IX JORNADAS (R)





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#DataScience4SocialGood



Análisis de Opiniones en Monumentos Culturales IX JORNADAS ®

De la Torre achaca el retraso del Museo de Málaga a la crisis económica y destaca su apuesta cultural

> La crisis económica obliga a cerrar el museo Chillida-Leku

Crisis económica afecta a museos

La Junta reduce a 400.000 euros la partida del patrimonio histórico

- □ Las inversiones en bienes culturales y monumentos cae en picado desde 2012 en Sevilla
- □ El PP critica los «recortes» y que 168 millones no se hayan ejecutado

El PSOE denuncia un recorte de 44% en patrimonio cultural con 137 bienes en peligro

Los recortes económicos ponen en peligro a los monumentos romanos







La crisis económica ralentiza la aplicación de nuevas tecnologías en el ámbito de los museos

Javier Belloso, gerente de la empresa Miramultimedia, defiende que el uso de las TIC fideliza a los visitantes y atrae a los más jóvenes hacia las colecciones museográficas

Crisis y museos. Una oportunidad para hacer las cosas mejor

Escrito en diciembre de 2014 por Fco Javier Zubiaur Carreño

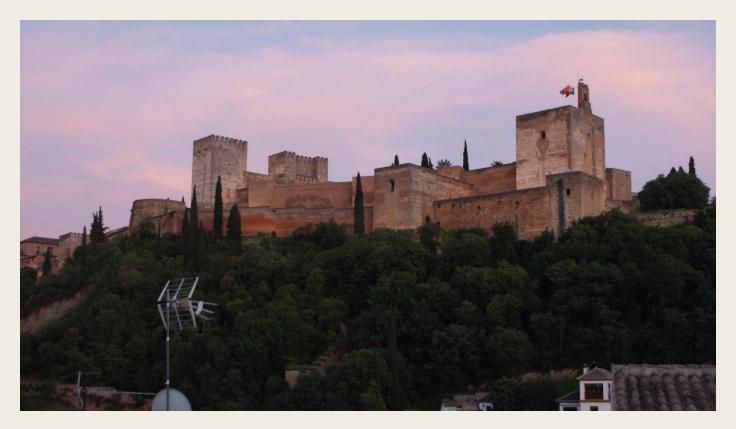
Museos de EEUU se reinventan para afrontar crisis económica

Llamando a las puertas del saber: los museos se resisten a sucumbir a la crisis económica





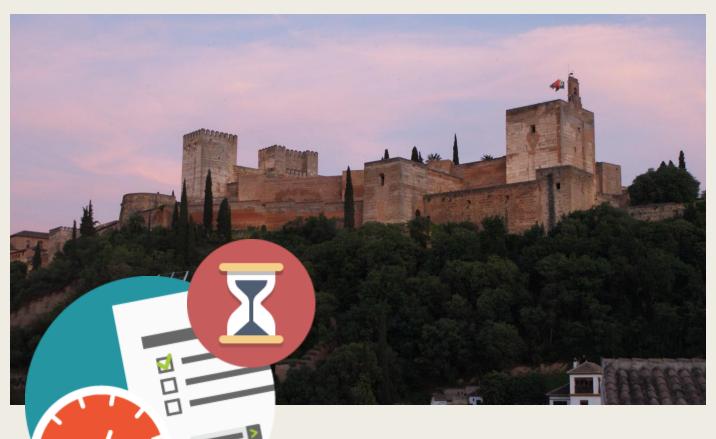




















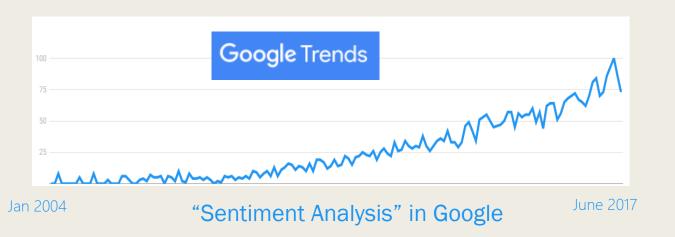


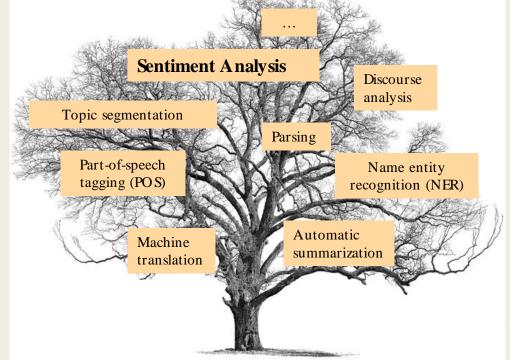


Sentiment Analysis

It is the field of knowledge that analyses people's opinions, reviews or thoughts about products, companies or experiences identifying its

sentiment.





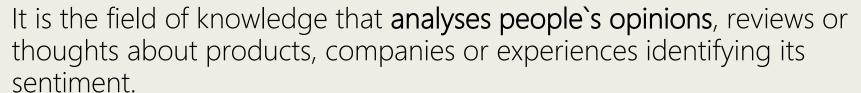


NLP

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Sentiment Analysis





SA has experienced an important growth due to the development of Web 2.0.

SA can be divided in different tasks:

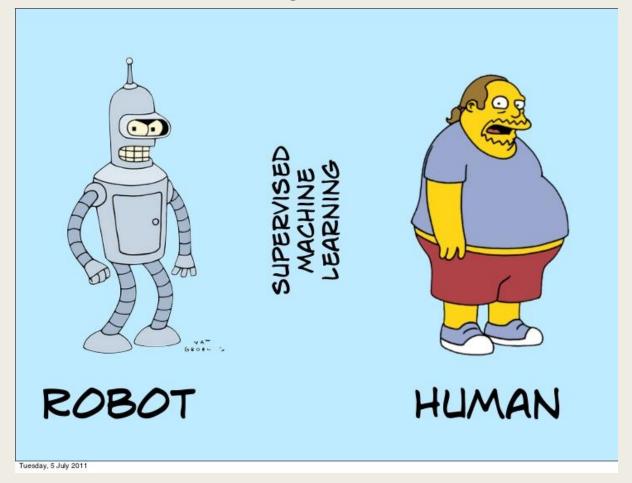
- Sentiment Classification
- 2. Subjectivity Classification
- Opinion Summarization
- 4. Sarcasm and Irony







Sentiment Analysis Methods (SAMs)







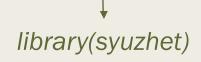


Sentiment Analysis Methods (SAMs)

1. Bag of Words



Bing, Afinn, Syuzhet









Sentiment Analysis Methods (SAMs)

1. Bag of Words



Bing, Afinn, Syuzhet

2. Machine Learning



Microsoft Azure







Sentiment Analysis Methods (SAMs)

1. Bag of Words



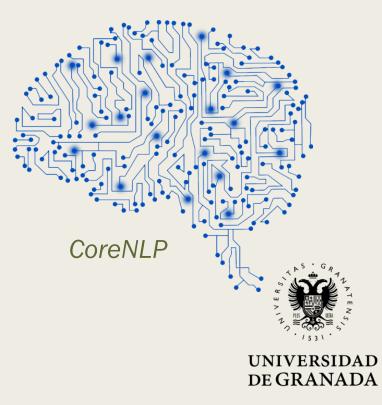
Bing, Afinn, Syuzhet

2. Machine Learning



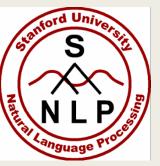
Microsoft Azure

3. Deep Learning

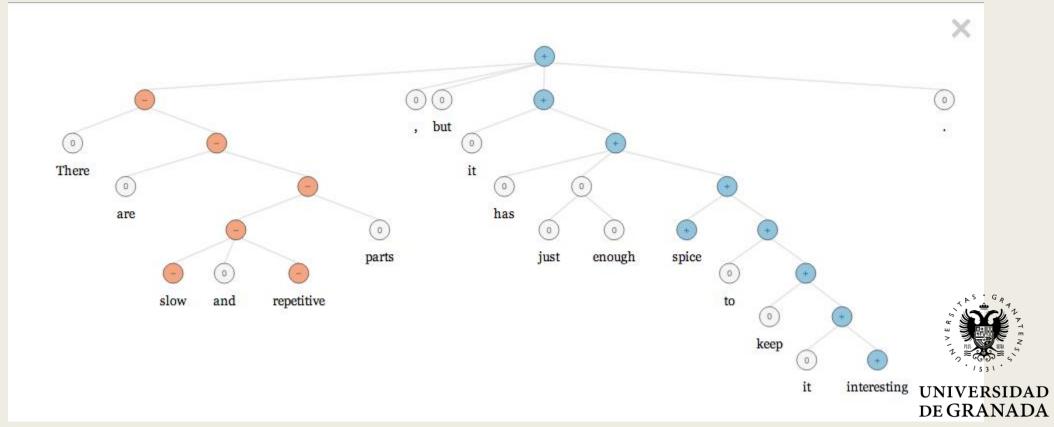








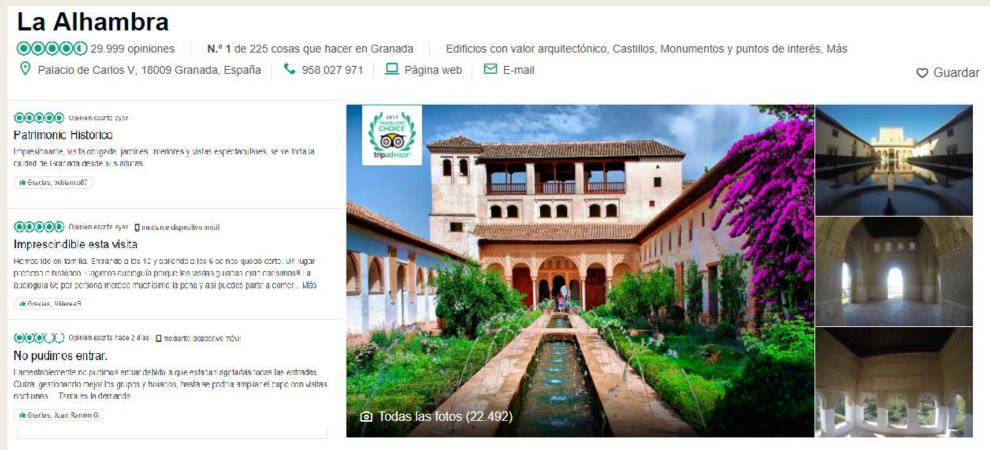
CoreNLP



















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the Gracias. Nilenses		
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IX JORNADAS (R)







	id	username	location	userop	quote	rating	date	reviewnospa	page	titleopinion	Wo
1	rn387890739	Happytrippe	Norwich, Un	97 reviews	Stunning!	5	30/06/2016	What a place	114	Stunning!. W	
2	rn387832986	Richard W	Edinburgh, U	346 reviews	Must see att	5	30/06/2016	The Alhambi	114	Must see att	
3	rn387823043	blubin	Olney, Mary	14 reviews	Cool place	5	30/06/2016	Cool. There i	114	Cool place. C	
4	rn387803515	Lindonian	Bodiam	24 reviews	Very Mooris	4	30/06/2016	Judging by th	114	Very Mooris	
5	rn387747006	Clive D	London, Unit	14 reviews	Visit to Alha	5	30/06/2016	What a great	114	Visit to Alhai	
6	rn387682484	bombero15	san francisco	51 reviews	Night tour a	4	30/06/2016	We've been	114	Night tour a	
7	rn387682005	troppodon	Bathurst,,Au	138 reviews	The top won	5	30/06/2016	Seeing a guit	114	The top won	1
8	rn387680220	Deez76	Gurgaon, Inc	10 reviews	Massive!	5	30/06/2016	This place is	114	Massive !. Th	
9	rn387603095	Candelaria B		45 reviews	The Alhambi	5	29/06/2016	As I was visit	114	The Alhambi	1
0	rn387553508	SandyKingst	Kingston Ne	134 reviews	Beautiful vas	4	29/06/2016	Plan to order	115	Beautiful vas	9
1	rn387542093	GiselaPatern	London, Unit	7 reviews	Amazing!	5	29/06/2016	Tip: always b	115	Amazing!. Ti	
2	rn387532508	magdalucia1	Austin, Texa	34 reviews	The most Im	5	29/06/2016	The Alhambi	115	The most Im	
3	rn387494625	UofAWildcat	California	9 reviews	An icon	5	29/06/2016	This iconic de	115	An icon. This	i
4	rn387424038	ValvaMG	Peru	116 reviews	Amazing	5	29/06/2016	Program you	115	Amazing. Pro	(
5	rn387405872	JandP Cotsv	Stroud, Unite	266 reviews	Visit if you're	4	29/06/2016	We thought	115	Visit if you're	4

9,188 reviews (2003-2016)



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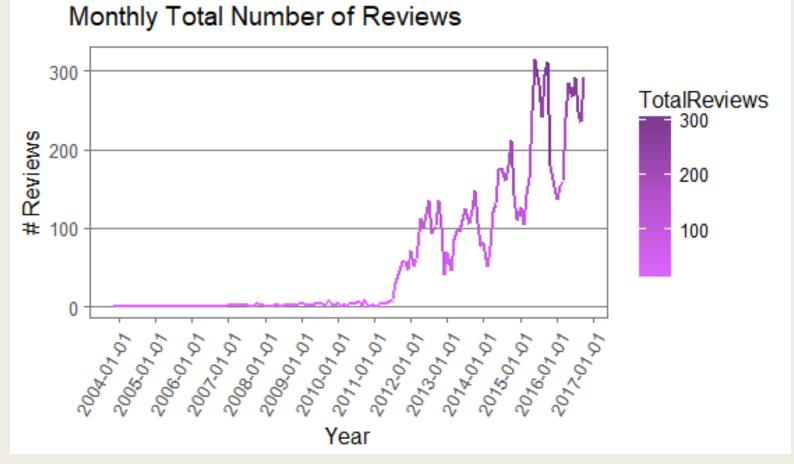
Brief #dataviz Alhambra's dataset









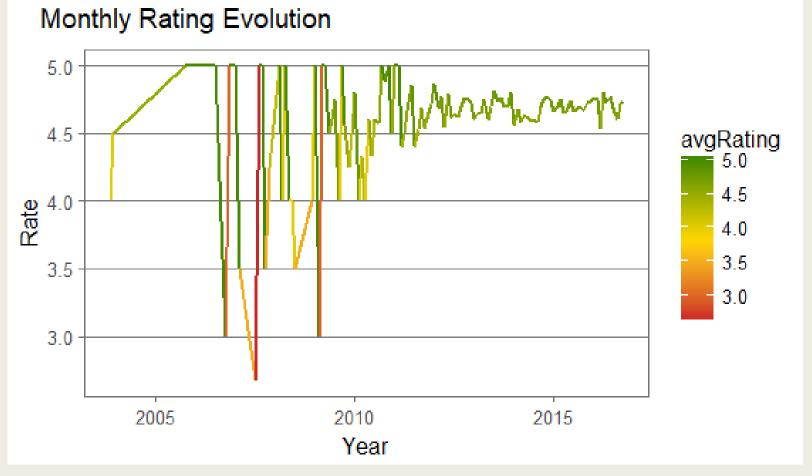










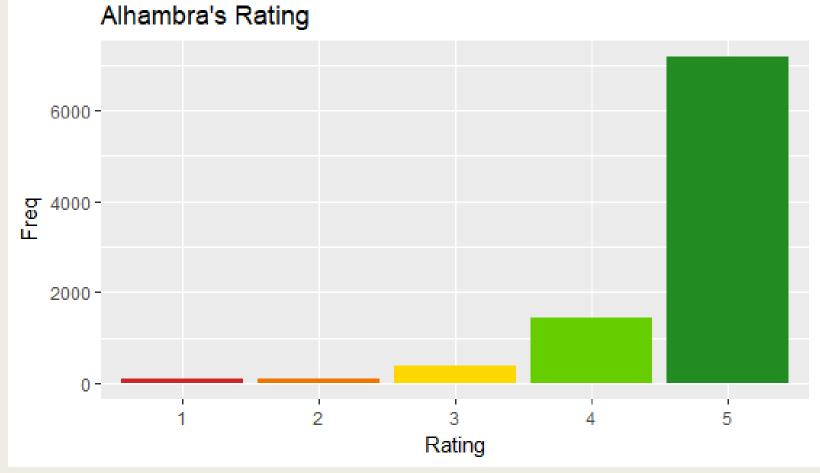










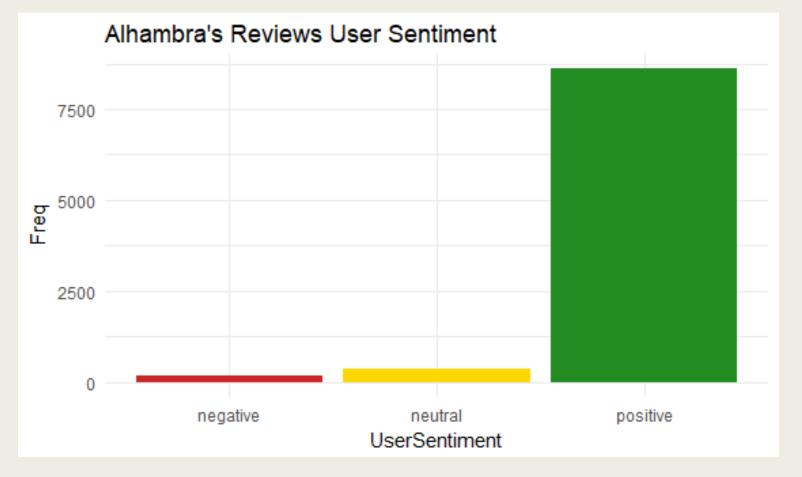














Análisis de Opiniones en Monumentos Culturales IX JORNADAS (R)

Some nice wordclouds:)





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Some nice wordclouds:)





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Some nice wordclouds:)





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CoreNLP in





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To download the R library and corresponding CoreNLP java library, run the following in R:

```
devtools
```

```
devtools::install_github("statsmaths/coreNLP")
coreNLP::downloadCoreNLP()
```

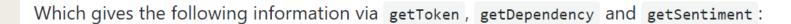
Then, in order to run the package, the following code initializes rJava correctly (if run from the same directory as the above):

```
library(coreNLP)
initCoreNLP()
```

As a simple example of usage, this how to annotate the opening lines to "The Cat in the Hat":



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```
> getToken(output)[,c(1:3,6:7)]
   sentence word lemma POS
                                  NER
              the
                                    0
              sun
                    sun
              did
                     do VBD
                                    0
                    not
          1 shine shine VB
               it
                     it PRP
                                    0
                     be VBD
                                    0
                                    0
10
                                    0
11
                                    0
12
             play
13
14
                     so IN
                     we PRP
15
16
                    sit VBD
17
                     in IN
18
19
          3 house house
20
                    all DT
                                    0
```

getToken()



Example:



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<pre>> getDependency(output)</pre>								
sentenc	e governor	dependent	type	$\verb"governorIdx"$	dependentIdx			
1	1 ROOT	shine	root	0	5			
2	1 sun	the	det	2	1			
3	1 shine	sun	nsubj	5	2			
4	1 shine	did	aux	5	3			
5	1 shine	not	neg	5	4			
6	2 ROOT	wet	root	0	4			
7	2 wet	it	nsubj	4	1			
8	2 wet	was	сор	4	2			
9	2 wet	too	advmod	4	3			
10	2 play	to	aux	6	5			
11	2 wet	play	xcomp	4	6			
12	3 ROOT	sat	root	0	3			
13	3 sat	so	dep	3	1			
14	3 sat	we	nsubj	3	2			
15	3 sat	in	prep	3	4			
16	3 house	the	det	6	5			
17	3 in	house	pobj	4	6			
18	3 sat	all	tmod	3	7			
19	3 day	that	det	14	8			
20	3 day	cold	amod	14	9			
21	3 day	cold	amod	14	11			
22	3 day	wet	amod	14	13			
23	3 all	day	dep	7	14			



getDependency()



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> getSentiment(output) id sentimentValue sentiment Negative 1 Negative Negative







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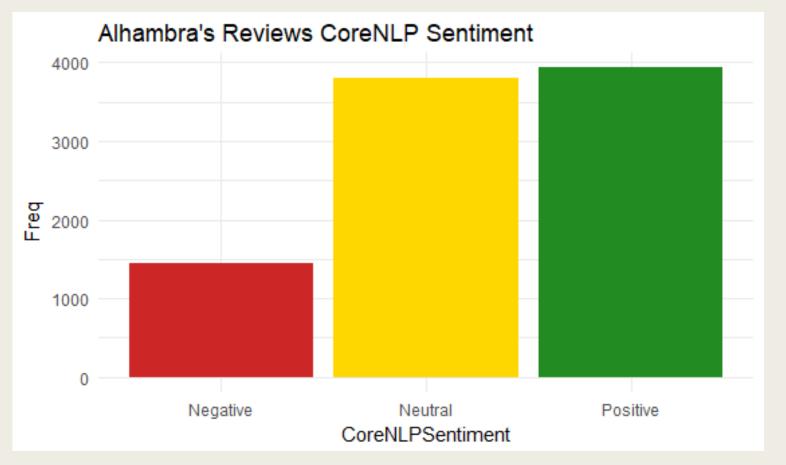
Brief #dataviz Alhambra's dataset with CoreNLP







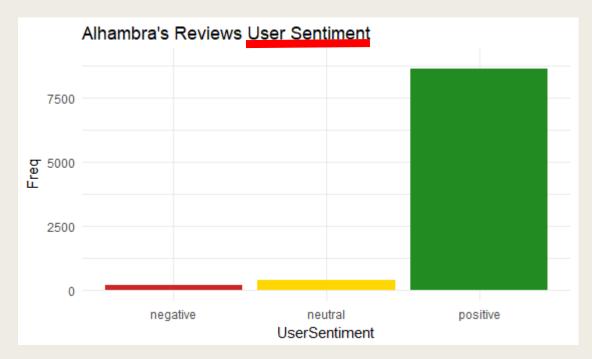


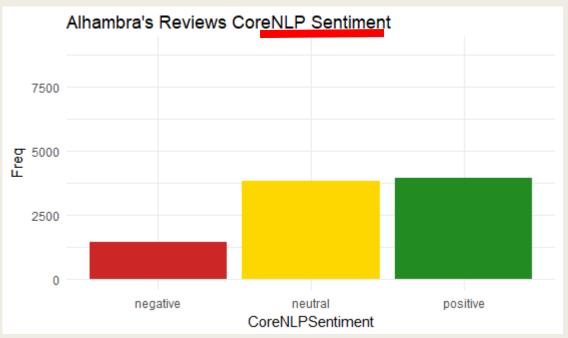






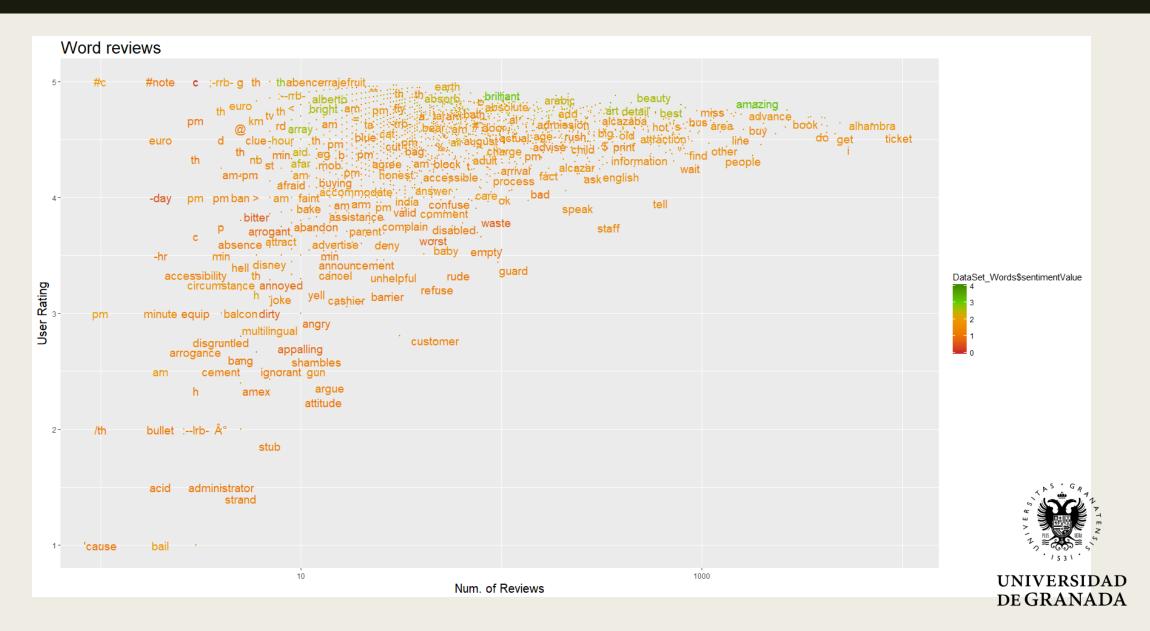


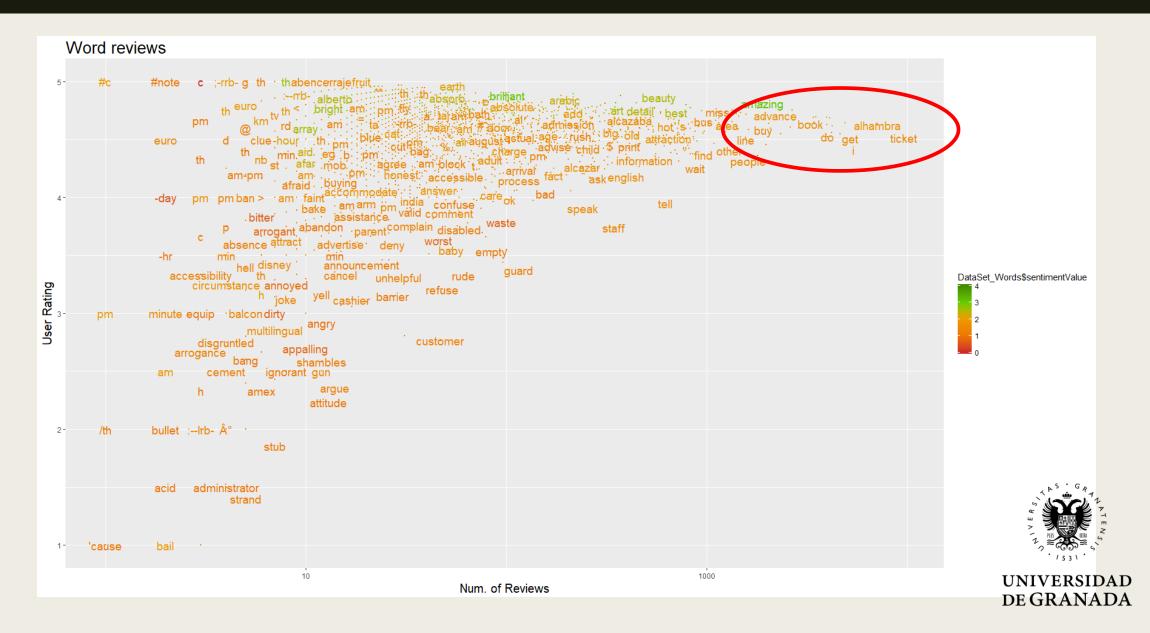


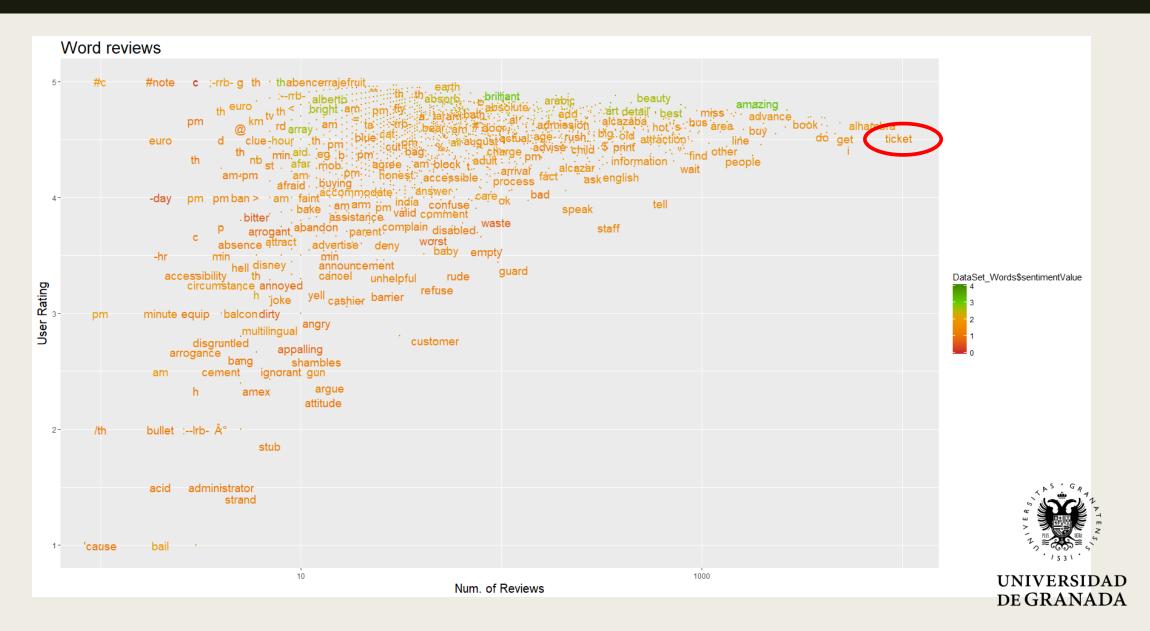


Oooppps.....











Análisis de Opiniones en Monumentos Culturales IX JORNADAS (R)

Conclusions

- 1. Sentiment Analysis can be a good tool to help digitize cultural monuments.
- 2. We can replace the survey methodology with Sentiment Analysis.
- 3. We may **lose information** using the User Rating of TripAdvisor.









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#9JRes

