Modern SharePoint Customization

John E. Huschka, Collaboration Foundry
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Tonight's Menu

Salad	*Changing user interface architecture*
Soup	*Changing toolset architecture*
Tapas	*Technology and tools*
Dessert/Coffee	*Recommendations, questions and discussion*

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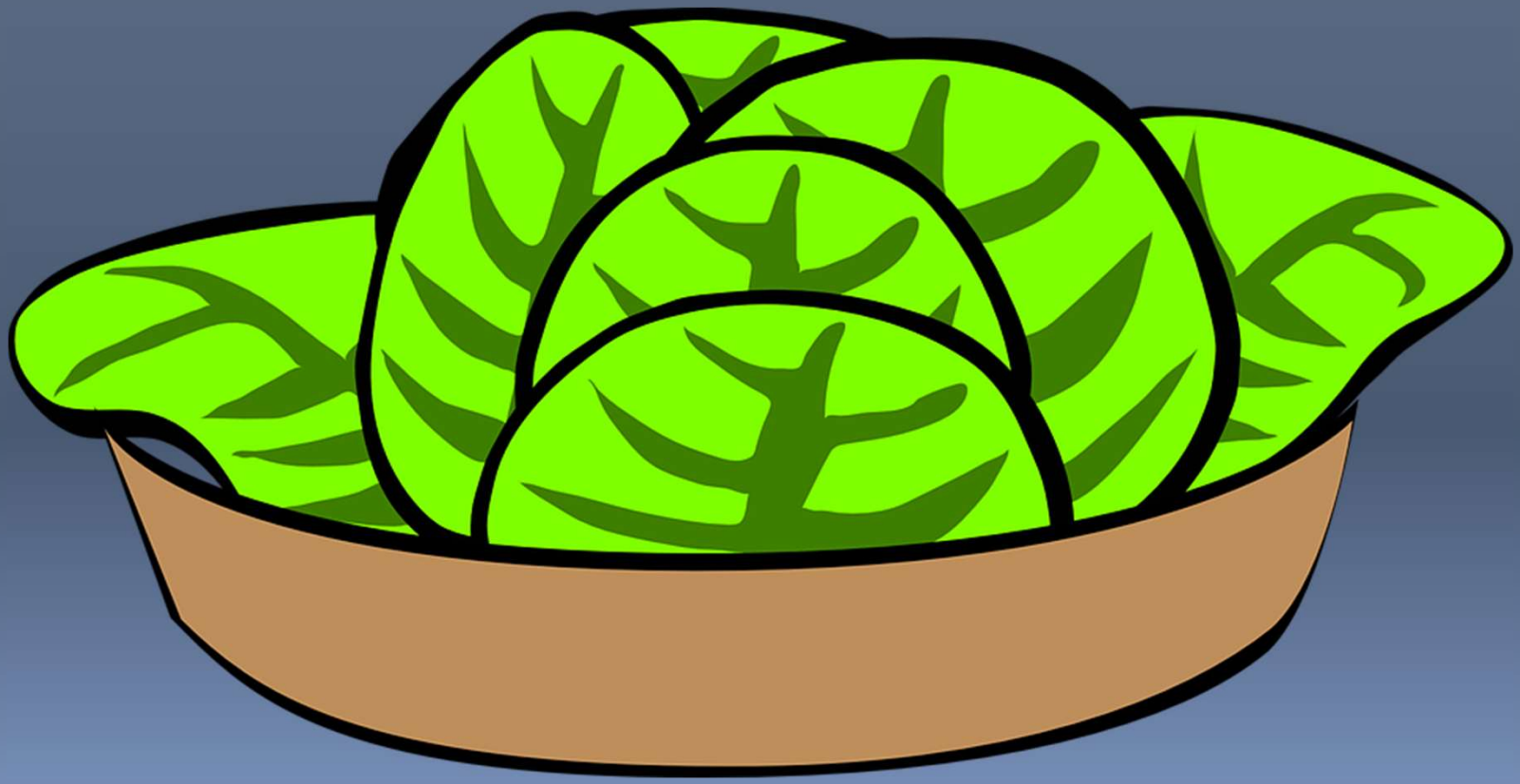

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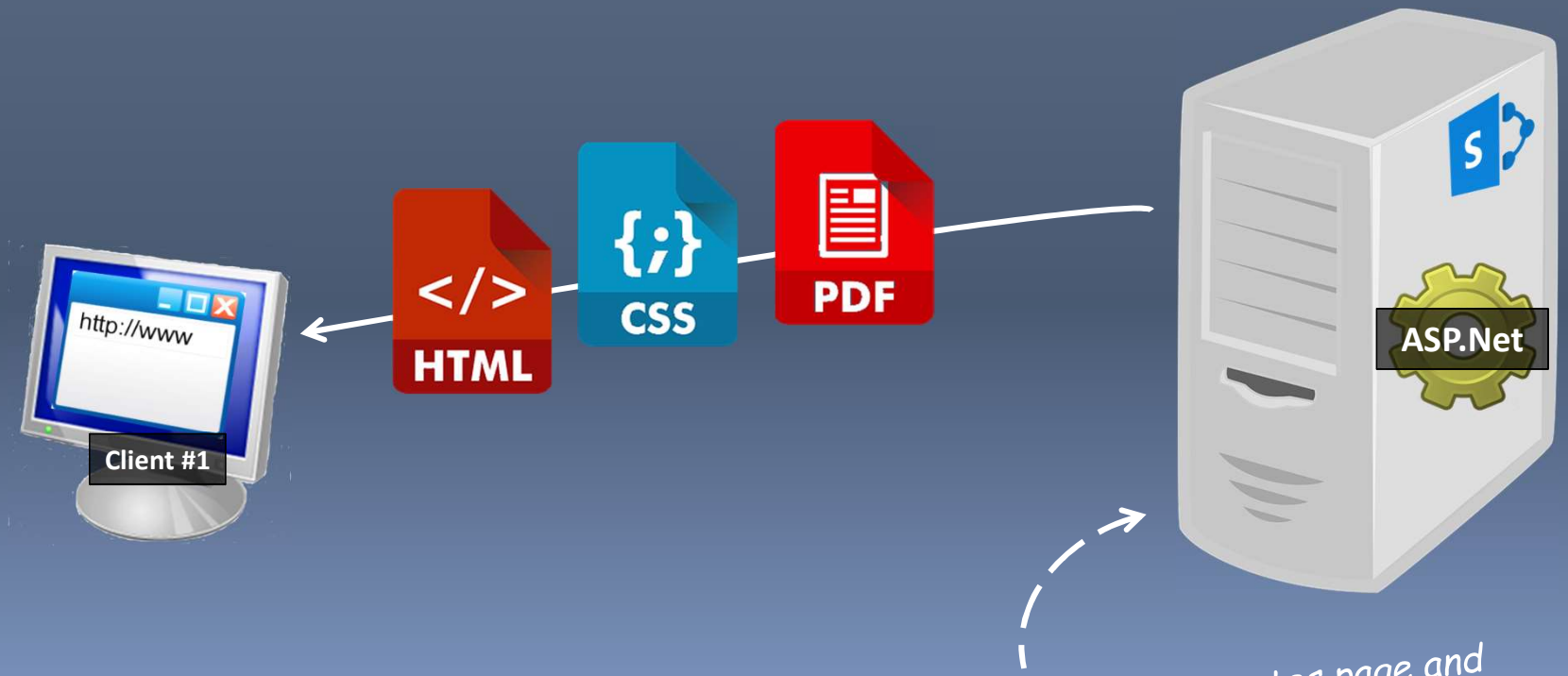
UI in the SharePoint World



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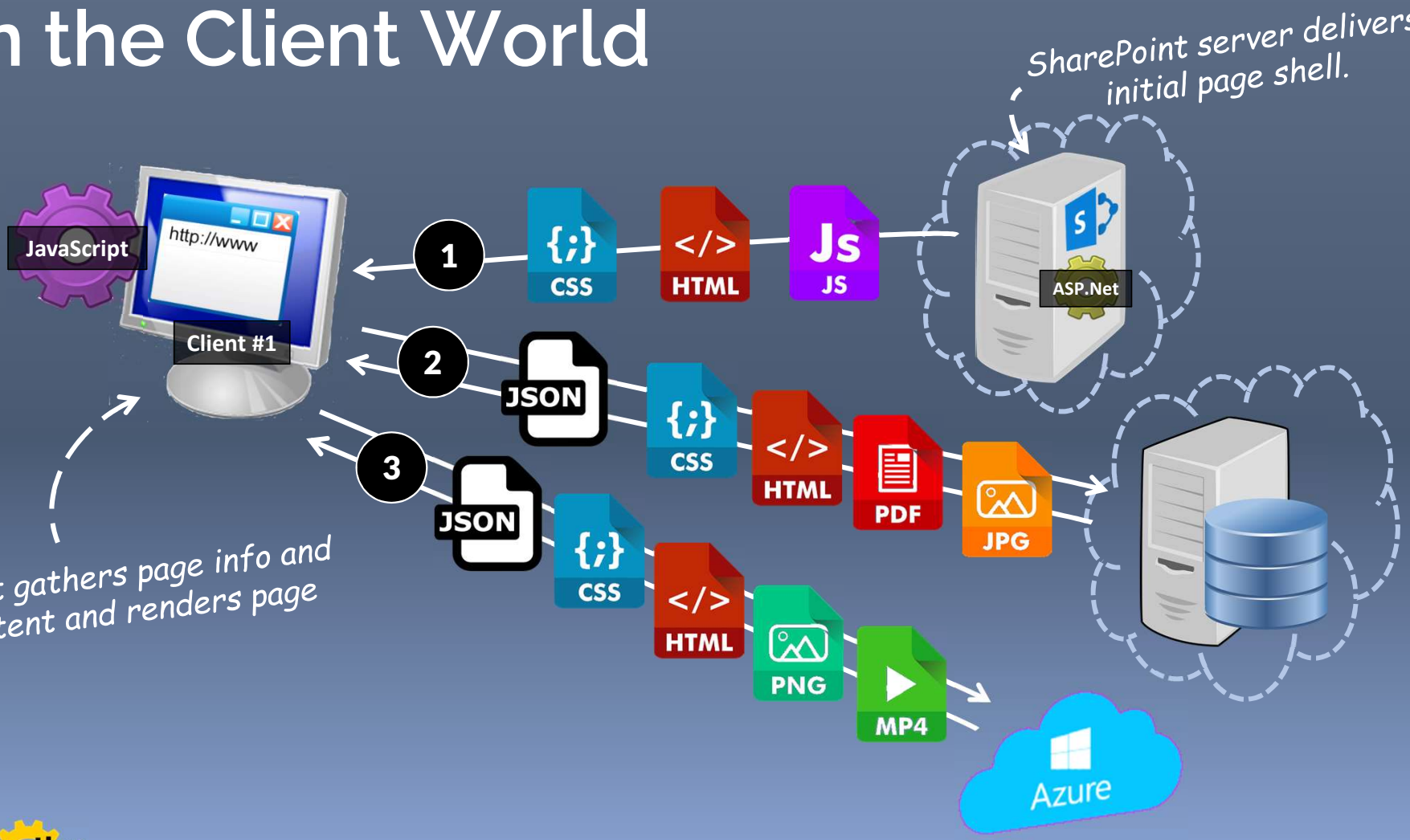
UI in the Client World



Why Client-Side?

- Networking everywhere.
- Universal JavaScript.
- Client platform diversity: Phone, tablets…
  - Client software knows how to render/run on the client.
- Sharing of cloud server resources:
  - No individual can customize cloud-based servers.

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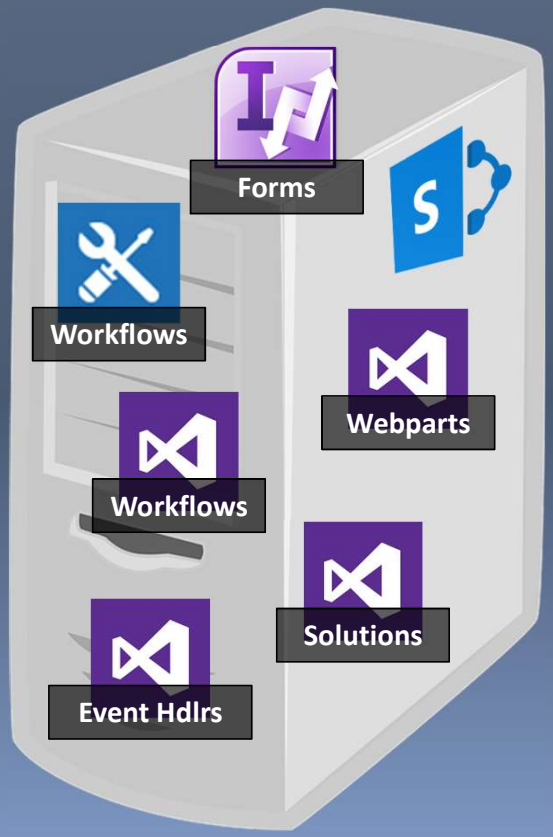
Tools in the SharePoint World



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Tools in the Client World

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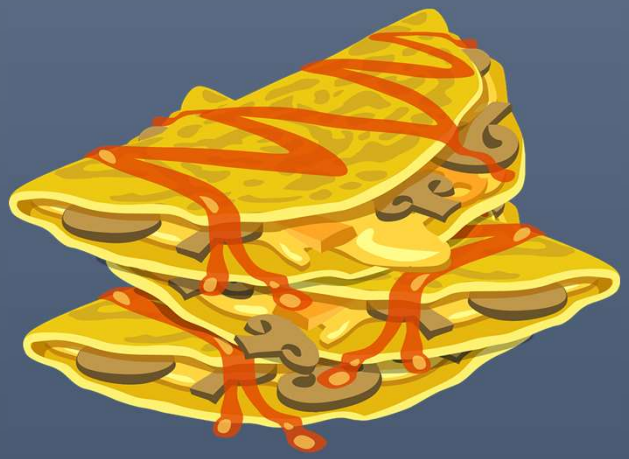

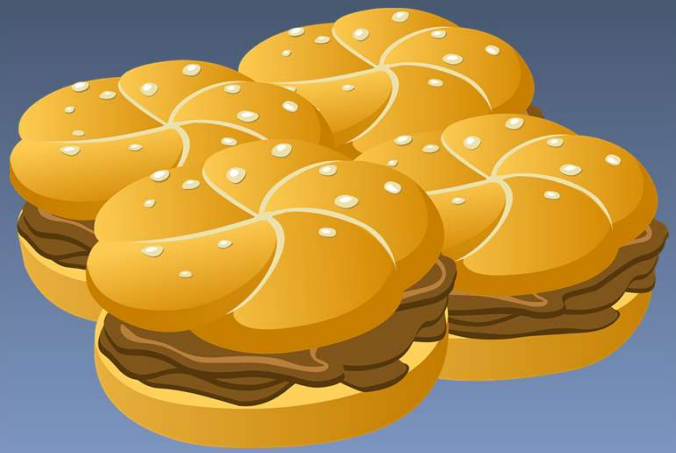

SharePoint Framework

- A framework by which client-side components can be integrated into SharePoint pages (modern and classic).
- Initial release supports web parts for both modern and classic pages.
- Coming to SharePoint 2016 in late 2017 (Feature Pack 2).
- “Extensions” (in preview) provides client-side integration with the SharePoint UI

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A New Toolset…

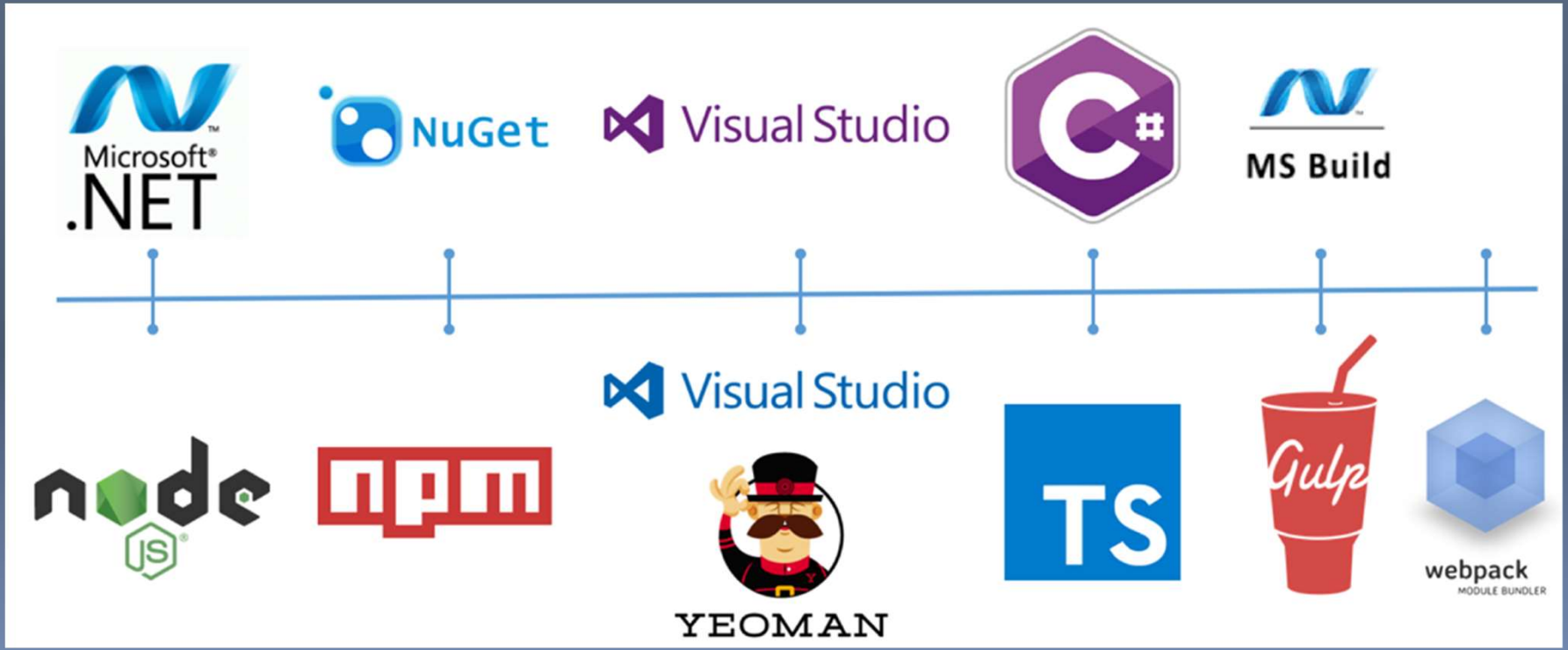

Diagram from Andrew Connell. See https://www.linkedin.com/pulse/free-10-day-email-course-me-understanding-framework-andrew-Connell.

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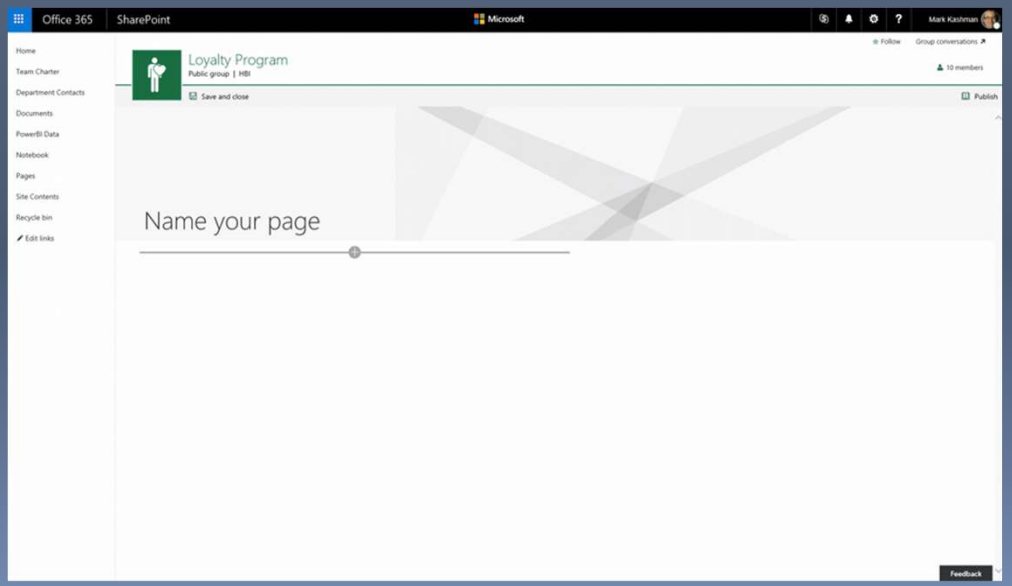
SharePoint Modern Experience

- A major upgrade to the SharePoint UI supporting cloud-first, mobile-first:
  - Sites
  - Libraries
  - Pages
- “Classic” experience is not deprecated.
- Currently, limited branding and customization options.
- Planned for SharePoint 2016.



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Microsoft Patterns & Practices

- Microsoft-sponsored, open-source.
- Large, active, evolving collection of tools (wrapping the CSOM) and techniques.
- Multi-platform support:
  - .NET (C#, VB.NET)
  - PowerShell
  - JavaScript (TypeScript)
- Useful for many contexts, but especially provisioning.
- Highly recommended.

SharePoint
Patterns & Practices

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Provisioning: Old versus New

- "Save site as template"
- Challenges:
  - Compressed file format
  - Deployment = site
  - Not Microsoft recommended
- Deployment: Feature framework

- PowerShell: *Get-PnPProvisioningTemplate*
- Advantages:
  - Uncompressed XML file format
  - Deployment = component(s)
  - CSOM based
  - Microsoft recommended
- Deployment: *Apply-PnPProvisioningTemplate*

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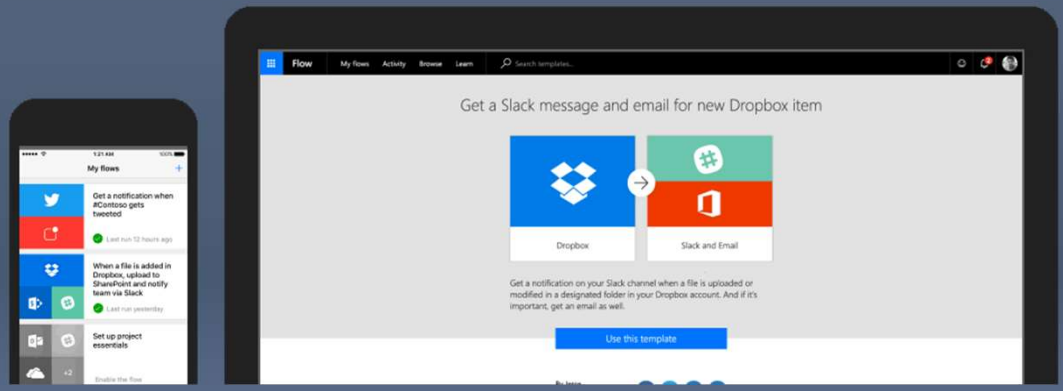
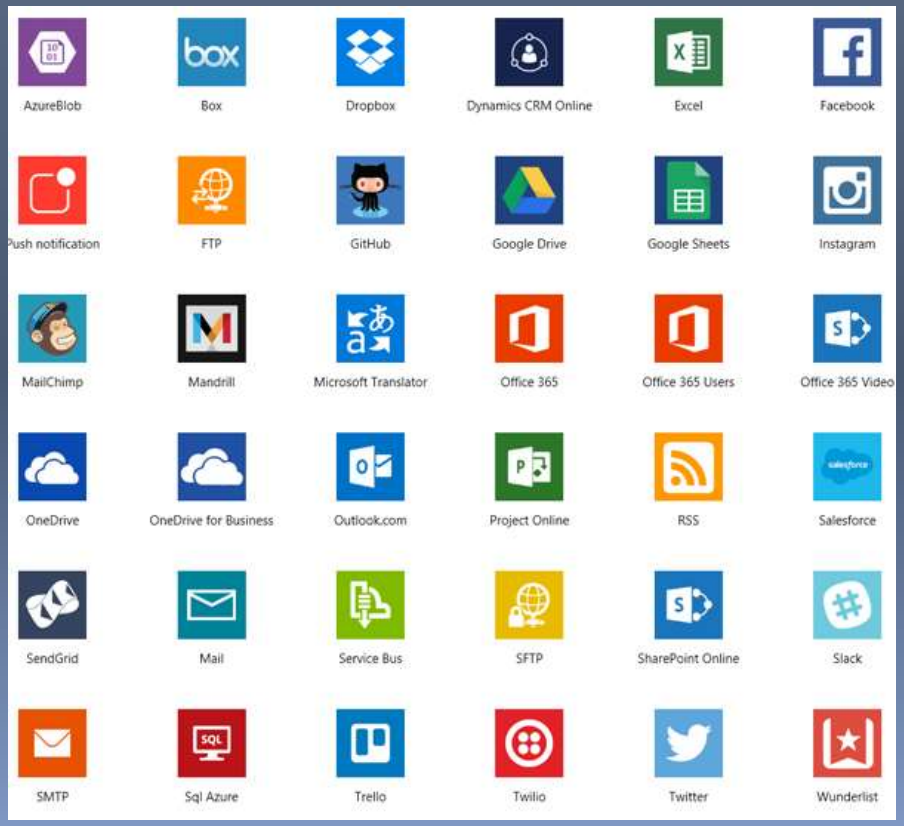
Microsoft Flow

- Cloud-based low-code workflow
- Available as part of O365 or separate subscription
- Not a true triggered architecture
- Custom Azure function integration
- Currently, more of an individual solution:
  - Not all SharePoint columns types supported
  - No source code, deployment story
  - Runs as individual who deployed
- Not unique to SharePoint…



Connectors, Connectors



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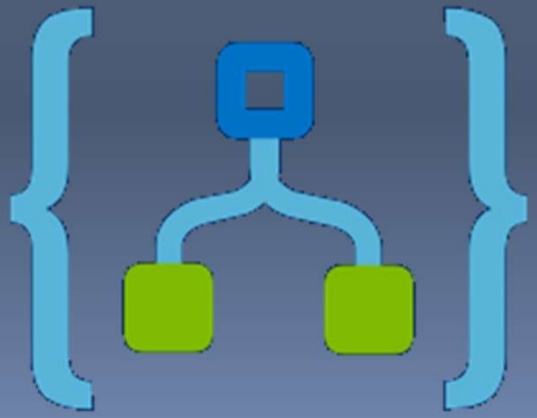
Azure Logic Apps

- Azure cloud-based, code-optional workflow
- Same application as Microsoft Flow, but…
- Closer to an enterprise solution:
  - Solution source code is available
  - Creatable in Visual Studio
  - Can integrate with custom functions
  - Good logging/debugging



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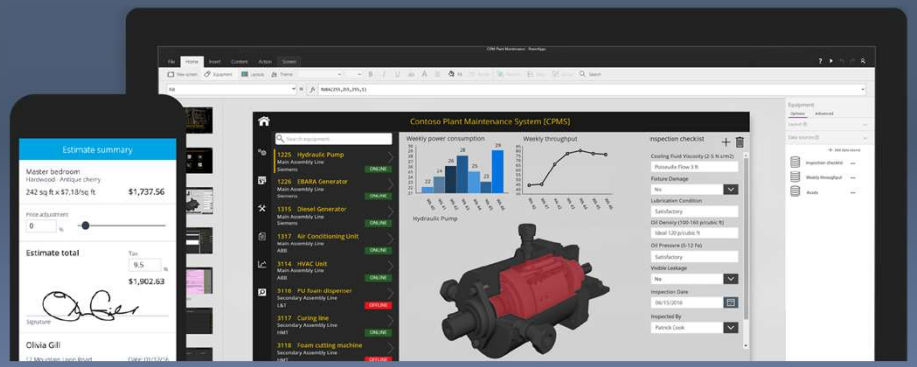
Microsoft PowerApps

- Cloud-based application development
- Available as part of O365 and Dynamics 365 or separate subscription
- Common Data Service available
- Flow integration
- Custom Azure function integration



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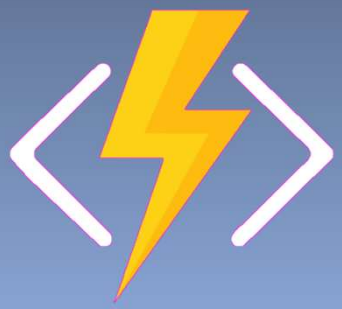
Azure Functions & Webjobs

- Azure cloud-based code-first custom processes.
- Can be triggered from SharePoint via webhook
- Can be scheduled
- Can be integrated into other tools
- Wide variety of languages.



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Recommendations

- Try the tools, technology. Get acquainted with them.
- Prepare your organization for cloud-based integration.
- Take advantage of integration opportunities.
  It's not "all or nothing" for "classic" or "modern" architecture.
- Don't forget your simple, core toolset.

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Questions, Comments, Discussion

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