**Introduction to Power Apps**

Power Apps is a suite of apps, services, connectors, and a data platform provided by Microsoft that offers a rapid development environment to build custom apps for business needs.

* Low-Code Development
* Canvas Apps, Model-Driven Apps and Portals
* Data Connectivity: Power Apps can connect to various data sources.
* Common Data Service (CDS): Now known as Microsoft Dataverse
* Customization and Extensibility
* Business Process Flows
* Integration with Microsoft Power Platform

**Who and where to use Power Apps**

You cannot build apps with Microsoft Power Apps to be directly published on the Google Play Store. Power Apps is primarily designed for creating **business and enterprise applications for internal or organizational use**, and it operates within the Microsoft ecosystem. Here are some key points to consider:

1. Target Platform: Power Apps is tailored for building custom business applications that work primarily within an organization. These apps are typically used for internal business processes, workflow automation, and data management.

2. Distribution: Apps created with Power Apps are typically distributed within an organization through the Power Apps platform itself. They are not meant to be distributed through public app stores like the Google Play Store or Apple App Store.

3. Integration and Accessibility: Power Apps integrates seamlessly with other Microsoft services and tools, such as Office 365, Dynamics 365, and Azure services. This integration is a significant benefit for organizations heavily invested in the Microsoft ecosystem.

4. Development and Deployment: While Power Apps allows rapid development with its low-code approach, it doesn't provide a way to export apps as standalone APK files (Android application package) or IPA files (iOS application file) which are required for submitting apps to the Google Play Store or Apple App Store.

Note: Users of the app made in Power App need their own Office365 or PowerApp licenses

**Canvas App vs Model-Driven App vs Portal**

**Types of applications that you can build:**

**Canvas Apps**

* Design Flexibility: Canvas apps offer a highly customizable interface. You can design the app by dragging and dropping elements onto a "canvas." This allows for a high degree of control over the user interface and user experience.
* Data Sources: They can connect to a wide variety of data sources, including Microsoft's own services and third-party data sources.
* User Experience: Ideal for creating highly tailored apps that require a specific user experience, particularly when you need an app that looks and feels a certain way.
* Development: Suitable for both developers and non-technical users. They are built using a Power Apps design tool that doesn't require traditional programming skills.

**Model-Driven Apps**

* Data-Centric: These apps are built on top of your data model and business processes. The layout and interface are determined by the components you add and the data you use.
* Unified Interface: They automatically generate a user interface that's responsive across devices. The design is more standardized than Canvas apps.
* Complex Scenarios: Model-driven apps are well-suited for complex scenarios where you need to work with large amounts of data and complex business rules.
* Integration: Typically integrated closely with Microsoft's Dataverse (formerly known as the Common Data Service), making them ideal for scenarios where you are heavily using other Microsoft services and data.

**Power Apps Portals**

* External Users: Power Apps Portals are designed to create external-facing websites that allow users outside your organization to sign in with a wide variety of identities, create and view data in Dataverse, or even browse content anonymously.
* Web-Based: These are web portals, which means they are accessible through any web browser, offering a broader reach.
* Customization and Flexibility: While they offer a degree of customization, they are more focused on providing web-based experiences and are not as flexible as Canvas apps in terms of user interface design.
* Use Cases: Ideal for scenarios like external customer service portals, forums, or sites where external user interaction with your organization's data is required.

**Choosing the Right Approach**

* Canvas Apps are the go-to choice for highly customized, user-specific interfaces where the look and feel of the app are paramount.
* Model-Driven Apps are preferred when dealing with complex data and processes, especially when the application needs to be responsive and work seamlessly across various devices.
* Power Apps Portals are best suited for external-facing websites, particularly when you need to interact with users outside your organization or provide public access to certain data.

Note(s):

* To see the types, click (+Create) 🡪 blank app
* App type is also indicated if using templates

**Activity 1: Create an app from template**

1. Power apps🡪create🡪start from template
2. Choose “leave request” (canvas app)🡪set app name and choose platform (tablet/phone)
3. Click preview to see app and perform sample ui tests
4. Click create when ready to create the app, it will then open in App Studio
5. Click the notification to create your own version of the app
6. Settings🡪change app name, display orientation, etc
7. Preview the app by pressing f5 or by clicking the play icon
8. You can make some minor edits like button text font size, app theme, etc
9. Click the Share icon to share the app to others, you may add owners/co-owners and set permissions, copy the web link or the QR code to send to others
10. Try accessing the shared application
11. Click the Publish icon to start publishing the app.
12. Go to your Sharepoint site🡪 edit the page and add a new section where we will display our app
13. In the section🡪add a power app application

**Activity 2: Create an app from Excel data**

1. Prepare Excel Spreadsheet Data, convert the cell range into a table.
2. Powerapps🡪Click (+ Create) 🡪 Start from excel
3. Select or add new connection for the datasource you will be using. For Excel files, use OneDrive for Business then browse for your Excel file (you may also try using Google Sheets)
4. Select the workbook file then the table that you will be using.
5. Click preview to see app and perform sample ui tests
6. Click create when ready to create the app, it will then open in App Studio
7. Settings🡪change app name, display orientation, etc
8. Preview the app by pressing f5 or by clicking the play icon
9. You can make some minor edits like button text font size, app theme, etc
10. Click the Share icon to share the app to others, you may add owners/co-owners and set permissions, copy the web link or the QR code to send to others
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**Activity 3: Create an app from Microsoft SQL Server data**

1. Prepare MS SQL Database (Azure), create table and some records
2. Configure the access and security settings, then get the dsn name
3. Powerapps🡪Click (+ Create) 🡪 Start from SQL
4. Select or add new connection for the datasource you will be using. For Excel files, use OneDrive for Business then browse for your Excel file (you may also try using Google Sheets)
5. Select the workbook file then the table that you will be using.
6. Click preview to see app and perform sample ui tests
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14. Go to your Sharepoint site🡪 edit the page and add a new section where we will display our app
15. In the section🡪add a power app application

**Activity 4: Create an app from SharePoint List**

1. Prepare SP List
2. Powerapps🡪Click (+ Create) 🡪 Start from Sharepoint
3. Select or add new connection for the datasource you will be using. For Excel files, use OneDrive for Business then browse for your Excel file (you may also try using Google Sheets)
4. Select the workbook file then the table that you will be using.
5. Click preview to see app and perform sample ui tests
6. Click create when ready to create the app, it will then open in App Studio
7. Settings🡪change app name, display orientation, etc
8. Preview the app by pressing f5 or by clicking the play icon
9. You can make some minor edits like button text font size, app theme, etc
10. Click the Share icon to share the app to others, you may add owners/co-owners and set permissions, copy the web link or the QR code to send to others
11. Try accessing the shared application
12. Click the Publish icon to start publishing the app.
13. Go to your Sharepoint site🡪 edit the page and add a new section where we will display our app
14. In the section🡪add a power app application

**Activity 5: Create an app from Microsoft Dataverse**

1. Power apps 🡪 tables 🡪 create table (from excel or from blank table)
2. Choosing “from blank table” prompts you to create a new table and define the columns.

Example:

Table Name: SampleProductTable

Columns: ProdId, ProdName, Stocks, Price

1. Click preview to see app and perform sample ui tests
2. By default, the app might not display \*ALL the fields, to add fields:
3. On the left panel (Tree View), click the DetailForm
4. Then on the right panel, you can see the Fields property where you can manage which fields will appear
5. Click create when ready to create the app, it will then open in App Studio
6. Settings🡪change app name, display orientation, etc
7. Preview the app by pressing f5 or by clicking the play icon
8. You can make some minor edits like button text font size, app theme, etc
9. The default
10. Click the Share icon to share the app to others, you may add owners/co-owners and set permissions, copy the web link or the QR code to send to others
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