InetSoft Product Review
A Look at Style Scope from Data to Dashboard

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Introduction

In this product review I aim to provide the reader with a detailed look at using InetSoft’s Style Scope to develop and design dashboards. In demonstrating how to use the product from data to dashboard I will cover the following topics:

1. Style Scope overview
2. Workflow
3. Technology overview
4. Dashboard development
5. Recommendations

Style Scope Overview

Style Scope is a dashboard and visual analysis interface development environment. This product review will focus on the features associated with dashboard development. For more information on distinguishing between dashboards and visual analysis interfaces, please read my article, “What is a Dashboard?”

The product can run on its own or as part of InetSoft’s business intelligence suite, Style Intelligence. InetSoft’s Data Block technology differentiates Style Scope from its competitors. With Data Blocks, anyone can create a mash-up of visualizations culminating in a dashboard or visual analysis interface. This will become clearer as I walk you through the dashboard development process.

There are many other features available within Style Scope, including the ability to secure dashboards for only specific users, however, I will focus on features most relevant to creating my dashboard.

Workflow Overview

Style Scope breaks up the dashboard development into two functional areas: data preparation and dashboard development.

Data Preparation

Data preparation is geared toward software developers and those who work with databases. The tasks involved in data preparation include:

- Connecting to data sources such as MS SQL, Excel spreadsheets, and web services
• Creating data views based on different data sources
• Applying data manipulation such as calculations and formulas to the data views

Dashboard Design

Dashboard development is geared toward business analysts and general information workers. The tasks involved in dashboard development include:

• Taking existing Worksheets and selecting the appropriate visualizations for them
• Extending existing Worksheets by adding more calculations or removing data
• Creating Data Blocks for use in dashboard development
• Laying out and designing dashboards
• Publishing dashboards

I thought the approach InetSoft took with the workflow was well thought out. Preparing data will always be a developer’s job no matter how sophisticated tools become. Querying, joining, and quality assuring data all require database skills and experience. However, developing and designing dashboards should be left to someone who understands the metrics needed and who has data visualization and dashboard design skills and this is typically not the developer.

Technical Overview

Architecture

This section covers Style Scope from a highly technical perspective, assuming the reader is a technologist or very familiar with IT systems. Style Scope uses a server/client architecture and also uses a mix of desktop and web-based interfaces. For data preparation, the developer has to log in to the server and open up the desktop application, Style Studio, to perform these tasks. For dashboard development, the user can access Style Scope’s User Portal using a web browser that supports Flash.

In addition, non-developers can use Style Studio to import spreadsheets, which provides a self-service experience.

Dashboards built using Style Scope render in Flash and HTML5. The system will detect the browser’s capabilities and serve the dashboard in HTML5 and JavaScript if Flash is not supported. By displaying in either technology, Style Scope can publish dashboards for viewing on both desktop browsers and devices that support HTML5 including iPads and Blackberries.
Technical Requirements

Style Scope’s server backend has minimal requirements. All standard servers are supported including Windows Server and Linux. This is due to InetSoft’s decision to build the server application using Java, taking advantage of its cross-platform capabilities.

Here are InetSoft’s minimum server recommendations:

- CPU: minimum 1.6 GHz
- Memory: minimum 512MB
- Hard Disk: minimum 500MB

Script Engine

Standard dashboard design elements including charts, gauges, drop down lists, and buttons are available to create simple dashboards and visual analysis interfaces. However, Style Scope can create very sophisticated interactivity through its script engine, which uses the JavaScript syntax. It is similar to using JavaScript to accessing the document object model (DOM). The only difference is that Style Scope uses JavaScript to access its dashboard object model.

Dashboard Development

This section will take a detailed look at how to build the following dashboard for monitoring the performance of a consultant:
I will not go over the details of the purpose of the dashboard; however, it will be featured on Dashboard Insight next month, when I will provide a thorough review of the purpose and measures of the Consultant Performance Dashboard.

In this product review, I will go through these steps to build the dashboard:

1. Connecting to data
2. Defining measures
3. Designing the dashboard

1.0 Connecting to Data

This dashboard contains the following types of data:

- Financial data - e.g. QuickBooks
- Customer satisfaction survey results - e.g. Excel reports
- Project and time tracking - e.g. Harvest
- Personal tasks - e.g. Outlook calendar or tasks

Style Scope connects to a variety of data sources out-of-the-box including:

- Any relational database - e.g. MS SQL, MySQL
- Any web service
- Enterprise systems - e.g. SAP, PeopleSoft

With JDBC and web service support, Style Scope can connect to anything. However, I recommend asking InetSoft whether it connects to your data source when you evaluate its product. To simplify this review, I will be connecting to MS SQL for the project tracking data.

▶ Watch this video to see how I connect to MS SQL

You can also use Style Scope to join two disparate data sources as well as apply formulas to the data. Whenever possible I strongly recommend doing these types of tasks using your native database tools, which are usually optimized for this. However, if, at times you don’t have access to the database or your data is not stored in a database, you can use Style Scope to perform these data tasks. This best practice applies to most dashboard products and is not a knock against Style Scope.

2.0 Preparing Data and Defining Measures

This step entails connecting all the necessary data to Style Scope, which uses the concept of Data Blocks to organize and manage measures and its underlying data. This makes it easier to
remove and update the measures you have in your project. For example, in the Consultant Performance Dashboard, there is a measure called “utilization trend,” which lists the consultant’s utilization and the company average. If, in the future, a decision is made to change the goal to a constant value, rather than creating a new measure, the user could simply change the definition of the Data Block.

To create Data Blocks, I need to:

- Create table relationships in Physical Views
- Simplify the data in Logical Views by giving columns friendly names and adding various calculations
- Create Worksheets that contain Data Blocks (equivalent to one or more measures) to be used by those who are not database-savvy users

★ See a step-by-step video of this workflow

I would then repeat the process for each measure I have on my dashboard.

3.0 Designing the Dashboard

Now that I have all my measures defined as Data Blocks, I can move on to designing the dashboard, using a web browser to access the designer. Typically installations will create a URL like this:

http://[yourwebserver]:8080/sree/index.html

If you’re not sure where this link is, ask the person who installed Style Scope or Style Intelligence.

In addition, if you have access to the computer that Style Scope was installed on, you can open this link by going to its Windows’s Start Menu and finding the InetSoft application folder.

The implementation of the dashboard is done through the Visual Composer user interface. In this drag and drop interface, I place dashboard elements such as charts, gauges, and text boxes onto a canvas.

Data Visualization

Style Scope comes with the standard data visualizations such as charts and gauges and you can use space-efficient sparklines, as well. There are many properties you can choose from, including colours, decorations, and text formatting. Since it was important for me to clearly represent the data, I don’t recommend you use the dashboard in this product review as a baseline for the type of design choices you can make.
Overall, the visualization choices in Style Scope were good and customization was extensive. However, I am very particular with some styling choices including label formatting, control of tick marks, and legend positioning. Style Scope fell a bit short here but I suspect they will improve on these areas in future releases.

**Dashboard Layout**

*Style Scope has the best layout engine I’ve used in a dashboard product.* It uses Excel-like cells and standard docking and alignment principles that make laying out dashboard elements really easy. For example, if I need to move four elements that are aligned vertically with each other, I just have to change the size of the cell rather than moving each individual element. The guidelines make it easy to align elements relative to other elements.

**Recommendations**

**Simple Things are SIMPLE**

For those responsible for data and those responsible for dashboard design, the simple things in this product are very simple.

> “Simple things should be simple. Complex things should be possible.”

*Alan Kay*  American computer scientist

Style Scope takes Alan Kay’s quote to heart. There’s a learning curve, but a very minimal one. I was able to create my dashboard in three days. I did receive a couple of hours of training from InetSoft but I was able to figure out the majority of the features and functionality on my own.

To implement more complex things in my dashboard, I had to do some scripting, but it was minimal. However, for those who are familiar with JavaScript, there is next to no learning curve and there is a lot of documentation to help you do some neat things.

The only reservation I had was about certain customizations I couldn’t do, which included refining the x-axis labels in a chart and control over the positioning of the legend. However, the ease of use was an acceptable trade-off to this downside.
Freedom from Data Lockdowns

One of the strongest aspects of Style Scope is the control you have over the data. There are many ways to manipulate it from data architecting to applying formulas.

If you have some database skills, you can do almost anything without having to go back to IT for assistance. All you need from them is permission to connect to the data source in a read-only manner. IT will be happy because they won’t have to respond to frequent data and report requests. Those responsible for presenting data can now work with the data in whatever way they choose to on their own terms.

Supporting Resources and Documentation

InetSoft has done a great job in clearly outlining the basics of the product. In addition to providing clear documentation in a step-by-step format, Style Scope comes with examples of data connections and sample presentation media including a dashboard, a visual analysis interface, and a what-if tool example.

One of the reasons I didn’t need too much help from InetSoft support was because the commonly used features were well documented. As someone who likes to try new tools on their own first, I was quite happy with the level of detail the documentation provided.

Final Thoughts

InetSoft has done a great job of creating a dashboard tool that is easy to learn and use. There are many other features I have not explored including data security and visual analysis functionality, but what I’ve seen so far makes me believe these are simple to use and easy to extend.

As for the future of Style Scope, there is some concern about the adoption of HTML5 and Adobe’s announcement that it will not be releasing new versions of Flash. InetSoft will continue using Flash for their dashboard design tools, but dashboards built with Style Scope can be viewed as HTML5 or Flash, depending on what the browser supports. There will be technologists who argue that InetSoft should have its product written completely in HTML5 because that’s where the market is going. However, I argue that Flash is a mature technology that is on everyone’s desktop while HTML5 has yet to be standardized. I always prefer a mature technology over an emerging one for tools that are used for office productivity. In addition, InetSoft is ready to move entirely to HTML5 as soon as Flash loses ground and has the internal technical know-how to make the shift. In that regard, InetSoft’s Style Scope will continue to be a viable choice for many years.