

UI UX for Model-Driven Apps

All-In! A Deep Dive On Model-Driven Apps – Part II

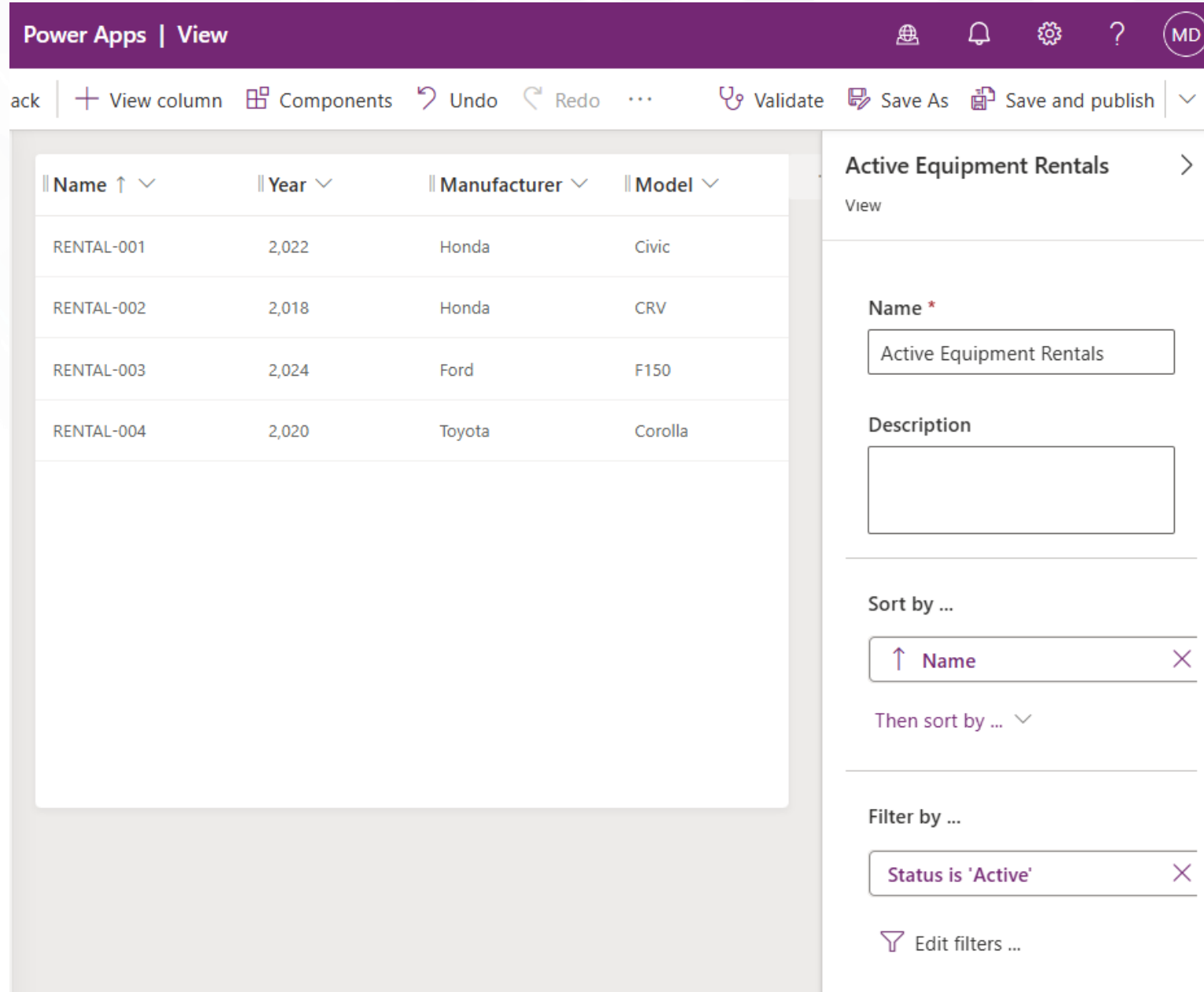
Views 📺

Views

Views display a set of records in grid which can be customized by filtering, sorting and choosing columns

Example:

- All Invoices
- 30 Days Past Due Invoices
- Write-Off Invoices
- *System Views* are available to all Users
- *Personal Views* are only available to their creator, and can be shared with others



The screenshot displays the 'Power Apps | View' interface. The main area shows a table with four columns: Name, Year, Manufacturer, and Model. The table contains four rows of rental data. To the right, a panel titled 'Active Equipment Rentals' provides options to view, sort, and filter the data. The 'Sort by' section shows 'Name' selected with an upward arrow. The 'Filter by' section shows a filter 'Status is 'Active'' applied. The top navigation bar includes icons for globe, notifications, settings, help, and a user profile (MD).

Name ↑	Year	Manufacturer	Model
RENTAL-001	2,022	Honda	Civic
RENTAL-002	2,018	Honda	CRV
RENTAL-003	2,024	Ford	F150
RENTAL-004	2,020	Toyota	Corolla

Active Equipment Rentals >

View

Name *

Active Equipment Rentals

Description

Sort by ...

↑ Name X

Then sort by ...

Filter by ...

Status is 'Active' X

Edit filters ...

Search

+ New view Add existing view Advanced ▾

PPCC 2025 Workshop > Tables > Equipment Rental > Views ▾

Name ↑ ▾

View type ▾

Active Equipment Rentals

Public View default

Equipment Rental Advanced Find View

Advanced Find View default

Equipment Rental Associated View

Associated View default

Equipment Rental Lookup View

Lookup View default

Inactive Equipment Rentals

Public View

Quick Find Active Equipment Rentals

Quick Find View default

← Main view when you open a table

← Used during Advanced Find

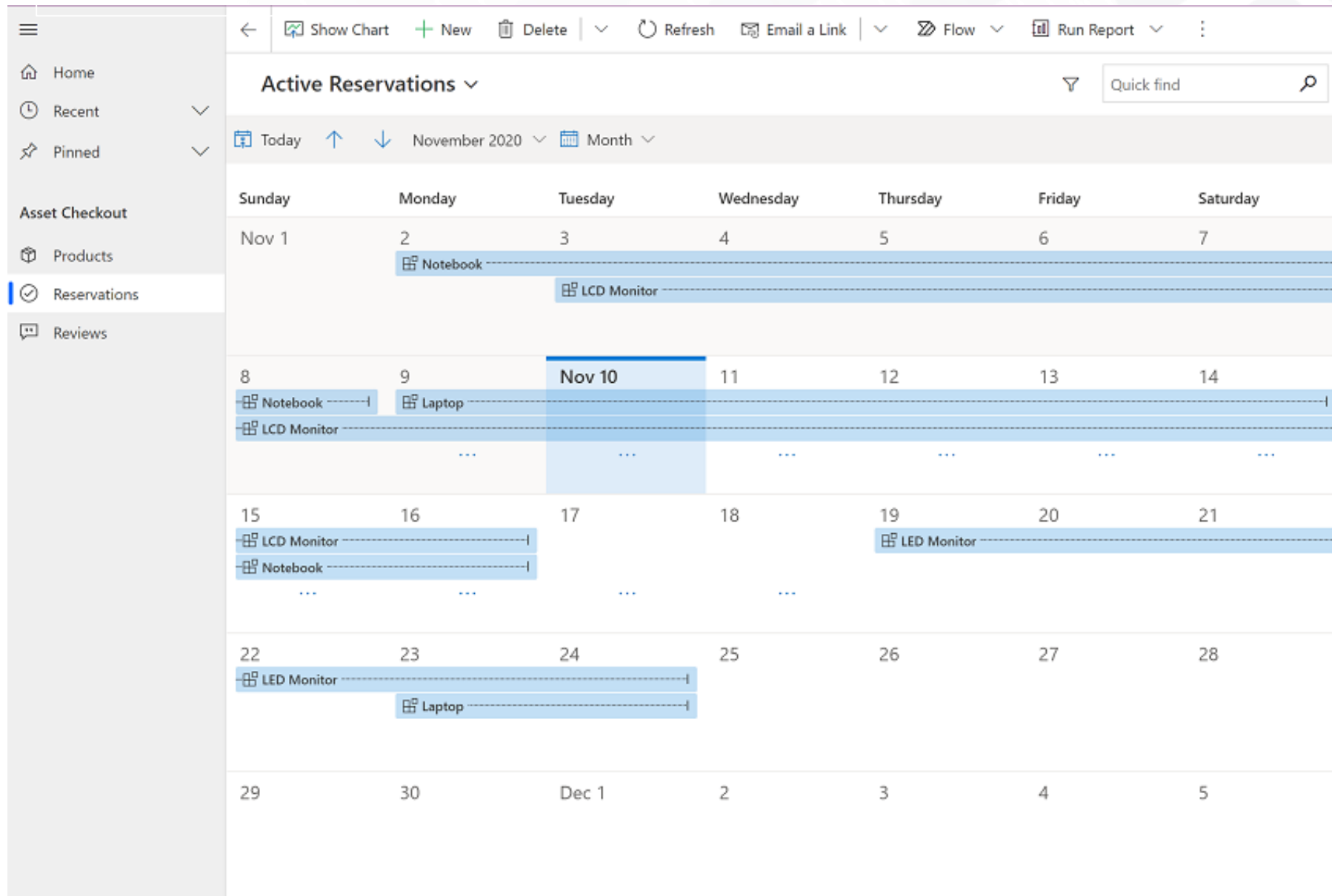
← Fields to show on "Related" form tab

← Fields to show in a lookup

← Soft-deleted records

← Used during Quick Find

Calendar View



Editable Grid View

Power Apps

PPCC 2025 Workshop

SANDBOX

🔍 +

☰

Home

Recent

Pinned

New Group

Accounts

Contacts

Equipment Rentals

←

Read Only Grid

Show Chart

Edit

Activate

Deactivate

⋮

Active Equipment Rentals

🔍 F

✓ Name ↑	Year	Manufacturer	Model
RENTAL-001	2,022	Honda	Civic
✓ RENTAL-002	2,018	Honda	CRV
RENTAL-003	2,024	Ford	F150
RENTAL-004	2,020	Toyota	Corolla

ABC 1 - 4 of 4 (1 selected)

Nested Sub-grid

Dynamics 365

Sales Hub

Sales > Accounts > A. Datum Corporation

SANDBOX

+

Home

Recent

Pinned

My Work

Dashboards

Activities

Customers

Accounts

Contacts

Sales

Leads

Opportunities

Agreements

Competitors

AD

A. Datum Corporation

Account · Account

6/17/2019
Last Spoke With

Dian Taylor
Last Spoke with Rep

\$1,866,250,000.00
Annual Revenue

Dian Taylor
Owner

Summary

Financials

Projects

Field Service

Customer Service

Details

Files

LinkedIn Sales Navigator

Contacts

+ New Contact

Group By: (no grouping)

(Editable) Subgrid

Full Name

↑

Email

Company Name

Gender

Business Pho

>

Adrienne McMillan

adrienne_mcmilla...

A. Datum Corpora...

✓

▼

Angel Castellar

angel.castellar198...

A. Datum Corpora...

545-555-0158

✓

Topic

↑

Potential...

Email Ad...

Status

Actual Cl...

Actual R...

Est. Clos...

Est. Reve...

A. Datum - Produ...

A. Datum ...

Open

7/24/2019

\$14,365.90

Maintenance Con...

A. Datum ...

Open

6/11/2019

\$15,600.00

Private Label Oppty

A. Datum ...

Lost

3/9/2019

\$0.00

3/5/2019

\$32,000.00

Product Interest

A. Datum ...

Lost

3/13/2019

\$0.00

4/26/2019

\$86,265.00

Nested Grid


S Sales



Active


Save















Views: Best Practices

- Always use the record’s Name field as the have the left-most column
- Important “identifying” columns should come after the name
- Owner, Modified On, Modified By on the right
- Limit the number of columns so they fit on a screen (6-8 fields)
- Choose your sort order thoughtfully, Users find well-sorted data faster
- Add related table columns to your views to enrich data

Active Equipment Rentals* 

 Edit columns  Edit filters

 Filter by keyword

<input type="checkbox"/>	Name  	Year 	Manufacturer 	Model 	Owner 	Modified On 	Modified By 
<input type="checkbox"/>	RENTAL-001	2,022	Honda	Civic	 Matthew Devaney (...)	7/22/2025 4:12 PM	 Matthew Devan...
<input type="checkbox"/>	RENTAL-002	2,025	Honda	CRV	 Matthew Devaney (...)	7/22/2025 4:22 PM	 Matthew Devan...
<input type="checkbox"/>	RENTAL-003	2,024	Ford	F150	 Matthew Devaney (...)	7/22/2025 4:12 PM	 Matthew Devan...

Forms

← Back | ↶ ↷ ✂ 📄 ▼ 🗑 De

Components

🔍 Search

- Layout
 - 1-column tab
 - 2-column tab
 - 3-column tab
 - 1-column section
 - 2-column section
 - 3-column section
 - 4-column section
 - Tabbed section
 - Spacer
- Grid
 - Editable Grid
 - Subgrid
- Display
 - Calendar
 - Canvas app

🔗 Get more components

← Back | ↶ ↷ ✂ 📄 ▼ 🗑 De

Components

🔍 Search

- Canvas app
- External website
- Form
- HTML web resource
- Image web resource
- Knowledge search
- Map
- Quick view
- Timeline
- Input
 - Business card reader
 - Checkbox
 - Form
 - Number Input
 - Option set
 - Pen input

🔗 Get more components

🔗 Pen input

- Rich Text Editor Control
- Star Rating
- Toggle
- Media
 - Image web resource
 - Map
- Artificial Intelligence
 - Agent Response (Preview)
 - Business card reader
- More components
- 🔗 Get more components

Create a form

Select the type of form to create *

- ☒ Main form ⓘ
- ☐ Quick view form ⓘ
- ☐ Quick create form ⓘ
- ☐ Card form ⓘ

Form name

Form description

☐ Get AI-generated column suggestions

Create

Cancel

What the User sees when they open a record

Used on Subgrid, to create/edit without navigating away from the parent record

Used on dashboard to show limited info and on mobile



Form Controls Deep Dive 🧐

The Lookup Control 🤔

Select a record from a related parent table

Use this control when 🤔💡

- You want to create a **relationship** between a child record and a parent record (example: each contact should belong to an account)
- You want Users to pick from a **list of valid values** instead of typing in answers free-form
- The list of potential values is **long** and are **continually updating**

The screenshot displays a CRM interface for a contact record. At the top, a toolbar includes navigation and action icons: back, list, share, save, save & close, new, deactivate, connect, and assign. Below the toolbar, the contact's name 'Jim Glynn (sample)' is shown with a 'Saved' status and a 'Contact' type. A tabbed interface shows 'Summary', 'Details', and 'Related' views, with 'Summary' selected. The 'CONTACT INFORMATION' section contains fields for First Name (Jim), Last Name (Glynn (sample)), Job Title (Owner), Account Name (Coho Winery (sample)), Email (someone_j@example.com), and Business Phone (555-0109). A dropdown menu is open for the Account Name field, showing a list of accounts: A. Datum Corporation (sample), Adventure Works (sample), Alpine Ski House (sample), Blue Yonder Airlines (sample), and City Power & Light (sample). The dropdown also includes a '+ New' option and an 'Advanced' link. On the right side, there is a section for 'Email from:' with a 'Feedback request' button and a 'View more' link. At the bottom right, a 'Modified on: 7/17' timestamp and a 'Phone Call fro' button are visible.

New Contact

Contact

Summary

Details

Related ▾

CONTACT INFORMATION

First Name + ---

Middle Name ---

Last Name * ---

Job Title ---

Account Name ---

Email ---

Business Phone ---

Mobile Phone ---

Fax ---

Preferred Method of
Contact Anv

Account Name

Lookup

Properties

Events

Business rules

☐ Read-only

☒ Disable most recently used items

☐ Use Main Form Dialog for Create

☐ Use Main Form Dialog for Edit

Table

Account

^ **Formatting**

Form field width

1 column ▾

^ **Filtering**

☒ Filter by related rows ⓘ

Relationship to current table

Accounts (Primary Contact) ▾

Relationship to this lookup's table

Self ▾

☐ Allow users to turn off filter

^ **Components**

Confuses users!

Choose whether to quick
create/edit or use the main
form

Always check this!

Choose the relationship table

Common Lookup Questions 🙋

Can I show more lookup record details than just the record name on a form?

Yes, we can do this with a special type of control called a **Card Form** 🗉

Can I filter which values are shown in lookups?

Yes, we can select a view to filter the records and configure cascading-dropdowns where one dropdown filters based on the selection in another

Can I pick multiple lookup values in the same field?

No, you cannot. Use a many-to-one relationship, or a many-to-many relationship instead.

Can I copy fields from a lookup record to the current record?

Yes, we can do this with relationship field mappings

The Subgrid Control

Shows a list of child records related to a parent record

Power Apps

Contoso School

New look

Home

Recent

Pinned

School assets

Classrooms

Courses

Coursewares

Students

Teachers

←

Save

Save & Close

New

Deactivate

Share

Maria Campbell (sample) - Saved

Teacher

General

Related

Name

Maria Campbell (sample)

Students

All students

Edit

Activate

	Name ↑ ↓	Created On ↓
<input checked="" type="checkbox"/>	Student A	9/20/2024 9:14 AM
<input type="checkbox"/>	Student B	9/20/2024 10:00 AM

Use this control when 

- You want to give Users a quick way to navigate to related child records **(Student)** from a parent record **(Teacher)**

- 1 Show Only Related Records →
- 2 Choose the Table →
- 3 Select A View →

Set Properties

Set the List or Chart properties.

Display Formatting Controls

Name

Specify a unique name.

Name *

Name

Name

Label * Activities (Regarding)

☐ Display label on the Form

Panel header color #F3F3F3

Data Source

Specify the primary data source for this list or chart.

Records Only Related Records

Entity Activities (Regarding)

Default View My Activities

Edit New

Additional Options

☐ Display Search Box

☐ Display Index *i*

OK Cancel

Other considerations?

- Hide the subgrid label?
- How many rows?

The Quick View Form

Connected to a lookup field and can show multiple field from the parent record

Use this control when 🤔💡

- You want to give the User more details about a lookup record than can be shown in a single field
- You don't want the User to edit the parent record fields while in the child record's form

PP

Parent Properties
Lesson

General

Related

LessonName

*

Parent Properties

isPremium

No

Owner

*

CompletionPercent

100


LessonOrder

*

60

Module

*

 Object Properties

Quick View Section

CompletionPercent

+


100

ModuleName

*

Object Properties

ModuleImage



Open

Course

Detail

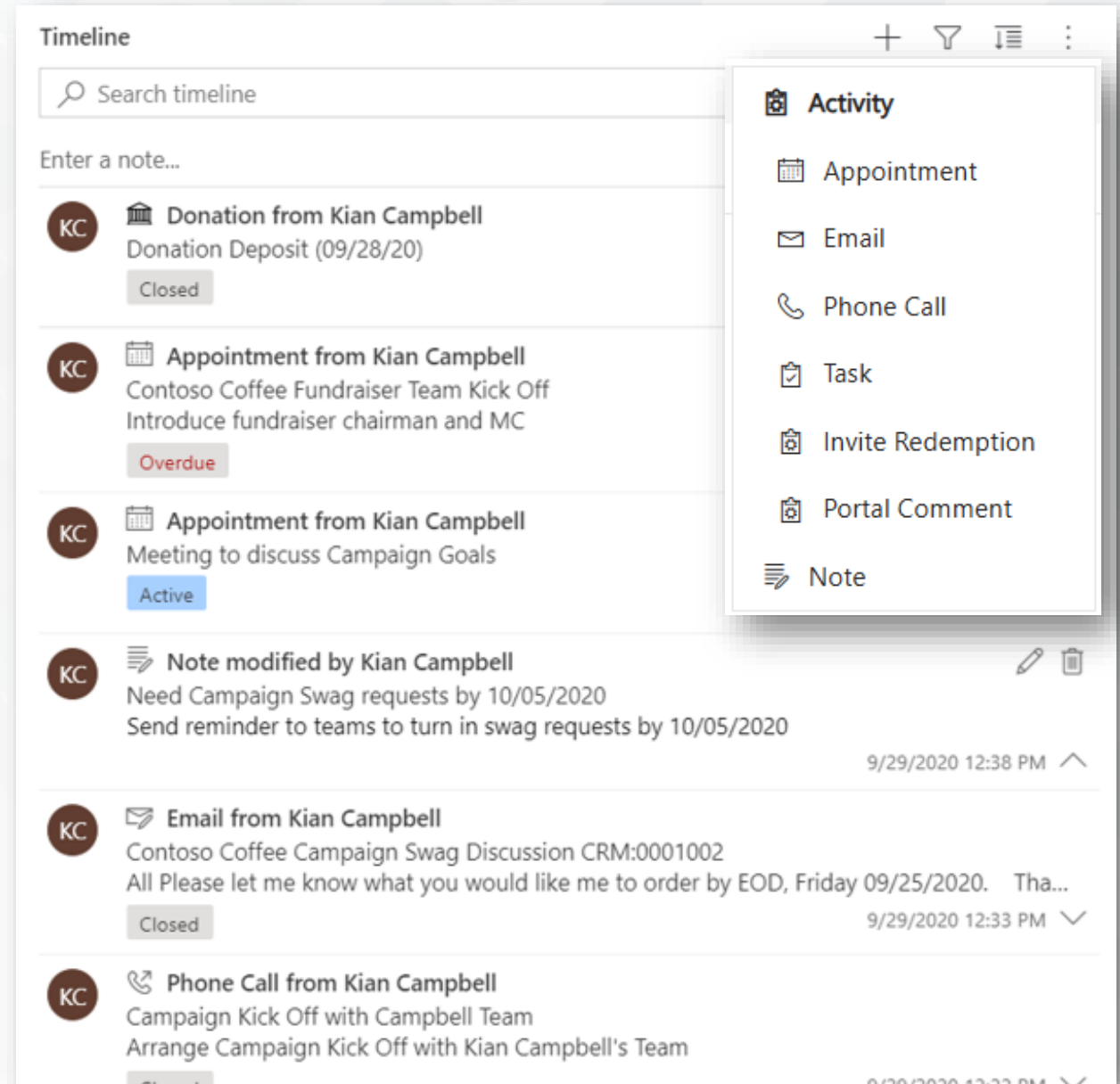
URLResource

The Timeline Control

Shows a list of activities & notes related to a record

Use this control when 🤔💡

- You want Users to track **Activities** related to a record: appointment, email, phone call, task, etc. and display them over time 📞📅
- You want to give Users the ability to add **Notes** including attachments 📎🗣️



The screenshot displays the 'Timeline' control interface. At the top, there is a search bar labeled 'Search timeline' and a '+', a filter icon, a list icon, and a settings icon. Below the search bar is a text input field labeled 'Enter a note...'. The main area shows a list of activities, each with a circular profile icon labeled 'KC' and a title. The activities are: 'Donation from Kian Campbell' (Donation Deposit (09/28/20), Closed), 'Appointment from Kian Campbell' (Contoso Coffee Fundraiser Team Kick Off, Introduce fundraiser chairman and MC, Overdue), 'Appointment from Kian Campbell' (Meeting to discuss Campaign Goals, Active), 'Note modified by Kian Campbell' (Need Campaign Swag requests by 10/05/2020, Send reminder to teams to turn in swag requests by 10/05/2020, 9/29/2020 12:38 PM), 'Email from Kian Campbell' (Contoso Coffee Campaign Swag Discussion CRM:0001002, All Please let me know what you would like me to order by EOD, Friday 09/25/2020. Tha..., 9/29/2020 12:33 PM), and 'Phone Call from Kian Campbell' (Campaign Kick Off with Campbell Team, Arrange Campaign Kick Off with Kian Campbell's Team, 9/29/2020 12:33 PM). A right-hand menu titled 'Activity' is open, showing options: Appointment, Email, Phone Call, Task, Invite Redemption, Portal Comment, and Note.

Timeline

Search timeline

Enter a note...

KC Donation from Kian Campbell
Donation Deposit (09/28/20)
Closed

KC Appointment from Kian Campbell
Contoso Coffee Fundraiser Team Kick Off
Introduce fundraiser chairman and MC
Overdue

KC Appointment from Kian Campbell
Meeting to discuss Campaign Goals
Active

KC Note modified by Kian Campbell
Need Campaign Swag requests by 10/05/2020
Send reminder to teams to turn in swag requests by 10/05/2020
9/29/2020 12:38 PM

KC Email from Kian Campbell
Contoso Coffee Campaign Swag Discussion CRM:0001002
All Please let me know what you would like me to order by EOD, Friday 09/25/2020. Tha...
9/29/2020 12:33 PM

KC Phone Call from Kian Campbell
Campaign Kick Off with Campbell Team
Arrange Campaign Kick Off with Kian Campbell's Team
9/29/2020 12:33 PM

Activity

Appointment

Email

Phone Call

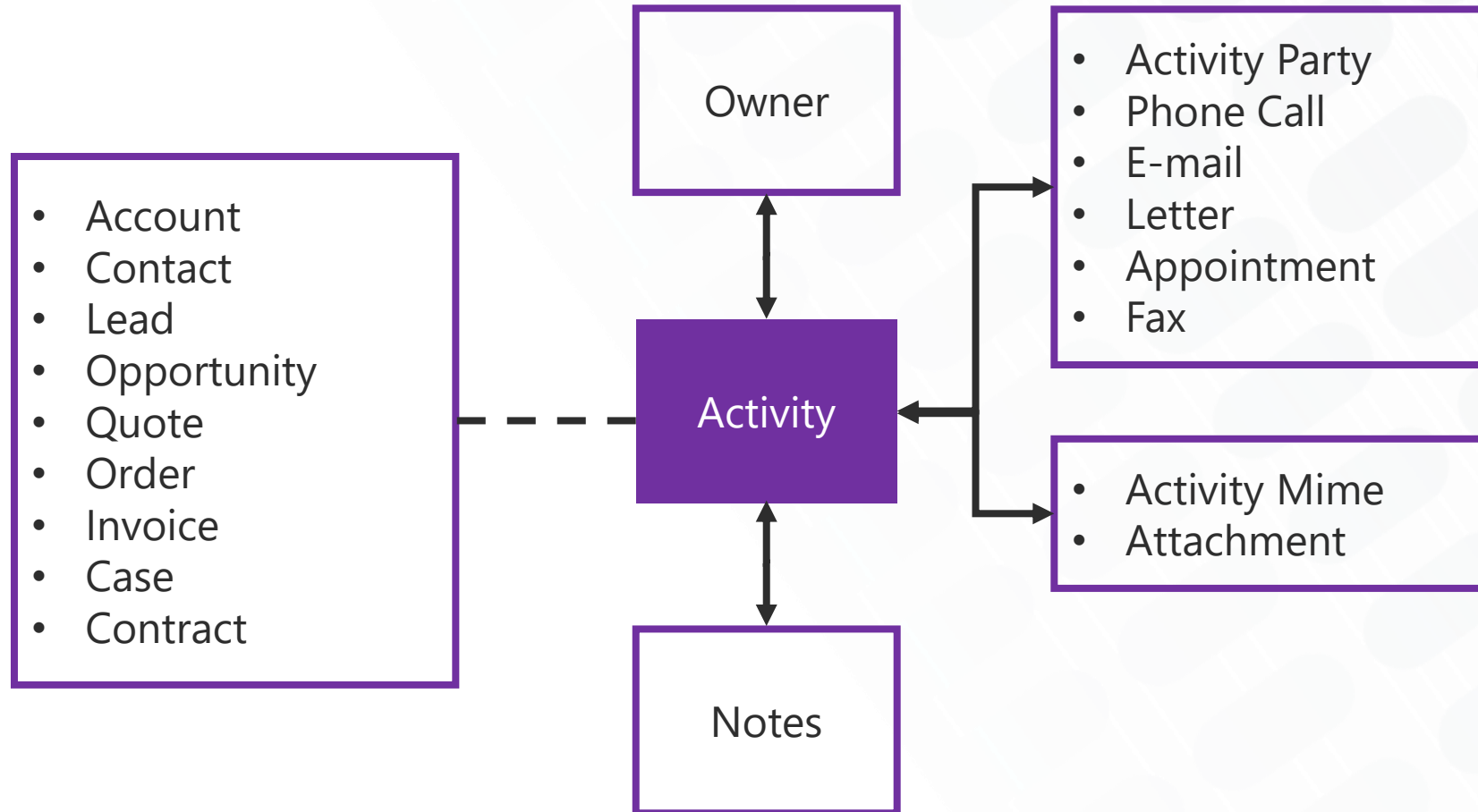
Task

Invite Redemption

Portal Comment

Note

Activity Table Data Model





Choose the sort order



PCF Controls

Add custom UI controls from a trusted 3rd party to extend Model-Driven App forms

Barcode Generator

EAN13

5

901234

123457

Custom

Text

CODE39

123456789012

Barcode Generator

 **MODEL-DRIVEN APPS**  **CANVAS APPS**

 **LICENSE IS PRESENT**

A control to generate a barcode from a text value. It supports multiple barcode formats and the visual aspect can be modified.

BARCODE

Author: **Allan De Castro**    

Multiselect With Color

Content Discussed

✓ Price Negotiation

+ Enquiries

✓ Logistics

+ Digital Solutions

+ New Contact Person

✓ New Projects

+ Quotes

✓ Quality Issues

+ Market Information


✓ Multi Metal

✓ Future Outlook

+ Audit

+ Strategy

Multiselect With Color

 **MODEL-DRIVEN APPS**
 **LICENSE IS PRESENT**

A control to select multiple items from a dropdown list, and each selected item is displayed as a colorful chip.

The component stores data in the standard multi-select control behind the scenes, ensuring compatibility with existing processes and data structures. Selected items are visually represented as chips, making it easy to see and manage selections.

MULTISELECT OPTIONSET CHOICE

Google Maps Control

Summary Details

Address 1: Street 1

sligo

Address 1: Street 2

Address 1: Street 3

Address 1: City

Sligo

Address 1: State/Province

Sligo

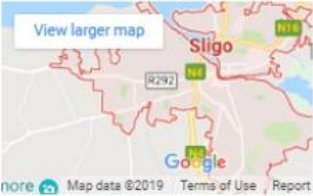
Address 1: ZIP/Postal Code

Address 1: Country/Region

Ireland

Location of Contact

View larger map



Map data ©2019 Terms of Use Report

Preferred Method of

Google Maps Control
 **MODEL-DRIVEN APPS**

The screenshot shows the PCF Gallery website in a browser. The page features a header with the PCF Gallery logo, a search bar, and a store icon. Below the header, there are several PCF controls displayed in a grid. Each control card includes a preview image, a title, a description, and a download button. The controls shown are:

- Birthday and Work Anniversary**: A control to show the next Birthday and Work Anniversary for a user, calculated from input dates. Tags: BIRTHDAY, WORK, ANNIVERSARY.
- File Upload**: The File Upload PCF component allows users to upload files directly within a form to Dataverse. Tag: FILE UPLOAD.
- Share Of Wallet**: A control to combine interactive map visualization with detailed opportunity analytics. Tags: AZURE MAPS, WALLET, DATASET.
- Score Indicator**: A control that displays a whole number value (0-100) using a modern Fluent UI React gauge chart. Tags: SCORE, INDICATOR, GAUGE, CHART.
- Multi Option Set Control**: A control designed to allow users to select multiple records from a dataset. Tags: DATASET, OPTIONSET.
- ReactDetailsListSubgrid**: A control built using React's DetailsList component to replace the standard subgrid. Tags: SUBGRID, REACT.
- Scheduler**: A control for event management, drag-and-drop, and more.
- EnhanceLookUpEdit**: A control that enhances the standard look up.
- Modern Chart PCF**: A control that renders responsive.
- Kanban Board**: The Kanban Board PCF component.
- Image Cropper**: A control that provides a...
- Simple Checklist**: The Checklist PCF.

Trusted 3rd Party Site ★

PCF Gallery URL

<http://pcf.gallery>

- Download any PCF control found on the website for free
- Get the End User-License Agreement
- Find documentation provided by the developer

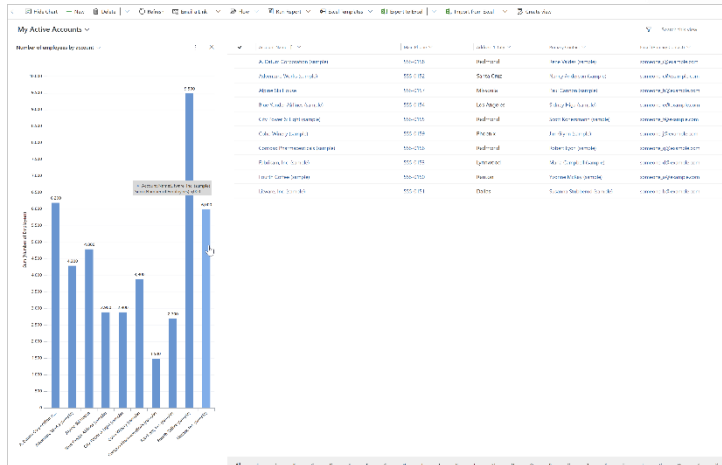
Forms: Best Practices

- At minimum, always have 2 form tabs
 - General [Name & Other informational fields]
 - Admin [Fields: Name, Owner, Created, Created By, Modified, Modified By, Status, Status Reason]
- Most important information goes top-left, least important goes bottom-right
- Create new tabs for less frequently accessed information
- Consider making sub-grids their own tab
- Put fields you want to see while on every tab in the Form Header
- Keep your form design patterns consistent across tables
- Don't make a long form where the User scrolls-down



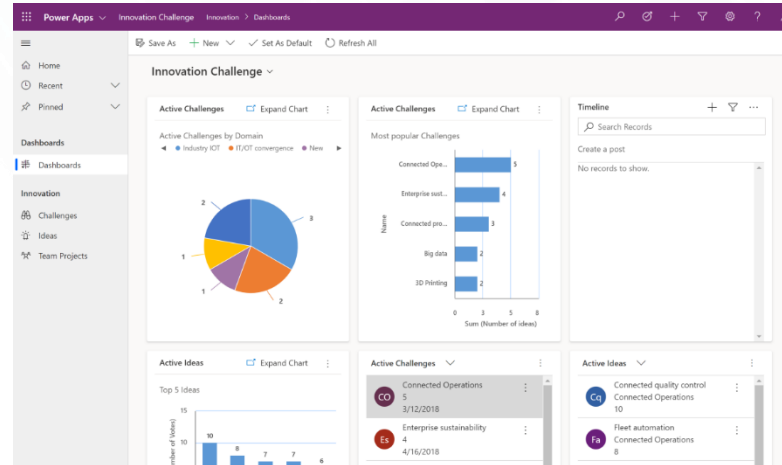
Charts & Dashboards

Charts



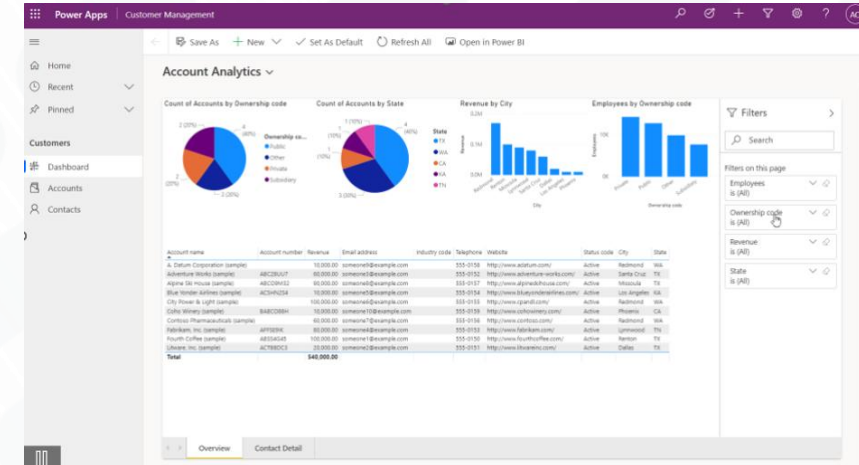
- A single visual with basic chart types: column, bar, pie, line, etc.
- Can perform simple aggregations on number columns (SUM, AVG, COUNT)

Dashboard



- Shows multiple charts & views on a single page
- Non-interactive, but you can drill into records
- Respects the User's assigned security roles

Power BI



- A full Power BI Report displayed in a model-driven app (requires license)
- Fully interactive report
- Does not use Dataverse security roles/no row-level security

Chart Types

FILE

HOME

 Save

 Save & Close

 Save As

 Column

 Bar

 Area

 Line

 Pie

 Funnel

 Tag

 Doughnut

 Top X Rule

 Bottom X Rule

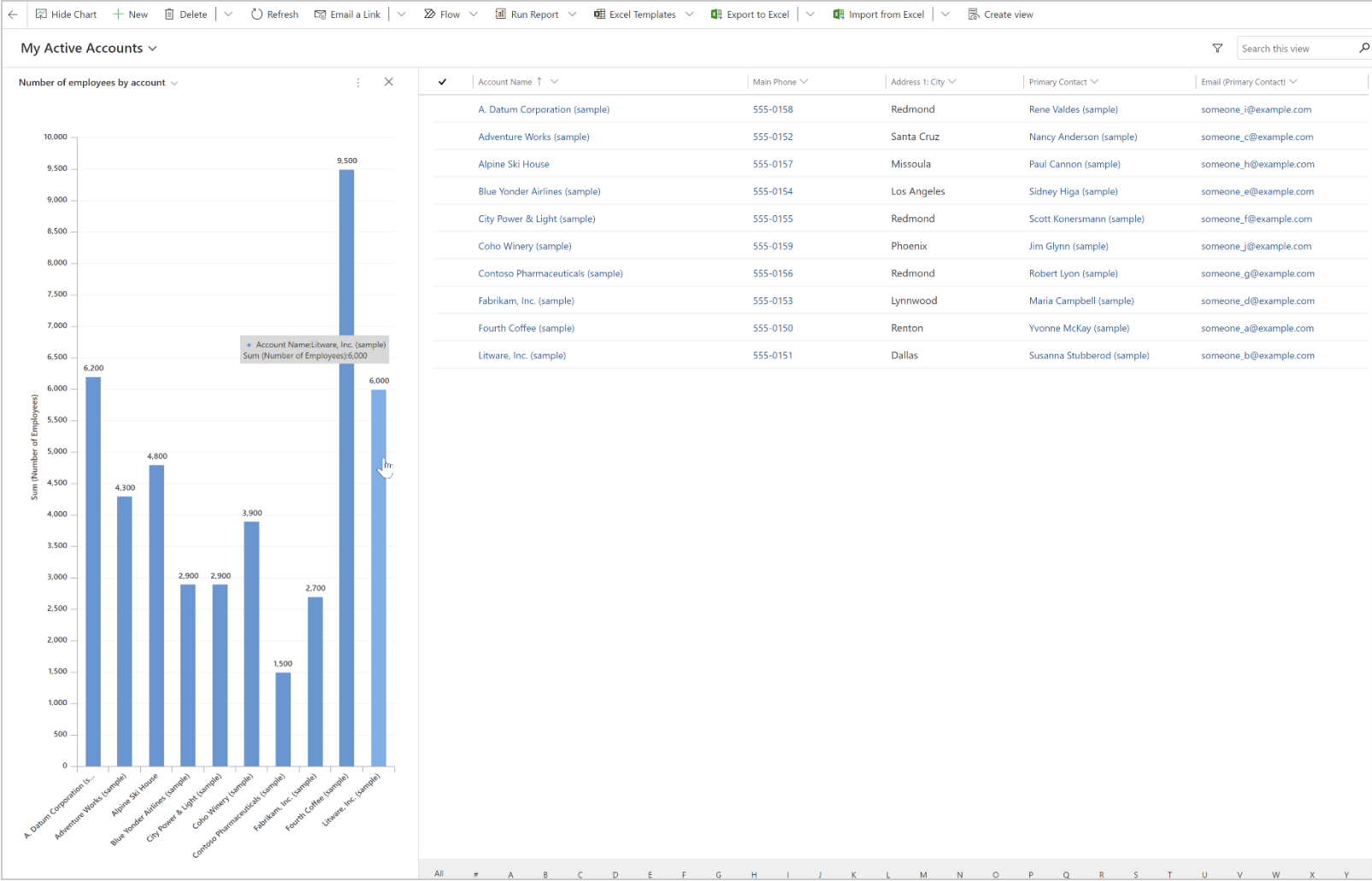
 Clear Rules

Save

Charts

Top/Bottom Rules

Column Chart



☰

- 🏠 Home
- 🕒 Recent ▾
- 📌 Pinned ▾

Dashboards

🗂 Dashboards

Innovation

- 🗂 Challenges
- 💡 Ideas
- 👤 Team Projects

💾 Save As + New ▾ ✓ Set As Default ↻ Refresh All

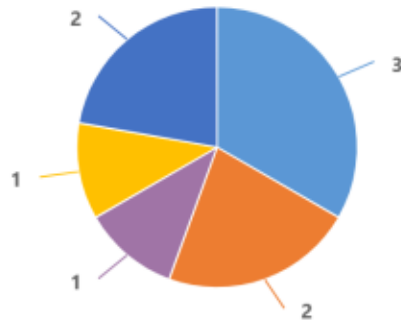
Innovation Challenge ▾

Chart

Active Challenges Expand Chart ⋮

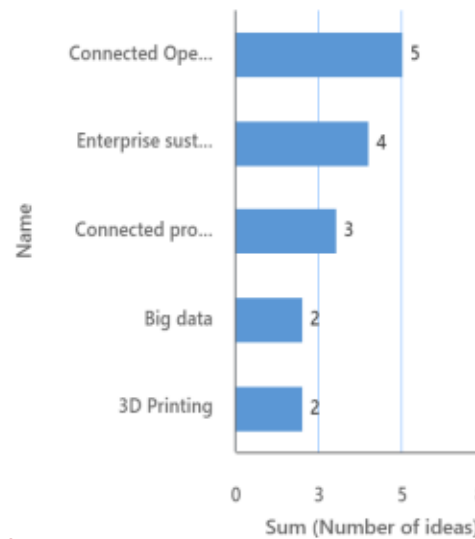
Active Challenges by Domain

◀ ● Industry IOT ● IT/OT convergence ● New ▶



Active Challenges Expand Chart ⋮

Most popular Challenges



View

Timeline

Timeline

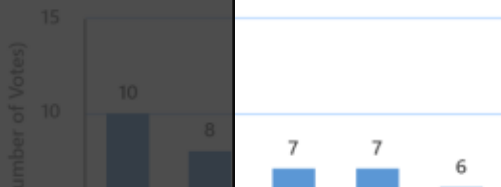
🔍 Search Records

Create a post

No records to show.

Active Ideas Expand Chart ⋮

Top 5 Ideas



Active Challenges ▾

- CO Connected Operations
5
3/12/2018
- Es Enterprise sustainability
4
4/16/2018

Active Ideas ▾

- Cq Connected quality control
Connected Operations
10
- Fa Fleet automation
Connected Operations
8

Dashboard

Charts & Dashboards: Best Practices

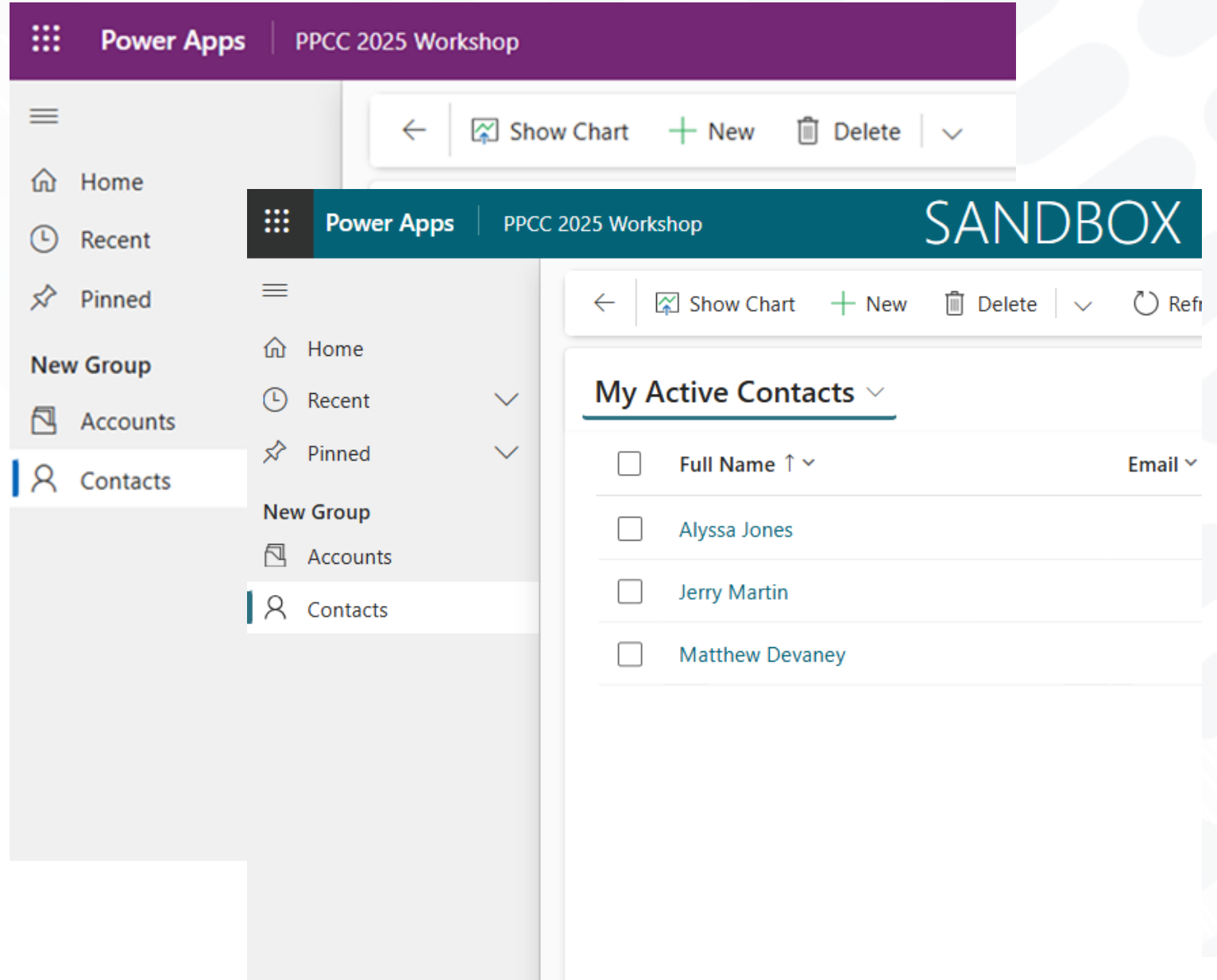
- Dashboards are an excellent home page for model-driven apps
 - Highlight records than need action
 - Support multiple tables on the same page
- Charts are great at showing what a table of records cannot
 - Trends over time (line chart)
 - Aggregation of numbers (bar chart, SUM/AVG by category)
- Power BI
 - Make use of it if you have the licensing
 - Design with security in mind (or lack thereof)
- Don't feel forced to make them if they are not needed

Theming And Icons

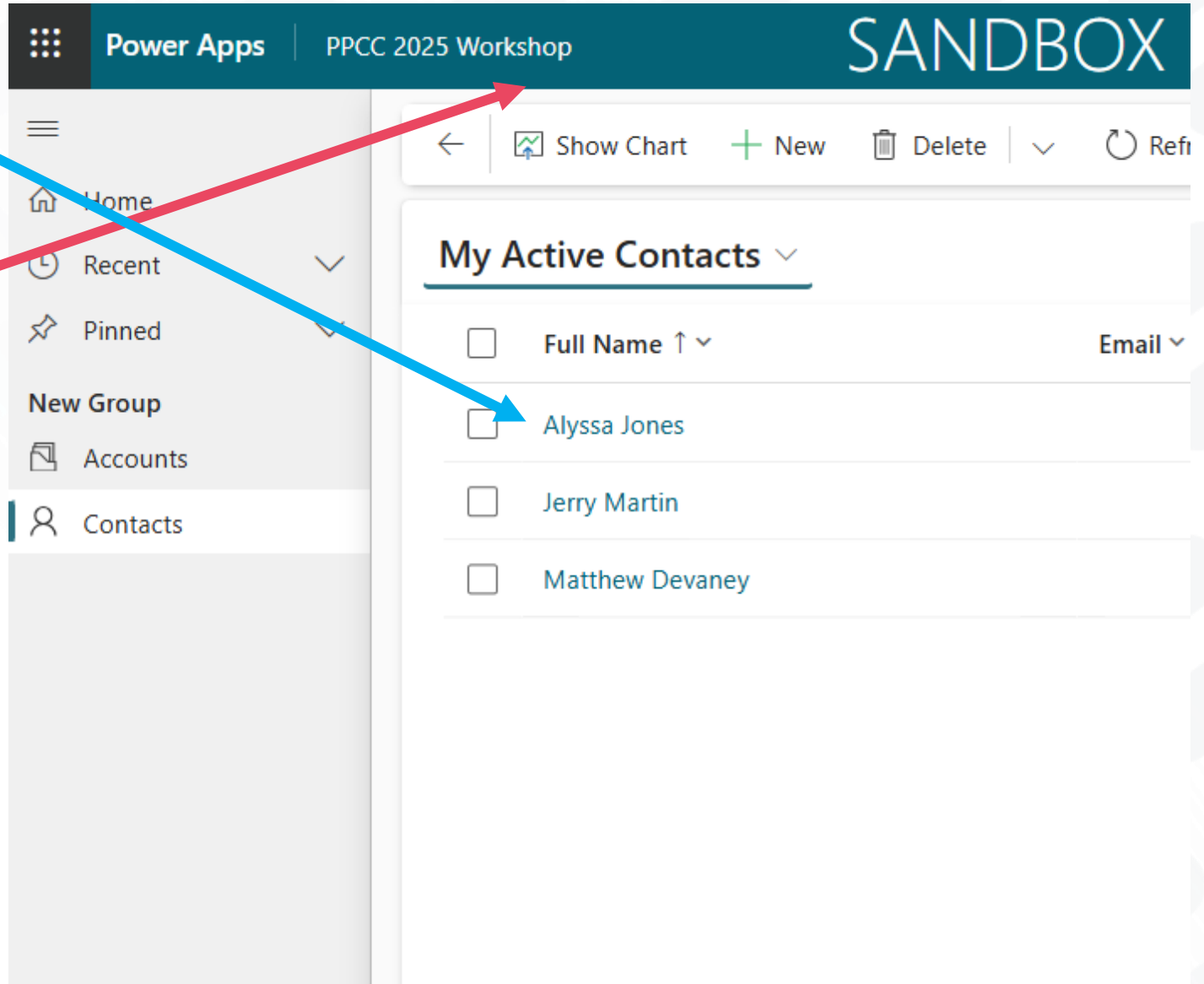
Theming Options

There's only a few...

- Model-Driven Apps have limited theming/branding options by design
- What can we change?
 - Header Bar
 - Primary Color
 - Font
 - App Icon
 - Table Icons




```
<CustomTheme
  basePaletteColor="#046276"
  vibrancy="0"
  hueTorsion="-50"
  font="\"Segoe UI\""
>
  <AppHeaderColors
    background="#046276"
    foreground="#FFFFFF"
    backgroundHover="#313131"
    foregroundHover="#FFFFFF"
    backgroundPressed="#494949"
    foregroundPressed="#FFFFFF"
    backgroundSelected="#717171"
    foregroundSelected="#FFFFFF"
  />
</CustomTheme>
```



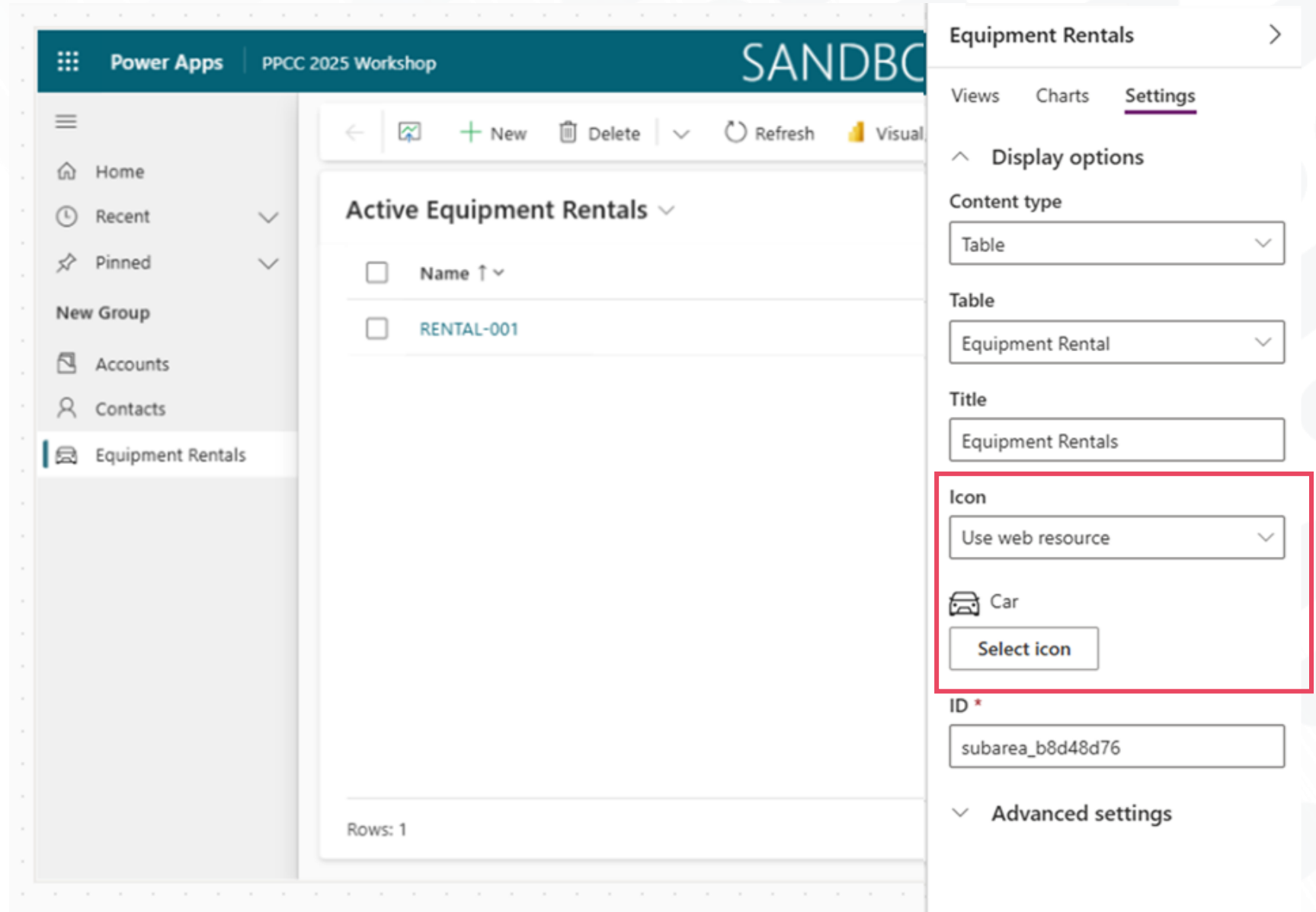
Icons

They must be tiny 

- 10kb max size
- SVG file type

Where can I get icons?

- [Flicon.io](https://flicon.io)
- [SVG Repo](https://svgrepo.com/)
- [MatthewDevaney.com](https://matthewdevaney.com/)



The screenshot displays the Power Apps interface for the 'Equipment Rentals' app. The left sidebar shows the app's navigation menu, including 'Home', 'Recent', 'Pinned', 'New Group', 'Accounts', 'Contacts', and 'Equipment Rentals'. The main area shows the 'Active Equipment Rentals' table with one row, 'RENTAL-001'. The right sidebar shows the 'Settings' tab, with the 'Icon' section highlighted by a red box. The 'Icon' section includes a dropdown menu set to 'Use web resource', a 'Select icon' button, and a preview of a car icon. Below the 'Icon' section is the 'ID' field, which contains the value 'subarea_b8d48d76'.

Power Apps | PCC 2025 Workshop | SANDBOARD

Views | Charts | **Settings**


Display options

Content type
Table

Table
Equipment Rental

Title
Equipment Rentals

Icon
Use web resource

 Car
Select icon

ID *
subarea_b8d48d76

Advanced settings

Rows: 1



Q&A Time

Softball questions only. Unless you have a difficult problem.