

The virtual side of IoT 4/4 Apps

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Learning Goals

- What are Apps in the context of IoT?
- What are the typical components of an app?
- How do Web Apps and Progressive Web Apps differ from so-called native apps?

Apps

- Apps are small applications that can be installed on connected devices via network connectivity
- The term was introduced with Apple's App Store for the iPhone
- Apps can be installed and removed, and they are not crucial for the operation of the host device

Components of an App

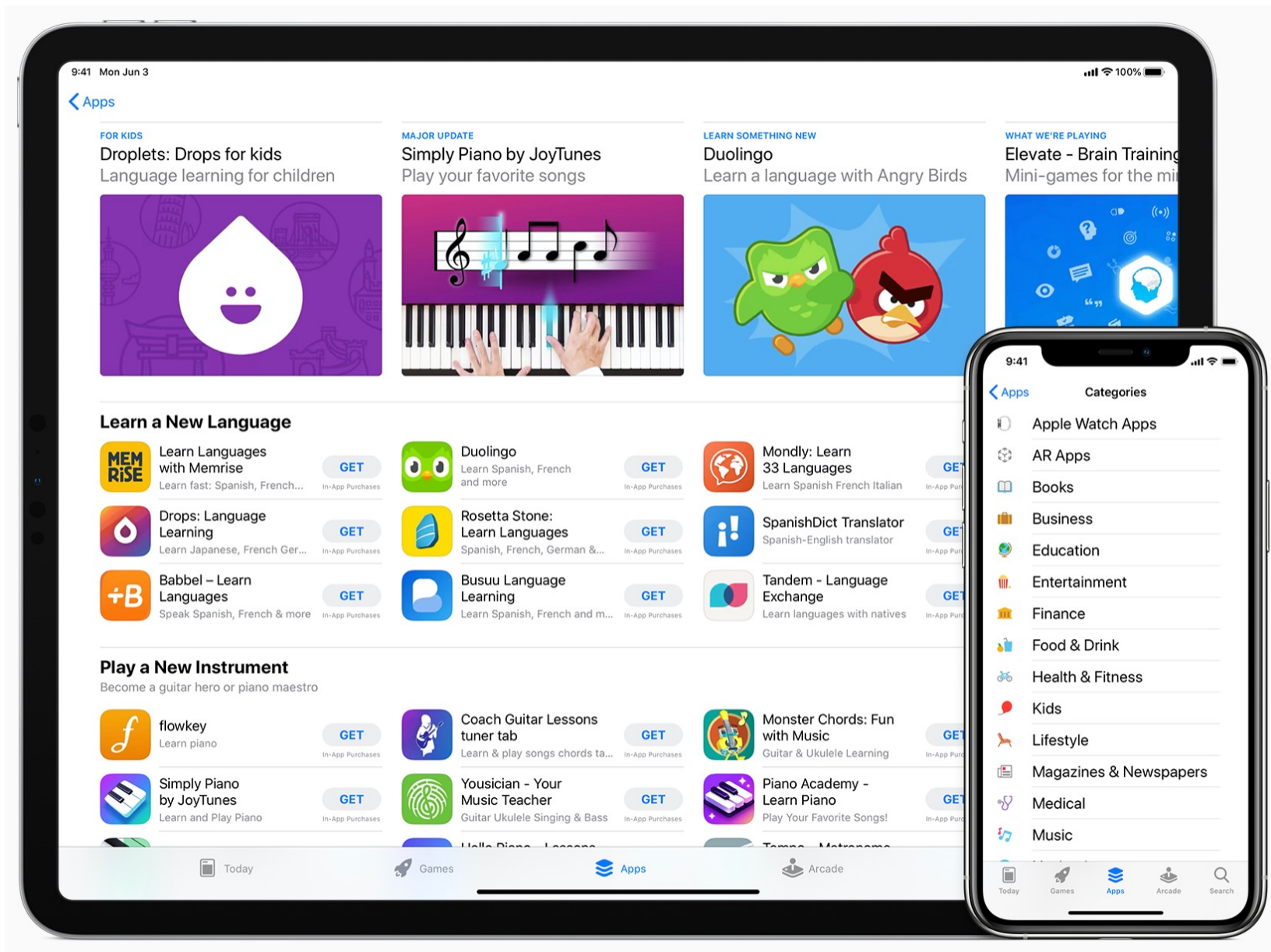
- User Interface (typically graphical)
 - Logic / computation
 - Data storage
 - Communications
- Enabling you to use it
 - What it does and how
 - Long term memory of the app
 - Cloud/local connectivity

WebApp vs Native App

- Native App
 - Coded in system-specific language (Swift/iOS, Kotlin/Android) in O/S specific IDE
 - Fast performance on the hardware
- WebApp
 - JavaScript (ECMAScript/TypeScript)
 - Works on any O/S, and also on desktop browsers
 - Speeds are approaching that of native apps (WA=web assembly)

WebApp vs Native App

- Native App
 - Available on App stores
- WebApp
 - Available on App stores (if wrapped properly as PWA)
 - Available also as web links



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WebApp vs. Progressive Web App

| Responsive Website vs Native App vs Progressive Web App | | | |
|---|--------------------|------------|---------------------|
| Capabilities | Responsive Website | Native App | Progressive Web App |
|  Mobile-Friendly | ✓ | ✓ | ✓ |
|  Installable | ✗ | ✓ | ✓ |
|  SEO-Indexed | ✓ | ✗ | ✓ |
|  Offline Mode | ✗ | ✓ | ✓ |
|  Push Notification | ✗ | ✓ | ✓ |
|  GPS Enabled | ✗ | ✓ | ✓ |

 coredna.com/blogs/progressive-web-app