Analysis Results Standard (ARS) – Basic Front End

Driven from ADaM data set JSON files

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Hackathon Target

- Create a basic drag and drop front end that can specify an ARS for a simple table based on an ADaM Dataset-JSON file input
  - ADaM data sets available from Dataset-JSON hackathon
- Understand how to put together a version 1 ARS file
  - What information is required, and how is it stored
  - What information is unlikely to be populated
- Work through the where group structures and their consequences
  - Why are there different type of groups, i.e., Analysis and Data groups
  - What are best ways to use these in a display

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Starting point

- Previously developed viewer for Dataset-JSON files

- Written in REACT + TypeScript

- TypeScript interface for cdisc dataset-json

- TypeScript Classes and/or interfaces for implementations of the overall data object, and items

Summary table features – Analysis groups

- Needed to be able to create and manipulate Analysis groups.
  - New summary table pane
  - Add item list from ADaM data set.
  - Add groups list and buttons to create groups
- Drag and drop from the item list to the groups required variables
- Automatically assigned GUID to group ID
  - Have option to update this in a later build
- Include checkbox for initiating Big N (population size) calculation.
  - Although this currently does nothing!

Summary table for: ADSL

▼ Items
- ITEMGROUPDATASEQ
- STUDYID
- USUBJID
- SUBJID
- SITEID
- SITEGR1
- ARM
- TRT01P

▼ Groups
- Id: d880639c-5ec4-45...
- Label: Treatment
- Values from: TRT01A
- Order by: TRT01AN
- Big N? ☐
- Show levels
- ⊕ data ⊕ analysis

Summary table features – Analysis groups

- Add dialog for manipulating levels within the analysis group
  - Do not cater for data driven groups – add a button that will query the data and create levels
  - Add buttons for creating and removing levels
  - Each row is an ordered and labelled WhereClause.

Order by | TRT01AN

Big N? ☐

Show levels

⊕ data | ⊕ analysis

Treatment Levels ×

Add data levels | Add new level

⊖ 0 | Placebo | TRT01A | Equals ⌄ | Placebo

⊖ 54 | Xanomeline Low Dose | TRT01A | Equals ⌄ | Xanomeline Low Dose

⊖ 81 | Xanomeline High Dose | TRT01A | Equals ⌄ | Xanomeline High Dose

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Summary table features – Analysis groups

- With added Total group

Summary table features – Column headers

- Can now add table headers by dragging the Analysis group id onto the table
  - Headers are taken from the current analysis group levels

Summary table features – Row variable + Stats

- Add row variables by dragging from the item list
  - Automatically add some default statistics.
  - Automatically add formula for cell contents

Summary table features – ARS file

- Clicking on the ARS button shows JSON contents
  - Save button to download the file

Summary table features – ARS file

- ARS file includes hard coded sections for
  - listOfPlannedAnalysis
  - listOfPlannedOutputs
  - methods

Summary table features – ARS file

- Dynamically generated
  - analysisGroupings
  - analysis
  - outputs

Minor Summary table features

- Add buttons for Loading/Saving the current state to local browser storage

- Developer feature - add information button to see the current data state in the browser

Further development

- Enable Big N
- Enable data groups
  - Does this just effectively mean a where clause at table level?
- Allow groups to be added rows
- Allow statistics to be moved to columns
- Allow nesting of groups at row/column level
  - Potentially affecting display metadata within the ARS
- Add formatting information for displays
  - Need to work on the best representation – potentially some form of markdown
- Add more complex analysis methods
  - Do these require extra metadata to be added to the model?

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Summary

- Met most of my objectives from the hackathon
  - Front end completed, and published
  - Enhanced by understanding of the ARS model
  - Missed out on using Data groups
- I see the ARS model as a valid solution for describing analysis that needs to be performed on a study
- I think it will be possible to fill the known gap around the details of presenting data within the context of the model – but I'm not sure this is necessary.
- Needs to be stress tested on a large study

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Contact Details

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Live project demo: https://www.asup.uk/ars-hackathon/#summary

Git repository: https://github.com/PaulDThomas/dataset-json-handler

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