Designing study

- Live stream interview

  ### For each participant

1. Language Candidates - Rust, OCaml, Wyvern, Java
2. Problem Statement - Logger Editor, Secure API Design
3. Experience
    - Number of years
    - Domain (Web / App / Systems / Data Science /etc)
    - Academia / Industry / OSS / Hobbyist

Problem Summary

Logger Editor

Case study: The user has to design a logger with the following spec

1. Saved in `~/var/log/
2. Save in some sort of regex patterns

They should be implemented in such a manner that our interfacing with it does not provide us with any extra capability than what we have now. Some problems might be

1. Incorrect Path Traversal
2. Arbitrary code execution

Secure Backend API Design (to be fleshed out more)

1. Login page to save / reset passwords
2. Web Cookies
3. Limiting IP addresses / port connections (for eg in rust's `cap_std` package)

Ways on how to go about good design study

Grounded theory methodology [1]

The goal of GTM is not to test a fixed hypothesis or existing theories, but rather to build up a new theory, grounded in data, to understand a phenomenon or domain. At a high level, it operates as follows:

1. The researcher collects data.
2. As the researcher collects data, they tag it with increasingly abstract categories that are, ideally, the simplest possible explanation for the data at hand.
3. As more data accumulates, this simplest possible explanation will grow more nuanced when unexpected or surprising new data challenges the developing theory.
4. This process finishes when the theory reliably accounts for the data being collected and no more łsurprisesž are found. (This is often called theoretical saturation.)

Is the above useful in our case?

References

[1] https://jlubin.net/assets/oopsla21.pdf