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Subject/Category : Music
Class: DS3500
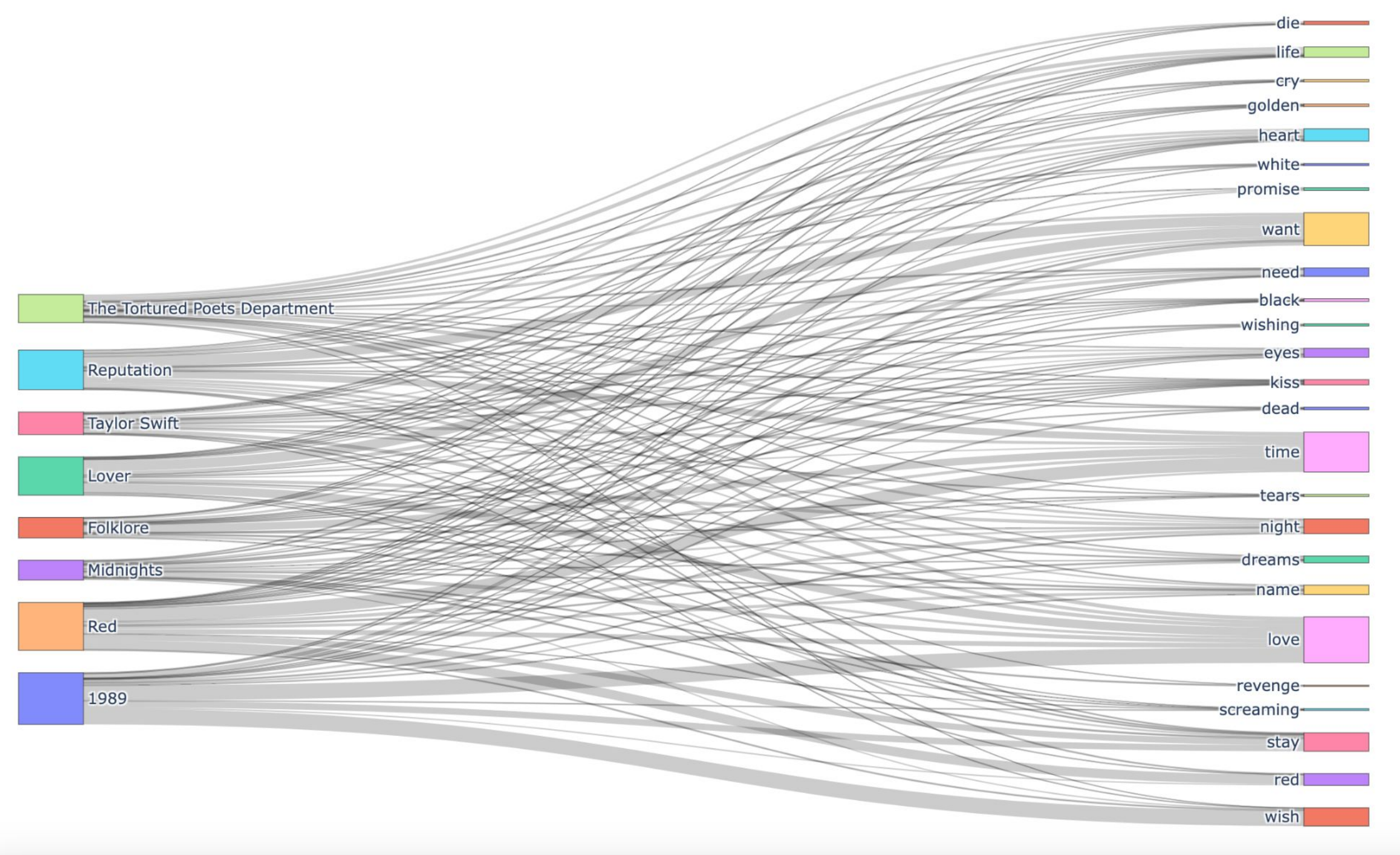Group #: 32

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# Taylor Swift Lyrical Analysis

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## Background, Motivation, and Goals

- Identify distinct lyrical qualities in each "Era"
- Exploring trends and key patterns across her discography
- Showcase the complexity and variety of her lyrics
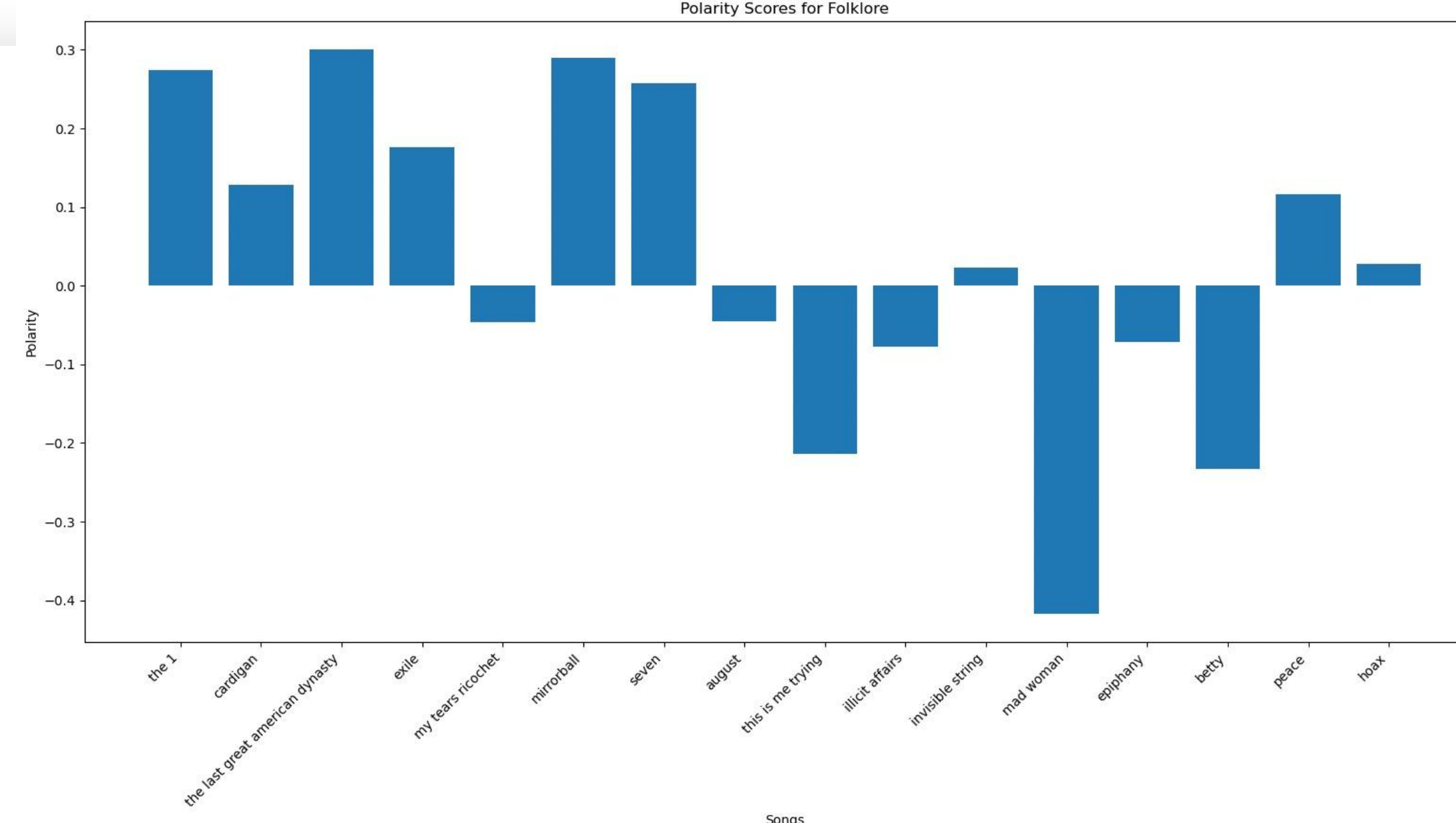
## Findings and Products



### Figure 1: Word Count Sankey Diagram

Most common words: love, want, time, stay, wish, night
- Continuous themes throughout all albums: love, change, reflection
- Heavy mentions of colors → symbolism and change
- Earlier albums (*Taylor Swift*, *Red*, *1989*) include more youthful and hopeful words associated with relationships
- Later albums (*Reputation*, *folklore*, *TTPD*) include heavier words that reflect anger, revenge, and betrayal

### Figure 2: *folklore* Sentiment Analysis

- Songs such "the last great american dynasty," "the 1," and "mirrorball" reflect wistful and nostalgic themes, represented by relatively positive polarity scores
- Songs such as "mad woman" and "this is me trying" reflect anger and frustration, represented by relatively negative polarity scores
- Wide emotional spectrum captured throughout this album
  - Similar to other albums (variety of positive/negative scores)



### Figure 3: Album Similarity Heatmap

Most similar: 0.55 - *Red* and *Lover*, 0.55 - *Taylor Swift* and *Red*
- All associated with themes of love, youth, relationships, and growth
Most different: 0.24 - *folklore* and *1989*, 0.27 - *Reputation* and *Midnights*
- Each album reflects a distinct "Era" shift with different topics and tones



## Process and Methods

- Collect lyrics from each album using Genius API
- Pre-process data (remove punctuation and stop words) and load text
- Calculate word frequency, polarity, and cosine similarity
- Visualize results

## Conclusion

- Many albums follow similar themes (love, change, betrayal) but are represented/framed in different lights
- Explores deeper/heavier themes over time, shows emotional range & maturity, and values symbolism
- No albums are highly similar, reflecting distinct "Eras"

## Next Steps

- Enhance sankey diagram by considering similar words as one group of words (i.e. same verb in various tenses)
- Identify methods to enhance sentiment analysis by considering context and tone of songs
- Conduct an analysis on "Taylor's Version" and "From the Vault" tracks to identify similarities and differences between previously published and unreleased tracks

## Author Contributions

- Pair programmed Genius API, pre-processing and parsing data, and Album Similarity Heatmap; Reported findings for Album Similarity Heatmap, Conclusion, and Next Steps together
- Naisha created visualization and reported findings for Word Count Sankey and wrote Background section
- Olivia created visualization and reported findings for Sentiment Analysis and wrote Process & Methods section