

The Fabric of Heroes

GD 2019 *Marvel* Creative Topic Contest

Velitchko Filipov*¹, Davide Ceneda¹,
Alessio Arleo¹, and Silvia Miksch¹

¹Centre for Visual Analytics Science and Technology, TU Wien

Abstract

In this document we describe our submission to the contest held at the *International Symposium on Graph Drawing and Network Visualization* (GD) 2019. We participate to the Creative Topic challenge with “The Fabric of Heroes”, an infographic based on the “Marvel Cinematic Universe” (MCU) franchise. We illustrate our design choices and how we aimed at obtaining a complete, yet pleasing and enjoyable, visualization.

Links for download

In the following are listed the links to download the A0 version of the poster and the web-friendly one.

- A0 version: https://www.cvast.tuwien.ac.at/sites/default/files/2019-09/TheFabricOfHeroes_HQ.pdf
- Web Friendly version: https://www.cvast.tuwien.ac.at/sites/default/files/2019-09/MCU_webfriendly.png

The contest submission is also depicted in Fig 1.

1 Problem Description

In this year’s contest held at GD, the creative challenge topic is about the visualization of a fairly simple graph, representing the participation of each *Marvel* character to the movies of the popular “Marvel Cinematic Universe” (MCU) franchise. The graph has 52 nodes and 152 edges. Each node has a “type” attribute, which can either assume the value of “movie” or “hero”, and a “name”. Edges do not bear any specific attribute. The graph is directed and bipartite, since edges only go from “hero” to “movie” nodes.

*{velitchko.filipov|davide.ceneda|alessio.arleo|silvia.miksch}@tuwien.ac.at

2 Proposed Solution

Our visualization requirements are the following:

- R1.** Leverage the simplicity of the structure to yield a **clean and uncluttered visualization**;
- R2.** Deliver a **complete** visualization, containing all the information present in the data structure provided;
- R3.** Adopt **“minimal” stylized graphics**, but the key elements (characters, logos) must still be recognizable;
- R4.** **Insert contextual information** (also not included in the original dataset) to make the visualization more complete.

2.1 Layout

A picture of our proposed solution is in Fig. 1. We took our inspiration from [1]. Movie nodes are placed at the top of the picture, arranged chronologically depending on the year the movie takes place (according to official sources [2]). This information is not included in the contest dataset but was added in order to provide a sense of progression and also show how the events in the MCU unfold (**R4**). Right below them, a white dashed bar is used as a visual cue to group together movies that take place in the same year; on top of it we place several symbols in correspondence of the moments in which the main events narrated in this “phase” of the MCU happen. The narrative device pulling together all the 24 movies are the “infinity stones”: extremely powerful artifacts that both the heroes and the main villain “Thanos” are after. Every few movies, they appear and are collected: we place the icon of the gem under the movie in which it appears for the first time. The story culminates with Thanos placing them together in the “Infinity Gauntlet”. He then snaps his fingers to unleash their power, obliterating 50% of all life in the universe (and a substantial number of our heroes). In the final Avengers movie (“Avengers: Endgame”), “Iron Man” steals the stones from Thanos’ gauntlet and snaps his own, undoing the villain’s actions and bringing the heroes he killed back to life, but eventually succumbing. By looking at our poster, this story can be reconstructed because we put icons that represent the two snaps under the movies in which they happen: in correspondence of the first, most of the heroes die, and most are taken back to life in the second (see Sec. 2.2). We also mirror the two snaps’ icons so to convey the impression that one is done to undo the other.

In the central part of the poster, the hero nodes are displayed using the following rationale. Each movie node splits the space into columns, while the heroes divide the space into rows, creating a grid. Hero nodes occupy such grid’s cells when they participated into that column’s movie. A line connects the hero nodes on the same row, and also bears his/her name close to their first appearance (**R2**). This visual cue helps the reader follow the progression of the story for a specific character. Moreover, by replicating the hero nodes we give a quick and distinct impression of the largest (in terms of number of protagonists) movies at a glance. This design ensures a clean, straightforward, and un-cluttered visualization (**R1**). The hero nodes are ordered from top to bottom by their first

appearance in the MCU franchise. This ordering gives the reader an overview of when each character was introduced in the MCU and how much the character is involved in the saga.

2.2 Nodes Design

The movie nodes bear a stylized version of the logo of the main protagonist(s) of the movie. The movies with the same name/franchise have a small roman numerals in the bottom right corner of the logo showing which installment they represent in their own franchise (e.g. “Iron Man I”, “Iron Man II”, etc.). We represent the hero nodes with a portrait of the hero rendered in a minimalistic style graphic. We drop most of the facial features that would be unrecognizable and distracting on such small figures, but we leave what are considered to be the most distinguishing features of each character (**R3**). Some of the characters might “die” as the story develops: we represent this event by depicting their portraits in grayscale in correspondence of the movie they perish in (however, since this is a universe based on a comic, “death” may not be as “definitive” as it should be). In this way, it is possible to understand why a character did not appear in subsequent movies or in which movies the most characters perished (**R4**).

2.3 Colors

The colors for the portrait were chosen to make the characters stand out in their own frame, and to break the stillness of the solid color of the background. Its colour is the same red found in the Marvel logo (**#ED1D24**). This choice will make both the character portraits and the poster itself be recognizable and reminiscent of the Marvel design.

2.4 Legend

The legend’s purpose is two-fold: first, some of the information about the movies (such as their title) was difficult to include in the visualization (**R2**) without losing the visualization cleanliness constraint (**R1**); second, we wanted to give a simple, yet effective, hint on how to interpret the picture. To achieve the first goal, we added a list, in the left part of the poster, with the titles of the movies close to the icons used to represent them in the top row. In this way we give complete information about the movies, thus avoiding any ambiguity with movies which use the same symbol. Moreover, we added the Infinity Stones and the two snaps to the legend. To achieve the second goal, we placed the word “Movie” on the right side of the movie row, and the word “Characters” (arranged vertically) on the top right side of the space reserved to the characters. Those two words instruct the reader by giving the semantic of the nodes in the visualization and how we arranged them.

3 Conclusion

In this submission to the Creative Topic Challenge we made an attempt at visualizing the Marvel dataset in a clean and appealing way. We started from

some simple, yet challenging to satisfy together, constraints and we let those drive the development of our submission. We added a “personal touch” that we hope the fans (and, hopefully, the contest judges) will appreciate.

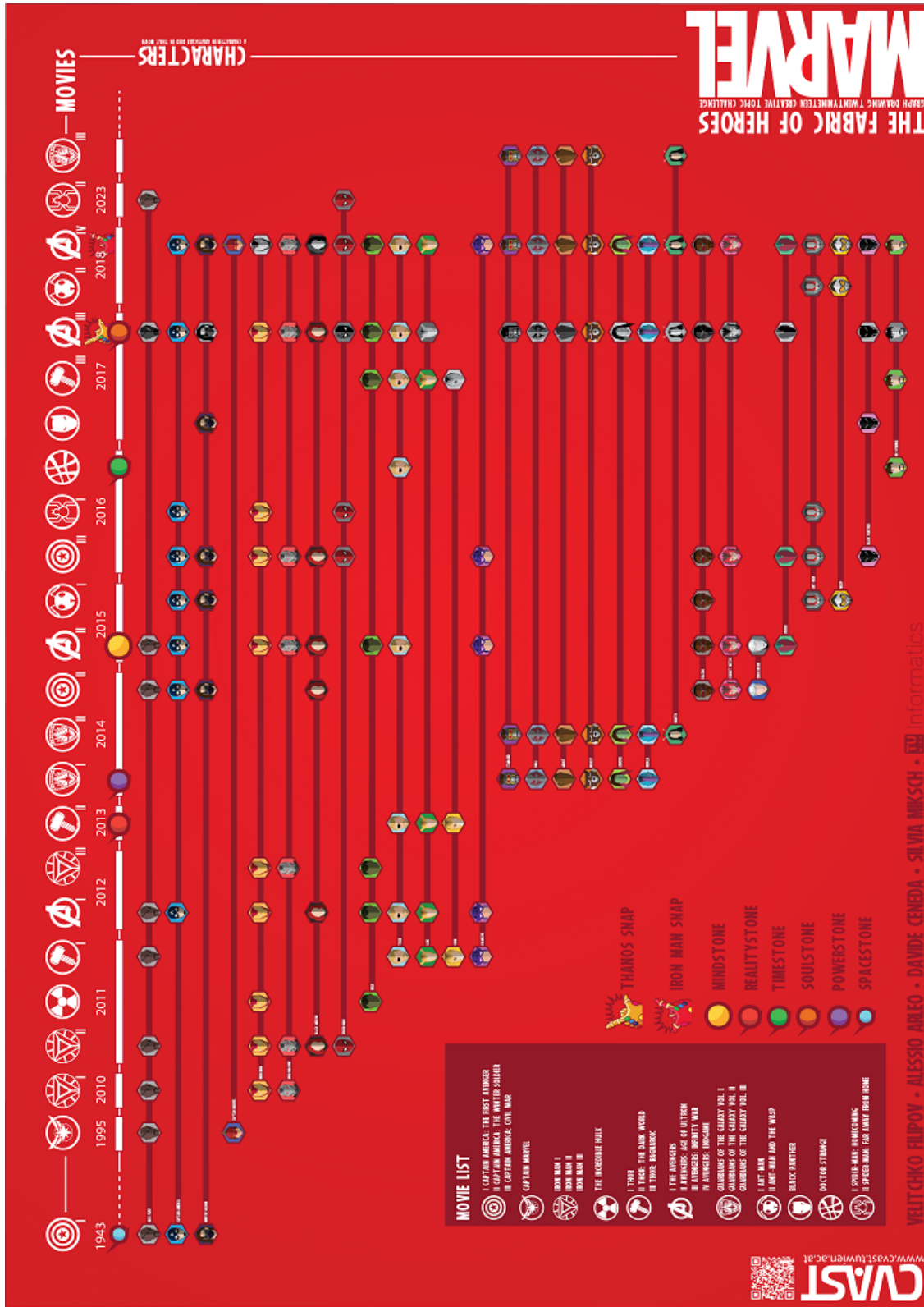


Figure 1: The complete info-graphics of the MCU universe.

References

- [1] W. J. Longabaugh, “Combing the hairball with BioFabric: a new approach for visualization of large networks,” *BMC Bioinformatics*, vol. 13, no. 1, p. 275, Oct. 2012. [Online]. Available: <https://doi.org/10.1186/1471-2105-13-275>
- [2] Titan Comics, *Marvel Studios: The First Ten Years*, 2018.