DESIGNING A PLATFORM FOR NETWORK-RELATED EDUCATION

Software Architecture Document

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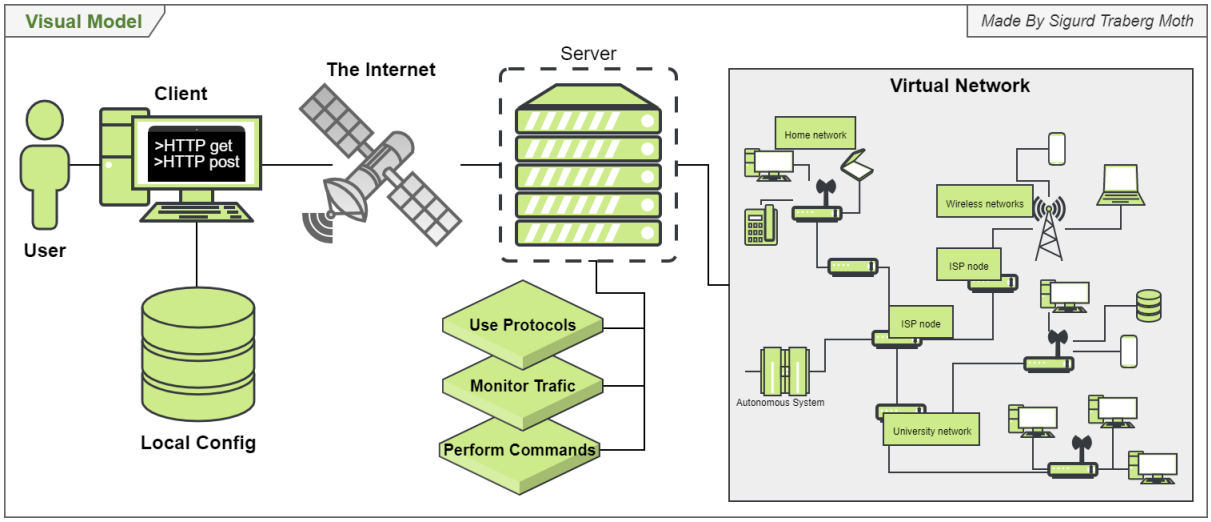
VERSION NUMBER: 1.00

Color: #538135



CONTRIBUTORS:

<Contribution> <Name> <Mail[Optional] >

A. Document Structure

A.1 Scope and Summary

The software architecture document (SAD) contains all the diagrams used to explain and understand the various design decisions as well as microservice architecture.

A.2 How stakeholders can use the documentation

Stakeholders can use this document as a lookup tool to get a brief overview of systems or to get supporting documentation to the report and SRS.

A.3 How the document is organized

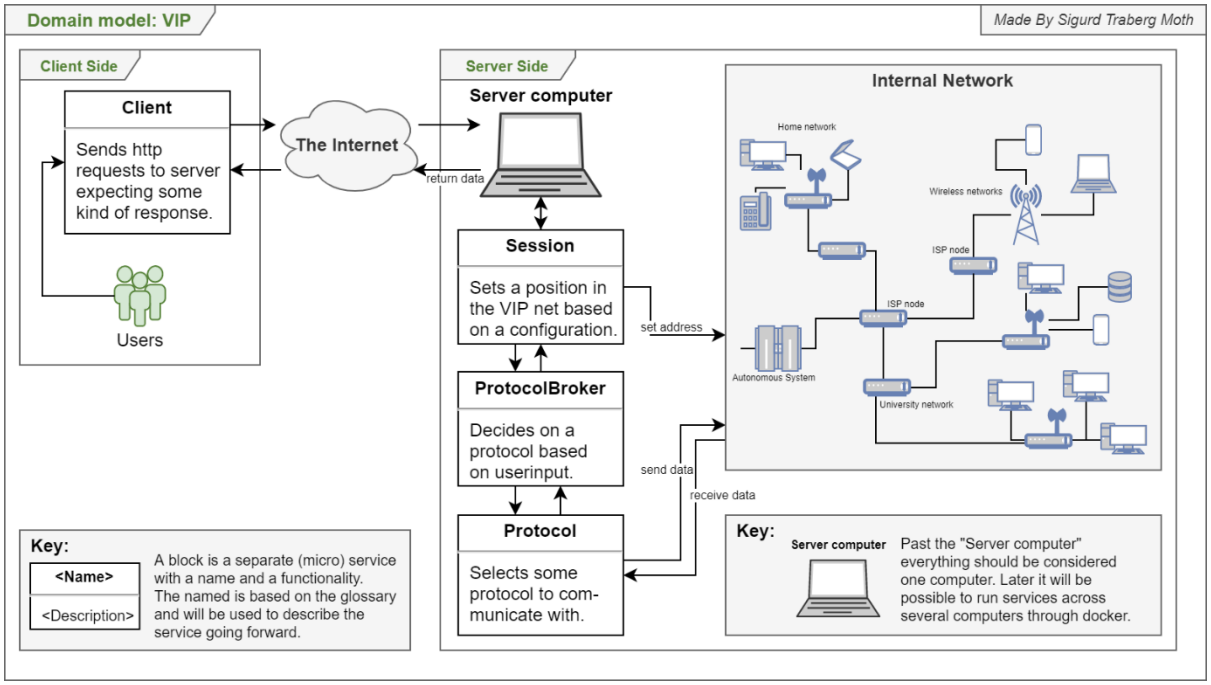
Diagrams are developed in phases of Unified Process (UP). That is Requirements → Analysis → Design → Implementation. The document is ordered by type of diagram and importance. System views → Design diagrams → Implementation (class) diagrams → Sequence diagrams → other diagrams.

Table of Contents

System views

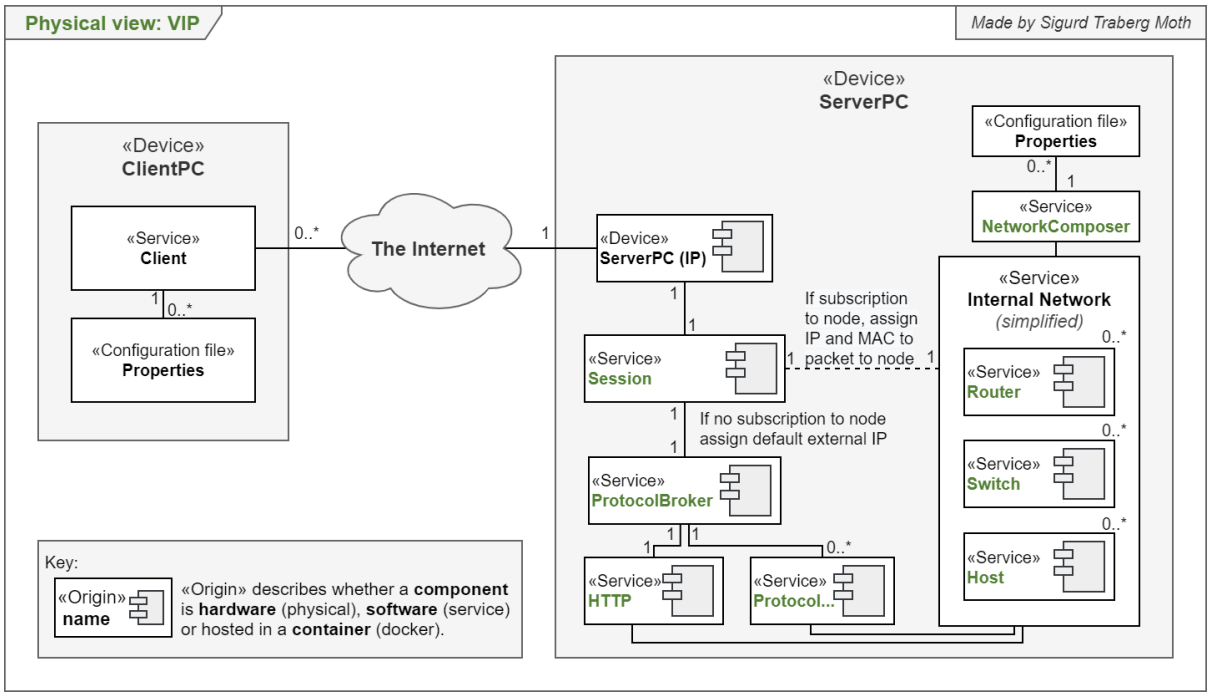
Domain model

Attempts to make the VIP understandable by using high-level explanations.



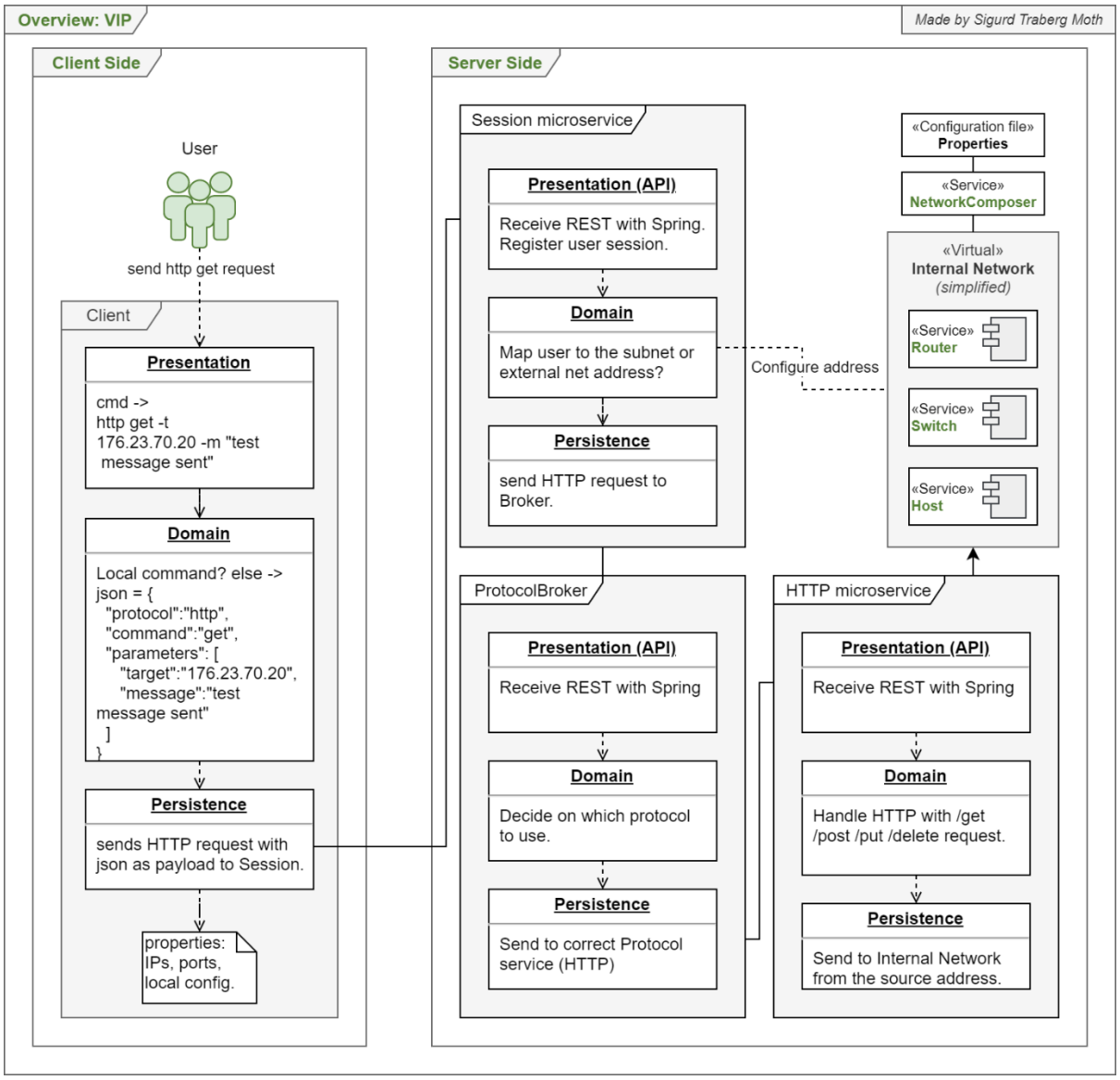
Physical view of VIP

Details of how configurations, services, and classes are stored and hosted.



Overview

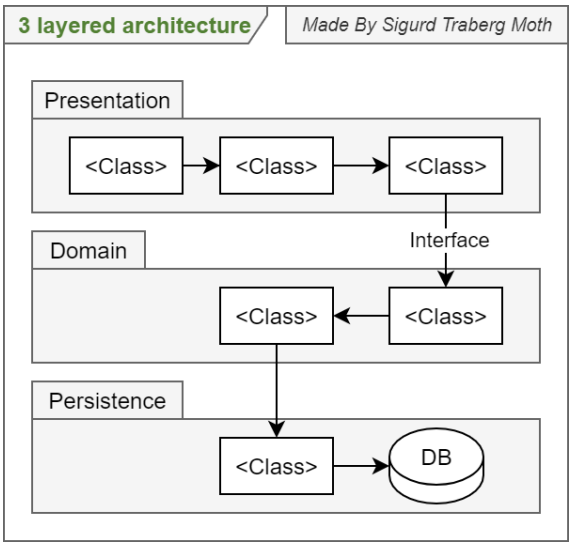
A more detailed explanation of how the system functions including information on service and layer basis.



Design diagrams

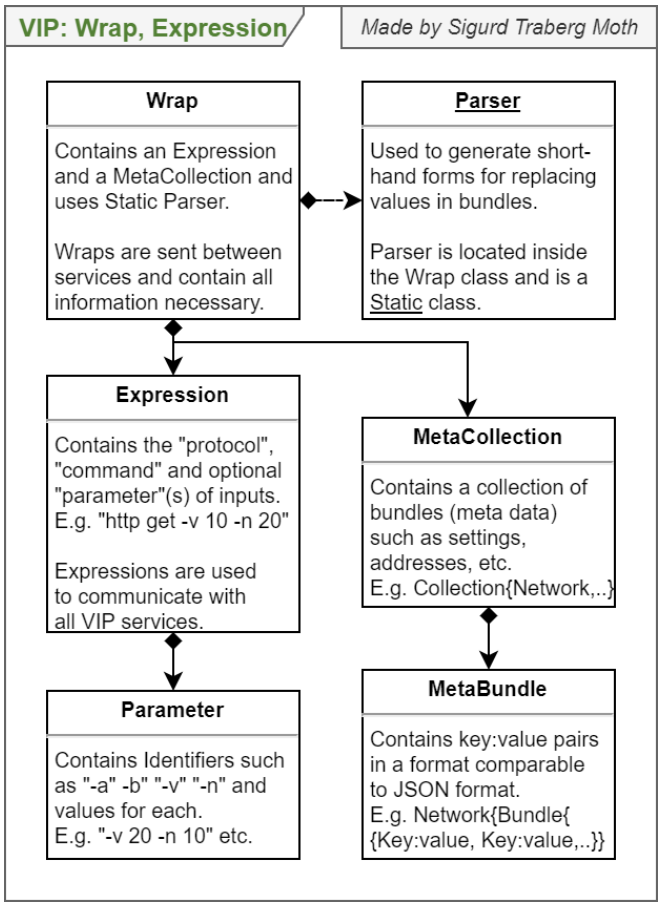
3 layered architecture

An illustration of the 3 layered architecture presentation, domain, and persistence and how interfaces act as middlemen between layers.



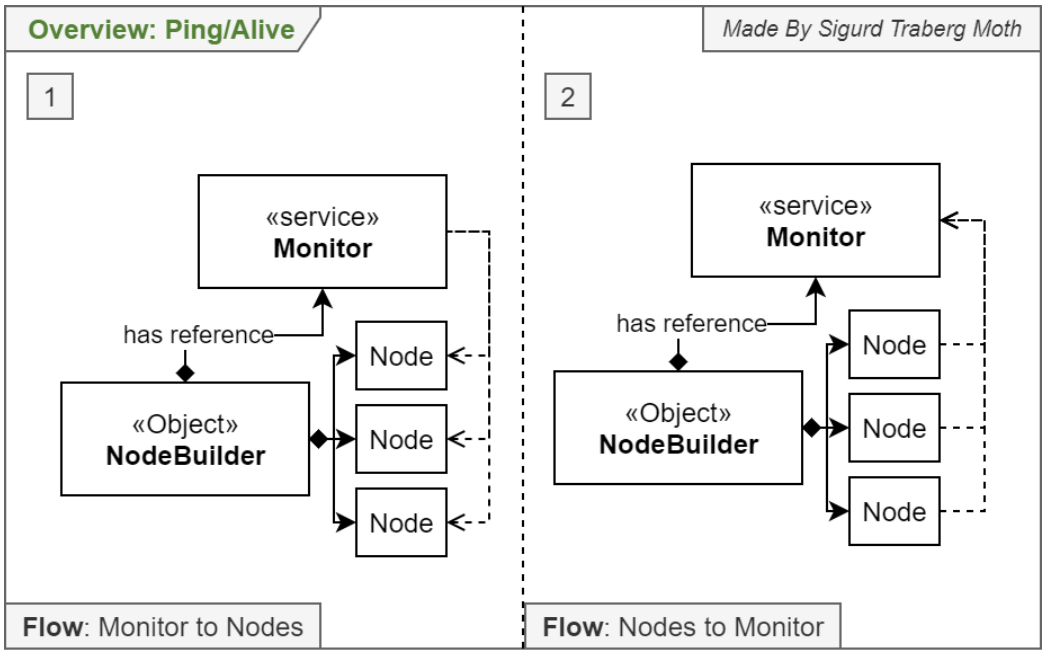
Wrap and Expression

A diagram explaining the design of the Wrap object.



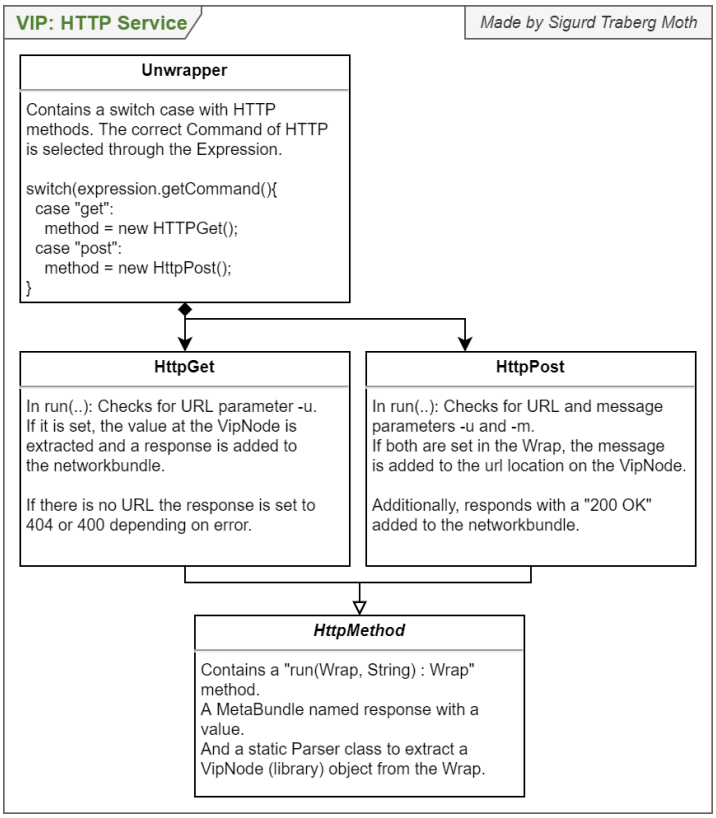
Overview of Monitor pattern

A possible design of the monitor pattern.



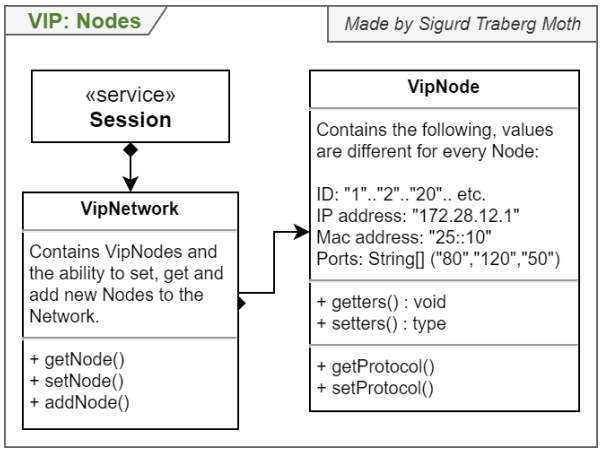
HTTP service

A detailed explanation of the HTTP service design.



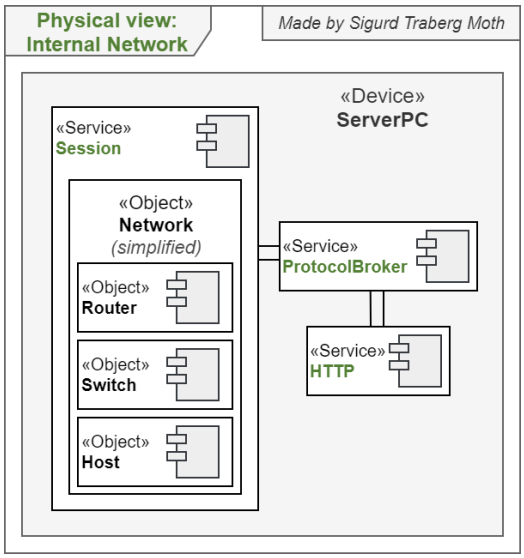
VipNode

A detailed explanation of the VipNetwork and VipNode's design and relationship with Session.



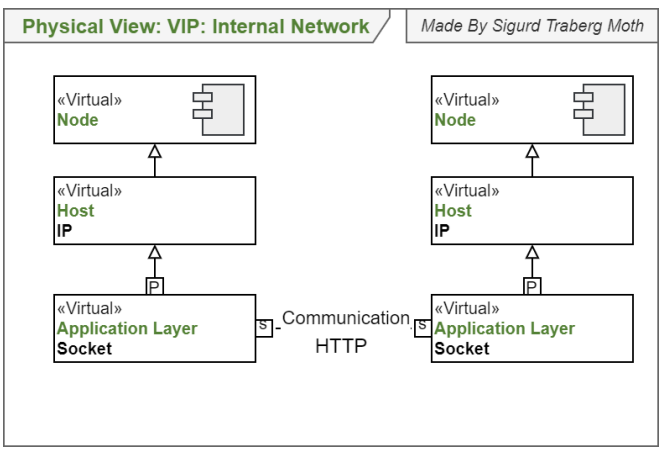
Internal Network located on Session

Another illustration of the Internal Network that currently lives on the Session service.



Internal Network Application Layer

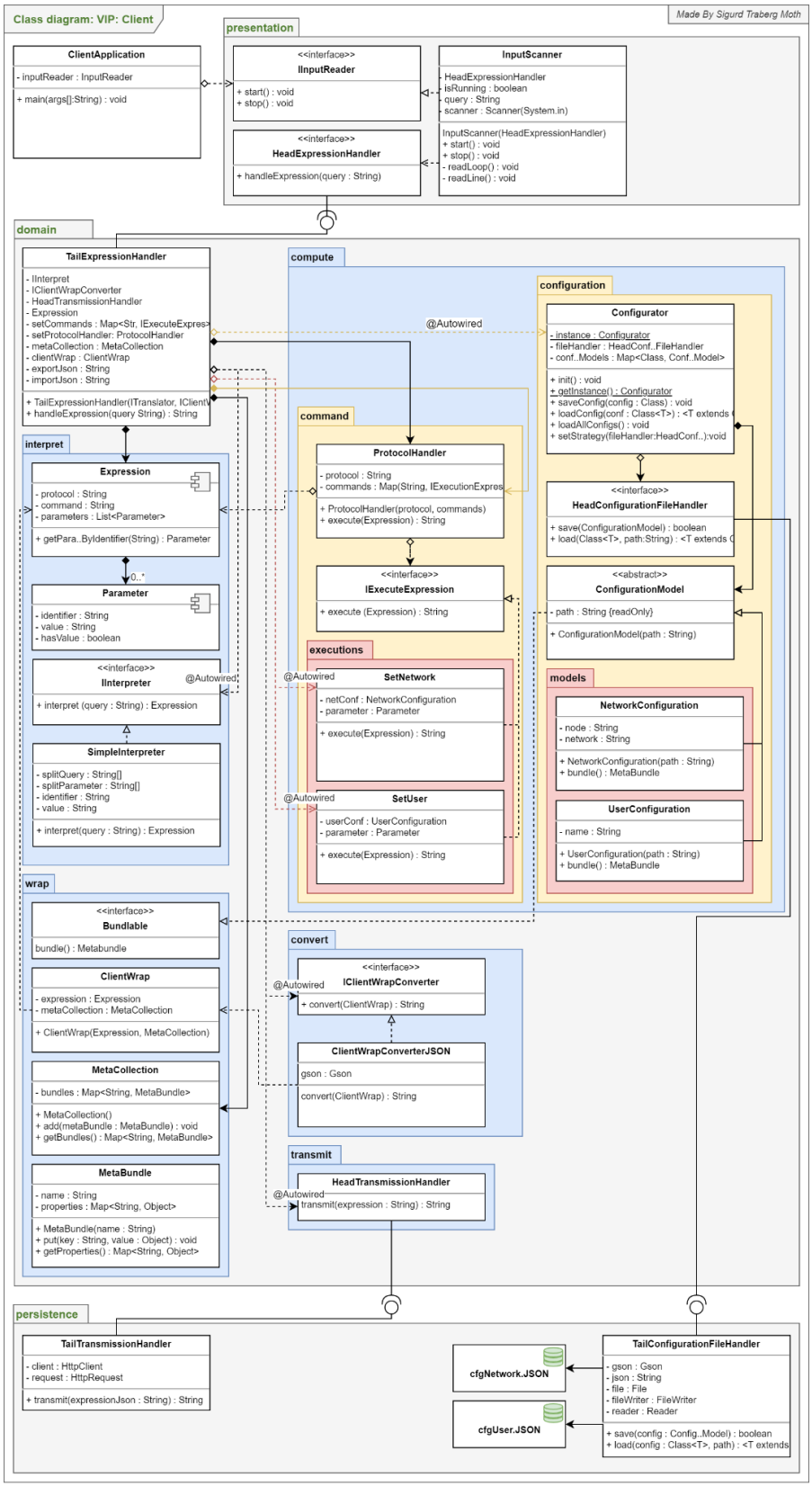
A potential design for the application layer when lower layers are also implemented.



Implementation diagrams

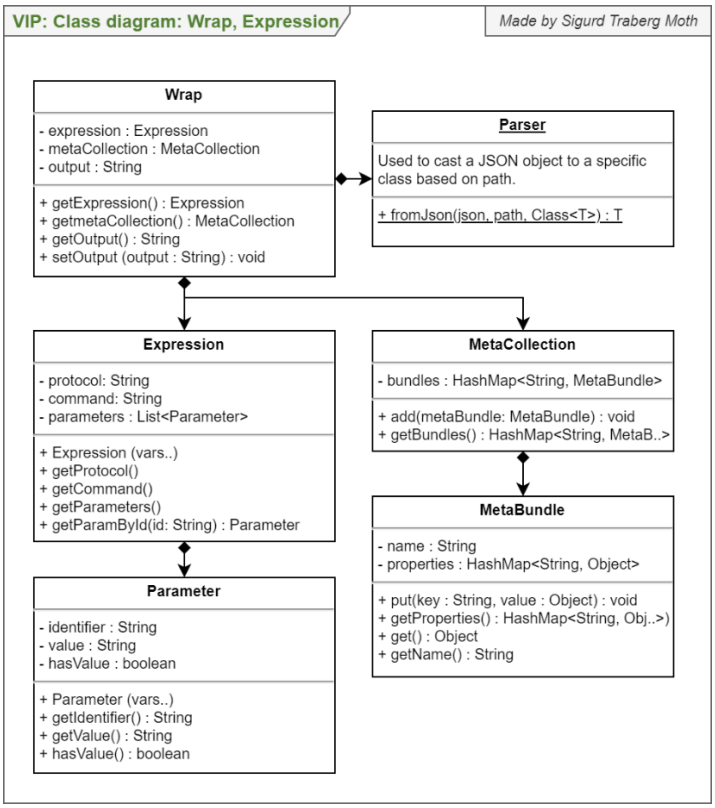
Client

A full class diagram of the Client, some naming is outdated (Zoom in for details).



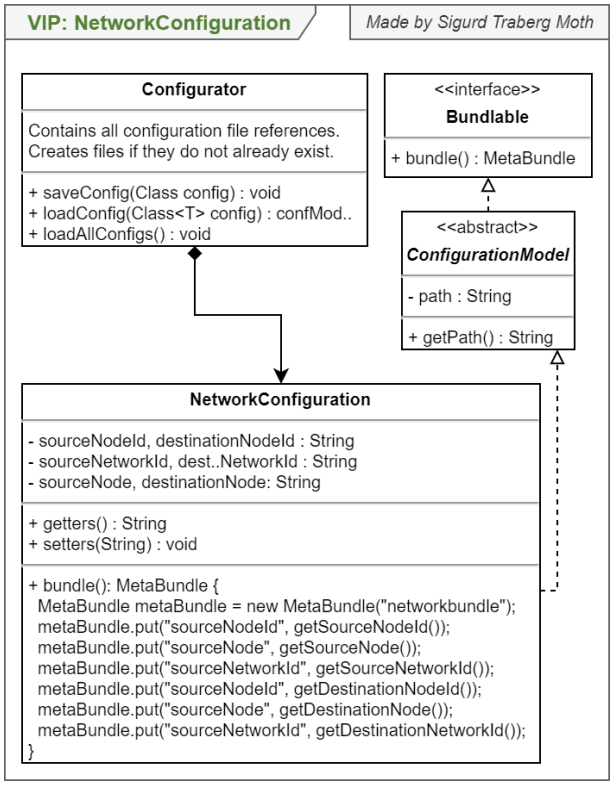
Expression and Wrap

A class diagram explaining the Wrap in further detail.



Network Configuration

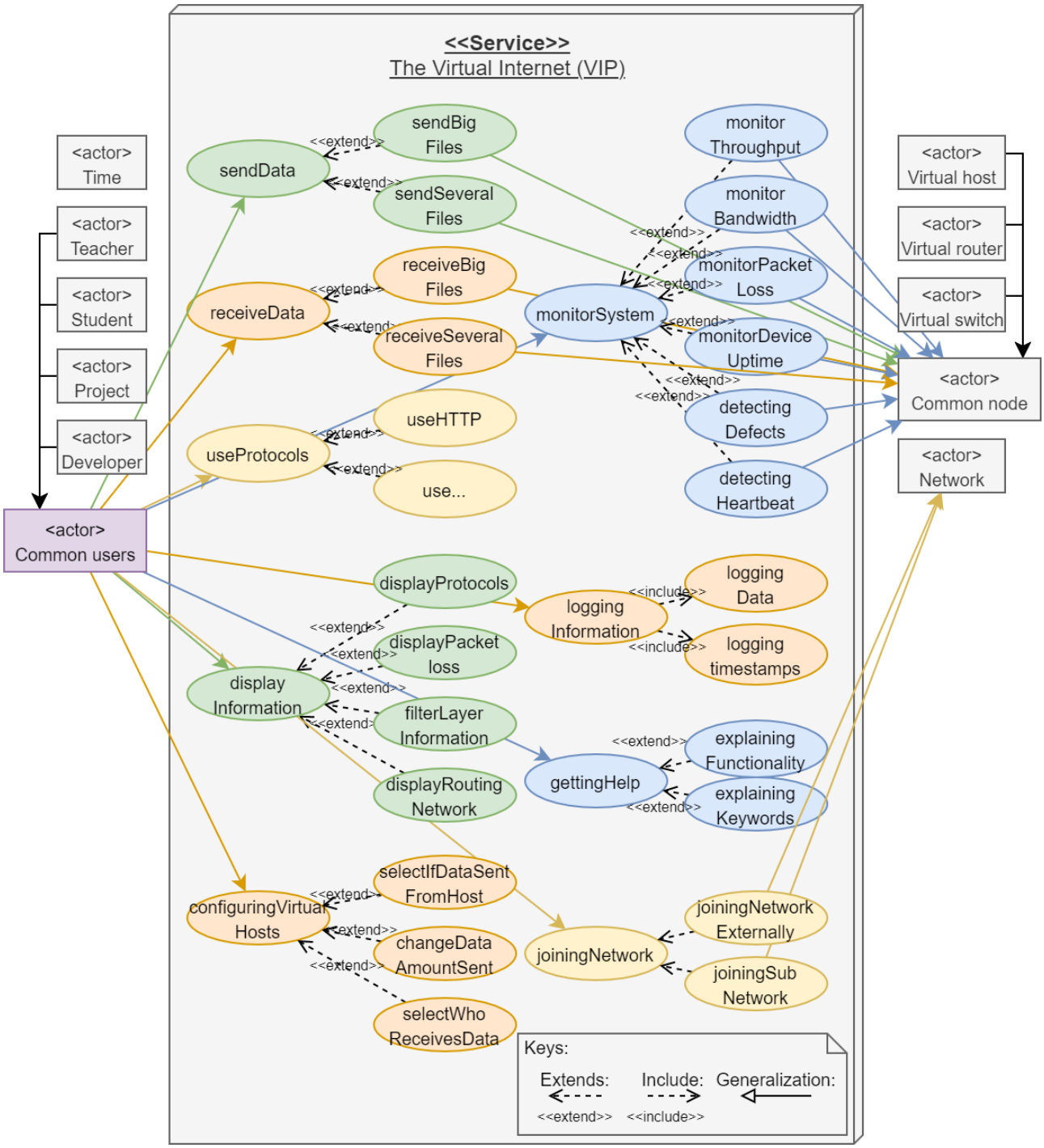
A mix of design and class diagram that illustrates the Configurator for a NetworkConfiguration.



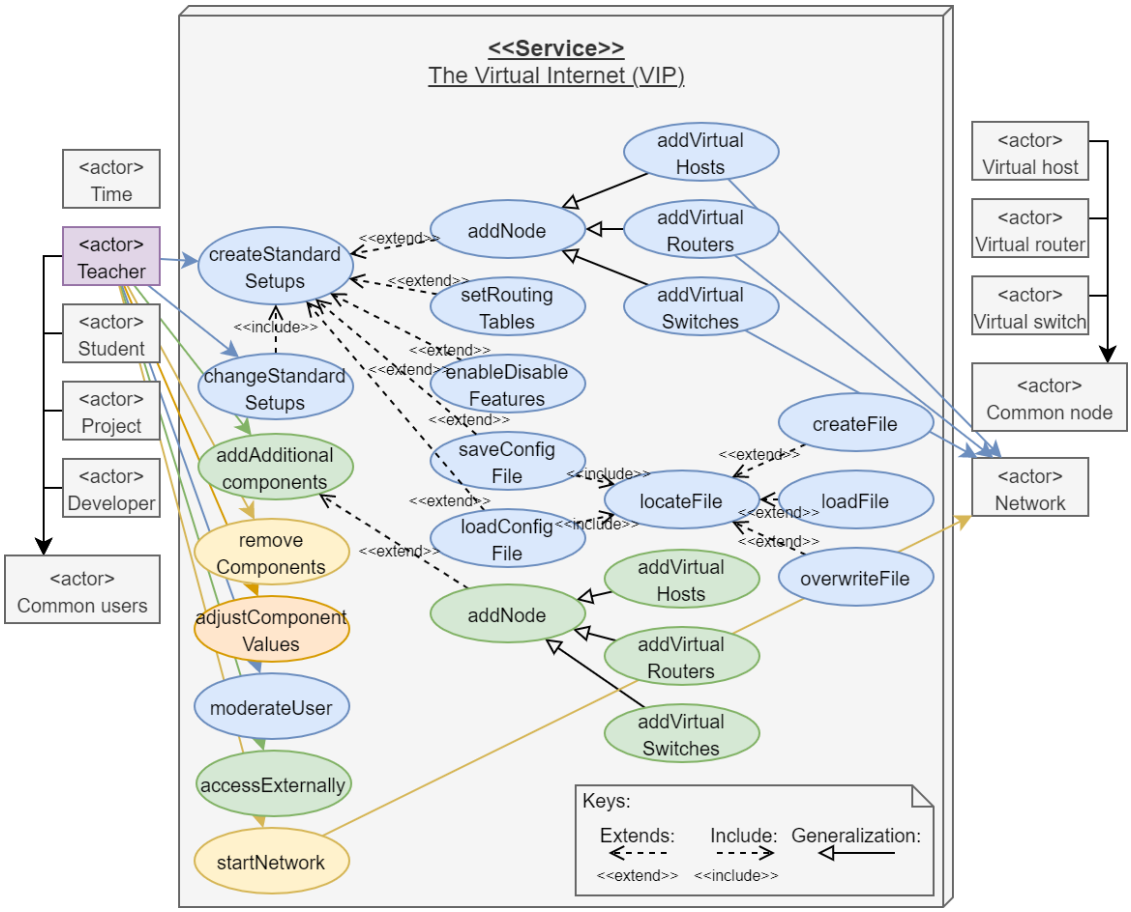
Use case diagrams

Common users

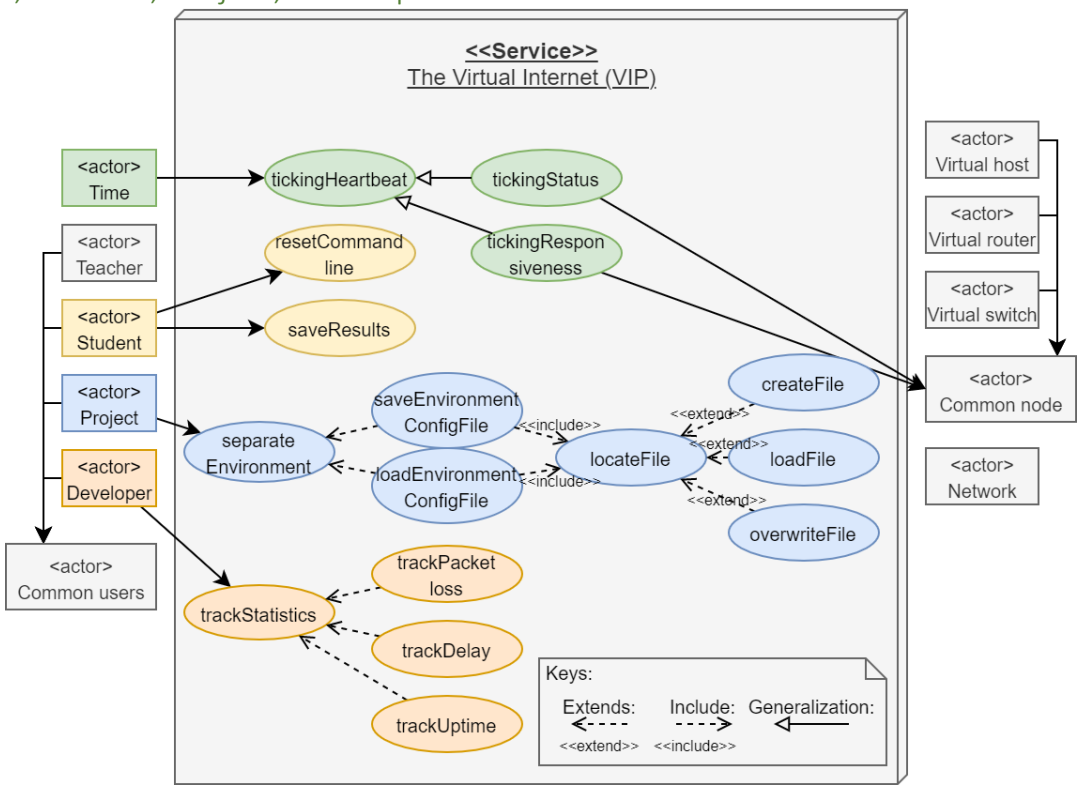
Discovered use cases for Common users with arrows to illustrate the area of interests and to group functionality.



Teacher



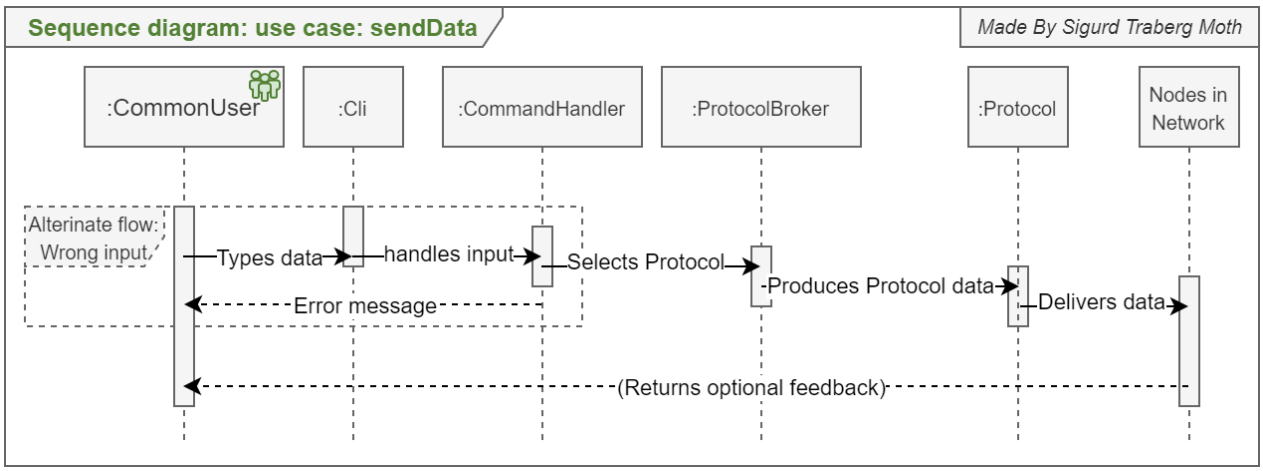
Time, Student, Project, Developer



Sequence diagrams

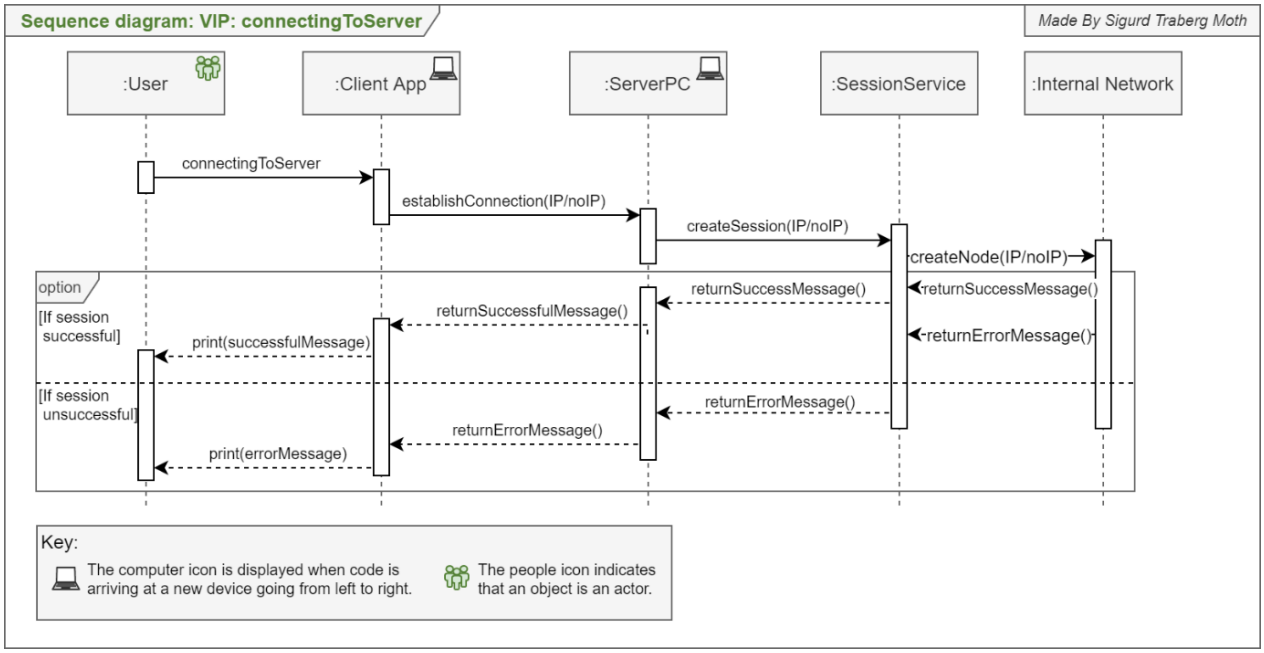
Use case: sendData

A sequence diagram showing the flow of the use case for sending data through the VIP as a user.



Connecting to server

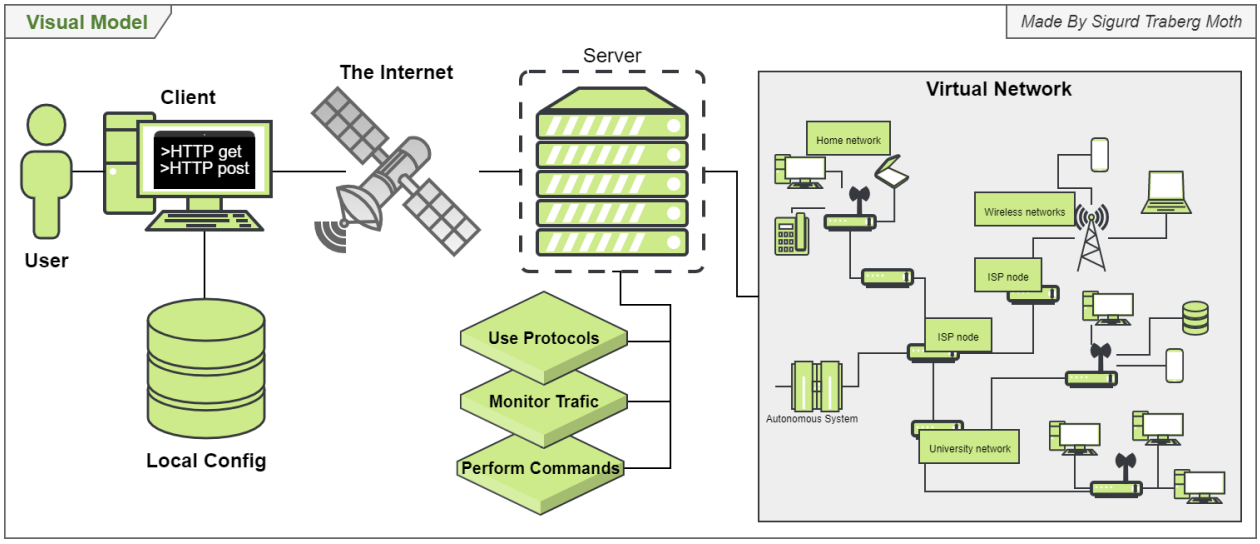
A sequence diagram illustrating the necessary flow when a client creates a new connection and overtakes a node.



Other diagrams

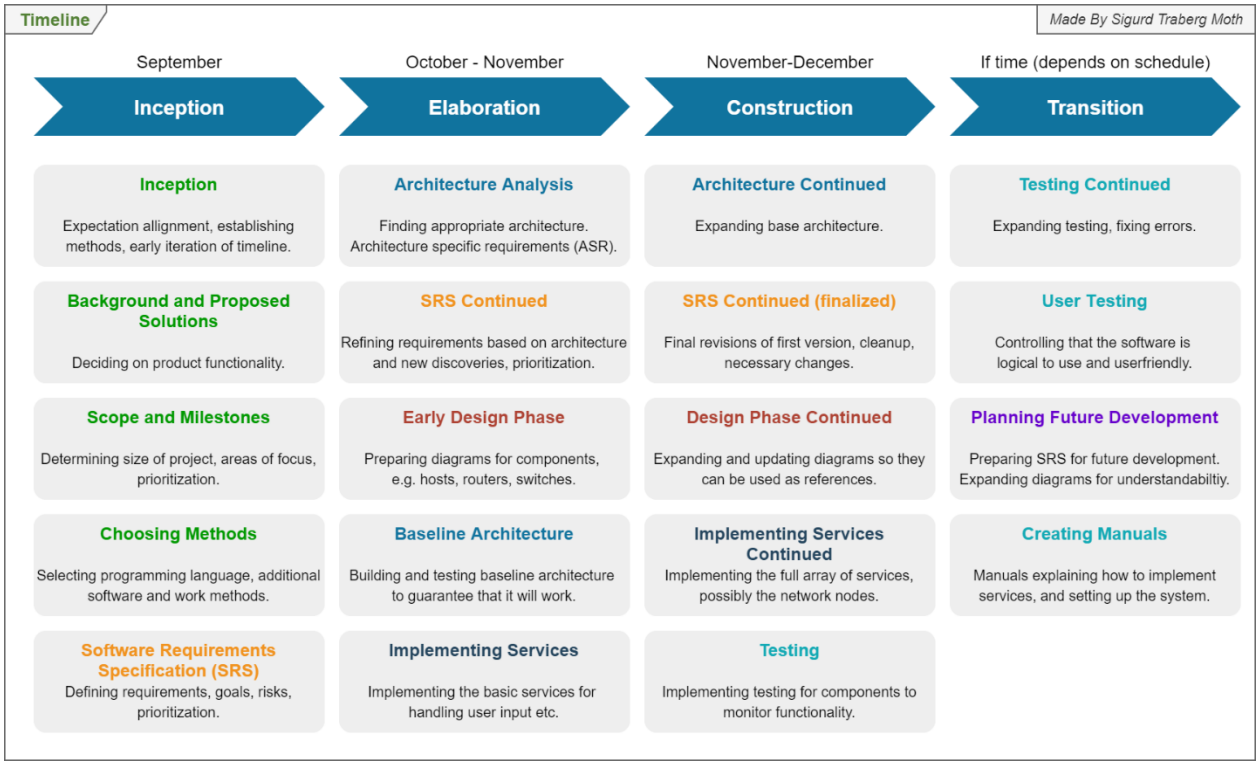
Visual

A simple diagram is made to spark an interest in the reader.

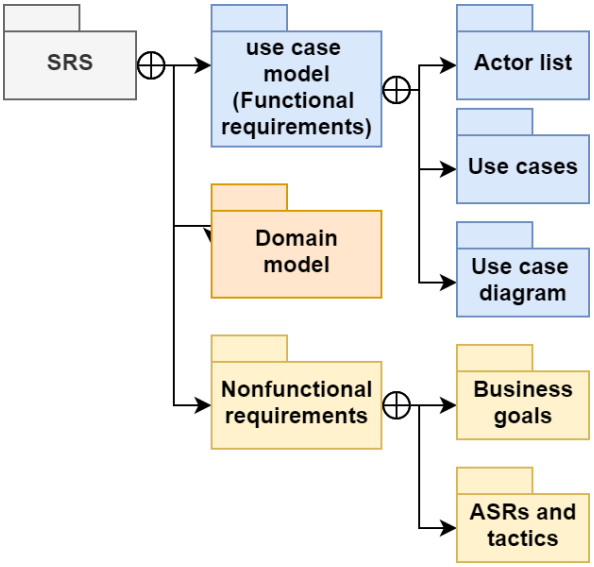


Timeline

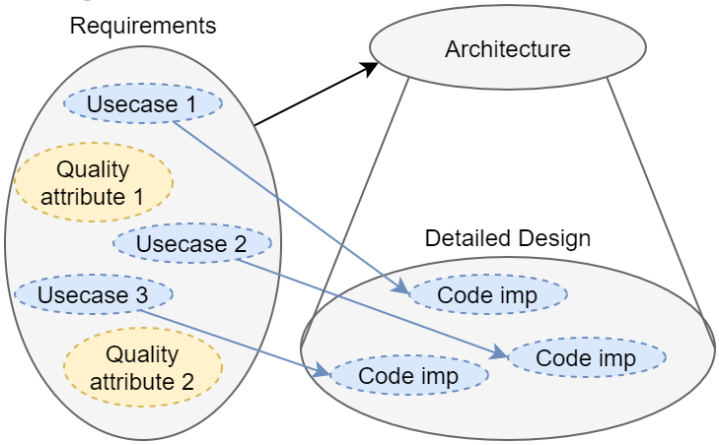
A milestones diagram pointing out expected goals as a part of the original Bachelor project.



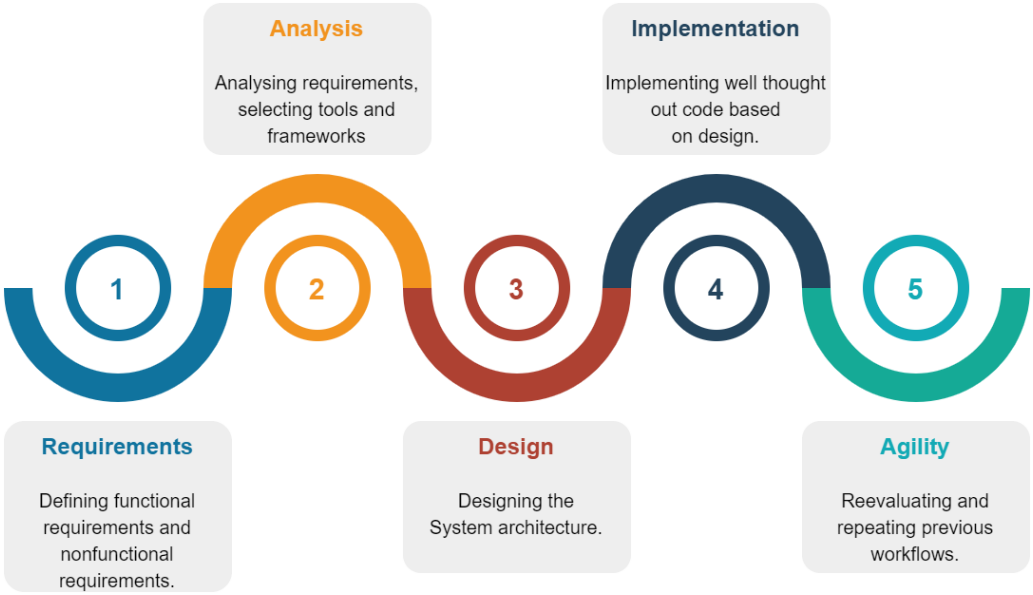
SRS design



Requirements to design



Agile workflow



Logo 1

The primary logo for the VIP. Other logos are optional for new features, currently only used as placeholders on GitLab to differentiate packages.

Logo 2

Logo 3

Logo 4

Outdated diagrams

Logical view

The original diagram for the VIP design.