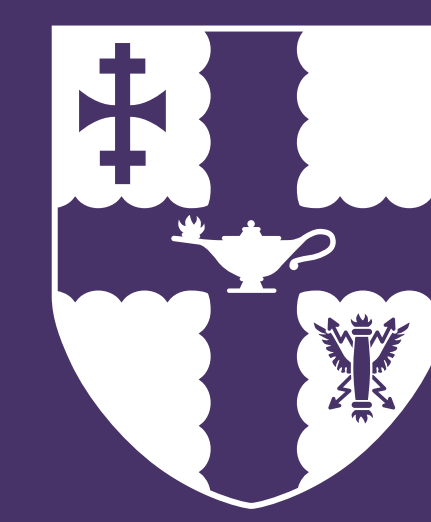


Multi-Dimensional Observation of Splinternet

Understanding the future of a fragmented Internet



Loughborough University

Abstract

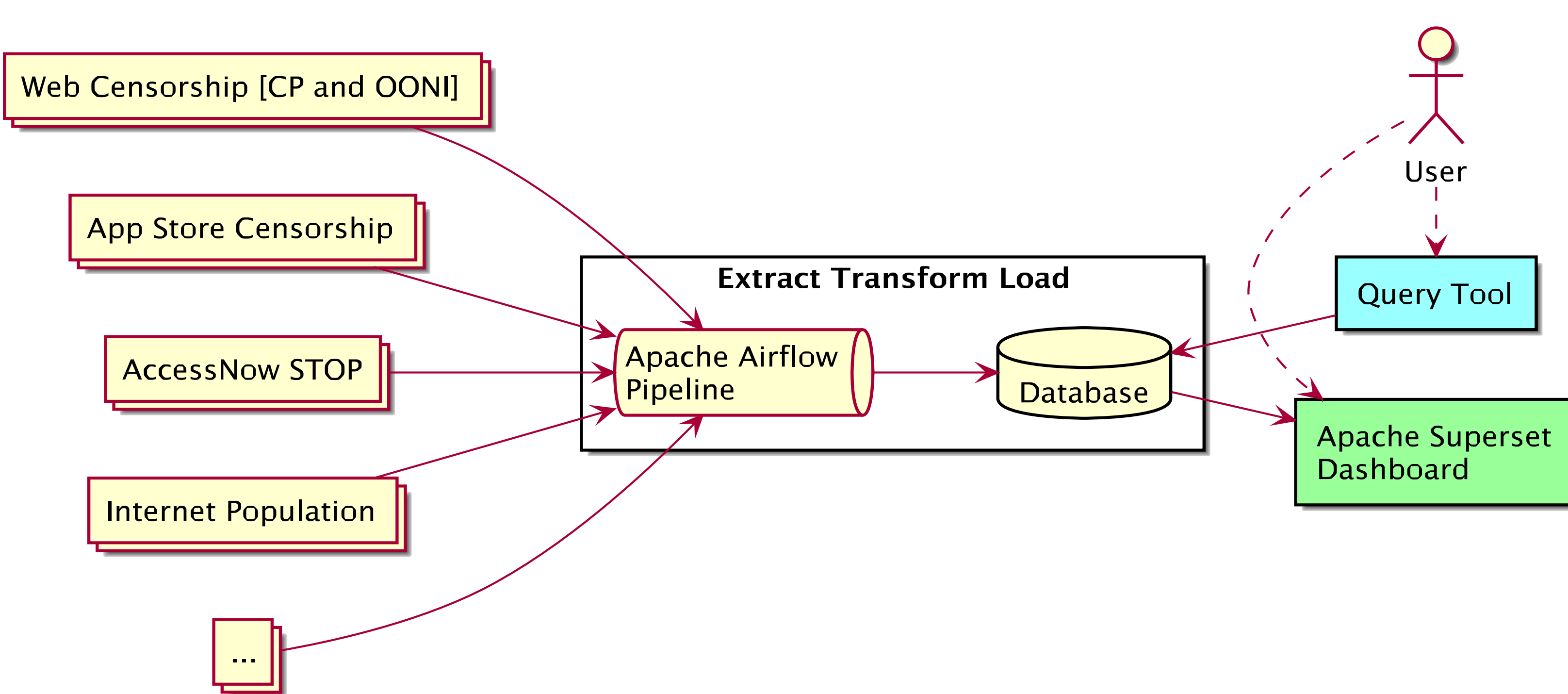
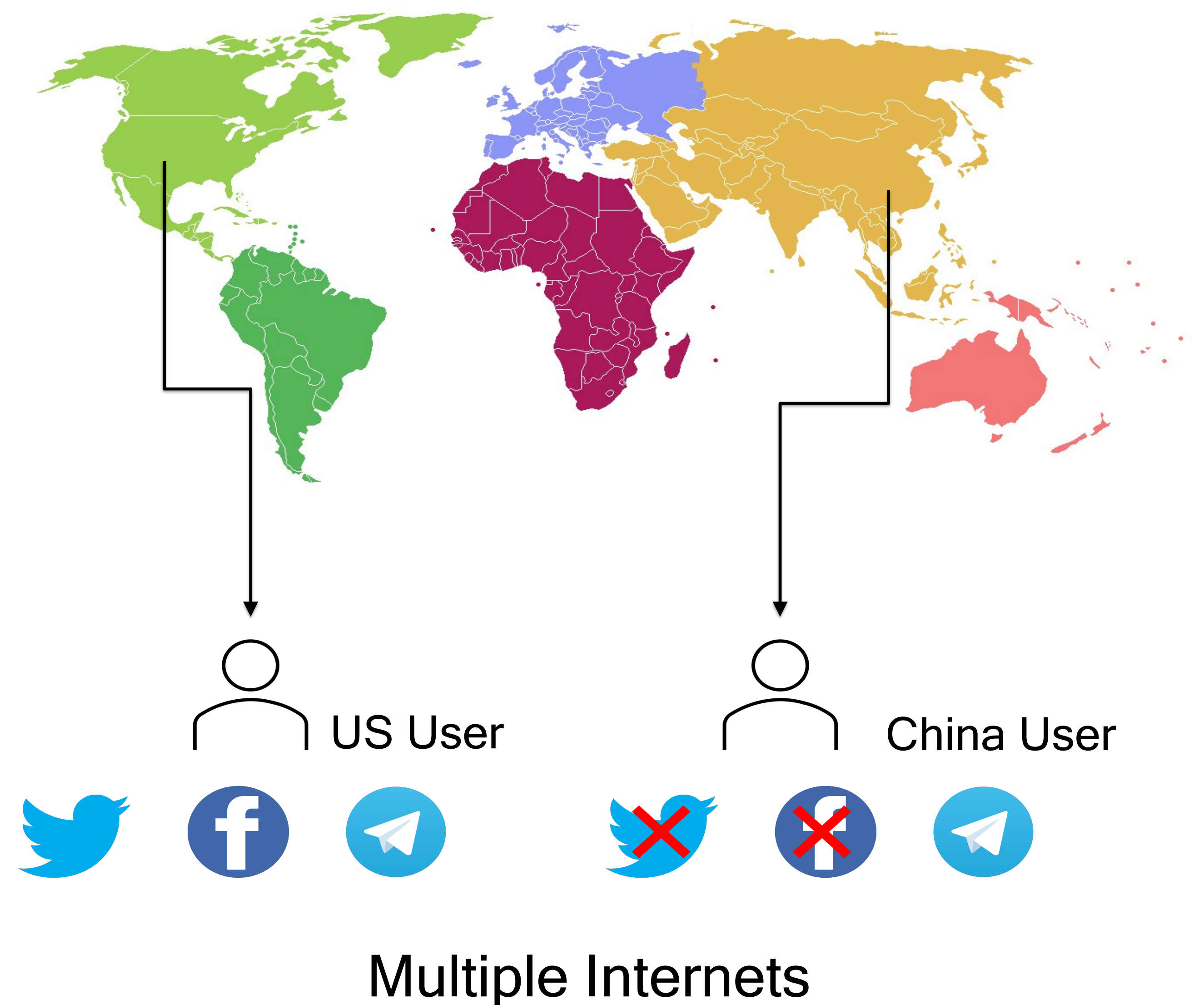
- The Internet is splintering into segments of national Internet networks
- There is a lack of comprehensive observation to understand technical implication of fragmentation
- Aim is to gain insights by assembling data from existing measurement systems

Methodology

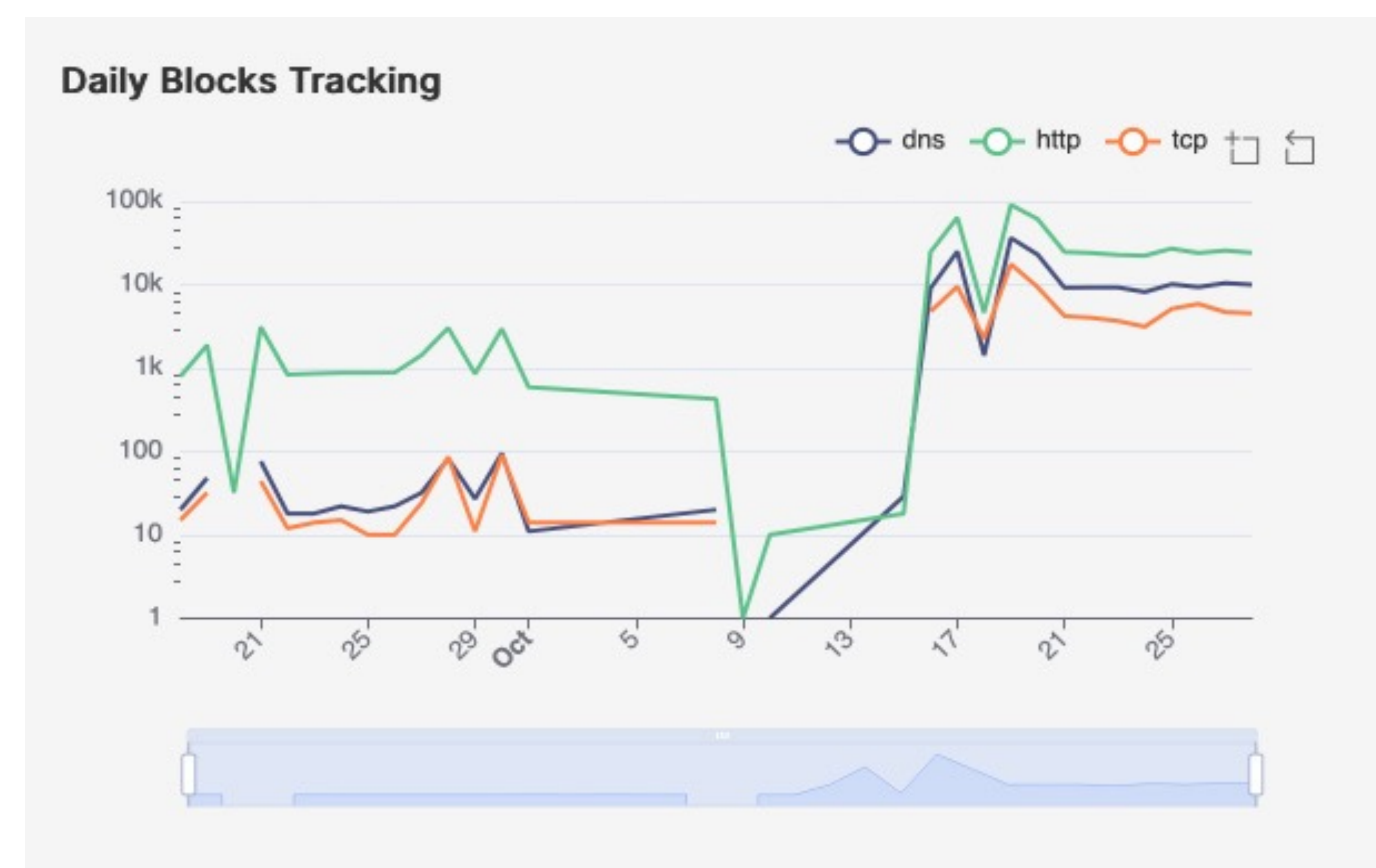
- Identify data sources that indicate fragmentation
- Identify data sources with insightful correlation
- Identify data sources with contextual significance
- Build a Big data system to store and analysis data

Data Sources

- **OONI** - Web censorship measurement
- **CensoredPlanet** - Web censorship measurement
- **Appcense** - Appstore censorship measurement
- **APNIC** - AS Population dataset
- **Freedom House** - Freedom On The Net Ranking
- And more ...



System High Level Design



Example analysis of aggregated data

Outlook

- Could fragmentation destabilise the Internet?
- Are there less harmful approaches to enacting fragmentation?
- What questions do you have about **Splinternet**?

REFERENCES

1. William J. Drake, Vinton G. Cerf, and Wolfgang Kleinwachter. 2016. Internet Fragmentation: An Overview. Future of the Internet Initiative White Paper (2016)
2. Nick Merrill. 2019. Internet Fragmentation: Beyond "free" and "closed". <https://medium.com/cltc-bulletin/internet-fragmentation-beyond-free-and-closed-cb8b1dfcd16a>
3. Hugo Zylberberg. 2016. We Should Not Fear a Fragmented Internet. <https://www.cfr.org/blog/we-should-not-fear-fragmented-internet>

ACKNOWLEDGEMENTS

Supervisor: Dr Iain Philips
 OONI
 CensoredPlanet

CONTACT INFORMATION

Computer Science
 Loughborough University
 Leicestershire. LE11 3TU. UK
 E.Sutherland@lboro.ac.uk
www.lboro.ac.uk/department/compsci