

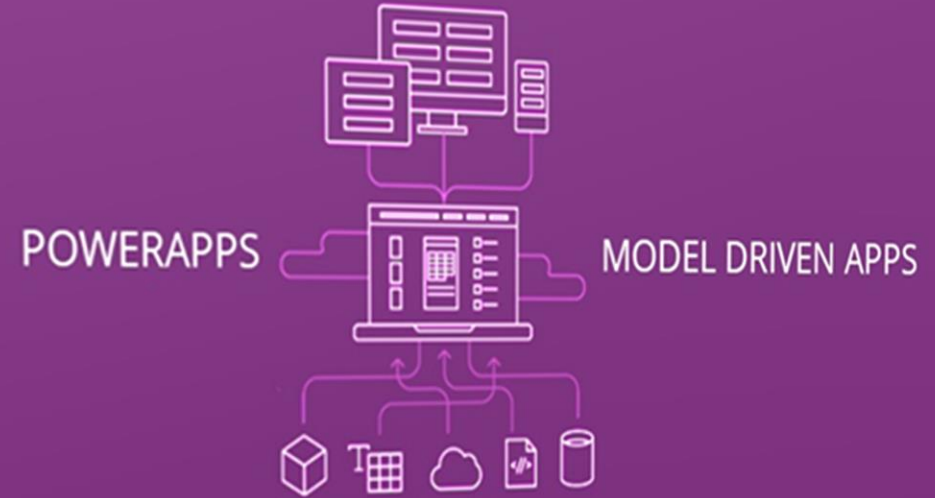
Building experiences where tasks can be completed quickly and effectively is crucial to user satisfaction.

MODEL-DRIVEN APPS

Customization, Development and Consulting Practice



Microsoft
PowerApps



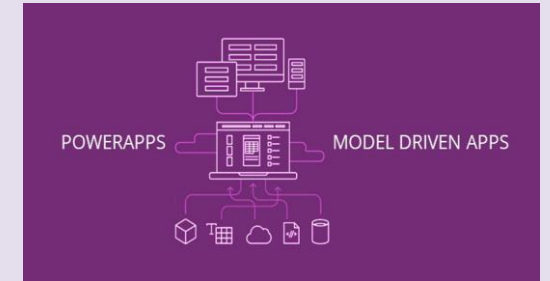
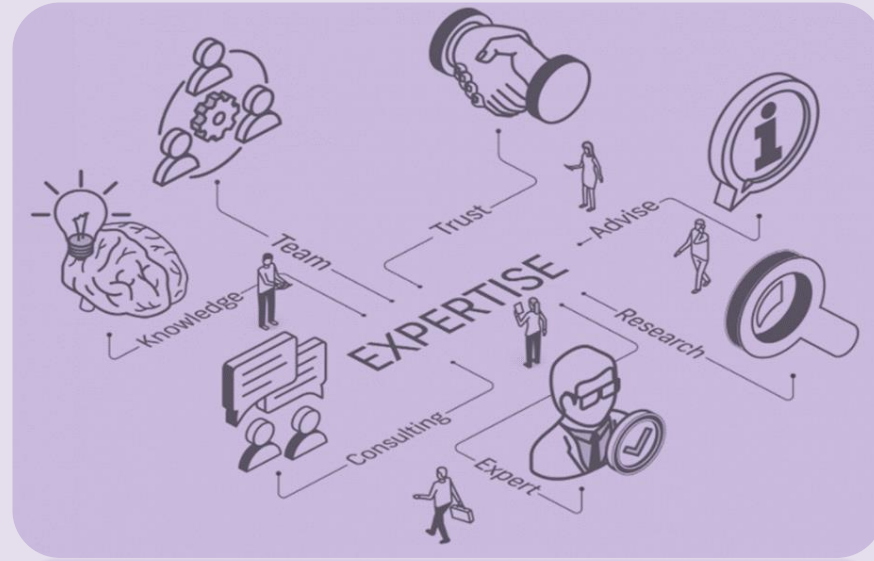
Cognitive Convergence

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A no-code platform to make responsive applications developed by Microsoft.



Microsoft
PowerApps

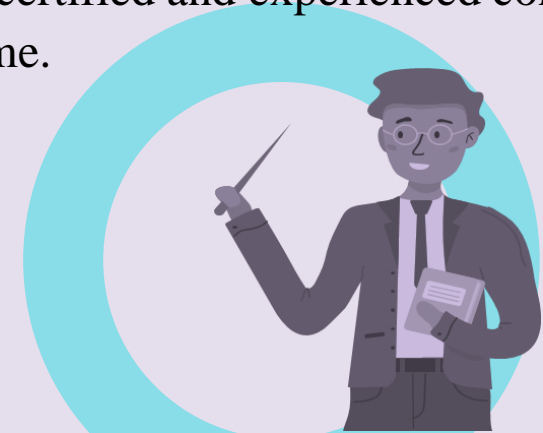


ABOUT US

Cognitive Convergence is a subject matter expert in Power Platform consulting having certified and experienced consultants which will create custom, robust and scalable apps for different business needs in no time.

Our core model-driven app consulting's are:

- ✓ Adding dashboards
- ✓ Forms
- ✓ Views
- ✓ Charts of apps
- ✓ Build apps that are simple or very complex
- ✓ Business solutions
- ✓ Customizations



Current Location: Lahore, Pakistan

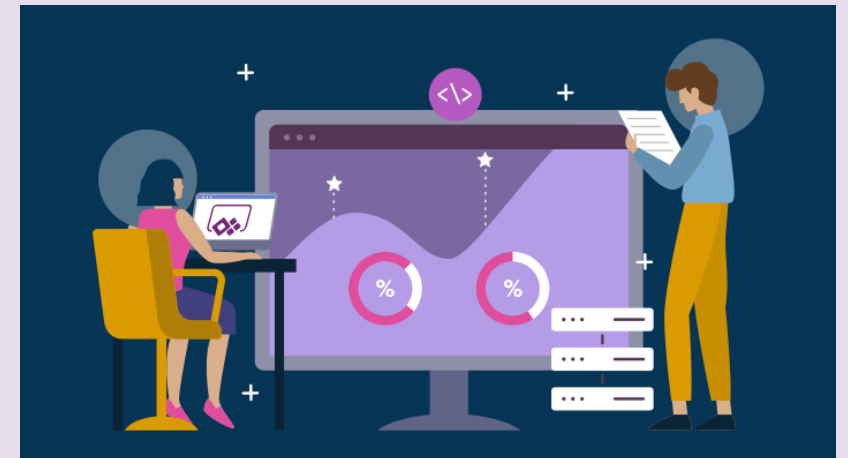
Planned Front-end Office: California/Washington States- USA

POWER APPS

The PowerApps is an application development in the Power Platform that is part of the broader Microsoft Power Platform.

- ✓ Capabilities built on and utilize Azure cloud capabilities
- ✓ Platforms built on power apps are following:
 1. Sales
 2. Service
 3. Field service
 4. Marketing
 5. Talent
- ✓ Can build own custom line of business applications using Azure cloud services
- ✓ Scale from personal use to enterprise-level
- ✓ Using little-to-no code
- ✓ Running both mobile and desktop devices

Microsoft
PowerApps

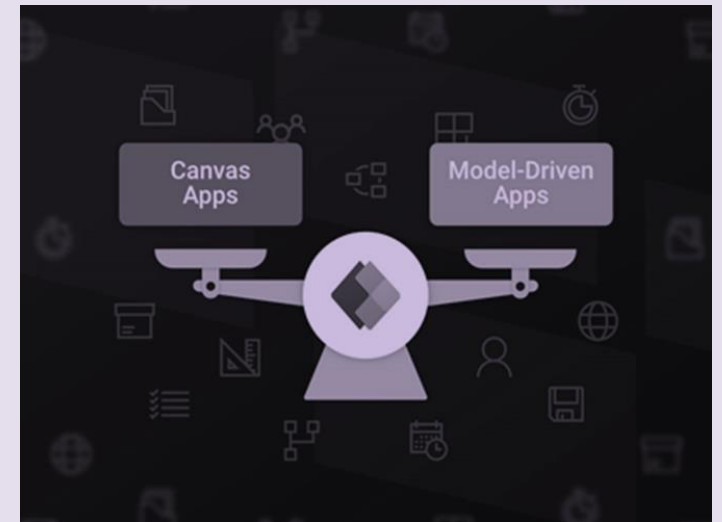


TYPES OF POWER APPS



Canvass Apps

- ✓ Built without code
- ✓ Configured using a drag-and-drop UI like PowerPoint
- ✓ Gives users a high level of control over the user experience
- ✓ Can make the interface clean and intuitive
- ✓ Meant for simple and specific use-cases
- ✓ Can connect to both Microsoft (SharePoint, SQL, etc.) and non-Microsoft (Twitter, Dropbox, etc.) data sources
- ✓ Submitting an expense report

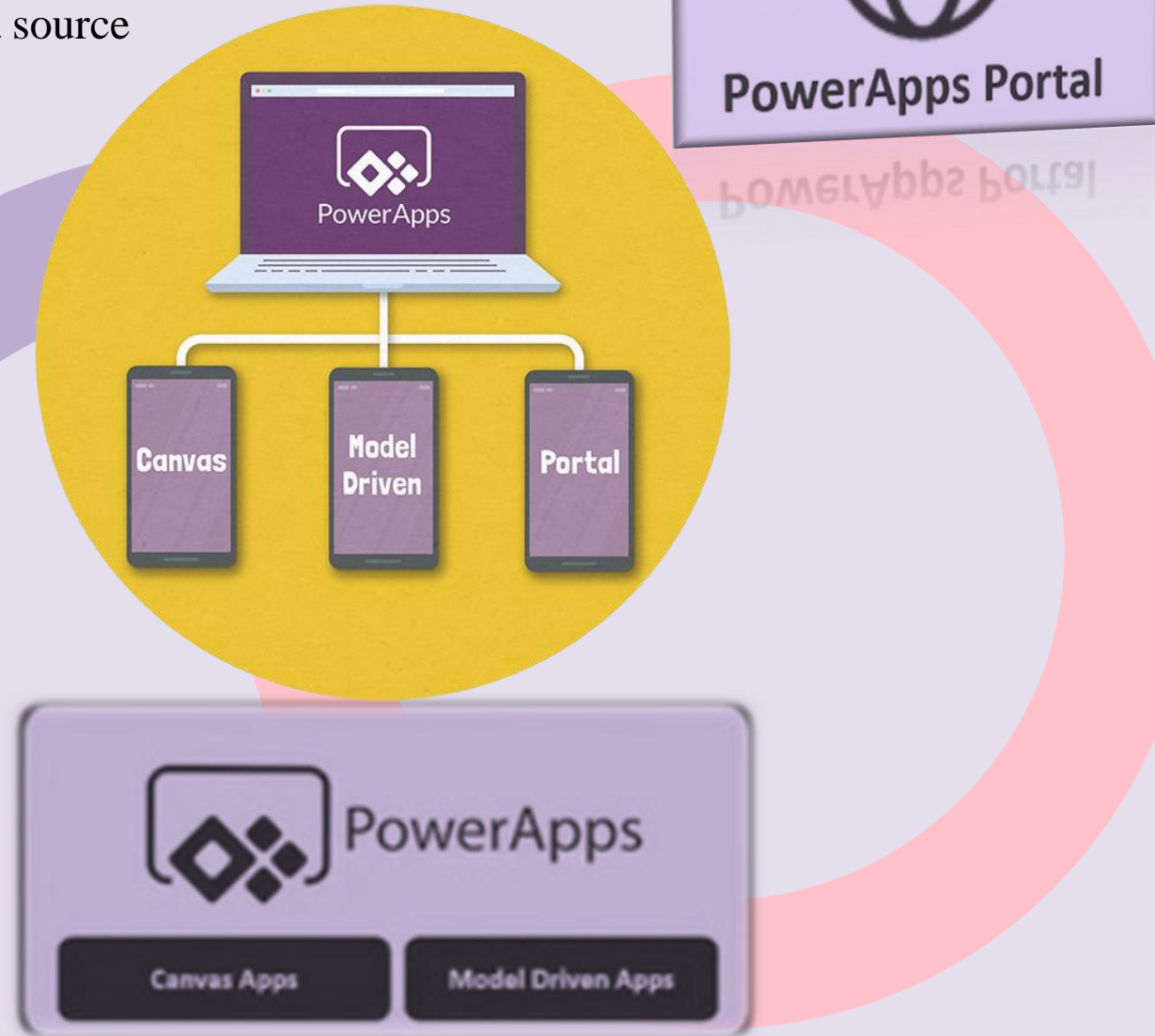


MODEL DRIVEN APPS

- ✓ Built using the Dynamics 365 framework
- ✓ Can only connect to the Common Data Service as their data source
- ✓ More suited to complex scenarios
- ✓ Multiple functions
- ✓ Utilize the Unified Interface UX

MODEL DRIVEN PORTAL

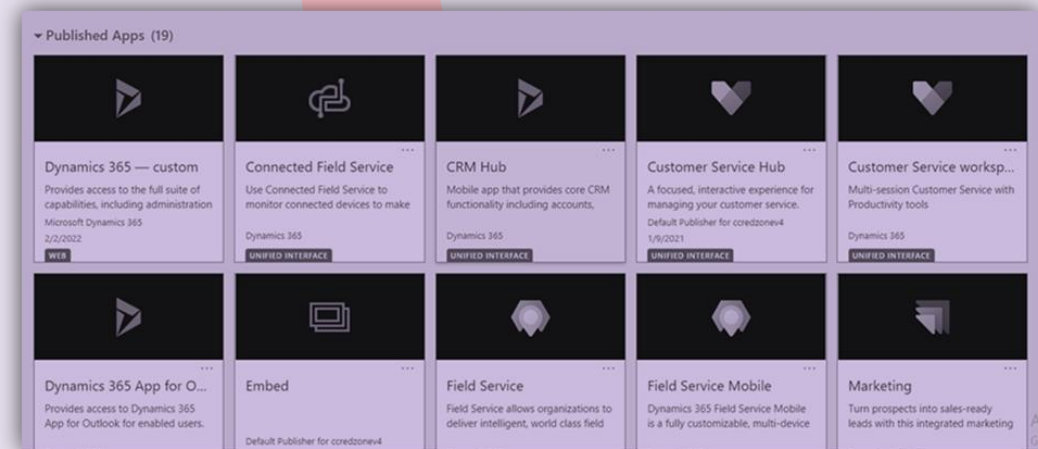
- ✓ Power Apps makers can now create a powerful new type of experience: external-facing websites.
- ✓ These external-facing websites allow
 1. User outside their organizations to sign in with a wide variety of identities.
 2. Users to create and view data in Microsoft Dataverse.
 3. To even browse content anonymously.



MODEL DRIVEN APPS

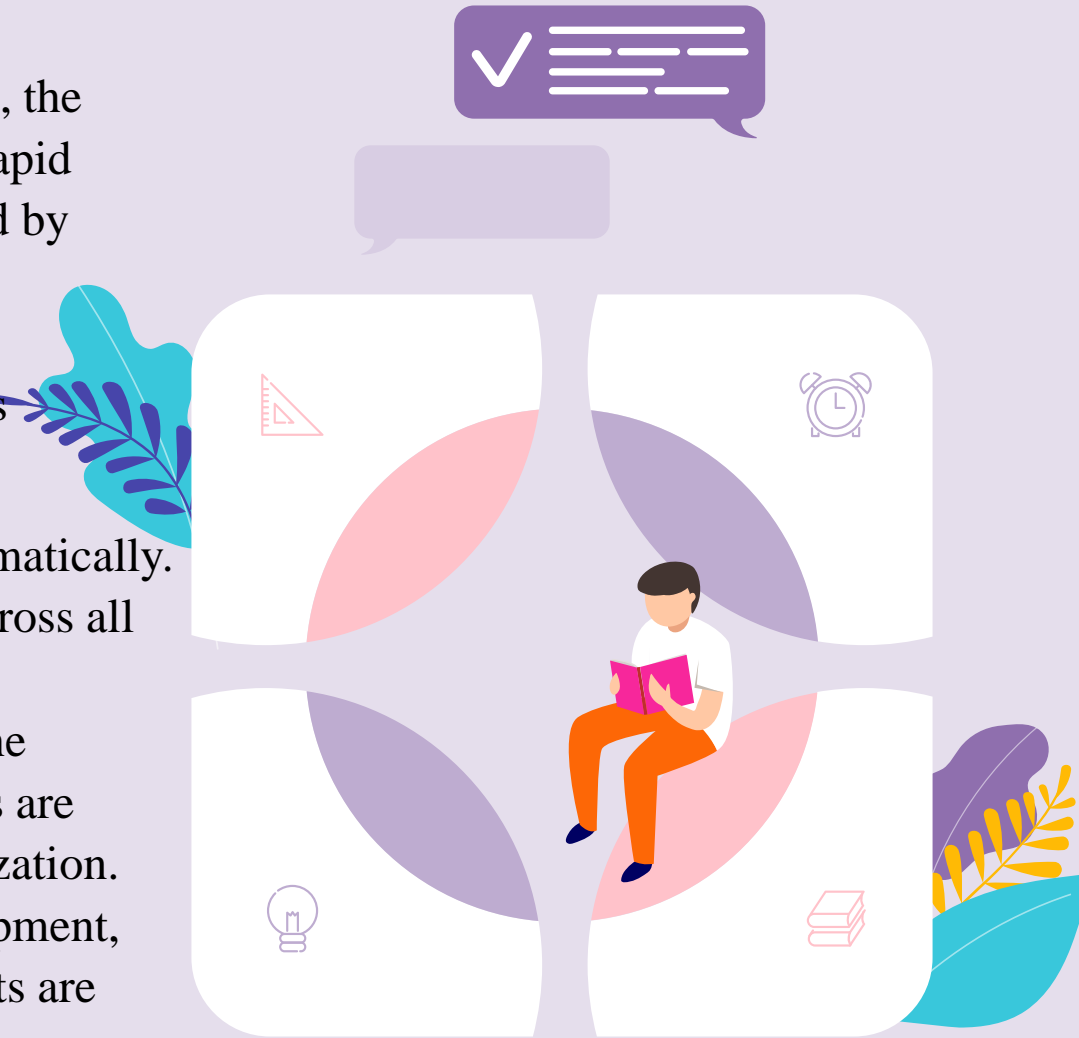
Model-driven app design is an approach that focuses on adding components such as forms, views, and charts and dashboards to tables using an app designer tool.

- ✓ Relationships connect tables together in a way that permits navigation between them
- ✓ Ensures that data is not repeated unnecessarily
- ✓ Especially well-suited to process-driven apps data-dense
- ✓ Make it easy for users to move between related records
- ✓ Often easier to think of them as data model driven apps

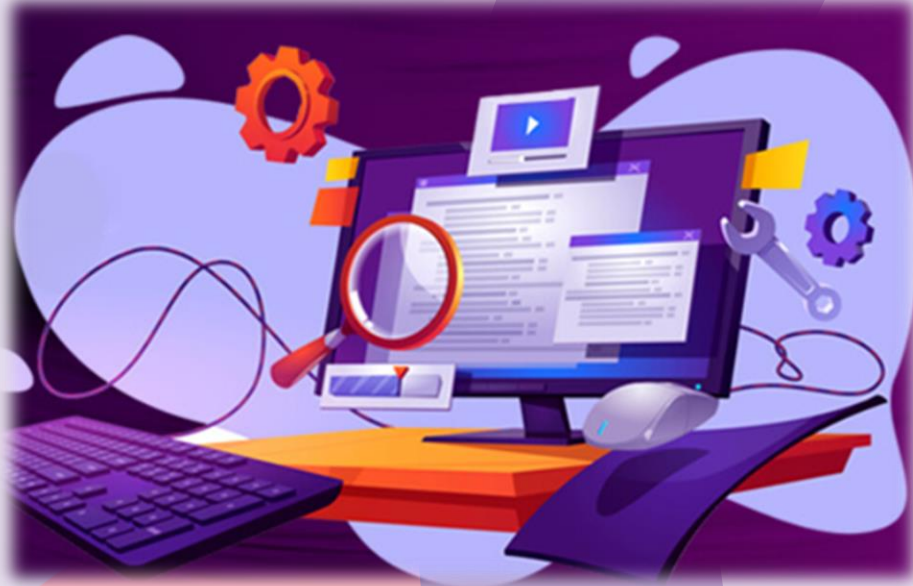


BENEFITS

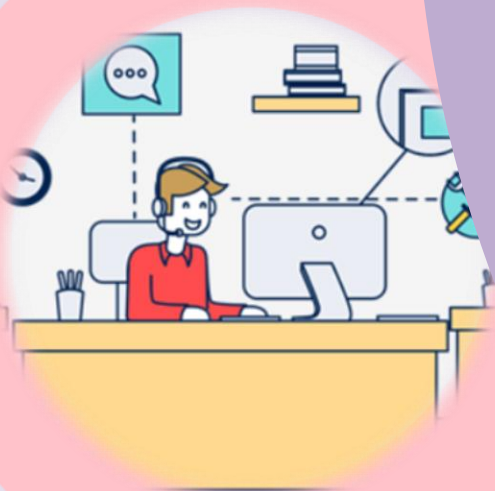
- Once the data model and relationships have been created, the build the process is relatively rapid due to rich components focused by no-code designers.
- Apps have a similar user interface across various devices from desktop to mobile.
- Accessible and responsive automatically.
- User experience is consistent across all model-driven apps.
- Once a user is confident with one the model-driven app, later apps are easier to adopt within an organization.
- Migrating apps between development, test and production environments are relatively straightforward by using solutions.



BENEFITS OF MODEL-DRIVEN APPLICATIONS

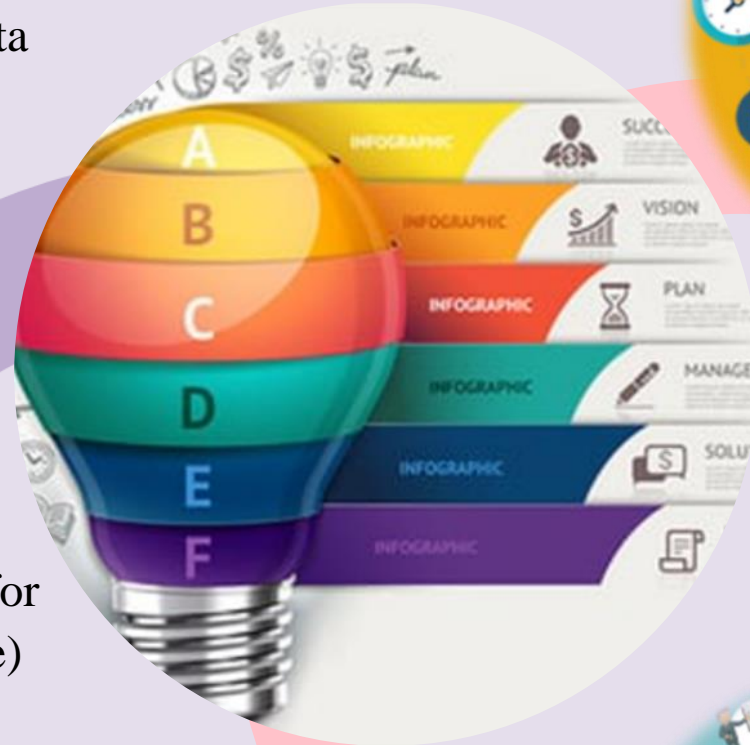
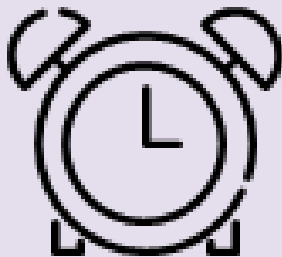
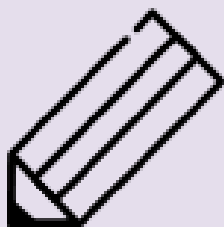
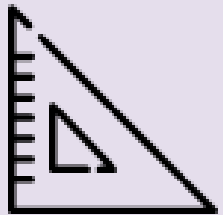


- ✓ Reliable
- ✓ Cover complex business processes
- ✓ Govern millions of transactions in the biggest businesses in the world
- ✓ Have tried and tested application lifecycle management options
- ✓ Supports a strong and flexible data security model
- ✓ Affects the degree to which users can interact with the table records and columns
- ✓ Any Data-verse table component can be used and reused, such as contacts, accounts, or any custom tables created
- ✓ A pool of competence worldwide covering the platform through Dynamics consultants in addition to Power Platform practices
- ✓ Are responsive by design
- ✓ Render better on a wide range of devices
- ✓ Accessible to users with disabilities including those that require screen readers.
- ✓ Offline capabilities are native to model-driven apps



BUSINESS LOGIC

- ✓ Logic can be introduced to ensure that columns contain the data that adheres to the business rules.
- ✓ Guide users to update records in the correct order and in the correct way.
- ✓ Power Automate native integration exists and flows exist as | separable solution components
- ✓ Provide a simple interface to implement
- ✓ Maintain fast-changing and commonly used rules
- ✓ Can be applied to main and quick create forms
- ✓ Work in model-driven apps, legacy web apps, Dynamics 365 for tablets, and Dynamics 365 for Outlook (online or offline mode)



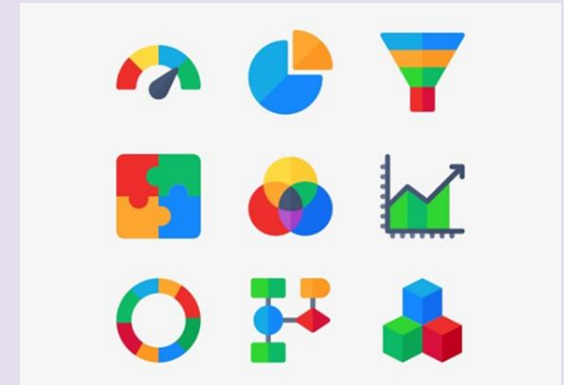
APPS COMPONENTS OVERVIEW

Several components you select using the designer to build the appearance and the functionality of the finished app. Understanding how each of these components related to the app design is separated here into the following categories.

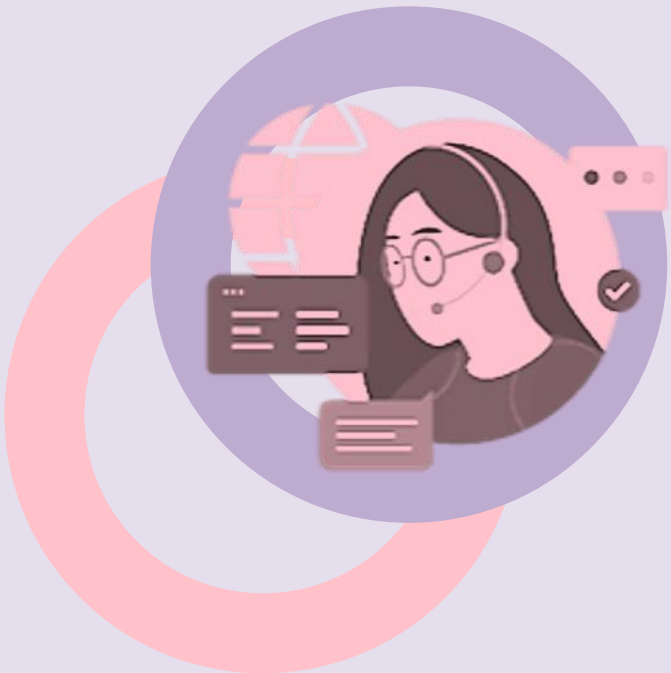
- Data Components
- UI Components
- Logic Components
- visualization Components

Data Components Table

- Container for records with properties
- Many standard tables are available.
- Can customize a non-system standard table
- Can create a custom table from scratch



RELATIONSHIPS



Business Process Flows

- ✓ Define how tables can be related to each other
- ✓ Power Apps table designer
- ✓ Types of relationships are:
 - 1:N (one-to-many)
 - N:1 (many-to-one)
 - N:N (many-to-many)

Column

- ✓ Property that is associated with a table
- ✓ Defined by a data type
- ✓ Determines the type of data that can be entered or selected
- ✓ Typically, are used with forms, views, and searches

3 Types of Relationships:

One-to-one:



One-to-many:



Many-to-many:



FORM

- ✓ A set of data-entry columns for a given table
- ✓ Matches the items that your organization tracks for the table
- ✓ Form designer
- ✓ A set of data-entry columns where the user's input relevant information is stored.



View

- ✓ Define how a list of rows for a specific table
- ✓ Displayed in your application
- ✓ Defines the columns to display
- ✓ Width of each column
- ✓ Sort behavior
- ✓ The default filters

Custom Page

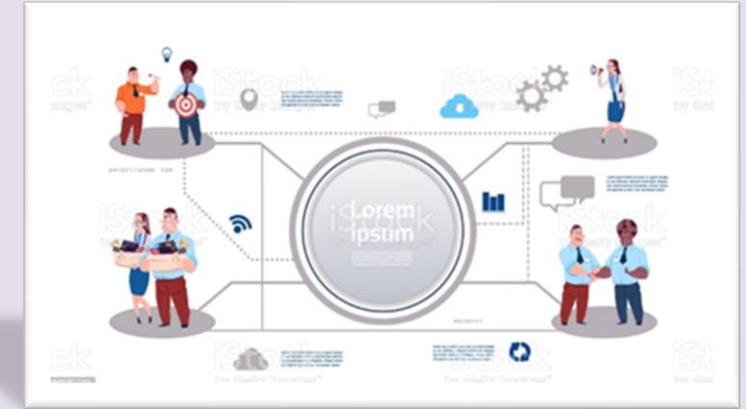
- ✓ Canvas based page which allows layout
- ✓ Low-code Fx functions
- ✓ Power Apps connector data
- ✓ Canvas designer



LOGIC COMPONENTS

Business Process Flows

- ✓ An online process that walks users through a standard business process
- ✓ Business process flow designer
- ✓ Require staff to gain approval for an invoice



Workflow

- ✓ Automate business processes
- ✓ Doesn't use a user interface
- ✓ Designers use workflows to initiate automation that doesn't require any user interaction.
- ✓ Workflow designer



Actions

- ✓ Type of process that let you manually invoke actions
- ✓ Including custom actions
- ✓ Directly from a workflow
- ✓ Process designer

BUSINESS RULES

- ✓ Used to apply rule or recommendation logic to a form
- ✓ To set column requirements
- ✓ Hide columns
- ✓ Validate data
- ✓ App designers use a simple interface to implement
- ✓ Maintain fast-changing and commonly used rules



POWER AUTOMATE FLOW

- ✓ A cloud-based service
- ✓ Let's you create automated flows
- ✓ Between apps and services
- ✓ Get notifications
- ✓ Synchronize files
- ✓ Collect data



VISUALIZATIONS

Charts

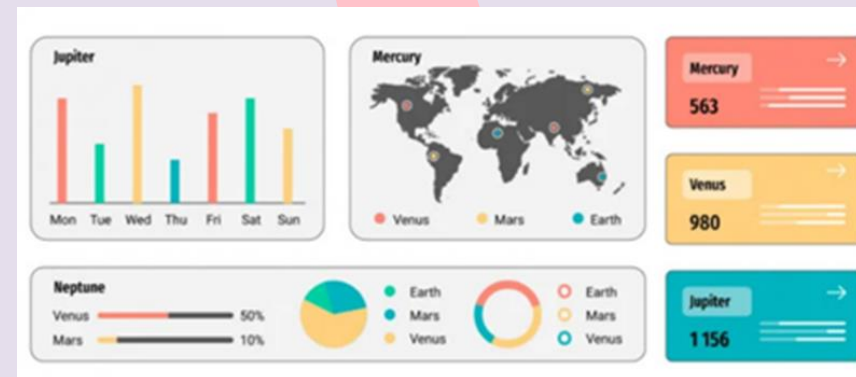
- ✓ A single graphic visualization
- ✓ Can be displayed within a view
- ✓ On a form
- ✓ Can be added to a dashboard

Dashboards

- ✓ Functions as a palate
- ✓ For one or more graphic visualizations
- ✓ Provide an overview of actionable business data

Embedded Power BI

- ✓ Add tiles and dashboards to your app
- ✓ A cloud-based service
- ✓ Provides business intelligence insight.

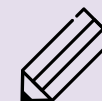
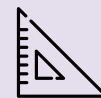


USE CASES OF MODEL-DRIVEN APPLICATIONS

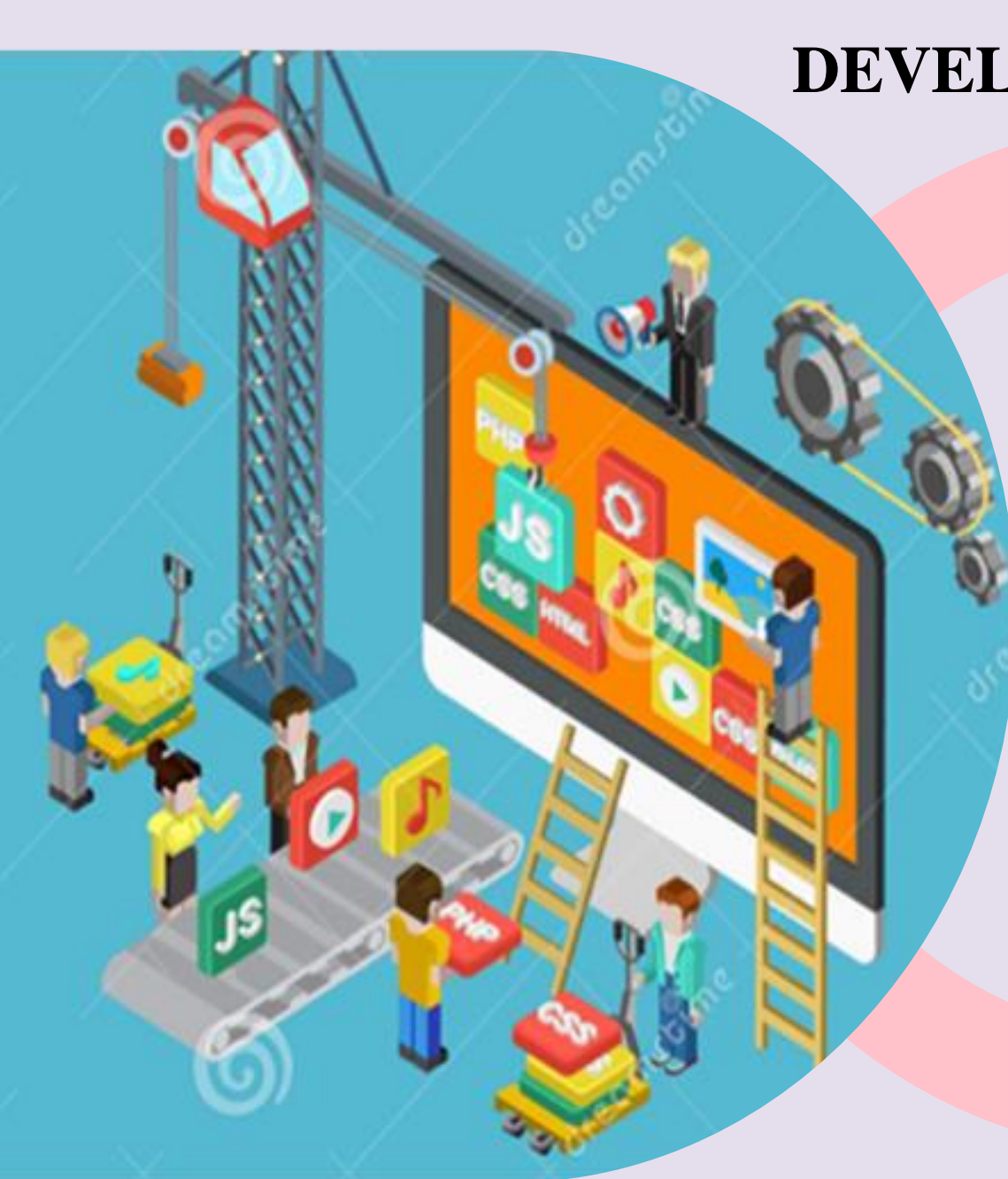


Some of the live examples of the model-driven app are the following:

- Asset Checkout
- Innovation Challenge
- Fundraiser
- Customer Relationship Management
- Human Resource management system
- Inventory management system
- Marketing System
- Employee onboarding system
- Sales management system
- Ticketing system



DEVELOPMENT IN MODEL-DRIVEN APPS



- ✓ Fully supported
- ✓ Fully upgradeable
- ✓ Settings in the web application
- ✓ Reporting Service
- ✓ Behavior depends on customizations applied to the associated Microsoft Dataverse.



Customizations applied using code

- ✓ Technical articles
- ✓ Sample code published on this site
- ✓ Information released by the Dataverse Developer Support Team
- ✓ Included in customizations applied using code.
- ✓ Specific actions and levels of supportability
- ✓ Upgradeability

CLIENT-SIDE JAVASCRIPT

You can use JavaScript within model-driven apps in three areas:

- ✓ **Form Script event handlers:** You can configure form event handlers to call functions defined in JavaScript web resources.
- ✓ **Command bar (ribbon) commands:** You can use the <Custom Rule> or <JavaScript Function> elements to define actions that call functions defined within JavaScript web resources.
- ✓ **Web resources and IFRAMES:** You can use JavaScript web resources within HTML web resources. IFRAMES configured to allow cross-site scripting, or scripts within HTML web resources included in a form may interact with the documented Xrm.Page or Xrm.Utility methods within the form via the parent reference.



UNSUPPORTED CUSTOMIZATIONS

- ✓ Could cause problems when you update through the addition of hotfixes or service packs
- ✓ The following is a list of unsupported action types that are frequently asked about:
 1. Reuse of any model-driven apps JavaScript code.
 2. Code may change or be overwritten during an upgrade
 3. Editing a solutions file to edit any solution components other than ribbons, forms, Sitemap, or saved queries.
 4. Defining new solution components by editing the solutions file.
 5. Editing web resource files exported with a solution.
 6. Some of the Maintain managed solutions, editing the contents of a managed solution.
 7. Displaying a form within an IFrame embedded in another form.



POWER FX FORMULAS



- ✓ No knowledge required from outside the domain of Power Apps.
- ✓ Can immediately adapt it for your own scenarios
- ✓ Get helpful IntelliSense error messages from Power Apps Maker Studio
- ✓ Taking the step to writing your Power FX formulas instead of just clicking around the GUI helps in unleashing your creativity in the app design
- ✓ Significantly expanding the realm of what's possible.
- ✓ Big potential in improving the efficiency of the app building process
- ✓ Can copy-paste text-based formulas instead of having to repeat a series of clicks in the MS admin portals
- ✓ Have been promoted as the way to create pixel-perfect experiences
- ✓ Tailored to the end users' specific requirements and needs
- ✓ Completely different starting point for low-code app creation
- ✓ On a high level, everything will look & behave pretty much the same way every time

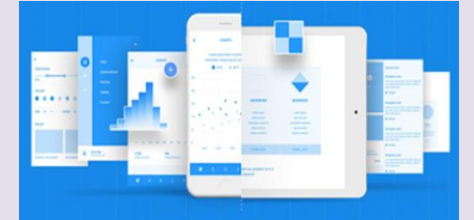
MODEL-DRIVEN APP DESIGNER INTERFACE



The app designer interface has the following areas:

Command bar – Displays the available actions:

- **Back.** Closes the model-driven app designer and returns you to the Power Apps website (make.powerapps.com).
- **New page.** Creates a new page for one or more table forms and views or table dashboards for the app.



- **Settings.** Opens the app properties such as name and description.
- **Switch to classic.** Opens the app in the classic app designer.
- **Save.** Saves the app.
- **Publish.** Makes the changes made available to other users.
- **Play.** Opens the app in a new tab in run mode.



MODEL-DRIVEN APP DESIGNER INTERFACE

1. **Pane** - The left navigation pane consists of the following areas:

- **Pages.** Displays the components in your app. From the page area, you can choose to add or remove forms, views, and dashboards for each table.
- **Navigation.** Displays a navigation structure of your app that is formed using areas, groups, and subareas. You can add or remove groups and subareas to the navigation.
- **Data.** Provides a view of all available tables that are currently used within your app and a view of all tables that are available in your environment.



2. **Zoom slider** - Zooms in or out of the app preview helping you take a closer look.

3. **App preview** – Displays a real-time preview of the form as it will appear to users when published.

4. **Property pane** – Displays properties of the selected component and allows you to make changes.

5. **Preview size switcher** - Changes the size of the form preview helping you to see how the form will appear on various screen sizes.

6. **Fit to screen** - Quick action to fit the app preview to the available screen size.



NAVIGATION PANE OPTIONS

From the **Navigation** pane, select the **Navigation bar** to set the following options.

Show Home

- ✓ Enabled by default, when selected, displays the home page link for the app.

Show Recent

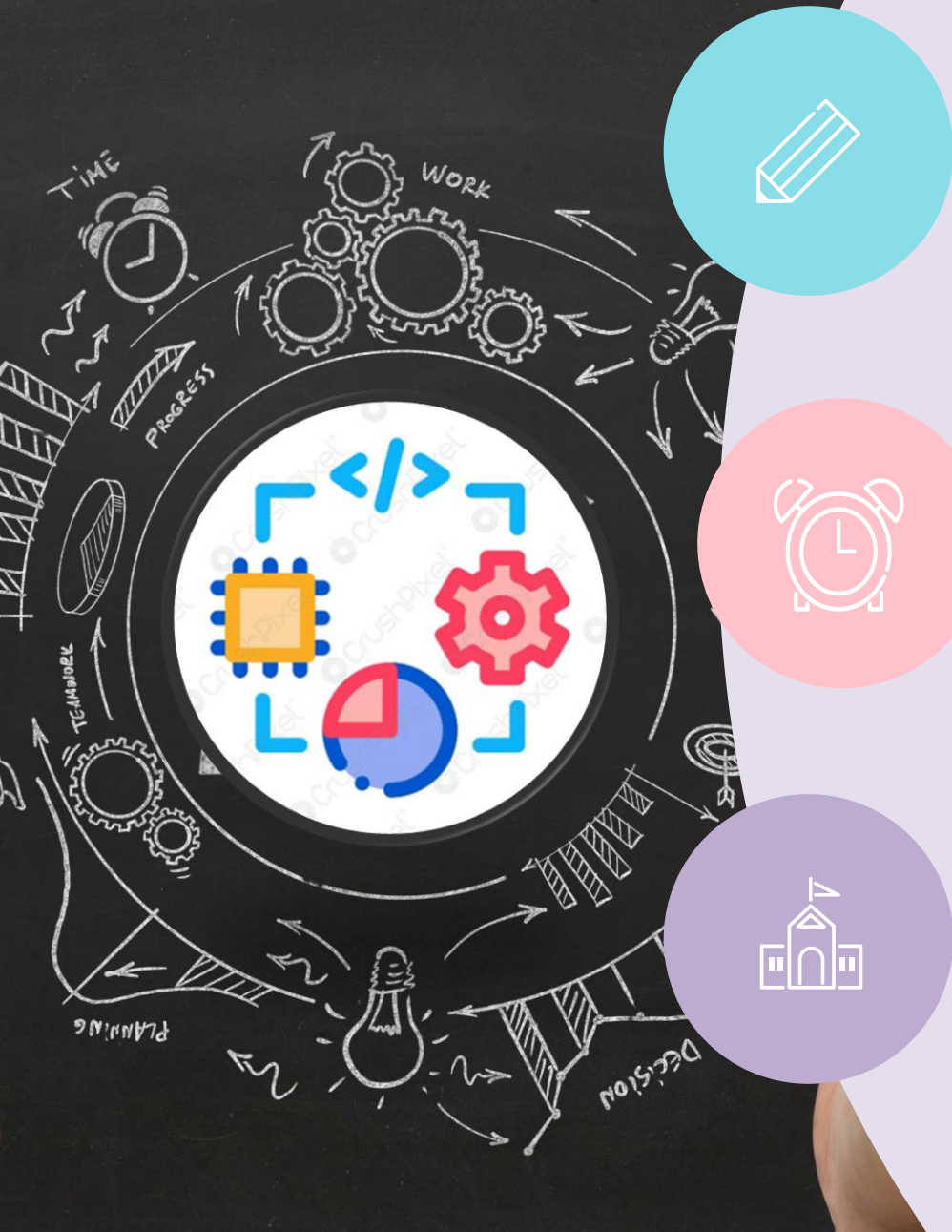
- ✓ Enabled by default, when selected, displays the link to the recently viewed page.
- ✓ Selecting the link displays all recently viewed pages.

Show Pinned

- ✓ Enabled by default, when selected, displays the pages that have been pinned.
- ✓ App users select the push-pin icon next to a record listed under **Recent** to add it to their pinned rows.

Enable collapsible groups

- ✓ Disabled by default, when selected, subareas displayed under groups in the site map
- ✓ Can be expanded or collapsed.



MODEL-DRIVEN APP VIEWS

Used to define how a list of rows for a specific table are displayed in the application.

A view defines:

- The columns to display.
- The order of the columns.
- How wide each column should be.
- How the list of rows should be sorted by default.
- The default filters are applied to restrict the rows that will appear. Once a view has been made available in the app, the user can select it.

Types of views

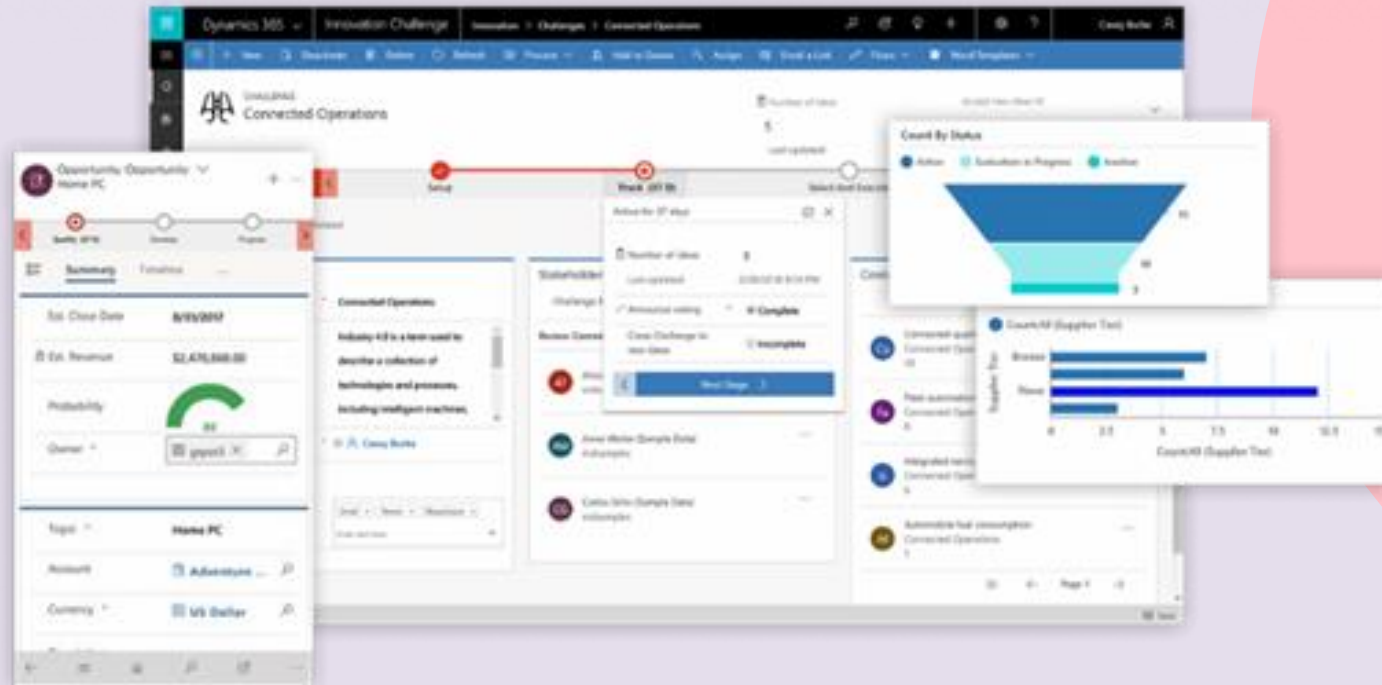
There are three types of views: *personal*, **system*, and *public*.



Views within model-driven apps

A drop-down list of views is frequently displayed in the application so these can be selected.

- ✓ Makes it easier for users to find the data that is important to a specific user.
- ✓ Rows that are visible in views displayed in a list.
- ✓ Frequently provide options for users to change the default sorting, column widths.
- ✓ Filters to find the data more easily that's important to users



Personal views

Personal views can be created by following these steps:

1. Select Create view from the command bar in your model-driven app.
2. Define the View filters.
3. Then select Save

Public Views

- ✓ Can delete any custom public views you create in an unmanaged solution.
- ✓ Can't delete any system-defined public views.
- ✓ Added by a managed solution should only be deleted by uninstalling or updating the managed solution
- ✓ Some exist by default for the system tables and for any custom table

System Views

- ✓ Quick Find
- ✓ Advanced Find
- ✓ Associated
- ✓ Lookup

MODEL-DRIVEN APPS FORMS

- ✓ Provide the user interface that people use to interact with
- ✓ Provide the data they need to do their work
- ✓ Important that the forms people use are designed to allow them to find or enter the information they need efficiently.
- ✓ Possible to create new forms or edit existing forms for all tables that allow form customization.

Forms inside unmanaged solutions

- ✓ Possible to edit the properties
- ✓ Including columns, views, and forms
- ✓ Unmanaged custom table that was created for the solution
- ✓ Are where app makers and developers go to author changes
- ✓ Require and typically exist in a development environment

Forms inside managed solutions

- ✓ Typically, in a production environment
- ✓ Not possible by default to create new forms or edit existing forms for tables
- ✓ If the managed properties for a table in the managed solution are set to allow customization, you can add or edit forms for that table



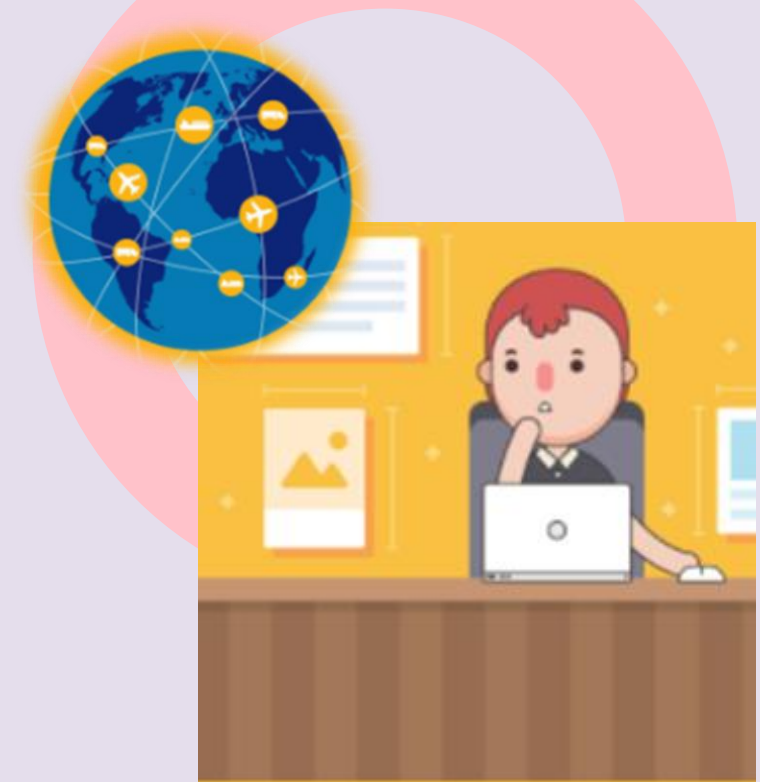
Create or edit a form

- ✓ The fundamentals of building a model-driven app include:
 - creating a table
 - configuring data views
 - creating and editing forms
- ✓ Before building an app, the followings are worth determining:
 - You have all the columns necessary to solve your business problem
 - Should have an understanding of how to lay these out in terms of sections and tabs
 - Complexity of your forms will reflect the number of columns in your table in addition to the complexity of your business process.

Form types

There are different types of forms, and each type has a specific functionality or use. These include:

- ✓ Main (the main user interface).
- ✓ Quick create (rapid data entry).
- ✓ Quick view (to see related data).
- ✓ Card form (a compact view).



Reasons for deleting a form

There are a couple of reasons you may not be able to delete a form which are the following:

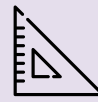
- ✓ Every table requires at least one main form, and it is the only the main form for the table.
- ✓ Every table requires one designated fallback form, and it is the only fallback form.

Setting the default form for an app:

- ✓ Form can be set as the default form through the form order
- ✓ Configuration **or** when a user sets the default form as a personalization setting



REPORTING FOR MODEL-DRIVEN APPS



- ✓ Model-driven apps provide a range of reporting
- ✓ Enable users to understand the data associated with their business area more easily
- ✓ Some types of reporting are straightforward to implement
- ✓ Others require more advanced techniques.

Reporting Techniques:

Table views:

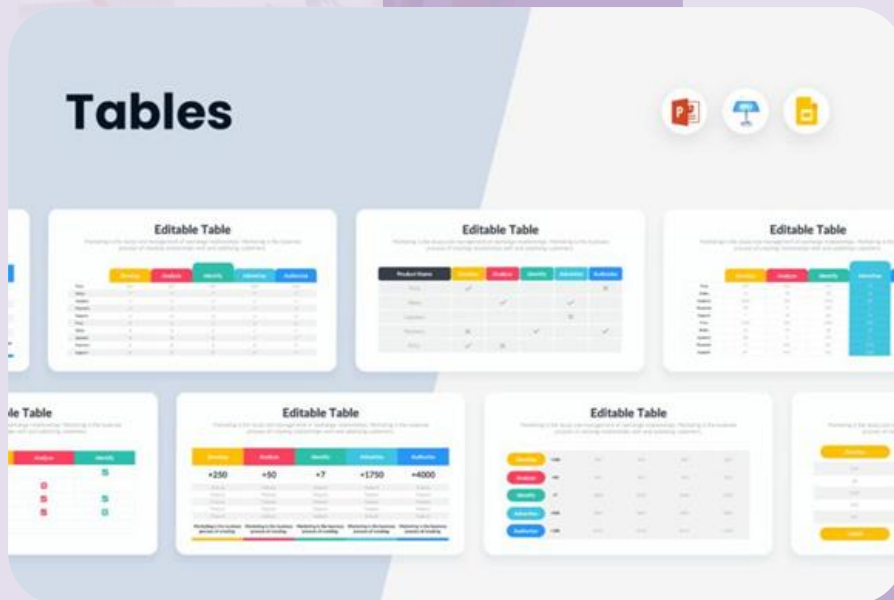
- ✓ Straightforward native experience, records are in a tabular format.
- ✓ Have individual sorting and filtering applied to them
- ✓ Offers a simple set of review options to the user and multiple views.

Charts:

- ✓ Data presented in a view in a range of ways
- ✓ Include bar, pie, and line charts, A table can have multiple charts
- ✓ Interactivity that enables a user to select a bar and view with a filter.

Forms:

- ✓ Can often be thought of as a method of entering data for a record.
- ✓ Provide the user columns of metadata associated with a record.
- ✓ Like views and charts, a table can have multiple forms.
- ✓ Permits forms to be developed that are most suited to the business needs of the individual.



Working with SQL Server Reporting style reports



- ✓ Allow pixel perfect paginated reports to be created
- ✓ Can be rendered on screen
- ✓ Distributed in a range of ways such as PDF, CSV, Excel.
- ✓ Created using the classic editor and are solution aware
- ✓ Helps with application lifecycle management.



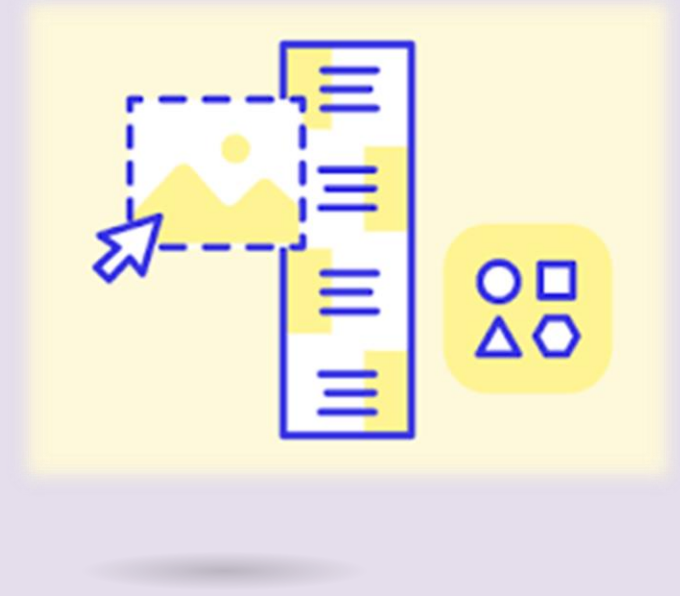
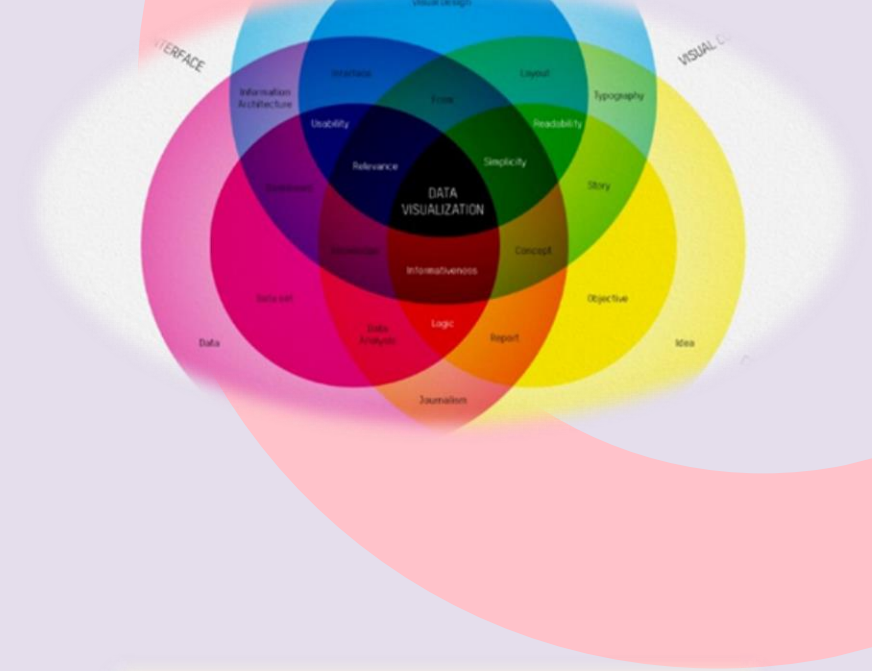
Power BI Reporting

- ✓ A powerful and interactive reporting tool.
- ✓ Can be introduced into model-driven apps in a range of ways.
- ✓ Are not solution aware.
- ✓ More tasks required to ensure that development, test
- ✓ Production scenarios are maintained.
- ✓ Unless direct query techniques are used, record-level security must be reconfigured into the Power BI reports.



CUSTOM LOOKS THROUGH THEMES

- ✓ Used to enhance the app user interface, not drastically alter it
- ✓ Applied globally throughout model-driven apps and aren't solution aware
- ✓ Followings can be enhanced:
 - Change navigation colors to create product branding.
 - Adjust accent colors, such as hover or selection colors.
 - Provide table-specific coloring.
 - Logo. (Use an existing or add a new image file as a web resource.)
 - Logo tooltip.
 - Navigation bar color.
 - Title text color.
 - Selected link color.
 - Hover link color.
 - Legacy accent color (primary background for process controls).
 - Default color for tables.
 - Default custom tables color.
 - Control fill color.
 - Control border color.
- ✓ Changes made for an organization's theme aren't included in solutions exported from the organization
- ✓ Data stored in the theme table that can be exported and reimported in another environment
- ✓ Imported theme must be published to take effect.



WEB RESOURCES

- ✓ Virtual files stored in the system
- ✓ Has a unique name that can be used in a URL to retrieve the file
- ✓ Can be used to upload files to the system
- ✓ Most common usage is to provide JavaScript libraries for form scripts
- ✓ Data in the system, only licensed users for your organization can access them this way
- ✓ Included informs rather than referenced directly
- ✓ Can move them to different organizations by exporting them as part of a solution
- ✓ Importing the solution into a different organization
- ✓ Must use solution explorer to work with web resources

Solution publisher prefix

- ✓ Part of the name of any web resource created
- ✓ Set based on the solution publisher for the solution you're working in
- ✓ Make sure that you are working on the unmanaged solution

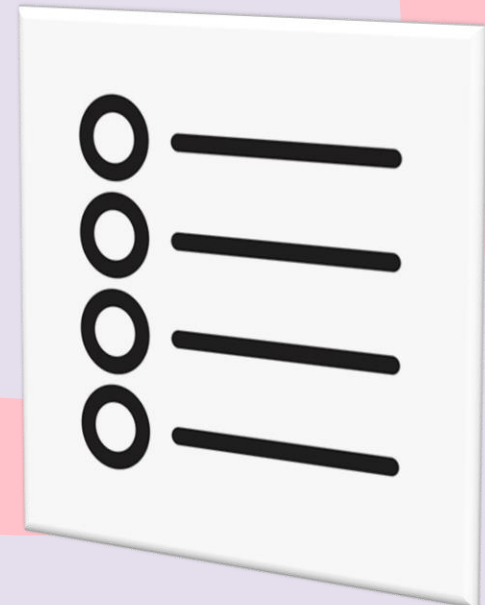


VIEW AND ADD WEB RESOURCES THROUGH A TEXT EDITOR

- ✓ Provided in the application for web resources
- ✓ Should only be used for simple edits of text files
- ✓ Can use it to create and edit HTML web resources,
- ✓ Should only edit HTML web resources
- ✓ Designed for very simple HTML content
- ✓ Uses a control that modifies the HTML source in a way that allows it to be edited
- ✓ Changes can make the page behave differently in the browse
- ✓ Cause more sophisticated code to stop working.

Web Resource Utility

- ✓ One at a time using the customization tools can take a long time
- ✓ You must create many files
- ✓ A WPF application project that you can compile and run
- ✓ Import many Webs Resource eligible files from a folder structure
- ✓ A consistent naming convention based on the folder structure.
- ✓ Solution must be built in Visual Studio before running
- ✓ Demonstrates several applications of the Dynamics 365 for Customer Engagement APIs



DISTRIBUTE A MODEL-DRIVEN APP USING A SOLUTION

- ✓ Distributed as solution components
- ✓ Can be made available for other environments
- ✓ Use by packaging the app into a solution
- ✓ Exported into a zip file.
- ✓ Can move solutions between environments

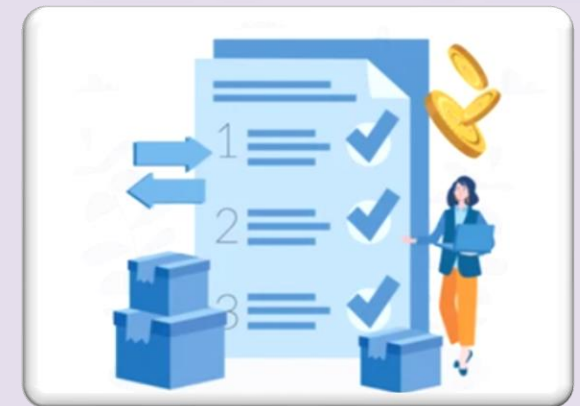
Export a solution

- ✓ To distribute an app
- ✓ Can be imported into another environment
- ✓ Made available on Microsoft AppSource
- ✓ Export the solution to a zip file.
- ✓ Zip file that contains the app
- ✓ Components can be imported into other environments.



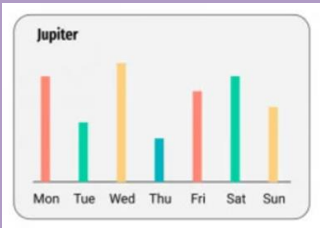
Import a solution

- ✓ Receiving a solution
- ✓ Zip file which contains the app that is to be imported
- ✓ Open the solutions component page and import the solution.
- ✓ When the solution has been successfully imported, the app will be available in the environment.



CUSTOMIZE VISUALIZATIONS AND DASHBOARDS

- ✓ Enable you to graphically view and analyze the data for your business
- ✓ Help you to derive quick insights to make important business decisions
- ✓ Can configure dashboards in such a way that enables you to view data from multiple areas
- ✓ The following elements constitute the visualization and analytics abilities:
 - Visualization
 - Dashboards



Visualizations

- ✓ Enable you to present your data in the form of charts.
- ✓ Enable you to view the aggregate or non-aggregate summary of grid data in model-driven apps

Dashboards

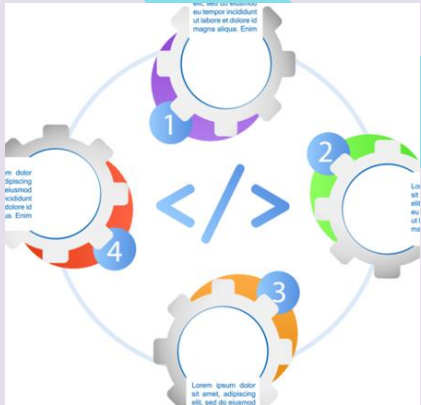
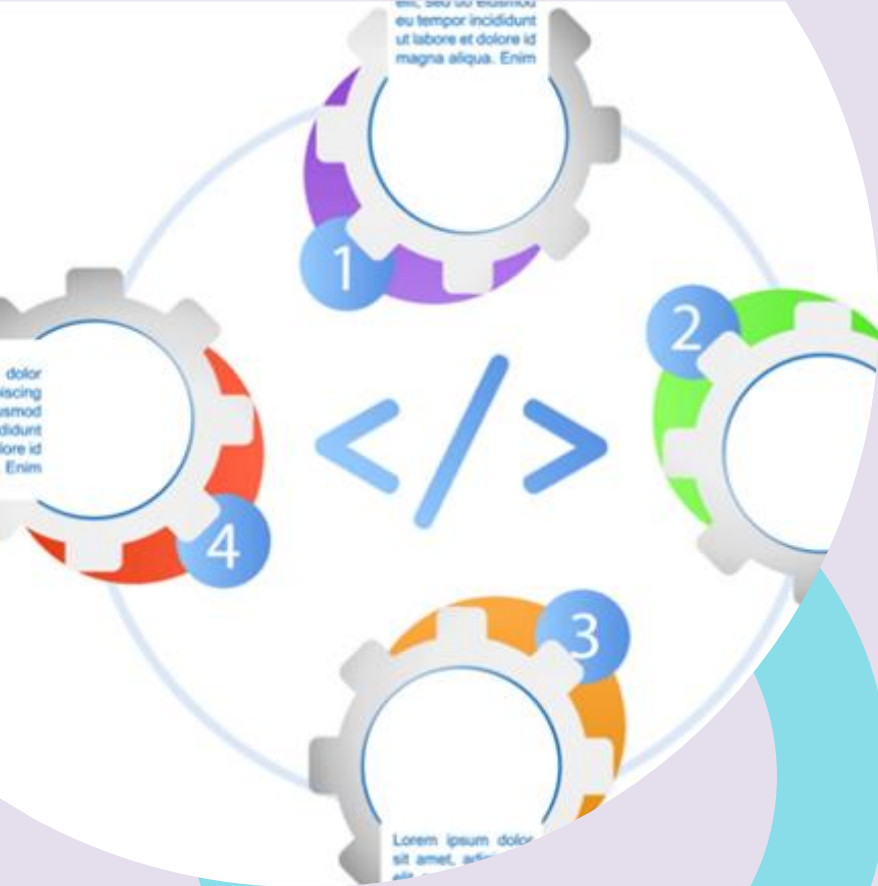
- ✓ Act as a business intelligence tool in model-driven apps by providing a snapshot of your data in various forms
- ✓ Can use a dashboard to simultaneously present data from up to six charts
- ✓ Grids, IFrames, or web resources

Business logic using client scripting

- ✓ To apply custom business process logic for displaying data on a form
- ✓ If your business requirement can't be achieved using a business rule, you will find that client-scripting using the client API
- ✓ Object model provides a powerful way to extend the behavior of the application
- ✓ Enable automation in the client.

Use client scripting in model-driven apps

- ✓ Display data to the user
- ✓ Can contain items such as columns, a quick form, or a grid.
- ✓ An event occurs in model-driven apps forms whenever:
 - A form loads.
 - Data is changed in a column or an item within the form.
 - Data is saved in a form.
- ✓ Provides you a rich set of client API
- ✓ Interact with form objects
- ✓ Events to control what
- ✓ When to display on a form.

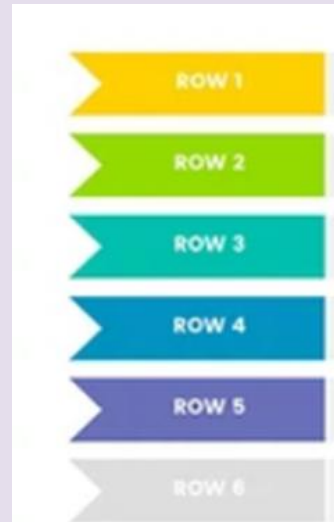


CUSTOMIZE COMMANDS AND THE RIBBON

- ✓ Displays commands in different ways depending on the table and the client.
- ✓ Provides better performance
- ✓ Still displayed in the web application for certain forms
- ✓ Still used for list views in Dynamics 365 for Outlook
- ✓ Use the same underlying XML data to define what commands to display

Ribbon definitions

- ✓ Contain default <RibbonDiffXml> definitions for all ribbons
- ✓ Can export and view the current XML defining the ribbon for your organization
- ✓ Customize the ribbon by defining how you want it to be changed
- ✓ Elements are applied over the default ribbon definitions provided by model-driven apps.



Field Properties ? ×

Modify this field's properties.

Display Formatting Details Events Business Rules Controls

Control	Web*	Phone	Tablet
Microsoft Dynamics 365 Label + Text Box...	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
Arc Knob	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[Add Control...](#)

*-where supported

Arc Knob

Property	Value
Value *	numberofemployees
Min *	<input type="text"/>
Max *	<input type="text"/>
Step *	<input type="text"/>

OK Cancel



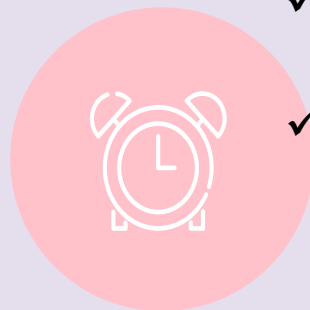
Table ribbons



- ✓ Tables use a common ribbon definition called the Table Ribbon Template
- ✓ Table ribbon template definition is in application ribbon .xml file
- ✓ Builds upon the table ribbon template definition
- ✓ Name of the table usually replaces the `{! EntityLogicalName}` token

TABLE SLIDE
WRITE YOUR SUBTITLE HERE

	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4
ROW 1	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby
ROW 2	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby
ROW 3	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby
ROW 4	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby
ROW 5	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby
ROW 6	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby
ROW 7	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby	Green marketing is a practice whereby



Grid ribbons

- ✓ A collection of tabs that have an ID value beginning with `Mscrm.HomepageGrid`.
- ✓ All the tabs displayed on the account table grid will have an ID begins with `Mscrm.HomepageGrid`. account
- ✓ A contextual group with a collection of tabs
- ✓ Here will be only three controls available

Form ribbons



- ✓ Can define changes to the form ribbon for all forms for that table by adding your definition at the table level.
- ✓ Can have a specific ribbon definition
- ✓ You must add your modified `<RibbonDiffXml>`
- ✓ A collection of tabs that have an ID value beginning with `Mscrm.Form`.

WEB RESOURCES IN MODEL-DRIVEN APPS

- ✓ Virtual files that are stored in the Microsoft Dataverse database
- ✓ Can be retrieved by using a unique URL address.

Capabilities of web resources

- ✓ Represent files that can be used to extend the Dataverse web application
- ✓ Can use web resources to form customizations
- ✓ Can be referenced by using URL syntax
- ✓ Can create a group of interdependent files on a development server by using file types compatible
- ✓ Use a consistent naming convention and relative path references
- ✓ Website will function after you upload all the files into Dataverse.
- ✓ Stored in Dataverse and are solution components
- ✓ Installed to other Dataverse orgs.
- ✓ Available to users of Dataverse for Microsoft Office Outlook with Offline Access when offline
- ✓ Are synchronized with the user's data.



Limitations of web resources

- ✓ No type of web resource that supports the capabilities of an ASP.NET(.aspx) page to execute code on the server.
- ✓ Limited to static files or files that are processed in the browser
- ✓ Can contain code that is processed in the browser to execute web service calls to interact with Dataverse data.
- ✓ Only available by using the Dataverse web application security context
- ✓ Only licensed Dataverse users who have the necessary privileges can access them

RELATIVE URL

- ✓ Recommended to use a consistent naming convention for the web resources that reflect a virtual file structure.
- ✓ Solution publisher's customization prefix will always be included as a prefix to the name of the web resource
- ✓ Can represent a virtual "root" folder for all web resources added by that publisher
- ✓ Can then use the forward slash character (/) to simulate a folder structure

Full URL

- ✓ Will process this URL and return the file that contains the latest version of the web resource.
- ✓ Version value is updated when you publish customizations
- ✓ Ensures that the browser uses the latest cached version of the web resource
- ✓ Use a relative path to a web resource
- ✓ The Xrm.Navigation.openWebResource function
- ✓ The version value will automatically be included
- ✓ Can be significant performance implications if you don't use the cached version of the file.

Webpage (HTML) web resources

- ✓ Used to create user interface elements for client extensions
- ✓ Streamed to the user's browser
- ✓ Include any content that is rendered on the user's browser.
- ✓ Intended for use with very simple HTML editing



Contact us

Model-Driven App Consulting Services of Cognitive Convergence offers strategic opportunities to clients, investors, and partners that are:

- ✓ Unique and industry defining
- ✓ Mutual interest centric business approach
- ✓ Significantly enhance the company's footprint
- ✓ Turn grow revenues by entering new and exciting
- ✓ Technology Domains, App development ideas, Solution Development, and Joint venture projects
- ✓ 1st mover advantage with
 - Talent: 100%
 - Timing: 100%
 - Technology: 100%
 - Technique: 100%

THANK YOU

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For questions or queries, contact us, we will be sure to get back to you as soon as possible