Final Report

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1. Work done by each member

Dongdong Yu(dy277)

Collect more dataset about the initial idea or explore more datasets
- Discussed ideas
- Collected and cleaned data
- Present sketches and participate in converging/picking the best project design
- Refined design and finalized on design details
- Implemented the design
- Finished coding

Qinwei Zhu(qz265)

- Discussed ideas
- Collected and cleaned data
- Present sketches and participate in converging/picking the best project design
- Refined design and finalized on design details
- Implemented the design
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Yuhan Wu(yw722)
- Discussed ideas
- Collected and cleaned data
- Present sketches and participate in converging/picking the best project design
- Refined design and finalized on design details
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Yuning Yang(yy693)

- Discussed ideas
- Collected and cleaned data
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2. Data description

1) Data Collection:
   Floor plan of Gates Hall: We manually digitized the floor plan of Gate hall to svg and used it as the basis of our visualization.
   Information of Professors: The namelist and their offices are crawled from the home page of CIS. Information related to their publications are collected using dblq search API.
2) Data Preprocessing: We eliminated the professors whose offices are not in Gates and those who don't have office related information from the original namelist. Then we collected all the publications of the remaining professors and only keep the collaborative papers (At least two authors have offices in Gates).
3) Variables: Office of each professor; Name, year and authors of the collaborative papers.

3. Mapping from Data to Visual Elements

The first thing we visualized is the map of Gates Hall. We drew the floor plans of the 2nd ,3rd and 4th levels. Each polygon represents a room in Gates. The polygons filled with darker grey are clickable and serve as offices for professors. When hovering over the rooms, a label on the bottom will appear and shows the room number and the professors of that certain room. After clicking a room, a label will show up with the room number as well as lines that link the room with other professors who have collaborated with the certain professor. The width of the stroke represents the amount of papers they published together. A simple linear scale is used to map the amount of papers. On the right side is the information panel. It is also triggered by clicking the room. The collaborators and the title of publications will be listed in the information panel.

4. Story

Research, communication, and collaboration are happening inside Gates every day. Even for CIS people who work in Gates every day, it is hard to get to know how research is going on and how people collaborate with each other. We wanted to visualize the relationship between professors' physical location and the collaboration among them. We looked forward to exploring questions like If two professors' office is close, would they tend to collaborate more? Would people be more likely to work with people on the same floor? Would there be professors who prefer to work on their own as opposed to collaborating with other professors?

After finishing our project, we successfully observed a lot of interesting facts from the data visualization, including but not limited to:

1. Robbert van Renesse in 433 and David Bindel in 435 have offices next to each other and they've published 30 papers together.
2. David Bindel in 435 has collaborated with 10 professors and Robert Kleinberg in 317 has collaborated with 9, ranking the top 2. There are also professors who never collaborated with others, for example, professors in 436, 352 and 535.
3. The search function is helpful as it allows users to explore their interested professor and quickly get to know their network and research.