New and Shiny – What's new in SSRS 2016

These are the presenters notes from my "New and Shiny – What's new in SSRS 2016" presentation. Note these are not meant to be detailed step by step instructions. These are just rough notes to guide me as I present, so as not to forget crucial steps.

That said, they may assist you in attempting to recreate the demos on your own PC.

Also note the SQL and MDX files. These contain the statements used in the datasets, and above each is the name of the dataset to make it easy to create.

All demo files point to the datasets folder off the root directory of your server. They were also created to point to "localhost" as the server name.

All queries were based on one of three databases. Two relational databases, WideWorldImporters and WideWorldImportersDW are the new Microsoft sample databases for SQL Server 2016. Most of the demos in this presentation are based on the WWI-SSAS Cube I created. The project can be located in its own folder here on my github site. If you want just the backup of the database, check the So You Think MDX is hard folder, it has a download for just the backup of the MDF file.

New Features

1. Show how old fashioned SSRS reports are now Paginated Reports
2. Show KPIs
3. Show Mobile Reports
4. Show Power BI Desktop Reports
5. Show Excel Workbooks
6. Show Word document in Resources
7. Show New menu. Explain how tools are now downloads, not bundled in SSRS.
8. Custom Branding
9. HTML Rending – Show reports in IE, Chrome, Firefox, and Safari
10. Mention Tree Map and Sunburst Charts.
11. Report Embedding – Use an iFrame to embed a report
12. New export mode – PowerPoint
13. Subscription Improvements
    a. Easy Enable and Disable of subscriptions
    b. Subscription Descriptions
    c. Change subscription owner
    d. Create shared file share credentials for writing to a file share. Handled in Native Mode Configuration Manager.
    e. Mention can still use specific credentials for reports.
    f. Report Builder improvements: New, updated UI
14. Report Builder / SSDT
    a. Custom Parameters Pane
    b. High DPI Scaling
15. Can now pin reports to your PowerBI Dashboard

Custom Branding

Overview of custom branding from Microsoft, including a good video:

https://msdn.microsoft.com/en-us/library/mt710551.aspx

This site has a good breakdown of what each item in the css points to.

http://craigporteous.com/2016/05/ssrs-2016-brand-package-breakdown/

This site makes it easy to translate colors into the hex color codes:

http://color-hex.com

The colors begin with section names, these describe the general use for each name.

- Primary - For button and hover colors
- Secondary: title, search, left hand menu, and text
- Neutral primary: Home background, report background
- Neutral secondary: Text box backgrounds, folder options background, settings menu
- Neutral Tertiary: Site settings backgrounds
- Danger/success/warning
- KPI – Green Good, Red bad, neutral orange, none black

Other notes

Logo size: 290w x 60h

Can’t modify fonts (at this time)

Subscriptions / Parameters reports

Both reports are based on the same dataset, which is embedded in the report.

Query main dataset:

```
SELECT ci.[State Province]
     , cu.[Bill To Customer]
     , fs.[Stock Item Key]
     , fs.[Invoice Date Key]
     , fs.[Delivery Date Key]
     , fs.[Salesperson Key]
     , em.[Employee]
     , fs.[Description]
     , fs.[Total Excluding Tax]
     , fs.[Tax Amount]
     , fs.[Profit]
     , fs.[Total Including Tax]
  FROM [WideWorldImportersDW].[Fact].[Sale] fs
  JOIN [Dimension].[City] ci
    ON fs.[City Key] = ci.[City Key]
  JOIN [Dimension].[Customer] cu
    ON fs.[Customer Key] = cu.[Customer Key]
  JOIN [Dimension].[Employee] em
    ON fs.[Salesperson Key] = em.[Employee Key]
```

Parameters:

Add parameters to the State, Employee, and Bill to Customer. This will let you rearrange them.

Subscriptions

Set the report to use an embedded set of credentials.

Create a new subscription to a share. On my machine I setup the share to: \\ArcaneCodePro3\Shared

Show ease of enable and disable of a subscription

Show details, change of owner, etc.

KPI 1 – Sales Quantity KPI

Query for KPI: Sales Quantity KPI

```
SELECT {KPIValue("Sales Quantity KPI"), KPIGoal("Sales Quantity KPI"), KPIStatus("Sales
Quantity KPI")}
ON COLUMNS
FROM [Wide World Importers]
```

Query for Trend: Sales Quantity Over Time

SELECT NON EMPTY [Measures].[Sales Quantity] ON COLUMNS

, NON EMPTY [Invoice Date].[Year].[Year].Members ON ROWS

FROM [Wide World Importers]

1. New | KPI
2. Name: Sales Quantity
3. Value format: Abbreviated
4. Value: Dataset Field
5. Field: Datasets | Sales Total Including Tax KPI | KPI_Value_Sales_Quantity_Total_Current_Invoice (First Column)
6. Goal: Dataset Field
7. Value: Datasets | Sales Total Including Tax KPI | KPI_Goal_Sales_Quantity_Total_Current_Invoice_YTD
8. Status: Dataset field
9. Value: Datasets | Sales Total Including Tax KPI | Sales_Quantity_KPI_Status
10. Trend set: Dataset trend
11. Dataset: Sales Quantity Over Time | Sales_Quantity
12. Point out the visualizations
13. Mention Related Content can link to a mobile report or a custom url (that could be an SSRS report)
14. Click Apply to save it, then return to the dashboard.

KPI 2 - Sales Total Including Tax

Query: Sales Total Including Tax KPI

```
SELECT {KPIValue("Sales Total Including Tax KPI"), KPIGoal("Sales Total Including Tax
KPI"), KPIStatus("Sales Total Including Tax KPI")}
ON COLUMNS
FROM [Wide World Importers]
```

Trend: Sales Total Including Tax Over Time

```
SELECT NON EMPTY [Measures].[Sales Total Including Tax] ON COLUMNS
     , NON EMPTY [Invoice Date].[Month Year].[Month Year].Members ON ROWS
FROM [Wide World Importers]
```

1. New | KPI
2. Name: Sales Total Including Tax
3. Value format: Abbreviated
4. Value: Dataset Field
5. Field: Datasets | Sales Total Including Tax KPI | KPI_Value_Sales_Total_Including_Tax_Current_Invoice_YTD (First Column)
6. Goal: Dataset Field
7. Value: Datasets | Sales Total Including Tax KPI | KPI_Goal_Sales_Total_Including_Tax_Current_Invoice_YTD
8. Status: Dataset field
9. Value: Datasets | Sales Total Including Tax KPI | Sales_Total_Including_Tax_KPI_Status
10. Trend set: Dataset trend
11. Dataset: Sales Total Including Tax Over Time | Sales_Total_Including_Tax
12. Point out the visualizations
13. Mention Related Content can link to a mobile report or a custom url (that could be an SSRS report)
14. Click Apply to save it, then return to the dashboard.

Treemap Chart

```
SELECT NON EMPTY [Measures].[Sales Total Including Tax] ON COLUMNS
     , NON EMPTY ( [Invoice Date].[Year].[Year].Members
                 , [City].[Sales Territory].[Sales Territory].Members
                 )
           ON ROWS
FROM [Wide World Importers]
```

1. Report Builder
2. New Report, Chart Wizard
3. Take Create a Dataset Option, click Next
4. Select the WideWorldImporters-SSAS-MD on localhost. Click Next.
5. Use the very rightmost button to change to design mode
6. Enter the query above and use red exclamation mark to test.
7. Click Next.
8. For Chart Type, pick Shape (doesn't matter too much as we'll be changing it)
9. Pick Next.
10. Place Year in the Series area. The series represents the bigger blocks.
11. Place Sales_Territory in the Categories. Categories are the smaller blocks within the bigger series blocks.
12. Place Sales_Total_Including_Tax in the values.
13. Click Next, then Finish.
14. Right click in the chart, and pick Change Chart Type…
15. Select Tree Map, click OK
16. Show the Chart Data pane on the right, confirm Series has Year, Category has Sales_Territory.
17. Run the report.
18. Show how the smaller blocks don't show the entire text.
19. Return to designer mode.
20. Right click in the chart, pick Series Properties.
21. Under Series Data, click fx beside tooltip.
22. Use this for the expression:
    ="Sales Territory: " & Fields!Sales_Territory.Value & vbCrLf & "Sales Total Including Tax: " & FormatCurrency(Fields!Sales_Total_Including_Tax.Value, 0)
23. Click OK to close expression editor.
24. OK again to close Series Properties.
25. Save and run the report.

Sunburst Chart

```
SELECT NON EMPTY [Measures].[Sales Total Including Tax] ON COLUMNS
     , NON EMPTY ( [City].[Sales Territory].[Sales Territory].Members
                 , ( [Invoice Date].[Year].[Year].Members
                       , [Invoice Date].[Quarter].[Quarter].Members
                       , [Invoice Date].[Month Abbreviation].[Month
Abbreviation].Members
                       )
                                          )
          ON ROWS
FROM [Wide World Importers]
```

1. New | Chart
2. Create Dataset | Next
3. Localhost version of WideWorldImporters-SSAS-MD | Next
4. Design mode | paste above query | Next
5. Pick Area chart (which will be changed) | Next
6. Sales_Total_Including_Tax to Values
7. Sales_Territory to Series
8. Others to Categories
9. Next | Finish
10. Right click on chart | Change Chart Type | Shape | Sunburst
11. Remove title and footer
12. Right click on Sales_Total_Including_Tax in the values area check Show Data Labels.
13. Right click again on Sales_Total_Including_Tax. Pick Series Properties. Replace the tooltip of #VALY with the expression = Fields!Month_Abbreviation.Value & ", " & Fields!Quarter.Value & ", " & Fields!Year.Value & ": " & FormatCurrency(Fields!Sales_Total_Including_Tax.Value, 0)

Mobile Reports – Basic Dashboard

1. Open the Mobile Report editor.
2. Designing the report
    a. Place a Category Chart in the upper left. Make it two high by four wide.
    b. Place a Gauge – Bullet Graph beside the time chart, two by two.
    c. Place a Gradient Heat Map under the Time Chart, three by three
    d. Place a Tree map under the gauge and beside the map, also three by three.
    e. Place a Simple Data Grid in the remaining space.
3. Getting the data
    a. Click the Data tab
    b. Add Data | Report server | localhost/reports | Datasets
    c. Add these datasets:
        i. Sales by Invoice Year.
        ii. Sales Invoice YTD vs Previous YTD
        iii. Sales by State – Invoice Year
        iv. Sales by State
        v. Sales by Year and Territory
4. Connect the data to the report items
    a. Category Chart
        i. Click on the Category Chart in the Report Elements on the left
        ii. At the bottom, set series name field to SalesbyInvoiceYear.
        iii. Validate Year is beside it (category)
        iv. Main Series should be sent to Sales Total. Point out the options.
    b. Bullet graph
        i. Click on the Bullet graph under Report Elements
        ii. Set main value to SalesInvoiceYTDvsPrevousYTD
        iii. Set metric to Sales_Total_Including_Tax_Invoice_YTD
        iv. Set comparison value to SalesInvoiceYTDvsPrevousYTD
        v. Set comparison metric to Sales_Total_Including_Tax_Previous_Invoice_YTD
    c. Simple data grid
        i. Click on the Simple Data Grid under Report Elements
        ii. Under data properties, pick SalesbyState-InvoiceYear
        iii. Point out the data grid columns on the right
        iv. In the text box, remove underscore in State_Provice
        v. Click the options beside Sales_Total_Including_Tax
        vi. Change the format to Currency
        vii. Change the name to remove underscores
    d. Gradient heat map
        i. Click on the gradient heat map in the Report elements
        ii. Change the keys dataset to SalesbyState
        iii. Ensure key is State_Provice
        iv. Point out this must be something that a map can recognize

v. Validate the Values is Sales_Total_Including_Tax

e. Tree map
   i. Click on the Tree map
   ii. Set Size represents to SalesbyYearandTerritory
   iii. Ensure Group by is set to Year
   iv. Set Popup labels to Sales_Territory
   v. Ensure other fields are set to Sales_Total_Including_Tax

f. Fix the display
   i. Click on the Layout tab
   ii. Click on Category Chart
   iii. Change title to “Sales by Year”
   iv. Click on Bullet graph. Change title to “Sales Goal”
   v. Click on Gradient heat map. Title to Sales Over Time by State
   vi. Click on Tree map. Title to “Sales Tree”
   vii. Click on Simple data grid. Title to “Sales Details”.

g. Create the layouts for Tablet and Phone
   i. Click on the white square upper right
   ii. Pick Tablet
      1. Sales by Year, top left, 2 high 4 wide
      2. Sales Goal, top right, 2 by 2
      3. Sales Over Time by State Map, middle, 2 high 4 wide
      4. Sales Tree, middle right, 2 by 2
      5. Sales Details, bottom, entire width
   iii. Click on the white square upper right
   iv. Pick phone
      1. Sales by Year, top left, 2 high 3 wide
      2. Sales goal, top right, 2 high 1 wide
      3. Sales by State, middle, 2 high 4 wide
      4. Sales Detail, bottom, 2 high 4 wide
      5. Omit tree map

Mobile Reports – Dashboard with Navigators

1. Open the Mobile Report editor.
2. Getting the data
    a. Add Data | Report server | localhost/reports | Datasets
    b. Add these datasets
        i. WWI Cube Employee List
        ii. WWI Cube State List
        iii. WWI Cube State Employee Sales Data
3. Design the Report
    a. Place a time Navigator in upper left, 2h x 6w
    b. Place Selection List, upper middle, 2h x 2w
    c. Place another Selection List, upper right, 2h x 2w
    d. Place Simple Data Grid, bottom, 3h x 6w
    e. Place Gradient heat map, bottom right, 3h x 4w
4. Connect the data to the report items
    a. Time navigator 1
        i. Series: WWICubeStateEmployee Sales
        ii. Value: Sales_Total_Including_Tax
        iii. Point out you can filter by selection lists, but won't
    b. Selection List 1
        i. Series: WWICubeEmployeesList
        ii. Value: Employee
    c. Selection List 2
        i. Series: WWICubeStateList
        ii. Value: State_Province
    d. Simple data grid
        i. Series: WWICubeStateEmployeeSales
        ii. Uncheck Year
        iii. Uncheck Beginning of Quarter DateTime
        iv. Move Beginning of Quarter to Top
        v. Move Beginning of Month to Second place
        vi. Rename the remaining Datagrid Columns
    e. Gradient heat map
        i. Series: WWICubeStateEmployeeSales
        ii. Series Key: State_Province
        iii. Values: Sales_Total_Including_Tax
        iv. Point out the options.
        v. Show Filtered by is set to Time navigator.
        vi. Put a check on Employee
        vii. Leave state unchecked, we want it to show all states
    f. Fix titles
        i. Return to Layout

ii. Set dashboard title to ‘Sales by Employee and State’
iii. Set Selection List 1 title to ‘Employee’
iv. Set Selection List 2 title to ‘State’
v. Set Simple data grid title to nothing
vi. Set Gradient heat map to ‘Sales by State’

5. Create the layouts for Tablet and Phone
    a. Tablet mode
        i. Time Navigator, top, 2h x 6w
        ii. State List, middle left, 1h x 2w
        iii. Employee list below State, 1h x 2w
        iv. (Leave spot under employee empty)
        v. Map, middle right, 3h x 3w
        vi. List, bottom, 3h x 6w
    b. Phone mode
        i. Time navigator, top, 1h x 4w
        ii. State, mid left, 1h x 2w
        iii. Employee, mid right, 1h x 2w
        iv. Map, middle, 2h x 4w
        v. Grid, bottom, 2h x 4w

Mobile Reports – Drill Through Target

1. Create Target Report Layout
    a. Time Navigator top left, 2h x 8w
    b. Selection List (Employee) Top right, 1h x 2w. Set title to Employee
    c. Selection List (State) Top Right under Employee, 1h x 2w. Set title to State
    d. Simple Data Grid in remaining area. Set title to Sales Details.
2. Add data to Target Report
    a. Add Data | Report server | localhost/reports | Datasets
    b. Add these datasets
        i. WWI Cube Employee List
        ii. WWI Cube State List
        iii. WWI Cube Detail Sales Data
3. Connect datasets
    a. Data tab.
    b. Click on Time Navigator.
        i. Set Series to WWICubeDetailSalesData.
        ii. Set value to Sales_Total_Including_Tax
    c. Click on Employee selector.
        i. Keys to WWICubeEmployeeList, value Employee
        ii. At right, under Filter these datasets, check on WWICubeDetailSalesData.
        iii. Set connecting field to Employee.
    d. Click on State selector.
        i. Keys select WWICubeStateList, State_Province for value.
        ii. Under Filter, check on WWICubeDetailSalesData.
        iii. Set connecting field to Employees.
    e. Click on Sales Details list.
        i. Select WWICubeDetailSalesData.
        ii. Click on Options.
        iii. Ensure Filtered By is set to all three selectors.
        iv. Clean up Data grid columns.
4. Set the report title to Sales Details.
5. Save the report to the server as Sales Details.
6. Open the Sales by Employee State dashboard.
7. Click on the Simple Data Grid
8. Click on Drill Through Target
9. Select Mobile Report
10. Select Sales Details
11. Map the parameters from the source to the target.
12. Save to the server
13. To test, you have to execute from the server.