EMPORIO SIRENUSE

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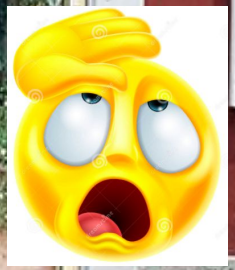
Who are they?

- Our client is the Italian fashion and hotel brand 'Le Sirenuse'.
- They sell high range designer resort wear from their marquee store in Positano, Italy named 'Emporio Sirenuse'
- Products include Caftans, Dresses, Swimsuits etc.



Goal

- To increase the outreach and boost the revenue of the fashion brand by understanding the current customer and social media profile.

Current Situation :

- The brand has low social media activity with just :
  - 3K Instagram followers, 400 posts
  - 441 Twitter followers
  - 2.7K Facebook page likes
  - and exactly 1 Google review.
- Sales have saturated around 100K Euros.
- They share their heritage with the hotel but want to establish themselves as an independent entity.

What do we have?

Instagram data from Emporio Sirenuse and 9 competitors

Emporio Sirenuse Twitter data

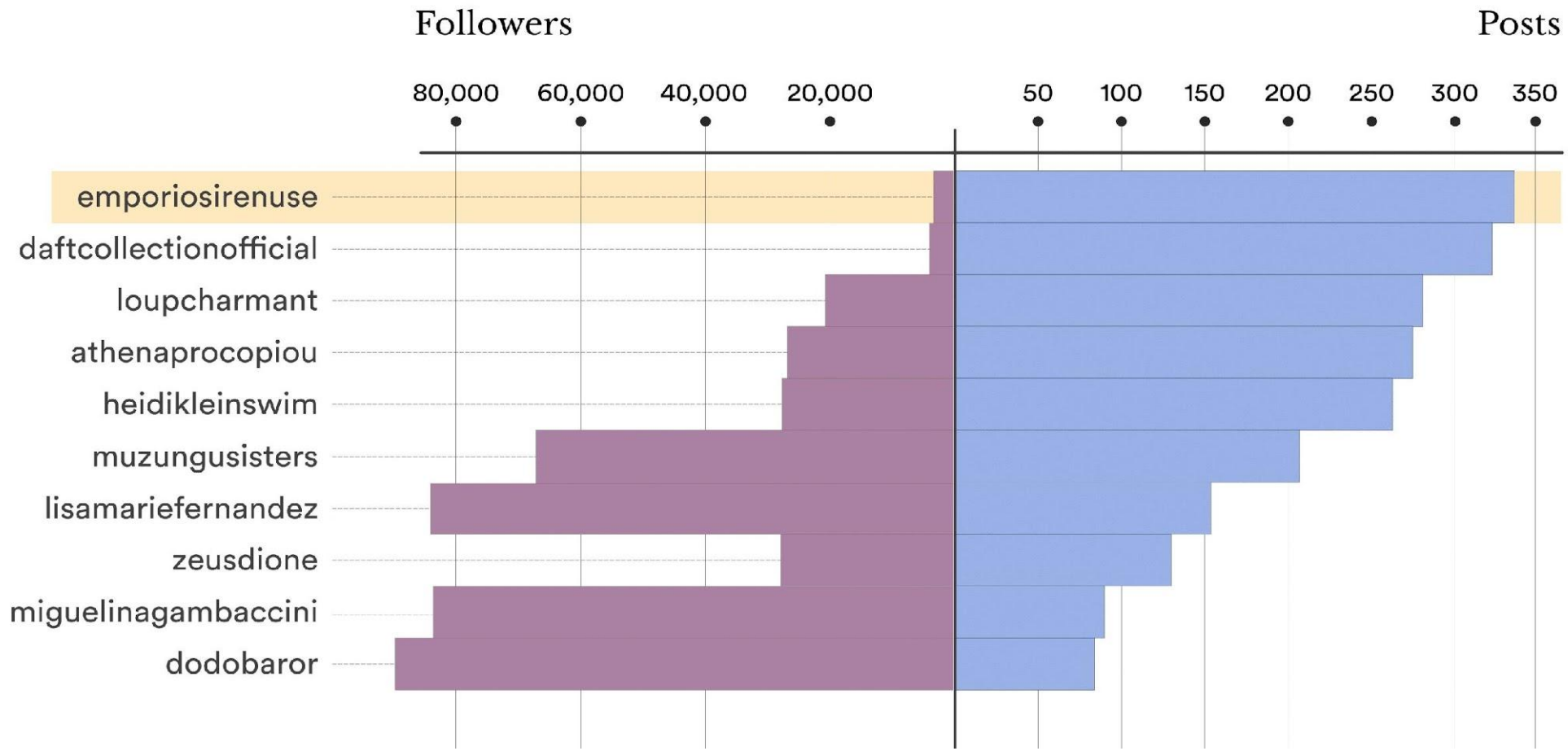
Emporio Sirenuse sales data from their online platform
2016 and 2017

Why is this problem hard?

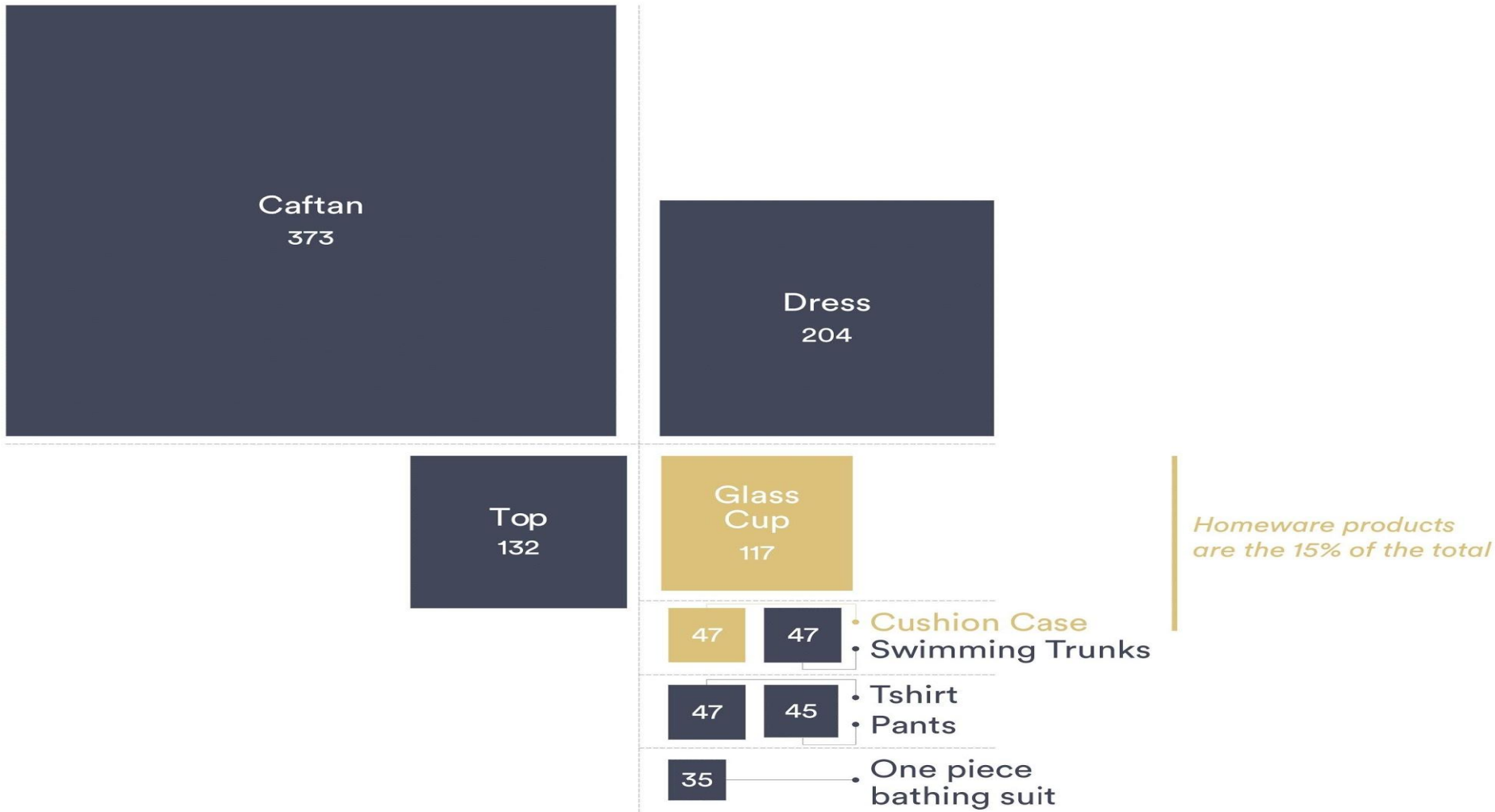
- Small brand
- There is no information linking social media followers and online customers.
- Technically Hard:
    - Natural Language Processing
    - Computer Vision
    - Neural Net

followers

How much do brands with many followers post on their feed?

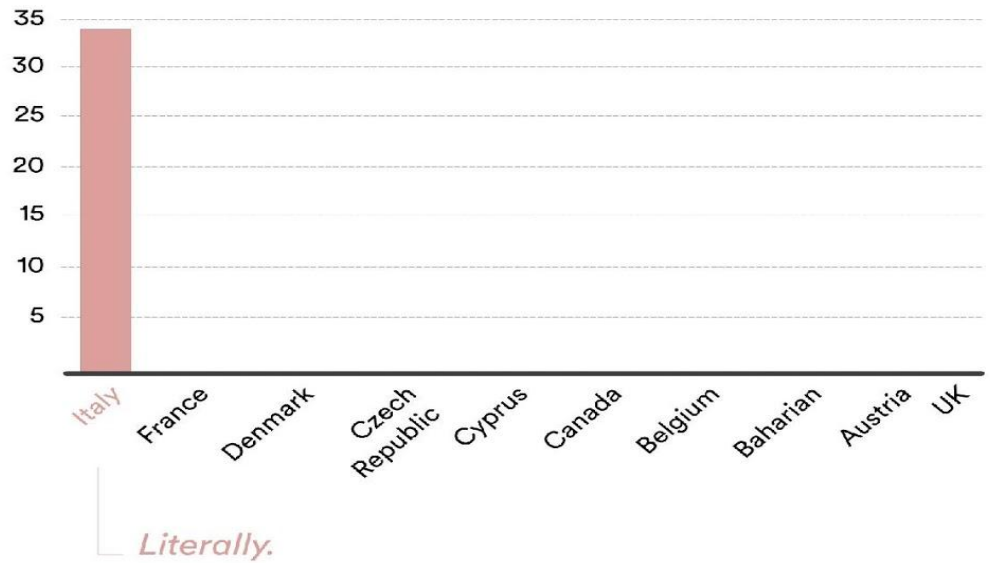


Whats the 10 most sold products?



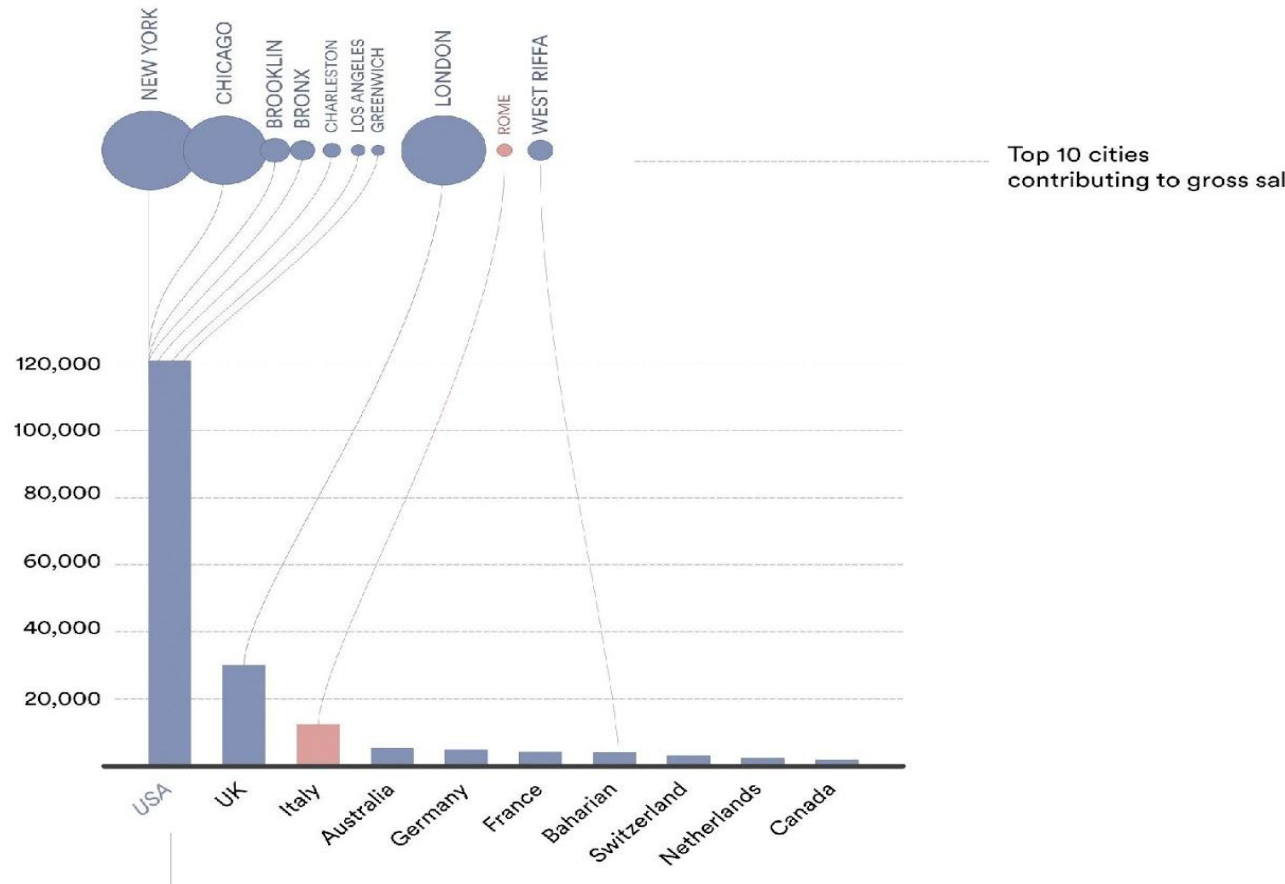
Who gets discounts?

Only the Italians.



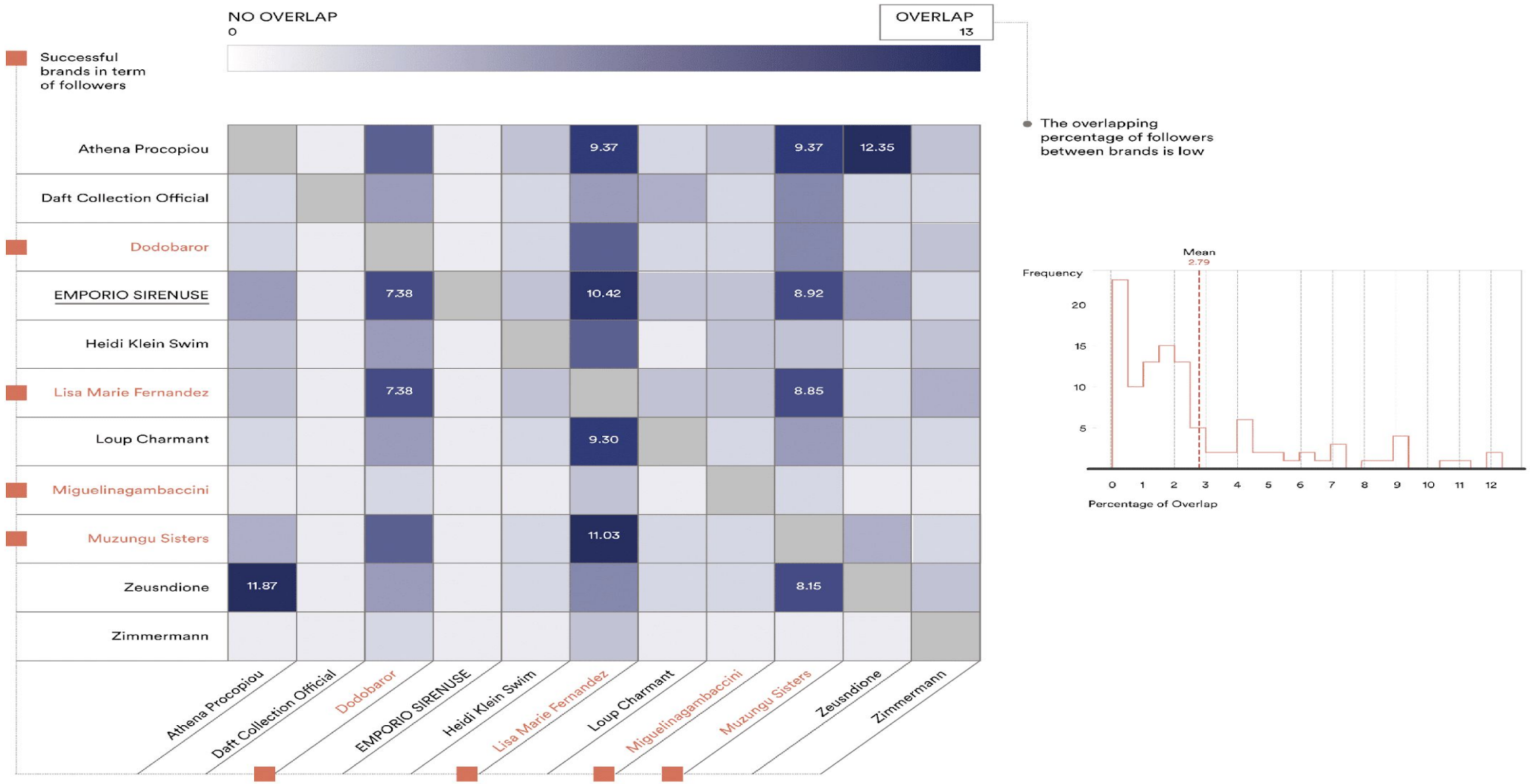
Literally.

Who spends more money on Emporio Sirenuse clothing?



Them, paying full prices.

Do brands share followers?



Scope of Work

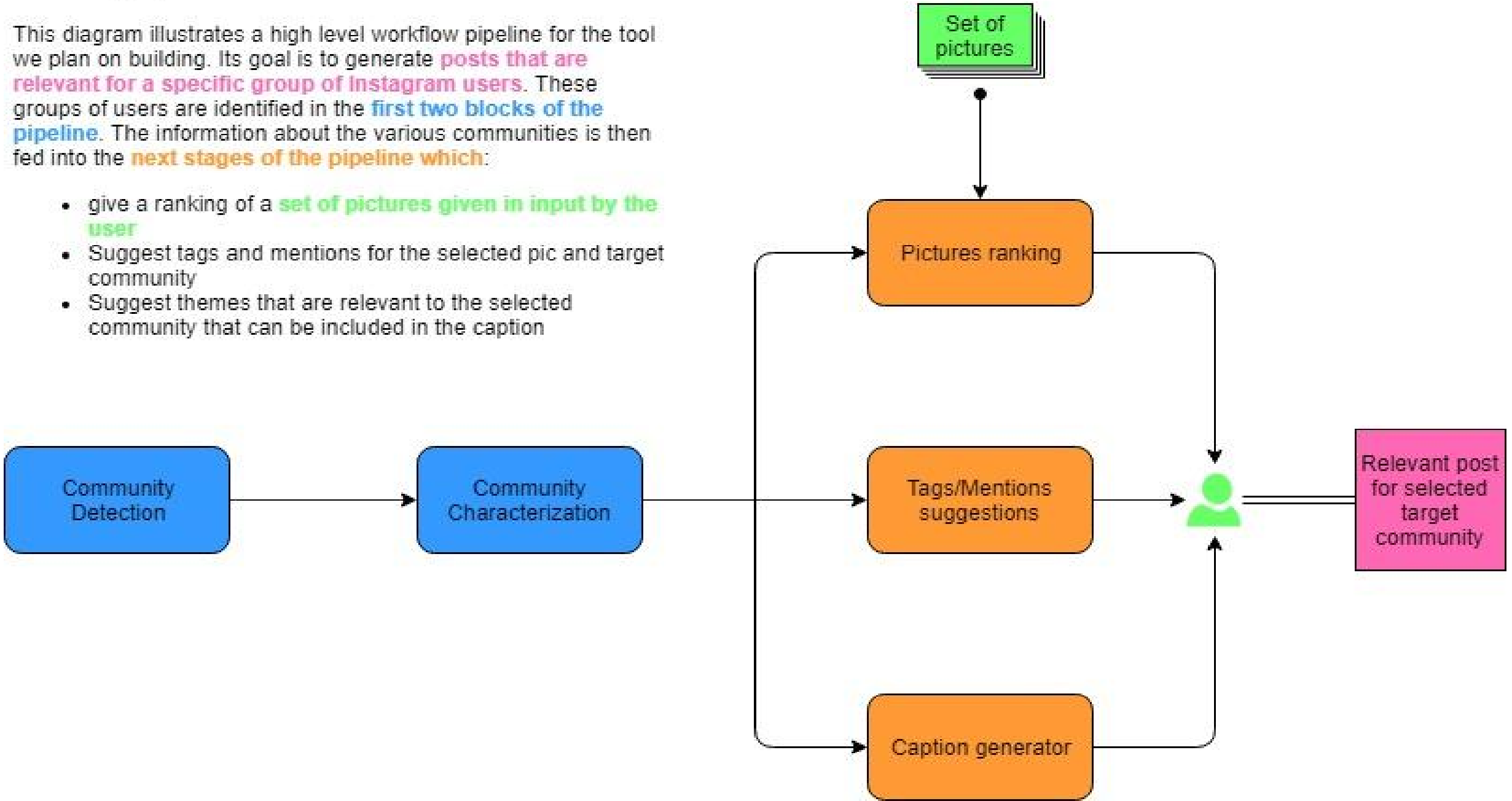
Defintion

The Scope of the Project is a **Recommender System** that combines information from Computer Vision and Natural Language Processing techniques to suggest content of high relevance and engagement for the Le Sirenuse fashion brand on Instagram.

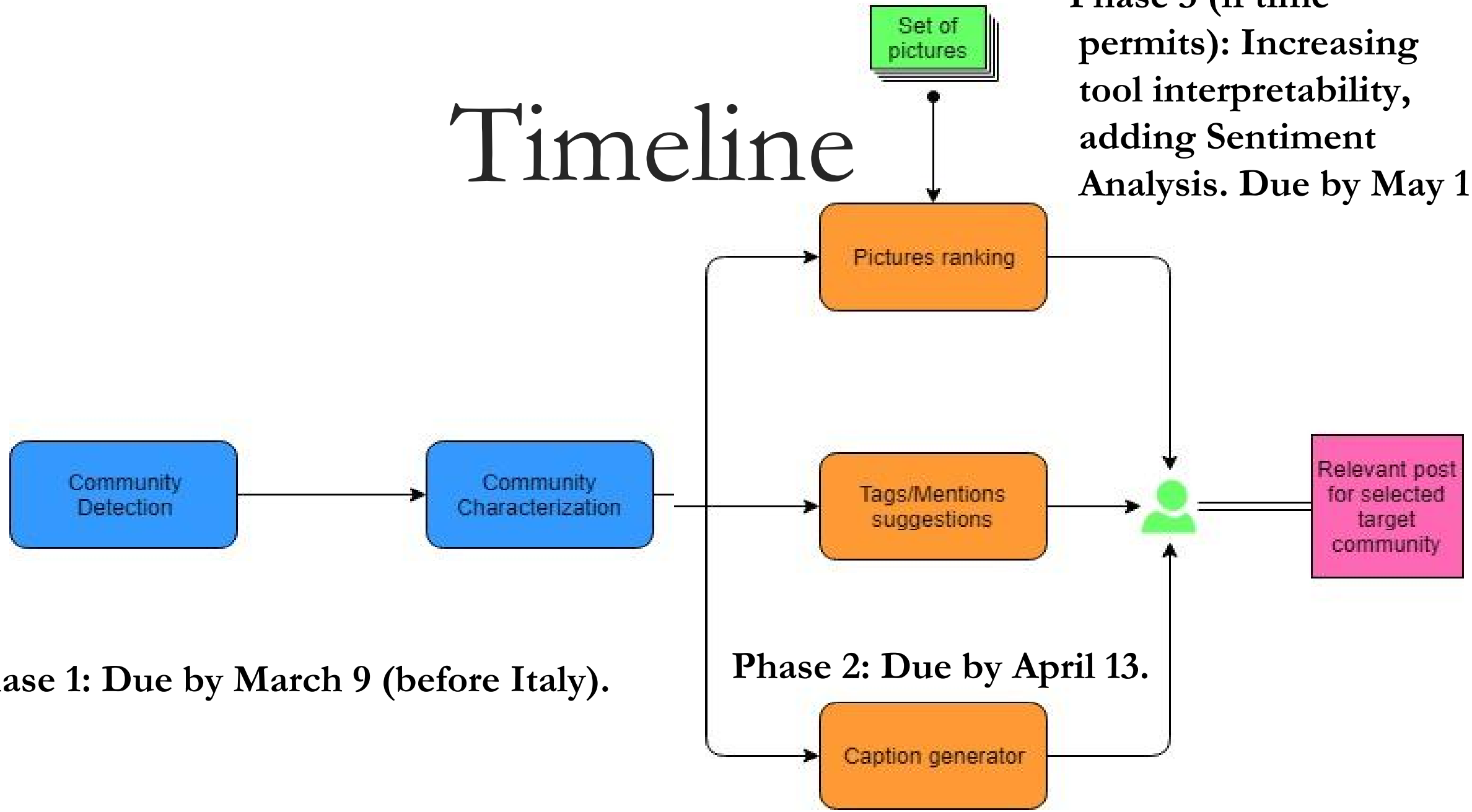
Tool pipeline

This diagram illustrates a high level workflow pipeline for the tool we plan on building. Its goal is to generate **posts that are relevant for a specific group of Instagram users**. These groups of users are identified in the **first two blocks of the pipeline**. The information about the various communities is then fed into the **next stages of the pipeline which**:

- give a ranking of a **set of pictures given in input by the user**
- Suggest tags and mentions for the selected pic and target community
- Suggest themes that are relevant to the selected community that can be included in the caption



Timeline



Phase 1: Due by March 9 (before Italy).

Phase 2: Due by April 13.

Phase 3 (if time permits): Increasing tool interpretability, adding Sentiment Analysis. Due by May 1.

Community Detection & Community Characterization

Our team has started an initial analysis of Le Sirenuse's environment, including both competitors and potential customers. This analysis will use pictures, captions, and hashtags to extract profiles and behaviors of competitors and potential customers.

Objectives :

- Trying to find latent correlation between the posts of different users, specifically between different communities i.e. Consumer, Fashionista and identify their lifestyle.
- Understand the Social Media presence of Le Sirenuse and its competitors through the content.

Community Analysis : Detection & Characterization

- **What groups of people are on this platform i.e. Instagram?**
  - Fashionista! → potential buyer!
  - "Influencer" → Ex-**Bachelor** contestant
  - Media → Not helpful
  - Retailer/Brand → Not helpful
- **Do potential buyers converge on a shared language, lingo or Hashtags?**
- **Do potential buyers have a theme in their posts?**
  - Pictures (is this legal? If you don't ask Pavlos, yes.)
  - Filters

Next Steps: Community Detection & Competitor Behavior

Text Clustering (Kimia)

- Francesca and Moreno have parsed the hashtags and text of the competitors
- Hashtags and text will be clustered using bag of words (potentially n-gram for the captions).
- Up to 3 clustering algorithms will be implemented: K-means, Hierarchical Clustering, and/or Graph theoretic methods (pruned edges)

Picture Clustering (Karan)

- Attempting to find latent clusters using K-Means Clustering as a first unsupervised learning approach to classify images.
- The Color Histogram, Color Profile and Edges in the images will be used as features to reduce the feature space from ‘m x n’ to ‘d’.
- Moving forward, more complex models and features will be used to understand image content.

Tool

Recommendation: Maximize on competitor similarity, engagement/viral potential, or emotion/mood.

Picture suggestion

- Ranks input
- Suggest filter, content
- behaviors of brand (# times publish, periods/i.e. time?)

Hashtag generator

- Suggests trending hashtags (within the market chosen)

Caption generator

- Suggests trending hashtags (within the market chosen)

Next Steps: Tool Development

Picture Suggestion

- Based on similarity measures from the last phase (community and competitor analysis), we will cluster images by similarity and rank them by engagement. This will allow for community-specific picture suggestions.

Hashtag Generator

- Similarly, Hashtags will be clustered to allow for personalized suggestions for moods/communities.

Caption Generator

- Using Computer Vision and NLP (Natural Language Processing), the tool will suggest captions for the picture specified.

Potential

- Phase 3 is on hold for now. It includes Sentiment Analysis and more supervised learning approaches to allow for deeper interpretability.

Short Term :

- Provide rationale for recommendations
- Adapt to the taste of the owner/marketing team
- Allow sorting and categorising based multiple engagement metrics

Long Term :

- Create a user interface for easy access and viewability
- Create a real-time pipeline
- Provide dynamic visualizations of community and competitors activity.

End of Scope

Conclusion

- Social Media Profiling and Targeted Marketing are contemporary concepts which makes the project very exciting.
- There are potential avenues for Emporio Sirenuse to improve their Marketing strategy and contemporary Machine Learning techniques would go a long way in helping them.

Thank you ☺