

# Ethics and Scientific Integrity for Doctoral Students of D-MAVT

Research Data Management

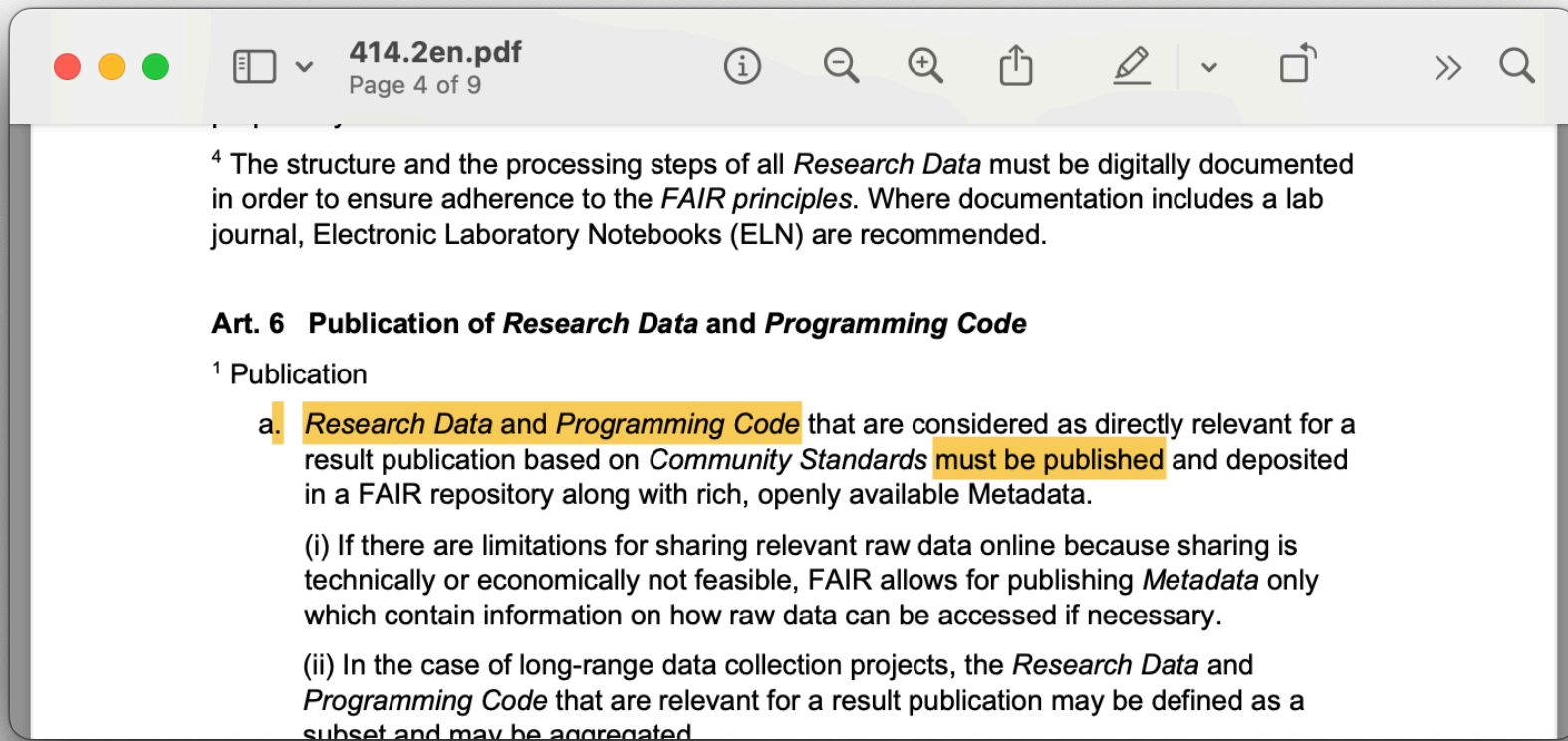
Prof. Elizabeth Tilley

Global Health Engineering - ETH Zurich

March 19, 2025

# ETH RDM Guidelines

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# FAIR data sharing principles

The screenshot shows a web browser window with the URL `nature.com/articles/sdata201618`. The page header includes the 'scientific data' logo, a 'View all journals' link, a search bar, and a 'Log in' button. Below the header, there are navigation links: 'Explore content', 'About the journal', and 'Publish with us'. The breadcrumb trail reads: `nature > scientific data > comment > article`. A blue button labeled 'Download PDF' is visible on the right. The article title is 'The FAIR Guiding Principles for scientific data management and stewardship', published on 15 March 2016. The authors listed are Mark D. Wilkinson, Michel Dumontier, IJsbrand Jan Aalbersberg, Gabrielle Appleton, Myles Axton, Arie Baak, Niklas Blomberg, Jan-Willem Boiten, Luiz Bonino da Silva Santos, Philip E. Bourne, Jildau Bouwman, Anthony J. Brookes, Tim

The FAIR Guiding Principles for scientific data management and stewardship

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# Data: Definitions

# Three terms for three stages

term	explanation	file format
unprocessed raw data	data that is not processed and remains in its original form and file type	often XLSX, also CSV and others

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final data underlying a publication	data that is the result of an analysis (e.g descriptive statistics or data visualization) and shown in a publication, but then also exported in its new form as a new file	CSV



# Data Management Strategy



```
graph LR; A[research questions] --> B[experimental design]; B --> C[data collection]; C --> D[data processing]; D --> E[data analysis]; E --> F[reproducible manuscript]; F --> G[published article];
```

research  
questions

experimental  
design

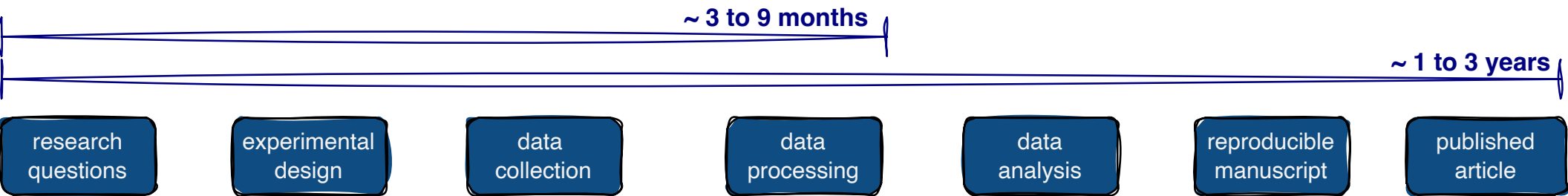
data  
collection

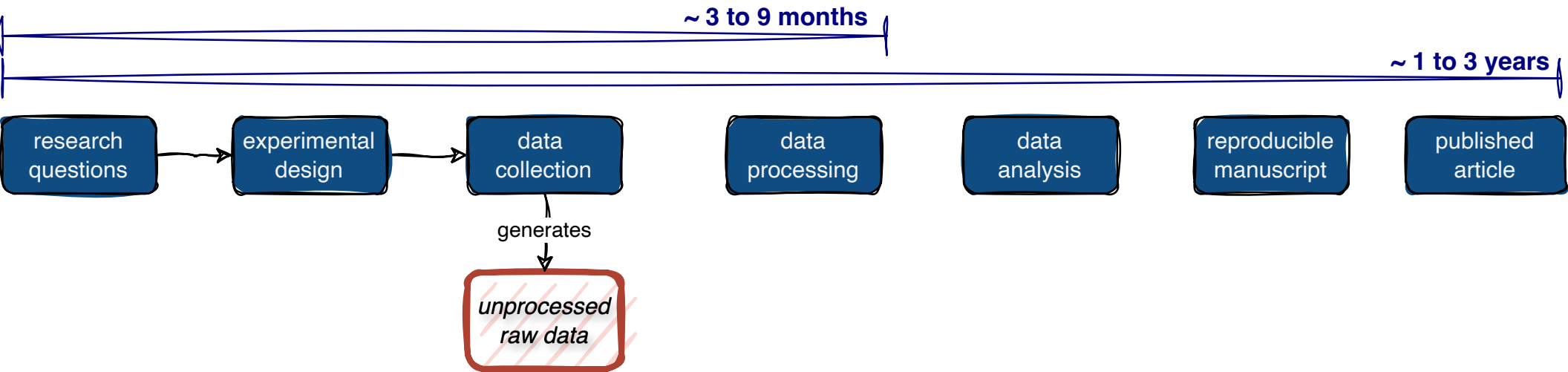
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processing

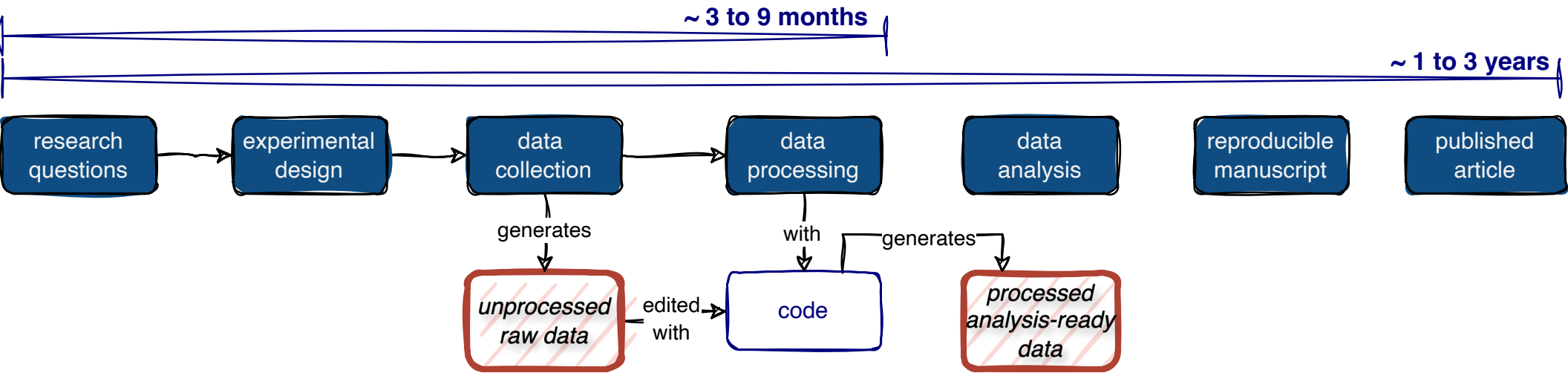
data  
analysis

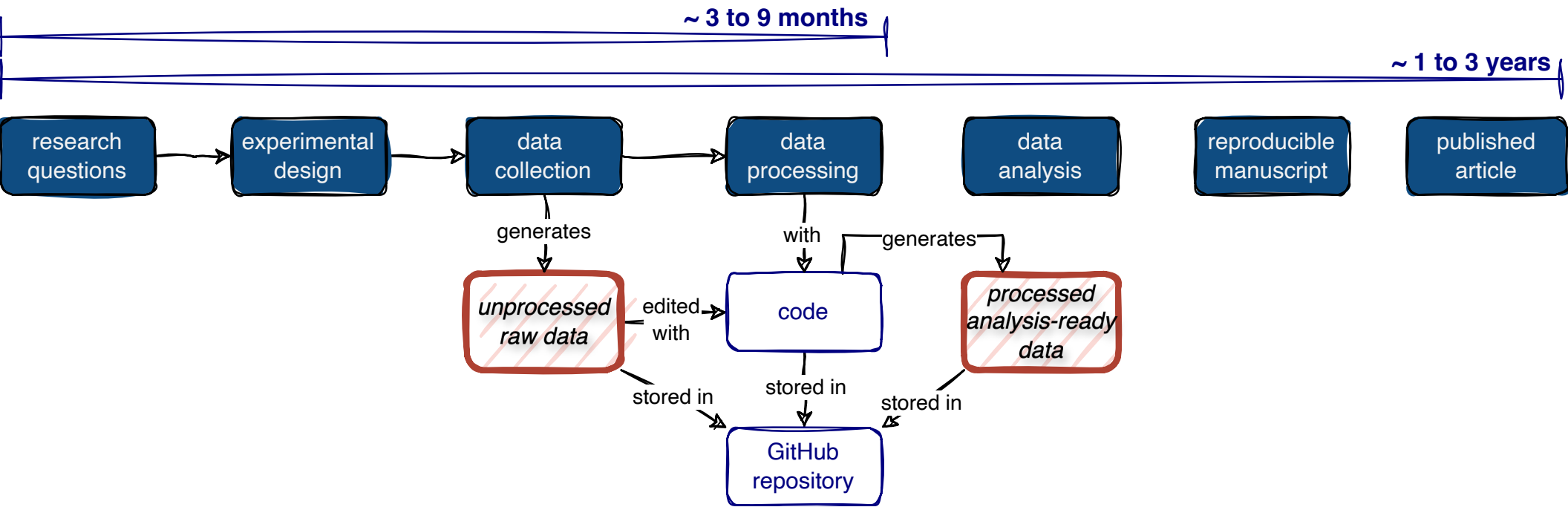
reproducible  
manuscript

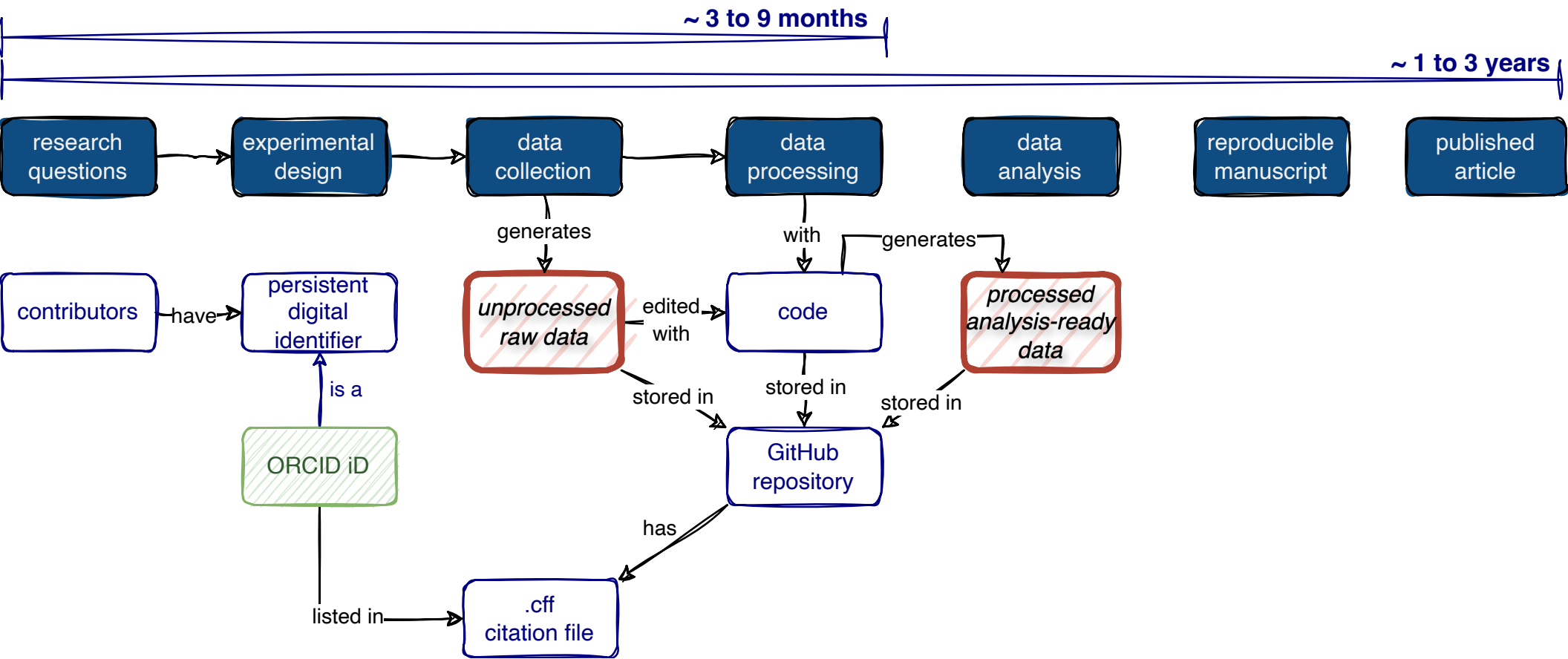
published  
article

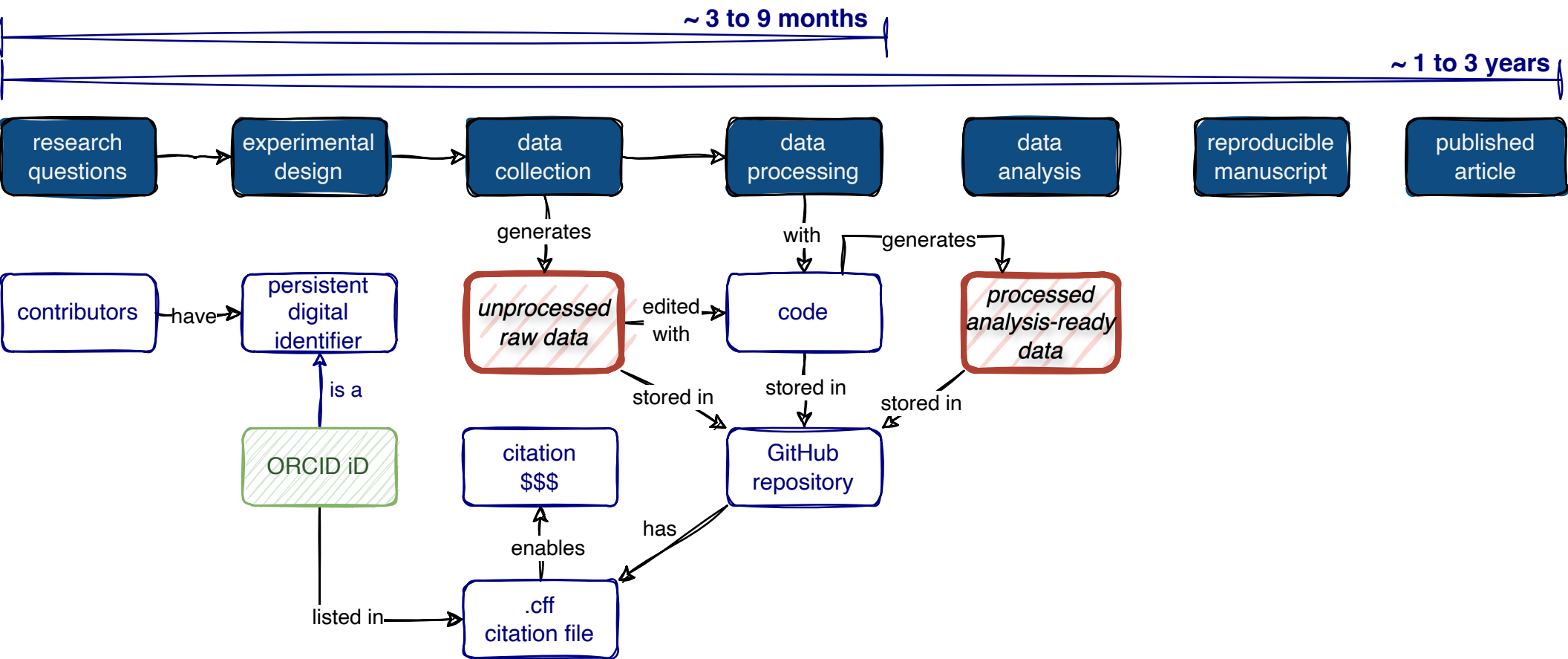




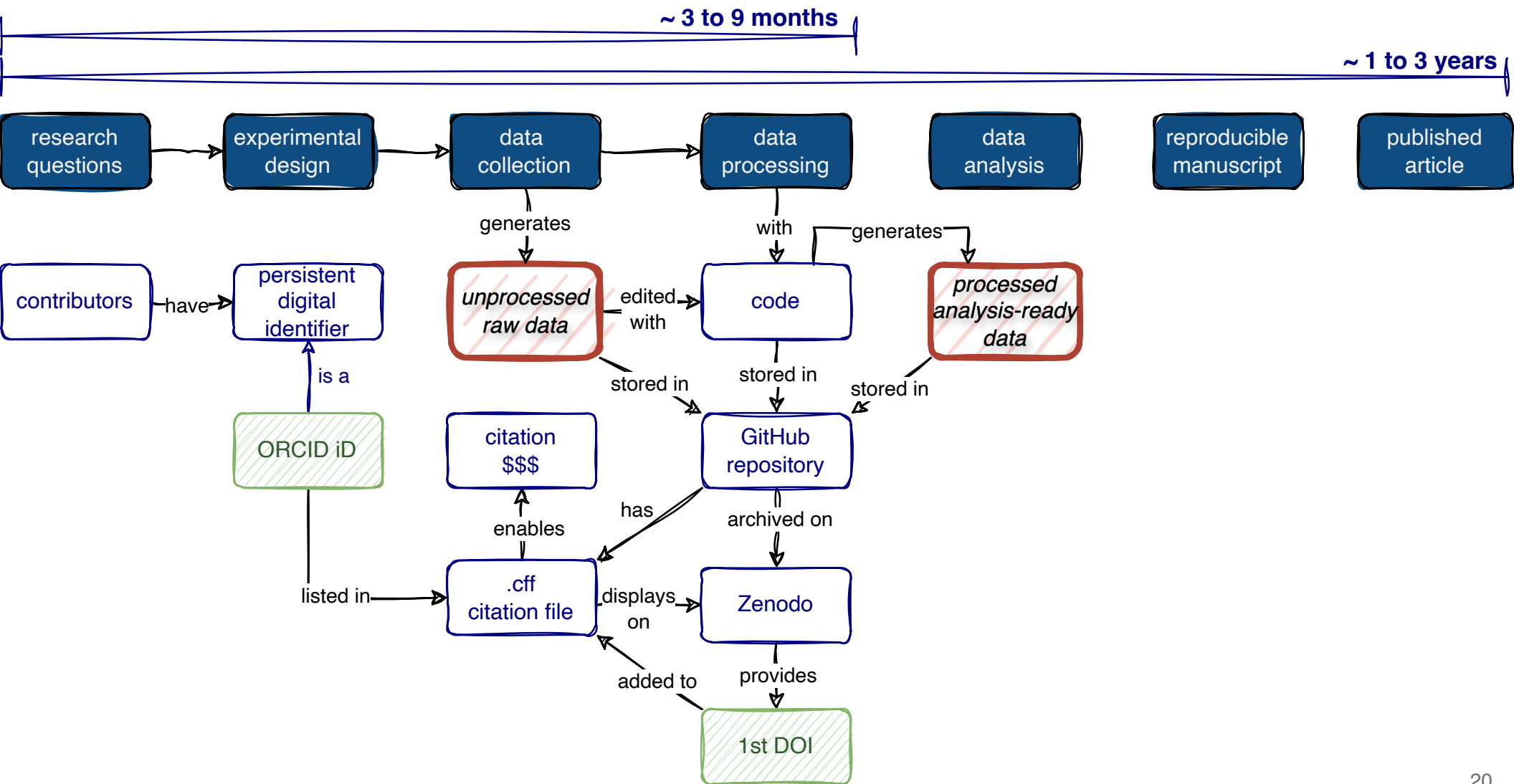


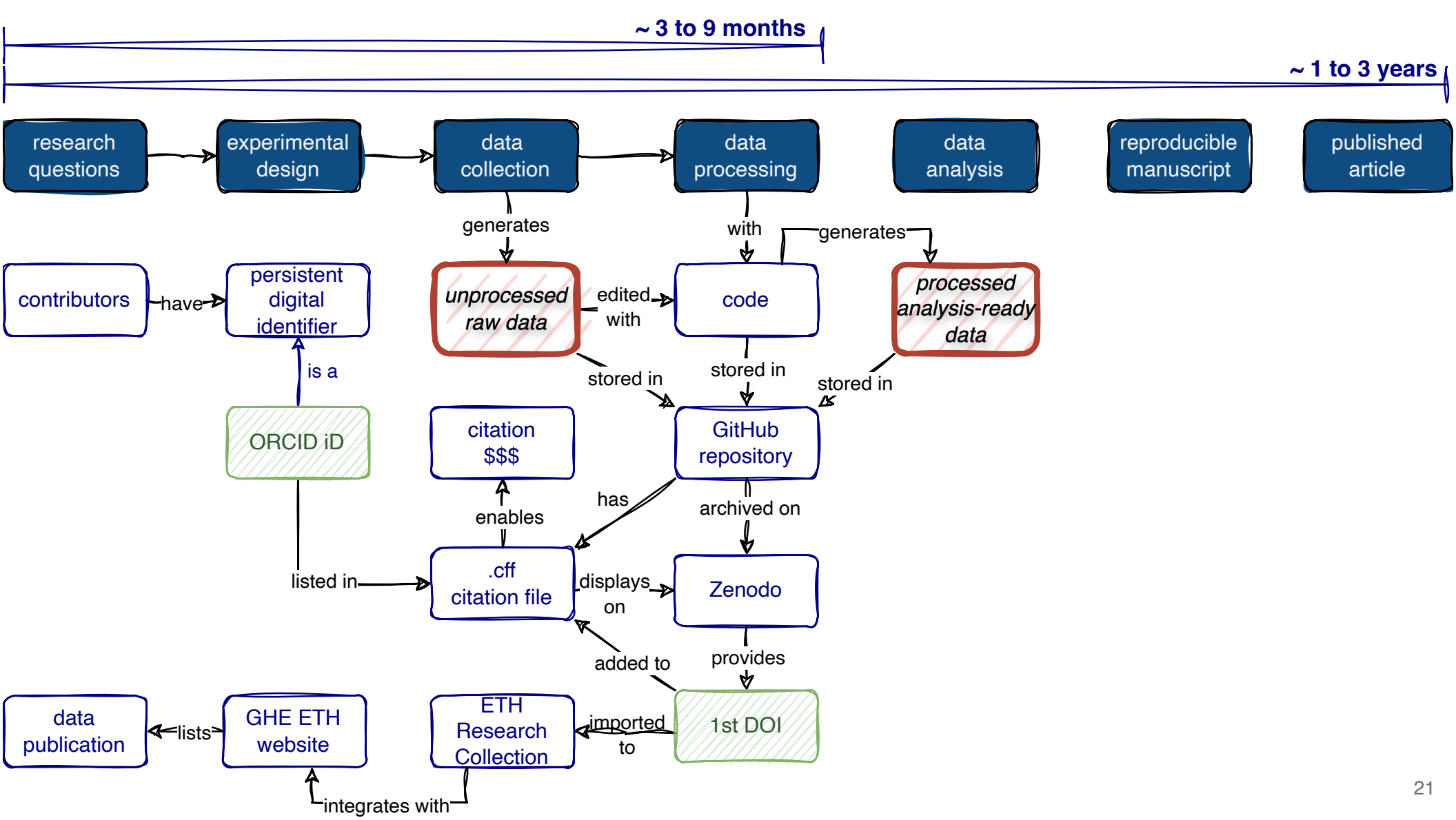






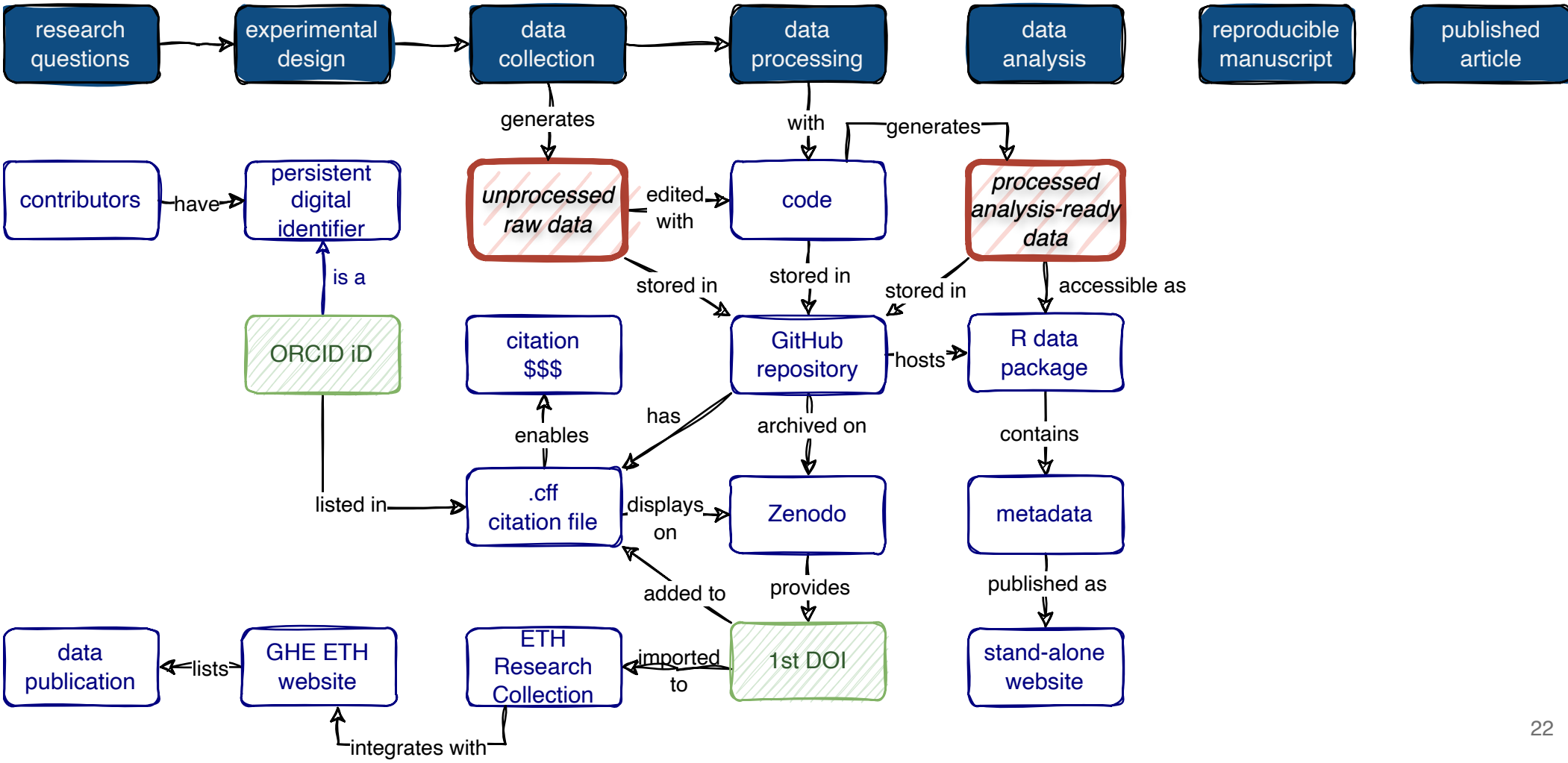


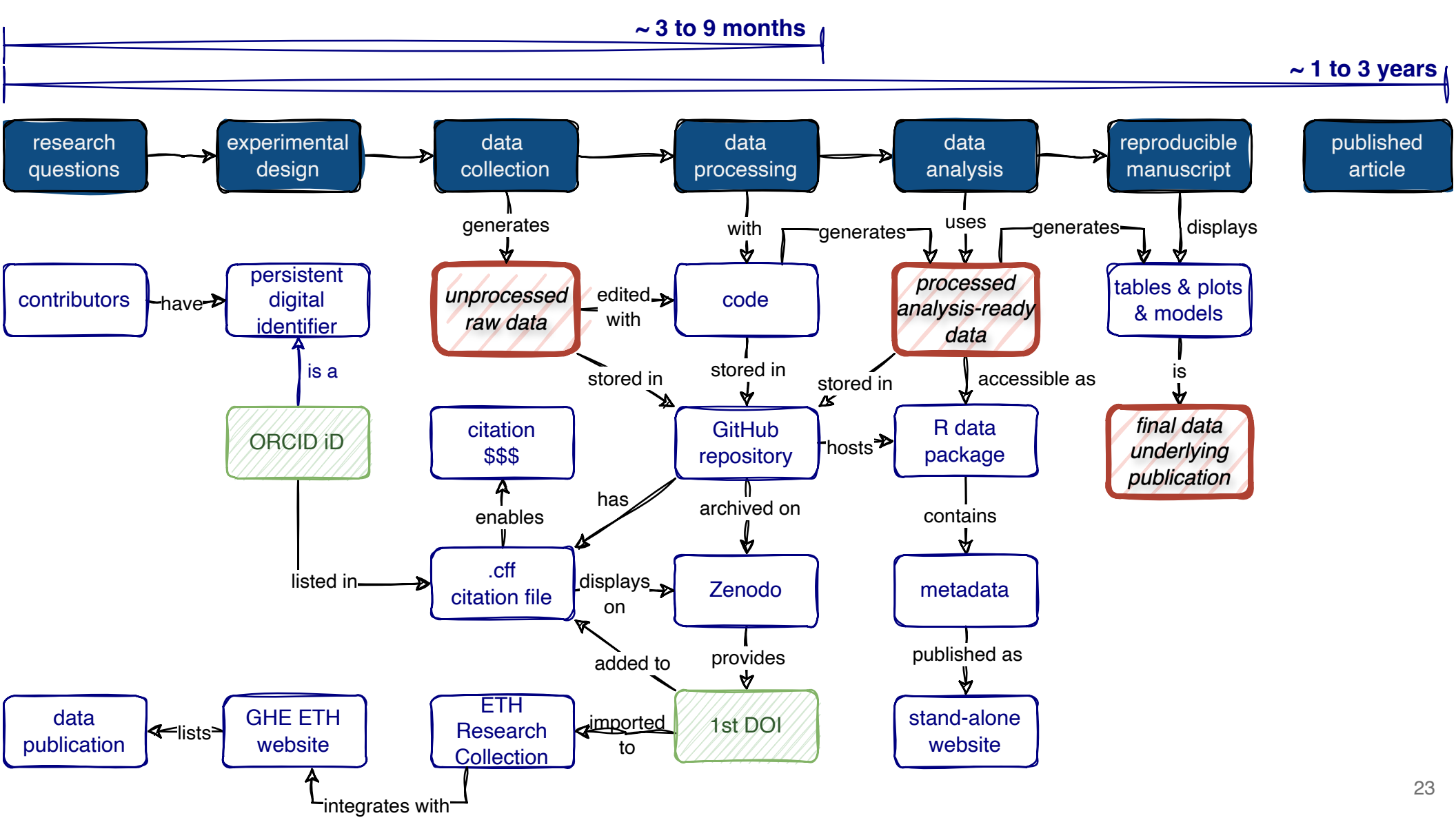


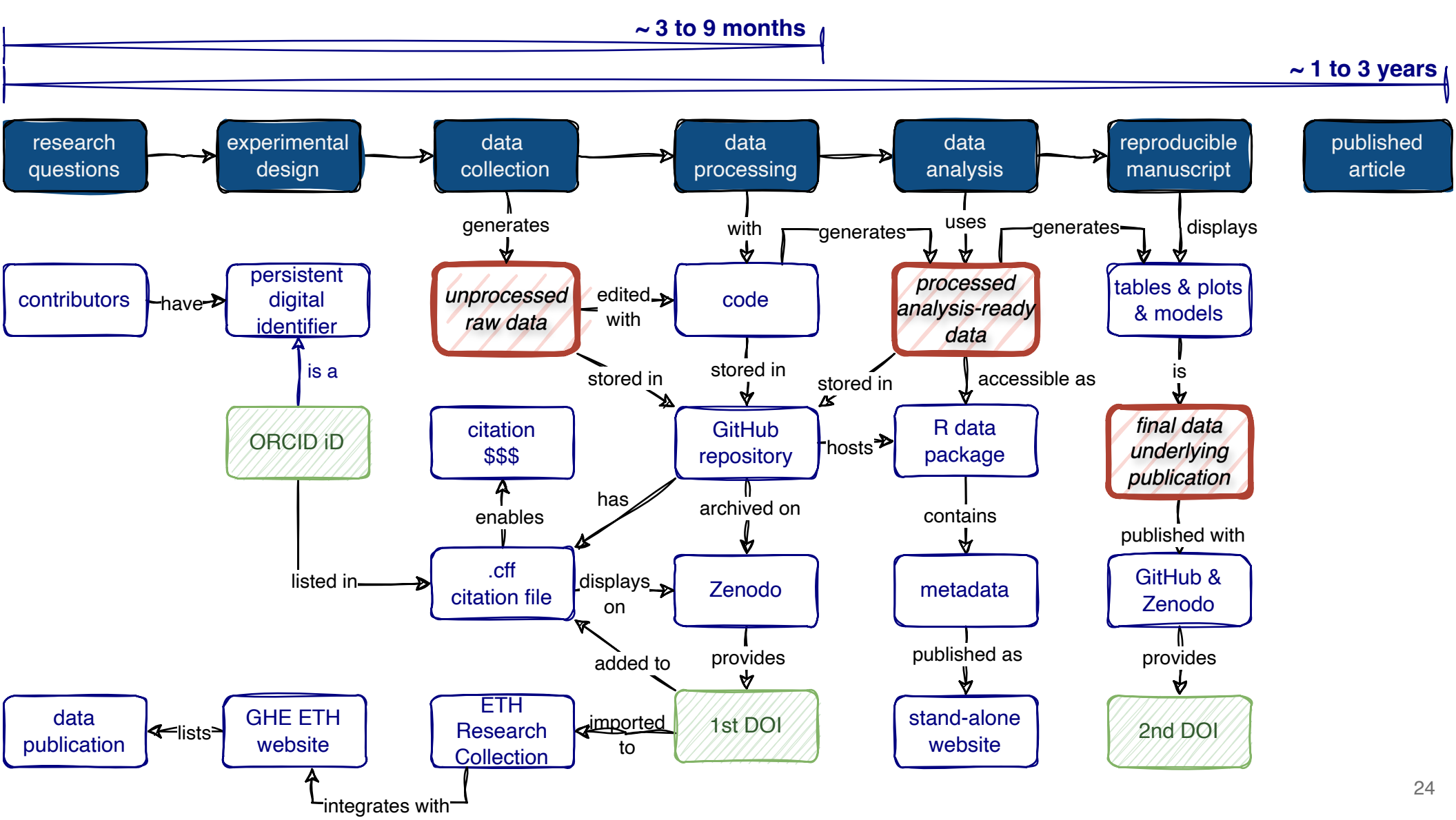


~ 3 to 9 months

~ 1 to 3 years

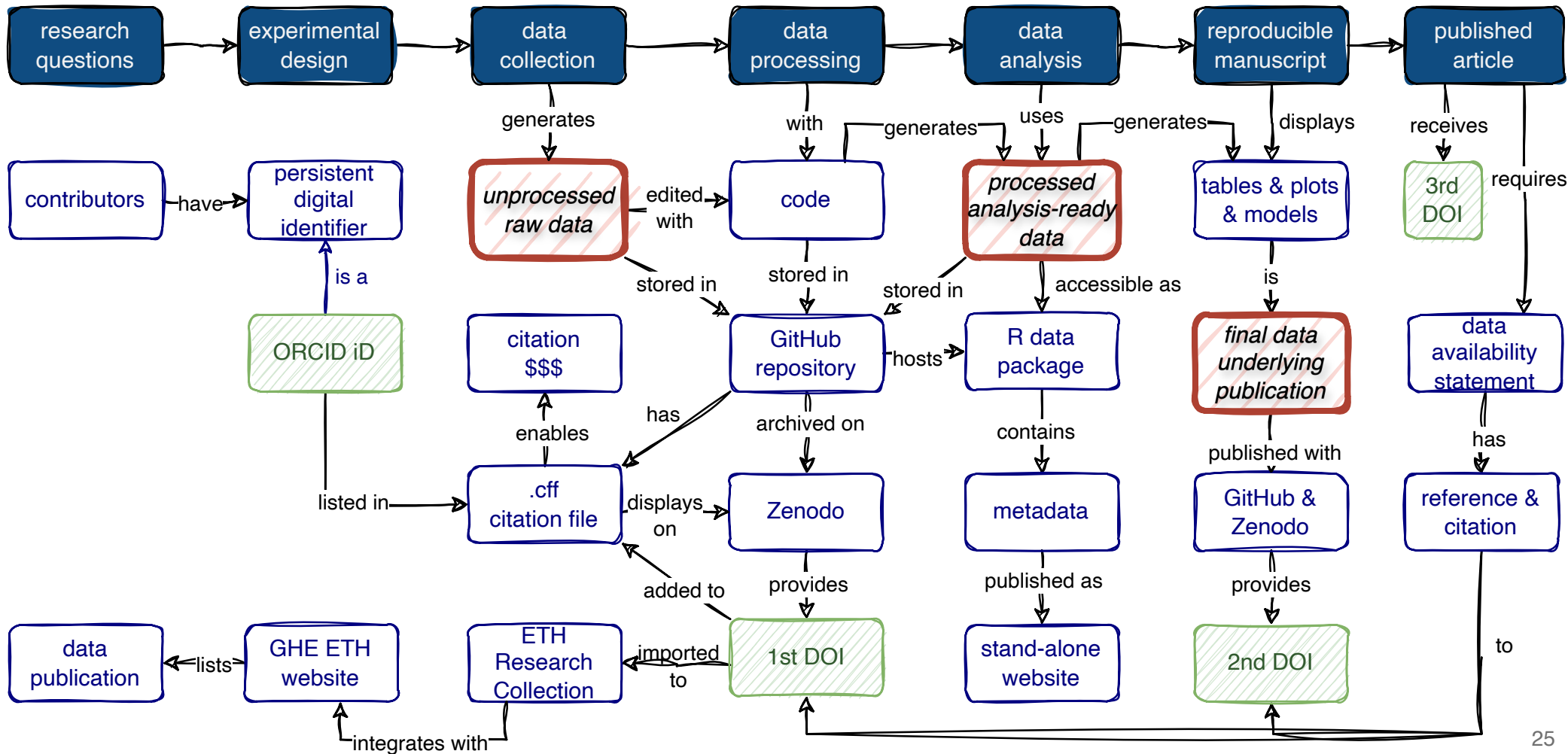






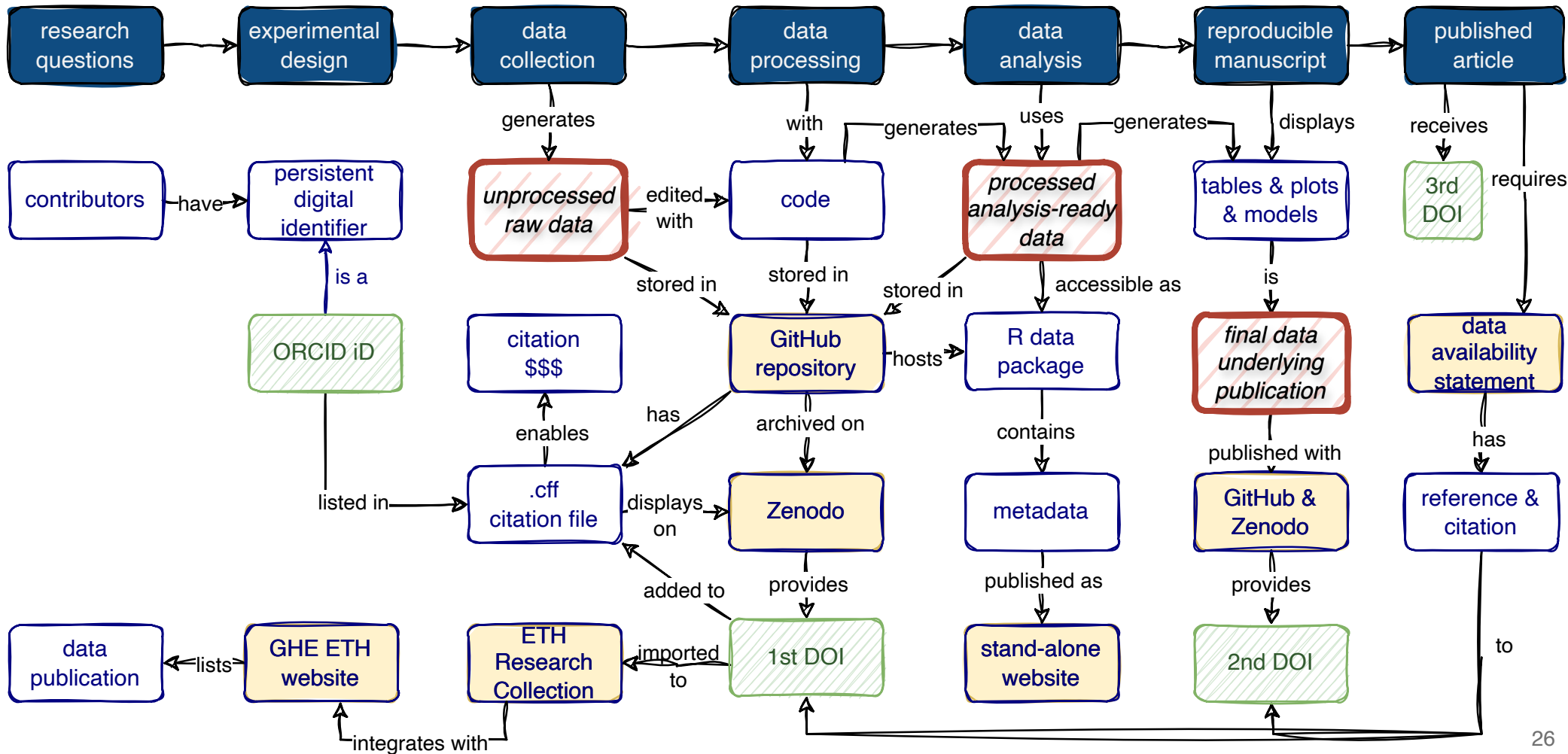
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# Thanks!

Slides created via revealjs and Quarto:

<https://quarto.org/docs/presentations/revealjs/>

Access slides as PDF on GitHub

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