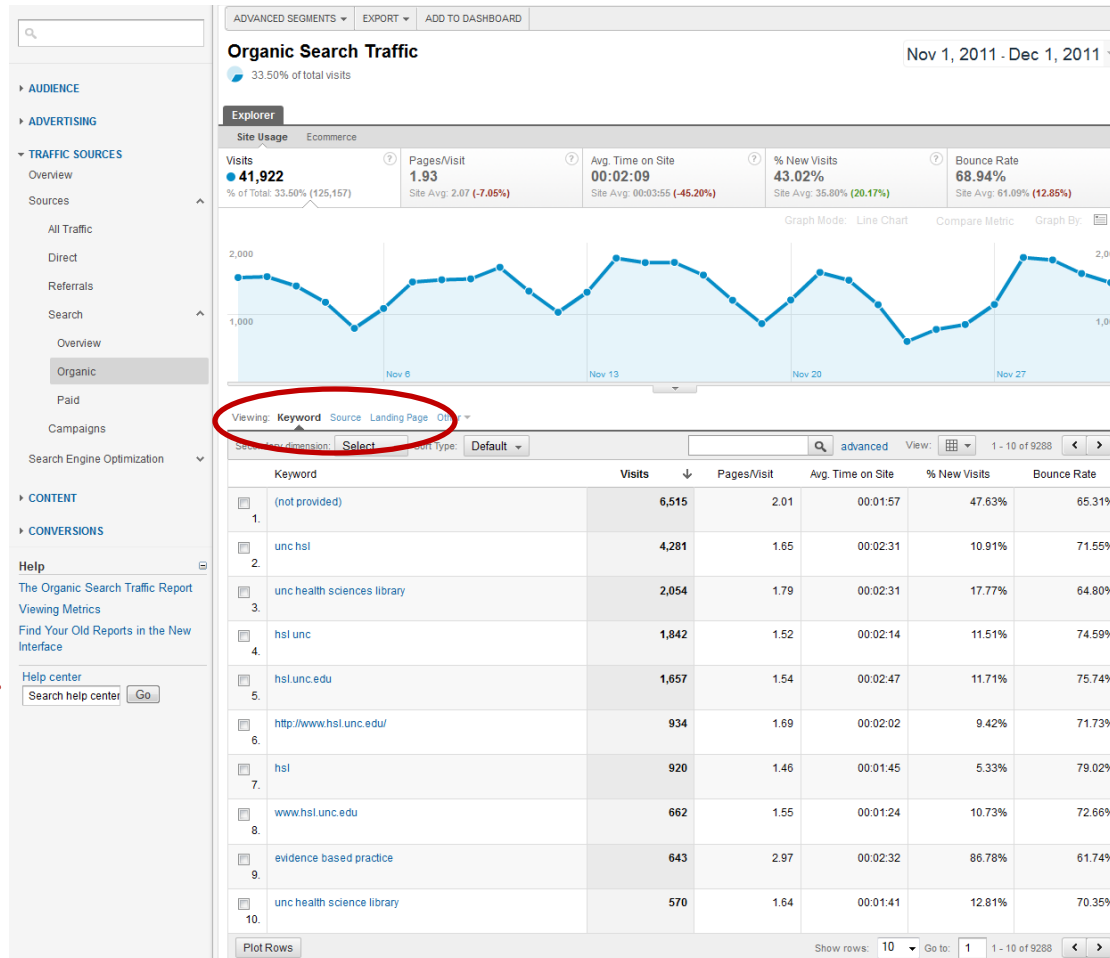
See End-User Privacy with Google Analytics:
<http://www.google.com/support/analytics/help/bin/answer.py?hl=en&answer=1008579&ctx=cb&src=cb&cbid=-hjjdcmderqpi&cbrank=5>

What are users searching for to get to site?

- What query terms are getting to your site using?
- In Google Analytics
 - Traffic Sources > Sources > Search > Organic

What are users searching for (to get to your site)?

Traffic Sources > Sources > Search > Organic
View **Keyword** (or Landing Page)



Want help?

Once users are on your site, what do they search for?

- What should (perhaps) have more prominence on your site?
- *If you have established your own Google Custom Search and connected it to Google Analytics*
- In Google Analytics
 - Content > Site Search > Search Terms

Take-aways

- Lessons:
 - Be careful not to remove GA code. Especially off the homepage. Seriously. (Don't ask me how I know.)
 - Plan configuration ahead of time.
 - Capitalization, URL changes, redirects (not counted)
 - If changing configuration/code, annotate
 - Set up an admin account that isn't tied to a single user.

Data Driven Design Decisions

Advanced Topics

CAMPAIGNS

Campaigns

Are your communications efforts effective?

- Marketing
- Communications
- Publicity
- Fund-raising initiatives

Campaigns

Google Analytics URL Tagging

Create a URL with special tags for tracking purposes:

- Campaign Source*
- Campaign Medium*
- Campaign Term (for AdWords)
- Campaign Content
- Campaign Name*

* required

Campaigns: URLs

http://gradschool.unc.edu/page?
utm_source=**alumni**&
utm_medium=**email**&
utm_campaign=**news_fall11**

http://gradschool.unc.edu/page?
utm_source=**schoolupdate**&
utm_medium=**twitter**&
utm_campaign=**socialmedia**

Campaigns: URL Builder

Tool: URL Builder

Google Analytics URL Builder

Use this tool to create URLs for your [custom campaigns](#). Fill in the form information and click the **Generate URL** button below.

Step 1: Enter the URL of your website.

Website URL: *

(e.g. <http://www.urchin.com/download.html>)

Step 2: Fill in the fields below. **Campaign Source**, **Campaign Medium** and **Campaign Name** should always be used.

Campaign Source: *

(referrer: google, citysearch, newsletter4)

Campaign Medium: *

(marketing medium: cpc, banner, email)

Campaign Term:

(identify the paid keywords)

Campaign Content:

(use to differentiate ads)

Campaign Name*:

(product, promo code, or slogan)

Step 3

Campaigns URLs

http://gradschool.unc.edu/page?utm_source=alumni&utm_medium=email&utm_campaign=news_fall11



<http://go.unc.edu/Ps79N>

EVENT TRACKING

Event Tracking

- Are users using the primary navigation bar, “quicklinks” menu or links in footer?
- Are users downloading our pdf annual report or viewing the html version?
- Are they clicking on the article header or the “read more...” link at the end?
- Are they following links to related content?

Event Tracking

Can manually add code or use automatic tool (jquery, mootools, custom js, etc.)

Track:

- downloads or outbound links
- interaction with dynamic or AJAX sites
- interaction with Adobe Flash objects, embedded videos, and other media
- how long a video was watched on your site

Event Tracking

```
onClick="_gaq.push(['_trackEvent', 'category', 'action', 'opt_label']);"
```

This is how I track events on The Graduate School site:

```
onClick="_gaq.push(['_trackEvent', 'outbound', 'Link Title', 'Link URL']);"
```

```
onClick="_gaq.push(['_trackEvent', 'download', 'Link Title', 'Link URL']); "
```


Event Tracking

Event Category="download"

Event Action=link title

Viewing: [Event Action](#) [Event Label](#) [Event Category](#) ▾

Secondary dimension: [Event Action](#) ▾ Sort Type: [Default](#) ▾ [advanced](#) View: [Table](#) ▾ 1 - 10 of 92 [<](#) [>](#)

	Event Category	Event Action	Total Events ↓	Unique Events	Event Value	Avg. Value
1.	download	2010 Admission Statistics	780	744	0	0.00
2.	download	Financial Certificate	677	603	0	0.00
3.	download	General Admission and Enrollment Data	199	192	0	0.00
4.	download	Applications Received to Date (10	143	141	0	0.00
5.	download	Applications Received to Date (11	88	84	0	0.00
6.	download	Pre-selection application form	64	53	0	0.00
7.	download	Certificate Programs	61	56	0	0.00
8.	download	2009 Admission Statistics	55	47	0	0.00
9.	download	Dolores Zohrab Liebmann Fellowship Conditions for 2012-2013	48	45	0	0.00
10.	download	UNC-CH Employee Application Fee Waiver	45	39	0	0.00

Show rows: [10](#) ▾ Go to: [1](#) 1 - 10 of 92 [<](#) [>](#)

Event Tracking

```
onClick="_gaq.push(['_trackEvent', 'category', 'action', 'opt_label']);"
```

```
onClick="_gaq.push(['_trackEvent', 'video', 'play', 'faculty profile']); "
```

```
onClick="_gaq.push(['_trackEvent', 'footer', 'internal link', 'about us']); "
```

```
onClick="_gaq.push(['_trackEvent', 'nav-menu', 'internal link', 'about us']);"
```

```
onClick="_gaq.push(['_trackEvent', 'quicklinks', 'internal link', 'about us']);"
```

GOALS

Goals

“Defining your website goals is probably the single most important step of your configuration process, as it enables you to define success”

-Brian Clifton, author of

Advanced Web Metrics with Google Analytics

Goals

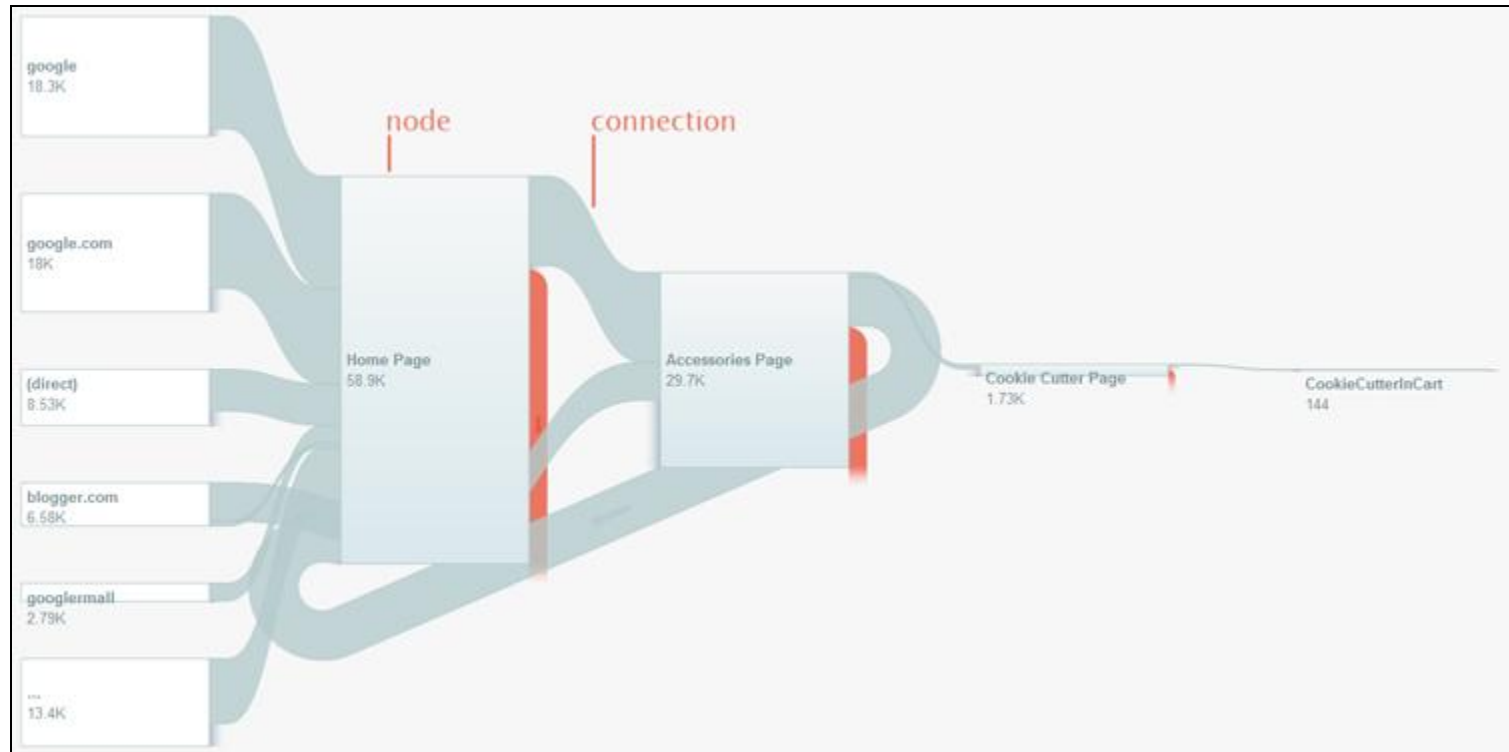
Goals can be events, actions, time on site, page/visit or url destinations.

Goals

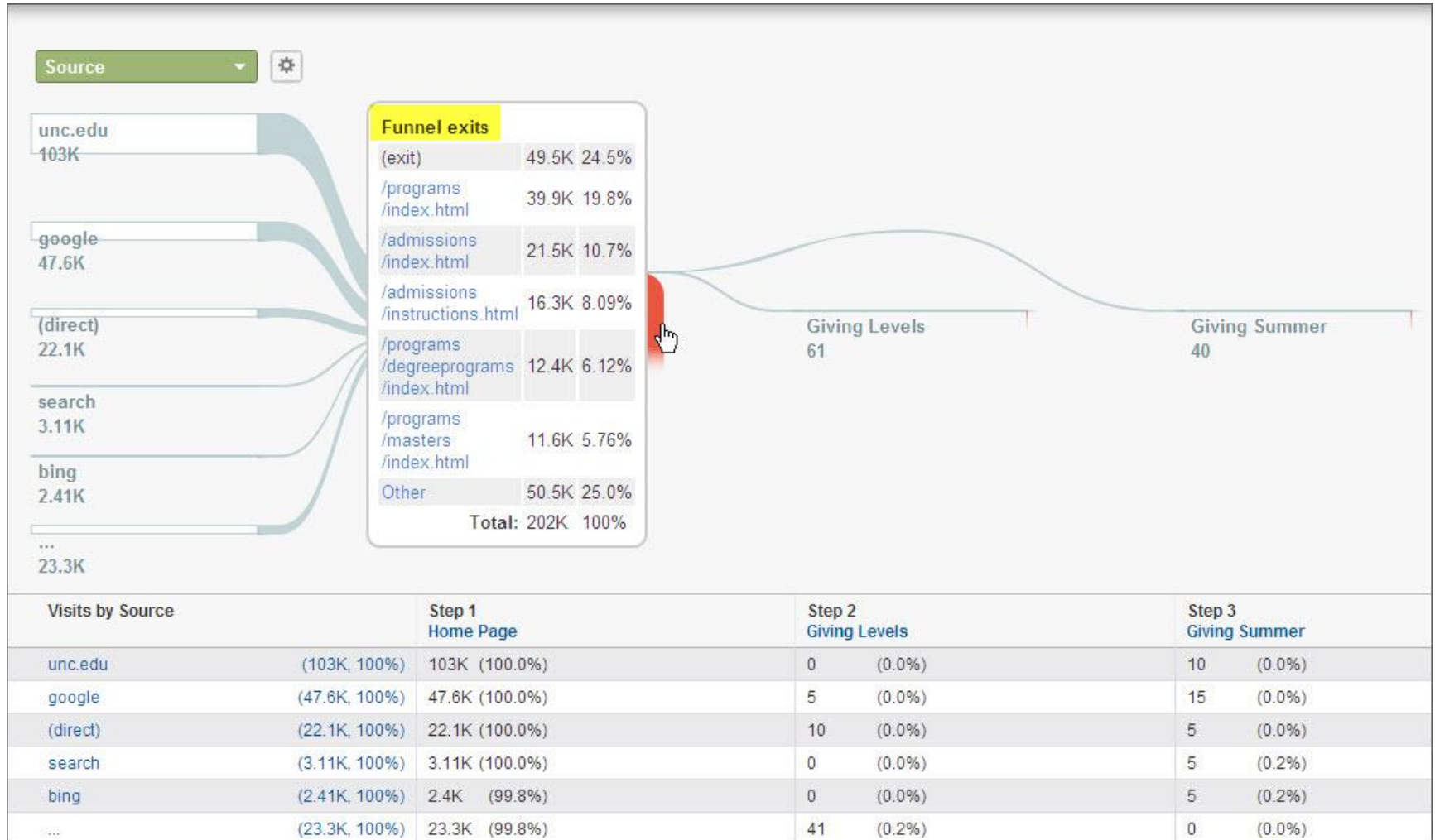
Do you want your users to.....

- Read an article
- Leave a comment
- Submit a form
- Successful site search
- Register for workshop
- Play a video
- Follow external link

Goals Flow Report



Goals Flow Report



Goals Funnel Report

Giving Summer

10 visitors finished | 0.02% funnel conversion rate



AUDIENCE SEGMENTS

Audience segments

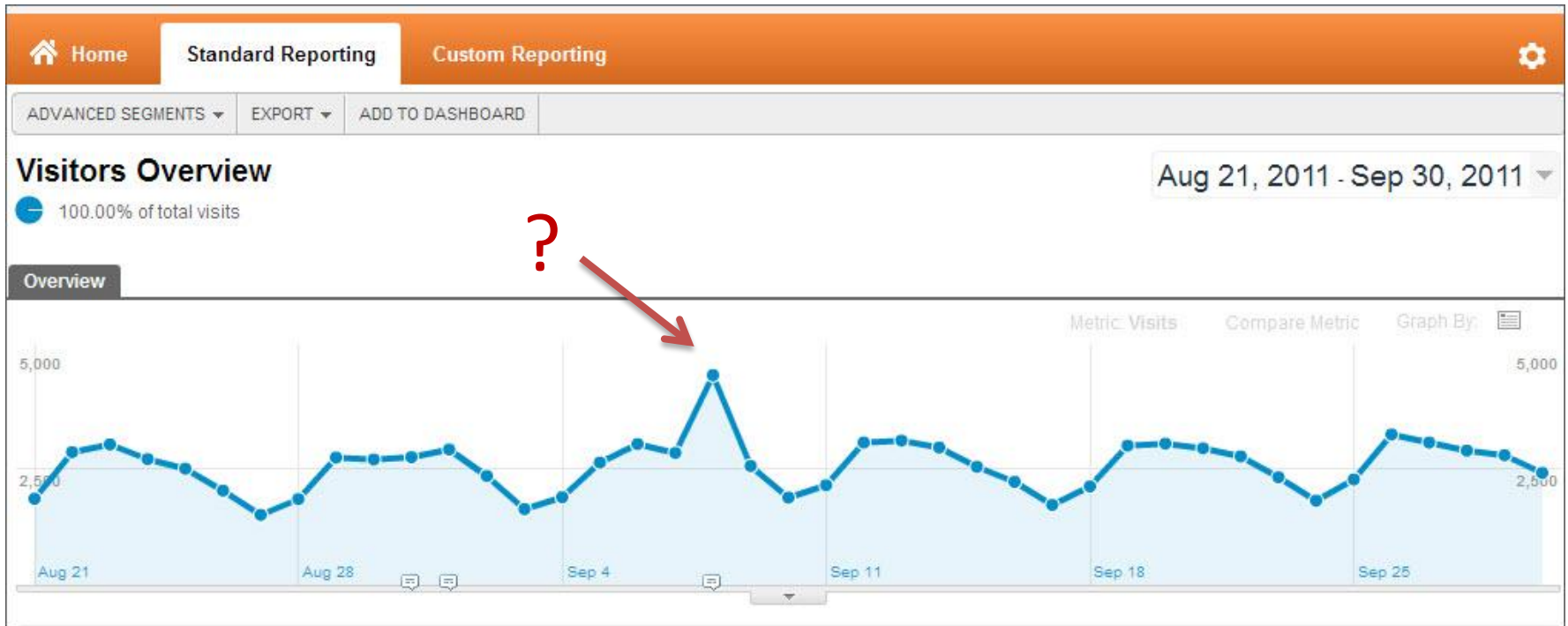
- Repeat visitors vs. first-timers
- Mobile vs. Desktop vs. Laptop
- Locations
- Technologies
- Visits from specific campaigns
 - Email vs. printed postcard

Audience segments

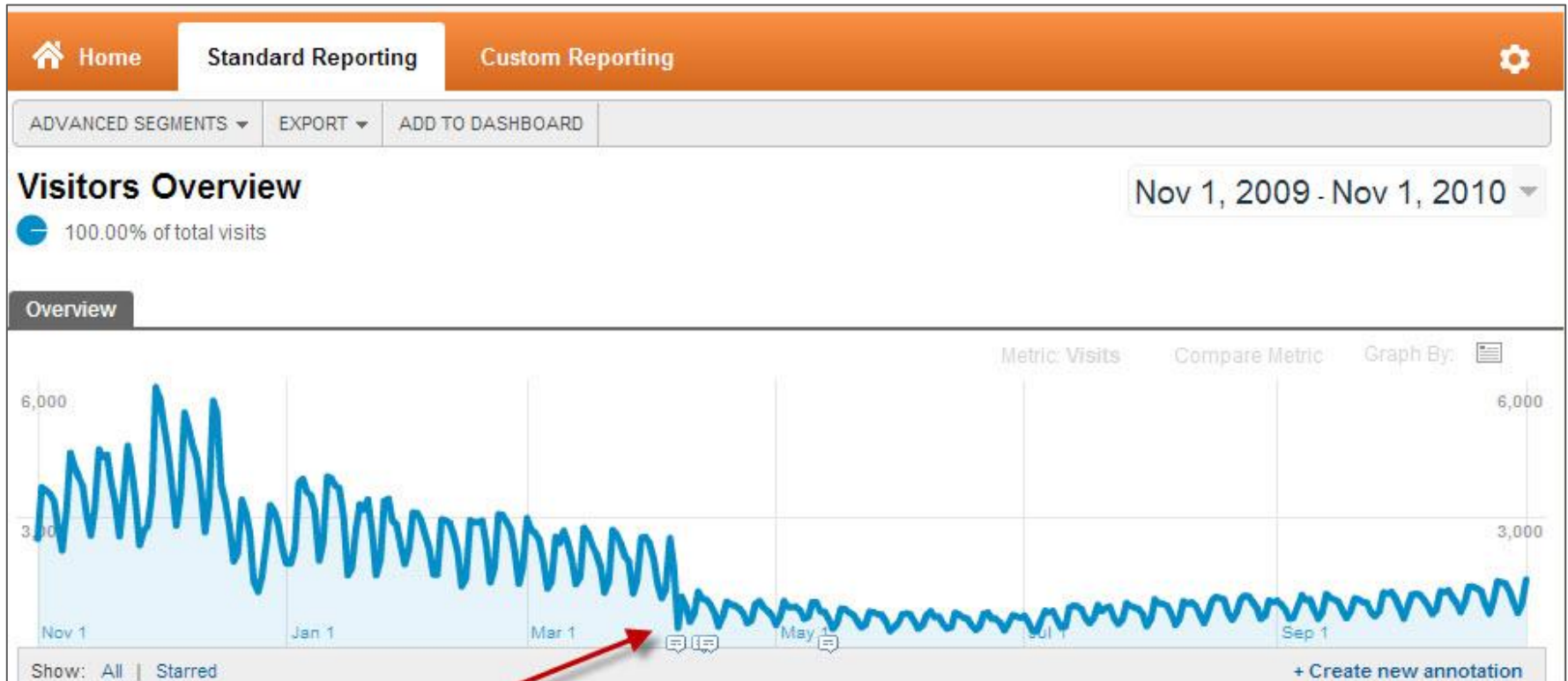
1.	Windows XP	Operating System Version matches exactly XP
2.	Webapps Visits	Hostname matches exactly webapps.grad.unc.edu
3.	Visits from US	Country/Territory matches exactly United States
4.	Visits from outside US	Exclude: Country/Territory matches exactly United States
5.	Social Media Referrers	Source containing twitter ...
6.	Postcard-Spr09	Campaign matches exactly postcard_spr09
7.	On Campus Traffic	Service Provider matches exactly university of north carolina at chapel hill
8.	Off Campus Traffic	Exclude: Service Provider matches exactly university of north carolina at chapel hill
9.	Newsletter Fall 2011	Campaign matches exactly news_fall11
10.	Medium=Email	Medium matches exactly email
11.	IE6	Browser matches exactly Internet Explorer ...
12.	Handbook Only	Hostname matches exactly handbook.unc.edu
13.	Funding Pages	Page starts with gradschool.unc.edu/funding
14.	Fountain-Spring10	Campaign matches exactly fountspr10
15.	Fountain-Spr09	Campaign matches exactly fountspr09
16.	Fountain Only	Hostname matches exactly fountain.unc.edu

ANNOTATIONS

Annotations



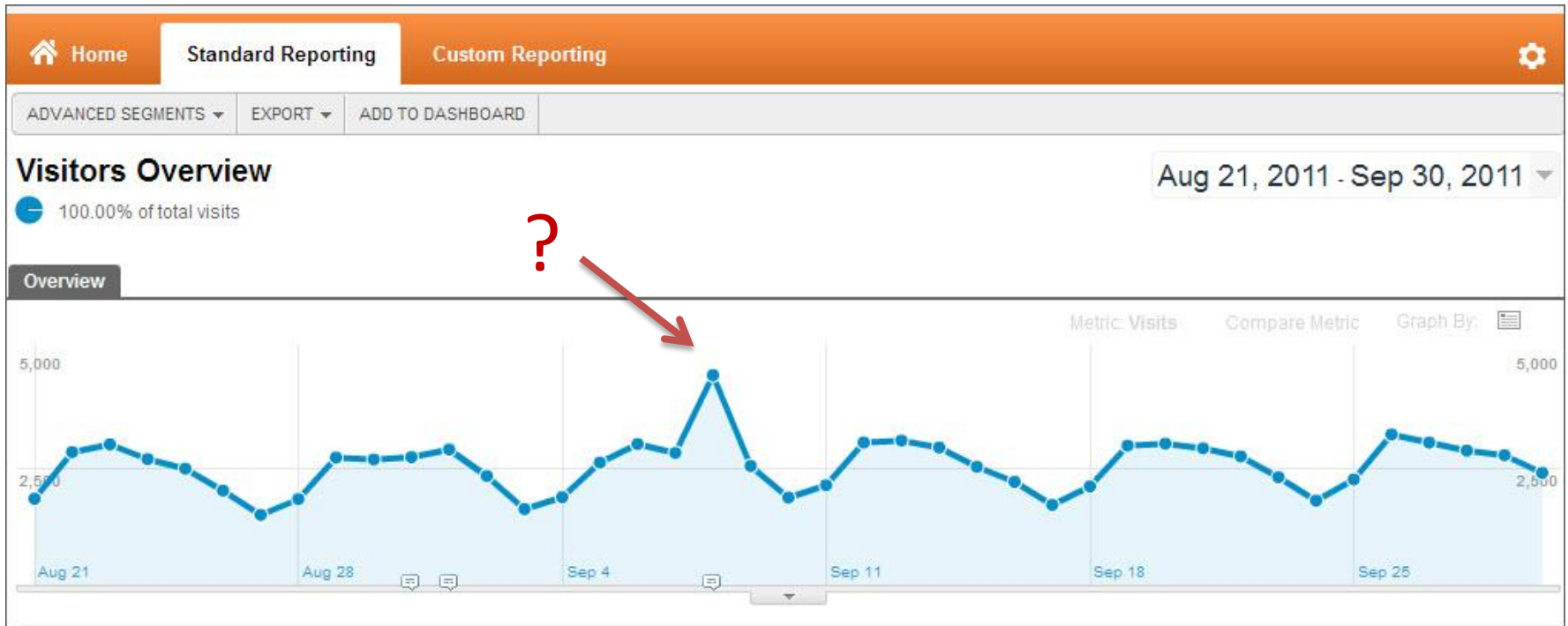
Annotations



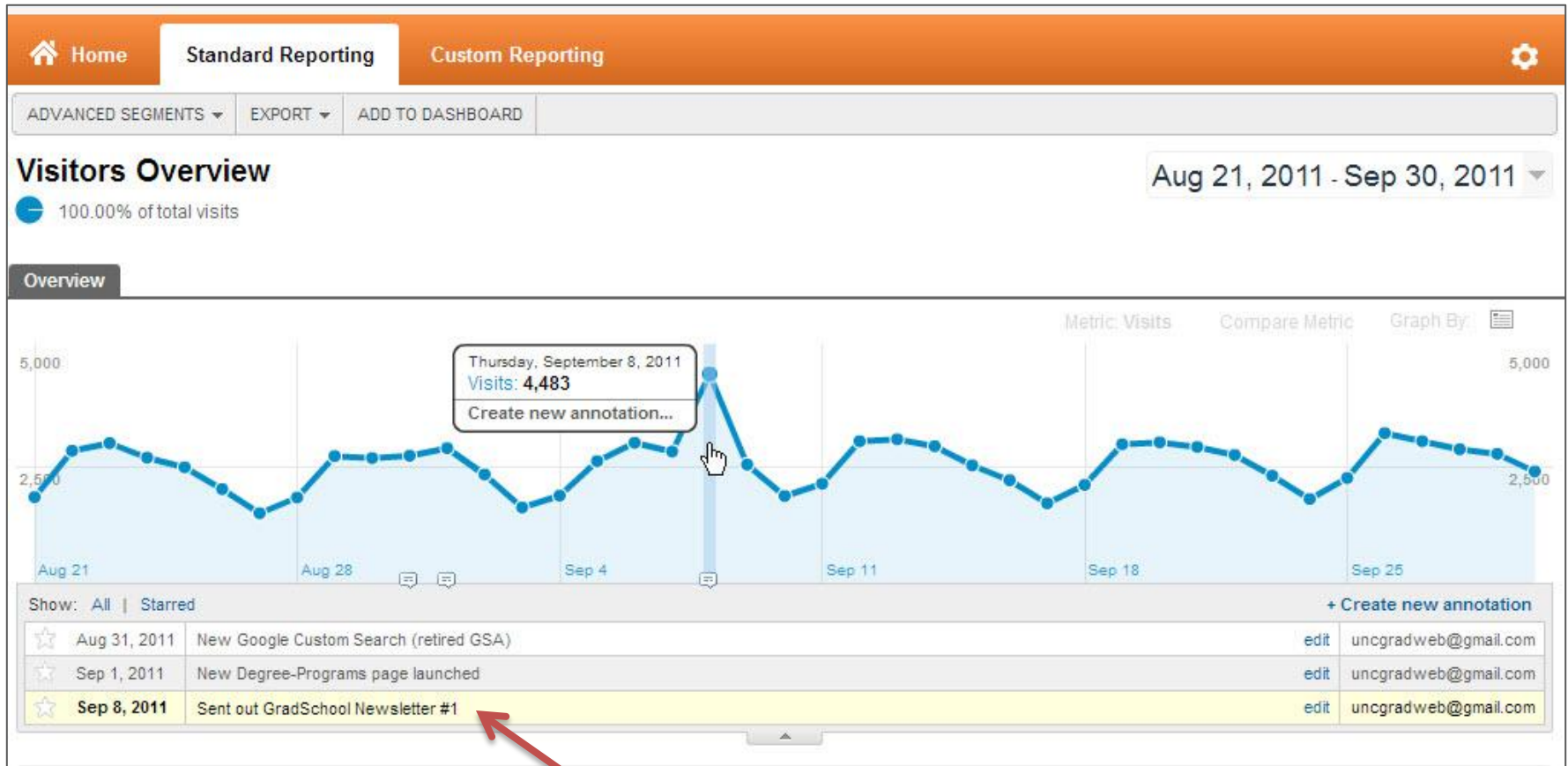
Annotations

- Changes to analytics code
- Campaign events
- External events
- Changes to technology (search provider, cms)

Annotations

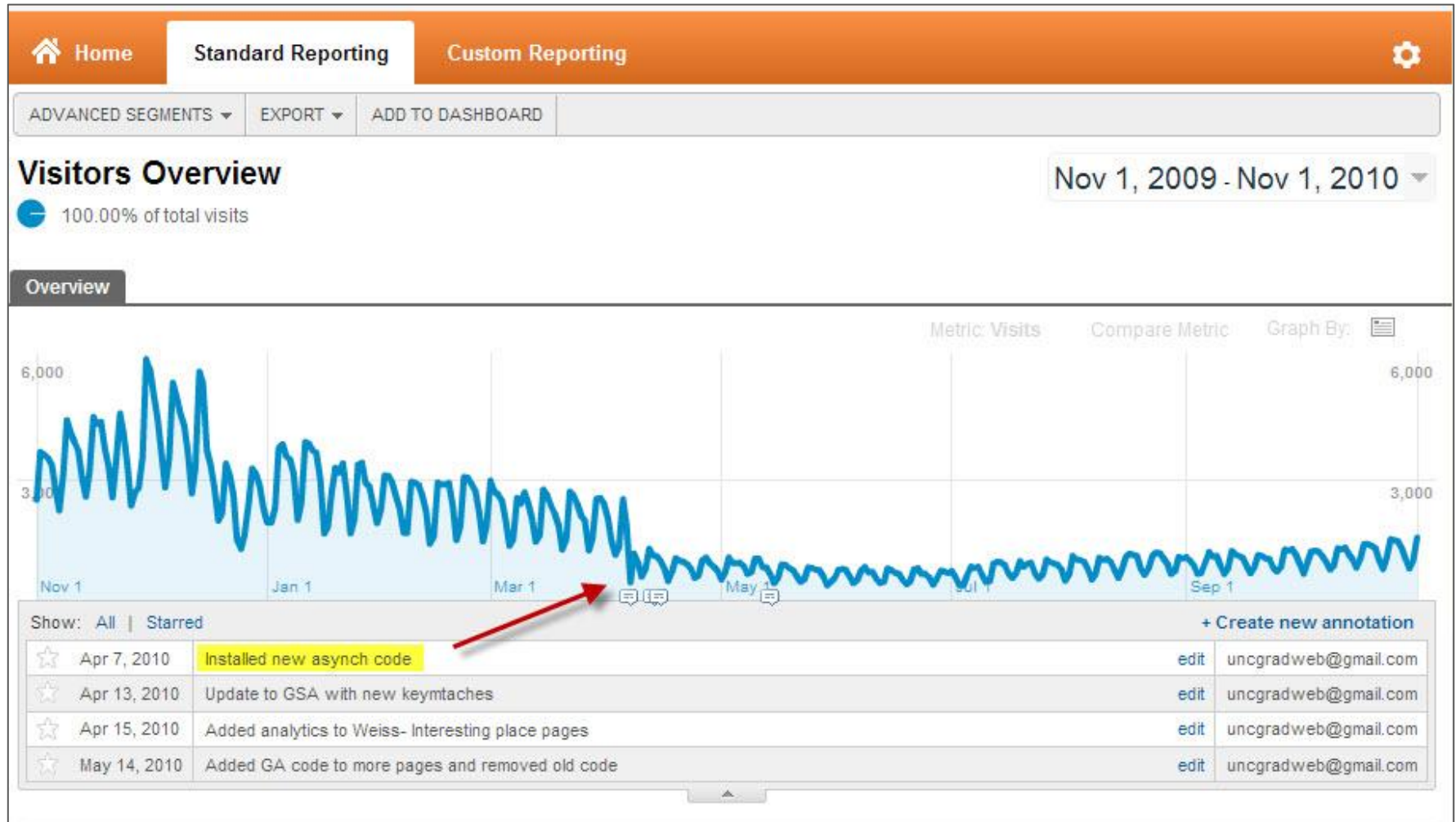


Annotations



!

Annotations

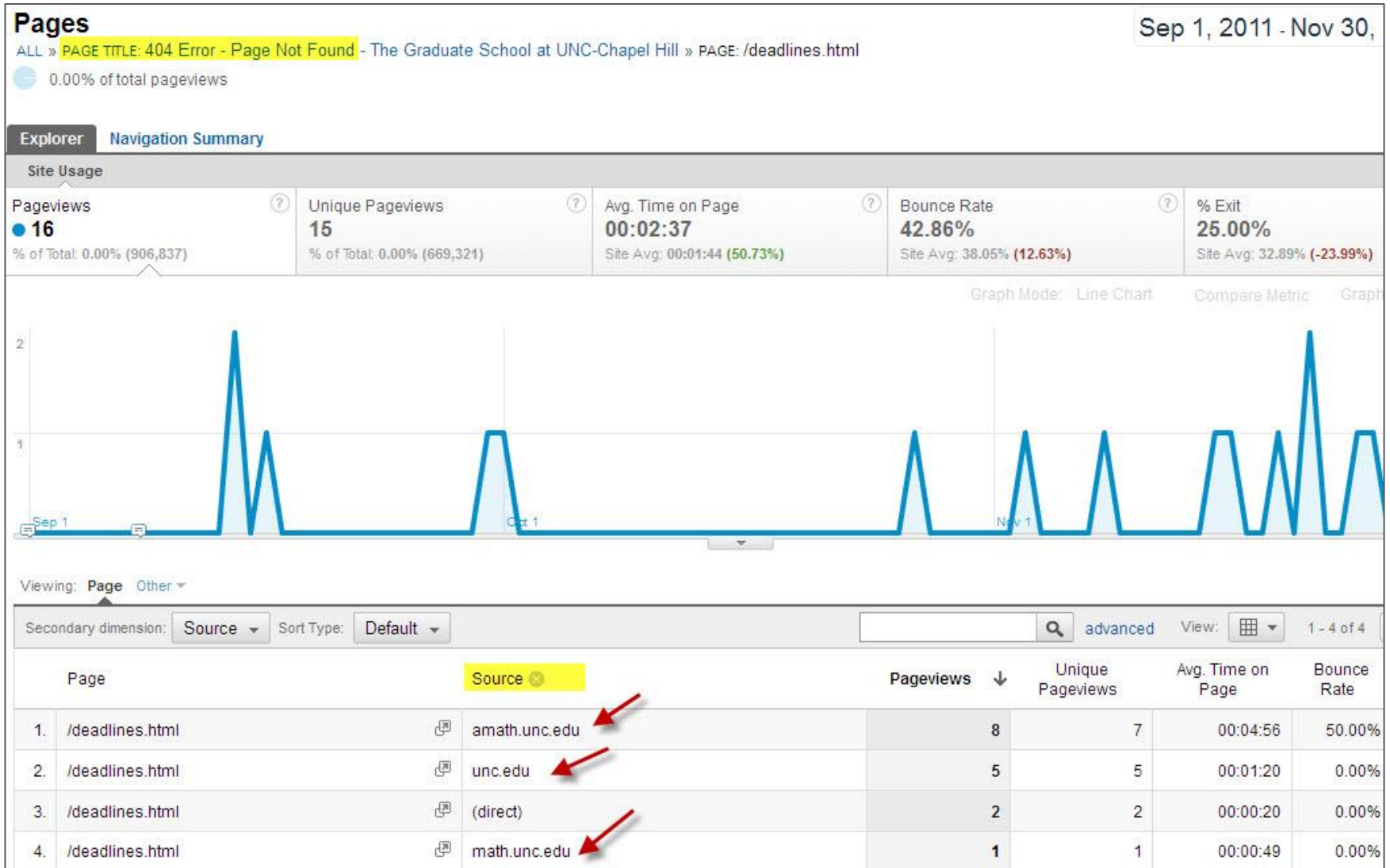


Tracking 404 Errors

(404 = page not found)

- Add report widget to dashboard
- Can also add automatic email alert

Tracking Sources of 404 Errors



404 Dashboard Widget

The screenshot shows a dashboard interface with a top navigation bar containing 'Home', 'Standard Reporting', and 'Custom Reporting'. Below the navigation bar is a '+ ADD WIDGET' button. A 'Widget Settings' dialog box is open, displaying various configuration options. At the top of the dialog, there are four widget type buttons: '2.1 METRIC', 'PIE', 'TIMELINE', and 'TABLE'. The '2.1 METRIC' button is selected. Below this, the 'Display the following columns:' section shows three dropdown menus: 'Page', 'Pageviews', and 'Unique Pageviews'. The 'Page' dropdown is highlighted in yellow. The 'Show a table with' section is set to '10 rows'. The 'Filter this data:' section includes a 'Only show' dropdown set to 'Page Title', a comparison operator dropdown set to 'Exactly matching', and a filter value dropdown set to '404 Error - Page Not Four'. Two red arrows point to the 'Page Title' and '404 Error - Page Not Four' dropdowns. Below the filter section is an 'Add a filter' link. The 'Widget title:' field contains '404 Pages'. The 'Link to Report or URL:' field contains 'Content / Site Content / Pages'. At the bottom of the dialog are 'Save', 'Cancel', and 'Delete widget' buttons.

Home Standard Reporting Custom Reporting

+ ADD WIDGET

Widget Settings

2.1 METRIC PIE TIMELINE TABLE

Display the following columns:

Page Pageviews Unique Pageviews

Show a table with 10 rows

Filter this data:

Only show Page Title Exactly matching 404 Error - Page Not Four

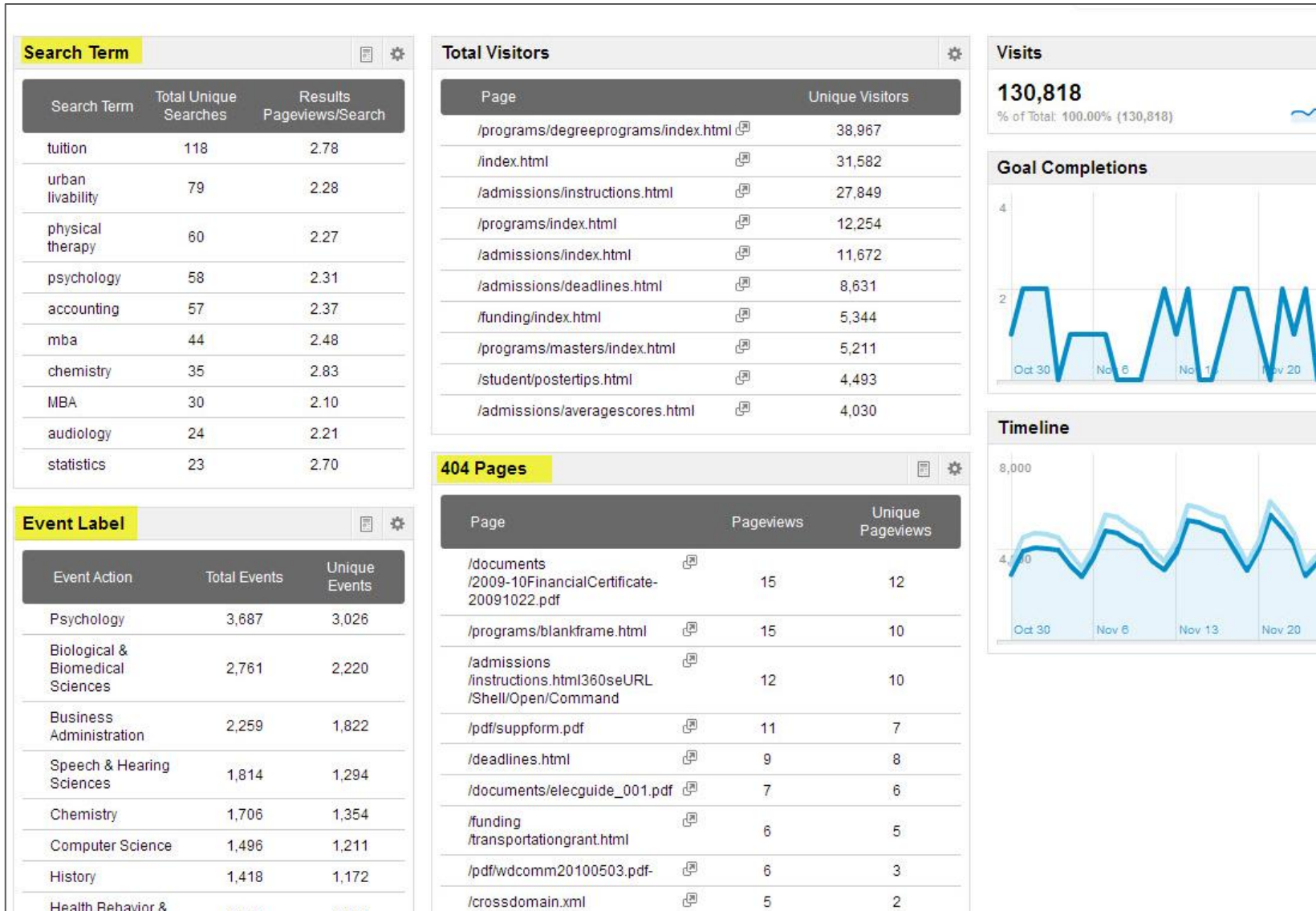
Add a filter

Widget title: 404 Pages

Link to Report or URL: Content / Site Content / Pages

Save Cancel Delete widget

My Dashboard Display



A/B Testing

Can automate testing/comparing two alternate page designs

A Primer on A/B Testing

- www.alistapart.com/articles/a-primer-on-a-b-testing/

Google Website Optimizer

- accounts.google.com/ServiceLogin?service=websiteoptimizer

Resources

Trending Upward: Web analytics for higher education.

- <http://www.trendingupward.net/>

Higher Ed Analytics

- <http://higheredanalytics.com/analytics/index.php/resources/>

Occam's Razor by Google's Avinash Kaushik

- <http://www.kaushik.net/avinash/>

Analytics Talk

- <http://cutroni.com/blog/>

Google Analytics URL Builder

- <http://www.google.com/support/analyticshelp/bin/answer.py?answer=1033867>

Diving deep into user behavior with Google Analytics, Event Tracking, and jQuery

- <http://briancray.com/2009/12/29/understanding-user-behavior-google-analytics-event-tracking-jquery/>

Fixing your 404 Errors with Google Analytics - The complete Guide

- <http://blog.vkistudios.com/index.cfm/2011/1/12/Fixing-your-404-Errors-with-Google-Analytics--The-complete-Guide>

A Primer on A/B Testing

- <http://www.alistapart.com/articles/a-primer-on-a-b-testing/>

gaAddons

- <http://gaaddons.com/>