Metrics Model: Starter Project Health - Design

Time to First Response (done)

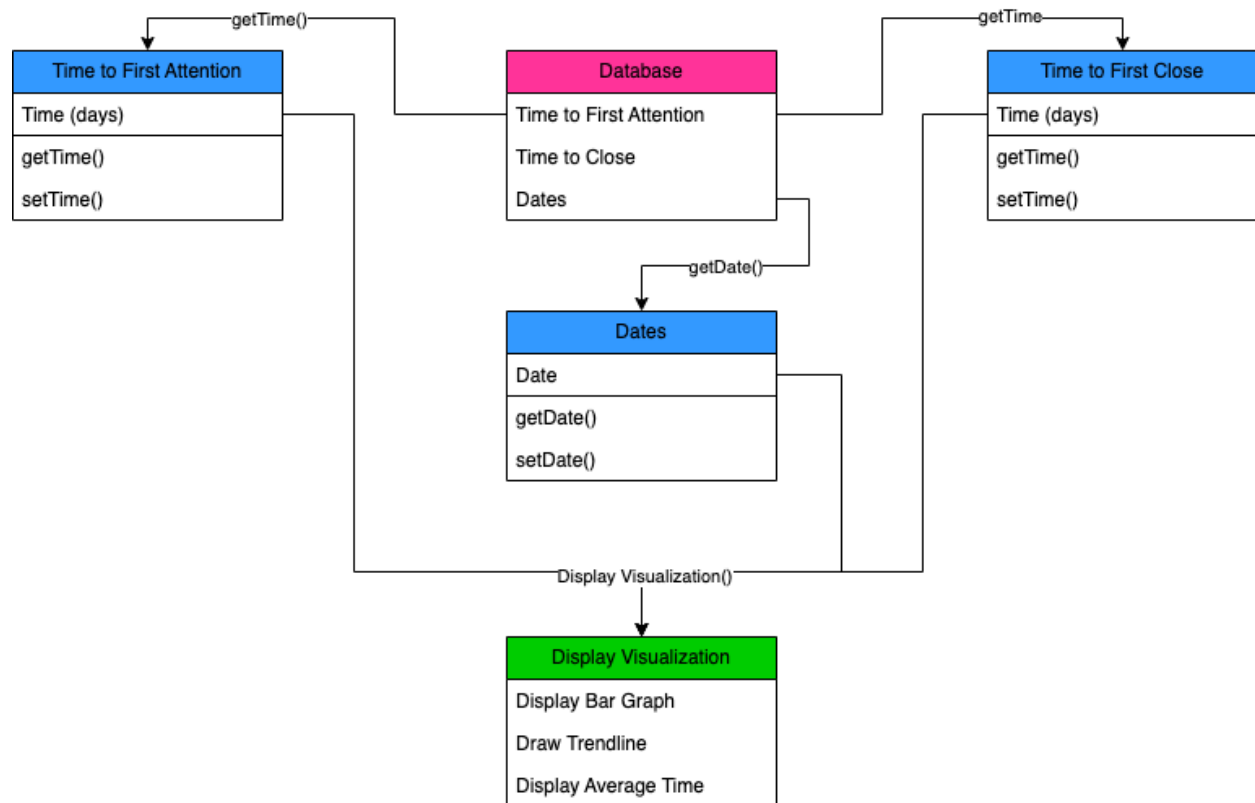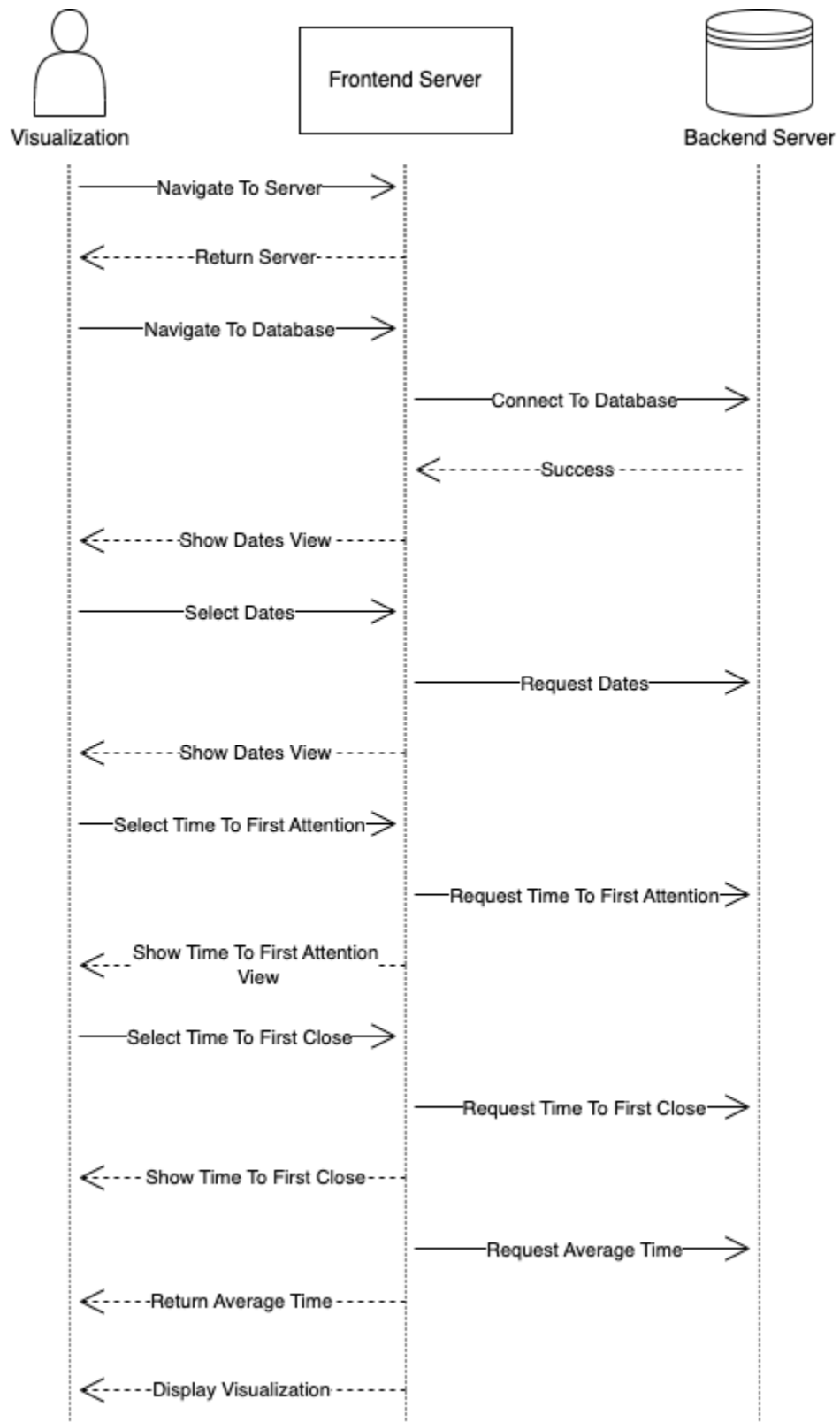https://chaoss.community/kb/metric-time-to-first-response/

- ○ 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 average time (days) to first response and close.
  - ■ Description of the visualization
  - ■ Display the average time to respond and close.

Class Diagram

Time to First Attention

Time (days)
getTime()
setTime()

Database

Time to First Attention
Time to Close
Dates

Time to First Close

Time (days)
getTime()
setTime()

getTime()

getTime

getDate()

Dates

Date
getDate()
setDate()

Display Visualization()

Display Visualization

Display Bar Graph
Draw Trendline
Display Average Time

Sequence Diagram

Visualization — Frontend Server — Backend Server

Navigate To Server →

←------- Return Server -------

Navigate To Database →

Connect To Database →

←---------- Success ----------

←------- Show Dates View -------

Select Dates →

Request Dates →

←------- Show Dates View -------

Select Time To First Attention →

Request Time To First Attention →

←------- Show Time To First Attention View -------

Select Time To First Close →

Request Time To First Close →

←------- Show Time To First Close -------

Request Average Time →

←------- Return Average Time -------

←------- Display Visualization -------

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.
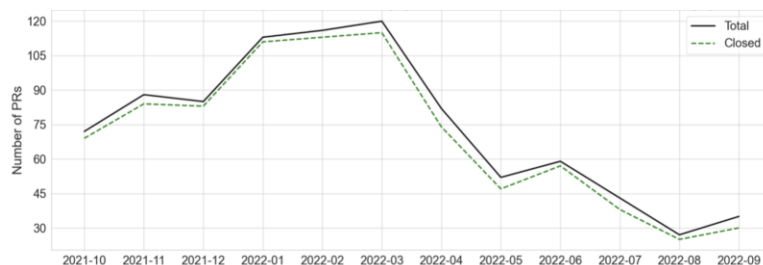   - ■ Description of the visualization
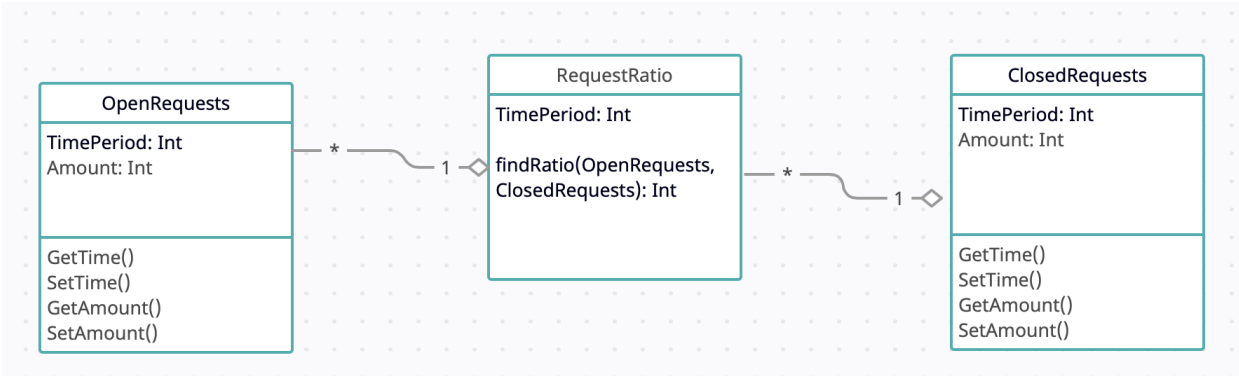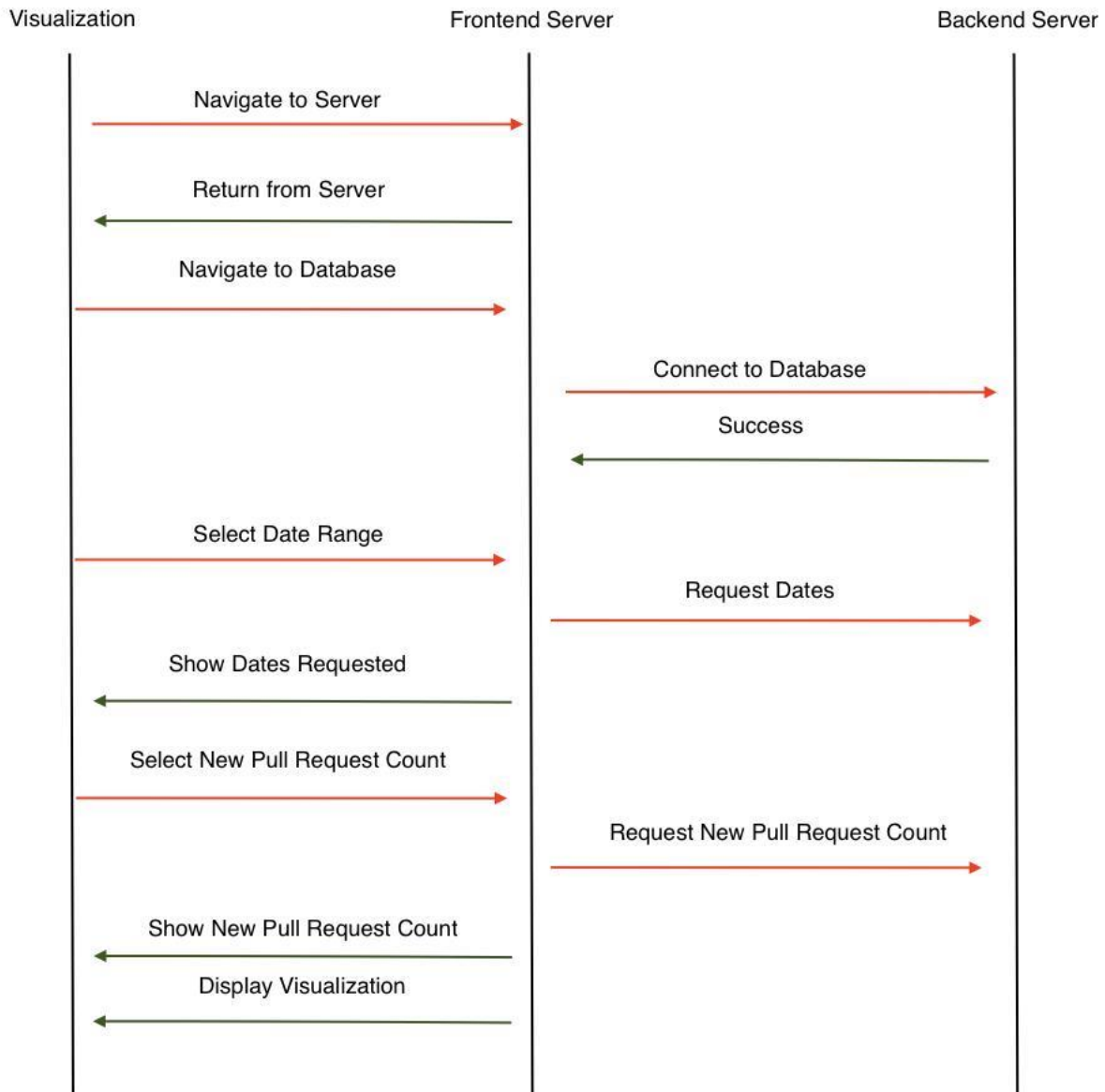

Diagram 1

Diagram 2

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.
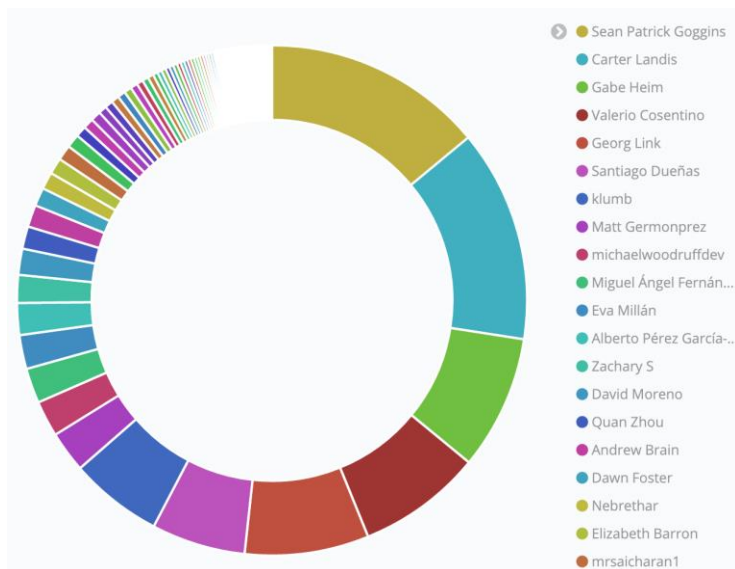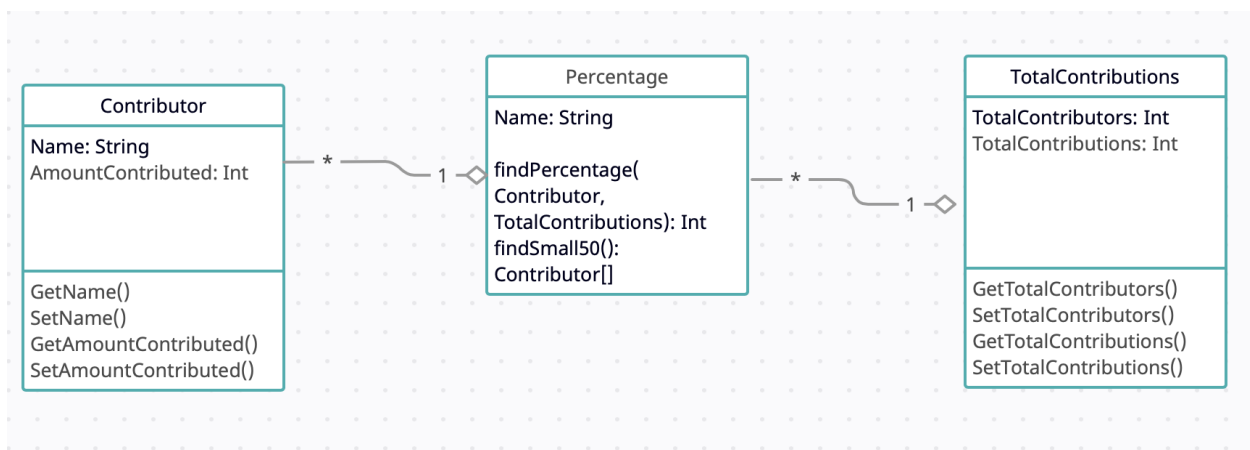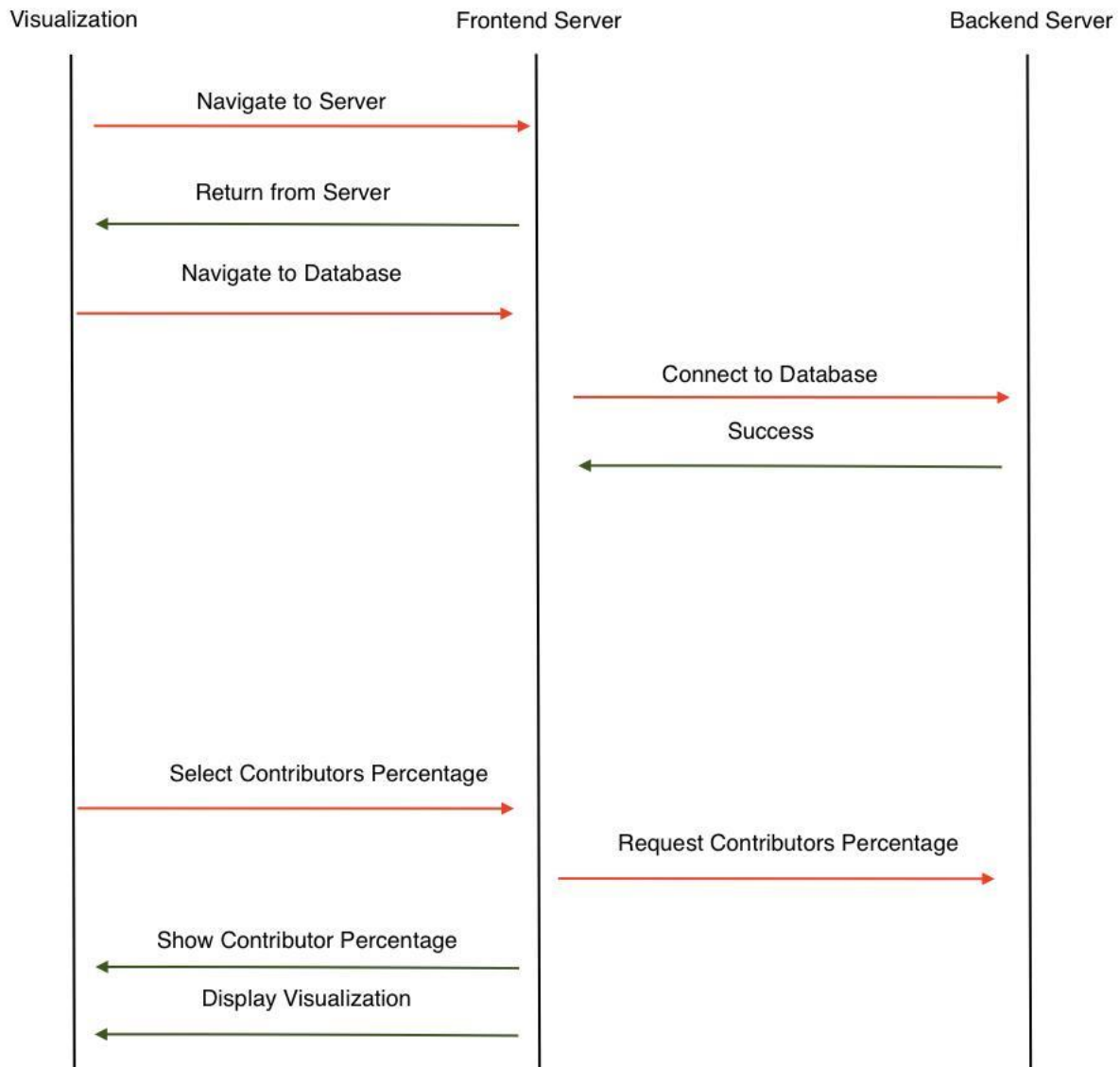 - Description of the visualization

Legend:
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Diagram 1

Contributor

Name: String
AmountContributed: Int

GetName()
SetName()
GetAmountContributed()
SetAmountContributed()

Percentage

Name: String

findPercentage(
Contributor,
TotalContributions): Int
findSmall50():
Contributor[]

TotalContributions

TotalContributors: Int
TotalContributions: Int

GetTotalContributors()
SetTotalContributors()
GetTotalContributions()
SetTotalContributions()

* — 1 ◇   * — 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 **line 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

Recent Releases Count

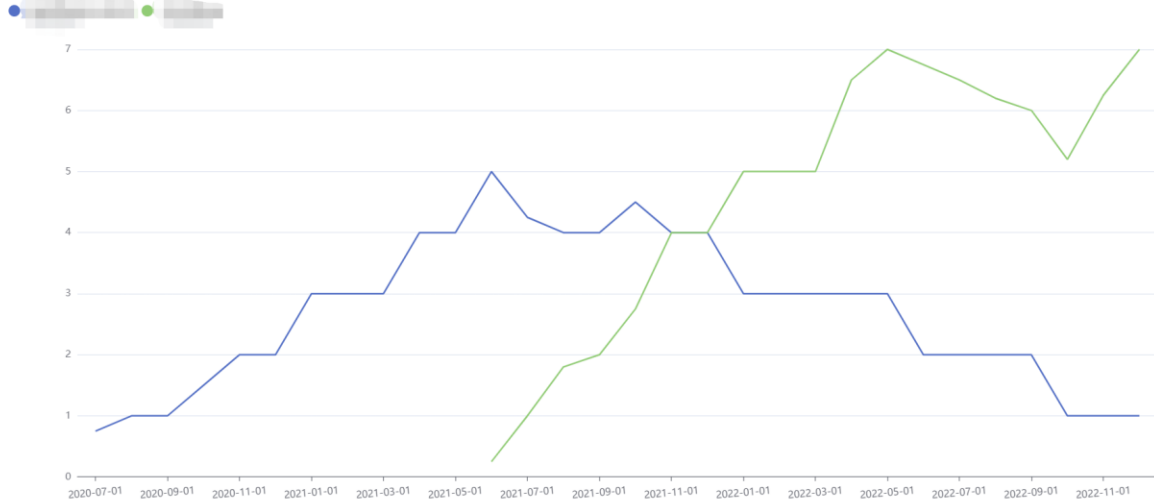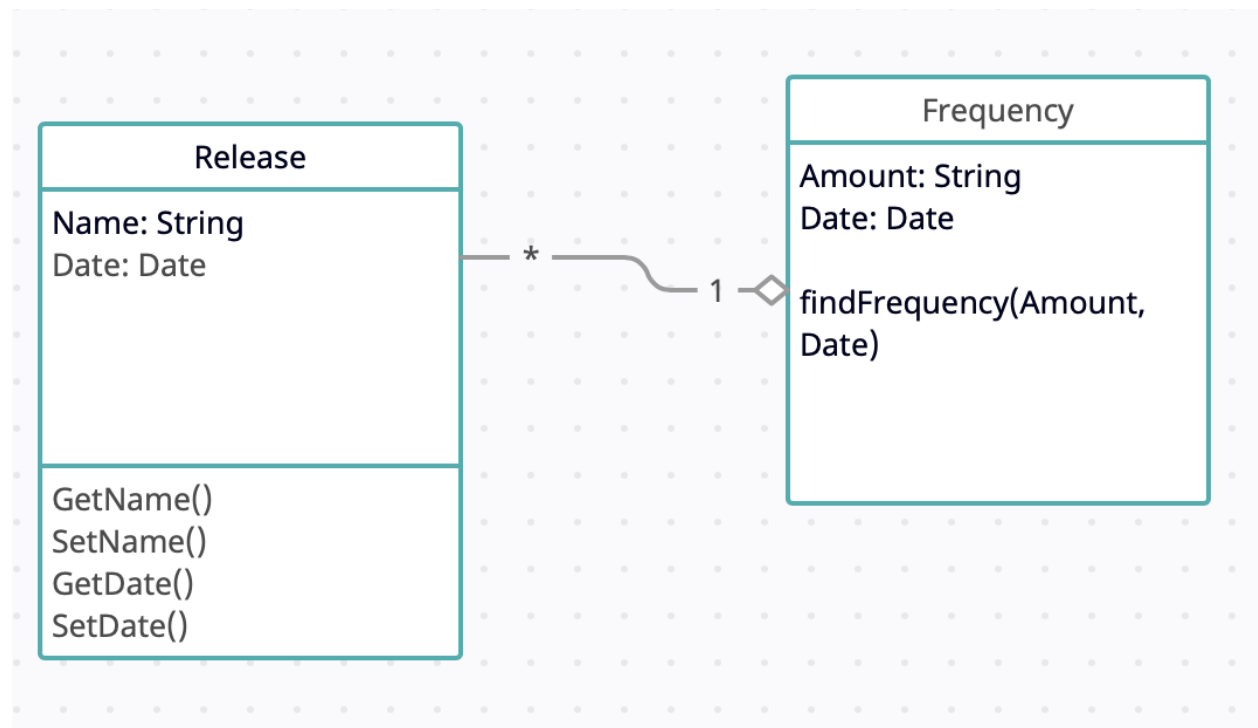Determine the number of releases in the last year. Know more

Diagram 1

Release

Name: String
Date: Date

GetName()
SetName()
GetDate()
SetDate()

Frequency

Amount: String
Date: Date

findFrequency(Amount, Date)

* 1

Diagram 2

Visualization	Frontend Server	Backend Server

Navigate to Server →

← Return from Server

Navigate to Database →

Connect to Database →

← Success

Select Date Range →

Request Dates →

← Show Dates Requested

Select New Releases Count →

Request New Releases Count →
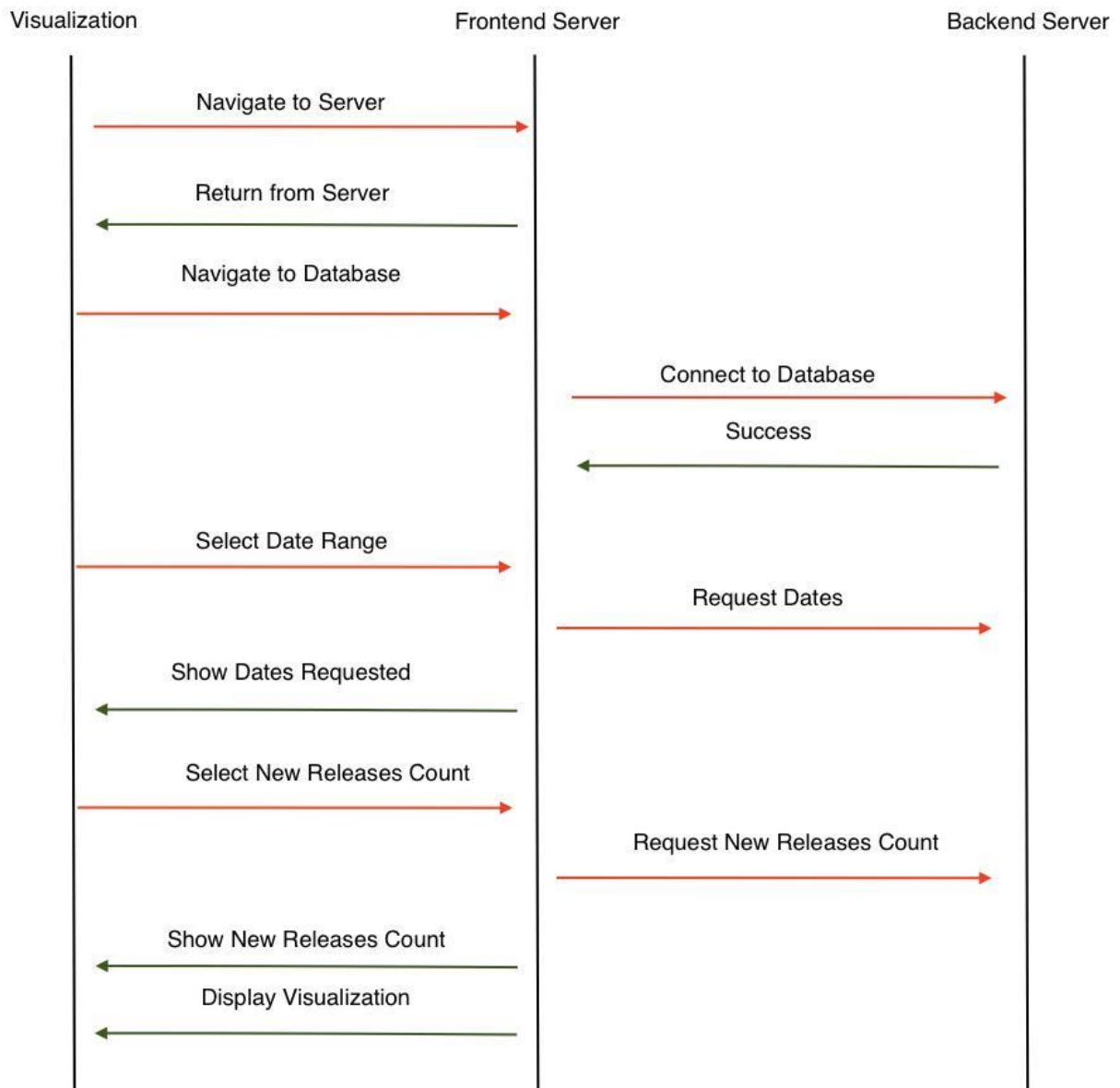
← Show New Releases Count

← Display Visualization

Software Overview (done)

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