Johnny Hooyberghs

Hands-On building Cloud Native .NET applications using Microsoft Orleans and Azure

Here's Johnny!

in Johnny Hooyberghs

🐦 @djohnnieke

✉ johnny.hooyberghs@involved.be

- Passionate Developer
- Principal Software Consultant/Architect (.NET)
- Microsoft MVP, Developer Technologies
- Operational Manager at Involved

geert (geert)

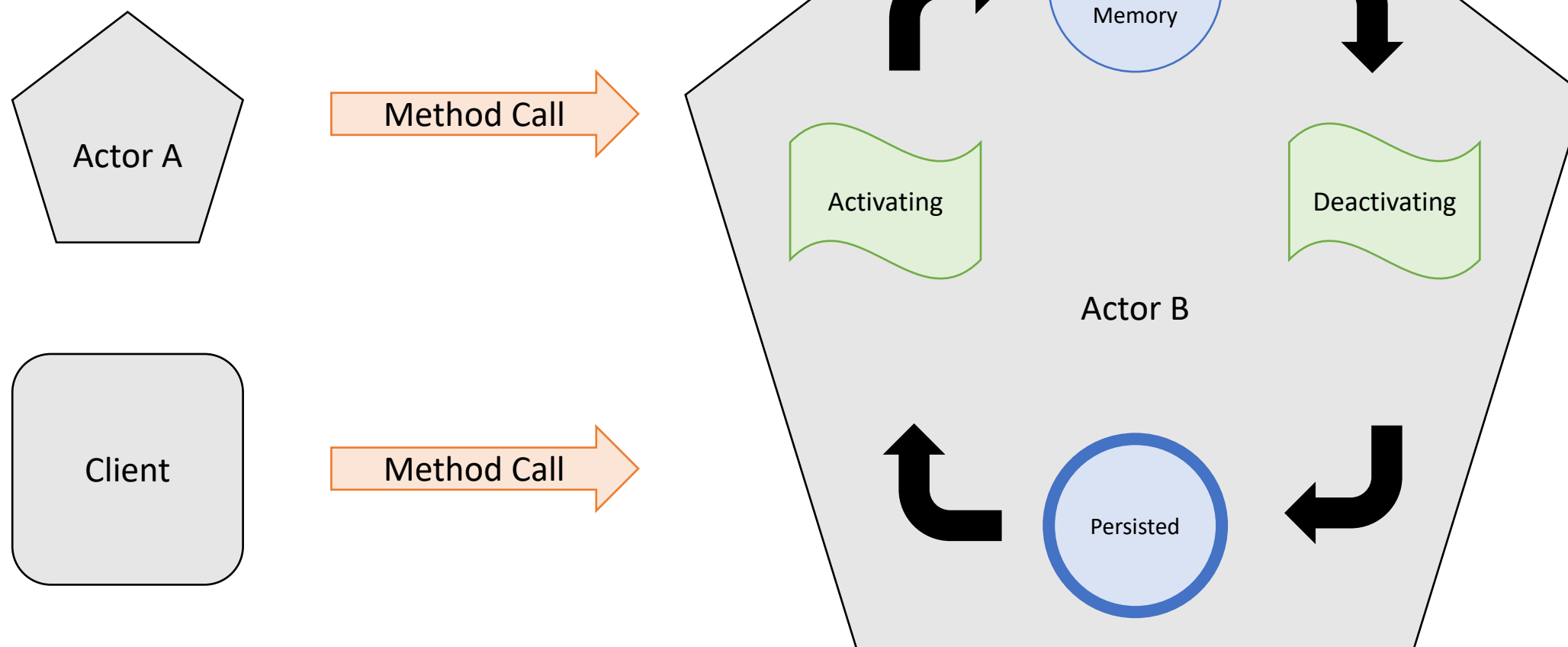killer (djohnnie)

geert (geert)

CSharpWars

```csharp
var step = LoadFromMemory<Int32>("STEP");
if( step % 3 == 0 )
{
    TurnLeft();
}
else
{
    WalkForward();
}
step++;
StoreInMemory<Int32>("STEP", step);
```
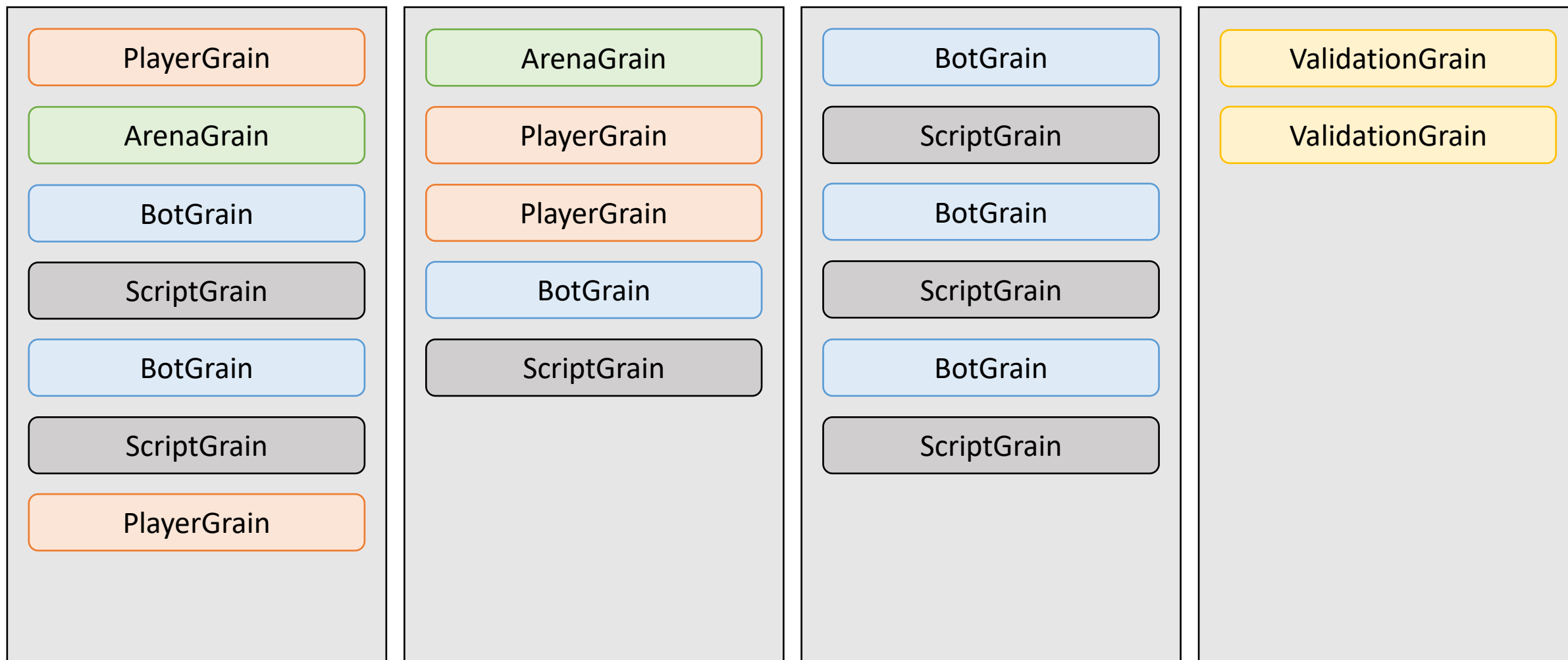
Virtual Actor Model

Grains

player/djohnnie

In-Memory or persisted

$$(Player)Grain = identity + behavior\ [+ state]$$

PlayerGrain : Grain, IPlayerGrain

Silos

PlayerGrain	ArenaGrain	BotGrain	ValidationGrain
ArenaGrain	PlayerGrain	ScriptGrain	ValidationGrain
BotGrain	PlayerGrain	BotGrain	
ScriptGrain	BotGrain	ScriptGrain	
BotGrain	ScriptGrain	BotGrain	
ScriptGrain		ScriptGrain	
PlayerGrain			

CSharpWars (first version)

Frontend (Unity)

Processor (Worker Service)

HTTP API (ASP.NET WebApi)

Web UI (ASP.NET MVC)

SQL Database (Azure SQL)
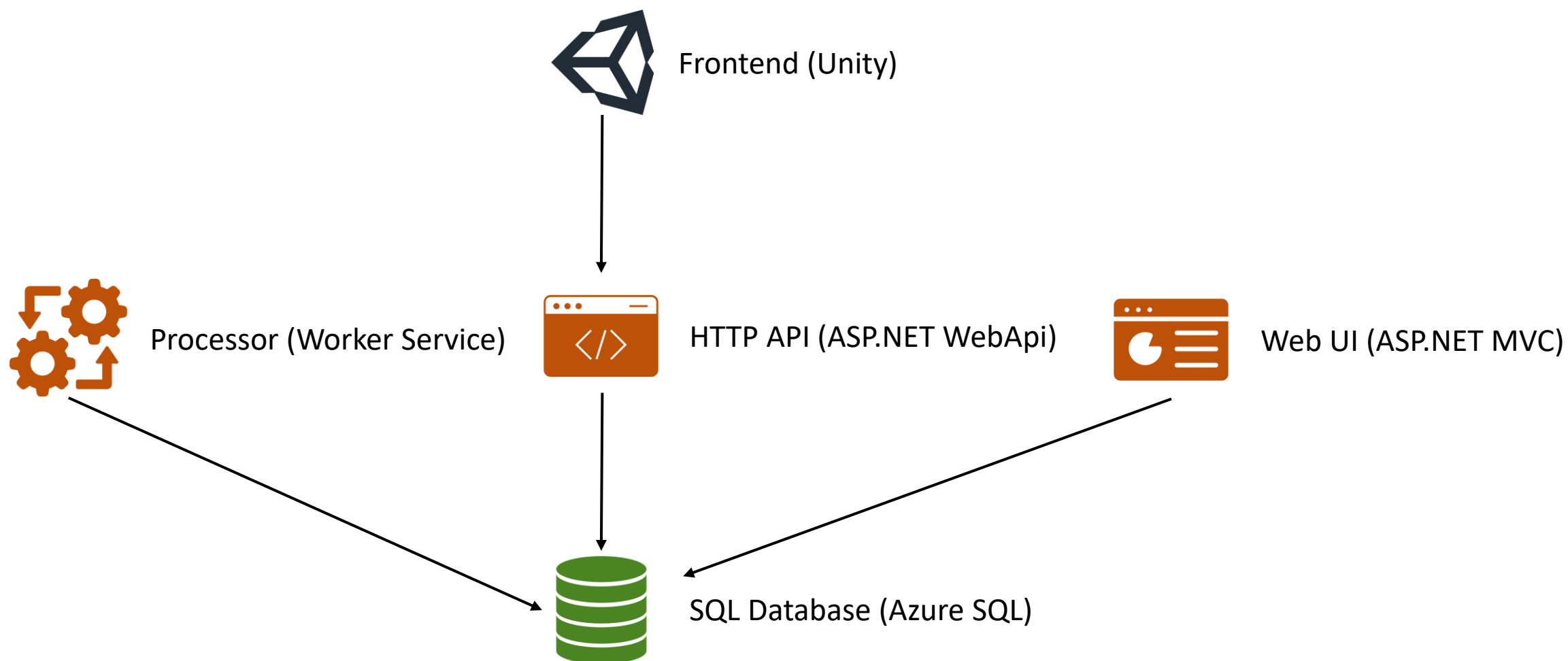
CSharpWars (second version)

Frontend (Unity)

Processor (Worker Service)

HTTP API (ASP.NET WebApi)

Web UI (ASP.NET MVC)

SQL Database (Azure SQL)
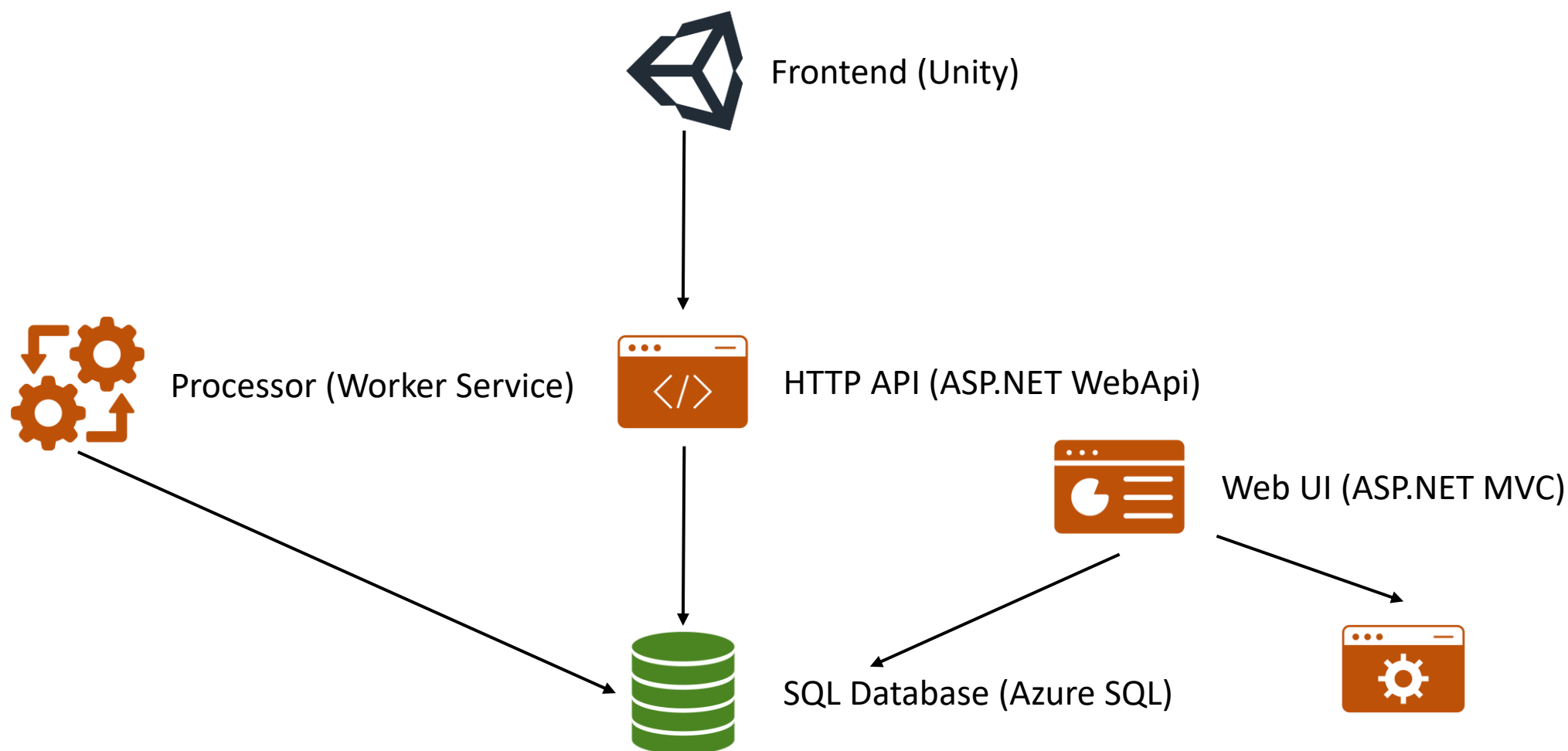
CSharpWars (Orleans version)

Frontend (Unity)

HTTP API (ASP.NET WebApi)

Web UI (ASP.NET MVC)

Orleans Silo

Azure Storage (Blob Storage)

Orleans Silo (validation)
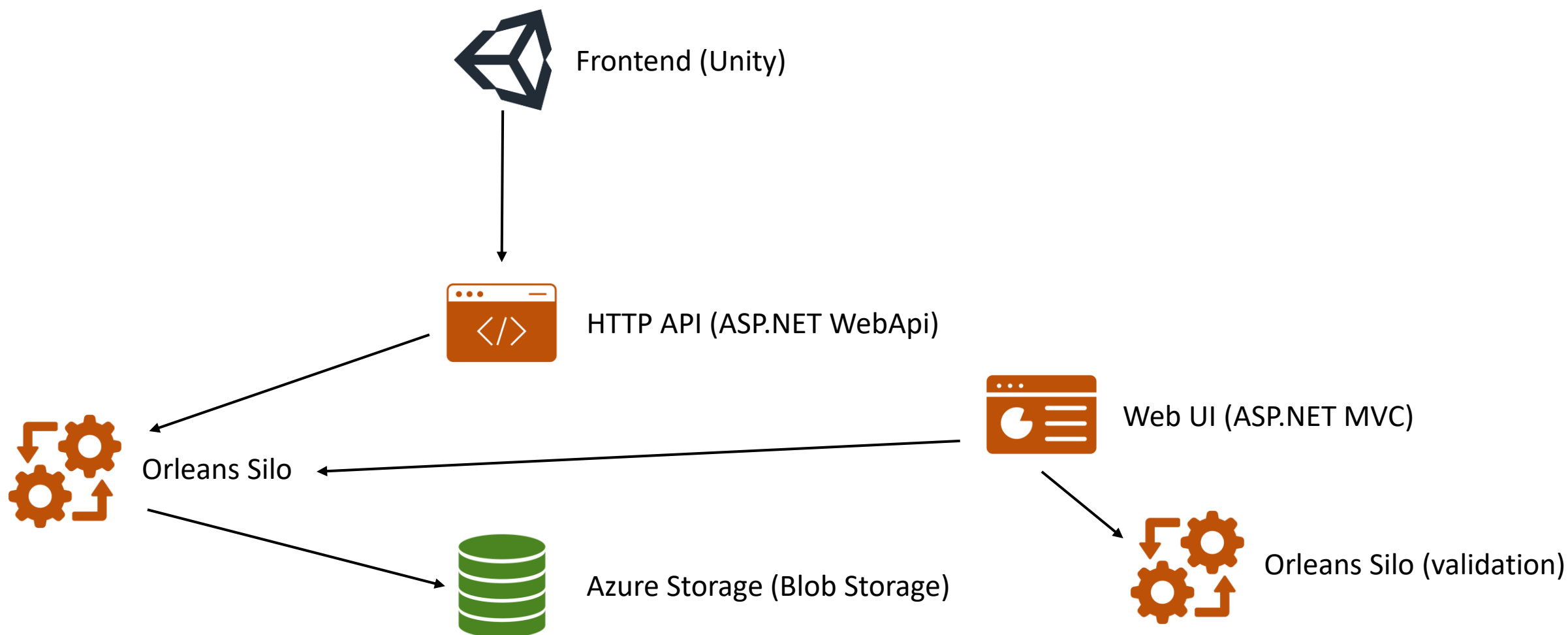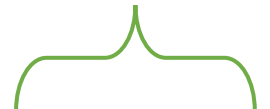
CSharpWars

Try it for yourself: http://web.csharpwars.com

Grains

player/djohnnie

In-Memory or persisted

$$(Player)Grain = identity + behavior [+ state]$$
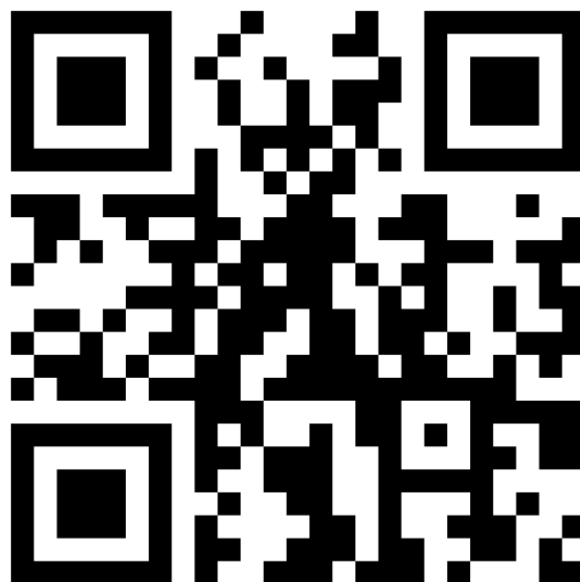
PlayerGrain : Grain, IPlayerGrain

Grains

- Grain Identity

- Persistence & State

- Timers and Reminders

- Placement

- Activation GC

Silos

PlayerGrain	ArenaGrain	BotGrain	ValidationGrain
ArenaGrain	PlayerGrain	ScriptGrain	ValidationGrain
BotGrain	PlayerGrain	BotGrain	
ScriptGrain	BotGrain	ScriptGrain	
BotGrain	ScriptGrain	BotGrain	
ScriptGrain		ScriptGrain	
PlayerGrain			
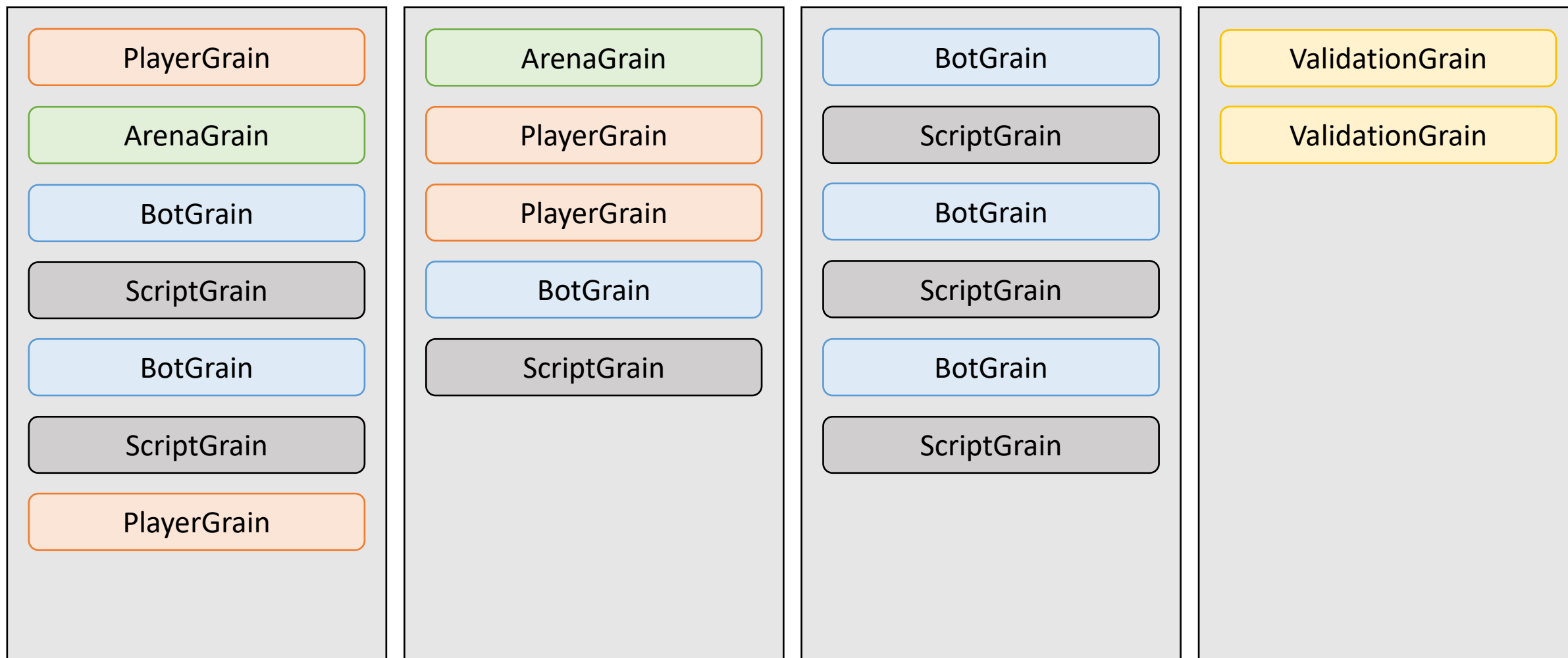
Silos

- Hosting
- Clients
- Heterogeneous silos

Thank you!

Questions?

in Johnny Hooyberghs

🐦 @djohnnieke

✉ johnny.hooyberghs@involved.be

Please rate this session using

.NET DeveloperDays mobile app

(available on Google Play and AppStore)

Event Sponsors

Strategic Sponsors

avanade   Relativity®

Gold Sponsors

N-iX   <epam>   KMD An NEC Company   HITACHI Inspire the Next

SCALO   <vpTech/>   Hitachi Energy

Silver Sponsors

grupa pracuj   Point72   Softescu