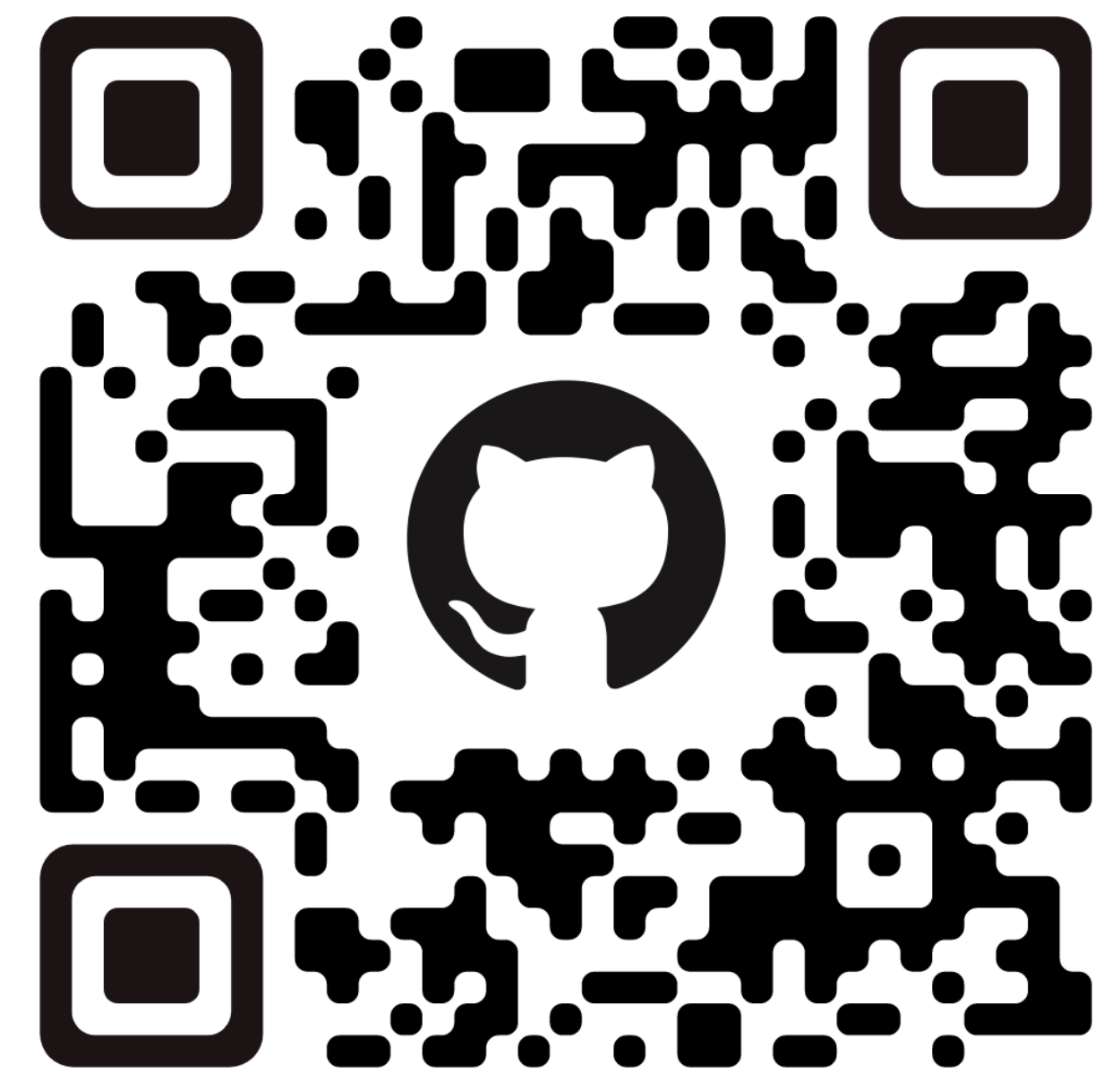# Here's Johnny

in Johnny Hooyberghs

🐦 @djohnnieke

✉ johnny.hooyberghs@involved.be
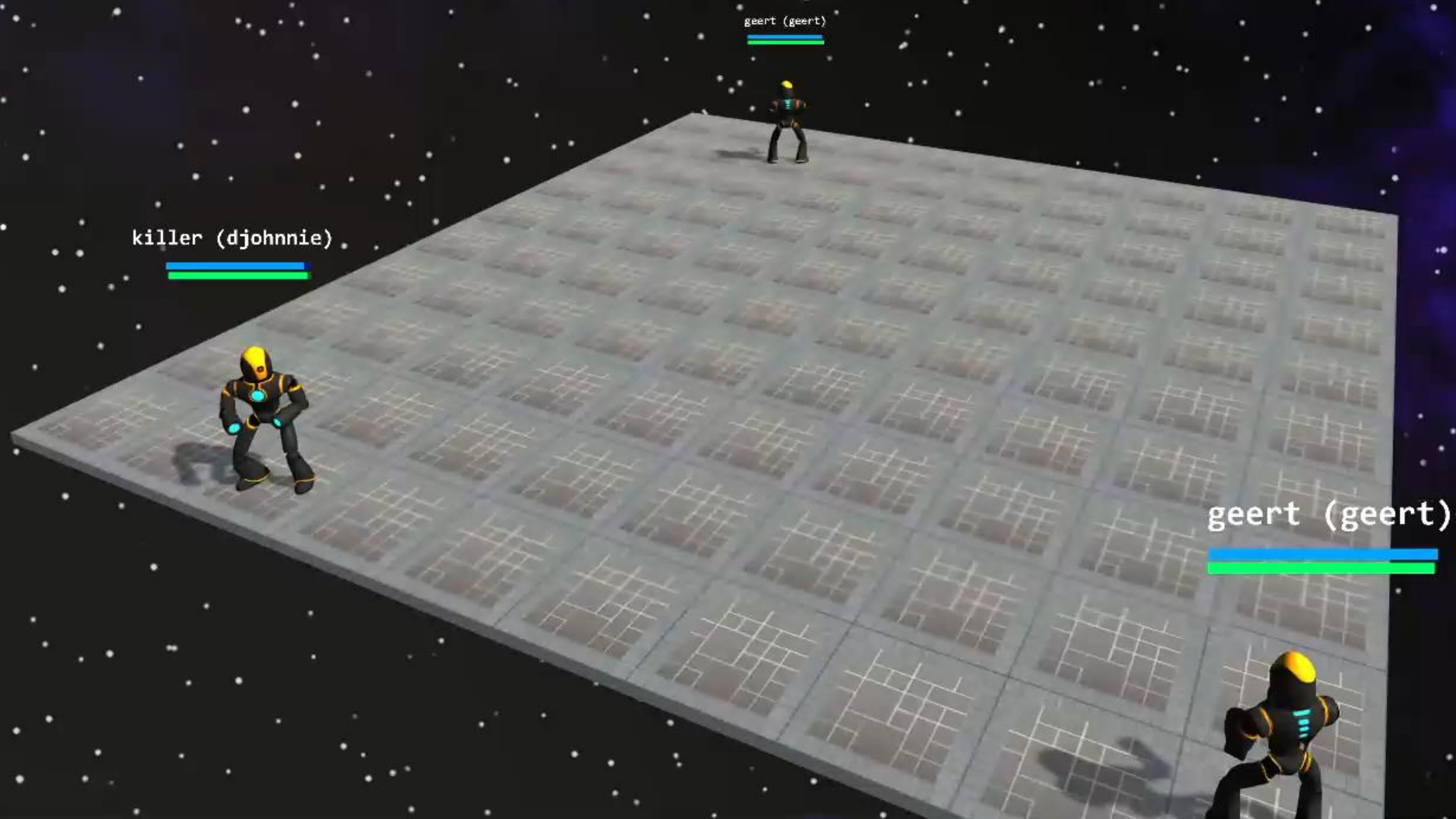
- Passionate Developer
- Principal Software Consultant/Architect (.NET)
- Microsoft MVP, Developer Technologies
- Operational Manager at Involved

MVP Microsoft®
Most Valuable
Professional

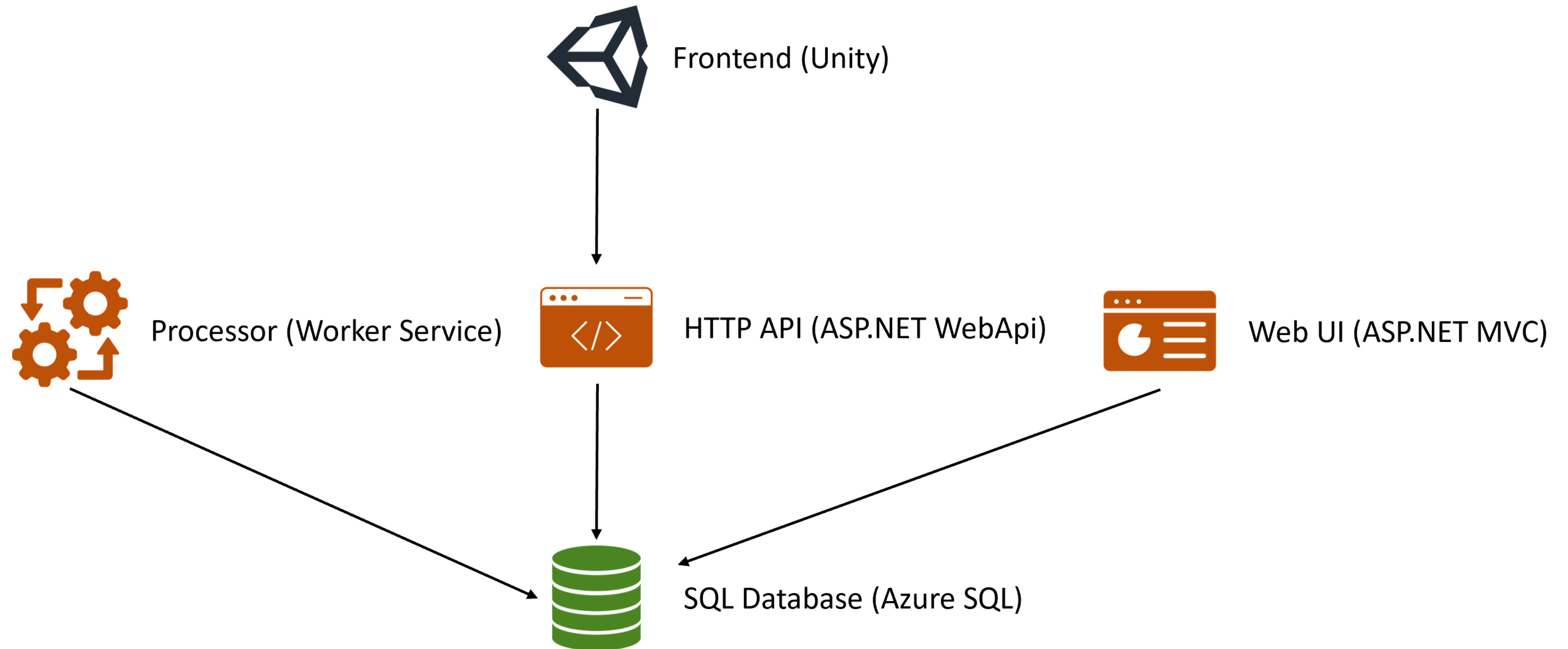https://github.com/Djohnnie/BuildingAGameWithDotNetAndOrleans-OnDotNetLive-2023
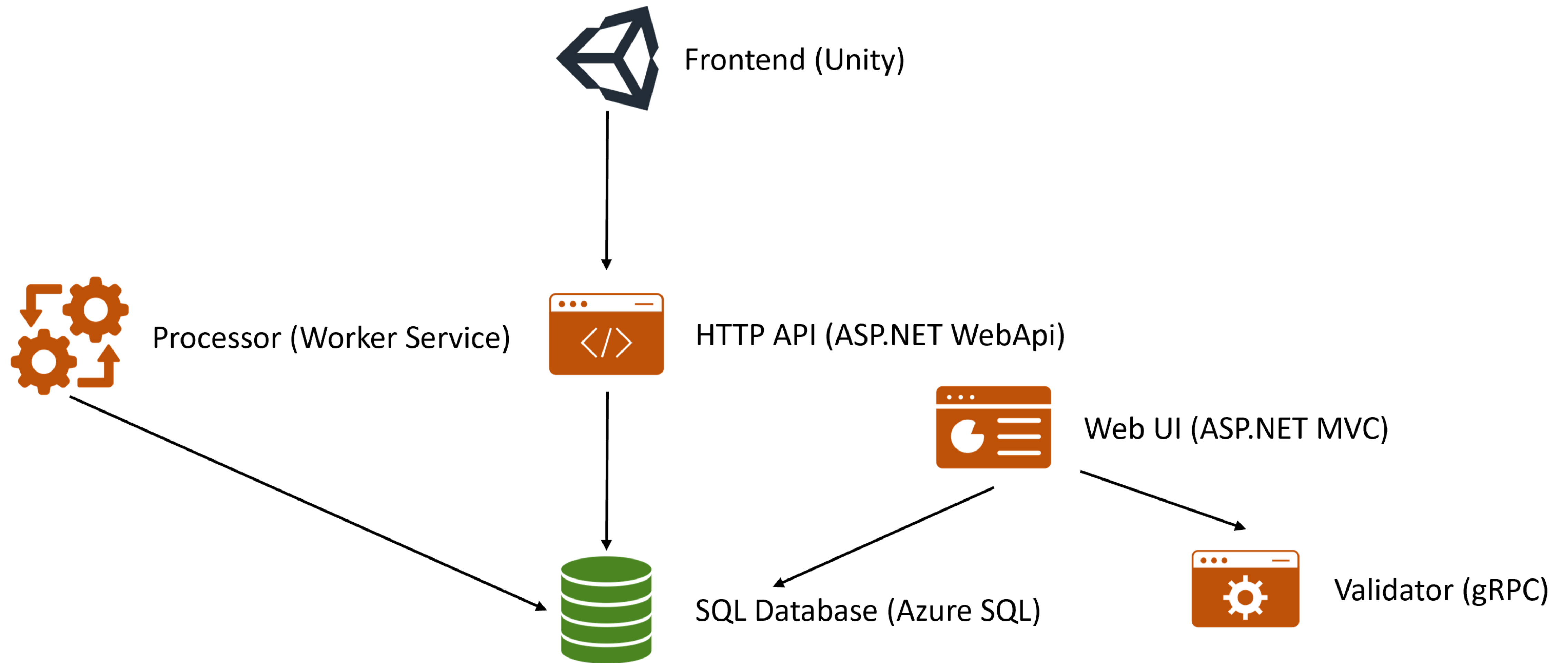
CSharpWars

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

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)
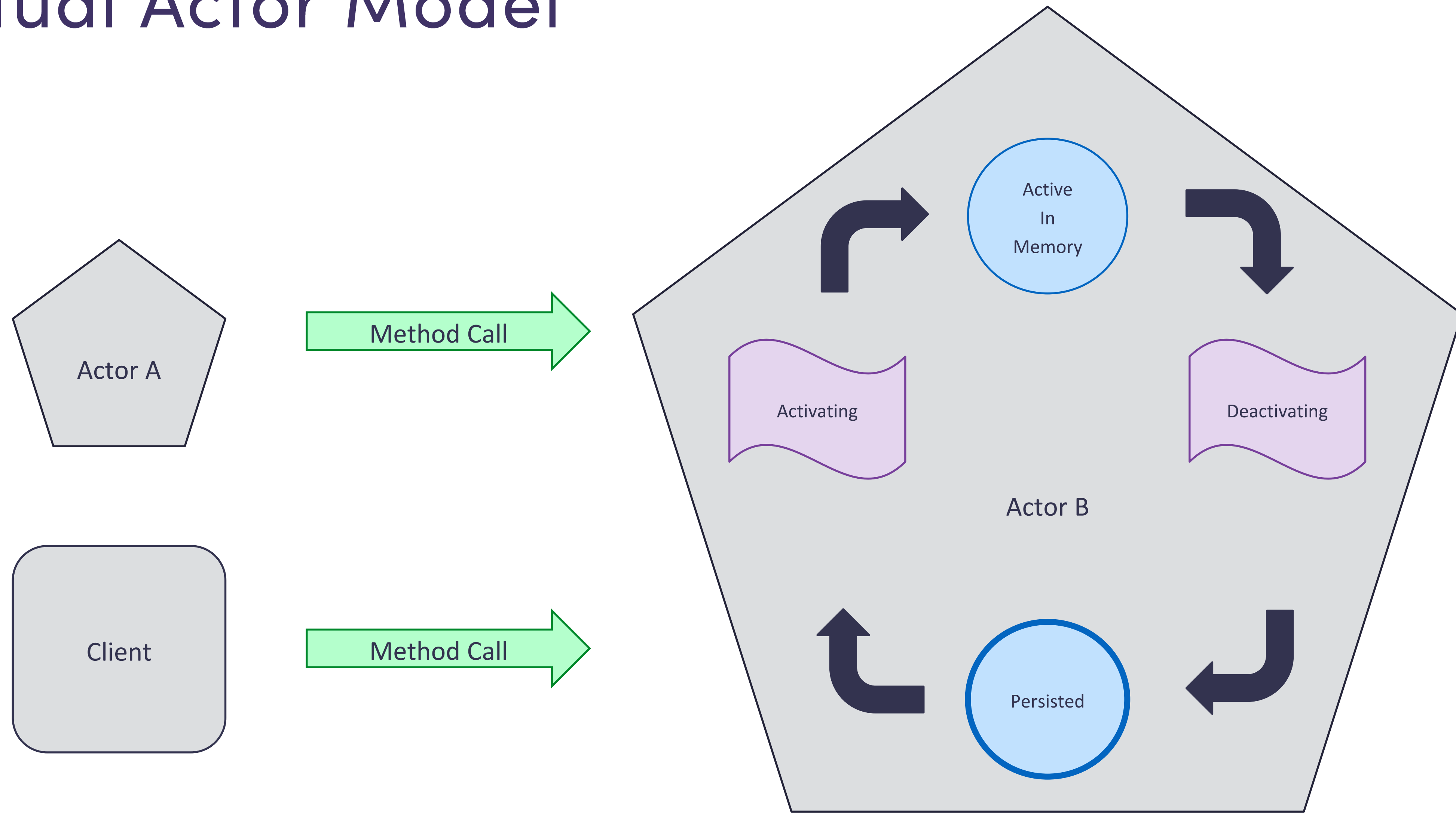
Frontend (Unity)

Processor (Worker Service)

HTTP API (ASP.NET WebApi)

Web UI (ASP.NET MVC)

SQL Database (Azure SQL)

Validator (gRPC)

Virtual Actor Model

Actor A

Client

Method Call

Method Call

Active In Memory

Activating

Deactivating

Actor B

Persisted

Grains

player/djohnnie

In-Memory or persisted

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

PlayerGrain : Grain, IPlayerGrain

Silos

Silo 1:
- PlayerGrain
- ArenaGrain
- BotGrain
- ScriptGrain
- BotGrain
- ScriptGrain
- PlayerGrain

Silo 2:
- ArenaGrain
- PlayerGrain
- PlayerGrain
- BotGrain
- ScriptGrain

Silo 3:
- BotGrain
- ScriptGrain
- BotGrain
- ScriptGrain
- BotGrain
- ScriptGrain

Silo 4:
- ValidationGrain
- ValidationGrain

CSharpWars (Orleans version)

Frontend (Unity)

HTTP API (ASP.NET WebApi)

Web UI (ASP.NET MVC)

Orleans Silo

Azure Storage (Blob Storage)

Orleans Silo (validation)

https://github.com/Djohnnie/BuildingAGameWithDotNetAndOrleans-OnDotNetLive-2023
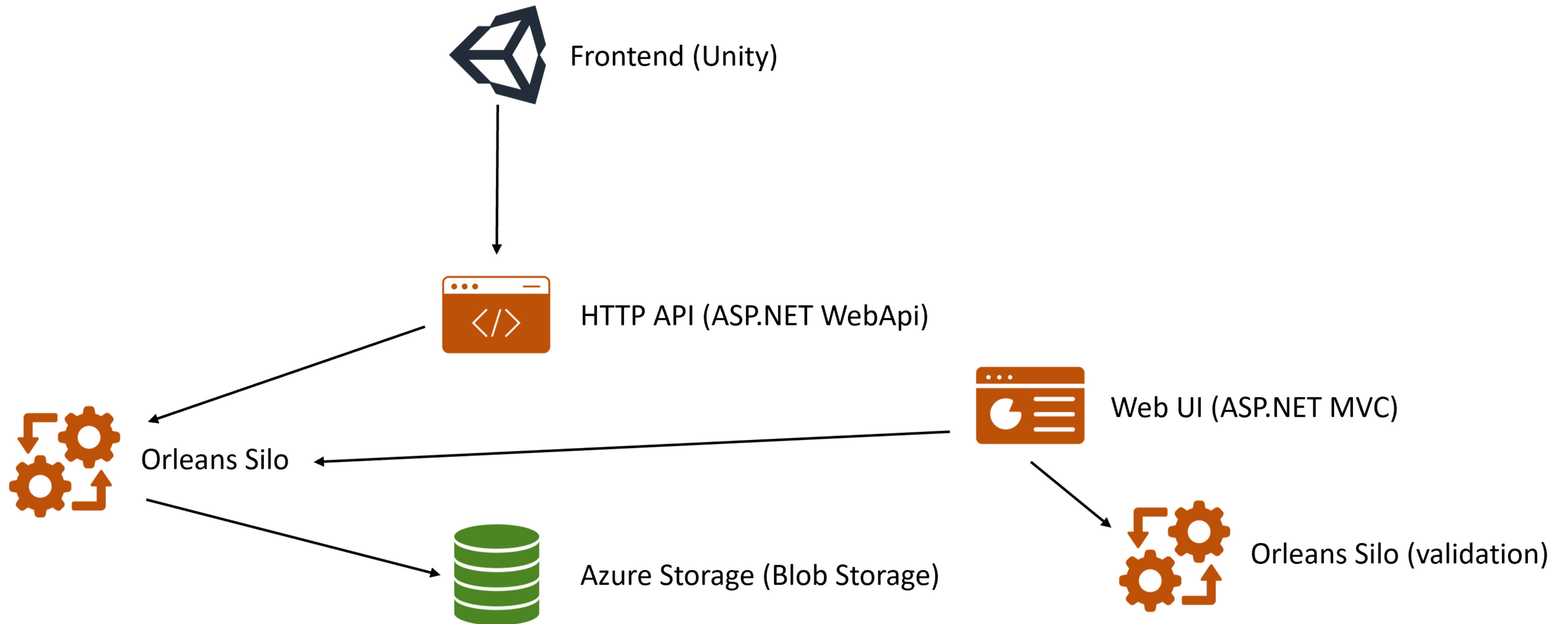
CSharpWars demo

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

Grains

player/djohnnie

In-Memory or persisted

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

PlayerGrain : Grain, IPlayerGrain

Grains

- Grain Identity
- Persistence & State
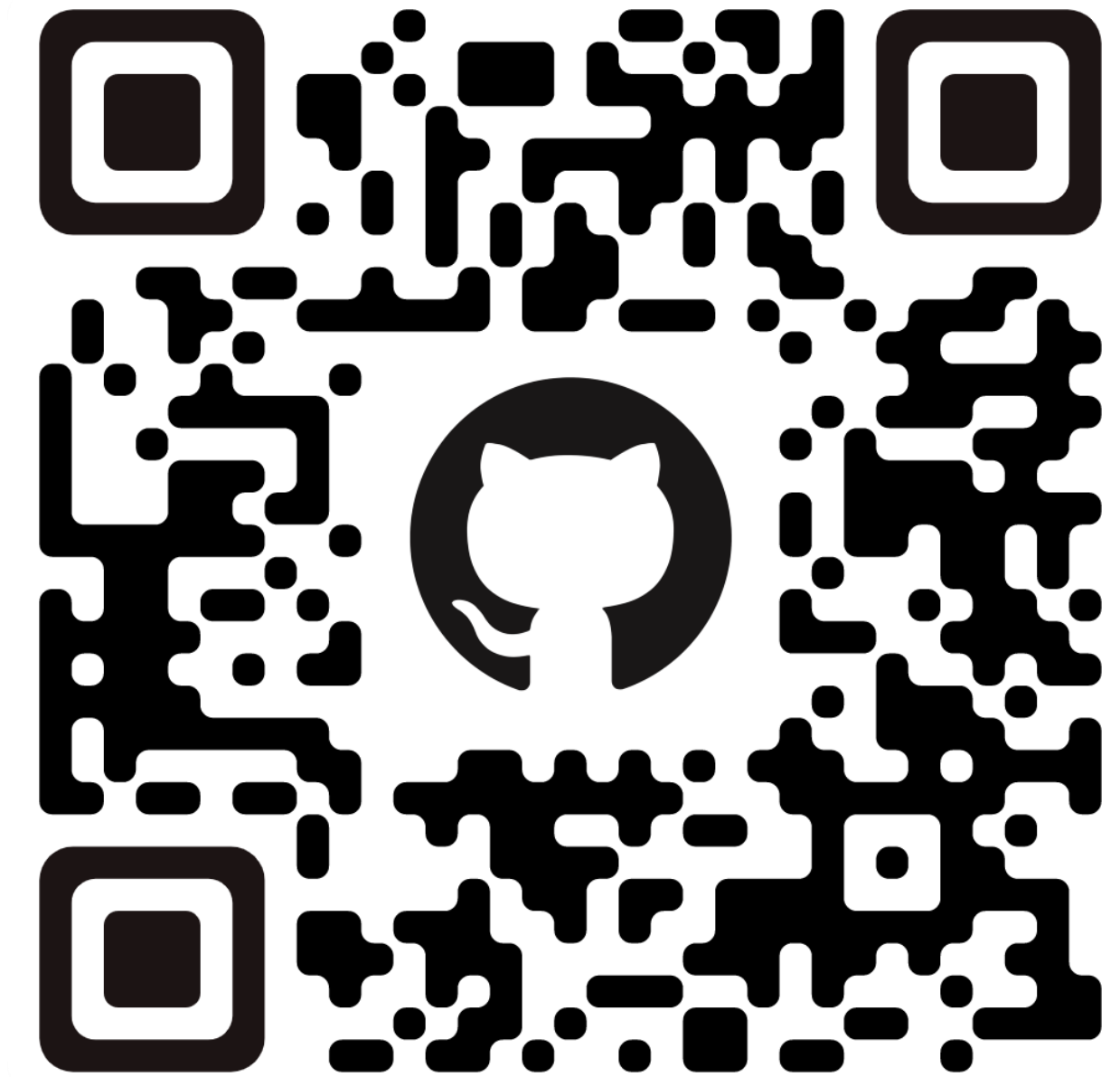- Timers and Reminders
- Placement
- Activation GC

Silos

Silos

- Hosting
- Clients
- Heterogeneous silos

Questions?

in Johnny Hooyberghs

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github.com/Djohnnie/BuildingAGameWithDotNetAndOrleans-OnDotNetLive-2023