Santa Barbara Public Defender Data Dashboard Using PowerBI

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Project Advisor: Dr. Chengyu Sun

Overview

Sponsored by: Santa Barbara County Public Defender

Liaisons: Deepak Budwani, Sarah Rothschild , Bryan Burzon, Angella Stokke, Aidan Bassett

Mission, Vision, Values

Protect and defend the rights of their clients.

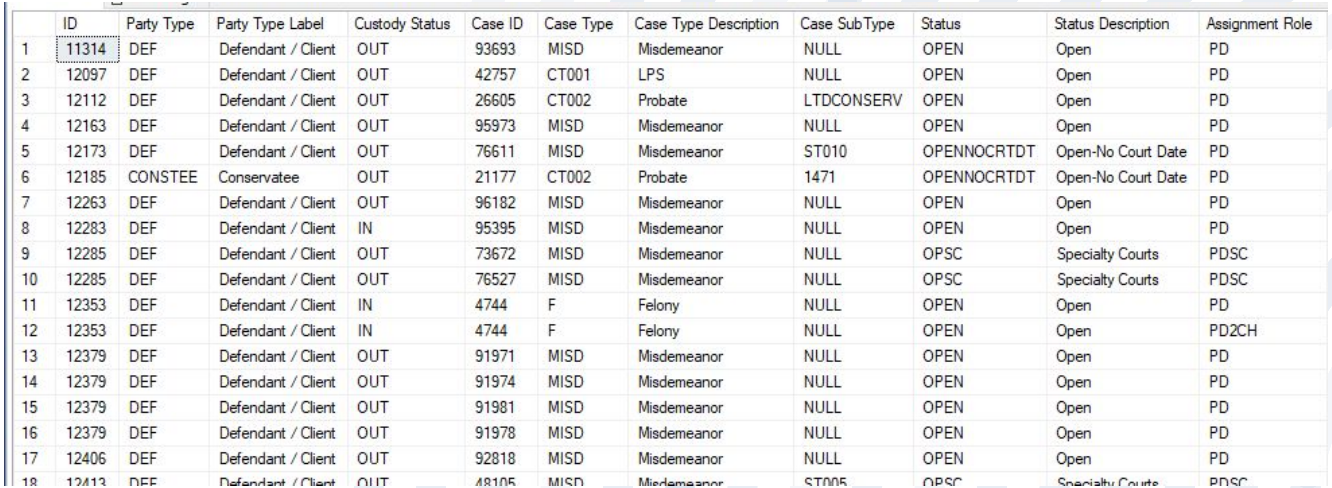
Provide effective, vigorous and loyal advocacy.

Provide these services in the most economical and efficient manner possible.

SANTA BARBARA
COUNTY PUBLIC
DEFENDER
Est. 1969

Understanding Data

- 1200+ tables of raw data.
- Incredibly difficult to read and understand.
- Necessary to have understandable and easy to use visualizations.

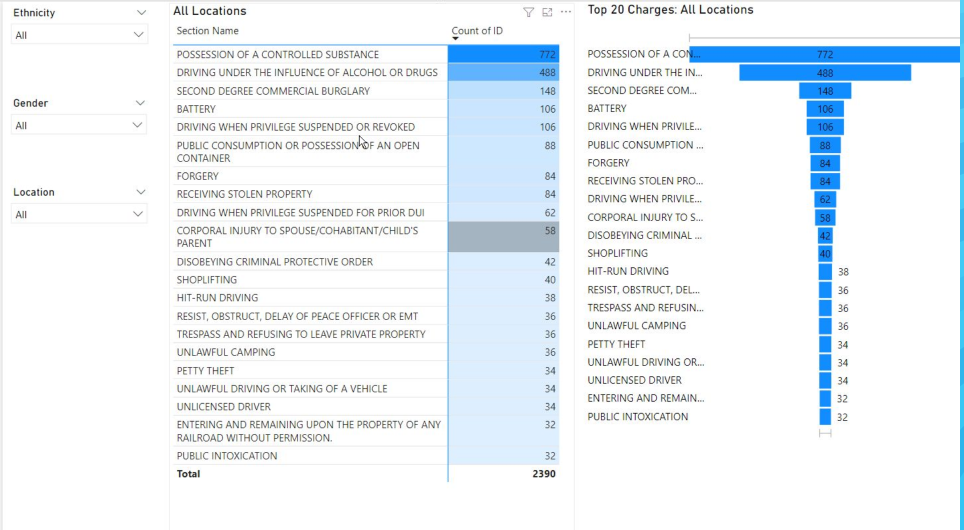


	ID	Party Type	Party Type Label	Custody Status	Case ID	Case Type	Case Type Description	Case SubType	Status	Status Description	Assignment Role
1	11314	DEF	Defendant / Client	OUT	93693	MISD	Misdemeanor	NULL	OPEN	Open	PD
2	12097	DEF	Defendant / Client	OUT	42757	CT001	LPS	NULL	OPEN	Open	PD
3	12112	DEF	Defendant / Client	OUT	26605	CT002	Probate	LTDCONSERV	OPEN	Open	PD
4	12163	DEF	Defendant / Client	OUT	95973	MISD	Misdemeanor	NULL	OPEN	Open	PD
5	12173	DEF	Defendant / Client	OUT	76611	MISD	Misdemeanor	ST010	OPENNOCRTDT	Open-No Court Date	PD
6	12185	CONSTEE	Conservatee	OUT	21177	CT002	Probate	1471	OPENNOCRTDT	Open-No Court Date	PD
7	12263	DEF	Defendant / Client	OUT	96182	MISD	Misdemeanor	NULL	OPEN	Open	PD
8	12283	DEF	Defendant / Client	IN	95395	MISD	Misdemeanor	NULL	OPEN	Open	PD
9	12285	DEF	Defendant / Client	OUT	73672	MISD	Misdemeanor	NULL	OPSC	Specialty Courts	PDSC
10	12285	DEF	Defendant / Client	OUT	76527	MISD	Misdemeanor	NULL	OPSC	Specialty Courts	PDSC
11	12353	DEF	Defendant / Client	IN	4744	F	Felony	NULL	OPEN	Open	PD
12	12353	DEF	Defendant / Client	IN	4744	F	Felony	NULL	OPEN	Open	PD2CH
13	12379	DEF	Defendant / Client	OUT	91971	MISD	Misdemeanor	NULL	OPEN	Open	PD
14	12379	DEF	Defendant / Client	OUT	91974	MISD	Misdemeanor	NULL	OPEN	Open	PD
15	12379	DEF	Defendant / Client	OUT	91981	MISD	Misdemeanor	NULL	OPEN	Open	PD
16	12379	DEF	Defendant / Client	OUT	91978	MISD	Misdemeanor	NULL	OPEN	Open	PD
17	12406	DEF	Defendant / Client	OUT	92818	MISD	Misdemeanor	NULL	OPEN	Open	PD
18	12413	DEF	Defendant / Client	OUT	48105	MISD	Misdemeanor	ST005	OPSC	Specialty Courts	PDSC

Goals

- Develop and display an interactive, real-time data dashboard to increase data transparency.
- Understand pattern and trends in local criminal justice system.
- Use evidence-based models to system change.

REAL-TIME DATA



Ethnicity: All

Gender: All

Location: All

All Locations

Section Name	Count of ID
POSSESSION OF A CONTROLLED SUBSTANCE	772
DRIVING UNDER THE INFLUENCE OF ALCOHOL OR DRUGS	488
SECOND DEGREE COMMERCIAL BURGLARY	148
BATTERY	106
DRIVING WHEN PRIVILEGE SUSPENDED OR REVOKED	106
PUBLIC CONSUMPTION OR POSSESSION OF AN OPEN CONTAINER	88
FORGERY	84
RECEIVING STOLEN PROPERTY	84
DRIVING WHEN PRIVILEGE SUSPENDED FOR PRIOR DUI	62
CORPORAL INJURY TO SPOUSE/COHABITANT/CHILD'S PARENT	58
DISOBEYING CRIMINAL PROTECTIVE ORDER	42
SHOPLIFTING	40
HIT-RUN DRIVING	38
RESIST, OBSTRUCT, DELAY OF PEACE OFFICER OR EMT	36
TRESPASS AND REFUSING TO LEAVE PRIVATE PROPERTY	36
UNLAWFUL CAMPING	36
PETTY THEFT	34
UNLAWFUL DRIVING OR TAKING OF A VEHICLE	34
UNLICENSED DRIVER	34
ENTERING AND REMAINING UPON THE PROPERTY OF ANY RAILROAD WITHOUT PERMISSION.	32
PUBLIC INTOXICATION	32
Total	**2390**

Top 20 Charges: All Locations

POSSESSION OF A CON...
772
DRIVING UNDER THE IN...
488
SECOND DEGREE COM...
148
BATTERY
106
DRIVING WHEN PRIVILE...
106
PUBLIC CONSUMPTION ...
88
FORGERY
84
RECEIVING STOLEN PRO...
84
DRIVING WHEN PRIVILE...
62
CORPORAL INJURY TO S...
58
DISOBEYING CRIMINAL ...
42
SHOPLIFTING
40
HIT-RUN DRIVING
38
RESIST, OBSTRUCT, DEL...
36
TRESPASS AND REFUSIN...
36
UNLAWFUL CAMPING
36
PETTY THEFT
34
UNLAWFUL DRIVING OR...
34
UNLICENSED DRIVER
34
ENTERING AND REMAIN...
32
PUBLIC INTOXICATION
32

Harsh Driving
Vehicle Activity (Hours Worked)
Stop Duration
Total Idle Time
Distance Traveled
Total: 85196 miles

Power BI

Wrong Fields
Deadline
Conflict
Debt
Bullying
Work Overload
Harassment
EXPECTATIONS
TAX
Mortgage
Business Crisis
Poor Leadership
STRESS
ANXIETY
LATE NIGHT

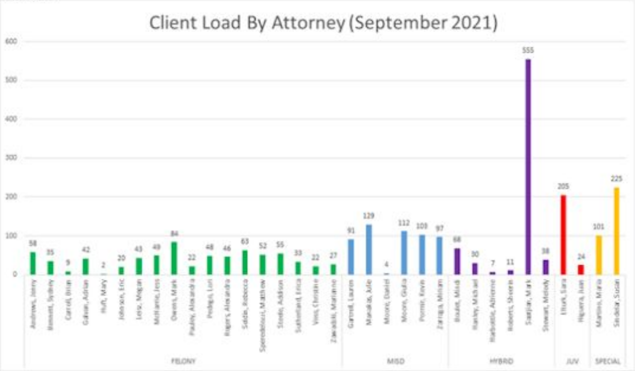
Attorney Monthly Report

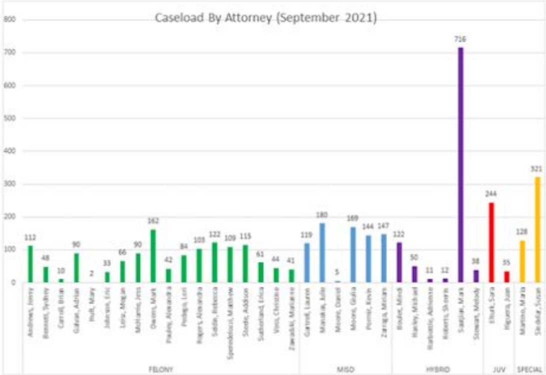
Report Script: Attorney Report Scripts > Attorney Monthly Report Scripts

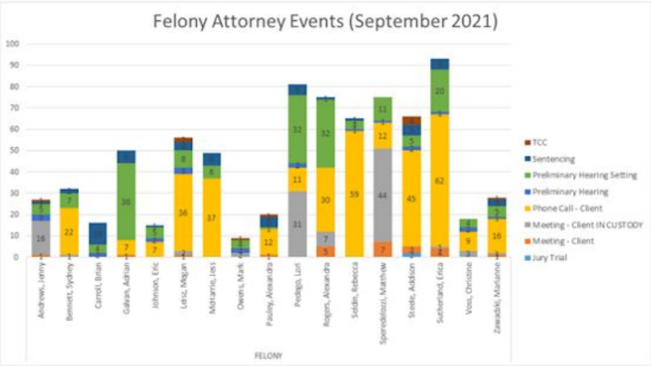
Raw Data File: Attorney Reports > Attorney Monthly Report Raw Data

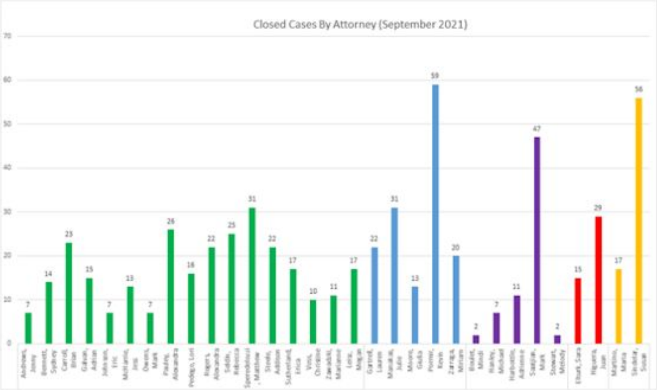
Description: This is a big report that includes various attorney metrics such as client load, case load, event type, and closed cases. For the client load visuals, I would like to see slicers for custody status, attorney type, and attorney name. For the caseload visuals, I would like to see slicers for custody status, case type, case sub type, case status, attorney type, and attorney name. It would also be interesting to see a graph of average case age by attorney with these same slicers. For the attorney events visuals, I would like to see slicers for event type, appearance method, result type, attorney type, and attorney name. For the closed cases visuals, I would like to see slicers for case type, case sub type, case status attorney type, and attorney name. For the events and closed cases visuals, I would like the option to select the date range.

Current Visuals:

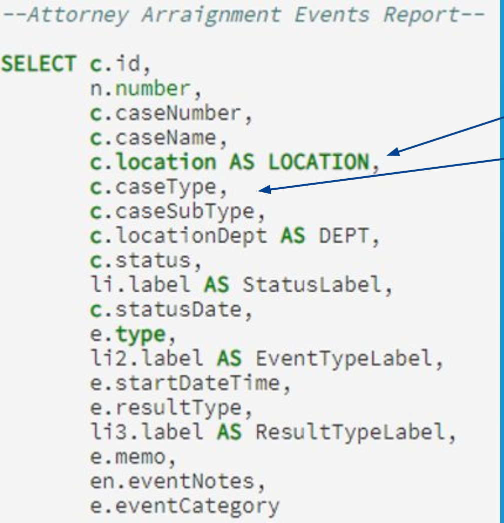








Datasets and Reports



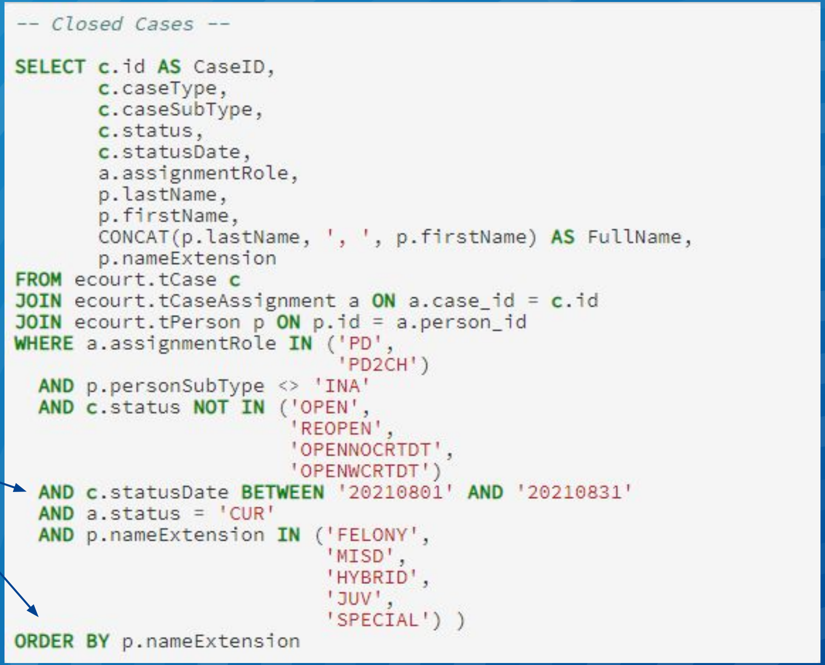
```
--Attorney Arraignment Events Report--

SELECT c.id,
       n.number,
       c.caseNumber,
       c.caseName,
       c.location AS LOCATION,
       c.caseType,
       c.caseSubType,
       c.locationDept AS DEPT,
       c.status,
       li.label AS StatusLabel,
       c.statusDate,
       e.type,
       li2.label AS EventTypeLabel,
       e.startDateTime,
       e.resultType,
       li3.label AS ResultTypeLabel,
       e.memo,
       en.eventNotes,
       e.eventCategory
```

Select location

Select case type

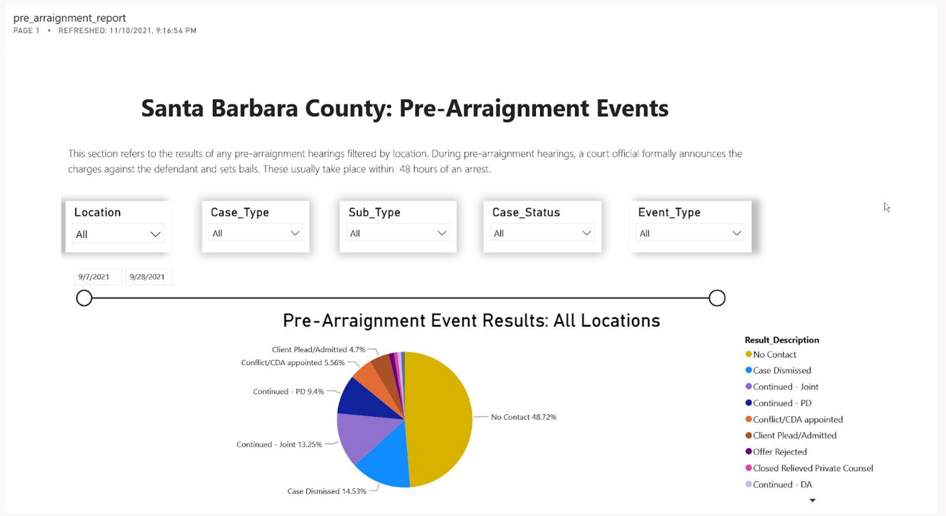
Select case date

Sort by name extention



```
-- Closed Cases --

SELECT c.id AS CaseID,
       c.caseType,
       c.caseSubType,
       c.status,
       c.statusDate,
       a.assignmentRole,
       p.lastName,
       p.firstName,
       CONCAT(p.lastName, ', ', p.firstName) AS FullName,
       p.nameExtension
FROM ecourt.tCase c
JOIN ecourt.tCaseAssignment a ON a.case_id = c.id
JOIN ecourt.tPerson p ON p.id = a.person_id
WHERE a.assignmentRole IN ('PD',
                           'PD2CH')
  AND p.personSubType <> 'INA'
  AND c.status NOT IN ('OPEN',
                       'REOPEN',
                       'OPENNOCRTDT',
                       'OPENWCRTDT')
  AND c.statusDate BETWEEN '20210801' AND '20210831'
  AND a.status = 'CUR'
  AND p.nameExtension IN ('FELONY',
                          'MISD',
                          'HYBRID',
                          'JUV',
                          'SPECIAL') )
ORDER BY p.nameExtension
```

Datasets and Reports Contd.



pre_arraignment_report
PAGE 1 • REFRESHED: 11/10/2021, 9:16:54 PM

Santa Barbara County: Pre-Arraignment Events

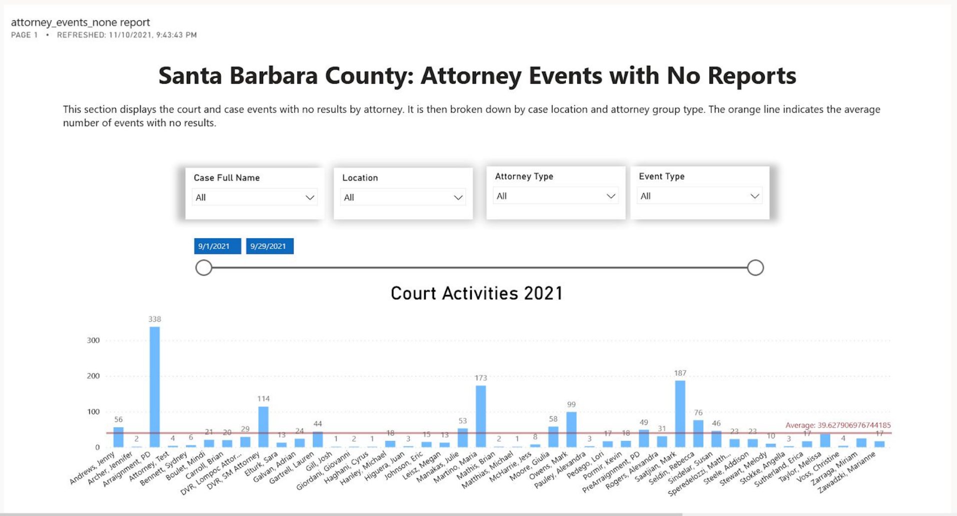
This section refers to the results of any pre-arraignment hearings filtered by location. During pre-arraignment hearings, a court official formally announces the charges against the defendant and sets bails. These usually take place within 48 hours of an arrest.

Location: All
Case_Type: All
Sub_Type: All
Case_Status: All
Event_Type: All

9/7/2021 9/28/2021

Pre-Arraignment Event Results: All Locations
Client Plead/Admitted 4.7%
Conflict/CDA appointed 5.56%
Continued - PD 9.4%
Continued - Joint 13.25%
Case Dismissed 14.53%
No Contact 48.72%
Result_Description
● No Contact
● Case Dismissed
● Continued - Joint
● Continued - PD
● Conflict/CDA appointed
● Client Plead/Admitted
● Offer Rejected
● Closed Relieved Private Counsel
● Continued - DA

By location



attorney_events_none report
PAGE 1 • REFRESHED: 11/10/2021, 9:43:43 PM

Santa Barbara County: Attorney Events with No Reports

This section displays the court and case events with no results by attorney. It is then broken down by case location and attorney group type. The orange line indicates the average number of events with no results.

Case Full Name: All
Location: All
Attorney Type: All
Event Type: All

9/1/2021 9/29/2021

Court Activities 2021
0
100
200
300
Average: 39.627906976744185
Andrews, Jenny 56
Archer, Jennifer 2
Arraignment, PD 338
Attorney, Test 4
Bennett, Sydney 6
Boulet, Mindi 21
Carroll, Brian 20
DVR, Lompoc Attor... 29
DVR, SM Attorney 114
Elturk, Sara 13
Galvan, Adrian 24
Gartrell, Lauren 44
Gill, Josh 1
Giordani, Giovanni 2
Haghani, Cyrus 1
Hanley, Michael 18
Higuera, Juan 3
Johnson, Eric 15
Leisz, Megan 13
Manakas, Julie 53
Martino, Maria 173
Mathis, Brian 2
Matthias, Michael 1
McHarrie, Jess 8
Moore, Giulia 58
Owens, Mark 99
Pauley, Alexandra 3
Pedego, Lori 17
Pormir, Kevin 18
PreArraignment, PD 49
Rogers, Alexandra 31
Saatjian, Mark 187
Seldin, Rebecca 76
Sindelar, Susan 46
Speredelozzi, Matth... 23
Steele, Addison 23
Stewart, Melody 10
Stokke, Angella 3
Sutherland, Erica 17
Taylor, Melissa
Voss, Christine 4
Zarraga, Miriam
Zawadzki, Marianne 17

By specific date (2021)

Resources Used

Data Visualization:
- PowerBI

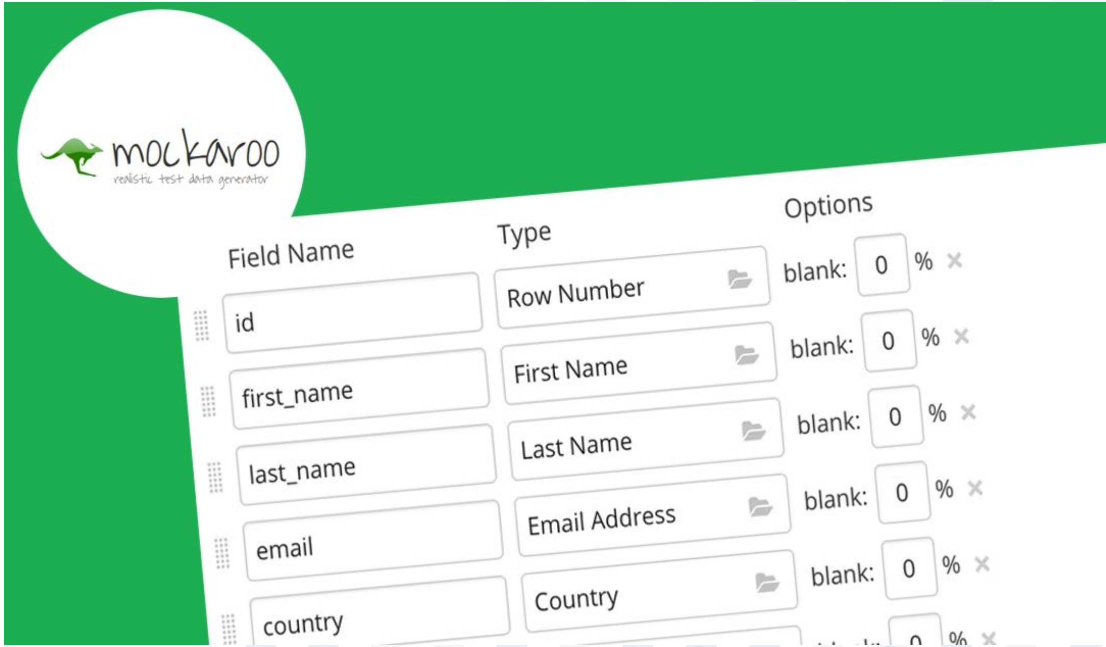
Mock Data Generators:
- Mockaroo
- Redgate SQL Data Generator

sql DATA GENERATOR™
SQL Data Generator 1.2.0.286
© Red Gate Software Ltd
redgate
ingeniously simple tools

Data Storage:
- Microsoft SQL Server

Data Generations

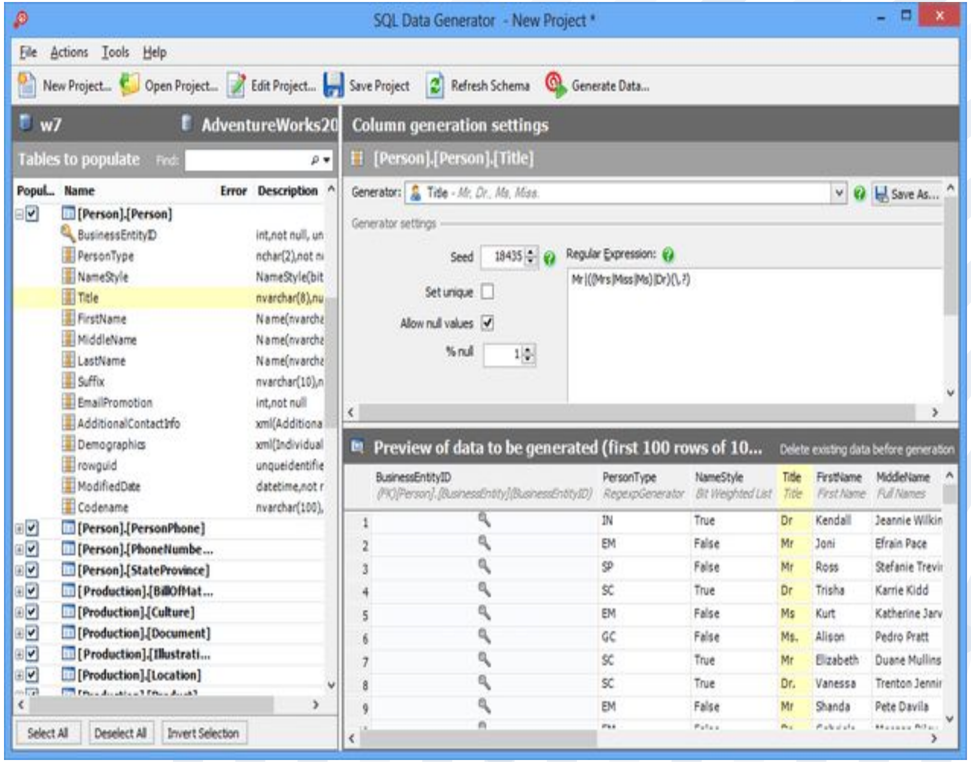
- Issues early on with acquiring data needed to create PowerBI visuals
- Attempted to create a data generator
- Turned to web based data generator


mockaroo
realistic test data generator

Field Name	Type	Options
id	Row Number	blank: 0 %
first_name	First Name	blank: 0 %
last_name	Last Name	blank: 0 %
email	Email Address	blank: 0 %
country	Country	blank: 0 %

Data Generations

- Software program able to handle loads of data generation
- Easy to generate schemas with multiple properties to store in SQL server


SQL Data Generator - New Project *
File
Actions
Tools
Help
New Project...
Open Project...
Edit Project...
Save Project
Refresh Schema
Generate Data...
w7
AdventureWorks20
Tables to populate
Find:
Select All
Deselect All
Invert Selection
Column generation settings
Save As...
Generator settings
Delete existing data before generation

Popul...	Name	Error	Description
☑	[Person].[Person]		
	BusinessEntityID		int,not null, un
	PersonType		nchar(2),not n
	NameStyle		NameStyle(bit
	Title		nvarchar(8),nu
	FirstName		Name(nvarcha
	MiddleName		Name(nvarcha
	LastName		Name(nvarcha
	Suffix		nvarchar(10),n
	EmailPromotion		int,not null
	AdditionalContactInfo		xml(Additiona
	Demographics		xml(Individual
	rowguid		unqueidentifie
	ModifiedDate		datetime,not r
	Codename		nvarchar(100),
☑	[Person].[PersonPhone]		
☑	[Person].[PhoneNumbe...		
☑	[Person].[StateProvince]		
☑	[Production].[BillOfMat...		
☑	[Production].[Culture]		
☑	[Production].[Document]		
☑	[Production].[Illustrati...		
☑	[Production].[Location]		

[Person].[Person].[Title]

Generator: Title - *Mr, Dr., Ms, Miss.*

Seed 18435

Set unique ☐

Allow null values ☑

% null 1

Regular Expression:

Mr|((Mrs|Miss|Ms)|Dr)(\.?)

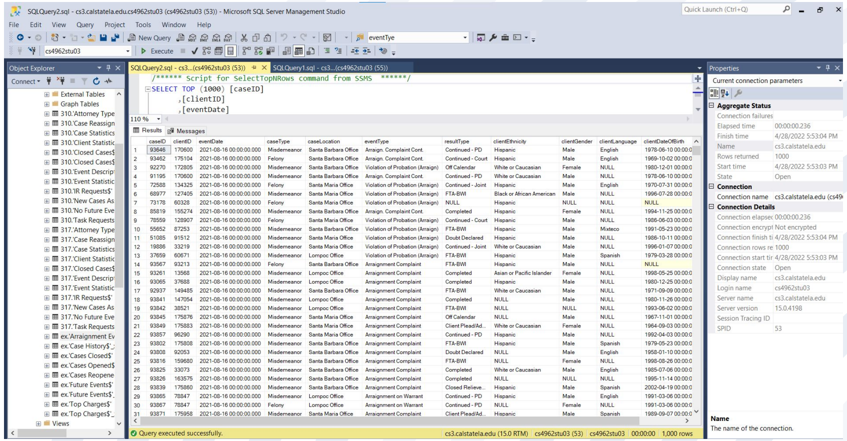
Preview of data to be generated (first 100 rows of 10...

	BusinessEntityID *(FK)[Person].[BusinessEntity](BusinessEntityID)*	PersonType *RegexpGenerator*	NameStyle *Bit Weighted List*	Title *Title*	FirstName *First Name*	MiddleName *Full Names*
1	🔍	IN	True	Dr	Kendall	Jeannie Wilkin
2	🔍	EM	False	Mr	Joni	Efrain Pace
3	🔍	SP	False	Mr	Ross	Stefanie Trevi
4	🔍	SC	True	Dr	Trisha	Karrie Kidd
5	🔍	EM	False	Ms	Kurt	Katherine Jarv
6	🔍	GC	False	Ms.	Alison	Pedro Pratt
7	🔍	SC	True	Mr	Elizabeth	Duane Mullins
8	🔍	SC	True	Dr.	Vanessa	Trenton Jenni
9	🔍	EM	False	Mr	Shanda	Pete Davila

Data Storage

Microsoft SQL Server

- Data are stored based on client’s schema
  - Tables from the database are imported to Power BI
  - Only queries data can also be imported without whole table
- Queries results are used to generate the desired reports in Power BI


SQLQuery2.sql - cs3.calstatela.edu.cs4962stu03 (cs4962stu03 (53)) - Microsoft SQL Server Management Studio
Quick Launch (Ctrl+Q)
File
Edit
View
Query
Project
Tools
Window
Help
New Query
eventTye
cs4962stu03
Execute
Object Explorer
Connect
SQLQuery2.sql - cs3...(cs4962stu03 (53))
SQLQuery1.sql - cs3...(cs4962stu03 (55))
110 %
Results
Messages
Properties

```
/****** Script for SelectTopNRows command from SSMS  ******/
SELECT TOP (1000) [caseID]
      ,[clientID]
      ,[eventDate]
```

	caseID	clientID	eventDate	caseType	caseLocation	eventType	resultType	clientEthnicity	clientGender	clientLanguage	clientDateOfBirth
1	93646	170600	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraign. Complaint Cont.	Continued - PD	Hispanic	Male	English	1978-06-10 00:00:0
2	93462	175104	2021-08-16 00:00:00.000	Felony	Santa Barbara Office	Arraign. Complaint Cont.	Continued - Court	Hispanic	Male	English	1969-10-02 00:00:0
3	92270	172805	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Violation of Probation (Arraign)	Off Calendar	White or Caucasian	Female	NULL	1980-12-01 00:00:0
4	91195	170600	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraign. Complaint Cont.	Continued - PD	White or Caucasian	Male	NULL	1978-06-10 00:00:0
5	72588	134325	2021-08-16 00:00:00.000	Felony	Santa Maria Office	Violation of Probation (Arraign)	Continued - Joint	Hispanic	Male	English	1970-07-31 00:00:0
6	68977	127405	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Violation of Probation (Arraign)	FTA-BWI	Black or African American	Male	NULL	1996-07-28 00:00:0
7	73178	60328	2021-08-16 00:00:00.000	Felony	Santa Maria Office	Violation of Probation (Arraign)	NULL	Hispanic	NULL	NULL	NULL
8	85819	155274	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraign. Complaint Cont.	Completed	Hispanic	Female	NULL	1994-11-25 00:00:0
9	78559	128907	2021-08-16 00:00:00.000	Felony	Santa Maria Office	Violation of Probation (Arraign)	Continued - Court	Hispanic	Male	NULL	1986-06-03 00:00:0
10	55652	87253	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Violation of Probation (Arraign)	FTA-BWI	Hispanic	Male	Mixteco	1991-05-23 00:00:0
11	51085	91512	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Violation of Probation (Arraign)	Doubt Declared	Hispanic	Male	NULL	1986-10-11 00:00:0
12	19886	33219	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Violation of Probation (Arraign)	Continued - Joint	White or Caucasian	Male	NULL	1996-01-07 00:00:0
13	37659	60671	2021-08-16 00:00:00.000	Misdemeanor	Lompoc Office	Violation of Probation (Arraign)	FTA-BWI	Hispanic	Male	Spanish	1979-03-28 00:00:0
14	93567	93213	2021-08-16 00:00:00.000	Felony	Santa Barbara Office	Arraignment Complaint	FTA-BWI	Hispanic	Male	NULL	NULL
15	93261	13568	2021-08-16 00:00:00.000	Misdemeanor	Lompoc Office	Arraignment Complaint	Completed	Asian or Pacific Islander	Female	NULL	1998-05-25 00:00:0
16	93065	37688	2021-08-16 00:00:00.000	Misdemeanor	Lompoc Office	Arraignment Complaint	Completed	Hispanic	Male	NULL	1980-12-25 00:00:0
17	92937	149485	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	FTA-BWI	White or Caucasian	Male	NULL	1971-09-09 00:00:0
18	93841	147054	2021-08-16 00:00:00.000	Misdemeanor	Lompoc Office	Arraignment Complaint	Completed	NULL	Male	NULL	1980-11-26 00:00:0
19	93842	38521	2021-08-16 00:00:00.000	Misdemeanor	Lompoc Office	Arraignment Complaint	FTA-BWI	NULL	NULL	NULL	1993-06-02 00:00:0
20	93845	175876	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Arraignment Complaint	Off Calendar	NULL	Male	NULL	1967-11-01 00:00:0
21	93849	175883	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Arraignment Complaint	Client Plead/Ad...	White or Caucasian	Female	NULL	1964-09-03 00:00:0
22	93857	96290	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Arraignment Complaint	Continued - PD	Hispanic	Male	NULL	1992-04-03 00:00:0
23	93802	175808	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	FTA-BWI	Hispanic	Male	Spanish	1979-05-23 00:00:0
24	93808	92053	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	Doubt Declared	NULL	Male	English	1958-01-10 00:00:0
25	93816	159680	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	FTA-BWI	NULL	Female	NULL	1998-08-26 00:00:0
26	93825	33073	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	Completed	White or Caucasian	Male	English	1985-07-06 00:00:0
27	93826	163575	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	Completed	NULL	NULL	NULL	1995-11-14 00:00:0
28	93839	175860	2021-08-16 00:00:00.000	Misdemeanor	Santa Barbara Office	Arraignment Complaint	Closed Relieve...	Hispanic	Male	Spanish	2002-04-19 00:00:0
29	93865	78847	2021-08-16 00:00:00.000	Misdemeanor	Lompoc Office	Arraignment on Warrant	Continued - PD	Hispanic	Male	English	1991-03-06 00:00:0
30	93867	78847	2021-08-16 00:00:00.000	Felony	Lompoc Office	Arraignment on Warrant	Continued - PD	NULL	Female	NULL	1991-03-06 00:00:0
31	93871	175958	2021-08-16 00:00:00.000	Misdemeanor	Santa Maria Office	Arraignment Complaint	Client Plead/Ad...	Hispanic	Male	Spanish	1989-09-07 00:00:0

Query executed successfully. | cs3.calstatela.edu (15.0 RTM) | cs4962stu03 (53) | cs4962stu03 | 00:00:00 | 1,000 rows

Current connection parameters

Aggregate Status	
Connection failures	
Elapsed time	00:00:00.236
Finish time	4/28/2022 5:53:04 PM
Name	cs3.calstatela.edu
Rows returned	1000
Start time	4/28/2022 5:53:03 PM
State	Open
Connection	
Connection name	cs3.calstatela.edu (cs49
Connection Details	
Connection elapsec	00:00:00.236
Connection encrypt	Not encrypted
Connection finish ti	4/28/2022 5:53:04 PM
Connection rows re	1000
Connection start tir	4/28/2022 5:53:03 PM
Connection state	Open
Display name	cs3.calstatela.edu
Login name	cs4962stu03
Server name	cs3.calstatela.edu
Server version	15.0.4198
Session Tracing ID	
SPID	53

Name
The name of the connection.

Power BI

What is PowerBI?

Business analytic tool / service created by Microsoft.

First introduced in July of 2011.

Part of the Microsoft Power Platform.

Data → Interactive Visuals

Microsoft

Microsoft

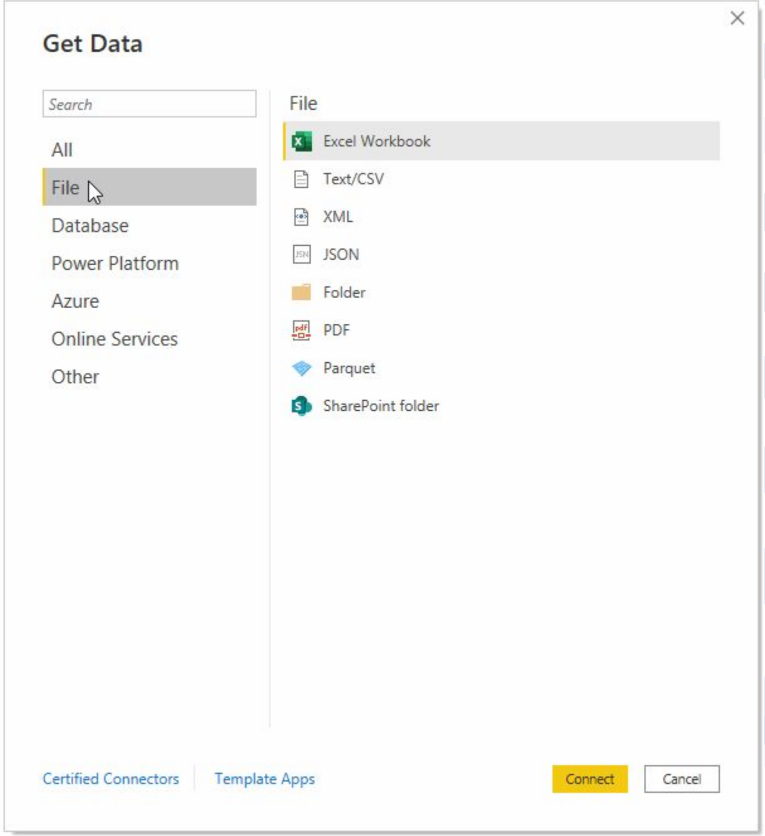
POWER PLATFORM

Power BI Data Sources

- Supports several dataset and constantly growing compatibility.

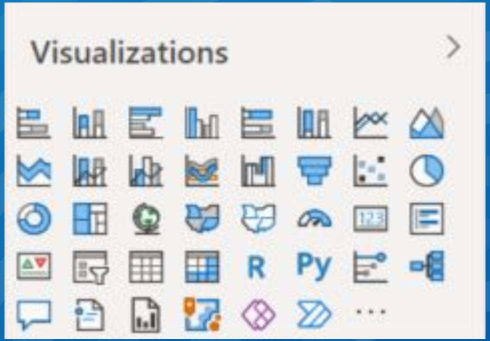
https://docs.microsoft.com/en-us/power-bi/connect-data/desktop-data-sources

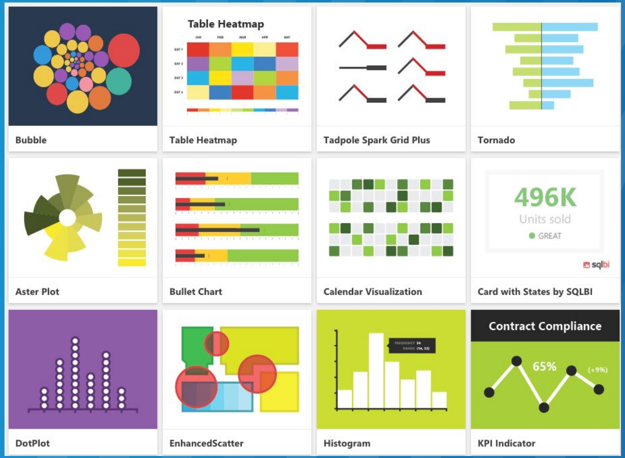
- Dataset categorized into 6 groups:
  - File
  - Database
  - Power Platform
  - Azure
  - Online Services
  - Other
- Mainly be using a SQL Server, CSVs, and Excel Workbooks files.


Get Data
Search
All
File
Database
Power Platform
Azure
Online Services
Other
File
Excel Workbook
Text/CSV
XML
JSON
Folder
PDF
Parquet
SharePoint folder
Certified Connectors
Template Apps
Connect
Cancel

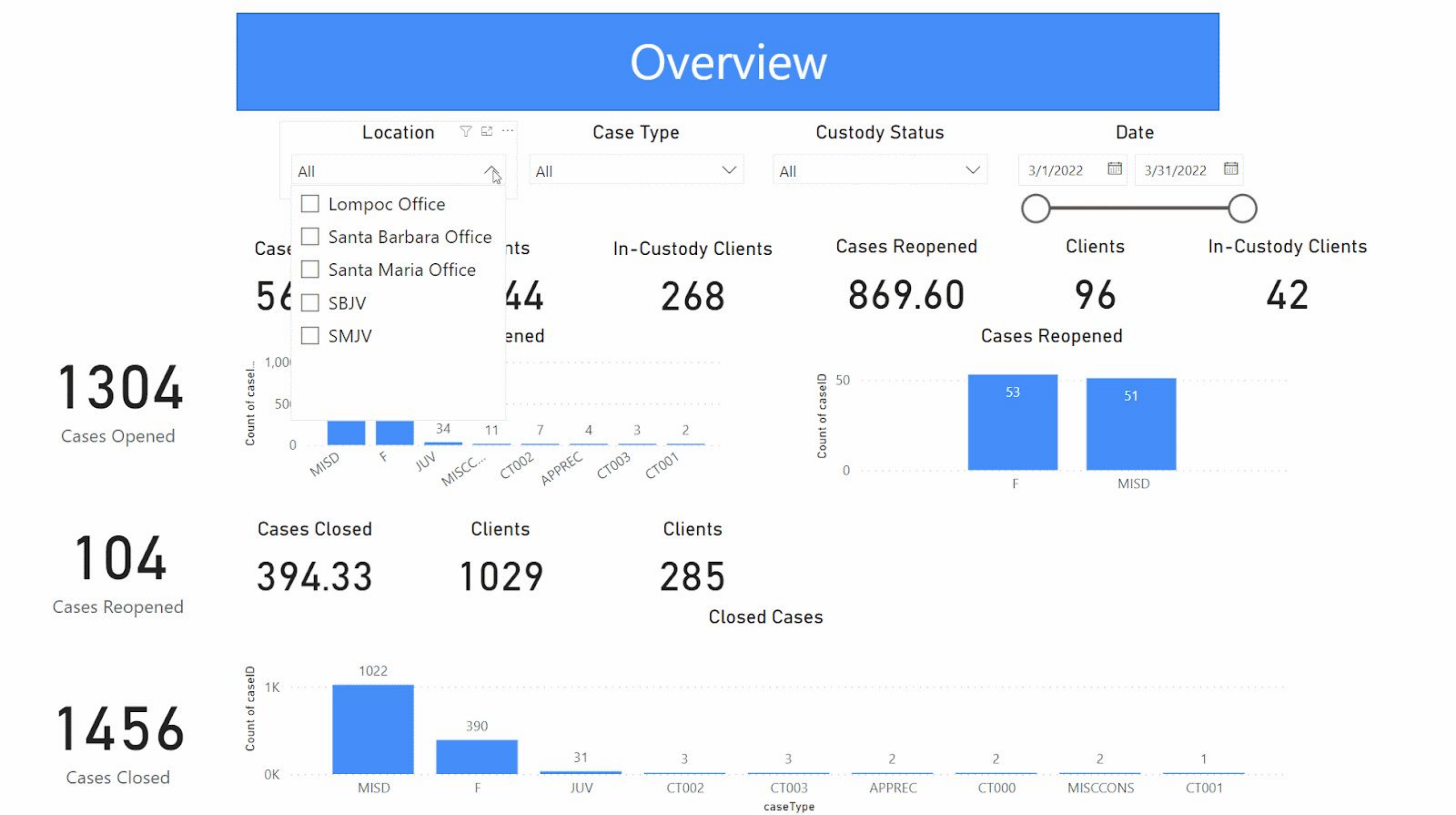
Different Visualization Types

- Range from Area and Column Charts → Maps, Decomposition Trees, Ribbon Charts, etc.
- Only worked with column, tables, cards, and funnels.
- Looking into:
  - Maps, Mapbox, Waterfall, Doughnut, Gauge, and Zebra Tables.


Visualizations
R
Py
...


Bubble
Table Heatmap
Table Heatmap
Tadpole Spark Grid Plus
Tornado
Aster Plot
Bullet Chart
Calendar Visualization
496K
Units sold
GREAT
sqlbi
Card with States by SQLBI
DotPlot
EnhancedScatter
Histogram
Contract Compliance
65%
(+9%)
KPI Indicator

Data Visualization: External Dashboard Overview



Overview

Location: All

☐ Lompoc Office
☐ Santa Barbara Office
☐ Santa Maria Office
☐ SBJV
☐ SMJV

Case Type: All

Custody Status: All

Date: 3/1/2022 – 3/31/2022

1304 Cases Opened

104 Cases Reopened

1456 Cases Closed

Case 56

nts 44

In-Custody Clients 268

Cases Reopened 869.60

Clients 96

In-Custody Clients 42

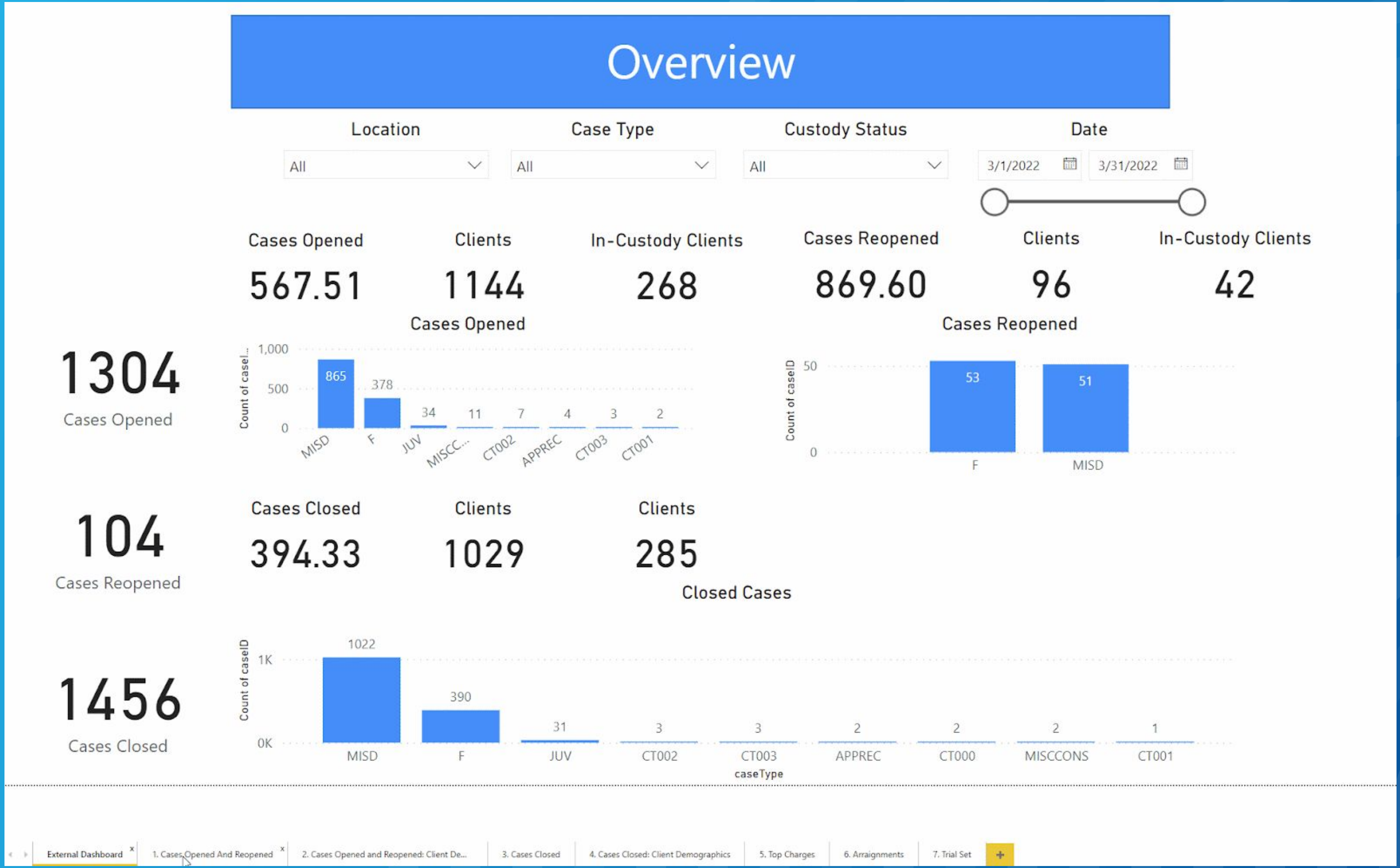
Cases Closed 394.33

Clients 1029

Clients 285

ened
Count of casel...
1,00
50
0
34
11
7
4
3
2
MISD
F
JUV
MISCC...
CT002
APPREC
CT003
CT001
Cases Reopened
Count of caseID
50
0
53
51
F
MISD
Closed Cases
Count of caseID
1K
0K
1022
390
31
3
3
2
2
2
1
MISD
F
JUV
CT002
CT003
APPREC
CT000
MISCCONS
CT001
caseType

Data Visualization:
External Dashboard Additional Reports



Overview

Location: All

Case Type: All

Custody Status: All

Date: 3/1/2022 – 3/31/2022

Cases Opened	Clients	In-Custody Clients	Cases Reopened	Clients	In-Custody Clients
567.51	1144	268	869.60	96	42

1304 Cases Opened

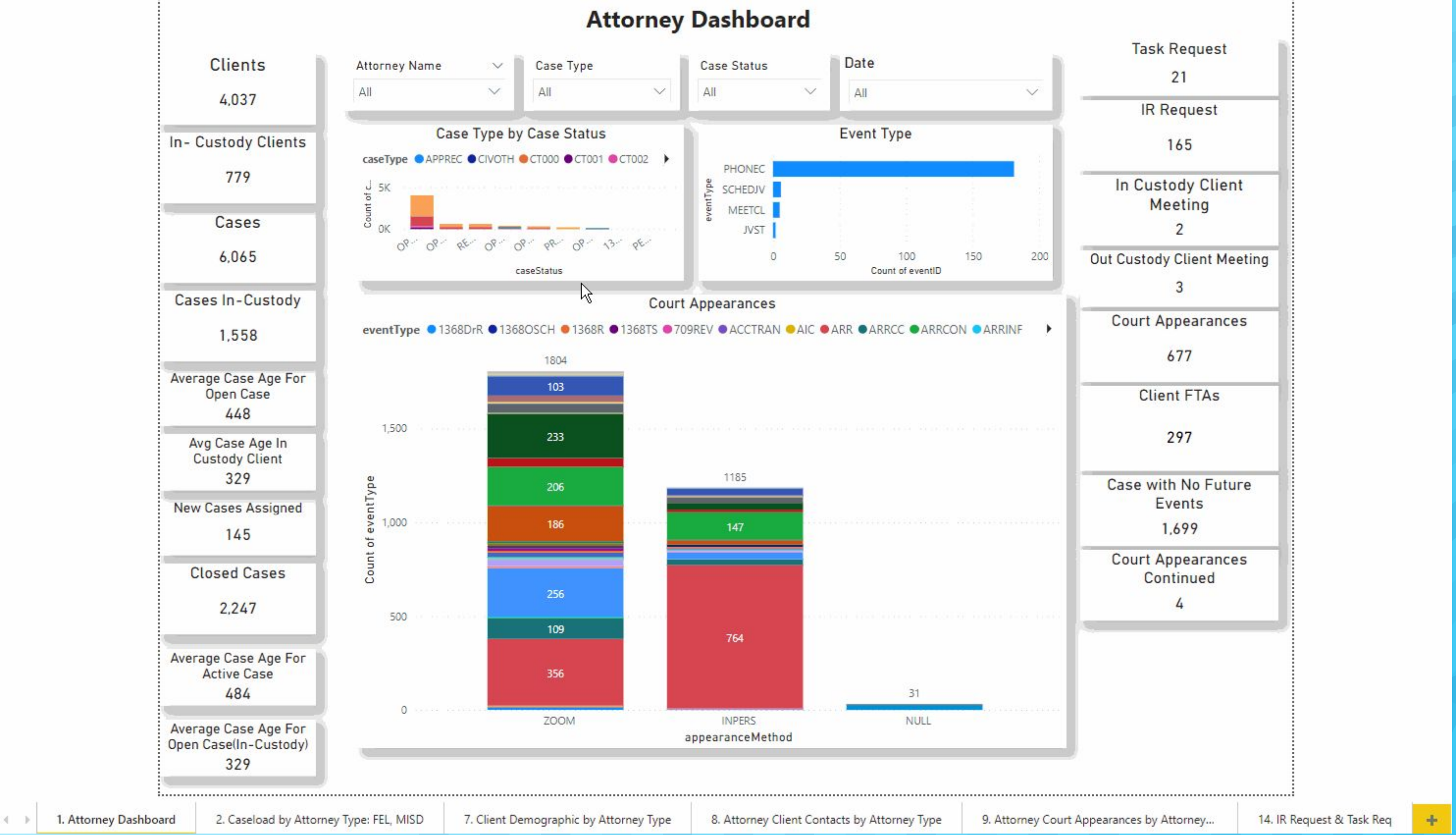
104 Cases Reopened

1456 Cases Closed

Cases Closed	Clients	Clients
394.33	1029	285

Cases Opened
Count of casel...
1,000
500
0
865
378
34
11
7
4
3
2
MISD
F
JUV
MISCC...
CT002
APPREC
CT003
CT001
Cases Reopened
Count of caseID
50
0
53
51
F
MISD
Closed Cases
Count of caseID
1K
0K
1022
390
31
3
3
2
2
2
1
MISD
F
JUV
CT002
CT003
APPREC
CT000
MISCCONS
CT001
caseType
External Dashboard
1. Cases Opened And Reopened
2. Cases Opened and Reopened: Client De...
3. Cases Closed
4. Cases Closed: Client Demographics
5. Top Charges
6. Arraignments
7. Trial Set

Data Visualization: Internal Dashboards



Attorney Dashboard

Clients
4,037

In- Custody Clients
779

Cases
6,065

Cases In-Custody
1,558

Average Case Age For Open Case
448

Avg Case Age In Custody Client
329

New Cases Assigned
145

Closed Cases
2,247

Average Case Age For Active Case
484

Average Case Age For Open Case(In-Custody)
329

Attorney Name: All
Case Type: All
Case Status: All
Date: All

Task Request
21

IR Request
165

In Custody Client Meeting
2

Out Custody Client Meeting
3

Court Appearances
677

Client FTAs
297

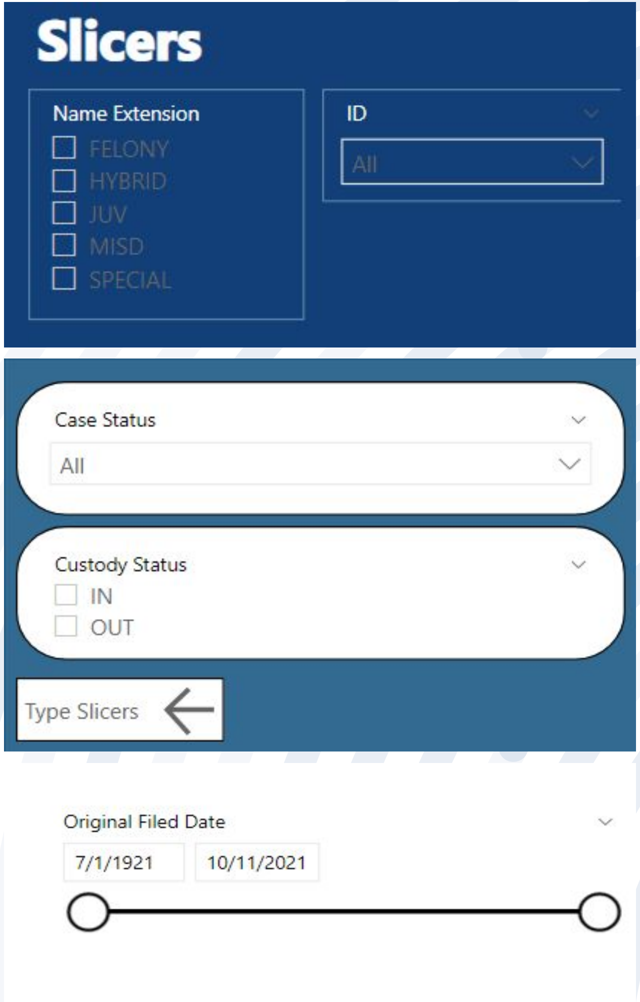
Case with No Future Events
1,699

Court Appearances Continued
4

Case Type by Case Status
caseType ● APPREC ● CIVOTH ● CT000 ● CT001 ● CT002
Count of c...
5K
0K
OP...
OP...
RE...
OP...
OP...
PR...
OP...
13...
PE...
caseStatus
Event Type
eventType
PHONEC
SCHEDJV
MEETCL
JVST
0
50
100
150
200
Count of eventID
Court Appearances
eventType ● 1368DrR ● 1368OSCH ● 1368R ● 1368TS ● 709REV ● ACCTRAN ● AIC ● ARR ● ARRCC ● ARRCON ● ARRINF
Count of eventType
0
500
1,000
1,500
1804
103
233
206
186
256
109
356
1185
147
764
31
ZOOM
INPERS
NULL
appearanceMethod
1. Attorney Dashboard
2. Caseload by Attorney Type: FEL, MISD
7. Client Demographic by Attorney Type
8. Attorney Client Contacts by Attorney Type
9. Attorney Court Appearances by Attorney...
14. IR Request & Task Req
+

User Interactivity: Slicers

- Visual sorters.
- Allows users to select specific attributes to narrow down report visualizations.
- This Power BI project employs the use of vertically positioned responsive slicers, relative date slicers, and sync slicers (selecting one parameter affects multiple charts).



Slicers

Name Extension
☐ FELONY
☐ HYBRID
☐ JUV
☐ MISD
☐ SPECIAL

ID: All

Case Status: All

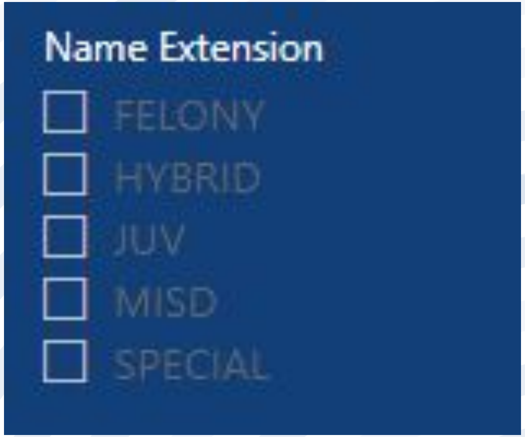
Custody Status
☐ IN
☐ OUT

Type Slicers ←

Original Filed Date: 7/1/1921 – 10/11/2021

UX/UI Design

- Dashboards are operational and analytical.
- Color Palette: White, Blue and Gold.
- Maximum of 5 graphs or charts on a single dashboard.
- Dashboards are interactive (buttons, drop-down menu)and user-friendly.



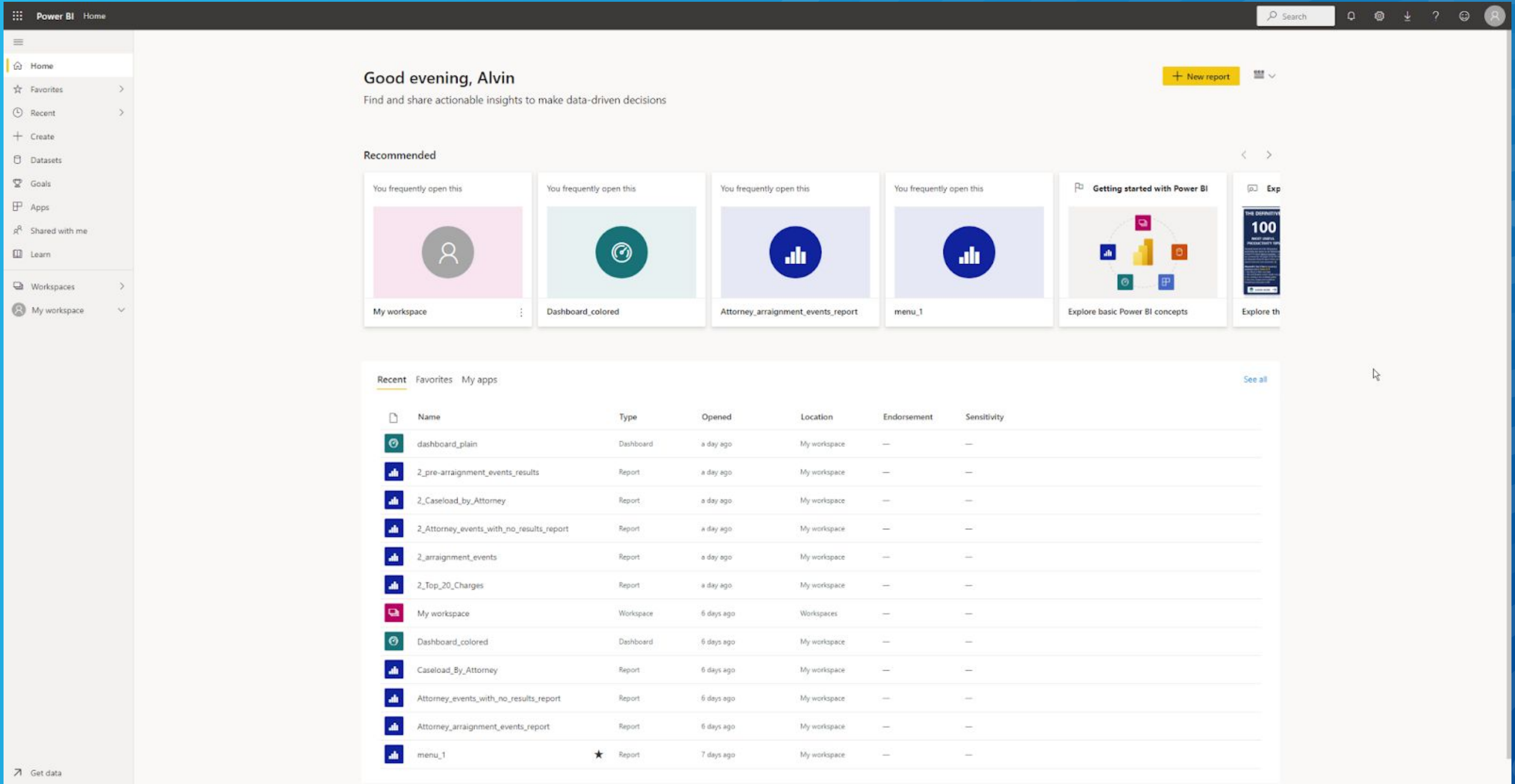
Name Extension

☐ FELONY
☐ HYBRID
☐ JUV
☐ MISD
☐ SPECIAL

Attorney Type

All

PowerBI Web App


Power BI
Home
Search
Home
Favorites
Recent
Create
Datasets
Goals
Apps
Shared with me
Learn
Workspaces
My workspace
Get data
New report

Good evening, Alvin

Find and share actionable insights to make data-driven decisions

Recommended

You frequently open this	You frequently open this	You frequently open this	You frequently open this	Getting started with Power BI	Exp
My workspace	Dashboard_colored	Attorney_arraignment_events_report	menu_1	Explore basic Power BI concepts	Explore th

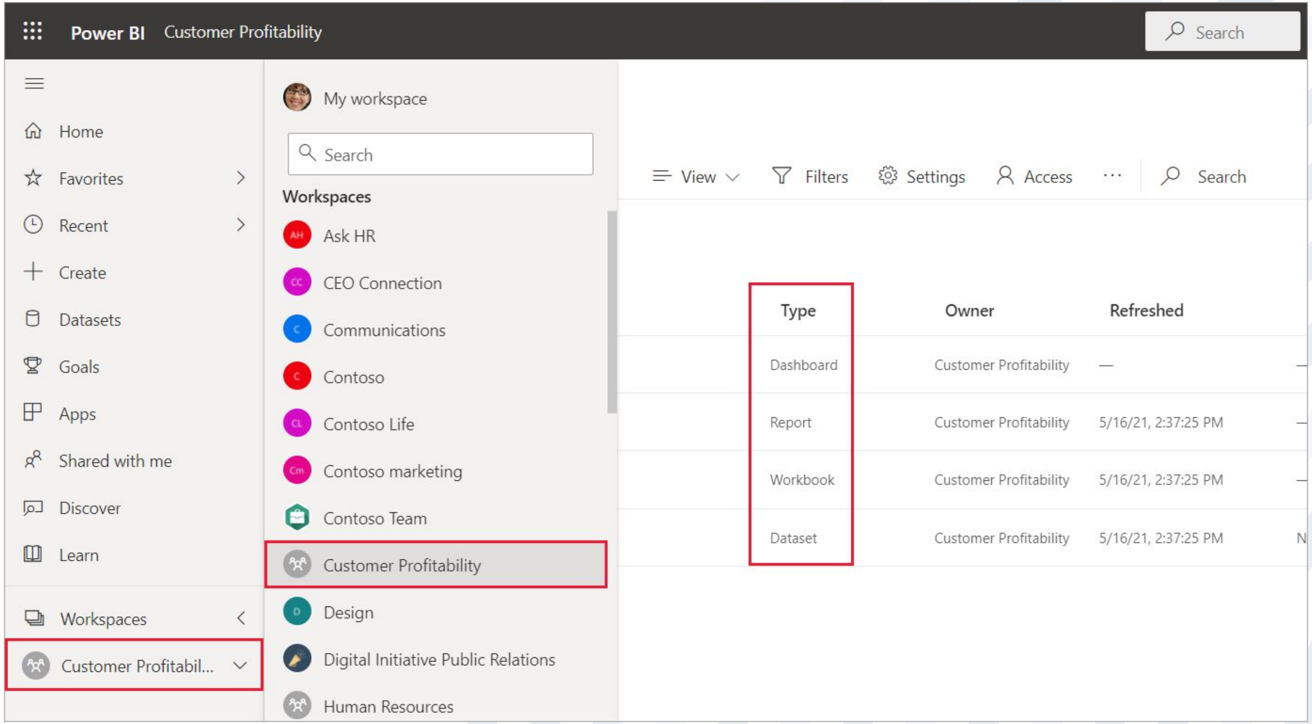
Recent Favorites My apps

See all

	Name	Type	Opened	Location	Endorsement	Sensitivity
	dashboard_plain	Dashboard	a day ago	My workspace	—	—
	2_pre-arraignment_events_results	Report	a day ago	My workspace	—	—
	2_Caseload_by_Attorney	Report	a day ago	My workspace	—	—
	2_Attorney_events_with_no_results_report	Report	a day ago	My workspace	—	—
	2_arraignment_events	Report	a day ago	My workspace	—	—
	2_Top_20_Charges	Report	a day ago	My workspace	—	—
	My workspace	Workspace	6 days ago	Workspaces	—	—
	Dashboard_colored	Dashboard	6 days ago	My workspace	—	—
	Caseload_By_Attorney	Report	6 days ago	My workspace	—	—
	Attorney_events_with_no_results_report	Report	6 days ago	My workspace	—	—
	Attorney_arraignment_events_report	Report	6 days ago	My workspace	—	—
	menu_1 ★	Report	7 days ago	My workspace	—	—

Workspaces

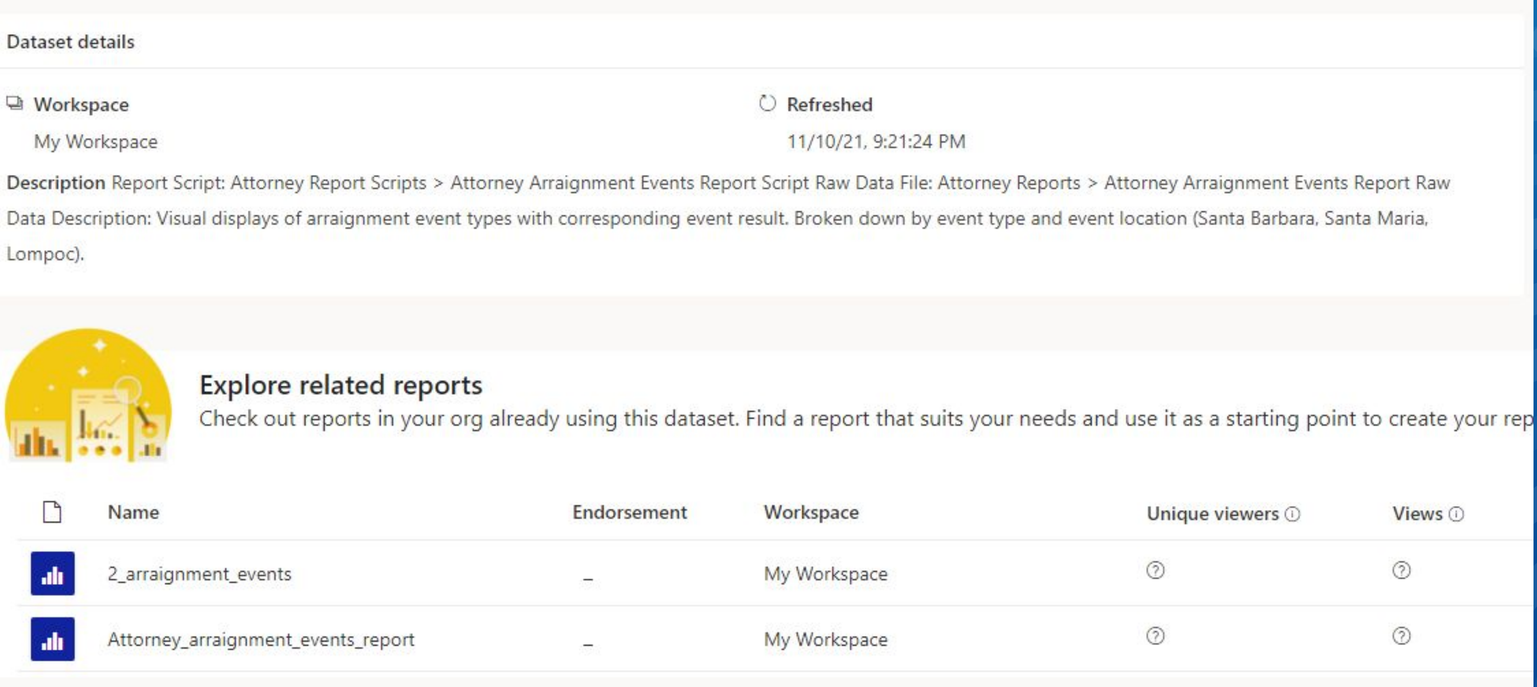
- Ability to share workspaces with other colleagues.
- Bundle collection of dashboards and reports into an app.
- Personal Sandbox.


Power BI
Customer Profitability
Search
Home
Favorites
Recent
Create
Datasets
Goals
Apps
Shared with me
Discover
Learn
Workspaces
Customer Profitabil...
My workspace
Search
Workspaces
Ask HR
CEO Connection
Communications
Contoso
Contoso Life
Contoso marketing
Contoso Team
Customer Profitability
Design
Digital Initiative Public Relations
Human Resources
View
Filters
Settings
Access
Search

Type	Owner	Refreshed
Dashboard	Customer Profitability	—
Report	Customer Profitability	5/16/21, 2:37:25 PM
Workbook	Customer Profitability	5/16/21, 2:37:25 PM
Dataset	Customer Profitability	5/16/21, 2:37:25 PM

Datasets

- Detailed information of a report.
- Source of data available for one or more reports.



Dataset details

Workspace

My Workspace

Refreshed

11/10/21, 9:21:24 PM

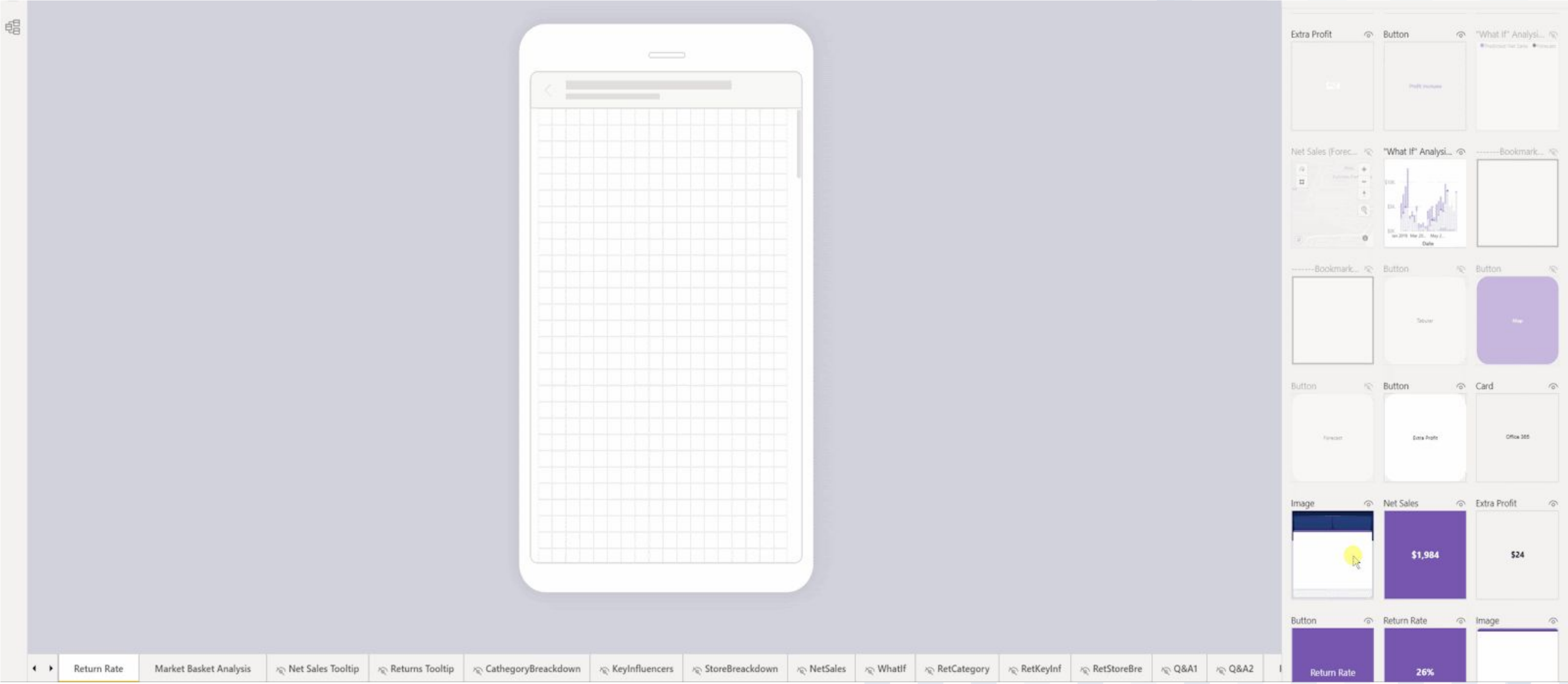
Description Report Script: Attorney Report Scripts > Attorney Arraignment Events Report Script Raw Data File: Attorney Reports > Attorney Arraignment Events Report Raw Data Description: Visual displays of arraignment event types with corresponding event result. Broken down by event type and event location (Santa Barbara, Santa Maria, Lompoc).

Explore related reports

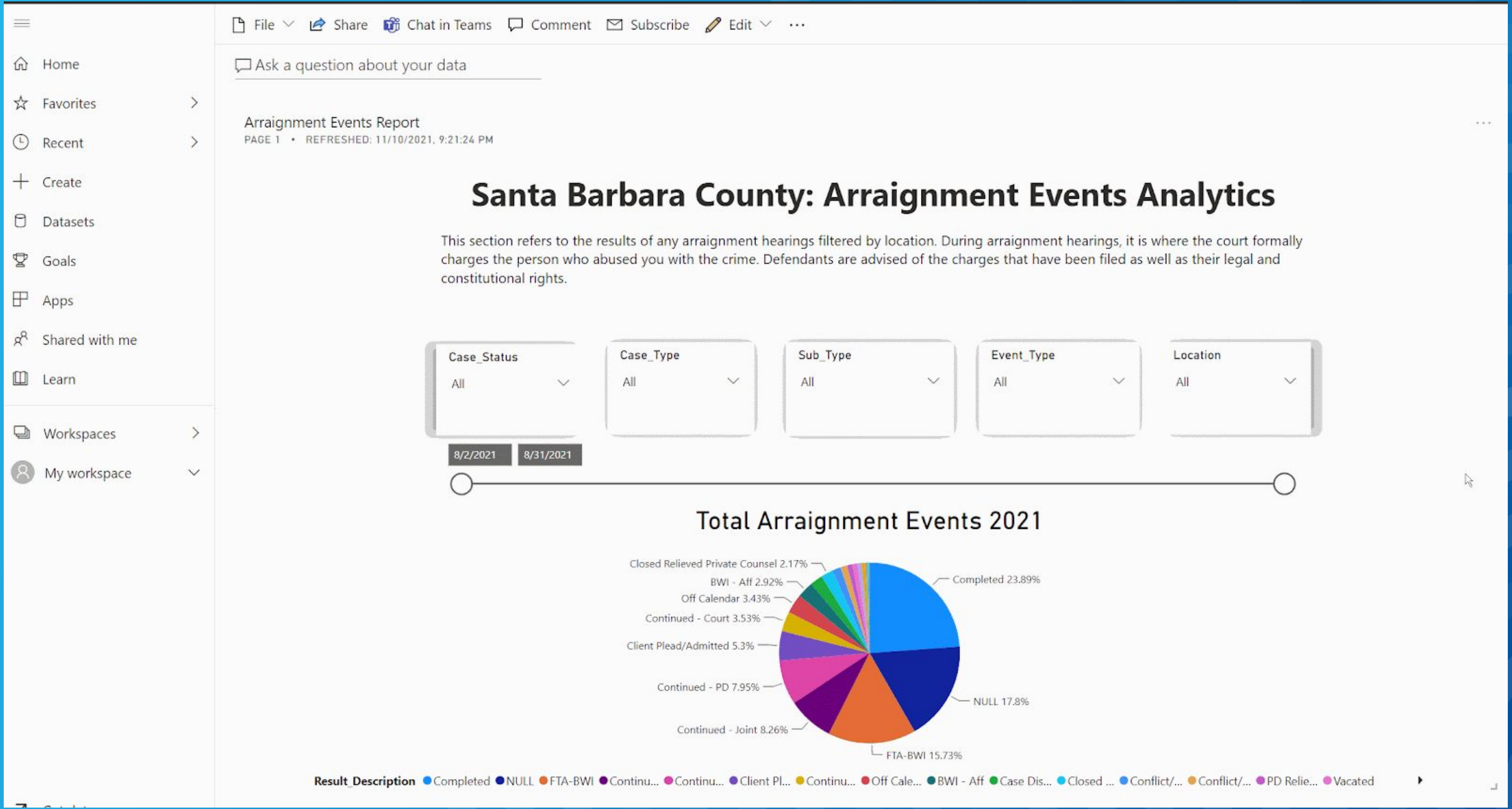
Check out reports in your org already using this dataset. Find a report that suits your needs and use it as a starting point to create your rep

Name	Endorsement	Workspace	Unique viewers ⓘ	Views ⓘ
2_arraignment_events	–	My Workspace	ⓘ	ⓘ
Attorney_arraignment_events_report	–	My Workspace	ⓘ	ⓘ

Phone Reports


Extra Profit
Button
"What If" Analysi...
Net Sales (Forec...
"What If" Analysi...
-------Bookmark...
-------Bookmark...
Button
Button
Button
Button
Card
Image
Net Sales
$1,984
Extra Profit
$24
Button
Return Rate
Return Rate
26%
Image
Return Rate
Market Basket Analysis
Net Sales Tooltip
Returns Tooltip
CathegoryBreackdown
KeyInfluencers
StoreBreackdown
NetSales
WhatIf
RetCategory
RetKeyInf
RetStoreBre
Q&A1
Q&A2

Dashboard


Home
Favorites
Recent
Create
Datasets
Goals
Apps
Shared with me
Learn
Workspaces
My workspace
File
Share
Chat in Teams
Comment
Subscribe
Edit
Ask a question about your data

Arraignment Events Report
PAGE 1 • REFRESHED: 11/10/2021, 9:21:24 PM

Santa Barbara County: Arraignment Events Analytics

This section refers to the results of any arraignment hearings filtered by location. During arraignment hearings, it is where the court formally charges the person who abused you with the crime. Defendants are advised of the charges that have been filed as well as their legal and constitutional rights.

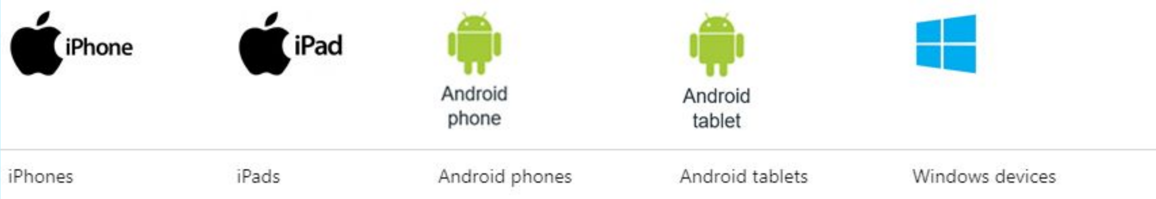
Case_Status: All
Case_Type: All
Sub_Type: All
Event_Type: All
Location: All
8/2/2021 – 8/31/2021

Total Arraignment Events 2021

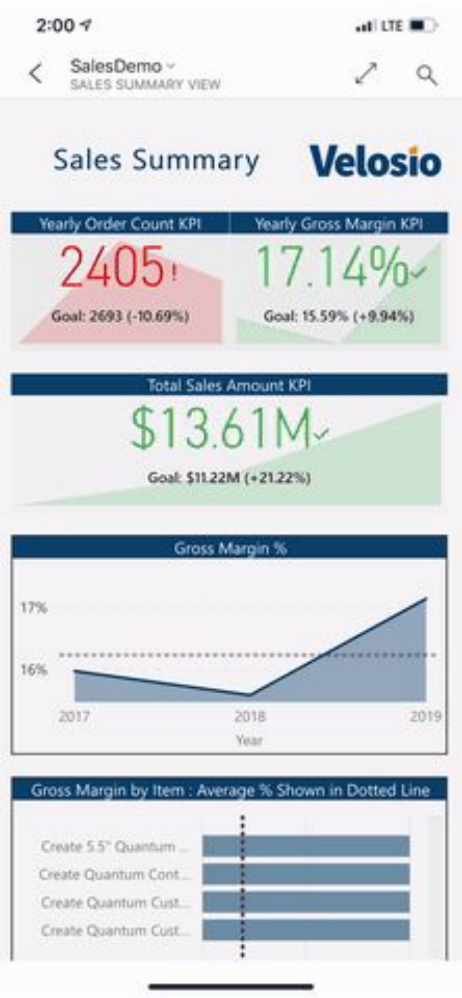
Closed Relieved Private Counsel 2.17%
BWI - Aff 2.92%
Off Calendar 3.43%
Continued - Court 3.53%
Client Plead/Admitted 5.3%
Continued - PD 7.95%
Continued - Joint 8.26%
FTA-BWI 15.73%
NULL 17.8%
Completed 23.89%
Result_Description
Completed
NULL
FTA-BWI
Continu...
Continu...
Client Pl...
Continu...
Off Cale...
BWI - Aff
Case Dis...
Closed ...
Conflict/...
Conflict/...
PD Relie...
Vacated

Mobile Application

- **Available on Android, iOS, and Windows devices.**
- **Mobile application allows user to easily track their data on the go.**
- **User is able to access their workspace, which includes Dashboards and Reports tabs.**



iPhone	iPad	Android phone	Android tablet	
iPhones	iPads	Android phones	Android tablets	Windows devices



2:00
LTE

SalesDemo

SALES SUMMARY VIEW

Sales Summary

Velosio

Yearly Order Count KPI

2405 !

Goal: 2693 (-10.69%)

Yearly Gross Margin KPI

17.14%

Goal: 15.59% (+9.94%)

Total Sales Amount KPI

$13.61M

Goal: $11.22M (+21.22%)

Gross Margin %

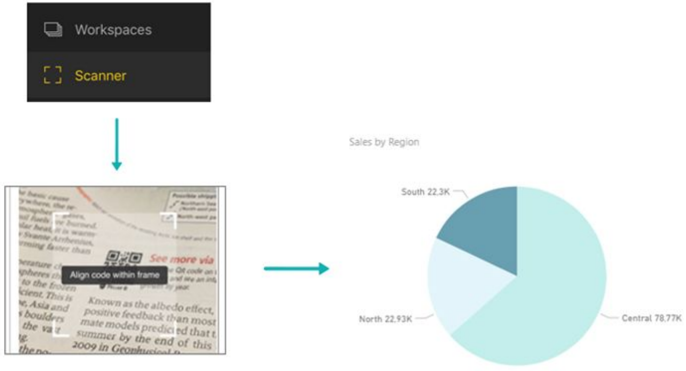
17%
16%
2017
2018
2019
Year

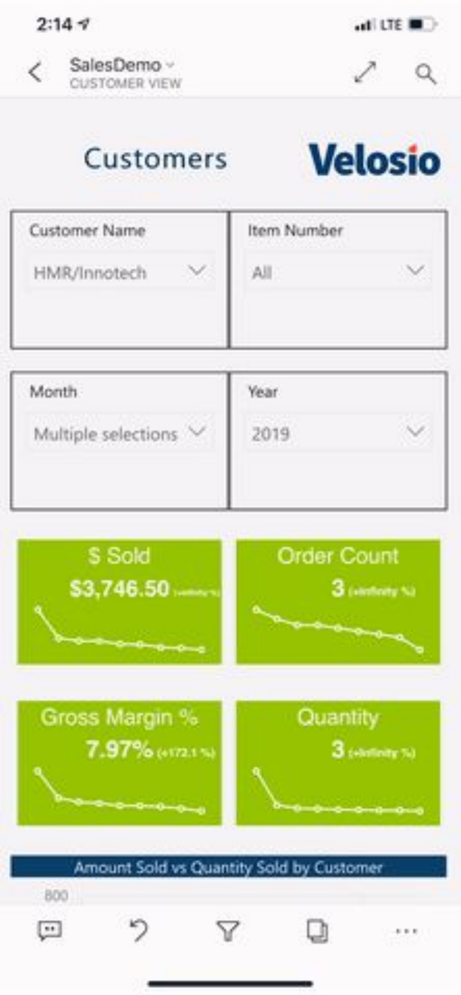
Gross Margin by Item : Average % Shown in Dotted Line

Create 5.5" Quantum ...
Create Quantum Cont...
Create Quantum Cust...
Create Quantum Cust...

Features

- Annotate Feature allows user to make notes on your reports and dashboards and share them with other people on your team.
- Geo Filter: User can use current location to filter a report.
- QR Scanner: Scanning a QR code will immediately open a report.


Workspaces
Scanner
Align code within frame
Sales by Region
South 22.3K
North 22.93K
Central 78.77K


2:14
LTE
SalesDemo
CUSTOMER VIEW
Customers
Velosio

Customer Name: HMR/Innotech

Item Number: All

Month: Multiple selections

Year: 2019

$ Sold: $3,746.50

Order Count: 3

Gross Margin %: 7.97% (+172.1 %)

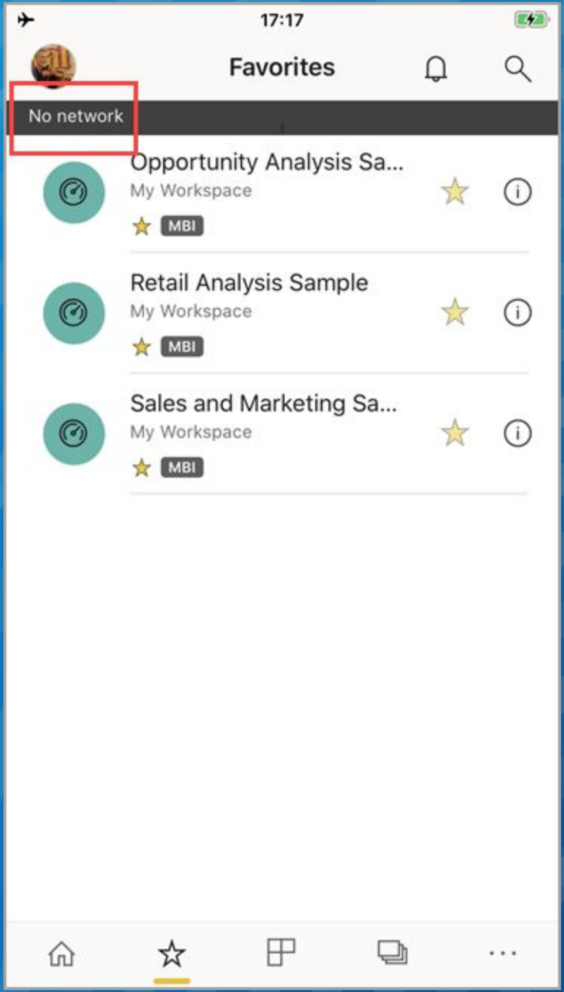
Quantity: 3

Amount Sold vs Quantity Sold by Customer

800

Limitations

- Users cannot create visualizations using the mobile app.
- Power BI can cache up to 250 MB of data offline.
- Reports base on DirectQuery or live connection are not available offline.


17:17
Favorites
No network
Opportunity Analysis Sa...
My Workspace
MBI
Retail Analysis Sample
My Workspace
MBI
Sales and Marketing Sa...
My Workspace
MBI

Conclusion & Future Work

Summary :

- Used Redgate SQL and Mockaroo to transform Excel files into SQL queries.
- Stored those queries into Microsoft SQL Server and connect to Power BI Desktop.
- Explore Microsoft Power BI functionality, like slicer allows users to select specific attributes to narrow down report visualization and drill down to explore deeper information.
- Export Power BI flies into Power BI Service and customize its unique dashboard design.
- Publish and Subscribe
- Overall benefit it’s to help the Power Bi Team and the future customer to more easily understand the data and make efficient decision.

For the future :

- Provide more valuable dashboards.
- Looking for the possibility of automating manual processes.