

Measuring Fragmentation with iFLAB

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Motivation

The Internet has generally been a force for good. The last decade suggests the Internet is fracturing at several layers (technical, social-economic, etc). What does this mean for the future of the Internet?

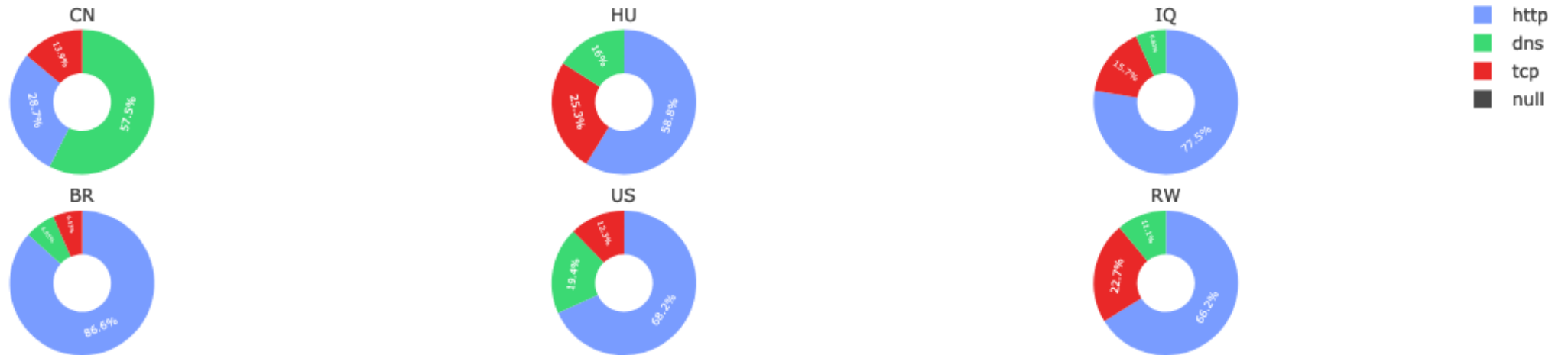


Key Idea

It is possible with Data Analysis to examine issues attributed/caused by fragmentation through multi-dimensional observation.



Example: Technical methods used to censor the web



Recap Internet fragmentation

Recap Internet fragmentation?

When **barriers of technical, legal and socio-economic nature** are emplaced to restrict **access** to services, applications and infrastructure on the global Internet.

Calderaro and Marzouki(2022)



How do we measure Internet fragmentation?

Multi-Dimensional Measurement

Classification of fragmentation

Direct

- Internet censorship
- App Store censorship
- Internet shutdown
- Internet protocol migrations
- Circumvention tool usage

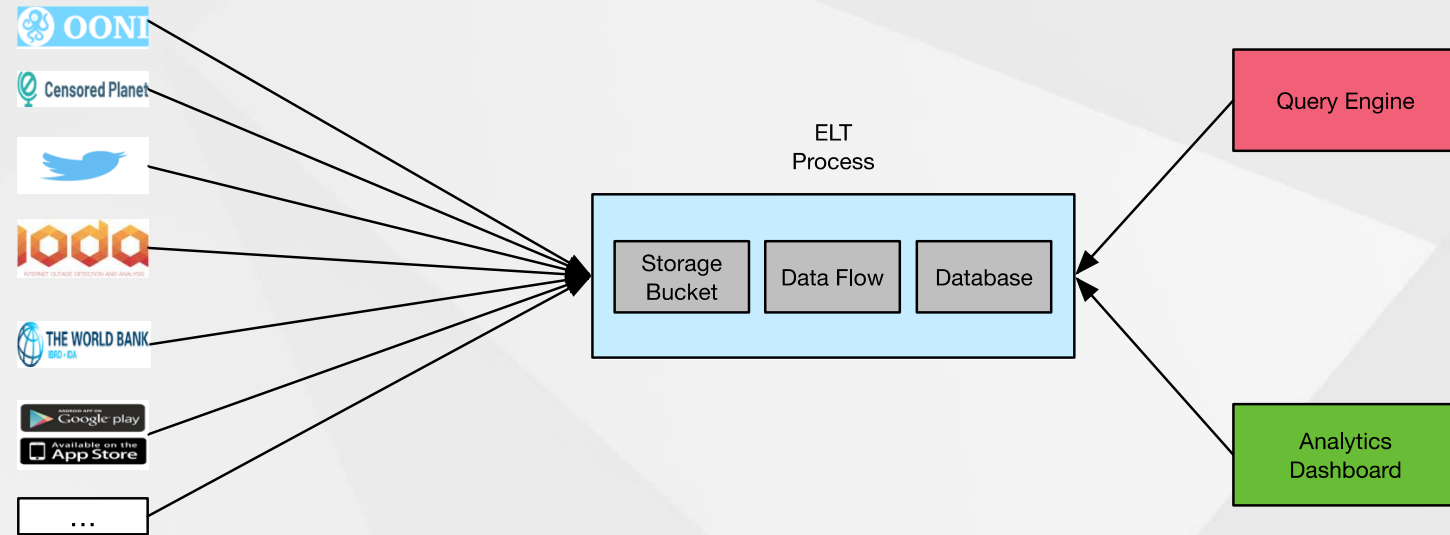
Indirect

- Internet performance
- Internet Routing Patterns
- Internet Demography
- Data Localisation

iFLAB System Design

iFLAB – System Design

- Google Cloud Storage
- Compute Instance(Pandas)
- BigQuery
- Redash(Query Engine)
- Redash Dashboard



Time for a Demo

Future Research

- Explore multi-dataset queries for more insights
- Future research to explore solutions for harmful fragmentation methods

What do you see?



Conclusion

- iFLAB has the potential to reveal pertinent issues related to fragmentation
- iFLAB offers a playground for researchers to work on fragmentation research

Q&A