

Assignment 4 : CS 751

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May 2, 2015

0.1 Question 1

Using the pages from A3 that boilerpipe successfully processed, download those representations again and reprocess them with boilerpipe.

Document the time difference

Compute the Jaccard Distance x for each Pair of Pages for :Unique terms ,Bigrams,TriGrams

For each of 3 cases build a Cumulative Distribution Function that shows the percentage change on the x-axis and percentage of the population on y-axis

Give 3-4 examples illustrating the range of change that you have measured

Solution to Question1:

I have used jusText library to remove HTML templates in Assignment 3 and 4. It removes headers, footers and navigation links from the page. jusText was successful for pages that followed HTML standards. Pages which are properly organized .

I have written a code in python named "htmlnonhtml.py" which is located in "q1-A4" folder. This code removes boilerplate content for the links present in "responseAfterCurlCalls" located in "q1-A4" folder.

Only 6100 URIs were unique , out of this only for 1496 URIs boilerpipe successfully processed . Most of them are non-HTML skipped because of non content , Images on links , 404, 302 errors etc.

I have used the same pages from A3 for which boilerpipe was successfully processed. I have reprocessed those pages with boilerpipe and extracted the text files again for A4

The time difference between A4 and A3 is

Time(A4)-Time(A3) : Time difference is 28 days March 30 to April 28

I have created two folders "A3-afterboilerplateTextFiles", "A4-afterboilerplatetextfiles" which is located inside "q1-A4" folder. These folders contains text files that were extracted after processing boilerpipe successfully for A3 and A4.

I have calculated Unique terms ,Bigrams , Trigrams for the text files located in the following folders :

- 1)"A3-afterboilerplateTextFiles" located inside "q1-A4" folder
- 2)"A4-afterboilerplatetextfiles" located inside "q1-A4" folder

I have written a java code named "UniGram.java", "BiGram.java", "TriGram.java" located in "q1-A4" folder to extract unique terms, bigrams and trigrams respectively from the text files .

I wrote a "jacarrdDistanceCalculator.py" code located inside "q1-A4" folder . This code reads the textual data generated for each pair of pages from A3 and A4 and calculates the jaccard distance for unique terms , bigrams and trigrams and saves them to an output file named "unijackardsorted.txt" , "bijacardsorted" , "trijacardsorted" respectively. These files are located inside the folder "q1-A4"

For each of the 3 cases (i.e., 1-,2-,3-grams) I built a cumulative distribution function that shows percentage change on the x-axis and the percentage of population on the y-axis.

Figure 1 ,Figure 2 , Figure 3 represents the Cumulative Distribution Function for Unigram , BiGram , TriGram respectively . I have plotted the graph using R script . BiJacard.R , UniJacard.R , TriJacard.R are the scripts for generating Cumulative Distribution Function graphs for Bigrams , UniGrams, Trigrams respectively . These are located inside "q1-A4" folder.

Following are the three examples illustrating the range of change measured

- 1) For this link "<http://pinterest.com/pin/300896818829344973/>" after successfully processing boilerpipe, there is a lot of change in textual content. Interesting part here is that, the unigram jaccard distance for this link is "0.958333333333" where as for Bigram and TriGram jaccard distance is "1"

2) For this link "http://suba.me" after successfully processing boilerpipe , there is a little change in textual content. But, the jaccard distance for unigram , bigram and trigram are 0.0173611111111, 0.0138248847926, 0.0134831460674 respectively . Jaccard Distances are not same for unigram , bigram and trigram

3) For this link "http://twi.xsrv.jp/eot4j" after successfully processing boilerpipe, there is no change in the textual content. The Jaccard distances(1-gram, 2-gram, 3-gram) for these pair of pages from A3 and A4 is 0.

0.2 Question 2

from Q1 (A4), download all TimeMaps(including TimeMaps with 404 responses, i.e. empty or null TimeMaps)

Upload all TimeMaps to github

Build a CDF for number of mementos for each original URI i.e.,
x-axis = number of mementos , y-axis = number of links

Solution to Question2:

I have written a code "getURLData.py" which is located inside the "q2-A4" folder. This code reads "urlStatusAfterCurlCalls" file which contains the URIs. This is located in "q2-A4" .

I have used "http://labs.mementoweb.org/timemap/link/" to get the mementos for each URI. This codes saves all the TimeMaps for all the 10000 links. These are saved inside "q2-A4/timemaps/" folder .This list includes the null time maps as well.

After collecting the mementos for each URI , I have written a python script named "mementocount.py" which extracts the count of mementos per each URI and saves it to "timemapsCount.txt" file which is located inside "q2-A4" folder.

Figure 4 shows the cumulative distribution function for all the count of mementos. I have written a R script named "cdfformemntos.R" located inside "q2-A4". Most of the URIs have zero mementos.

0.3 Question 3

Using 20 links that have TimeMaps -

-With ≥ 20 mementos

-Have existed greater than equal to 2 years i.e., Memento-Datetime of "first memento" is April XX, 2013 or older

-Note : select from Q1/Q2 links , else choose them by hand

For each link , create a graph that shows Jaccard Distance, relative to the first memnto, through time

-x-axis : continuous time ,y-axis: Jaccard Distance relative to the first memento

Solution to Question3:

I have chosen 20 links by hand that satisfies the question criteria. I have saved these files into "final20links.txt" which is located inside "q3-A4" folder. I have written a code "getURLData.py" located inside "q3-A4" folder . This code reads "final20links.txt" and extracts the mementos links for each URI in the list in json format with the help of "http://labs.mementoweb.org/timemap/json/" .

I have saved all of these files with '.json' extension. I have written a python script with name "html-non-html.py" located in "q3-A4" folder which reads each json file in the directory ("q3-A4" folder) and iterates through each memento present in the list (json Array) for each URI and applies boilerpipe to each link. Most of the links were not successfully processed after applying boilerpipe. For the URIs for which boilerpipe successfully processed, I have calculated the Jaccard distance relative to first memento.

I have written a Rscript named "JDRelativetofirstMemento.R" which is located in "q3-A4" folder

Figure 5- Figure 18 shows Jaccard Distance relative to first memento.

0.4 Question 4

Choose a news-related event

UseTwarc.py to collect 1000 tweets , every day for 5 different days

For each day:

- Create a wall
- Build a tag/word cloud for each day
- Create a map using GeoJSON and Github

Discuss in detail lessons learned , experiences , etc

Solution to Question4: (Figure 19 to Figure 33)

Firstly, I have generated a consumer key, consumer secret key, access token and access-secret token.

I have collected 1000 tweets, every day for 5 different days.

I have written a script(using above mentioned keys) named "twarc1.py" located inside folder "q4-A4". I have extracted the tweets on "AppleWatch" tag. I have saved these 1000 tweets daily with ".json" extension .

The files are located inside the folder "q4-A4".Following are the files I have extracted on a daily basis for 5 different days

tweets25th.json
tweets26th.json
tweets27th.json
tweets28th.json
tweets30th.json

I have copied all of these inside "twarc-master/utils/". Then, I have given

above json files as an input to wall.py to create Wall on daily basis. It gave me output wall with '.html' extension. All of these output files are stored inside "q4-A4/wall/" folder. The wall basically gives the information of all the tweets that are related to "Applewatch" for each day.

I have given above files as an input to word.py to create word cloud on daily basis. It gave me output wordcloud files with '.html' extension. The files are located inside the folder "q4-A4/wordcloud/". Word Cloud mainly enlarges mostly used word from the tweets . The frequency of the words is directly proportional to the Size of the word visible in the output wordcloud file.

I have also given above json files as an input to tweets.geojson to get geo coordinates from the tweets. I have uploaded the geojson files located inside 'q4-A4/geojson/'. After uploading these geojson files , github shows the map with markers located using "geojson coordinates".

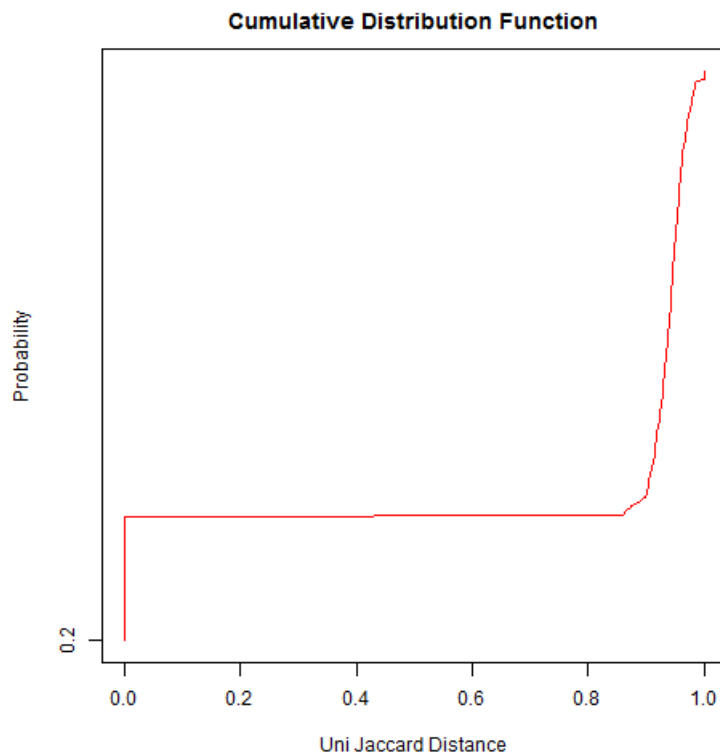


Figure 1: CDF for Unigram Jaccard Distance

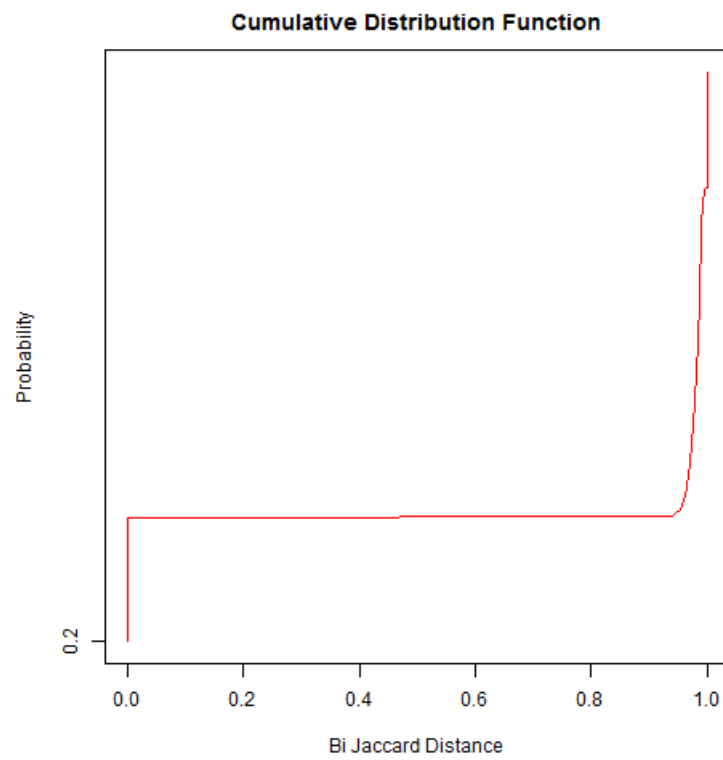


Figure 2: CDF for Bigram Jaccard Distance

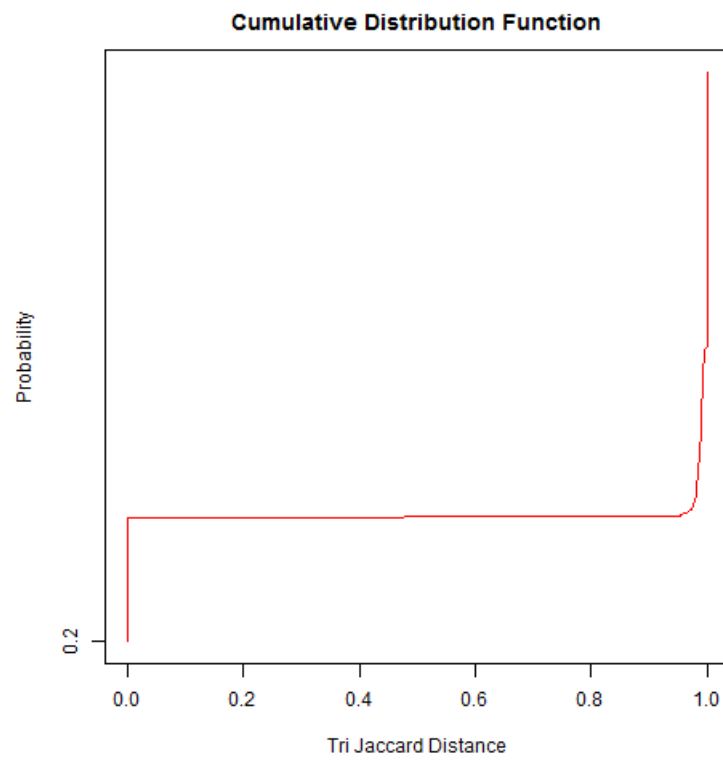


Figure 3: CDF for Trigram Jaccard Distance

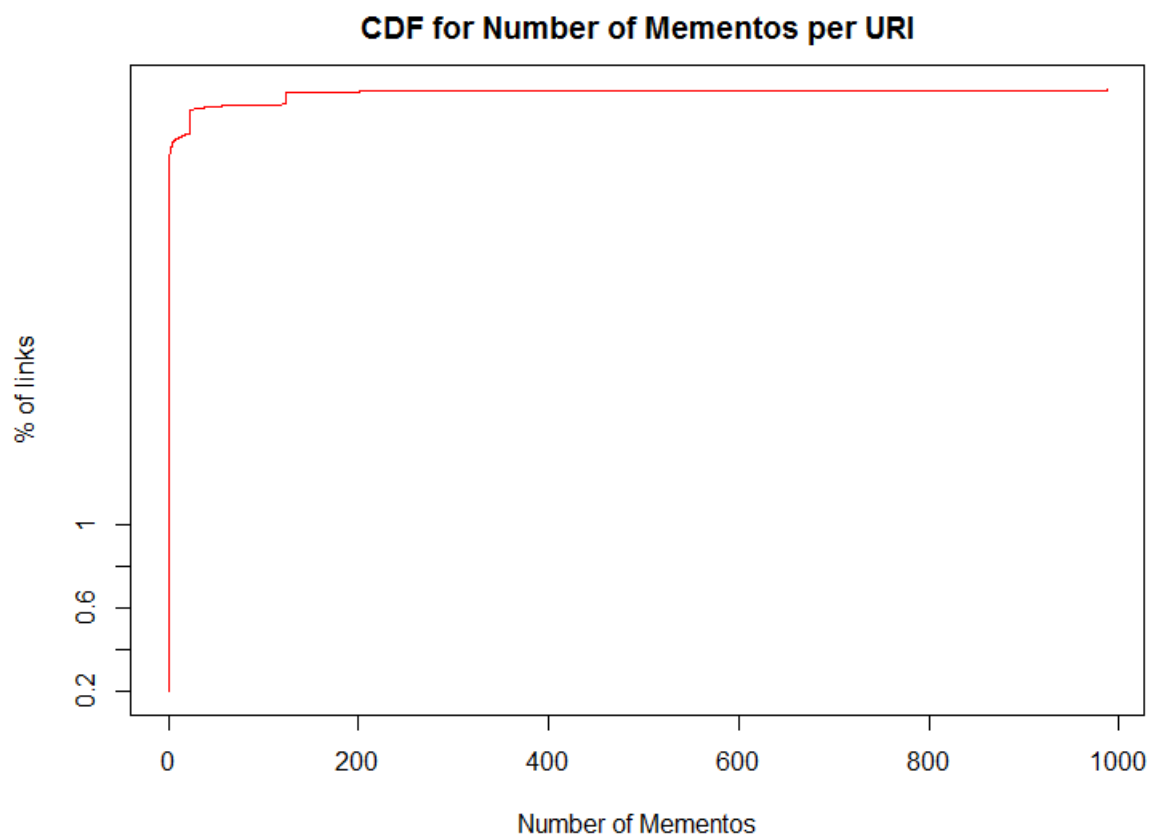


Figure 4: CDF for number of mementos for each original URI

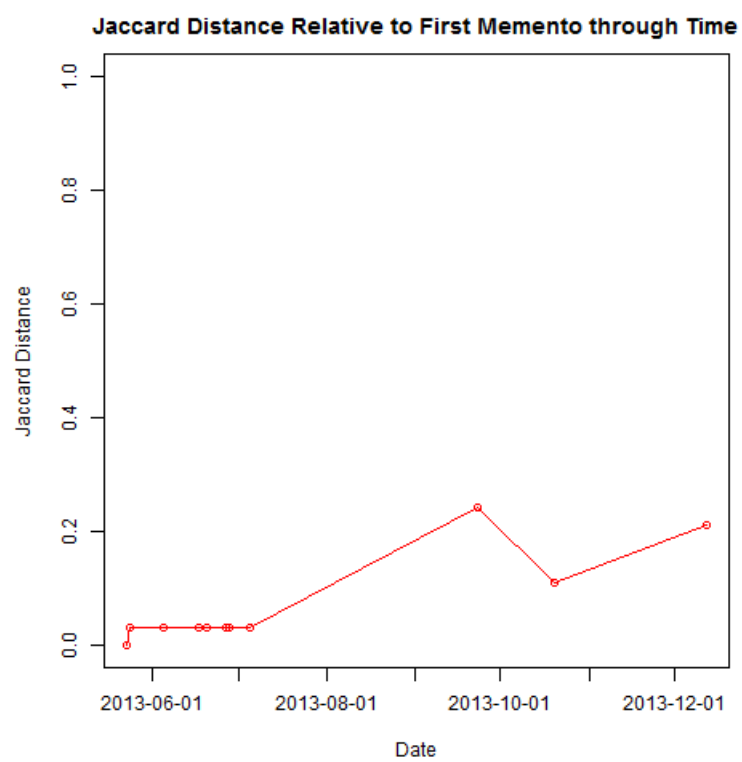


Figure 5: Jaccard Distance Relative to First Memento

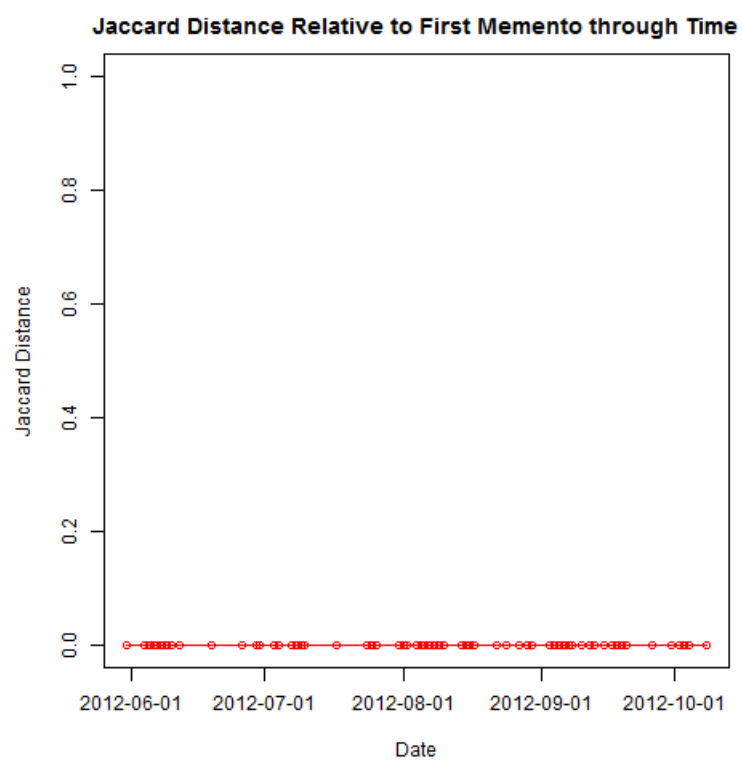


Figure 6: Jaccard Distance Relative to First Memento

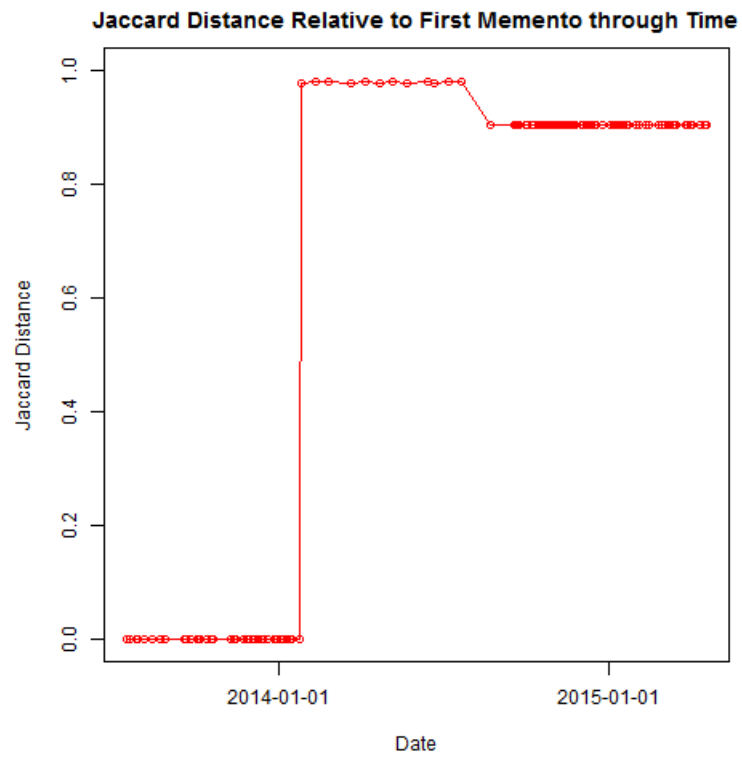


Figure 7: Jaccard Distance Relative to First Memento

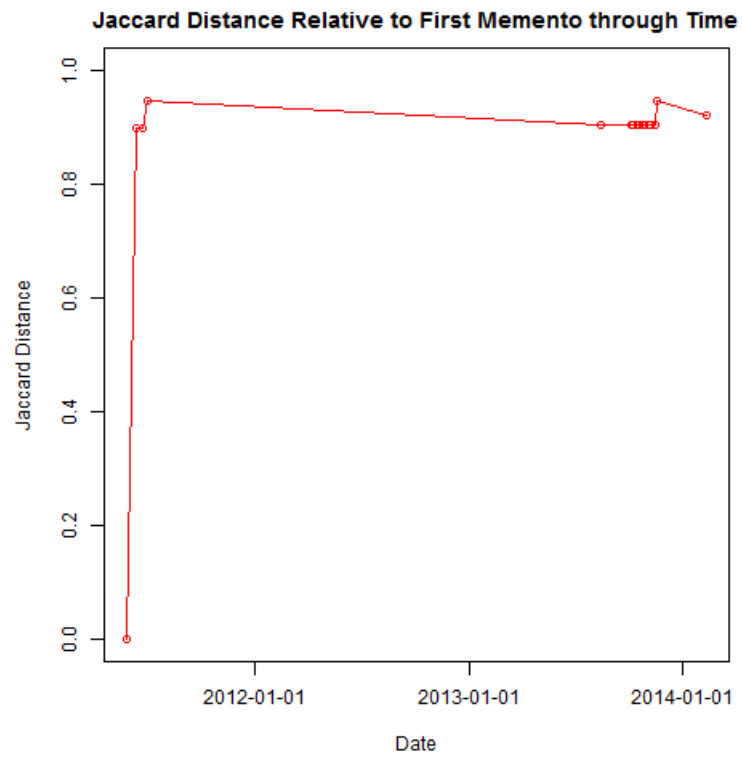


Figure 8: Jaccard Distance Relative to First Memento

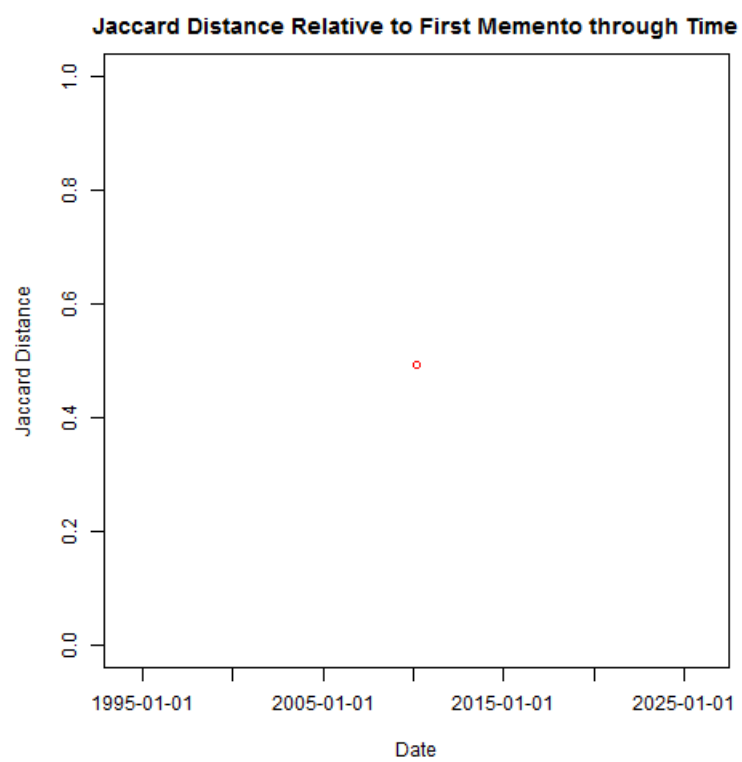


Figure 9: Jaccard Distance Relative to First Memento

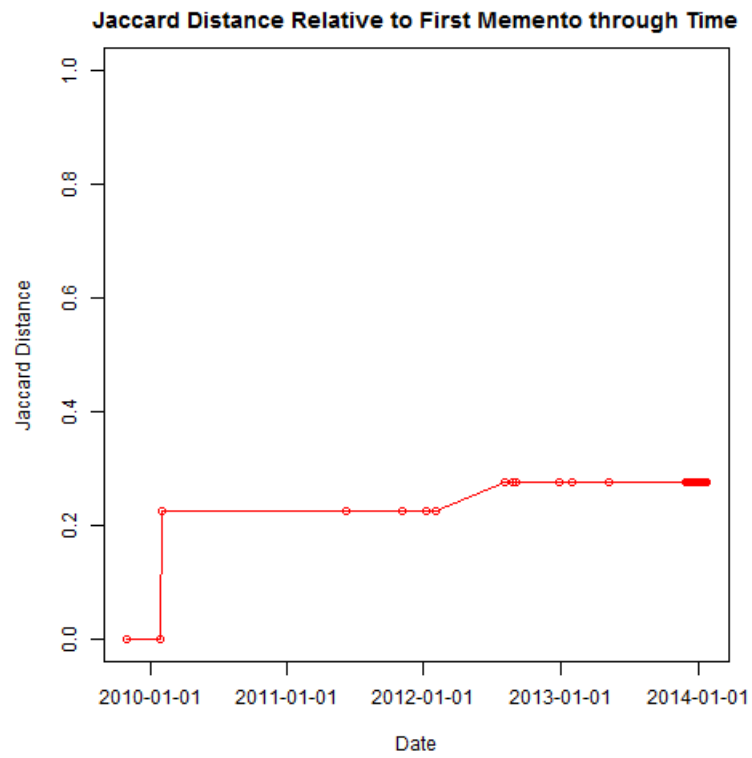


Figure 10: Jaccard Distance Relative to First Memento

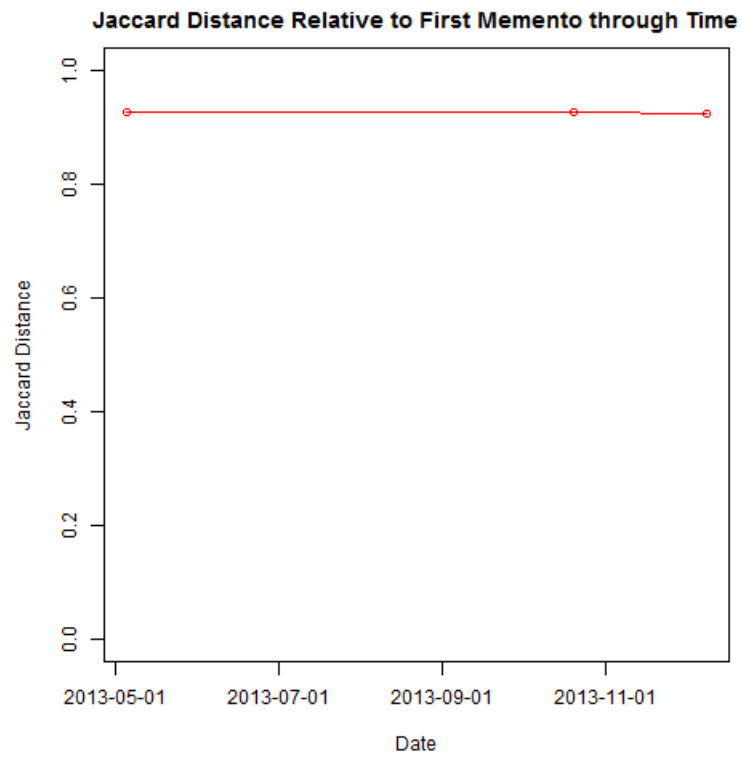


Figure 11: Jaccard Distance Relative to First Memento

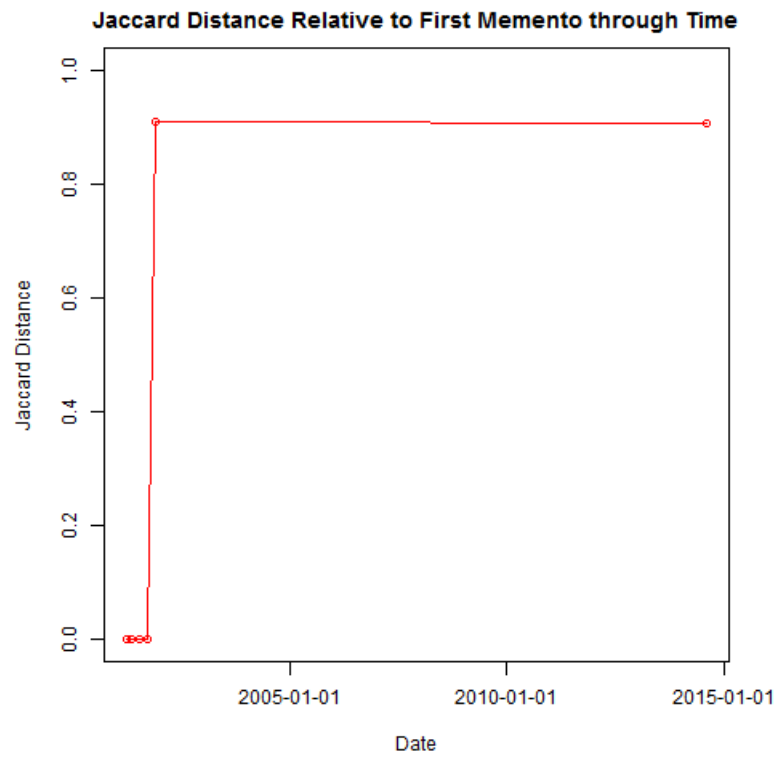


Figure 12: Jaccard Distance Relative to First Memento

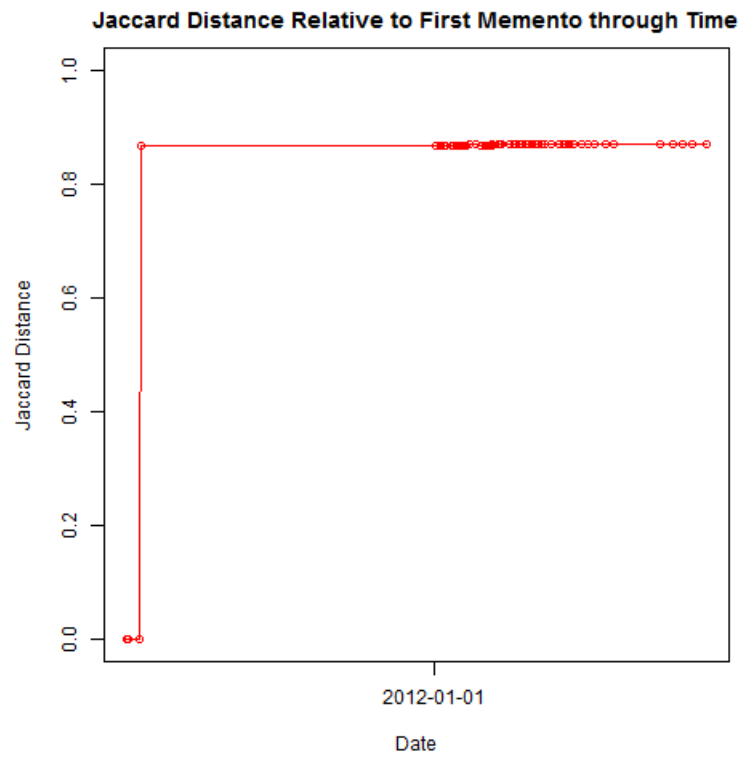


Figure 13: Jaccard Distance Relative to First Memento

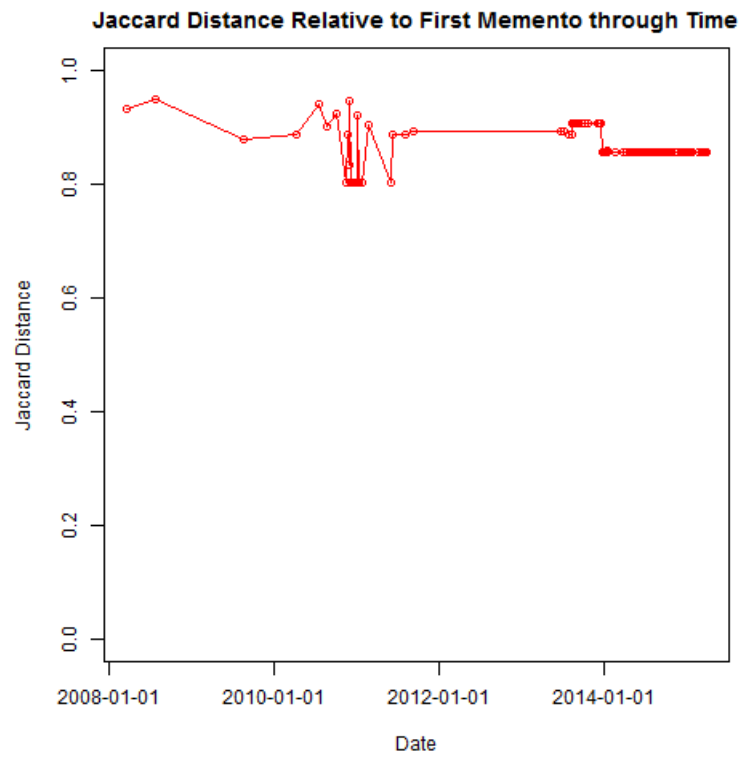


Figure 14: Jaccard Distance Relative to First Memento

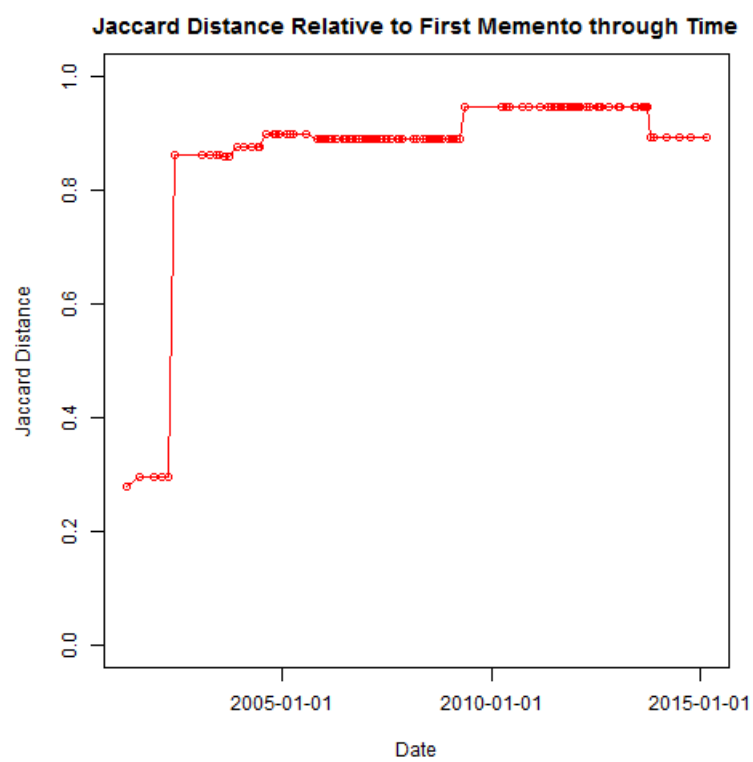


Figure 15: Jaccard Distance Relative to First Memento

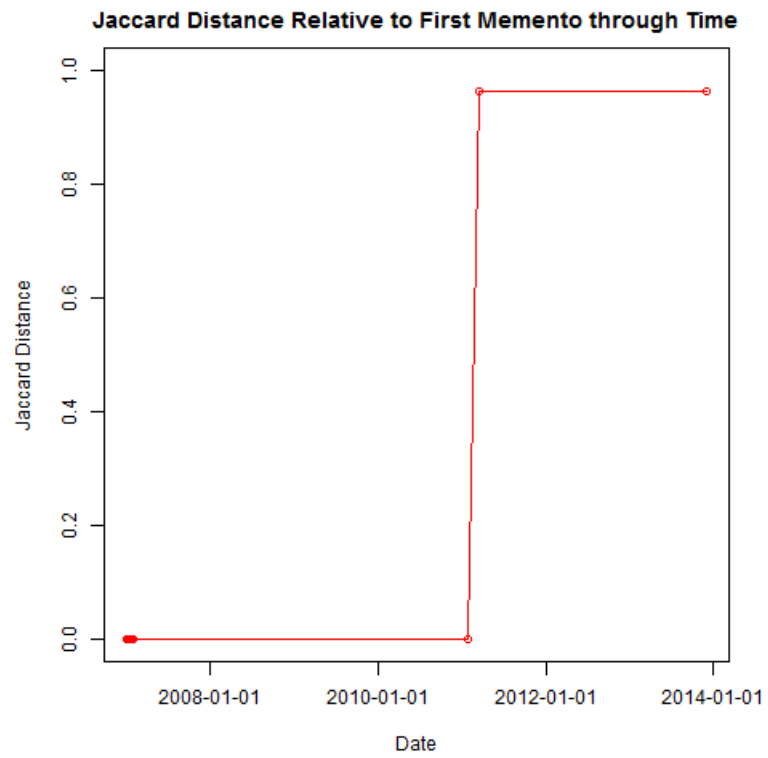


Figure 16: Jaccard Distance Relative to First Memento

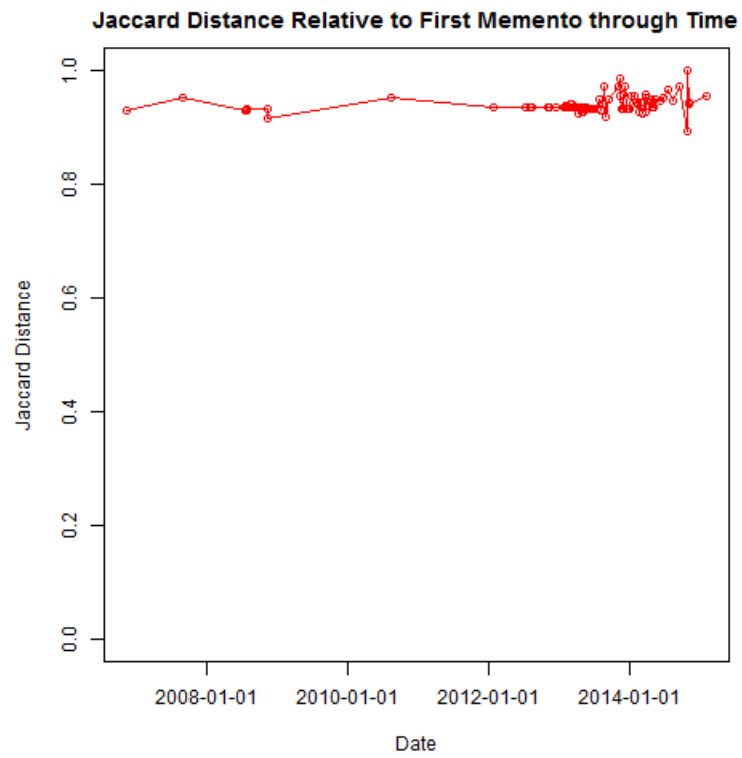


Figure 17: Jaccard Distance Relative to First Memento

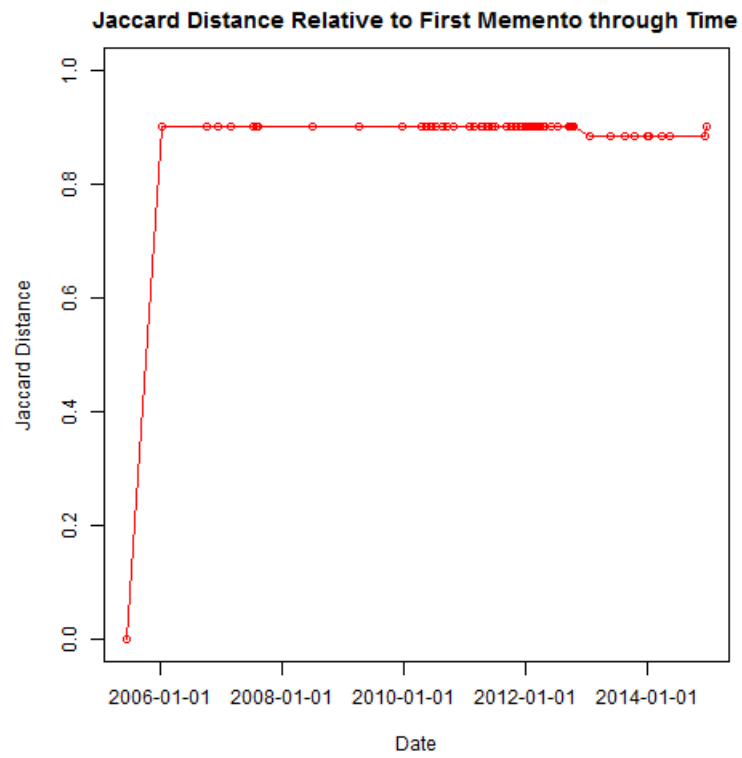


Figure 18: Jaccard Distance Relative to First Memento



Figure 19: WordCloud for Event "Apple Watch" on 25th March



Figure 20: WordCloud for Event "Apple Watch" on 26th March



Figure 21: WordCloud for Event "Apple Watch" on 27th March



Figure 22: WordCloud for Event "Apple Watch" on 28th March

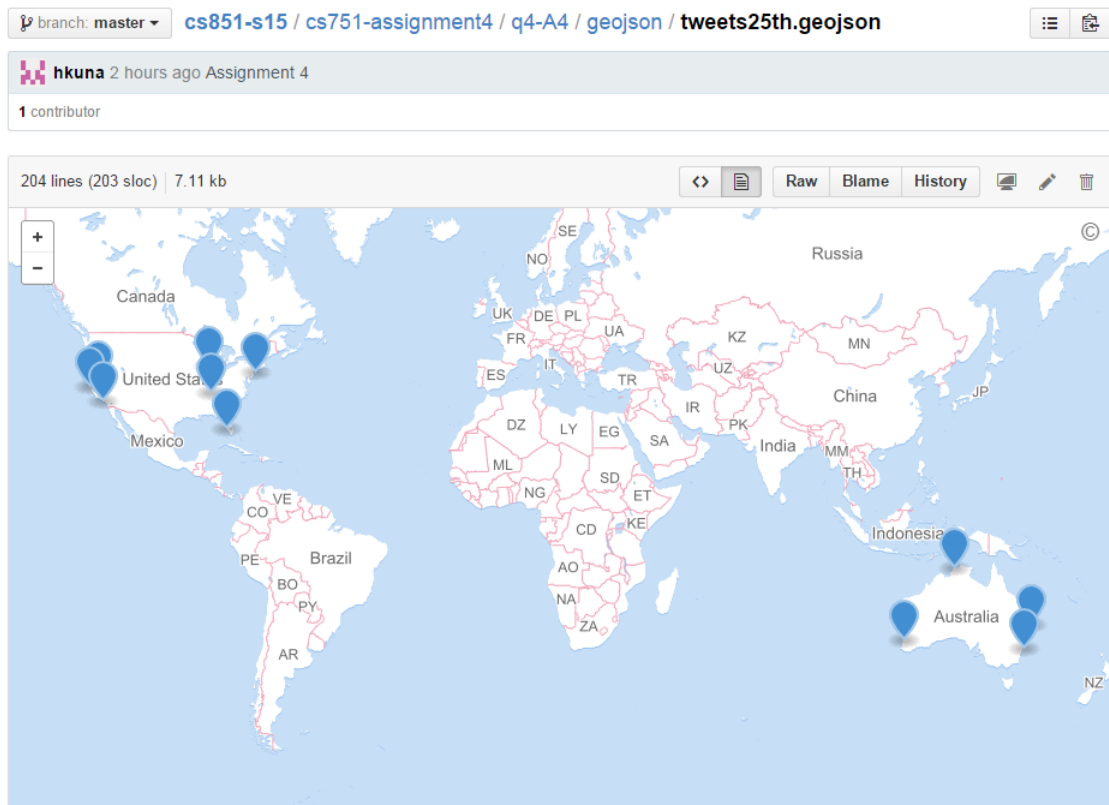


Figure 24: Geo-Coordinates for Event "Apple Watch" on 25th March

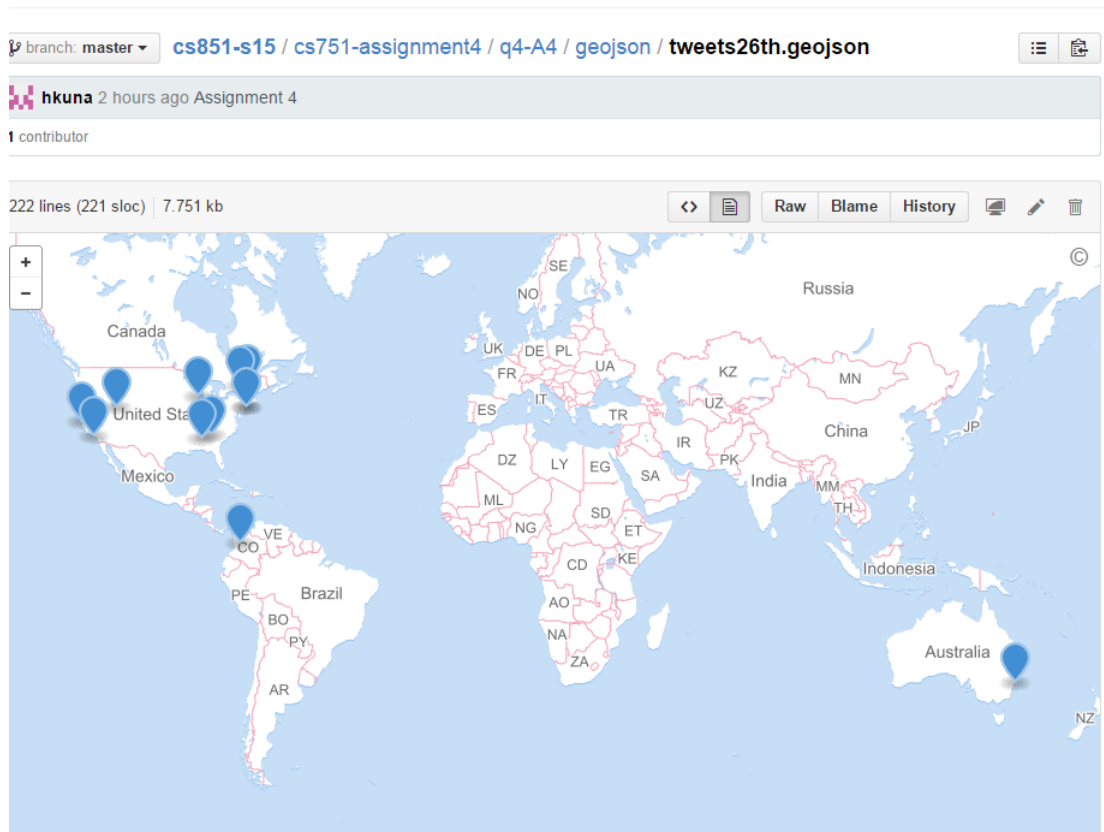


Figure 25: Geo-Coordinates for Event "Apple Watch" on 26th March

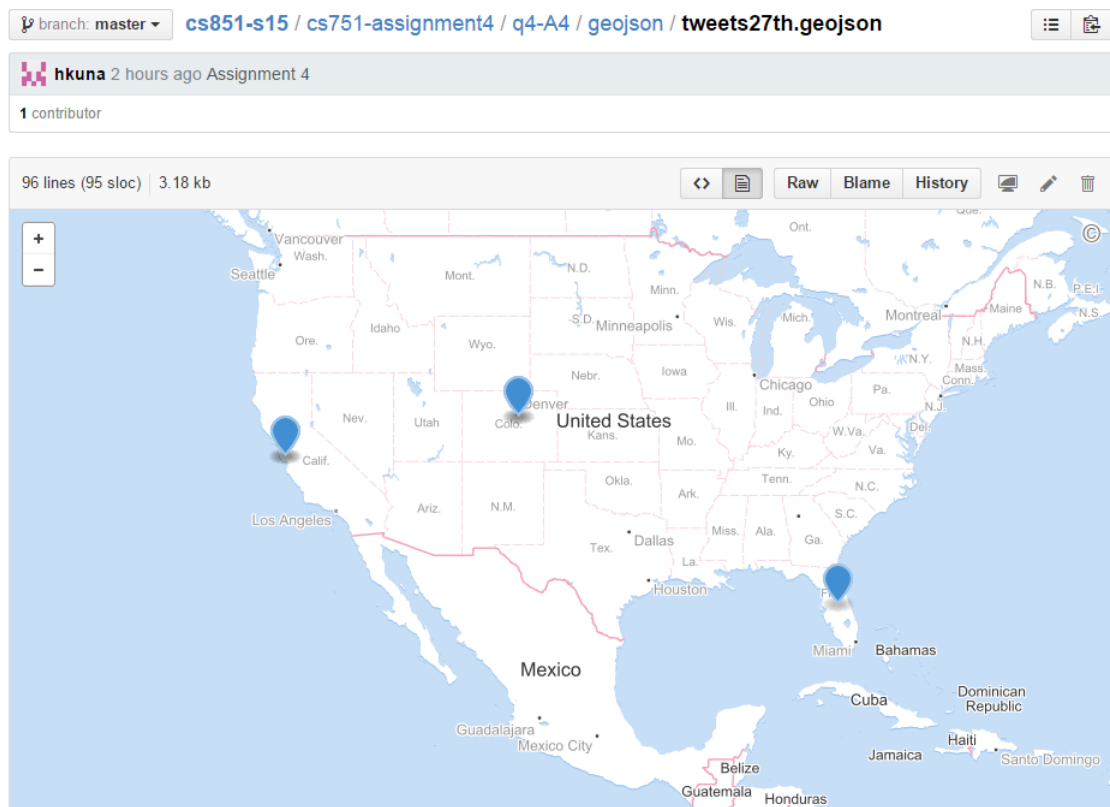


Figure 26: Geo-Coordinates for Event "Apple Watch" on 27th March

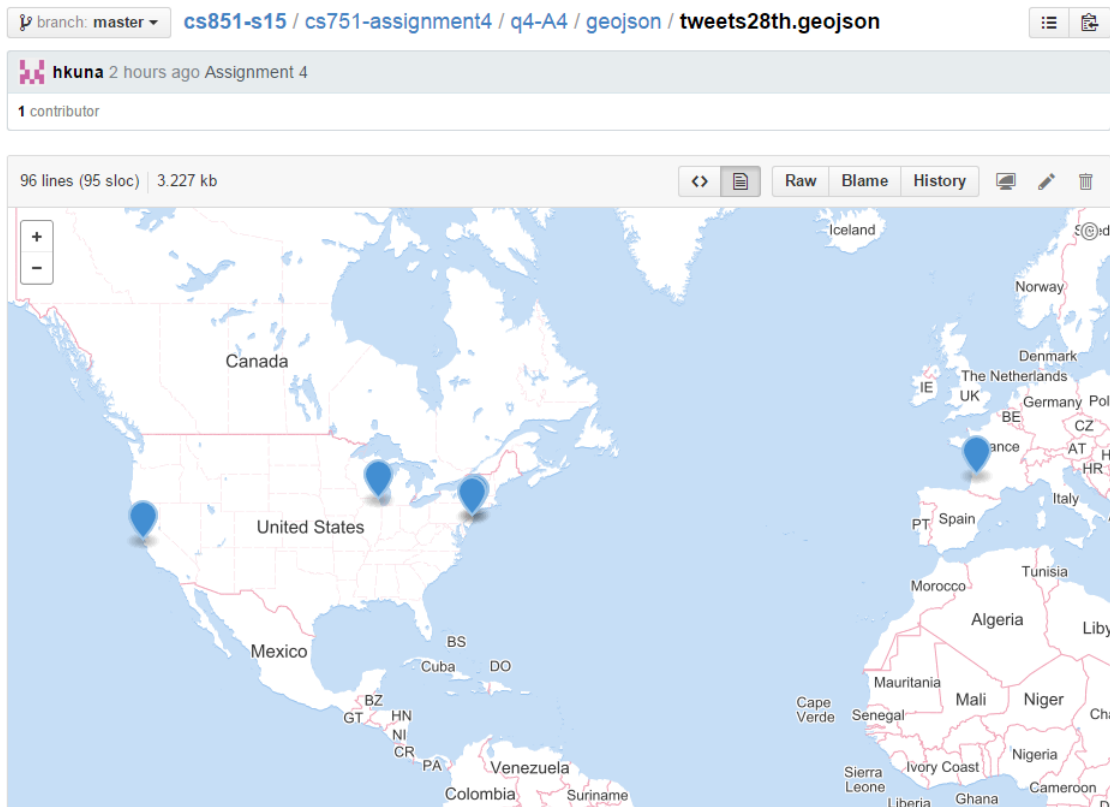


Figure 27: Geo-Coordinates for Event "Apple Watch" on 28th March

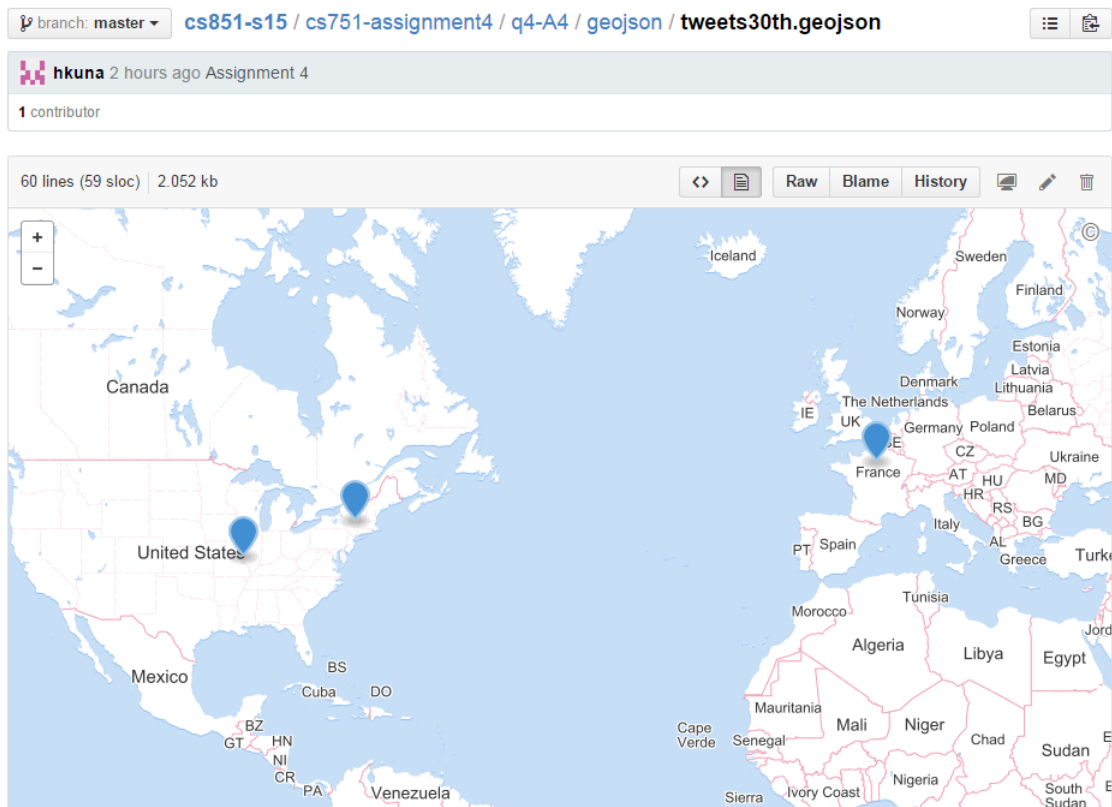


Figure 28: Geo-Coordinates for Event "Apple Watch" on 30th March

Title Here

created on the command line with [twarc](#)

















 <p>태현♥なおいびー nok1230</p> <p>昨日、Applewatch見てきたけど やっぱ いらん🙄🙄🙄 http://t.co/K9OhPuOxwL</p> <p>0 Retweets Sun Apr 26 02:14:47 +0000 2015</p>	 <p>Rene Limberger renelimberger</p> <p>Has anyone been able to get PUICCrownInputSequencer to work? #WatchKit #AppleWatch #PUICore</p> <p>0 Retweets Sun Apr 26 02:14:39 +0000 2015</p>	 <p>J.R. Wright jrwrightchd</p> <p>RT @AlexFayman: GO INSIDE INTERNET & EMERGE W/ #CIA #DATABASE http://t.co/wk2bwyUdeb #iOS #iOS83 #AppleWatch #ios82 #ipad #BookBoost http://t.co/...</p> <p>1 Retweets Sun Apr 26 02:14:36 +0000 2015</p>	 <p>Alex Fayman AlexFayman</p> <p>GO INSIDE INTE W/ #CIA #DATA http://t.co/wk2bwyUdeb #AppleWatch #ios #BookBoost http://t.co/...</p> <p>1 Retweets Sun Apr 26 02:14:21</p>
 <p>Don Blair d_blair</p> <p>iPhone Life is giving away an Apple Watch! Enter today so we can BOTH WIN: http://t.co/RWPEJEU1pV</p> <p>0 Retweets Sun Apr 26 02:14:09 +0000 2015</p>	 <p>kathy whitney Risingstar2</p> <p>Win an #AppleWatch from http://t.co/78HBjZEIQu #contest http://t.co/IlyEQgpFvI</p> <p>0 Retweets Sun Apr 26 02:13:45 +0000 2015</p>	 <p>Musics Store Jessie_Courser</p> <p>#AppleWatch Apple Watch Sport 38mm Silver Aluminium Blue Band **NEW**UNOPENED**SEALED IN BOX http://t.co/cY5JxAKaSQ #Apple iWatch</p> <p>0 Retweets Sun Apr 26 02:13:35 +0000 2015</p>	 <p>たけ take_kagoMU</p> <p>@Badboys2Men すかー 私的にはA から盛り上がってく ます。分かりにくい の良かった体験が あります。 Sun Apr 26 02:13:31</p>
 <p>InspiredBluSolutions NspiredBlueNews</p> <p>RT @steube: Early Look At The Apple Watch App Ecosystem http://t.co/ECFbasD2Bp #AppleWatch #wearables #WearableTech http://t.co/eDEYrc4IoQ</p> <p>3 Retweets Sun Apr 26 02:13:20 +0000 2015</p>	 <p>Basic_Tech xXThe_MLGXx</p> <p>Enter here for a chance to Win a Brand New Apple Watch! Follow @PapiGfunk http://t.co/kA6xW7KYh9 #AppleWatch #AppleWatchSport #Apple</p> <p>0 Retweets Sun Apr 26 02:13:07 +0000 2015</p>	 <p>Game Dev Bot GameDevBot97</p> <p>RT @editorseditor: #GameDevelopers on #AppleWatch: smartwatches are all about context http://t.co/dCQILgK4Yv</p> <p>1 Retweets Sun Apr 26 02:13:02 +0000 2015</p>	 <p>opal8877 opal8877</p> <p>ニコニコ超会議20 AppleWatchをつ でも評判悪い! http://t.co/XWCK5</p> <p>0 Retweets Sun Apr 26 02:12:50</p>
 <p>ばっきゃ singlekill_17</p> <p>RT @bakusy0u_gazou: AppleWatch の闇 http://t.co/YKYoxsvFI8</p> <p>8132 Retweets Sun Apr 26 02:12:33 +0000 2015</p>	 <p>Lucas Ibarra lucas_ibarra1</p> <p>#AppleWatch VS. Mini Cooper - iFORCETOUCH TEST! https://t.co/Mi4FAJtPf0</p> <p>0 Retweets Sun Apr 26 02:12:13 +0000 2015</p>	 <p>Taeho Kim NuclearNoJam</p> <p>[지금 애플워치를 사면 안되는 이유] 현재 카메라, 모션센서 등 기능을 서드 파티에서 접근할 수 없어 '애플워치'에 특화된 앱이 없는 상황. 6월은 되야 풀 린다고(cnet참조. http://t.co/17gS2rdHou) #애플워치 Sun Apr 26 02:12:12 +0000 2015</p>	 <p>yhy yyhhy</p> <p>RT @Pirate_Rad めてさっき見た。さ イェットの話をしつ 並んでる女の子が 見た。1999年に地 生みの間、 Sun Apr 26 02:12:07 つらよと怖がっ ++</p>

Figure 29: Wall for Event "Apple Watch" on 25th March


file:///C:/cs751/cs751-assignment4/q4-A4/wall/tweets26th.html

Title Here

created on the command line with [twarc](#)

 **Eder Bustos**
RedeMarquez


Me gustó un video de @YouTube de @marcianophone
<http://t.co/QAttbTchpS> Mazo vs #AppleWatch - THE END, #HammerTest
0 Retweets
Mon Apr 27 02:57:21 +0000 2015

 **アップルウォッチ最新情報**
applewatch_news


ITmedia Mobile: 予約制でも行列: 「Apple Watch at Isetan Shinjuku」で Apple Watch販売開始 開封からファーストインプレッション
<http://t.co/PRMgny1bJv>
0 Retweets
Mon Apr 27 02:57:18 +0000 2015

 **ds20u2**
ds20u2


RT @priceminister: #jeu Sortie de l'#AppleWatch aujourd'hui ! #Happy ? Follow @PriceMinister + RT pour tenter de la gagner <http://t.co/dO3y...>
2480 Retweets
Mon Apr 27 02:57:15 +0000 2015

 **AppleWatch**
barna_clue


RT @antonioibart: #AppleWatch... と #WaterProof <http://t.co/...>
1 Retweets
Mon Apr 27 02:57:14

 **Andika Yuda siholand**
Yuda_siholahans


RT @AppStore: Grab your bags and go; the world is waiting. #AppleWatch
<http://t.co/X2hKxwC46Z>
<http://t.co/1KRaxsdj6O>
151 Retweets
Mon Apr 27 02:57:12 +0000 2015

 **Thomas Raia**
mocharaia


RT @hverlind: This is how accurate the #AppleWatch is for running, even when using it without its paired iPhone for GPS. <http://t.co/Wjy2uP...>
1359 Retweets
Mon Apr 27 02:57:07 +0000 2015

 **BPI Solutions**
BPISolutions


RT @iotattack: Can #AppleWatch really help you get fit? [#t](http://t.co/hAeZOx639R) [#t](http://t.co/hAeZOx639R) [#t](http://t.co/2k36je3qlr) via joanaw
2 Retweets
Mon Apr 27 02:57:05 +0000 2015

 **アップルウォッチ**
applewatch_r


ポルシェがいちばん 連携する <http://t.co/...> @clliccarさんから
0 Retweets
Mon Apr 27 02:57:01

 **よびよび 鯖**
yopiyopi120

RT @kabubunet: こんなアプリがあれば急なトイレも安心! #FF14 #AppleWatch <http://t.co/OCInf8zpn>
140 Retweets
Mon Apr 27 02:56:55 +0000 2015

 **John Noonan**
JohnNoonan

RT @hverlind: This is how accurate the #AppleWatch is for running, even when using it without its paired iPhone for GPS. <http://t.co/Wjy2uP...>
1359 Retweets
Mon Apr 27 02:56:37 +0000 2015

 **Alwaleed Khaled**
Alwaleed_Khaled

RT @AlziadiQ8Blog: فيديو: تحمل ساعة أبل - للماء والسقوط والدهس - #AppleWatch <http://t.co/MiyioCZy5b>
1 Retweets
Mon Apr 27 02:56:27 +0000 2015

 **Negre**
NestorNegro

Ya tengo el #App falta el iPhone y la próximos 6 meses
0 Retweets
Mon Apr 27 02:56:21

 **Red Lips**
markefoseqah

iPhone7: 日本初! AppleWatch開発者イベント開催 ウォッチアプリ設計の苦労と工夫と期待を聞く
<http://t.co/JMFLGr9osL> #iPhone #iPad
0 Retweets
Mon Apr 27 02:56:19 +0000 2015

 **Black Heart**
markasaboput

iPhone7: 日本初! AppleWatch開発者イベント開催 ウォッチアプリ設計の苦労と工夫と期待を聞く
<http://t.co/nWvqauB8Fs> #iPhone #iPad
0 Retweets
Mon Apr 27 02:56:18 +0000 2015

 **lex pon Dy**
lexpondy

iPhone7: 日本初! AppleWatch開発者イベント開催 ウォッチアプリ設計の苦労と工夫と期待を聞く
<http://t.co/FyFvGYGrwW> #iPhone #iPad
0 Retweets
Mon Apr 27 02:56:16 +0000 2015

 **Bella Donna**
sjomalee

iPhone7: 日本初! イベント開催 ウォッチアプリ設計の苦労と工夫と期待を聞く
<http://t.co/IF3KGF> #iPad
0 Retweets
Mon Apr 27 02:56:14

Figure 30: Wall for Event "Apple Watch" on 26th March

Title Here

created on the command line with [twarc](#)

















 AppleWatchOwner AppleWatchOwner RT @W2511Danni: Op-Ed: Is the Apple Watch a necessity or luxurious accessory? #AppleWatch #Apple http://t.co/sC2HNcqNIR via @digitaljournal 1 Retweets Tue Apr 28 03:42:47 +0000 2015	 AppleWatch News barna_clue RT @derek_arg: Big fan of the show Drunk Tech Review :) @DrunkTechReview http://t.co/dWcfMplfec check it out! #AppleWatch #Tech #YouTube #... 1 Retweets Tue Apr 28 03:42:21 +0000 2015	 Derek Argueta derek_arg Big fan of the show Drunk Tech Review :) @DrunkTechReview http://t.co/dWcfMplfec check it out! #AppleWatch #Tech #YouTube #Show #DTR 1 Retweets Tue Apr 28 03:42:20 +0000 2015	 The Carousel carousellwor Think you know about the #Apple - here's the down low... http://t.co/fYOK9 0 Retweets Tue Apr 28 03:42:11 +0000 2015
 Musics Store Jessie_Courser #AppleWatch Apple Watch Sport 38mm White "Brand New" Unopened http://t.co/fEY0KDgRJi #Apple #iWatch 0 Retweets Tue Apr 28 03:42:09 +0000 2015	 takumix takumix30 AppleWatch、充電の持ちは？実際に1日使ってみた感想や充電に関する豆知識まとめ。 - ソフトバンクiPhone最新情報 http://t.co/k8p0Equ3vv 0 Retweets Tue Apr 28 03:42:05 +0000 2015	 LiZa snlz0 http://t.co/CHOhWQ6W08 Apple Watch Problems: Connecting to Wi-Fi, Long Sync Times, Notifications not < 31 http://t.co/fL6R0B8zDw 0 Retweets Tue Apr 28 03:42:03 +0000 2015	 Workshop Bucket_Doll RT @psswstyles: #Apple Apple Watch Space Gray Aluminum Sport Band (MJ3) http://t.co/ouCB 1 Retweets Tue Apr 28 03:41:56 +0000 2015
 ramiro gallegos RamiroAlcaza (EXCLUSIVA) Así sera la App Store del #AppleWatch (Preview de las Apps) https://t.co/4Si6Hrv1ML via @YouTube 0 Retweets Tue Apr 28 03:41:21 +0000 2015	 CKob24 CKob24 It finally arrived! #applewatch #38mm #spacegray https://t.co/NBsf9cfpq 0 Retweets Tue Apr 28 03:41:17 +0000 2015	 かなま Ryieco_open AppleWatch、表参道のAppleStoreで試着。悩んだけどしっくりきたのは38mm。Sportsは夏場に汗でベトベトしそうで汚れそうなのでやめた!! http://t.co/w0Lw50yt1S 0 Retweets Tue Apr 28 03:41:11 +0000 2015	 iPhone 最新 apple_ip_ne Apple WatchとiPhoneに? 2015/04/24 ついに発売になり、で利用を考えた時に、そなわっているのか? http://t.co/4Si6Hrv1ML 0 Retweets Tue Apr 28 03:41:07 +0000 2015
 Mark Sgarlato sgarlato RT @AppleWatchGuru: #AppleWatch Users Report Unintended Purchases http://t.co/f7ST9JnHLC #UX #appdev #Wearables http://t.co/2qHvbexW1C 7 Retweets Tue Apr 28 03:40:38 +0000 2015	 樋口和輝 kazy_14 RT @Toyokezai: 【AppleWatch、使って3日目に分かったこと】要するに「iPhoneとの付き合い方」が変わる: http://t.co/oG34eTXTC3 http://t.co/xNoaODoxnd 21 Retweets Tue Apr 28 03:40:07 +0000 2015	 The Tin Woodman NickChopperDigg RT @moneymakingmode 5 Smartwatches That are Smarter than #AppleWatch: http://t.co/ffRE96deKp via @TheTufiTech 0 Retweets Tue Apr 28 03:40:04 +0000 2015	 TheAppTime TheAppTime RT @moneymakingmode 5 Smartwatches That are Smarter than #AppleWatch: http://t.co/ffRE96deKp via @TheTufiTech 0 Retweets Tue Apr 28 03:40:03 +0000 2015

Figure 31: Wall for Event "Apple Watch" on 27th March

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 George Hieronymouz RT @PhilipsNL: Draagbare technologie ontmoet connected verlichting met Hue-app voor #AppleWatch. http://t.co/p7DtWezggA #meethue http://t.c... 19 Retweets Wed Apr 29 16:45:08 +0000 2015	 Bob Nash bn3163 RT @hubbleberry: Not exactly a big rush for #applewatch this morning at Apple's flagship Regent St store https://t.co/A3kHkYedn4 1 Retweets Wed Apr 29 16:45:02 +0000 2015	 Tzi Tzirintzi RT @CNNMex: ¿El #AppleWatch discrimina a las personas con tatuajes? http://t.co/HiDPXGfwln 5 Retweets Wed Apr 29 16:44:55 +0000 2015	 Tom. tommoyano Do you own an # part of the inner- owners in this pl daily tips! http://t... 0 Retweets Wed Apr 29 16:44:5...
 Robert S rasvec Just bought Panera with my Apple Watch. #Panera #cafe #apple #watch #applegeek #applewatch #applelust https://t.co/Wekbt8d3yp 0 Retweets Wed Apr 29 16:44:34 +0000 2015	 Cristina Chapman Chapperschatter RT @applewatchfree: Retweet and fill this link to become a beta tester and win a free #AppleWatch http://bit.ly/1ELHIY3 > http://t.co/gKqzVk7C4o #AppleLive http://t.co/gKqzVk7C4o 2 Retweets Wed Apr 29 16:44:24 +0000 2015	 Joshua Alvarado alvaradojoshua0 @pandora_radio it is one of my favorite #AppleWatch apps so far! Great job. 0 Retweets Wed Apr 29 16:44:16 +0000 2015	 Fanlala Fanlala Apple Watch Un https://t.co/9p8T... 0 Retweets Wed Apr 29 16:44:1...
 APX Labs APXLabs RT @NextGenAngels: Portfolio News: @NextGenAngels company @APXLabs expands to #AppleWatch #AndroidWear http://t.co/74pjyrrpIB http://t.co/l... 1 Retweets Wed Apr 29 16:44:11 +0000 2015	 Manyssin Thin huuv RT @NicolasMauvois: e1ère #AppleWatch reçue au HQ à #Tours avec l'app Omnistat de @mattlawer ! https://t.co/fKYvGJGKTK http://t.co/WiHiyq9... 32 Retweets Wed Apr 29 16:44:09 +0000 2015	 Finance Weekly FinanceWeekly1 RT @TraderBrain: Get http://t.co/6MCM9MhMk6 1st 3 hr webinar fr \$1 #finance #stockmarket #MarketCorrection #AppleWatch \$twt \$startup \$aapl... 1 Retweets Wed Apr 29 16:44:08 +0000 2015	 Wathiomoo zoomyzag RT @MarcCiesla: the time is, what the #AppleWatch finds out in this v http://t.co/... 20 Retweets Wed Apr 29 16:44:0...
 Laura Coninham LConinham RT @SDPTech: VIDEO: ¿El #AppleWatch es "alérgico" a tatuajes? http://t.co/JwqiGNQWfr http://t.co/j35npQEh1P 1 Retweets Wed Apr 29 16:44:02 +0000 2015	 Alex Brovkin brovalex Think again about your newsletter's text version #AppleWatch @MailChimp creates one, but you may want to tweak it https://t.co/a8J2mJlglm 0 Retweets Wed Apr 29 16:43:56 +0000 2015	 Steve Mahoney ▾ _steve2_ Perhaps. That Tattoo wasn't Such a Good Idea.... #AppleWatch Fail 0 Retweets Wed Apr 29 16:43:52 +0000 2015	 金井徹 wpxj4xd4 http://t.co/vePgR... が女性にひったり

Figure 32: Wall for Event "Apple Watch" on 28th March

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 OrlandoBizJournal OBJUpdate Have tattoos? This could be bad news for Mac-heads who want an #AppleWatch http://t.co/iqwiPTvpI0 http://t.co/ZmjdPHVXgh 0 Retweets Thu Apr 30 13:02:03 +0000 2015	 RIKKY pad__ricky RT @sonicdrum: 【悲報】『AppleWatch』の主要部品に不具合が発覚! 供給を制限へ http://t.co/5npJ4KhLw0 3 Retweets Thu Apr 30 13:01:59 +0000 2015	 Nasri Zuhair NasriZuhair Problems with #WearableTech http://t.co/ss2TCtSu0w #AppleWatch 0 Retweets Thu Apr 30 13:01:58 +0000 2015	 Nikki's Mart Andy_FromM RT @KidCudi: Sending some art using the Apple V http://t.co/... @darkskinden #A http://t.co/... 373 Retweets Thu Apr 30 13:01:51
 igadgetnews21 igadgetnews21 RT @AppStore: .@YahooNewsDigest continues to amaze us – this time with one article a day on #AppleWatch. http://t.co/ip0Yn0cAwf http://t.co/... 24 Retweets Thu Apr 30 13:01:45 +0000 2015	 Torsten Schollmayer sh0ly RT @HRS: Alle Details zur HRS #App auf der #Apple Watch jetzt im #Blog: http://t.co/q0lh0vkg9J #applewatch #iOS http://t.co/aFUo567kL1 1 Retweets Thu Apr 30 13:01:40 +0000 2015	 Social Secrets SocialSecrets1 Probleme bei der Produktion der Taptic Engine sollen für lange Lieferzeiten bei der #AppleWatch sorgen: http://t.co/dJqEmFc8A0 0 Retweets Thu Apr 30 13:01:38 +0000 2015	 Bilal Reffas Reffas_Bilal Love that ☐ #App #swiftlang #osde http://t.co/Nve8fV 0 Retweets Thu Apr 30 13:01:37
 Shane de Mamiel full4ward Anyone in Australia get their #spacegrey #sport #AppleWatch today? What time did you #preorder? 0 Retweets Thu Apr 30 13:01:28 +0000 2015	 ひろむ mwwx 付けたらAppleWatchでビックリ! #プロネク 0 Retweets Thu Apr 30 13:01:21 +0000 2015	 Propd69 propd69 #AppleWatch, I want to win! 0 Retweets Thu Apr 30 13:01:21 +0000 2015	 Andreas W AWrede RT @sexylegoma http://t.co/pGg38f 26 Retweets Thu Apr 30 13:01:17
 sunlight188 RT @AppStore: .@YahooNewsDigest continues to amaze us – this time with one article a day on #AppleWatch. http://t.co/ip0Yn0cAwf http://t.co/... 24 Retweets Thu Apr 30 13:01:16 +0000 2015	 Appergise Appergise RT @AppStore: .@YahooNewsDigest continues to amaze us – this time with one article a day on #AppleWatch. http://t.co/ip0Yn0cAwf http://t.co/... 24 Retweets Thu Apr 30 13:01:12 +0000 2015	 Härimiyä harimiya 今日の含み益分でapplewatch買おうと思ったけど不具合とやらどうなんかなあ 0 Retweets Thu Apr 30 13:01:11 +0000 2015	 فاتن fatenss RT @3ajmee: http://t.co/... #AppleWatch http://t.co/... 35 Retweets Thu Apr 30 13:01:09

Figure 33: Wall for Event "Apple Watch" on 30th March