

*Big Data Project : Spring 2014*

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# Assisted Music Promotion Tool

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BENABDELJALIL Amine  
BENBIHI Hind  
CASTELLANI Mikaël  
GIROUX Arthur  
MATTER Valentin  
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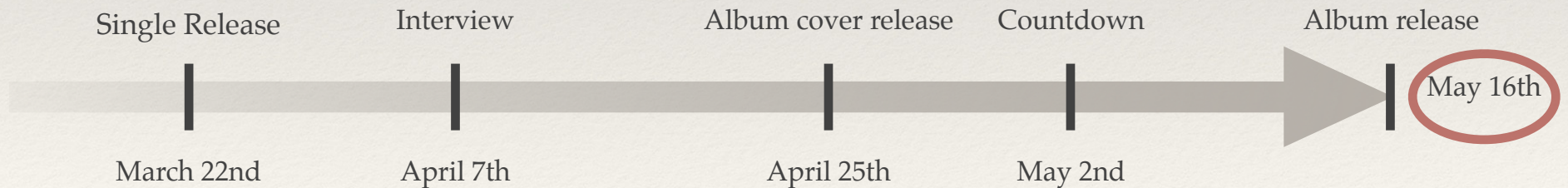
facebook

# Motivation

twitter



- ❖ Alex is a self-produced musician,
- ❖ He wants to **release an album**,
- ❖ How to promote it successfully on social media ?





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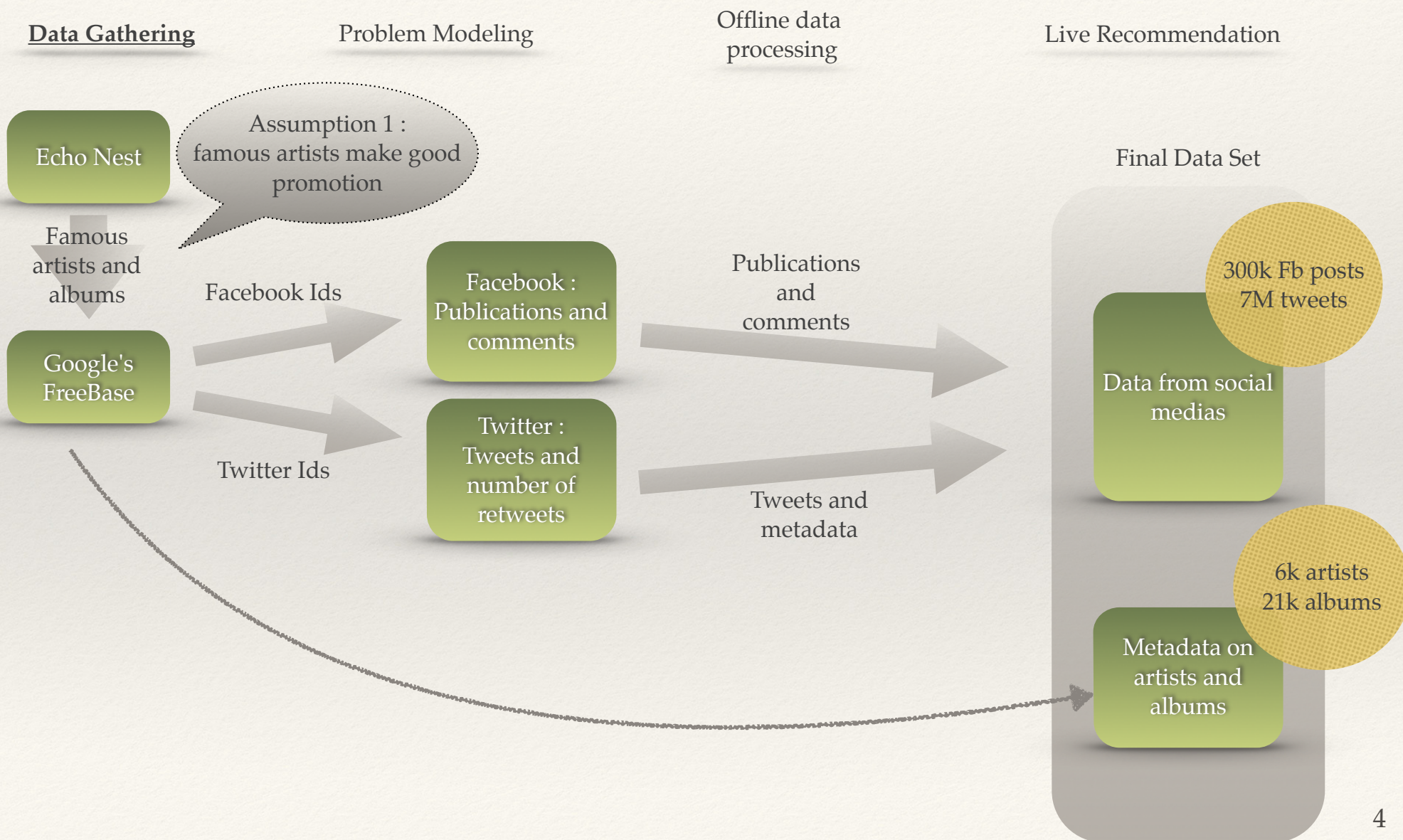
# Project Milestones

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# Data Gathering



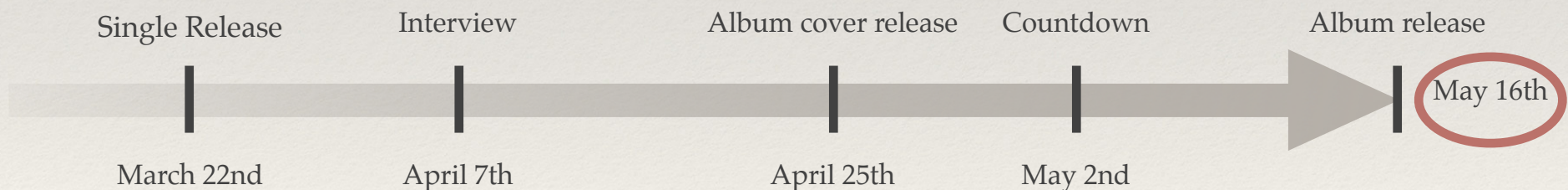


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# Problem Modeling

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- ❖ Now, the data is ready...
- ❖ How to produce our output ?



# Pre-processed Recommendation Matrix

Data Gathering

**Problem Modeling**

Offline data  
processing

Live Recommendation

	User features to compute similarity			Items : event		
	Region	Genre	Cluster based on # of albums, FB likes and Twitter followers	Cover release	Interview	...
Album 1	EU	Pop	3 albums 123432 FB likes 214894 Twitter followers <u>Cluster 2</u>	?	?	
Album2	NA	Rock	7 albums 532784 FB likes 42398 Twitter followers <u>Cluster 3</u>	?	?	
...						
Album n	NA	Classical	2 albums 85934 FB likes 21893 Twitter followers <u>Cluster 5</u>	?	?	



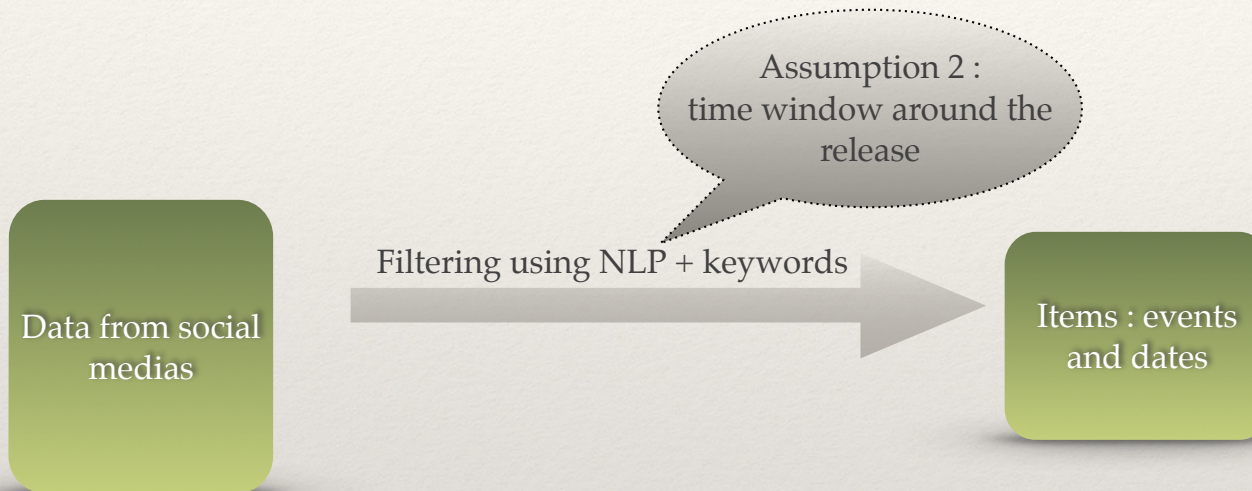
# Offline processing

Data Gathering

Problem Modeling

Offline data processing

Live Recommendation



**Maroon 5** @M5NewsRoom · 11h

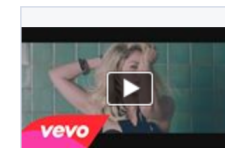
.@Maroon5 to Release New Album 'V' in September, Signs Deal With @LiveNation! More here: [goo.gl/Cw6Uqi](http://goo.gl/Cw6Uqi)  
[pic.twitter.com/vwZRG6OTEu](http://pic.twitter.com/vwZRG6OTEu)

↩ Reply ↻ Retweet ★ Favorite



**Shakira** a partagé un lien.  
7 mai

Did you watch the new video for Dare (La La La) yet? Here's what Shak has to say about it: "When we shot this video I was actually a month and a half pregnant with my son Milan so it was a really happy moment in my life – it sort of matches the mood of the song and it was a very celebratory time" ShakHQ



**Shakira - Dare (La La La)**

Download Shakira's self-titled album on iTunes:...

# Pre-processed Recommendation Matrix

Data Gathering

Problem Modeling

Offline data  
processing

Live Recommendation

	User features to compute similarity			Items : event		
	Region	Genre	Cluster based on # of albums, FB likes and Twitter followers	Cover release	Interview	...
Album 1	EU	Pop	3 albums 123432 FB likes 214894 Twitter followers <u>Cluster 2</u>	65	54	NLP + keywords processing
Album2	NA	Rock	7 albums 532784 FB likes 42398 Twitter followers <u>Cluster 3</u>	30	-	
...						
Album n	NA	Classical	2 albums 85934 FB likes 21893 Twitter followers <u>Cluster 5</u>	32	45	



# Similarity Computation

Data Gathering

Problem Modeling

Offline data  
processing

Live Recommendation

## ❖ 5 User attributes :

- Region (EU, NA, SA, ...)  $\rightarrow$  sim : {0,1}
- Genres  $\rightarrow$  sim : {0,1}
- K-means clustering based on 3 attributes  $\rightarrow$  sim : {0,1}
  - Number of albums already released
  - FB likes score
  - Twitter followers score

## ❖ $\text{Sim}(A, B) = \text{SUM}(\text{weight} * \text{Simregion}(A, B) + \dots)$ with $\text{SUM}(\text{weights}) = 1$



# Refinement

Data Gathering

Problem Modeling

Offline data processing

Live Recommendation

Data from social medias :  
Fb comments on events

Sentiment analysis to assign weights to publications

Map-Reduce implementation

Recommendation matrix

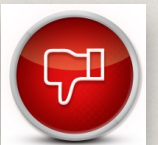


 **Catherine Nugent** Not surprised best album ive heard in yrs They deserve it Well done  
about an hour ago · Like · 🍷 2

 **Izza Shahid** Ghost Stories ❤️  
Amazing album!!!  
about an hour ago · Like · 🍷 1



 **Axel Serbanescu** I am disappointed by the new album. In the past you had better albums...





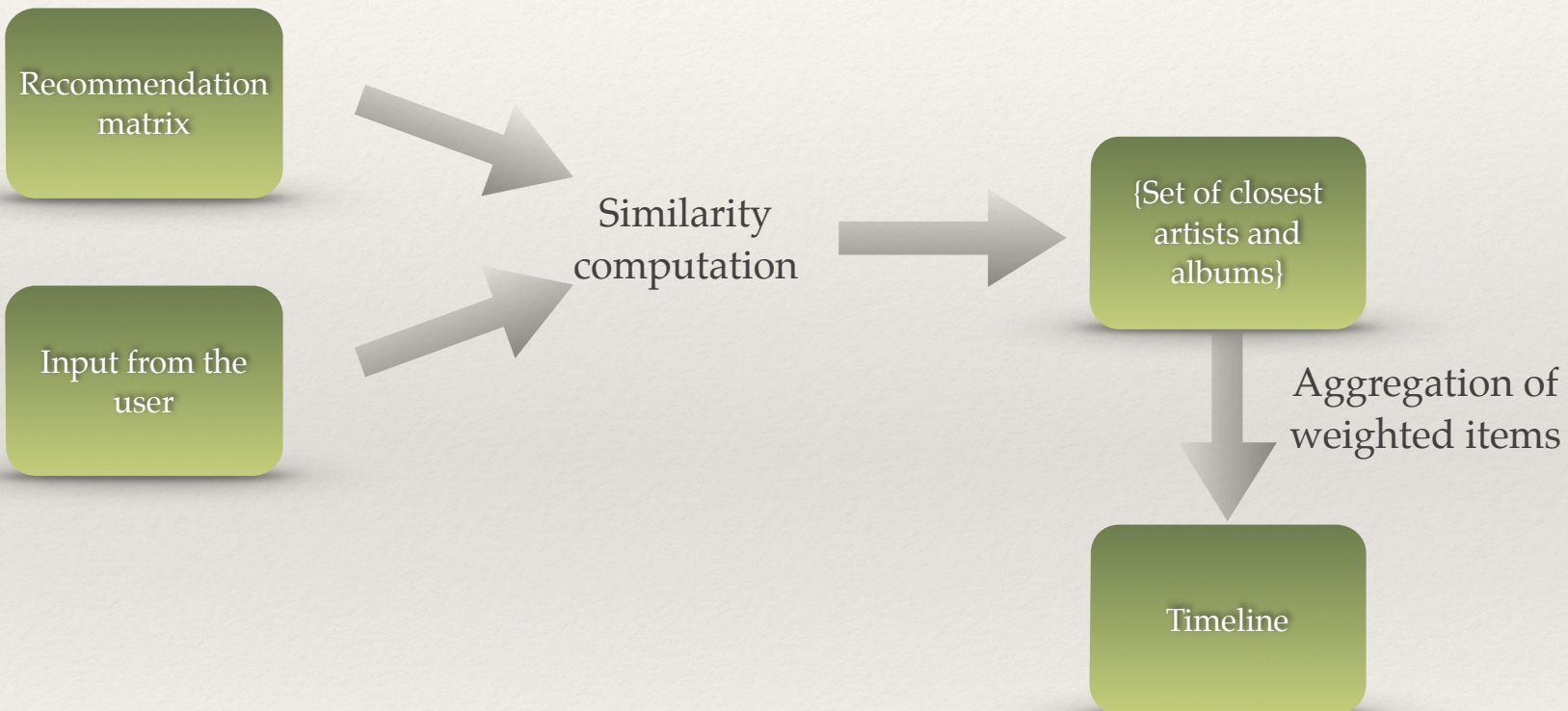
# Live Recommendation

Data Gathering

Problem Modeling

Offline data  
processing

Live Recommendation





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# Next Steps

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- ❖ Extend the artists set by enlarging the search criteria (update continuously)
- ❖ Try to use social media as the basis to construct the artists set
- ❖ Have a dynamic list of events using online analysis