

**Team:**

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**Free Topic:**

In this assignment I'll develop a web application that can take a novel's full text as input and output a visualization displaying major characters' names and the sentimentality of interactions they were involved in with every other character, where applicable. I'll be utilizing a dataset comprised of about 10,000 English words that have been crowdsourced to evaluate their 'happiness score' as graded by native English speakers. This will be a new effort to quantify novels and could be used as part of a more complex recommender system – for example, if a user prefers largely positive or negative novels.

I'll evaluate this work by entering the texts of books I've read already – I'll verify that all main characters are properly accounted for, as well as the approximate positivity or negativity of their interactions both in and of themselves and while associated with other characters.

**Tools, Systems, Datasets:**

- This will be partially user-driven, as the finished product should be able to handle any book of suitable length. A selection of public domain texts will be made available for testing convenience.
- [Hedonometer word list](#), supplied by the Vermont Complex Systems Center
- Python's Plotly library, for sentimentality visualizations
- Python's Dash library, for output into a HTML webpage

**Programming Language**

I expect to program this app in Python.

**Workload**

This project can be broken up into the following components, which I expect to take at least 20 hours:

- Coding functions that can identify character names through text patterns
- Establishing parameters for words that contain sentimentality information (for example, the number of words to search around a certain word to find associated characters)
- Coding functions that can identify new chapters or changes in scenery
- Building and debugging a web application
- Deploying the web application