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Paper DV04

Spotfire Patient Profile graphs: An Abridged effective approach to better patients data understanding using Scripting Languages

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Agenda

- ❖ Introduction
- ❖ How to Create Visualization Packages
- ❖ Examples
- ❖ Conclusion

Author's Bio

Anish Kuriachen is a Principal Statistical Programmer with Syneos Health, and has over 16 years of extensive SAS experience. Anish enjoys developing and providing innovative/efficacious solutions to Clinical data process. He has been given opportunities to present at SAS conferences in the past. Anish enjoys spiritual activities, traveling, volunteering at EMT facility, learning and sharing knowledge.

Hrideep Antony is a Principal Statistical Programmer with Syneos Health, and has over 14 years of extensive SAS experience. Hrideep enjoys developing and providing innovative/efficacious solutions to streamline the FDA submission process. He has been given opportunities to present at multiple SAS conferences in the past. Hrideep enjoys spirituality, music, travelling, volunteering at nursing homes/rehabilitation facilities, learning and sharing knowledge.

Introduction

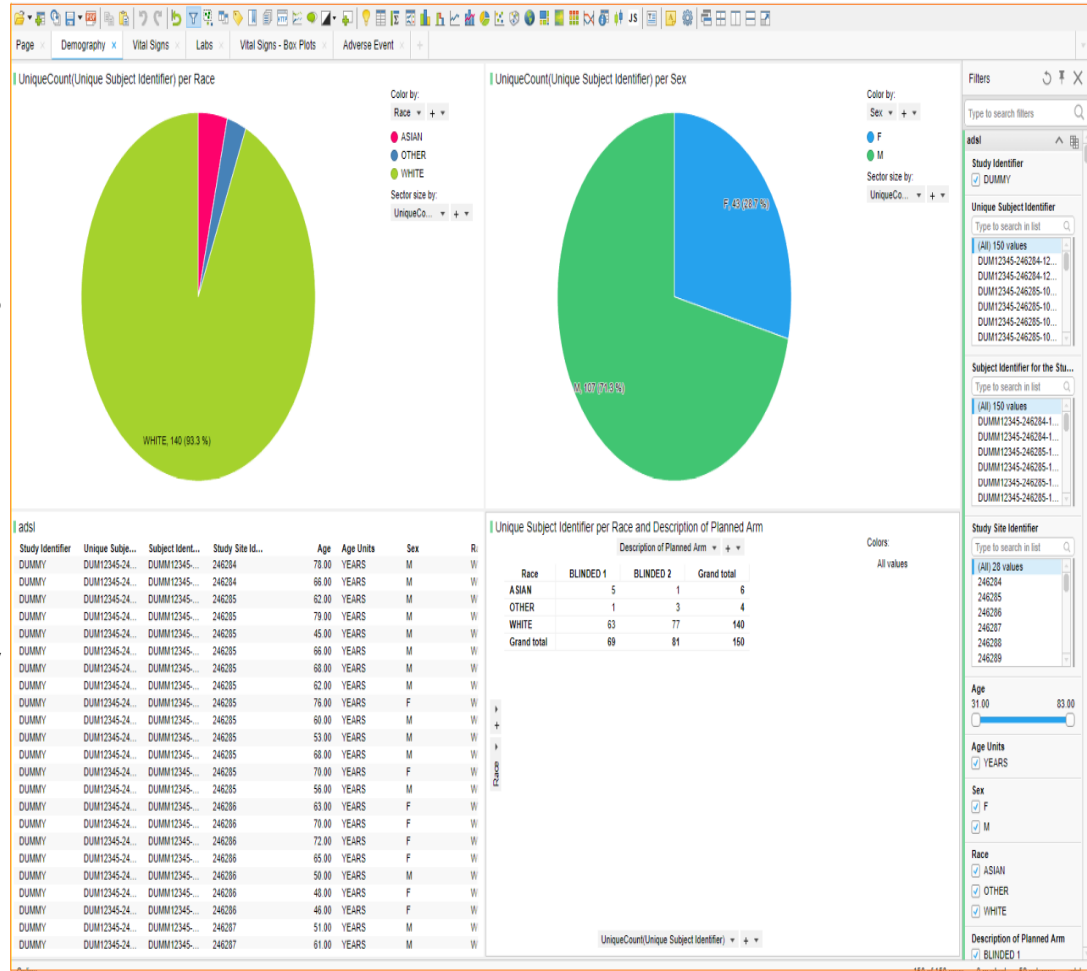
Why Visualize Data?

- “A picture is worth a thousand words!”
- Make decisions faster and smarter
- “Dig deeper” → Quick insights to the data to make better decisions
- Monitor data quality → quickly spot outliers which gives improved data quality.



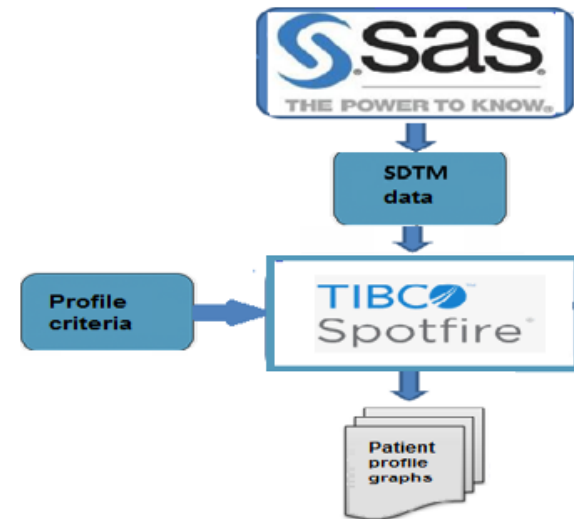
Introduction cont..

- Spotfire's dynamic and scalable reporting feature, allows the users to choose their own criteria for the visualizations.
- Spotfire has several default options to explore the data.
- Ability to add customizable features based on the users' ability to develop scripts in languages such as R, Python etc. contributing to the overall efficiency of reviewing and exploring the data.



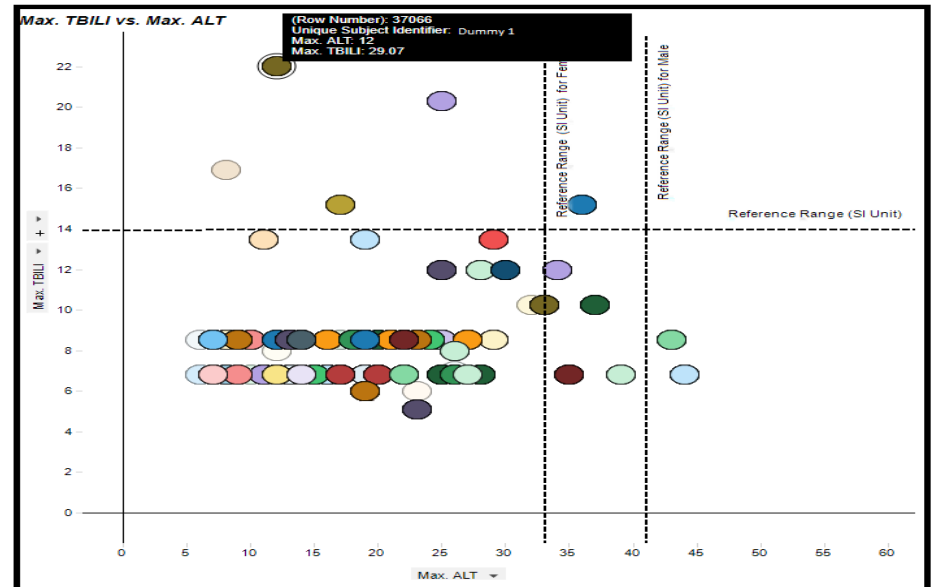
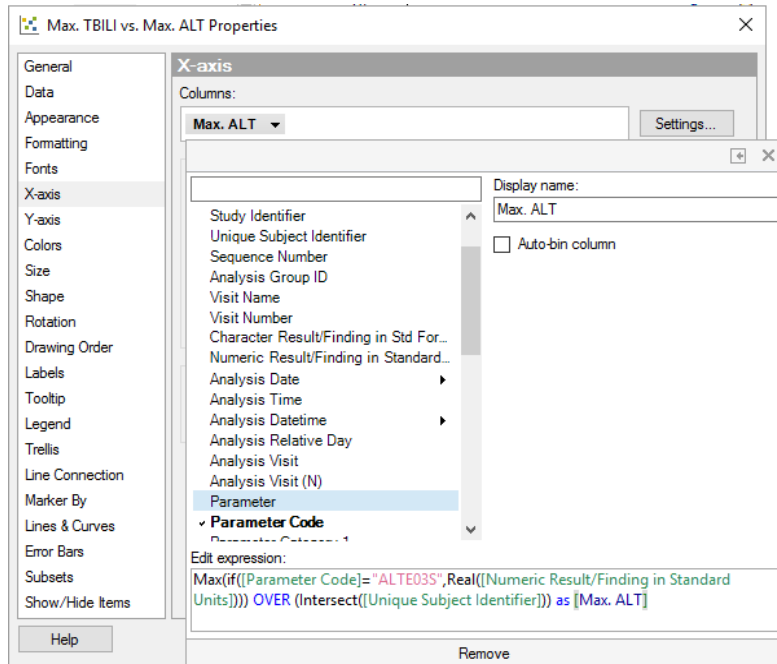
Creating Visualization Packages

- The first step in creating Spotfire Visualization packages is to load the SDTM/ADaM datasets to Spotfire by selecting the “File-Add Data Tables” on the menu and navigating to the corresponding folders.
- Spotfire allows users to process the database by allowing the users to add new variables defined from the existing data column, transpose the data, combine multiple datasets, etc.
- Using the loaded and processed data the user can generate listings, tables, and graphs according to the requirements.



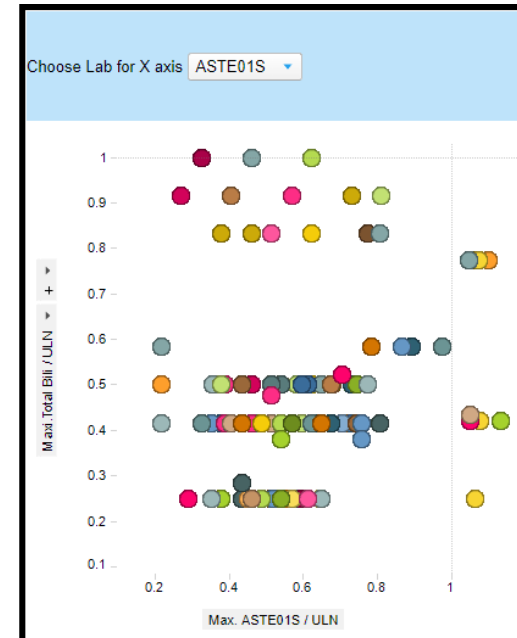
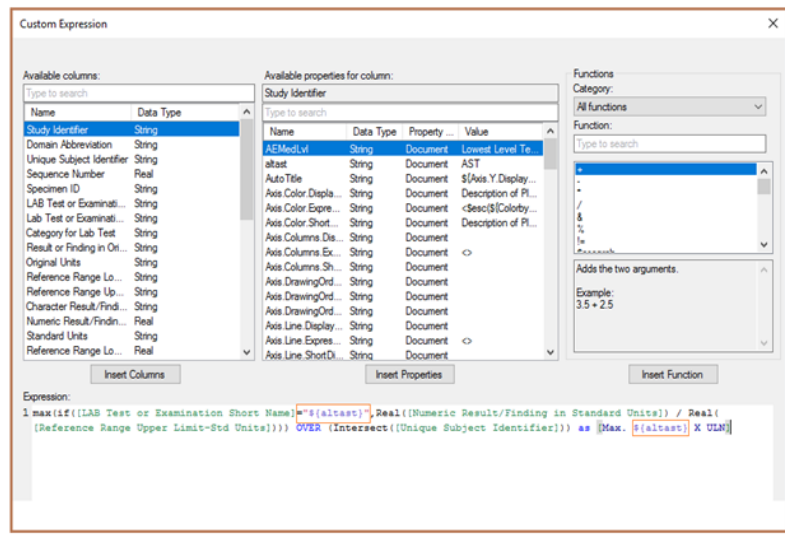
Example 1

Plots by Max Values



Example 2

Customizing the Visualizations by adding dynamic inputs



Example 3

Adding Zoom Slider On/Off using scripts

Edit Script

Script name:
zoomonoff

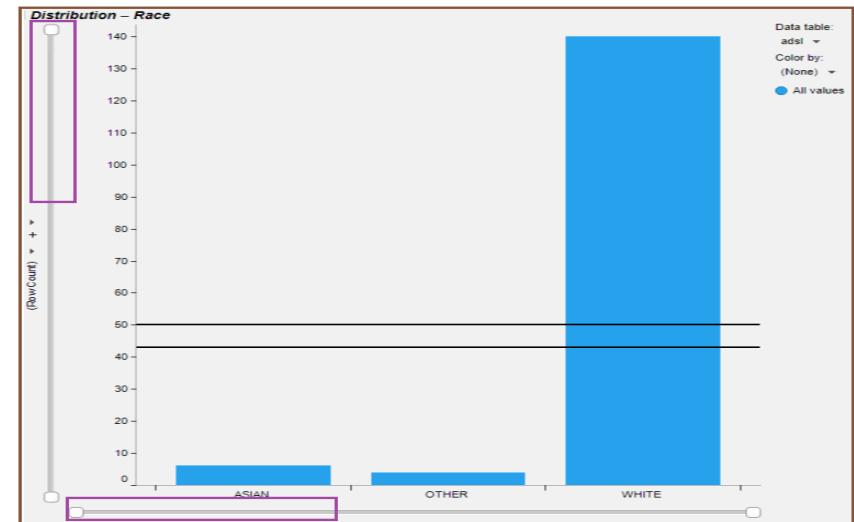
IronPython version:
2.7.7

Description:
Script to enable the user to choose zoom slider on/off

Script:

```
1 from Spotfire.Dxp.Application.Visuals import *
2
3 for viz in Document.ActivePageReference.Visuals:
4     if str(viz.TypeId) not in ("TypeIdentifier:Spotfire.HtmlTextArea",
5                               "TypeIdentifier:Spotfire.CrossTable",
6                               "TypeIdentifier:Spotfire.GraphicalTable",
7                               "TypeIdentifier:Spotfire.Table") :
8         thisviz= viz.As[VisualContent] ()
9         thisviz.XAxis.ManualZoom = not(thisviz.XAxis.ManualZoom)
10        thisviz.YAxis.ManualZoom = not(thisviz.YAxis.ManualZoom);
```

Script parameters:



Example 4

Script for Resetting all Filters in a Visualization Package

Script:

```
1 import Spotfire.Dxp.Application.Filters as filters
2
3 for scheme in Document.FilteringSchemes:
4     scheme.ResetAllFilters()
```

Example 5

Script for Setting X/Y - Axis Range

New Script

Script name: sebrange IronPython version: 2.7.7

Description: Setting X-Axis Range

Script:

```
1 from Spotfire.Dxp.Application.Visuals import VisualContent, AxisRange
2
3 viz= viz1.As[VisualContent] ()
4 viz.XAxis.Range = AxisRange(start,end);
5
```

Script parameters:

Name	Description	Type	Value
Viz1		Visualization	Page > Uni...
start		Real	\${Min}
end		Real	\${Max}

Buttons: Add... Edit... Remove

Run Script Undo

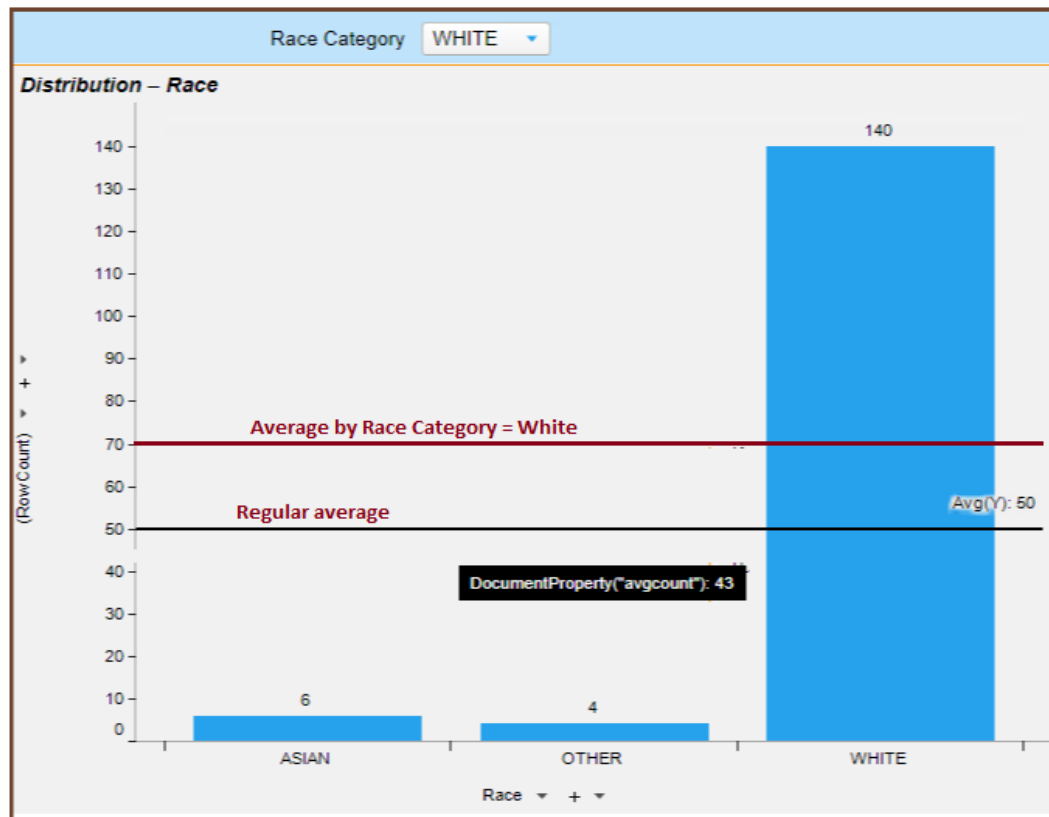
☒ Execute in transaction

Output:

Buttons: Help OK Cancel

Example 6

Creating Customized Function using R



Conclusion

Spotfire allows us to create clever and useful visualizations which help users quickly and efficiently understand large amounts of data.

The tool offers an all-inclusive platform for visualization, interaction and sharing of data.

Reviewers/Users have access to the data, and are empowered to explore it themselves.

The scripts written in Python, R and other languages allows users to incorporate very beneficial tools into the analysis.

Spotfire isn't designed to completely replace our SAS outputs, but rather to compliment them.

Acknowledgements

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