Master of Technology in Enterprise Business Analytics
(Web Analytics Elective)

Web Analytics Workshop

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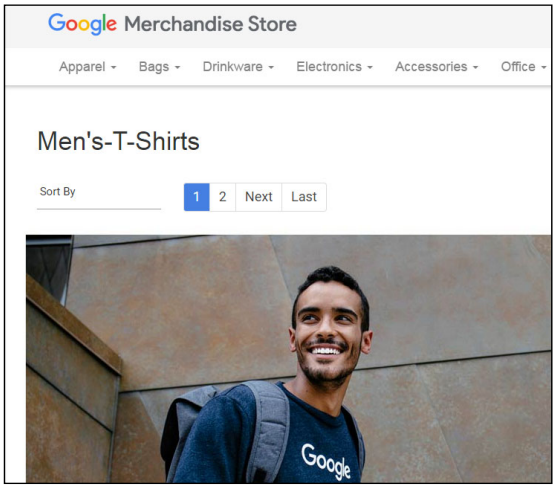
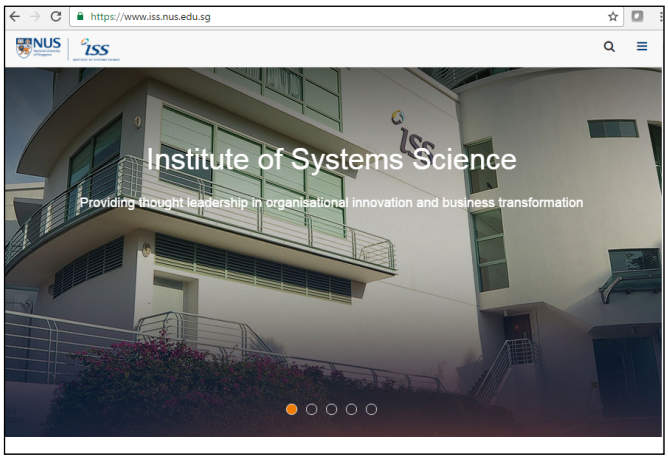
Web Sites to Analyse



shop.googlemerchandisestore.com

Can access this using your own Google account (assuming you did the earlier setup)



www.iss.nus.edu.sg

To access this you will need to log onto Google using one of the iss-student accounts I have created (details given shortly)

Web Sites to Analyse

- Google Merchandise Store

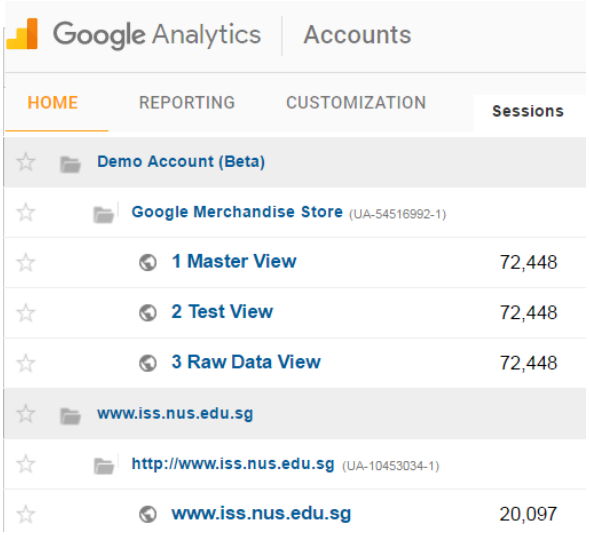
The data in the Google Analytics demo account is from the Google Merchandise Store, a real ecommerce store. The Google Merchandise Store sells Google-branded merchandise. The data in the account is typical of what you would see for an ecommerce website. It includes the following kinds of information:

- Traffic source data: information about where website visitors originate. This includes data about organic traffic, paid search traffic, display traffic, etc.
- Content data: information about the behavior of users on the site. This includes the URLs of pages that visitors look at, how they interact with content, etc.
- Transactional data: information about the transactions that occur on the Google Merchandise Store website.

- ISS Website
  - Caution – not all features of GA have been activated

Accounts Available

- Once you are logged in to Google then going to:
  https://analytics.google.com/analytics/web/
  should display something like this…



The GA administrator for the website can create data ***views*** for different user types – a view typically allows access to only the subset of data that the user needs. In the demo all 3 views are the same

ISS has only one view – you will need to login using a special account to view this.

Workshop Goals

Break into teams and use GA to discover actionable insights into one of the two websites (or both). Some suggested questions to answer…

- Site Usage
  - What are the main goals of users when they visit?
  - What are the most & least popular parts of the website – how could they be improved?
  - How engaging is the website? (session length, #pages-viewed, #repeat-visits, bounce rate..)
  - Do visitors find the website easy to use, achieve their goals easy?
  - Business Specific Questions, examples:
    - For Google Store: What is the conversion rate, does purchase funnel have an issues?
    - For ISS Website: Does the engagement/satisfaction level of visitors differ between those interested in MTech and those interested in Professional courses?
- Audience Characteristics
  - Demographics and interests – what is the profile of the user base?

Workshop Goals

- Traffic Source
  - Which is more effective in bringing visitors to the website: referrals from other websites or traffic from search engines?
  - Which traffic source brings in more new visitors?
  - *Optional: What are the main types (categories) of search query that lead visitors to the website and which of these yield the most user engagement?*
- Click-Path Analysis
  - What are the most common routes through the website?
  - Are there pages that seem hard to get to?
  - Are there any apparent problems with the conversion funnel?

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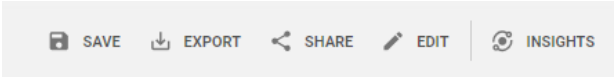
Mini Presentations

- At the end of the day we will share findings via mini-presentations (~5 mins each)
- One or two slides only showing your most significant findings and suggestions for the web site owners

Appendix: Exporting Data From GA

- Further analysis can be performed by exporting the raw data into Excel
- Select all of the data in whatever Google Analytics tab you are visiting
  - E.g. view the organic search traffic queries at: Acquisition->All Traffic->Channels->Organic search
- Scroll to bottom of page and select as many rows as possible

  - The max. rows in the pull down menu is 5000, if your data is more than this then do it in chunks of 5000
- Find the export tab, and select the type of file (spreadsheet, csv etc)



Appendix: Example Search Traffic Analysis

1. Export the organic search keywords data (or the search console queries) for a selected time period to Excel (bigger date ranges yield more data!)
2. Use simple keyword matching to group the search queries into categories
   - You decide the relevant categories and keywords. Relate them to the business, e.g. for ISS you could use:
     - {consulting, graduate education, professional courses, ..} as the categories
     - {graduate, masters, mtech, further education, degree, .. } as keywords for "graduate education"
   - Use string matching to detect the keyword patterns in the search queries and hence assign the search queries to the categories (do in Excel, R, Perl, Python etc.).
     Note: some search queries may fit many categories
   - Add keywords and repeat until a sizeable % of search queries are categorised
3. Compute engagement metrics for each category
   - What category are users searching most?
   - Are there time/date periods where interest peaks?

Appendix: Example Click-Path Analysis

1. How do users get to a specific webpage (URL) and where do they go afterwards?
   - Issues ~ long and complex URL's are very granular -> can make patterns hard to find
2. One Solution ~ Categorise all of the website pages
   - Select: *Behavior->Site Content->All Pages* and then export to spreadsheet. Then Use Excel string functions to extract the category from the URL text (see next page)
3. Then, for each of the top viewed pages in the selected (focus) category:
   a) Find the previous and next pages *(Behavior->SiteContent->All Pages->Navigation Summary tab)*
   b) Export to a spreadsheet and categorise (as above)
   c) Find the top "previous page" category and top "next page" category (sum the number of visitors, sessions etc.).

Example

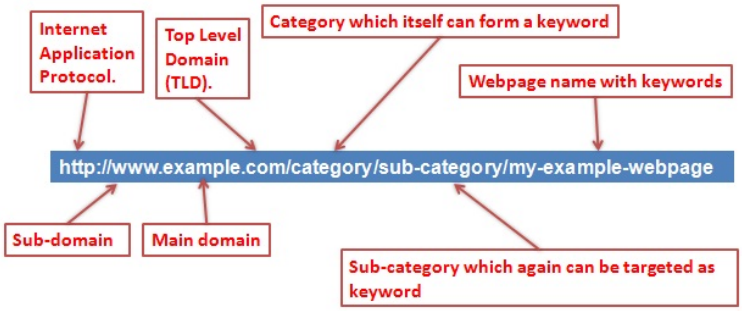
Top "Previous-Page" categories	*Focus Category*	*Top "Next-page" categories*
EBAC →	EBAC →	EBAC
ISS staff →		Fees/admin

Appendix: Example Click-Path Analysis

- Categorising web pages can be done using
  - Web page content (e.g. using text mining) OR
  - Web page URL (if the URLs have some logical or content related structure)

Exploit the URL structure:

E.g. extract all characters between the third and fourth "/"



OR… search for keywords in the URL, e.g. "products"

```
/products/toyco/laser_pointer?product_id = 2788897
/products/dogfun/squeezy_steak?product_id = 2784417
/products/toyco/cat_nip_bucket?product_id = 2840637
/products/dogsdogsdogs/tug_of_war_rope?product_id = 2784417
/products/woofy_fun/dog_catch_disc?product_id = 2757738
/products/trashforcats/stuff_on_a_stick?product_id = 2614716
/products/purrfectrealestate/kitty_apartments?product_id = 2843417
```