Hacking public-facing visualizations at Twitter

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Data Visualizations

Global Sales Conference Visuals

Promoted Tweet Reach: Higher Impressions across all regions
Promoted impressions: 8,689,780 (+123.36%)
Organic Impressions: 378,564

Region by region:
- US: 360,714 (~50,913 (~76.40%)
- Europe: 48,517 (~85,327 (~91.91%)
- East Asia: 11,856 (~8,399 (~98.19%)
- Latin America: 26,354 (~42,569 (~99.90%)

World Cup beyond the home team

Cannes Lions Visuals

The World Cup of Tweets

2014 Winter Olympics

State of the Union Address 2014

Philippines

Doctor Who: the biggest moments on Twitter

Since the first day of "Doctor Who" on Twitter, fans have created millions of Tweets about Doctor Who, and in 2012, 0.12% of all tweets in the world were related to Doctor Who. This visualization shows trending and non-trending matches. Hear the story of time and space as it unfolds on Twitter!

Intertwines
Hacking public-facing visualizations
Hacking public-facing visualizations at Twitter
Platform

Global / Real-Time / Conversational
Global
Iran day by day

Day by day hashtags coming from Iran. Each column represents a day. The width of each day is sized by the number of Tweets coming from that country.

06/16
GHA vs USA
GER vs POR
IRN vs NGA

06/22
USA vs POR
BEL vs RUS
KOR vs ALG

06/26
USA vs GER
POR vs GHA
ALG vs RUS
KOR vs BEL

07/01
BEL vs USA
ARG vs SUI
Country by Country

Most mentioned teams by Brazil

<table>
<thead>
<tr>
<th>Country</th>
<th>Mentioned by Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td>GER</td>
<td>8.1%</td>
</tr>
<tr>
<td>ARG</td>
<td>6.9%</td>
</tr>
<tr>
<td>NED</td>
<td>6.3%</td>
</tr>
<tr>
<td>COL</td>
<td>5.8%</td>
</tr>
</tbody>
</table>

Countries mentioning Brazil the most

<table>
<thead>
<tr>
<th>Country</th>
<th>Mentioning Brazil</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHI</td>
<td>4.6%</td>
</tr>
<tr>
<td>MEX</td>
<td>4.1%</td>
</tr>
<tr>
<td>JPN</td>
<td>4%</td>
</tr>
<tr>
<td>ECU</td>
<td>4%</td>
</tr>
</tbody>
</table>
Real-Time
Tonight, this chamber speaks with one voice to the people we represent: it is you, our citizens, who make the state of our union strong.

Here are the results of your efforts: The lowest unemployment rate in over five years. A rebounding housing market. A manufacturing sector that’s adding jobs for the first time since the 1990s. More oil produced at home than we buy from the rest of the world – the first time that’s happened in nearly twenty years. Our deficits – cut by more than half. And for the first time in over a decade, business leaders around the world have declared that China is no longer the world’s number one place to invest; America is.

That’s why I believe this can be a breakthrough year for America. After five years of grit and determined effort, the United States is better-positioned for the 21st century than any other nation on Earth.

The question for everyone in this chamber, running through every decision we make this year, is whether we are going to help or hinder this progress. For several years now, this town has been consumed by a rancorous argument over the proper size of the federal government. It’s an important debate – one that dates back to our very founding. But when that debate prevents us from carrying out even the most basic functions of our democracy – when our differences shut down government or threaten the full faith and credit of the United States – then we are not doing right by the American people.
Data Collection & Analysis

- Transcript of the address annotated paragraph by paragraph
- Tweets with #SOTU sent during the address
- Perform matching with paragraphs
- Generate topic analysis in Tweet text
- Provide geographical breakdown
Visual Display

#SOTU State by State, Minute by Minute on Twitter

State by state. Minute by minute. How big has the conversation been around some of the past year’s water cooler moments on Twitter? How did the U.S. Presidential election debates of 2012 compare to this year’s Super Bowl? This interactive visualization shows a selection of Tweets per minute (TPM) peaks for major events. Roll over an event to see the Tweets themselves.

“After a decade of grinding war, our brave men and women in uniform are coming home.”

Most used terms on Twitter

- obama
- president
- state
- union
- watching
- watch
THE PRESIDENT: Mr. Speaker, Mr. Vice President, members of Congress, fellow citizens:

Fifty-one years ago, John F. Kennedy declared to this chamber that “the Constitution makes us not rivals for power but partners for progress.” (Applause.) “It is my task,” he said, “to report the State of the Union -- to improve it is the task of us all.”

Tonight, thanks to the grit and determination of the American people, there is much progress to report. After a decade of grinding war, our brave men and women in uniform are coming home. (Applause.) After years of grueling recession, our businesses have created over six million new jobs. We buy more American cars than we have in five years, and less foreign oil than we have in 20. (Applause.) Our housing market is healing, our stock market is rebounding, and consumers, patients, and America’s small businesses are on the rise. (Applause.) Tonight, we come together as Americans to tackle the big and small challenges of a new year.
Fifty-one years ago, John F. Kennedy declared to this chamber that “the Constitution makes us not rivals for power but partners for progress.” (Applause.) “It is my task,” he said, “to report the State of the Union -- to improve it is the task of us all.”

Tonight, thanks to the grit and determination of the American people, there is much progress to report. After a decade of grinding war, our brave men and women in uniform are coming home. (Applause.) After
Mr. Speaker, Mr. Vice President, Members of Congress, my fellow Americans:

Today in America, a teacher spent extra time with a student who needed it, and did her part to lift America’s graduation rate to its highest level in more than three decades.
Extracting and Visualizing Insights from Real-Time Conversations Around Public Presentations

Nicolas Garcia Belmonte

Fig. 1: A streamgraph showing topic volume for Tweets sent during the State of the Union Address in 2014.

Abstract—During public addresses and debates (like the State of the Union Address) people engage in social networks generating thousands of messages. After the event happened, however, it is difficult to gather past conversations from those platforms and link them to the speech to relive the moment. To address this we developed a visualization technique that leverages the real-time conversational aspect of the Twitter platform to enrich the text of a public presentation with the discussion on Twitter during that speech; creating an annotated visual narrative of an event that can be replayed as the user scans the text of the speech.

Index Terms—Text mining, real-time, streamgraph, Twitter, Tweet.

1 INTRODUCTION

During public addresses and debates (like the State of the Union Address) people engage in social networks generating thousands of messages. Whether it is politics, healthcare, jobs, entertainment, or education, people comment on these topics during public presentations. Twitter tracks these conversations on real-time, as the event unfolds.

After the event happened, it is especially hard to link comments made on social networks to the public presentation itself. Many news publications link some reactions on Twitter to special moments of an address, but this content is already digested and curated by someone. For these type of events curation is especially delicate since the main goal in general is to reflect as objectively as possible the public opinion.

filter Tweets by some hashtag (i.e keyword starting with "#") if there’s a hashtag related to the event. In this example we worked with the 2014 State of the Union Address, and we filtered Tweets by the hashtag “#SOTU”. We found thousands of Tweets linked to each paragraph. To provide a summary of all these Tweets we did a post-processing pass on the dataset to mine for topics discussed on Twitter during the address. With a set of keywords belonging to each topic we tagged each Tweet that contained one or more of those keywords with the right topic. Our final dataset consisted of Tweets tagged with topics, geo-location information and a link to the paragraph that corresponded (in time) with that Tweet.
Conversational
News

TYPHOON HAIYAN

CONVERSATIONAL
Data Collection & Analysis

- Fetch geolocated Tweets
- Filter text containing “Philippines” and “Help”
- Translate keywords in multiple languages (22)
- Apply clustering (MINGLE)
- Sort Tweets by relevance
Visual Display
Visual Display
Visual Display
Implementation
Interactive Generator for Yeoman

Scaffold
Generate static-site structure

Build
Building Tasks for JS/CSS/HTML
Data Transform Phase

Manage
Install libs. Depending on choices made:
HTML, SVG, 2DCanvas, WebGL
Choosing the right Standard

<table>
<thead>
<tr>
<th>Visual Component</th>
<th># of Elements</th>
<th>Shape Complexity</th>
<th>Interactive</th>
<th>Standard Chosen</th>
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<td>Tweet Histogram</td>
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<tr>
<td>Choropleth Map</td>
<td>Small (~50)</td>
<td>Complex: (Concave, Convex, Connected, Disconnected)</td>
<td>Yes</td>
<td>SVG</td>
</tr>
</tbody>
</table>
When to Choose WebGL?
Key takeaways
Audience

• Verticals to focus on (News, Gov, Sports, TV, Music)
• Data to focus on (Interest topics from the community)
• Type of the visualization (Exploratory / Expository)
• Tone of the visualization (Insightful, Playful, Storytelling)
• Implementation (Mobile friendly, SVG, Canvas, WebGL, etc.)