Dataset-JSON Viewer

When Machine-Readable Becomes Human-Viewable

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Agenda

Motivation

- What am I doing wrong
- COSA Hackathon

Viewer

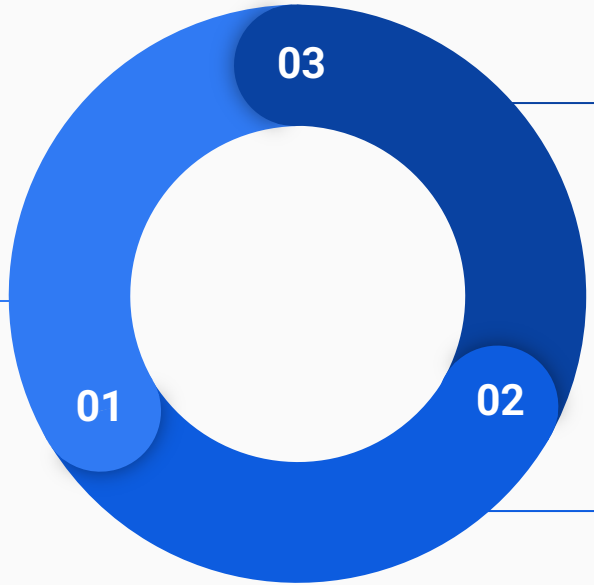
- Functionality Overview

Next-Generation of Viewers

- Data View
- Data Validation
- Data Analysis

Motivation

Development Process

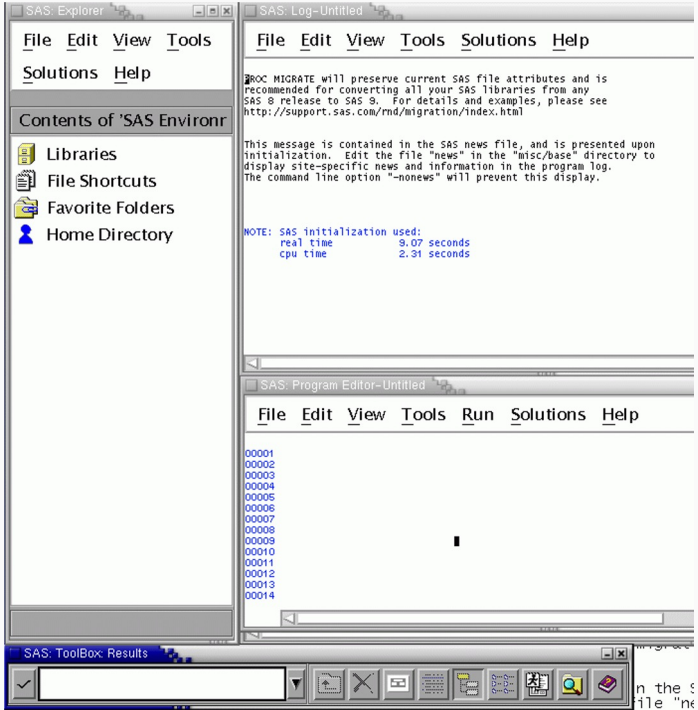


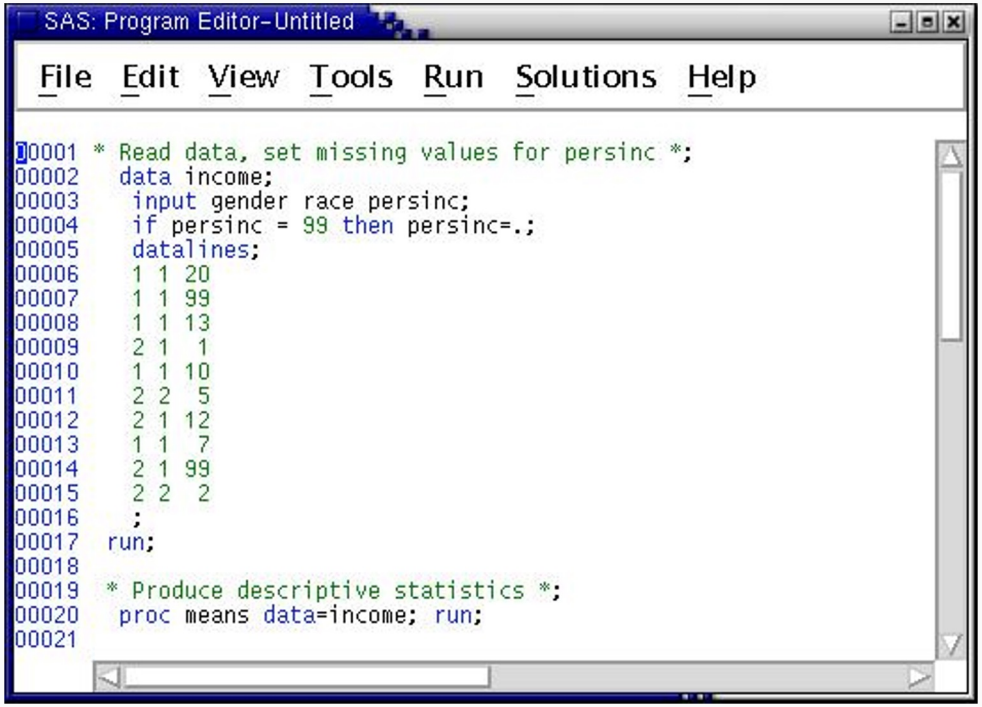
Develop Code
IDEs, Editors, Macro Libraries, Packages

Review
Dataset Viewers, Validators

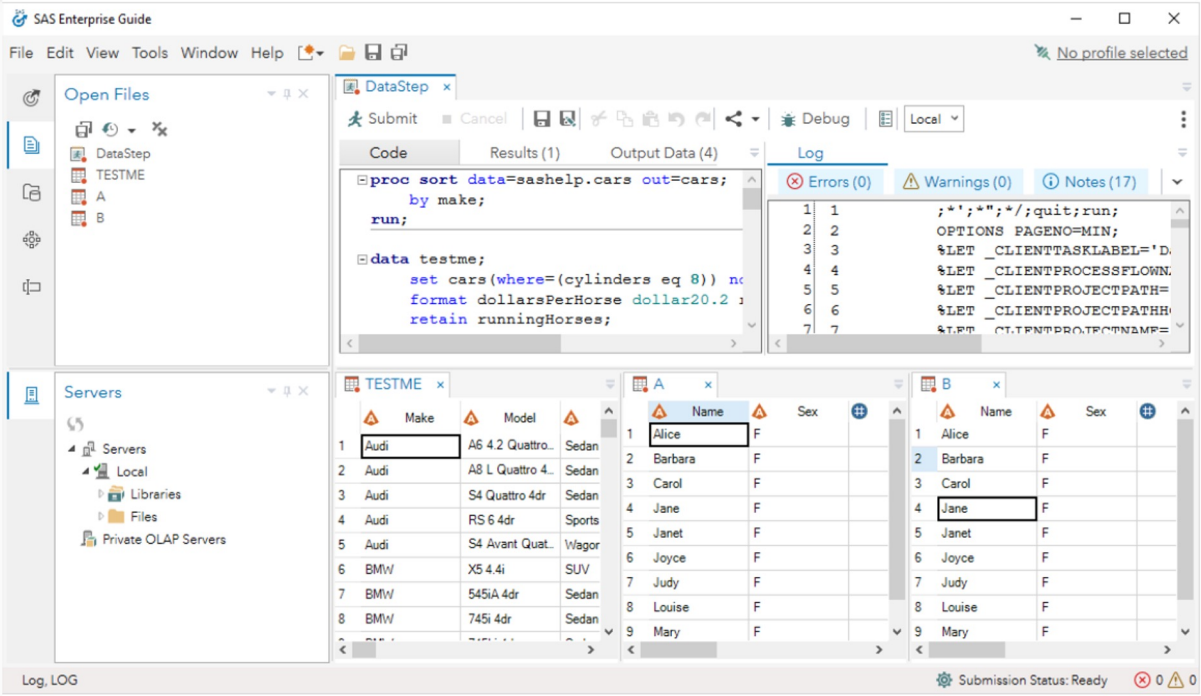
Execute
Servers, Languages

Development Process

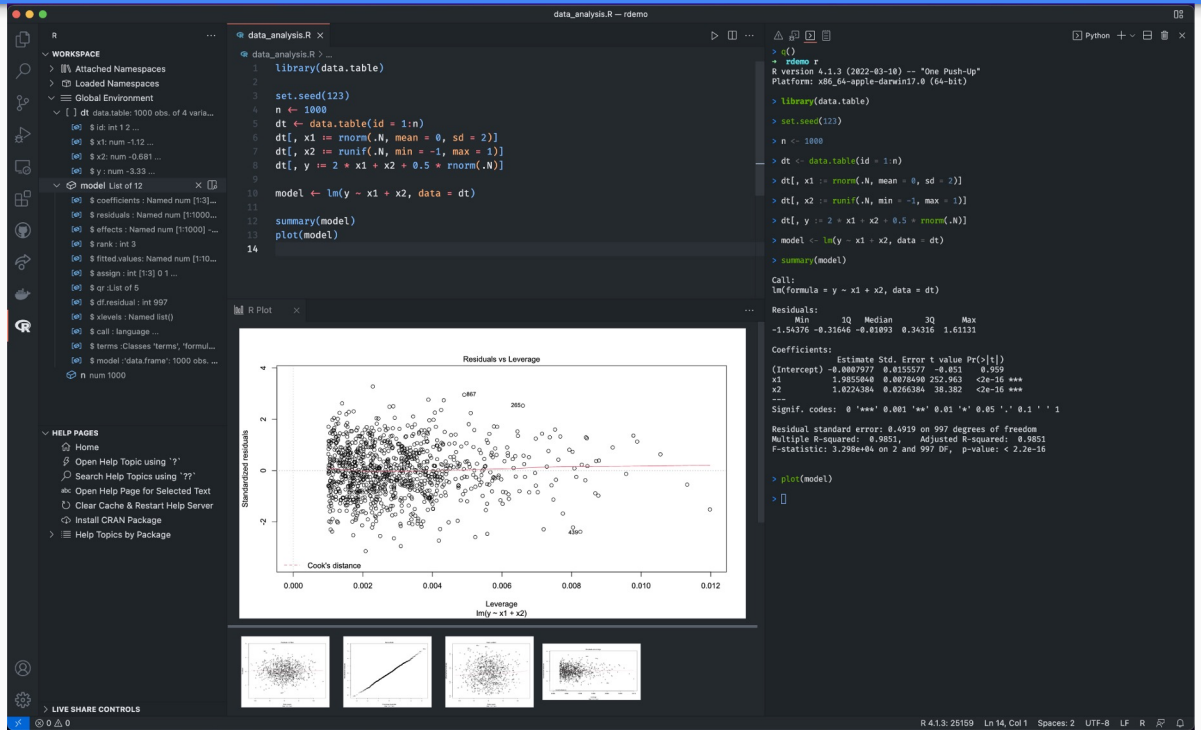




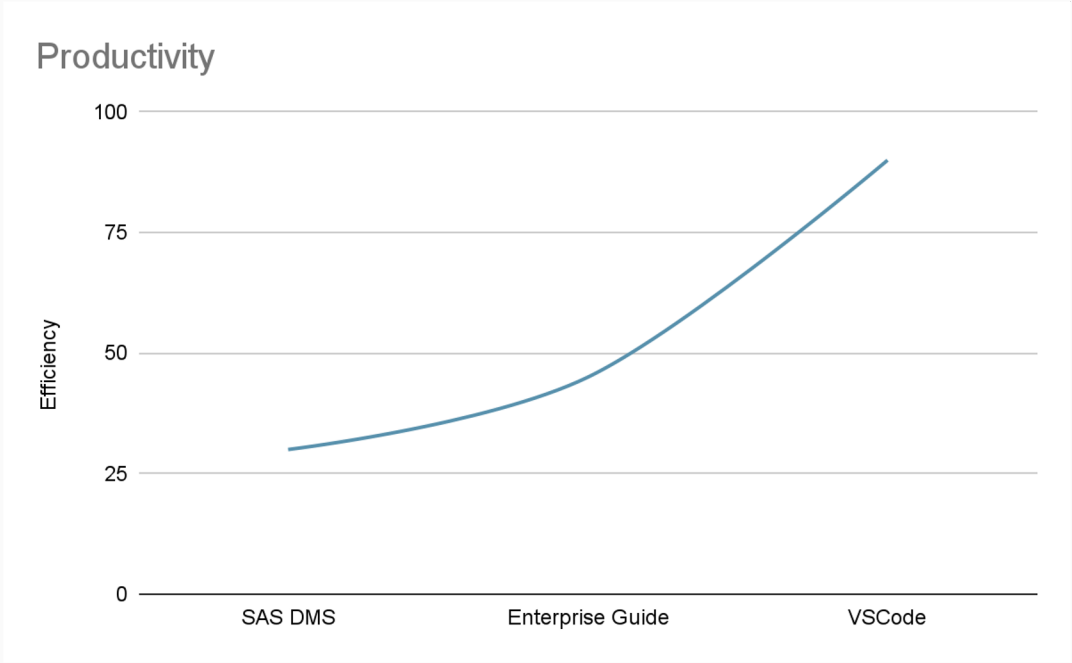
Development Process



Development Process



Development Process



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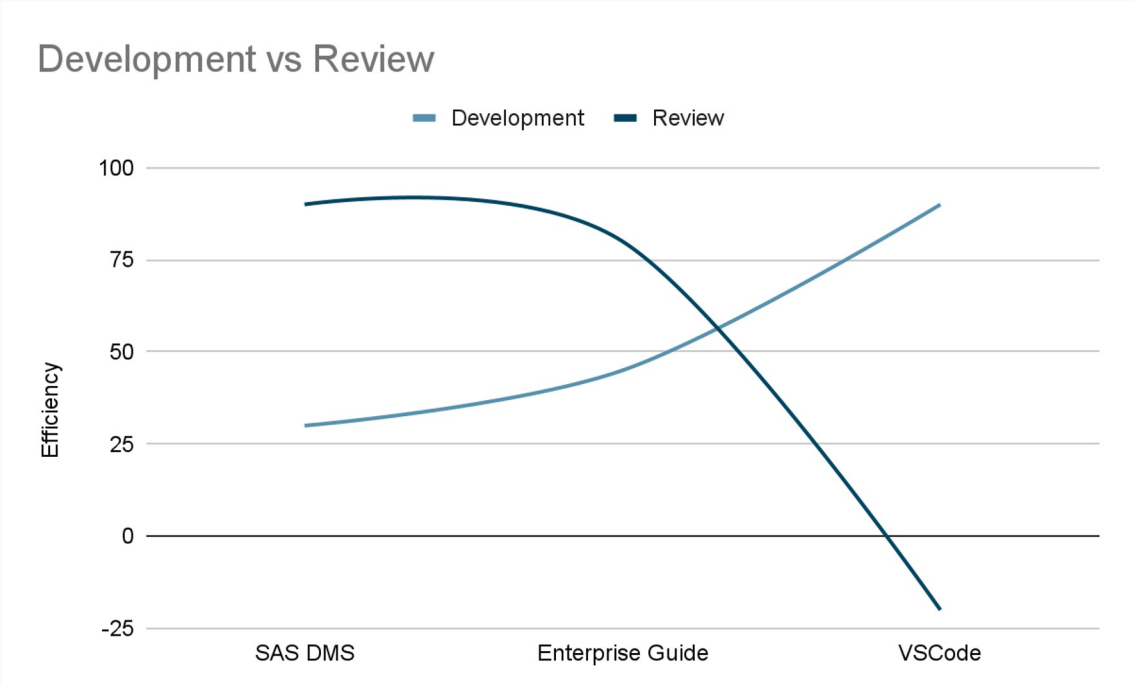


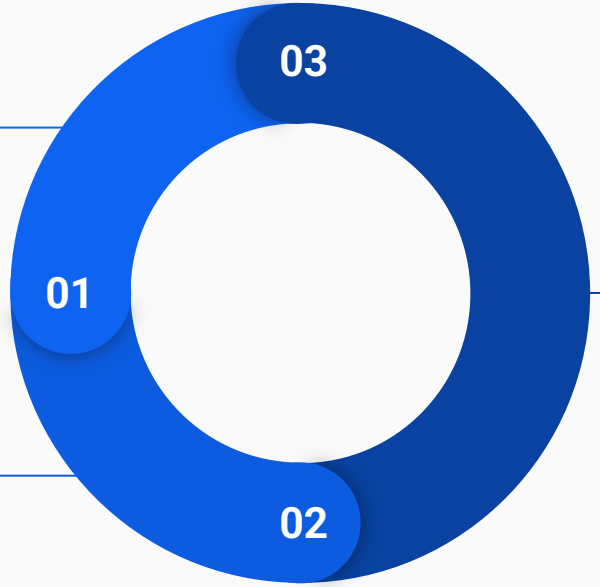
Development Process

Develop

IDEs, Editors, Macro Libraries, Packages

Execute

Servers, Languages



Review

Dataset Viewers, Validators

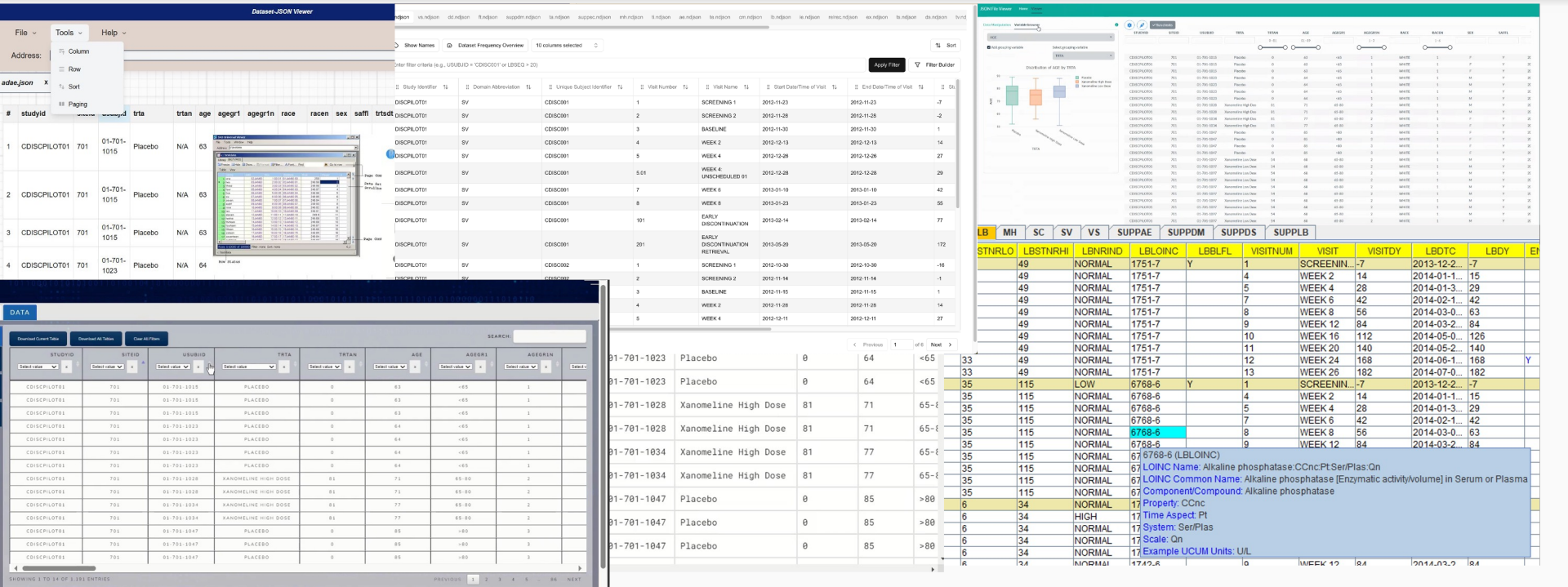
COSA Hackathon

- **Primary objective**: Create Dataset-JSON Viewer software

3 month of development

7 submitted projects

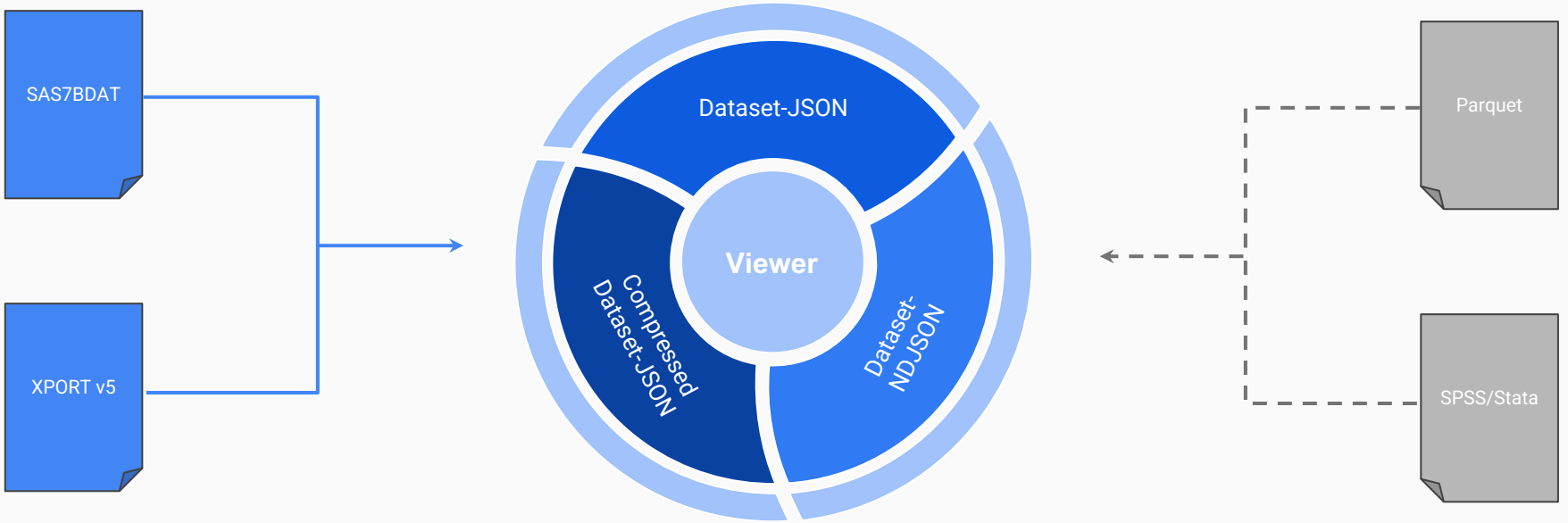
COSA Hackathon



Desperate Programmers

VDE Dataset Viewer

Data Sources



Viewer

- Desktop App
  - Windows
  - Linux
  - MacOS (can be compiled)
- Filters
  - Manual/Interactive filters
  - Multiple operator and functions
  - Autocompletion
  - Validation
  - Last 100 filters
- Navigation
  - Go To Column/Row/Column and Row
  - Virtualization (load millions or rows and thousands or columns)
  - Switching between datasets
- Metadata View
  - Dataset Metadata
  - Variable Metadata
  - Unique Values and Counts
- Streaming
  - Load infinitely large datasets
  - Quick open
- Miscellaneous
  - Selection copy
  - Quick filters
  - Column Masks
  - Numeric Value Rounding

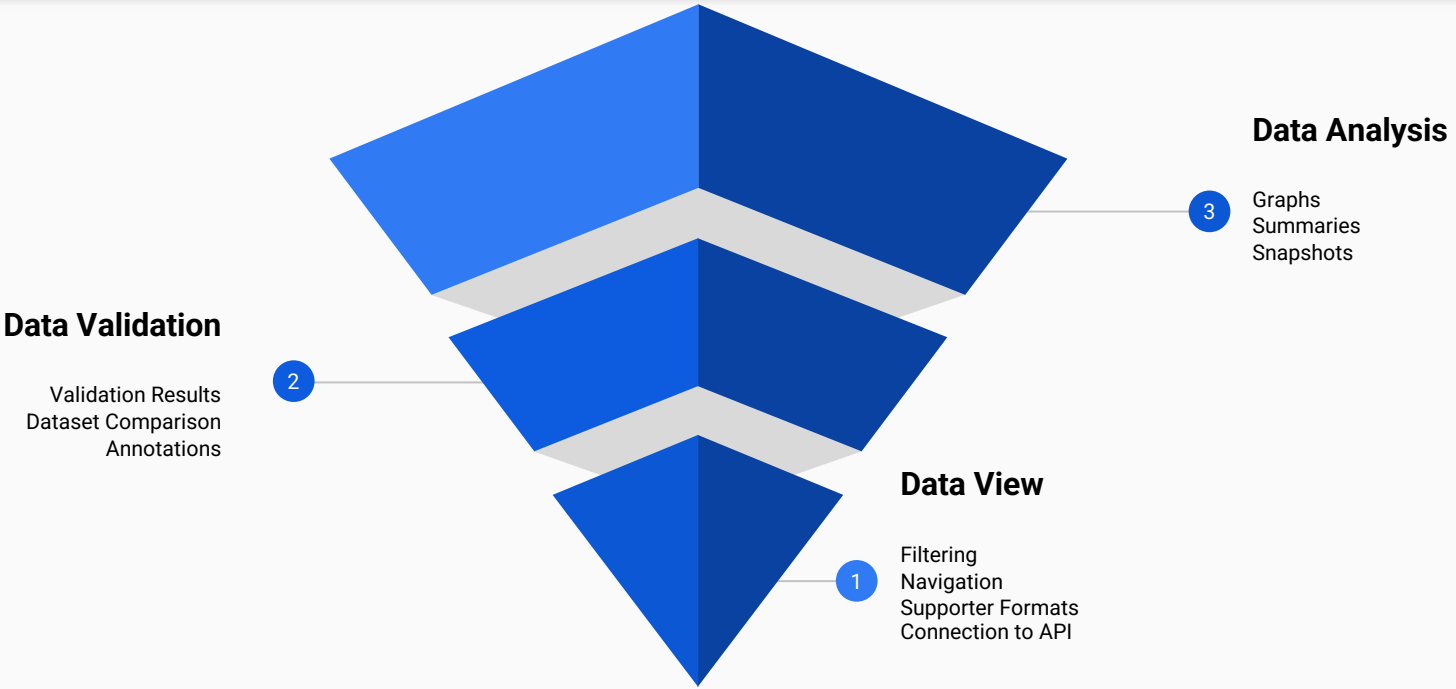
Additional Functionality

- Supported Data Formats
  - Dataset-JSON 1.1
  - Dataset-NDJSON 1.1
  - Compressed Dataset-JSON 1.1 (Prototype)
  - XPORT v5
  - SAS7BDAT
- Dataset-JSON API

- Converter
  - Bulk processing
  - Multiple formats support
  - Setting Metadata
  - Variable type detection

Next Steps

Next Generation Data Viewer



More Formats and Data Sources

Support to additional formats and ways to load data

Further develop Dataset-JSON API to support all CRUD operations

Currently Supported formats and sources

- Dataset-JSON 1.1
- Dataset-NDJSON 1.1
- Compressed Dataset-JSON 1.1 (Prototype)
- XPORT v5
- Dataset-JSON API server
- SAS7BDAT

Chess

- Millions of Users
- Multiple Platforms
- Lots of features

Chess

Chess.com

Lichess.org

- 650+ employees
- Team is split over 60 counties
- Revenue over $100 million

Data Validation

Dataset Comparison

Integration with Data Validation tool from CDISC

Dataset Comparison

Essential part of double programming is dataset comparison

- Differences summary
- Side by side view with differences highlighted

Data Validation

CDISC CORE project has UI part which allows to execute checks in a browser

- Run check for the current dataset
- View Issues in Dataset
- Annotate Issues

Data Analysis

Analyzing Data

Finding an issue in dataset is similar to finding a needle in a haystack

Many issues are identified by:

- Double Programming
- Data Validation
- Summary outputs review

Multiple open-source tools are developed as part of Pharmaverse to support data analysis and visualization.

- Fast generation
- Traceability back to the source data
- R (WebR)/Python

The End

defineEditor.com

https://github.com/defineEditor/vde-dataset-viewer