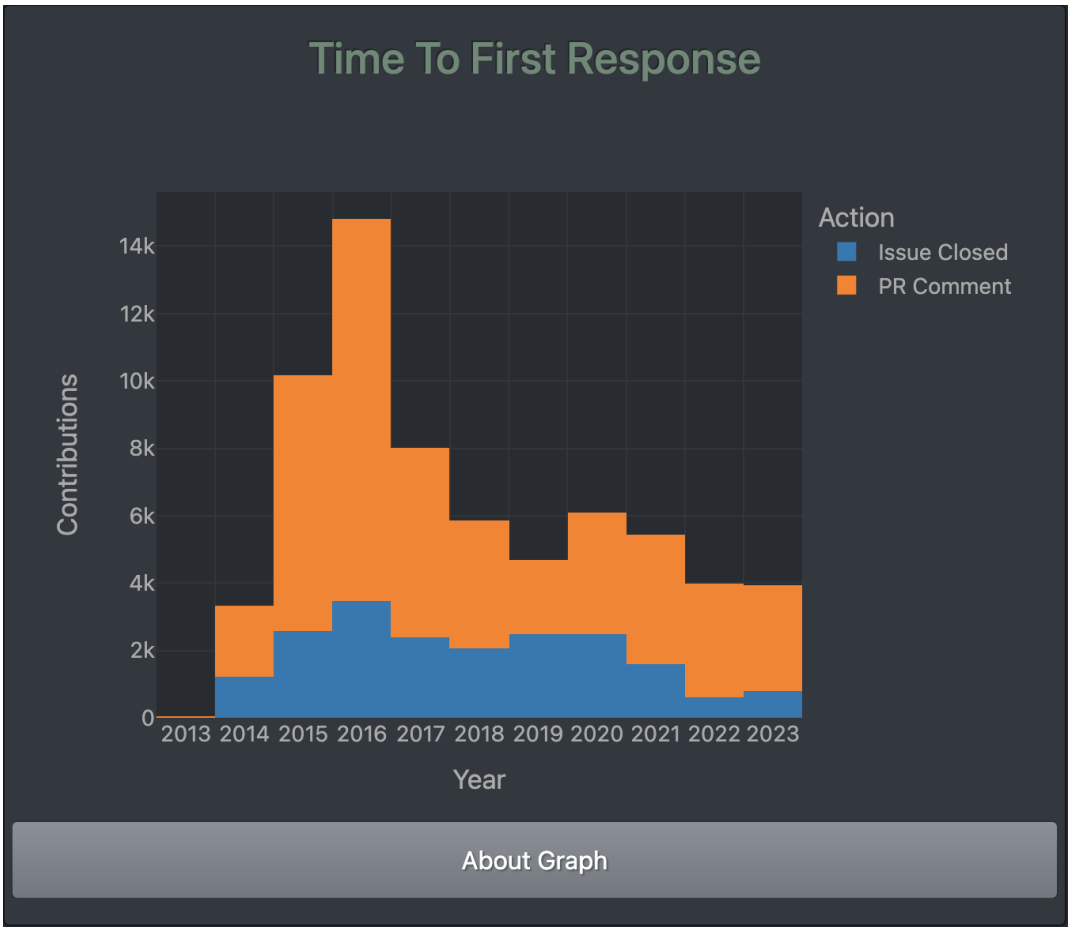
Metrics Model: Starter Project Health - Design

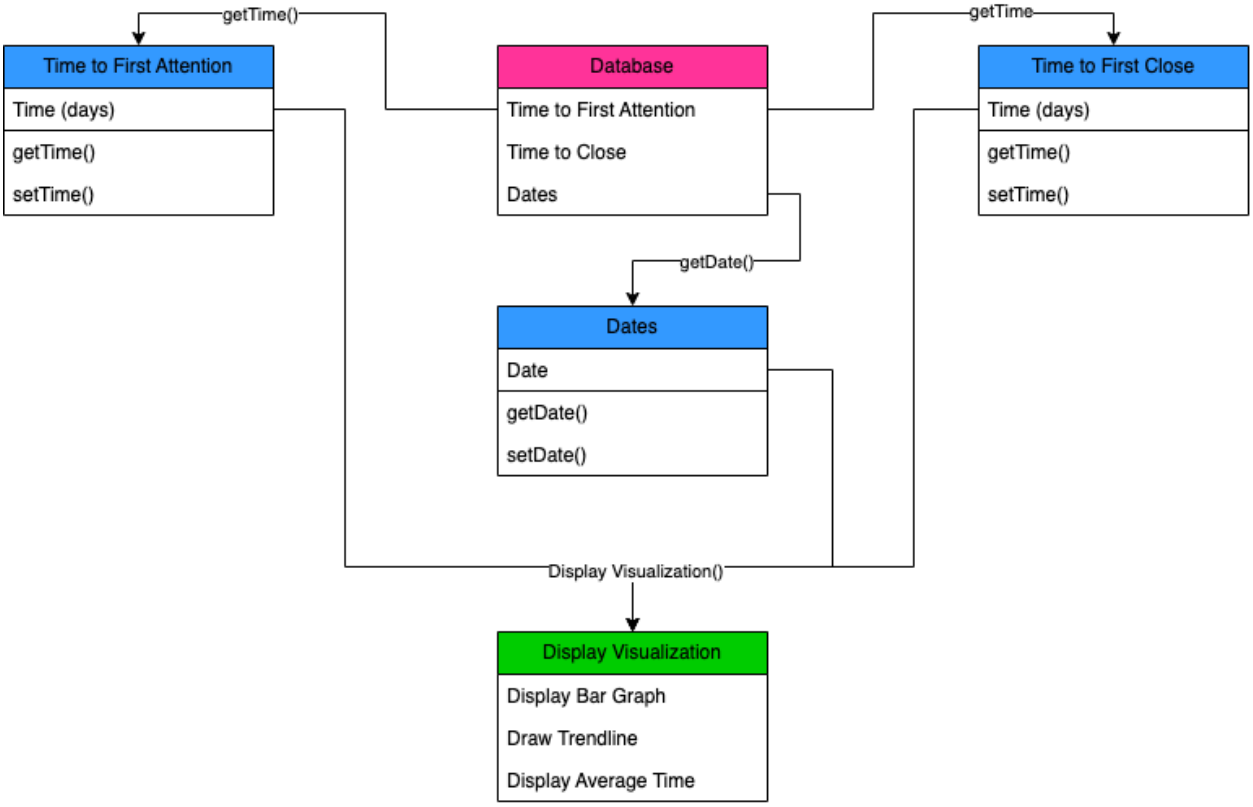
Time to First Response

https://chaoss.community/kb/metric-time-to-first-response/

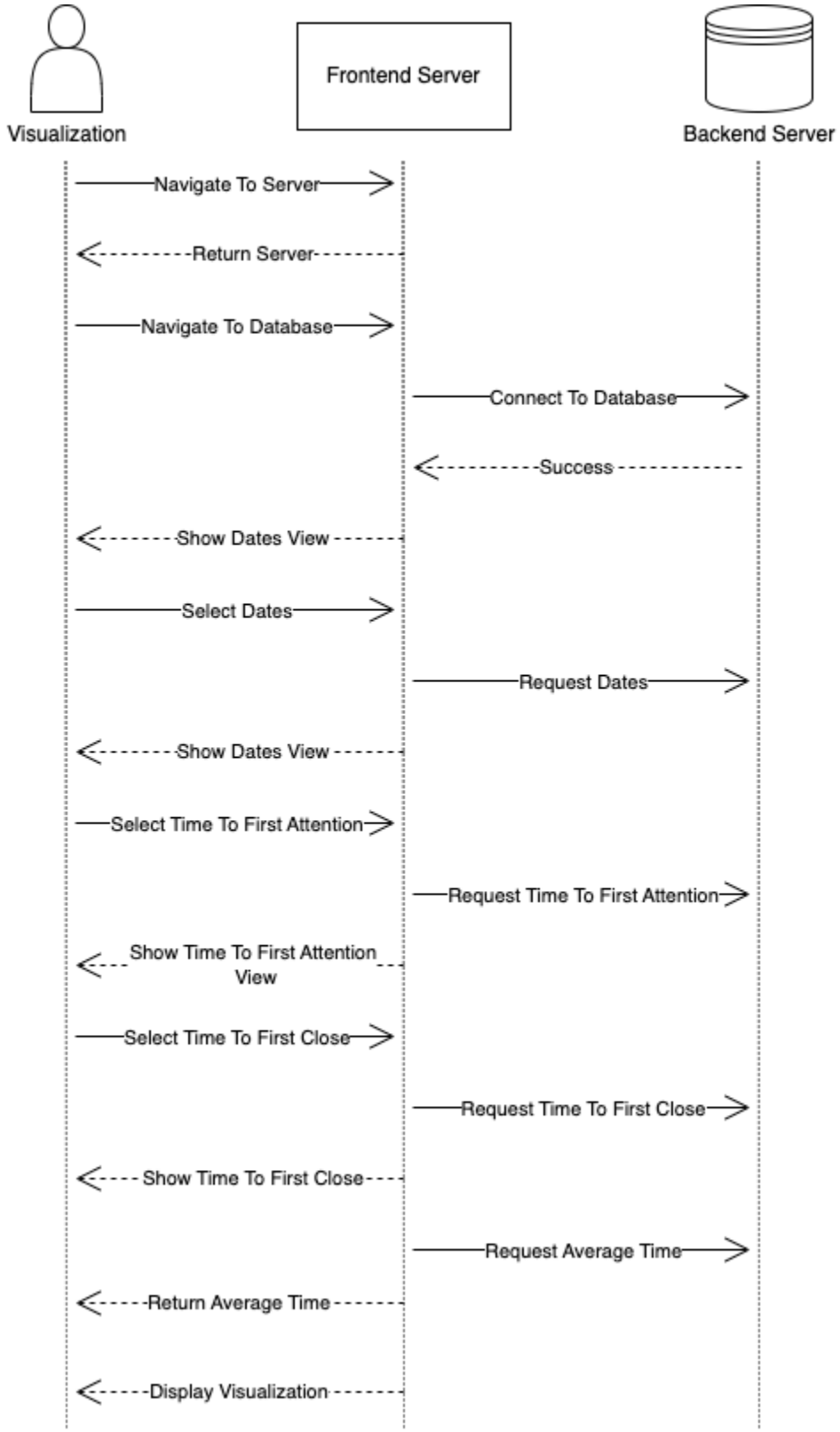
- Determine the amount of time between when an activity was opened (e.g. Issue or Change Request) and when it received the first response from a human.
  - The visualization will be a **bar graph**, x - axis will be the time goes by, the y axis will be the number contributions of first response(PR Comment) and issue close.
  - Description of the visualization
  - Display the average time to respond and close.



Class Diagram



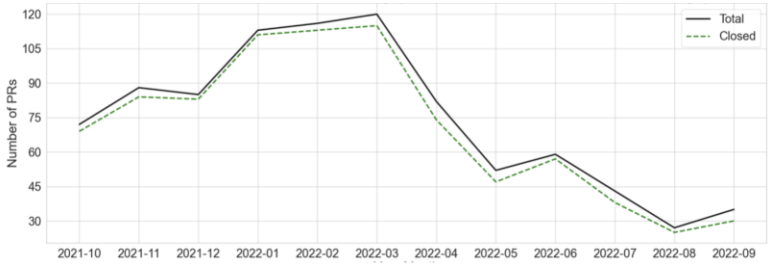
Sequence Diagram



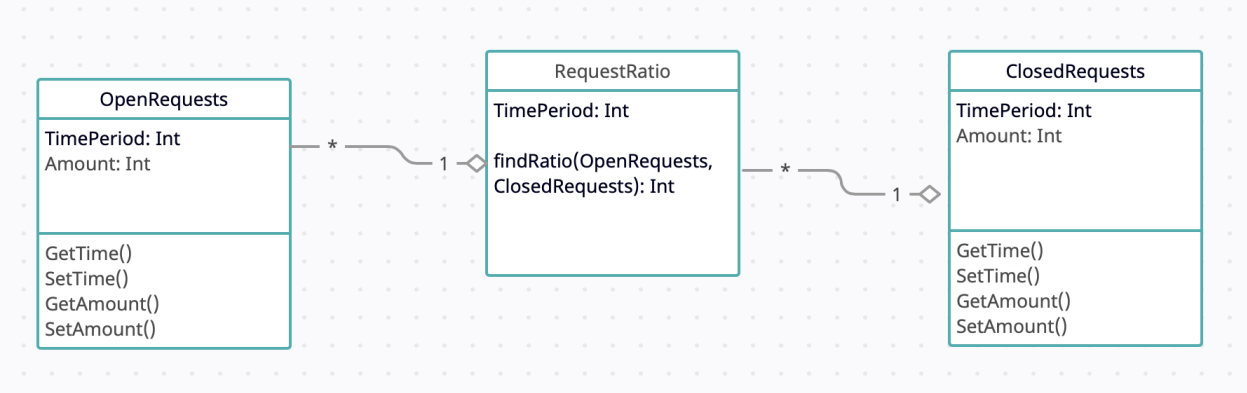
Change Request Closure Ratio

https://chaoss.community/kb/metric-change-request-closure-ratio/

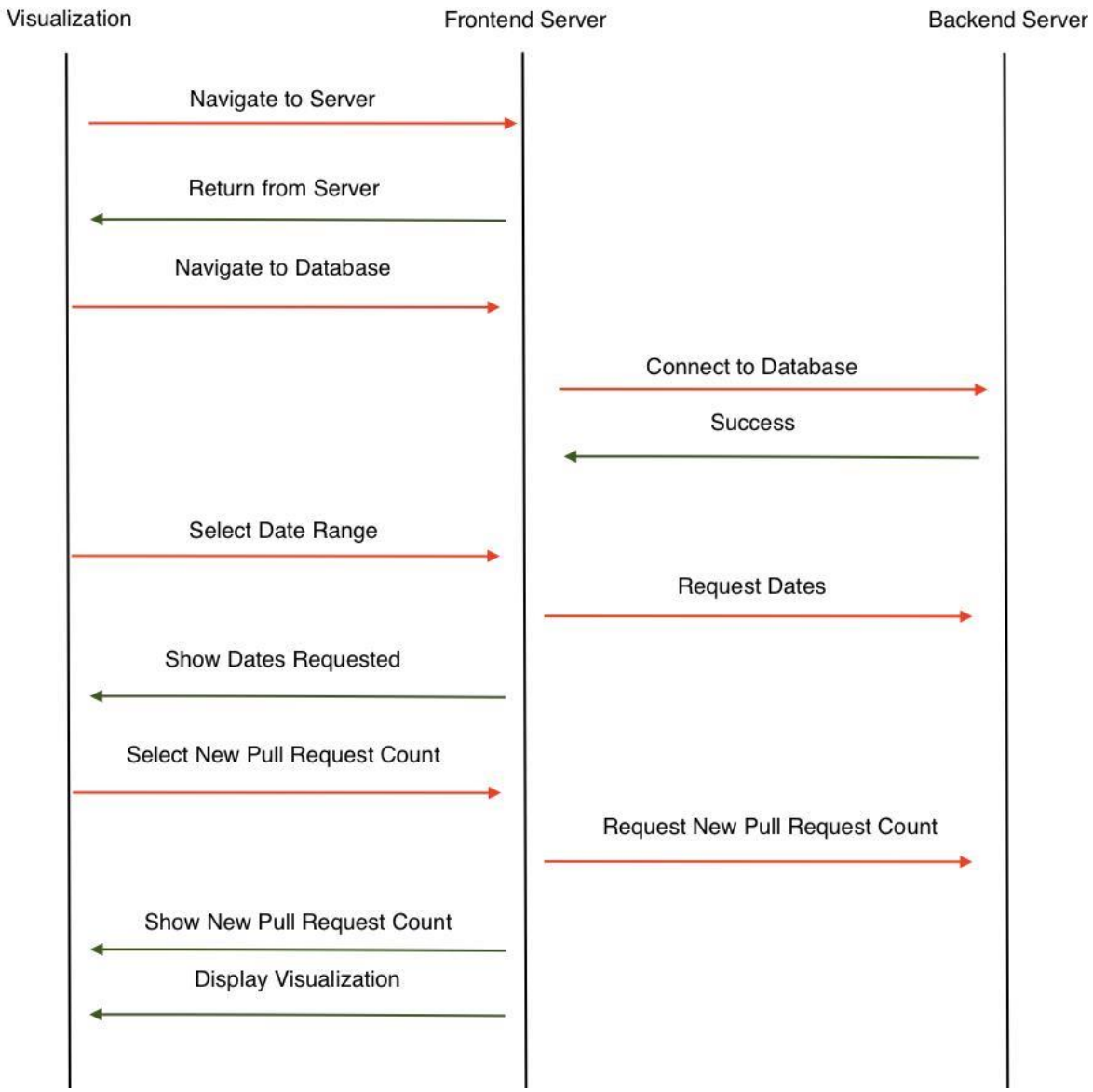
- Measure the ratio between the total number of open change requests during a time period versus the total number of change requests closed in that same period.
  - The visualization will be a **line graph**, x - axis will be the time goes by, the y axis will be changed (create, open, close, merged) over time.
  - Description of the visualization



Class Diagram



Sequence Diagram



Bus Factor

https://chaoss.community/kb/metric-bus-factor/

- Determine the smallest number of people that make 50% of contributions
  - The visualization will be a **pie chart**, including the numbers of people's contribution and how much are they in percentage.
  - Description of the visualization

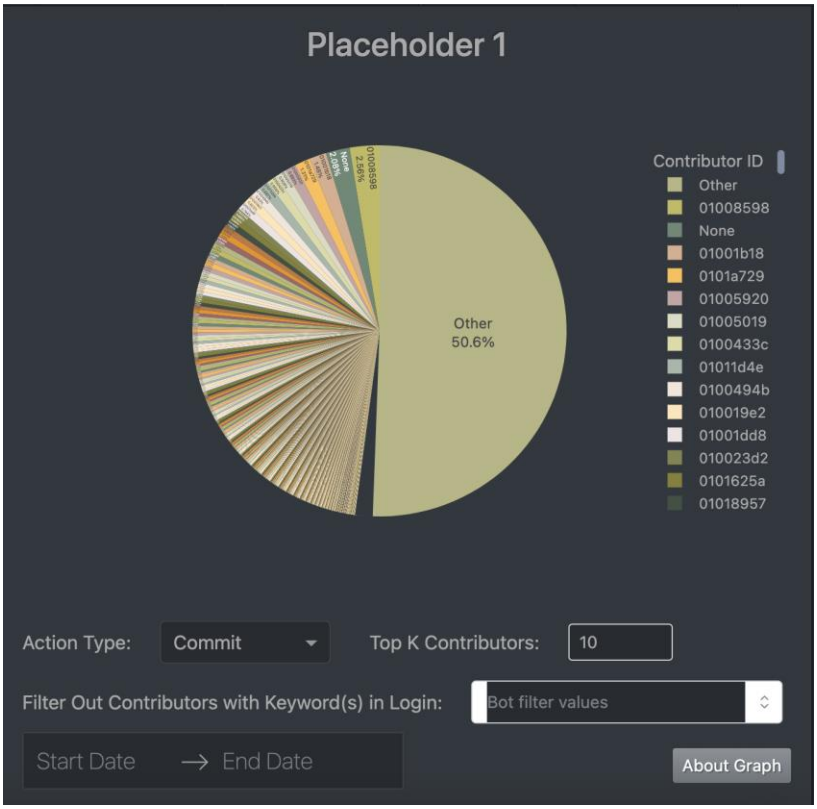


Diagram 1

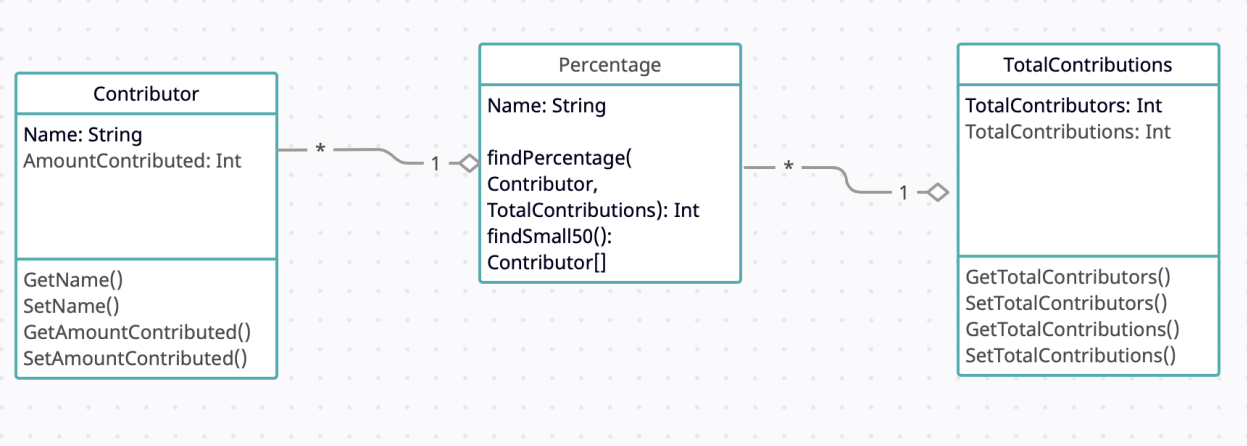
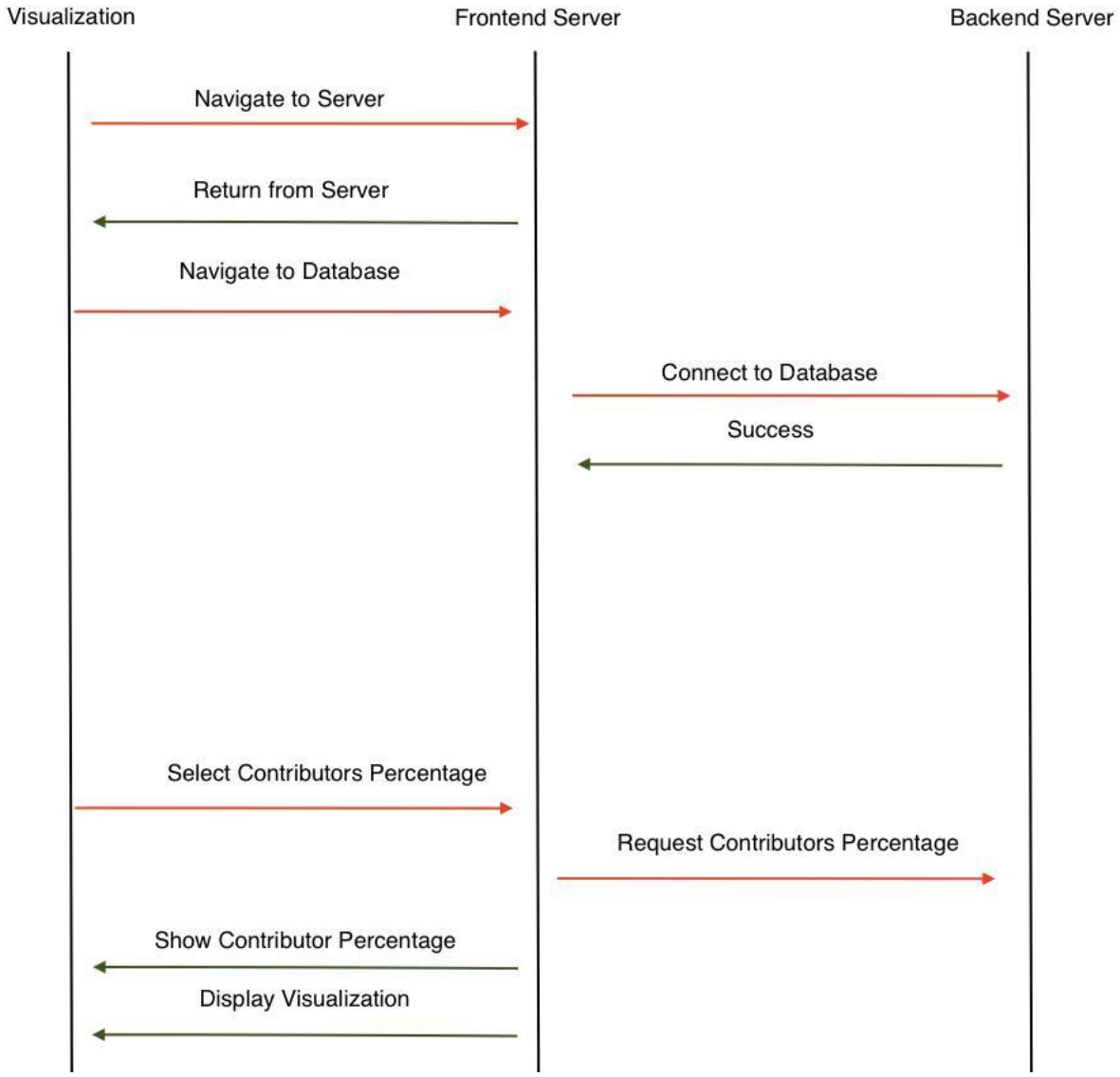


Diagram 2

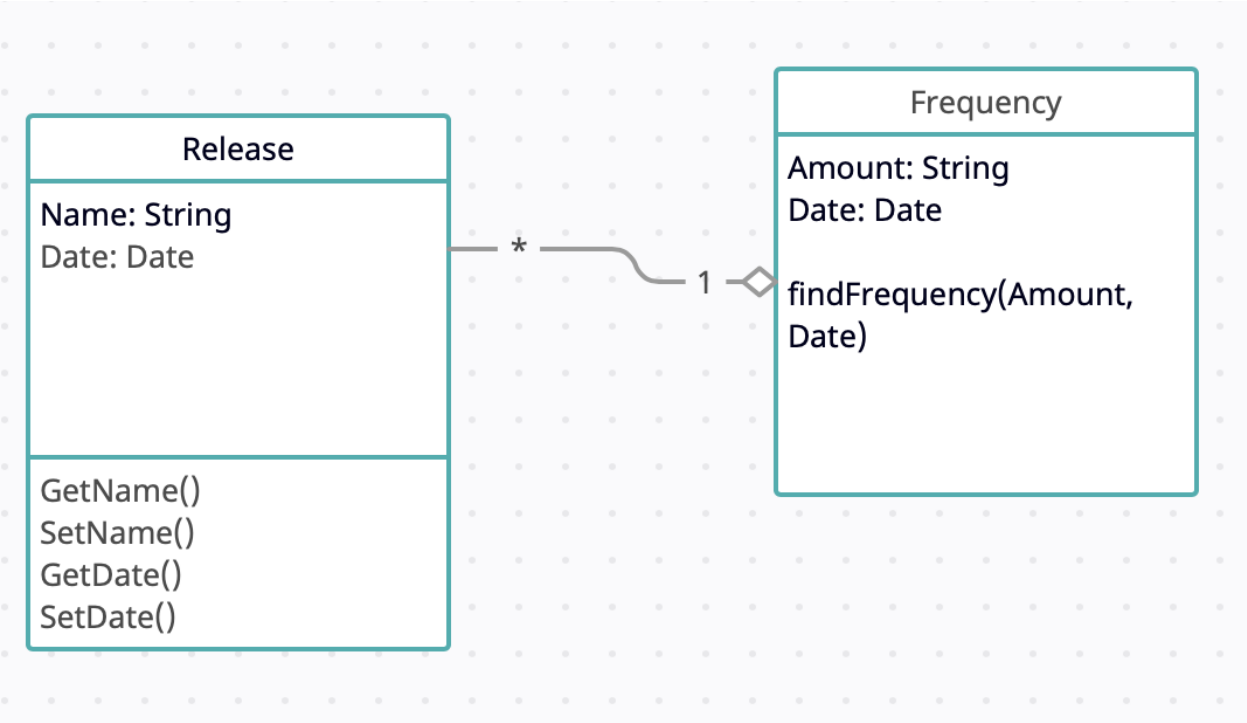

Visualization
Frontend Server
Backend Server
Navigate to Server
Return from Server
Navigate to Database
Connect to Database
Success
Select Contributors Percentage
Request Contributors Percentage
Show Contributor Percentage
Display Visualization

Release Frequency

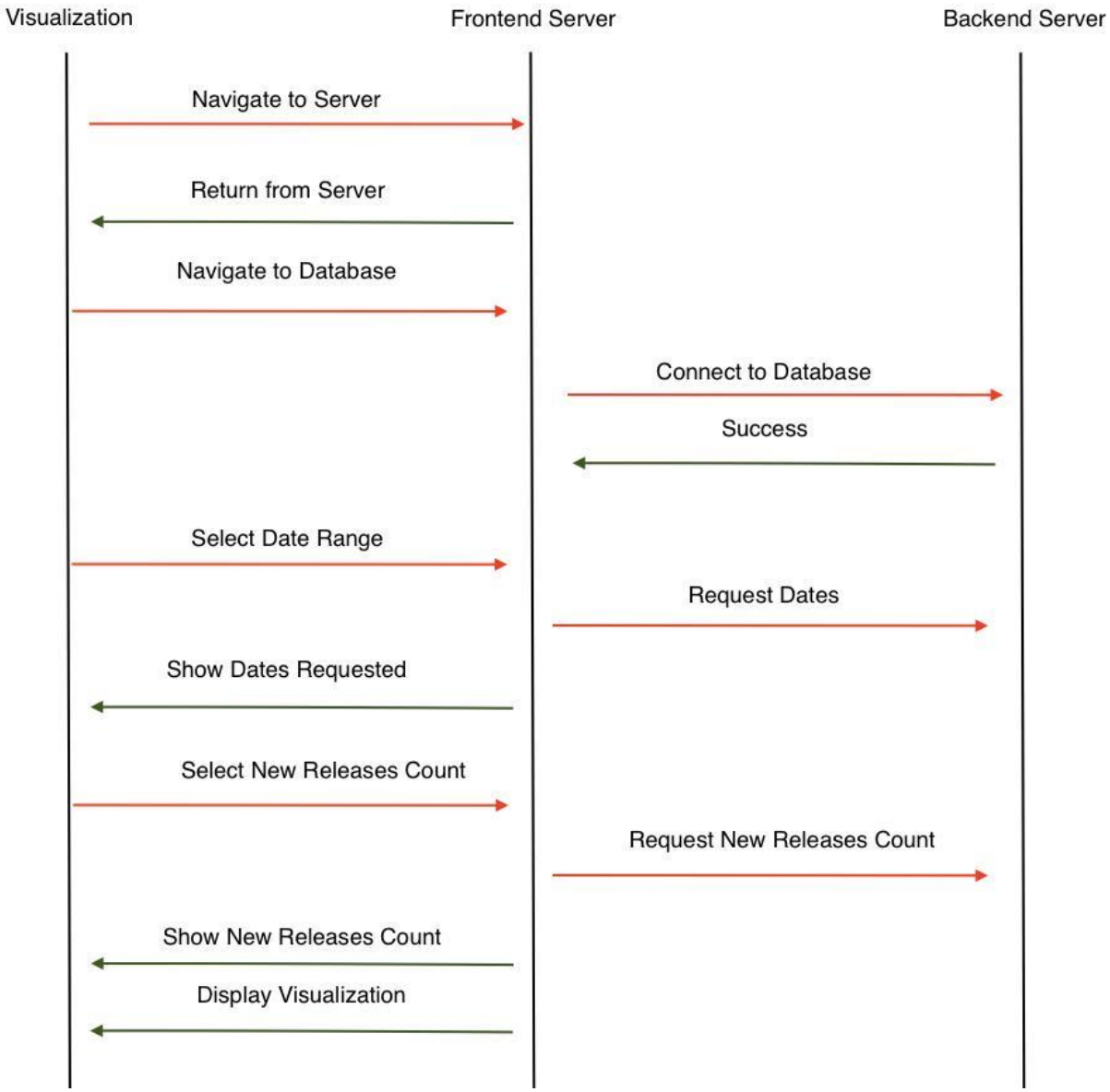
https://chaoss.community/kb/metric-release-frequency/

- Determine the frequency of project releases (including point releases with bug fixes)
  - The visualization will be a **Bar graph**, x - axis will be the time goes by, the y axis will be the numbers of project release, and the line graph will clearly show the frequency of the release over time.
  - Description of the visualization

Class Diagram



Sequence Diagram



Software Overview

In this model, we want to show the user how to help people get started with four key project health metrics that they can expand on and customize to meet their unique needs later.

System Requirements

- Software
    - python
    - 8Knot clone and install
    - docker Install
    - docker-compose install
    - git install
    - env.list at the top-level of the 8Knot directory that you clone
- Hardware
    - Not a specific requirement but must have enough memory space