CS 171 Design Studio 1 - Github Commit Graph

In this design studio you will sketch multiple solutions to visualize the commit graph and the branches of a git repository. This design studio is synchronized with Homework 2. You must submit your (and your groups) solutions with Homework 2 and then choose one solution to implement as part of Homework 2. There is no need to hand in anything at the end of this design studio.

PART 1 - ANALYSIS

Individual; Time: 20 minutes

Take a look at various Github Network Graphs. Here are some examples:
https://github.com/Caleydo/caleydo/network
https://github.com/mbostock/d3/network
https://github.com/CS171/CS171.github.io/network

- Think about how these networks are different. Analyze the "dimensions" of these networks. What are the relevant attributes (e.g., commits, users, branches, commit size, etc.) of these representations? What other attributes could be relevant in this graph? Write a list of all the attributes your visualization could show.
- Are there different roles, i.e., different types of users who might want to achieve different things? Write a list of user roles.
- Think about which tasks a user of your visualization might want to achieve. Write down a list of tasks.

on word document

- Identify one role that you want to design your visualization for. Prioritize your task and attribute lists based on this role's needs.

manager

improve color!

PART 2 - SKETCHING

Individual; Time: 30 minutes

Design two alternative visual representations for the Github Network. You should design for an interactive system, i.e., you should not assume that you have to fit all content onto paper.

Here are some questions to consider:

- Decide on which visual variable to use for which attributes of the visualizations. Remember the strengths and weaknesses of visual variables we discussed in class. Use the strongest visual variable for the most important attributes of the data.
- Do you think it is necessary to represent every single commit as a separate node? Could you think of ways to aggregate this?
- Do you think that every contributor needs a "row", as on the default network view on

github? Could you think of a smarter way to summarize those?

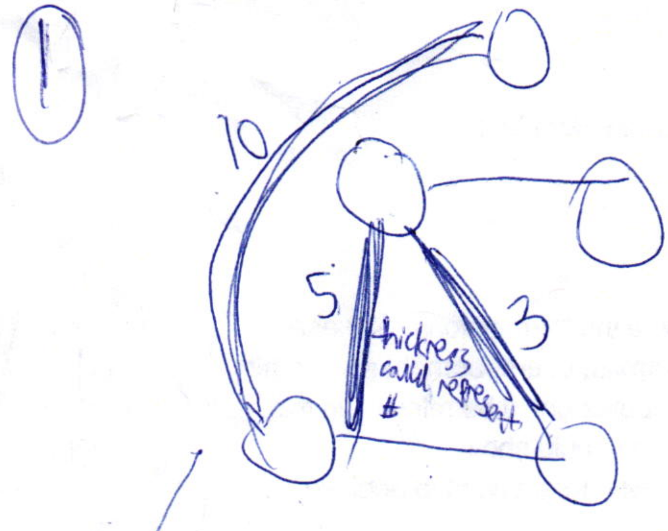
- Is a node-link diagram the appropriate representation? Or should you consider alternative graph representations?

PM key contributors to code

measuring productivity

PART 3 - Group Reflection

Group of up to 5 people; Time: 40 minutes, or as long as you like. You are invited to spread out through the building, e.g., to the lobbies outside, on the 2nd and third floor. Take your analysis and ideas and share it with up to 4 of your fellow students. Discuss your priorities and your designs. Do you find a consensus? Come up with one visualization that you agree is ideal.



~~master gets designation~~

measure collaborati~~veness~~ ion

merge/commit

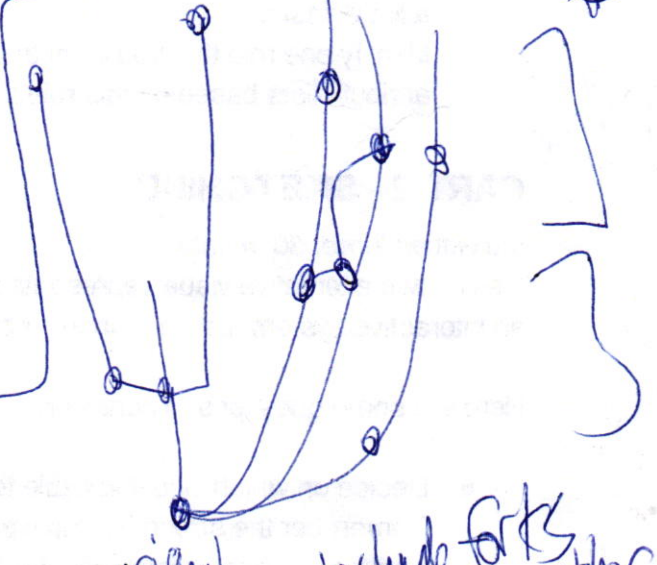
punchcard circles
# of total interactions individual

2

eliminate time component

advance by modification

spatial component by change not time



original

include forks

vertical instead of horizontal

other github metrics besides merges & commits