



MARVEL*ist*

The Marvel Social Network
Paulina Toro Isaza

Overview

- Display Marvel social network info in appealing and comprehensive manner
- Find common appearances
- Identify size of individual characters' networks and their relative place in it
- Data only until 2001

Data

- Marvel Universe Social by Kai Chang, Tom Turner, and Jefferson Braswell
 - Comic and Hero Network Data
 - Hero Social Network Data
- Marvel Developer Database
 - Character image
 - Full name
 - First appearance
- Marvel Chronology Project
 - Keys for issue codenames
- Marvel Wikia API
 - Publication year for issues

Goals

Have two characters met?

- ☒ List of shared appearances, chronological
- ☒ Series with most shared appearances
- ☒ Images of two characters
- ☒ Years created and first year of meeting
- ☒ Link to individual networks

Individual's network

- ☒ Top 5 Encounters
 - ☒ Links to two character meeting screen
- ☒ Character image
- ☒ Size of network
- ☒ Year created
- ☒ Network measurements
- ☒ Location in macro network visualization

Tools

- 1 Python program separating name from superhero code name in social network table
- 2 Python program to populate SQL table with all Marvel API entries
- 3 Python program that matched entries in network table with entry in API table by character name
- 4 Python program to separate issues in issue table by name, volume, and issue

Tools

- 5 Webscrapper for Marvel API that scraps the first appearance of the character from the developer Wiki
- 6 Python program to grab relevant info from Marvel API
- 7 Python program to get issues from SQL database and turn into usable URL for Marvel Wikia API
- 8 Webscrapper that scraps Marvel Wikia API to find the year of publication for an issue and insert into table

Tools

- 9 Python program that creates new table based on matches between API table and network table
- 10 Function that finds all issues in which both hero 1 and hero 2 appear. Uses Wikia Issue scrapper to get year, assign it as a key, and sort issues by year
- 11 Modify autocomplete program

Tools

- 11 Single character object class that holds identity and network information of character
- 12 GUI for single character screen
- 13 GUI for common appearance screen
- 14 GUI start screen

Problems

- ✓ Data needed cleaning
- ✓ Connecting to APIs or scrapping websites without getting kicked off or exceeding call limits
- ✗ Dealing with inconsistencies in data
- ✗ Not all characters were matched when match existed
- ✗ Having complete GUI on one window
- ✓ Installing python modules with pip
- ✗ Using matplotlib in virtual environment

Problems

- ✗ Takes too long to load
- ✗ Some characters cause issues for unknown reasons

Lessons learned

- Break everything down into small tasks!
- How to filter, match, and manipulate large amount of data
- How to write web scrappers and use APIs
- Take advantage of what others have done before, but recognize you'll have to modify for your project
- Classes can make coding for Tkinter a lot easier

Project expansions

- Include characters and issues after 2001
- Include more of Marvel API characters
- Network visualization
- List of characters in each issue
- Overall network statistics and rankings
- Scrap websites only once and insert into table to fix loading times