Google Meet's Performance Across Variety of Internet Condition
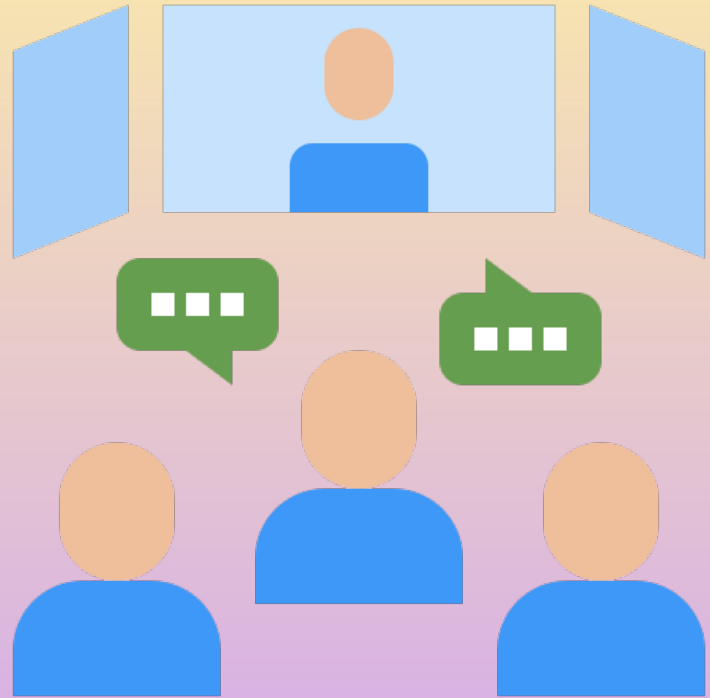
Austria Vince, La Concepcion College, 2022

Special thanks to...

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- Dave Warren (statistics and programming support)
- LinusTechTips FB group (technical and network support)
- R statistical software FB group (R programming and data visualization support)
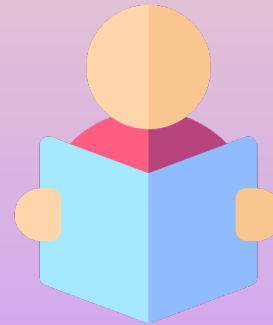
Opening Remarks

Introduction

There's an ever growing need for reliable video conferencing software than ever before

Google Meet position

But our network
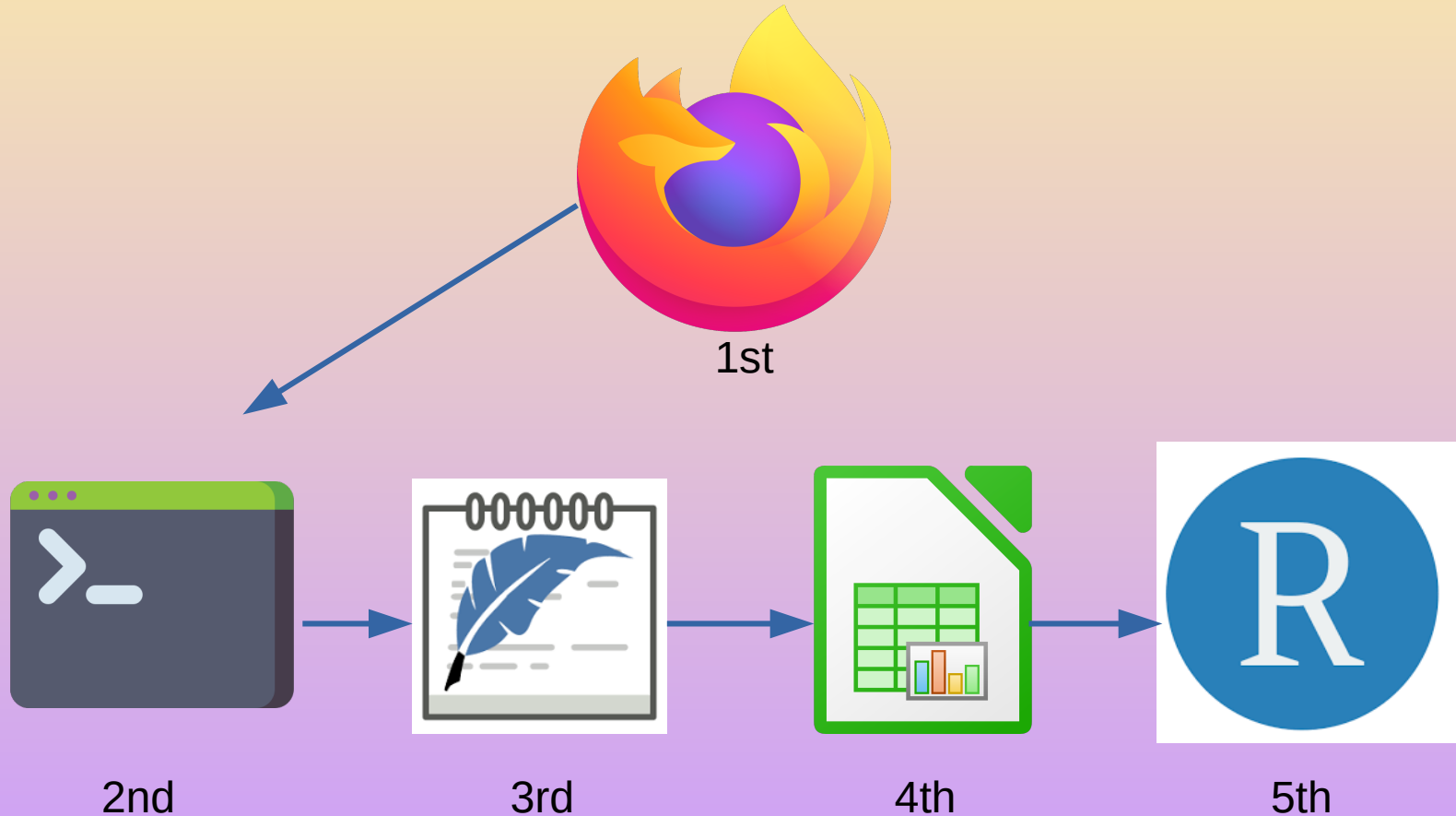Infrastructure is
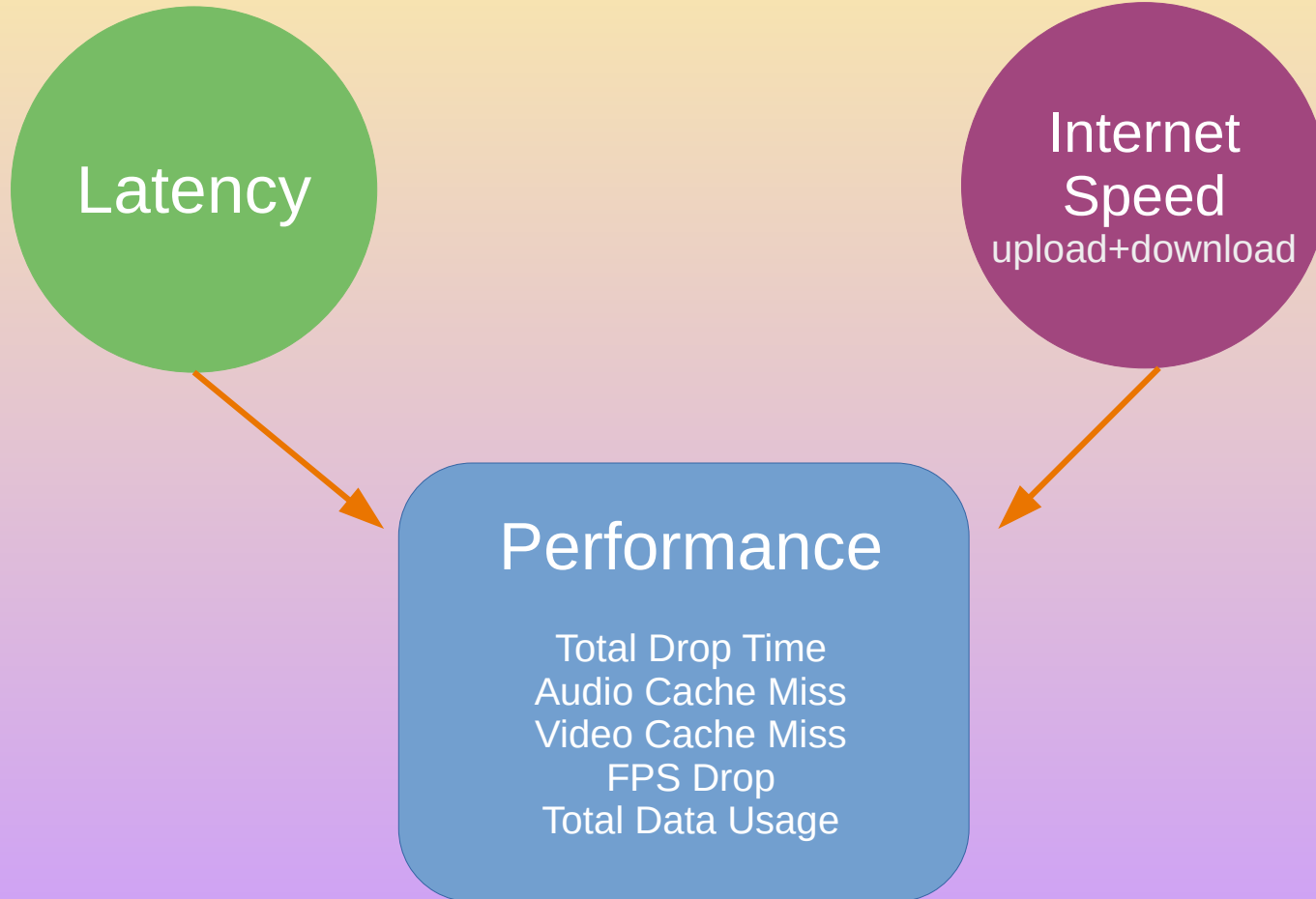Not ready...

User Frustration

Objectives

- Postulate a testing principle

- Evaluate Google Meet performance

- Determine variables that greatly affect Meet

- Develop a working theory based on this effect

- Establish the adverse impact of slow internet speed and high latency on Meet

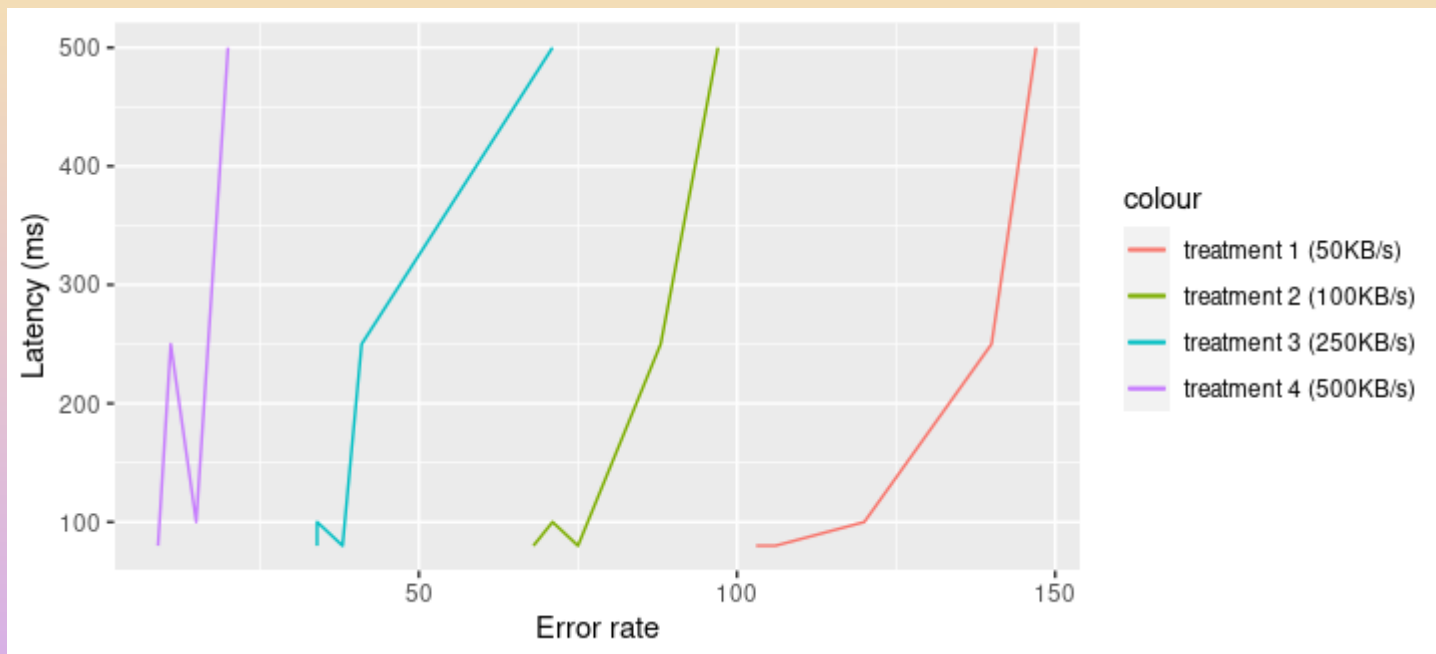- Discussing the positive effect of slow internet speed and latency on Meet

Data Collection

1st

2nd

3rd

4th

5th

Variables

Latency

Internet Speed
upload+download

Performance

Total Drop Time
Audio Cache Miss
Video Cache Miss
FPS Drop
Total Data Usage

Overall Results

Positive trend in error rate as latency increased combined with internet speed dropping
R = 0.9683, p = 0.0024; (327,753 data points)

Study's Limitation

- Single point sampling (limiting the scope to individual performance)

- Non linear behaviour of the dependent variable pass the performance of plateau (refer to theoretical framework)

- Hardware limitation (1 Million datapoints and beyond requires a better computer)
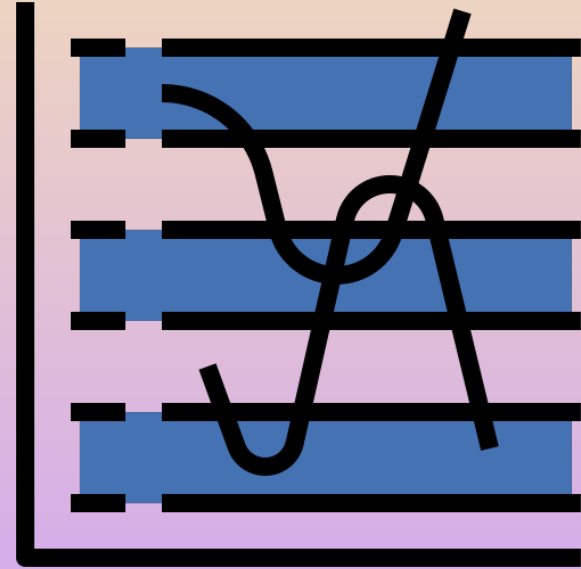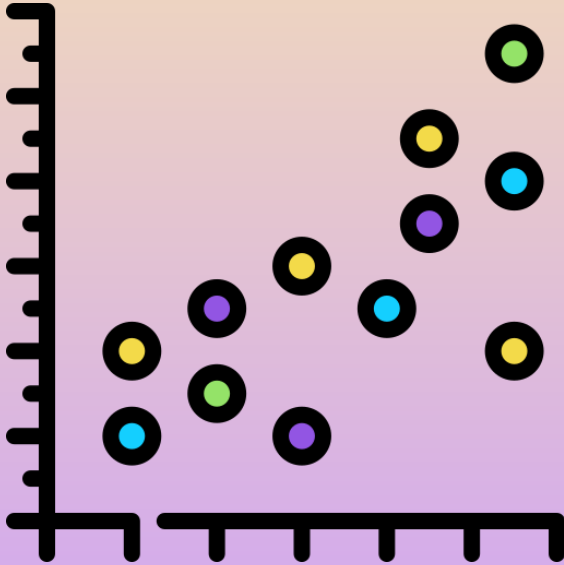
Conclusion

1. Google Meet Resiliency

2. Synthetically slowing down internet speed might lead to data and electrical savings...

3. Google Meet performance is influenced by the independent variables in a non linear way (curve)

The END :)