

Thesis  
M.Sc.

IDP

# Tracking the Lifetime of Domains

## Motivation

Domains are an important part of the Internet ecosystem. They are administered by large registries, registered by individual users or companies and served by individual name servers or large operators. The complexity of this ecosystem results in a variety of potential states a domain can be in, e.g., freshly registered, actually used, parked [1,2] or expired.

To analyze the development of domains in more detail, this thesis seeks to track the development of domains throughout their lifetime. The goal is to identify how domains are used and when they change their status. Therefore, an automaton for the life cycle of a domain should be developed including possible status changes. Afterwards, DNS scans and registry information will be used to analyze the life cycle of specific domains and their status changes.

We download complete zone files from CZDS [3] on a daily basis and resolve all domains. Further information regarding operators and registration need to be identified and collected during the process of the thesis.

## Your Task

- Develop an automaton that describes the status of domains
- Define potential status changes and derive methodologies to identify them
- Analyze the development of specific domains

## Requirements

- Basic programming knowledge in Python
- Knowledge with databases and SQL
- Familiarity with GIYF-Based work approaches

## Bibliography

[1] <https://www.godaddy.com/garage/what-is-domain-parking/>

[2] J. Zirngibl, S. Deusch, P. Sattler, J. Aulbach, G. Carle, M. Jonker. 2022. Domain Parking: Largely Present, Rarely Considered!. In Proc. of Network Traffic Measurement and Analysis Conference (TMA '22). IFIP.

[3] <https://czds.icann.org/>

## Contact

Johannes Zirngibl    zirngibl@net.in.tum.de  
Patrick Sattler      sattler@net.in.tum.de

<https://net.in.tum.de/members/zirngibl/>

