Utrecht University

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Much to learn, we still have: Experiences with Yoda

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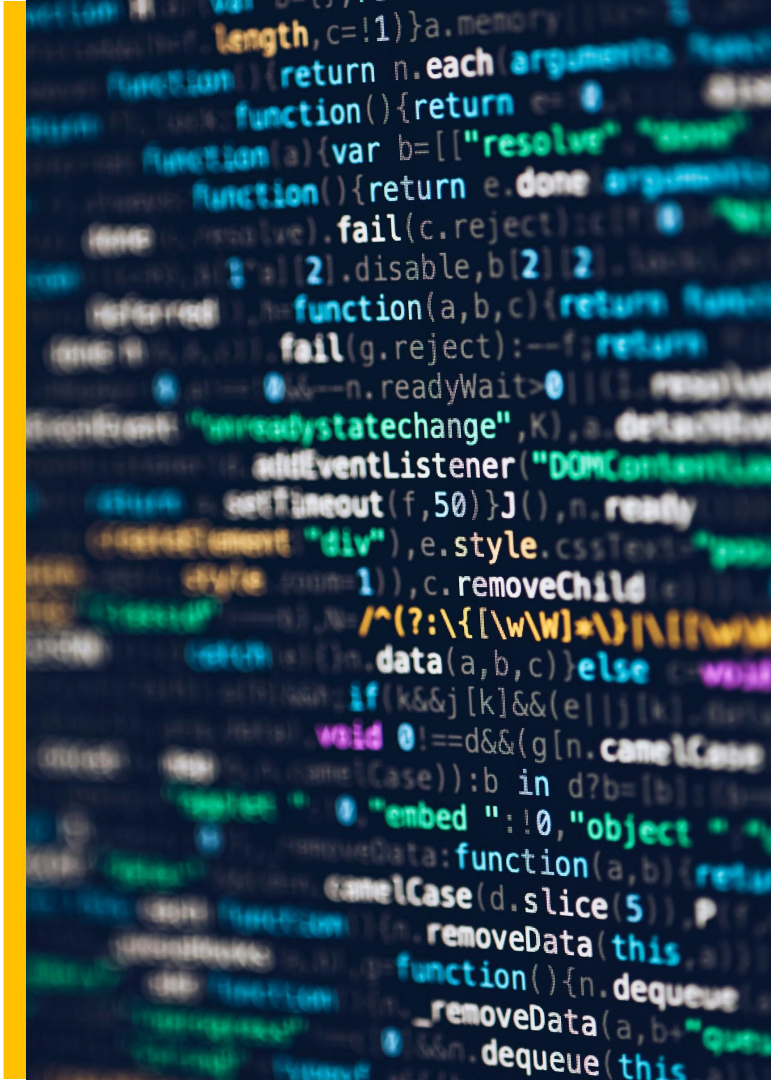
Contents



Facts & Figures

>650

PROFESSORS

7+2

FACULTIES AND TEACHING INSTITUTES

>39,000

STUDENTS

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Strategic Themes

PATHWAYS TO SUSTAINABILITY

INSTITUTIONS FOR OPEN SOCIETIES

DYNAMICS OF YOUTH

LIFE SCIENCES

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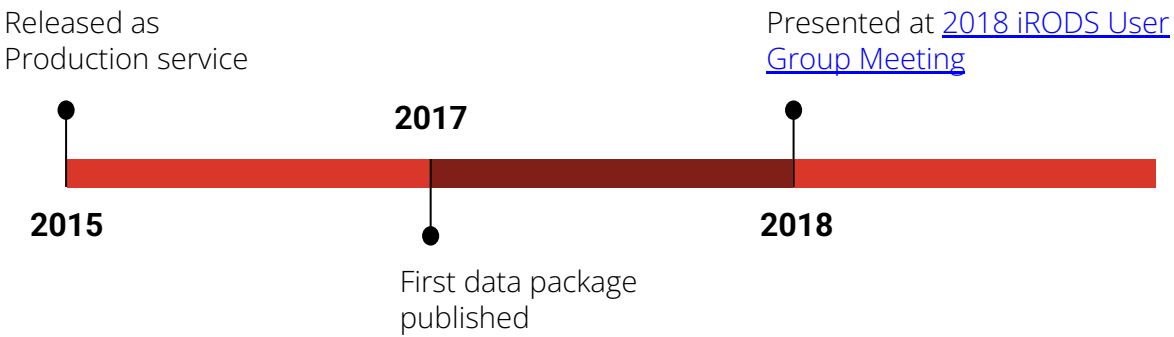
What is Yoda?

- Integrated Research Data Management system to preserve, share, archive and publish research data during all stages of a research project
- Institutional service, developed and maintained by Utrecht University
- Developed as open-source software

Yoda logo, 2015



Yoda
research data management

Yoda logo, 2023

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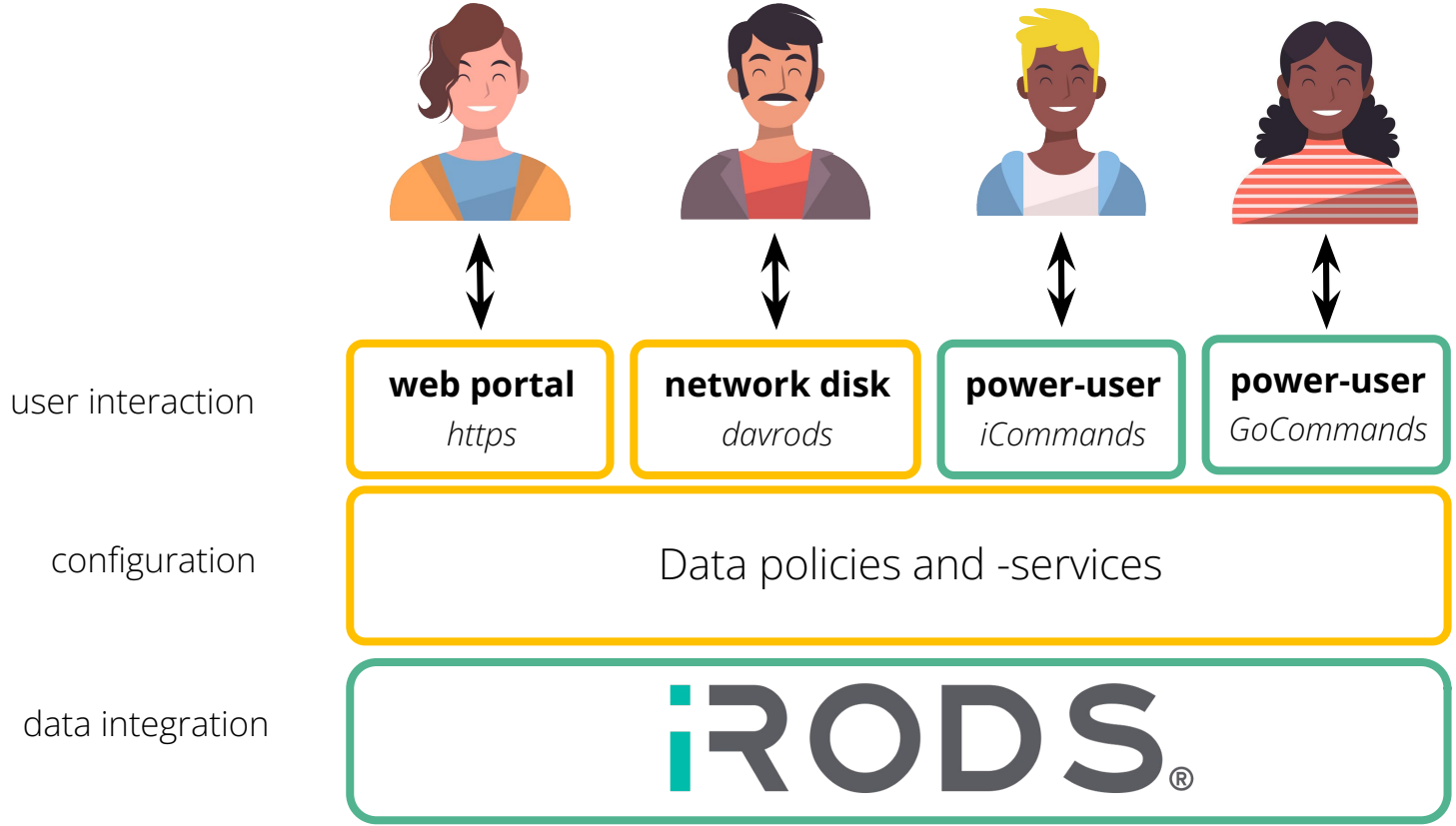
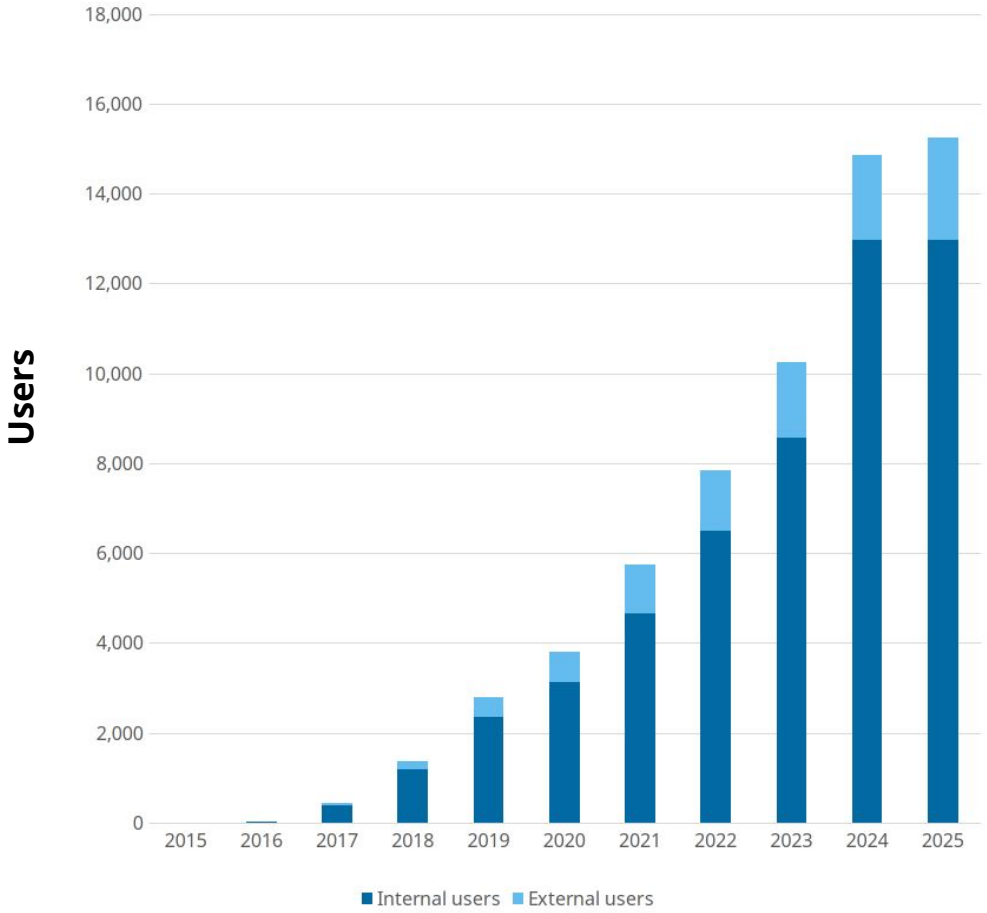
Yoda is built on iRODS



Utrecht University iRODS managed research data



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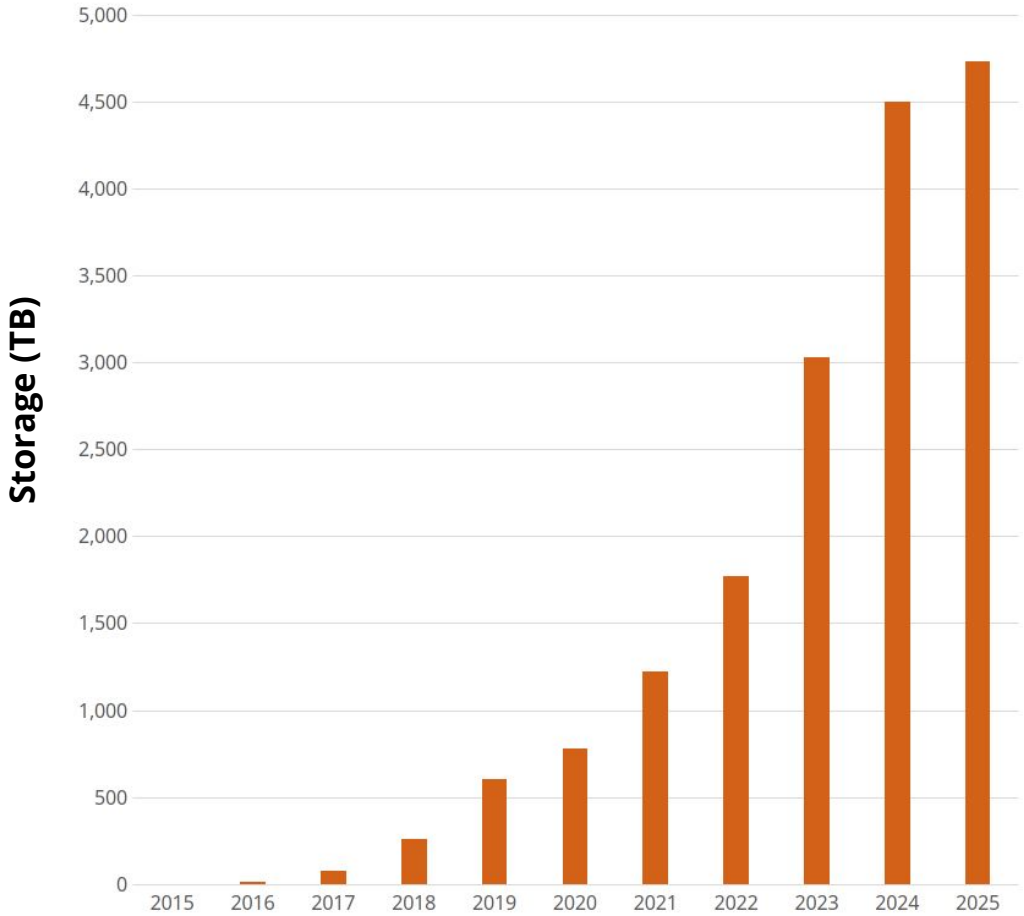
Utrecht University iRODS managed research data



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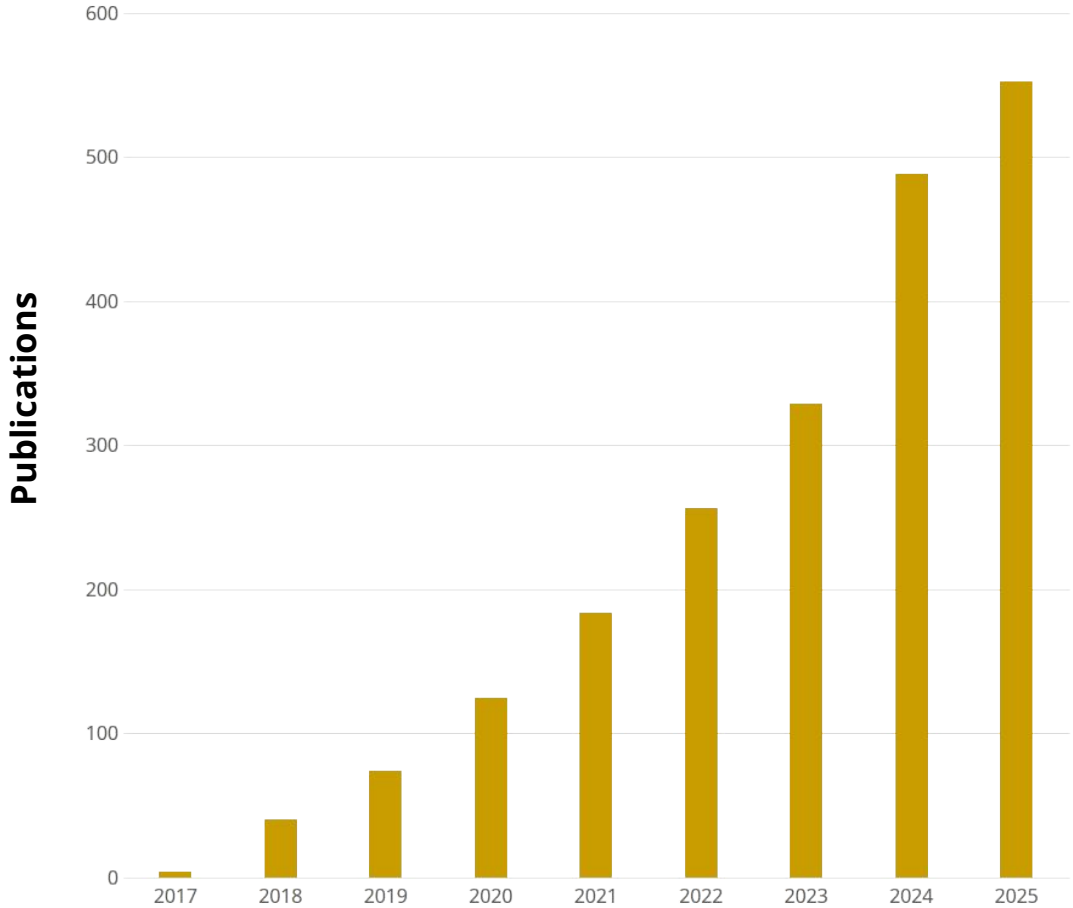
Utrecht University iRODS managed research data



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Yoda Consortium

Launched March 2023

Safeguard the development of Yoda as a national RDM platform

Provides funding

Effective collaboration on:
- Knowledge base
- Support for researchers
- Product development

SURF

Utrecht University

Universiteit Leiden

WAGENINGEN UNIVERSITY & RESEARCH

Amsterdam UMC

ERASMUS UNIVERSITEIT ROTTERDAM

VU VRIJE UNIVERSITEIT AMSTERDAM

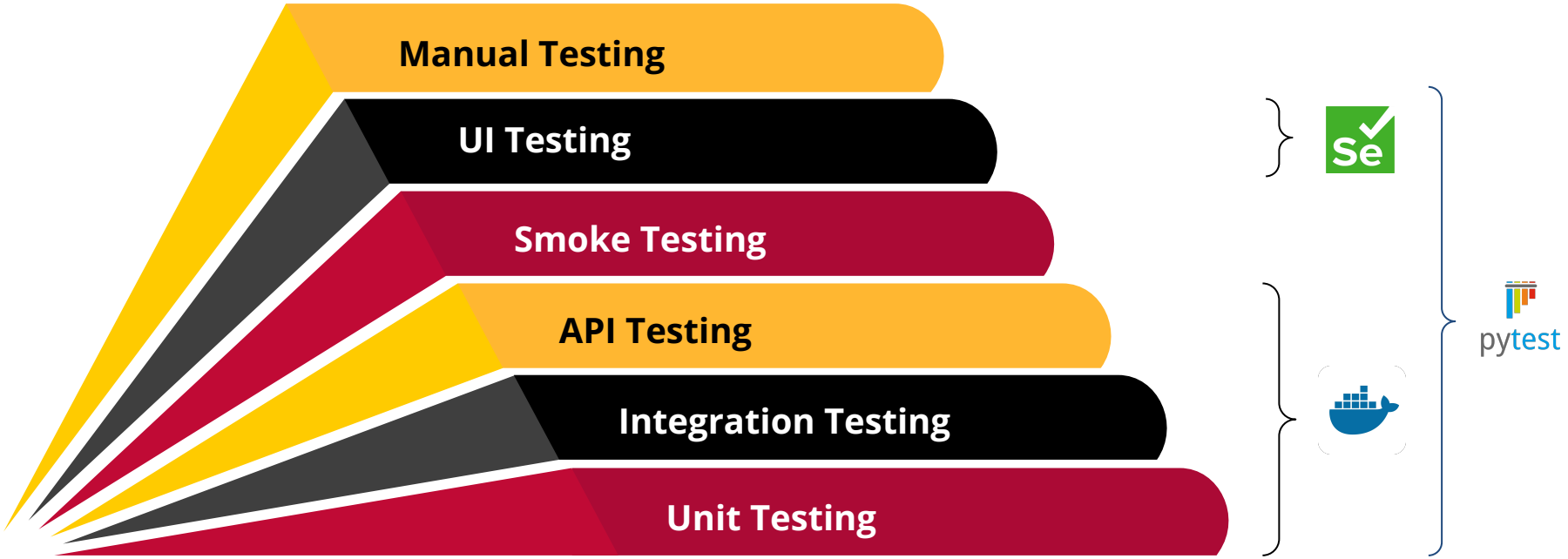
Meet the team

Utrecht University

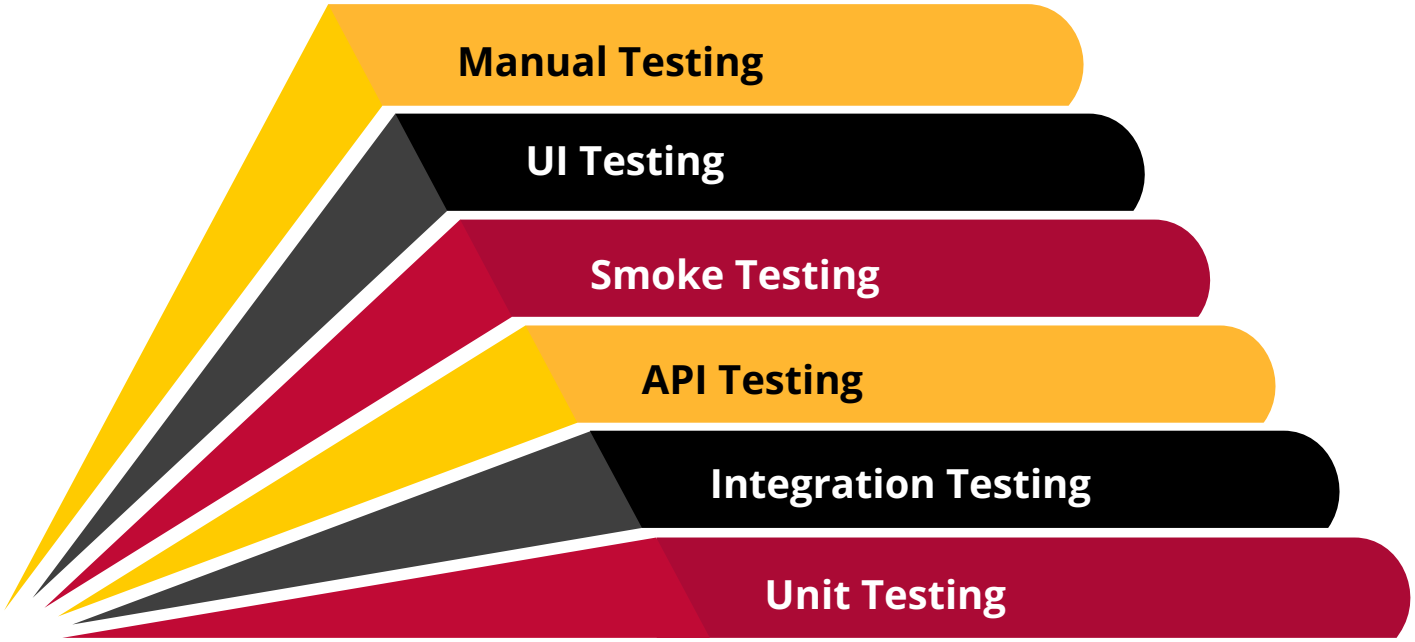
Quick Recap UGM 2024

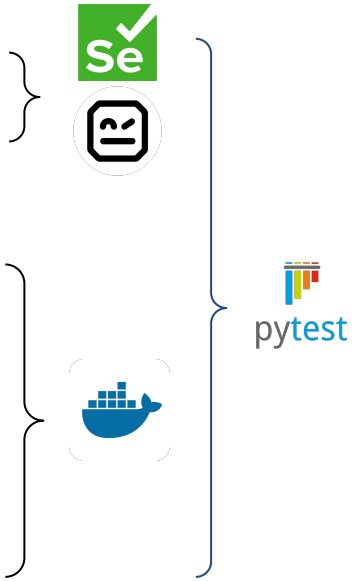
- Test coverage
  - Enhance the test coverage to include components that have limited or no automation.
- Reliable UI tests
  - Flaky in some systems, hence, cannot include them in Continuous Integration.
- UI accessibility
  - Explore ways to incorporate this into our strategy.

Testing Strategy for Yoda



Testing Strategy for Yoda





Robot Framework

- Open source test automation and Robotic Process Automation framework
- Built on Python
- Keyword-driven approach
- Extensive

- For more information:
    - https://robotframework.org/

Robot Framework for Yoda UI testing

- Comprehensive regression suite
- Performance improvement
- Extensive
    - Pluggable libraries like Browser library, Selenium library
- Allows gradual migration

- Currently working on:
    - Including scripts in Continuous Integration
    - Configuring test server

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Yoda updates

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Since 2023

		Yoda	iRODS
2023	• Metadata schemas per research group, DOI versioning • Data package archiving workflow improvements · Support for Creative Commons and GPL v3 licenses · Database upgrade · Support for iRODS S3 resources	v1.9	4.2.12
2024	· Support for Ubuntu 20.04 · Vault archiving workflow and data package archiving workflow improvements · Portal performance improvements · Added data transfer page and administration page	v1.10	4.2.12

2025

- Upgrade to Python 3 and iRODS 4.3.4
- Removed compatibility checks for Python 2
- Introduced static type checking with mypy
- Group manager module improvement
- Python-irodsclient (3.1.1) and GoCommands (0.10.19) upgrades
- Support for Ubuntu 24.04 and AlmaLinux 9
- Support for modifying resources in Ansible

v2.0 4.3.4

GenQuery 2

- Performance improvements
- More SQL-like syntax
- Combining multiple queries into one

Rewrite example

- Group permissions issue

```
$ iuserinfo
name: kory
member of group: kory
member of group: public
member of group: g0
$ itouch thefile
$ ichmod read g0 thefile
$ ils -A thefile
  /tempZone/home/kory/thefile
        ACL - g:g0#tempZone:read_object   kory#tempZone:own
$ ichmod null kory thefile
$ ils -A thefile
  /tempZone/home/kory/thefile
        ACL - g:g0#tempZone:read_object
$ # This query should return the data object since "kory"
$ # has read permission through the group.
$ iquery "select DATA_NAME where \
COLL_NAME = '/tempZone/home/kory' and DATA_NAME = 'thefile'"
[]
```

Looking ahead

- Releasing Yoda 2.0.0 with iRODS 4.3.4
- Optimizing testing strategy and deployment
- Experimenting with Playwright
- UU-SURF implementation
    - Integrating zones to one as we outsource the hosting and technical application management
- SURF Research Access Management (SRAM) implementation
    - Replace External User Service (EUS) with standard mechanism

$ iexit

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Sharing science,
shaping tomorrow