**BIA6306 Web and Social Media Analytics, Spring 2019**

**Assignment 1**

General Instructions:

**Due Date: 5:45pm, Wednesday, March 27th (peer eval in class), Final version on Sunday, March 31st, 11:59 pm**

Deliverable Format: Microsoft Word or PowerPoint

**Review Submission History: Assignment 1 - Spring 2019**

This assignment is worth 75 points. Assignments turned in after the due date and time will lose 1 point for every day late.

Analyze the site [www.seattle.gov](http://www.seattle.gov). Using the dataset provided **create bar or line charts** to show trends that will help determine what the user sees as the primary purpose of the site.

Analysis: 1) First, I retrieved top 10 pages by total pageviews. Pageviews are less in compared to avg time on page spent on those pages that means functionality provided on that particular page. For example, personnel/ employment, there is less pageviews but avg time is more as there is information on that page so people are spending more time on that and specific to requirement to some people, because its is needed by only who is looking for job.

2) Next is year wise pageviews, the chart is showing consistent growth in 2016, thus it can be inferenced that the site awareness has increased in 2016 in comparison to 2015 and that is true across all top ten pages.

3) Then, I plotted maximum bounce rate, percent exit and unique pageviews of those top ten pages. Here, I’m observing that pages with first few top pages with maximum unique pageviews such as fire/realtime911 has

High exit rate isn’t good

1) I chose top 10 pages by maximum average time on page

Answer the following questions **using monthly trending charts and graphs** to help illustrate your point, when specified:

* After your initial review of the site what do you think is the primary purpose of the site and why? (25 points)

I’d start with the quote – “Making Seattle more affordable”: The primary purpose of this site is to deliver useful information and e-governance portals for all the services provided by Seattle government. They’re normally supplying free information on their web pages as this site is for content businesses with list of helpful resources. Seattle.gov is a well-designed government website that is making it as easy as possible for citizens to find the information that they need such as Seattle traffic, City council districts, happenings around the city (public comment period, new technology access, technology fund grant etc.), Youtube video of CityStream that is Seattle’s Tilth Alliance teaches people how to grow and eat healthy food and services such as transportation, court, housing ,health & human, business & economic development are few among them . At the end of the main page, they’ve city-wide information links, top 5 requests links and customer service with link to reporting any problem. All in all, they are covering every area to keep people informed about opportunities and happenings in the city and services that might be required by any individual out there looking for.

**Website Analysis:**

Based on Seattle dataset, I started my web analytics for this website with a simple question which page has the most views. Hence, I retrieved top 10 pages by sum of pageviews for entire dataset which are as follows:

[www.seattle.gov/fire/realtime911/](http://www.seattle.gov/fire/realtime911/) -1: Seattle Fire department has highest the pageviews for the Seattle dataset

www2.cityofseattle.net/fire/realtime911/ - 2: 911 log for city of Seattle has second highest pageviews

[www.seattle.gov/default.htm](http://www.seattle.gov/default.htm)-3 - Main page of the Seattle website

[www.seattle.gov/personnel/employment/](http://www.seattle.gov/personnel/employment/) -4: city employment page that offers an amazing arrays of career opportunities.

[www.seattle.gov/light/paymybill/](http://www.seattle.gov/light/paymybill/) -5: Pay my bill page – public power for public purposes

www.seattle.gov/visiting-seattle/ - A page that is guiding people toward things to do, places to eat, and personal accommodations while visiting Seattle.

[www.seattle.gov/search](http://www.seattle.gov/search)? -7: Search engine of the website

[www.seattle.gov/dpd/default.htm -8](http://www.seattle.gov/dpd/default.htm%20%20-8) : default page for the Seattle Department of Construction & Inspections (SDCI) which has been changed from dpd to sdci

[www.seattle.gov/dpd/ascwaittimes/](http://www.seattle.gov/dpd/ascwaittimes/) -9: Seattle department of construction& Inspections page that shows the estimated wait times for in-person visits.

[www.seattle.gov/dpd/eplan/](http://www.seattle.gov/dpd/eplan/) -10: A page that contains information about setting up a new SDCI project portal

Clearly, it can be seen that the fire/realtime911 has most pageviews and certainly this page provides lifesaving information and prevention technique besides this page consists of the top requests such as Permits, construction Inspections, children’s program, plan review and systems testing. Also, public record can be requested here and other current fire-related news of the city. Second most viewed Page is the log file for the same(fire/realtime911). Third most viewed page is the main(default) page of the Seattle website that has all the e-governance portals. Thereafter, people looked for job/employment in the city which contains link such as “how to apply”,” additional employment info(fire & police exams, work study, temporary employment)” and “benefits and pay”.

Then, I created a monthly chart to see month and year wise total pageviews and I found that maximum pageviews was recorded between December 2015 and May 2016.

. Pageviews are less in compared to avg time on page spent on those pages that means functionality provided on that particular page. For example, personnel/ employment, there is less pageviews but avg time is more as there is information on that page so people are spending more time on that and specific to requirement to some people, because its is needed by only who is looking for job.

* Based on the **data** available, what are the top 5 things that website users were looking for (trending charts) and how easy are they to find? (25 points)

Seattle fire department has highest pageviews in the Seattle dataset.

1st and 2nd top pages in the top 5 things in the Seattle dataset is Seattle Fire department and the 911 log for city of Seattle that website users are probably looking to place one of top requests this webpage offer to serve local people of Seattle that are permits, construction inspections, children’s programs, plan review and systems testing.

Seattle fire department has highest pageviews in the Seattle dataset.

3rd top page is the default/ main page of the website because most people will go directly to the website domain.

4th top page is the personnel employment page that offers an amazing arrays of career opportunities. Lastly, 5th to page

* Find 3 interesting observations in the metrics and explain why they are interesting (using charts) and determine what other metric(s) you would want to see to help your analysis. (25 points)

All answers should contain the following:

* + Simple, easy to understand charts detailing the most sought-after information using **monthly** trending data.
  + Visuals to illustrate context. Data and conclusions are more easily understood by showing the reader what you are looking at.
  + A short explanation of your conclusion, summarizing your charts and visuals that support your findings.

On a website that revolves around events, visitors often want the time, date, location, and that’s it. They get the information. They leave. The bounce rate on that website will skew towards a higher percentage, but that’s fine, because the user’s needs are still being met.

Hence, the most important metric might be how much time the visitors spend, how deeply they dig, and how often they return. Measurement using web analytics of this website include calculating the most popular pages, how long the typical person stays on a typical page, the percentage of people who bounce(leave) the site from a particular page, and thus the percentage of people who explore the site more deeply.

1) First, I retrieved top 10 pages by sum of pageviews which are as follows:

**Audience: general management.**

**BIA6306 Web and Social Media Analytics  
Grading Rubric – Assignment 1**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Exceeds Expectations**  Clear Comprehension  (Audience clearly understands the presenter’s message.) | **Meets Expectations**  Moderate Comprehension  (Audience understands the message being relayed for the most parts, but there are still some unclear/confusing remarks.) | **Below Expectations**  Confusion  (Lack of clarity in presenting the message to the audience.) |
| Clearly state the purpose, use screen shots and context to help the reader understand your conclusion. This should be based on site architecture and page design. | 100% | 67% | 33% |
| Provide appropriate context and visuals (trending graphs) so that the reader can easily understand your conclusion. Annotate when appropriate. | 100% | 67% | 33% |
| Clearly state your conclusion that is supported by the data you have provided. | 100% | 67% | 33% |

Spawning salmon have returned to creeks in the Pacific Northwest, and one of the best viewing locations in Seattle is Piper’s Creek in Carkeek Park. Through the end of the year, this creek, and many others in Seattle, will host hundreds of salmon returning home. The Seattle Animal Shelter and Seattle Parks and Recreation remind dog owners to keep their dogs leashed and out of the creeks – for the safety of both the salmon and the dogs.

Spawning salmon and dogs pose unique hazards to each other in the Pacific Northwest, so it is best to leave Fido home during a visit to view the salmon. If dogs ingest raw salmon, they can become victims of [**salmon poisoning disease**](https://www.vetmed.wsu.edu/outreach/Pet-Health-Topics/categories/diseases/salmon-poisoning).

Seattle animal center news & events -- thescoop.seattle

21 cells found - www2.cityofseattle.net/fire/realtime911/getrecsfordatepub.asp?action=today&incdate=&rad1=des

34 cells found - www2.seattle.gov/fire/realtime911/getrecsfordatepub.asp?action=today&incdate=&rad1=des

19 cells found - [www.seattle.gov/default.htm](http://www.seattle.gov/default.htm)

19 cells found - [www.seattle.gov/personnel/employment/default\_neogov.asp](http://www.seattle.gov/personnel/employment/default_neogov.asp)

19 cells found - [www.seattle.gov/light/paymybill/default.htm](http://www.seattle.gov/light/paymybill/default.htm)

277 cells found - [www.seattle.gov/visiting-seattle](http://www.seattle.gov/visiting-seattle)

19 cells found - find.seattle.gov/search?btng=go&client=cos\_frontend&proxystylesheet=cos\_frontend&output=xml\_no\_dtd&site=default\_collection

19 cells found - [www.seattle.gov/dpd/default.htm](http://www.seattle.gov/dpd/default.htm)

14 cells found - web6.seattle.gov/dpd/ascwaittimes/default.htm

20 cells found - web6.seattle.gov/dpd/eplan/portal.aspx

**Bounce Rate**  
  
Definition: The percentage of single-page sessions (i.e. sessions in which the person left your site after only viewing a single page from the entrance page). ... A Bounce Rate is a percentage, and in this case, the lower the number, the better it is. May 3, 2018

a list of helpful resources.

On a website that revolves around events, visitors often want the time, date, location, and that’s it. They get the information. They leave. The bounce rate on that website will skew towards a higher percentage, but that’s fine, because the user’s needs are still being met.

Bounce rate is a beautiful way to measure the quality of traffic coming to your website. It is almost instantly accessible in any web analytics tool. It is easy to understand, hard to mis-understand and can be applied to any of your efforts. Bounce rate measure quality of traffic you are acquiring, and if it is the right traffic then it helps you hone in on where/how your website is failing your website visitors.

because most people will go directly to your website domain (or link directly to your website domain).

Unique Pageviews is the number of sessions during which the specified page was viewed at least once. A Unique Pageview is counted for each page URL + page Title combination. It is a session level metric.

**Pageviews & AvgTimeonPage Dashboard:** Two chart has been shown here, with first one’s showing pages with top ten pageviews and average time spent on respective pages whereas second one is depicting pages with top ten average time spent and pageviews on those corresponding pages.

**Insight:** As we can see, trend is changing and telling clearly that most viewed pages are sort of informing about Seattle services portals such as fire/911, waiting times, pay my bill, visiting Seattle, employment to the people of the Seattle city. On the other hand, top ten pages with most average time spent are the pages full of functionality such as logging into one’s account and pay dues, check current status or file a new application etc. Therefore, people are spending more time on these pages in comparison to the default page of respective pages.

**Metric Evaluation Chart**: Next, I looked at top ten pages with following metrics in mind:

1. Maximum bounce rate: bounce rate tells us percentage of single-page sessions and normally we believe the lower the number, the better it is but here we’ve a website that revolves around events and with a list resourceful links. So, users might just leave after getting the information unless they’ve more to search or fill an application or pay dues etc. The bounce rate on these pages might skew towards a higher percentage.
2. Maximum exit percent: %exit is the percentage of site exits from a website which again the lower the number, the better it is. that is telling the maximum percentage of site exits from a particular page which again the lower the number, the better it is.
3. Maximum unique pageviews depicting maximum number of times a unique page has been viewed and compared it against maximum average time spent on a page
4. Maximum average time spent on top ten pages by pageviews.

Next, I looked at top ten pages by pageview and compared maximum bounce rate against maximum exit percent which is basically showing that employment main page, utility bills main page, visiting Seattle pages have maximum bounce and exit rate, that is above 60% which make sense as users take the information and move forward. [ to look into it in detail or to online payment page.]

I noticed, bounce and exit percent are not varying much except for last three web pages which are Seattle department of construction& Inspections page that shows the estimated wait times for in-person visits and fire department. Here, bounce rate is 1% which means users are not leaving

**Metric Analysis with exit & entrances**: viewing the very first point of this chart shows that the number exits does not equal the number of entrances for any given page, because not everyone leaves the website on the same page that they entered it from.

are taking this information and going to another page

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**Metric Evaluation Dashboard**:

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**Monthly Trends**: Lastly, I checked month wise data of pageviews and compared it with difference in pageviews which basically depicting month over month difference in pageviews. The insights can be derived that increase in pageviews are showing increased popularity and number of users of the website.

I compared month wise trends of total avg time on page versus total pageviews which shows increase in both metrics between December 2015 and May 2016. Also, I included Maximum bounce rate versus maximum percent exit which is showing 1% bounce rate from Jan 2015 to December 2015 and then 100% bounce rate in the month of January 2016, but percent exit is 1% only. I’m still figuring out how increase in pageviews and increase in bounce rate are happening at the same time.

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First one is Seattle department of construction & Inspections page that shows the estimated wait times for in-person visits. Here, percent exit is 1% whereas bounce rate is 29% that is only 1% site exits from the website. I found this interesting as 29% bounce rate with 1 % exit, which means this page is holding user here. Similarly, interesting difference can be seen in 1st and 2nd top most pages have 0% exit whereas 44% and 43% bounce rate respectively and supporting the fact that these pages contain useful links.