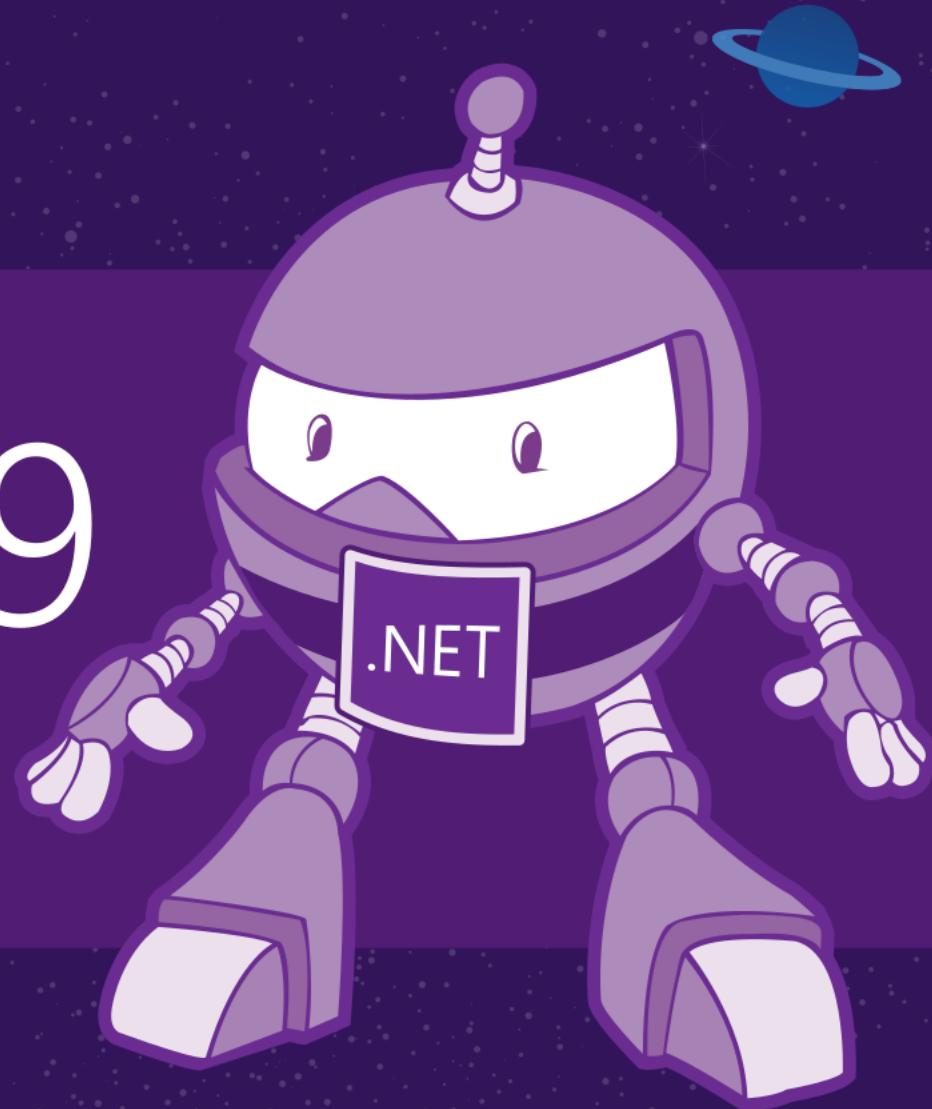


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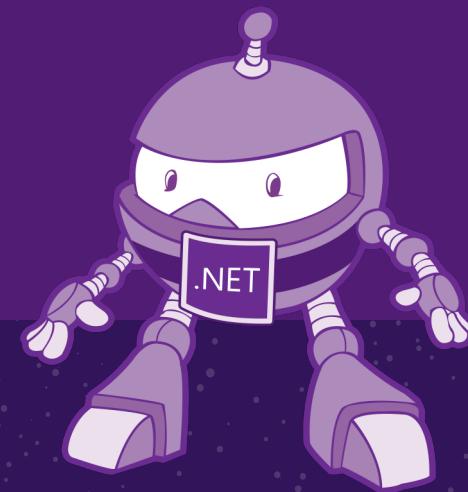
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Mixed Reality with Xamarin and Azure Spatial Anchors

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Software Engineer, Microsoft
@SweekritiS



What is Xamarin?



.NET

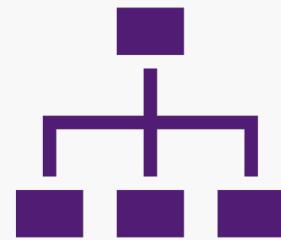
Xamarin



iOS & Android with C#

Native performance, native APIs,
native UI

Build native mobile apps with Visual
Studio



Cross-Platform

Build cross-platform UI with
Xamarin.Forms

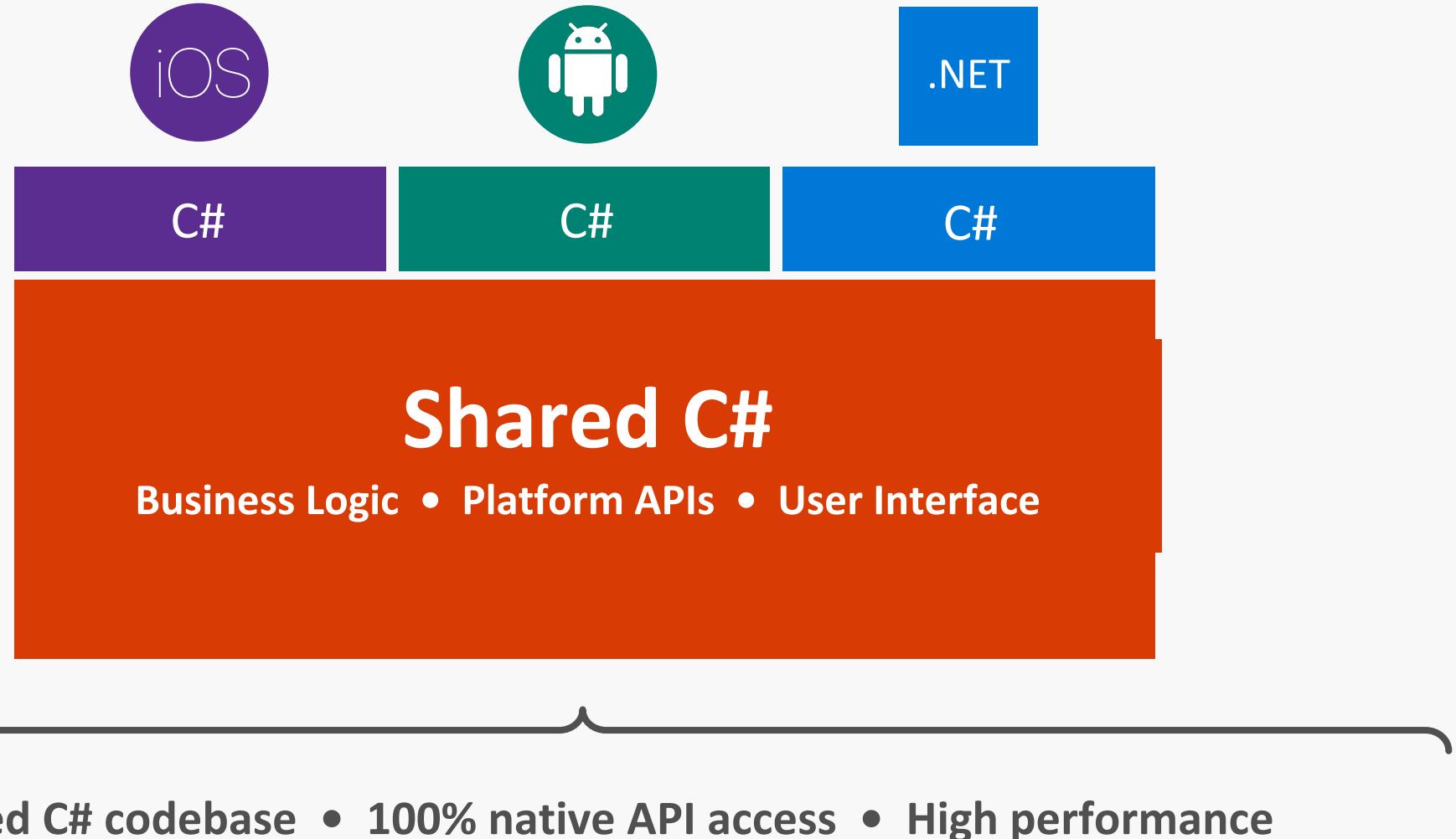
Access native APIs from shared
code with Xamarin.Essentials
Share code with .NET Standard



Free & Open Source

Xamarin is part of .NET and open
source on GitHub

Xamarin App Architecture



Xamarin.iOS

MapKit	UIKit	SiriKit	ARKit	CoreML
System.Net	System	System.IO	System.Linq	System.Xml
System.Data	System.Windows	System.Numerics	System.Core	System.ServiceModel



C#

Xamarin.Android

Fingerprint	Bluetooth	Picture-in-Picture	Geolocation	NFC
System.Net	System	System.IO	System.Linq	System.Xml
System.Data	System.Windows	System.Numerics	System.Core	System.ServiceModel



C#

What is Augmented Reality?

.NET



- Feature being leveraged is Camera + Augmented Reality
- Objects are virtually drawn on screens on real world coordinates + spacial location
- Native :
 - ARKit/SceneKit – iOS
 - ARCore/SceneForm – Android



What is Azure Spatial Anchors?

.NET



- What is Azure Spatial Anchors?
 - Create mixed reality apps that map, designate, and recall precise points of interest that are accessible across HoloLens, iOS, and Android devices.
- Azure Spatial Anchors Supports :
 - iOS
 - Android
 - Unity Apps
 - Hololens
 - And ... Xamarin!
- CosmosDB / Azure App Service drives Backend Storage
- Extend to include ADAL Support

Xamagon Hunt! .NET

Code : <https://github.com/Sweekriti91/TreasureHunt>





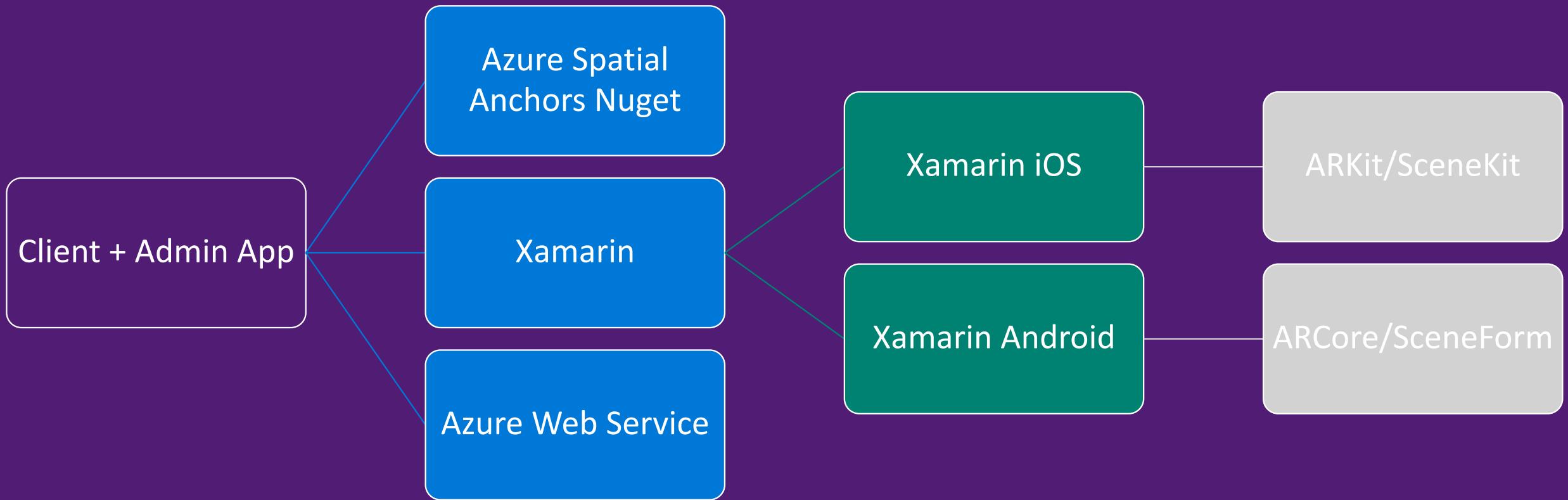
Client
App

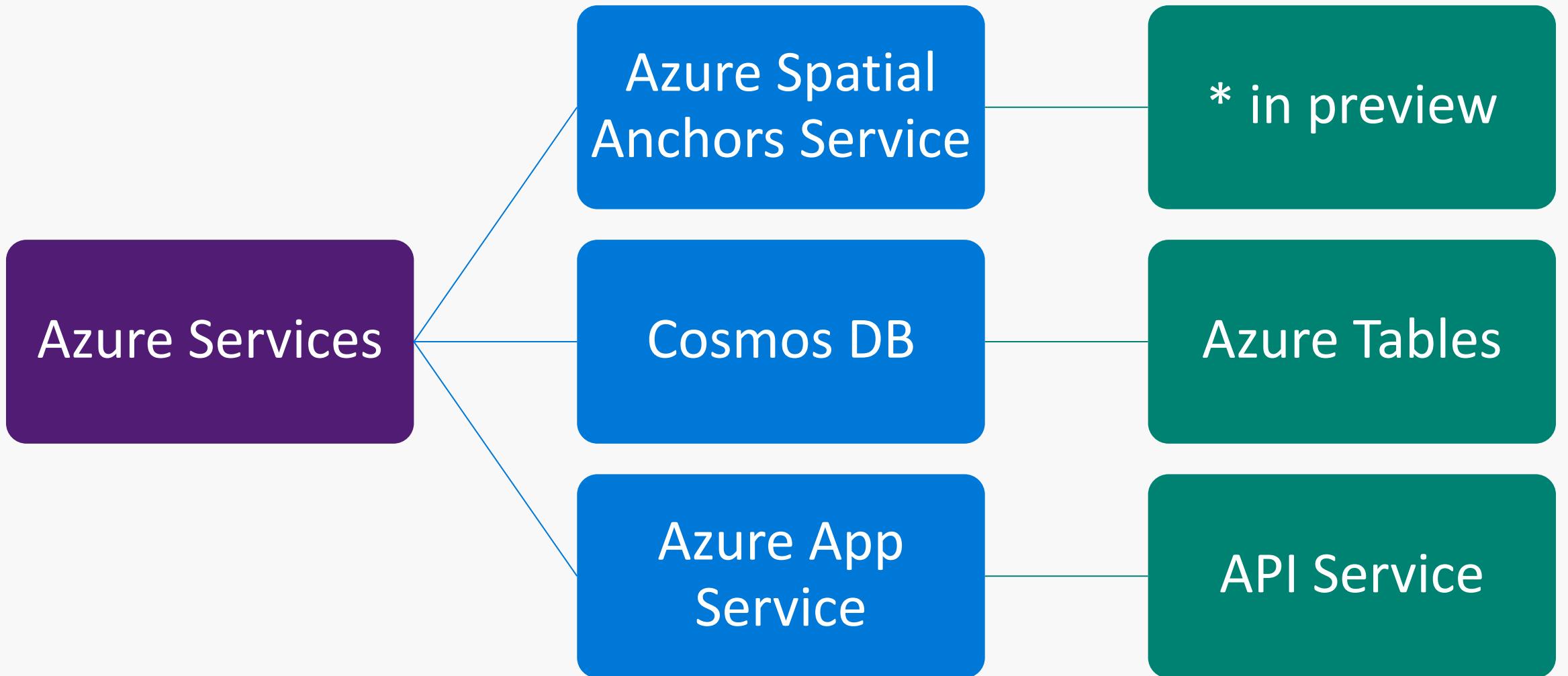
Web
Backend
Service



Admin
App







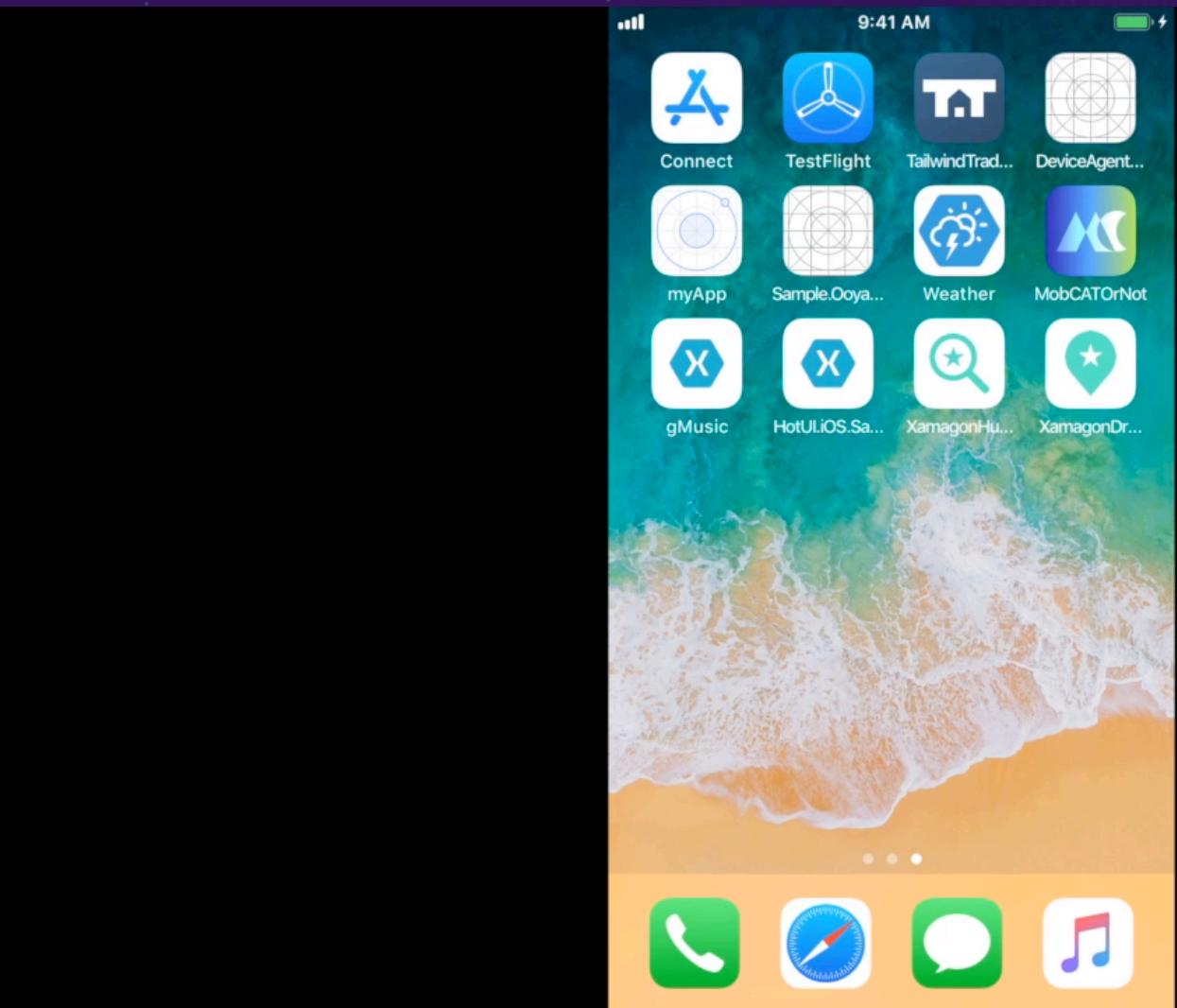
DEMO

XamagonHunt Demo

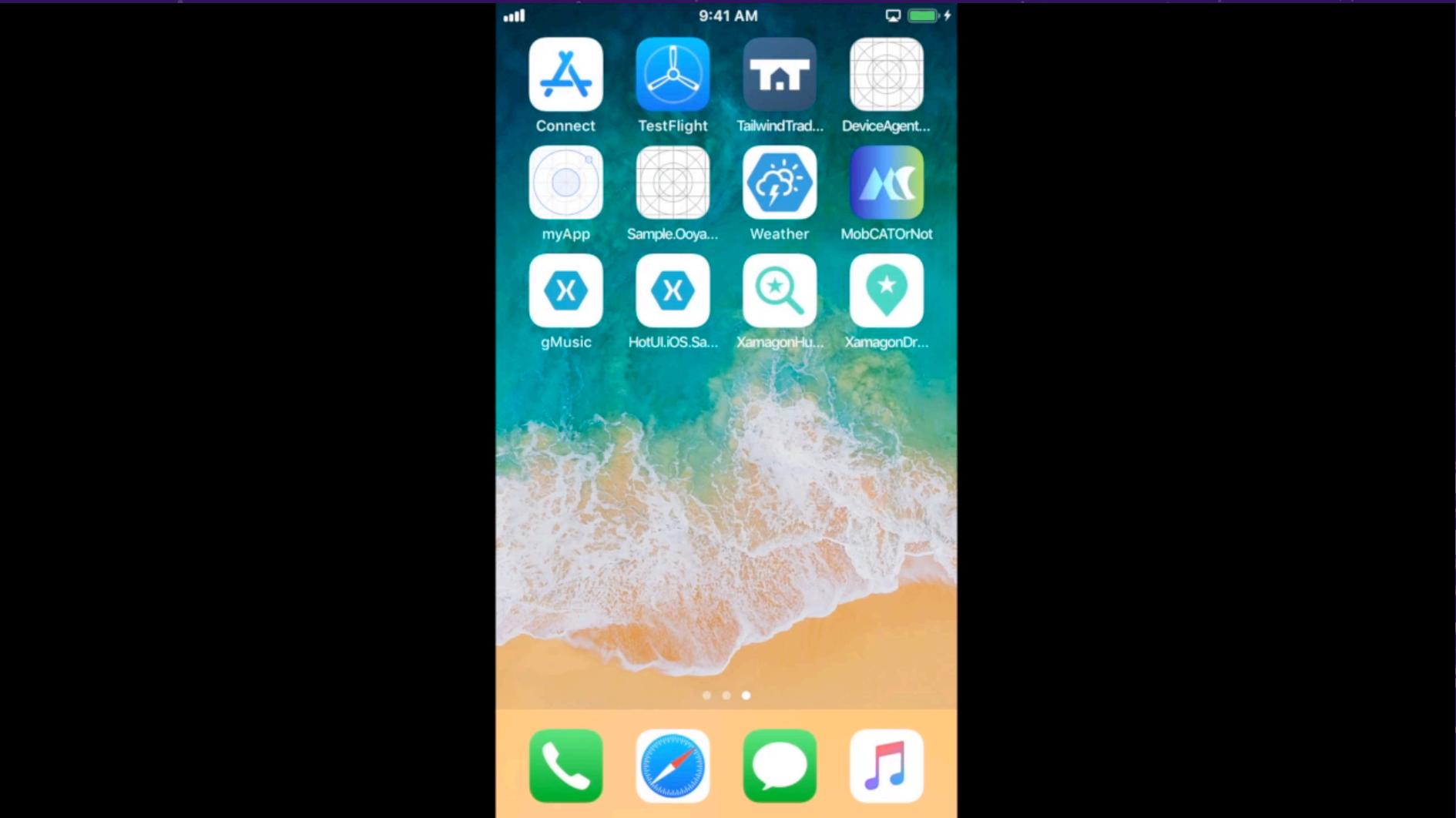
.NET



Admin App



Client App



Key Takeaways

AnchorVisual Object

Position

Shape Info

Per Platform

Render each Frame

Place/Remove Object

ASA Common

Send Object to CloudDB

Get Object to CloudDB

Shared Experience

Azure App Service

Cosmos DB

Any other service you want!

ADAL based controlled access

Integrate with IoT devices

Links

Xamarin iOS Azure Spatial Anchors Tutorial

Xamarin Android Azure Spatial Anchors Tutorial

XamagonHunt Code :

<https://github.com/Sweekriti91/TreasureHunt>

Xamarin + ARKit

Xamarin + ARCore

Questions?

Thank You for Listening!

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Twitter : [@Sweekriti91](https://twitter.com/Sweekriti91)

