



Building cloud-native applications using Microsoft Orleans

Johnny Hooyberghs

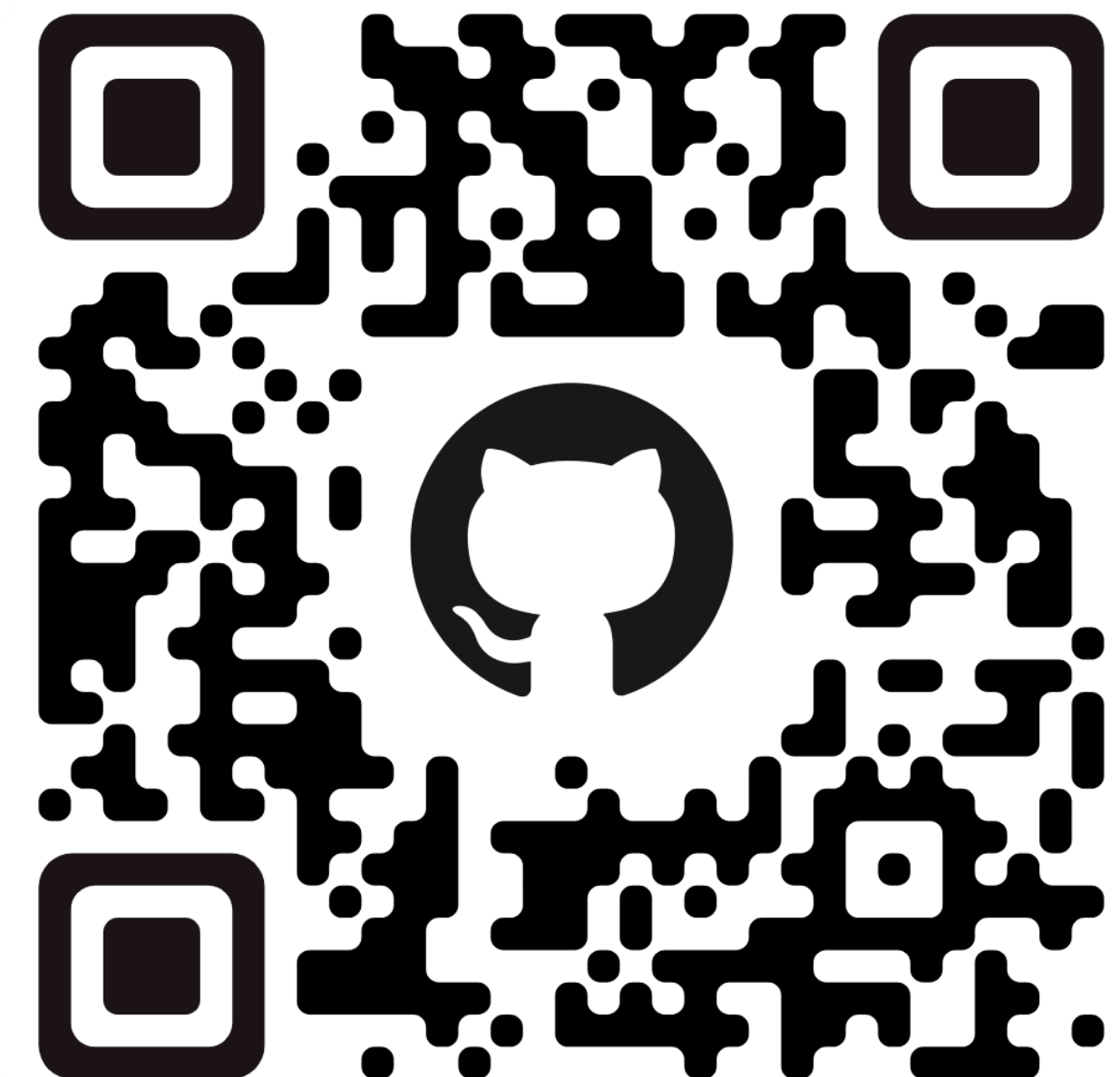
Here's Johnny

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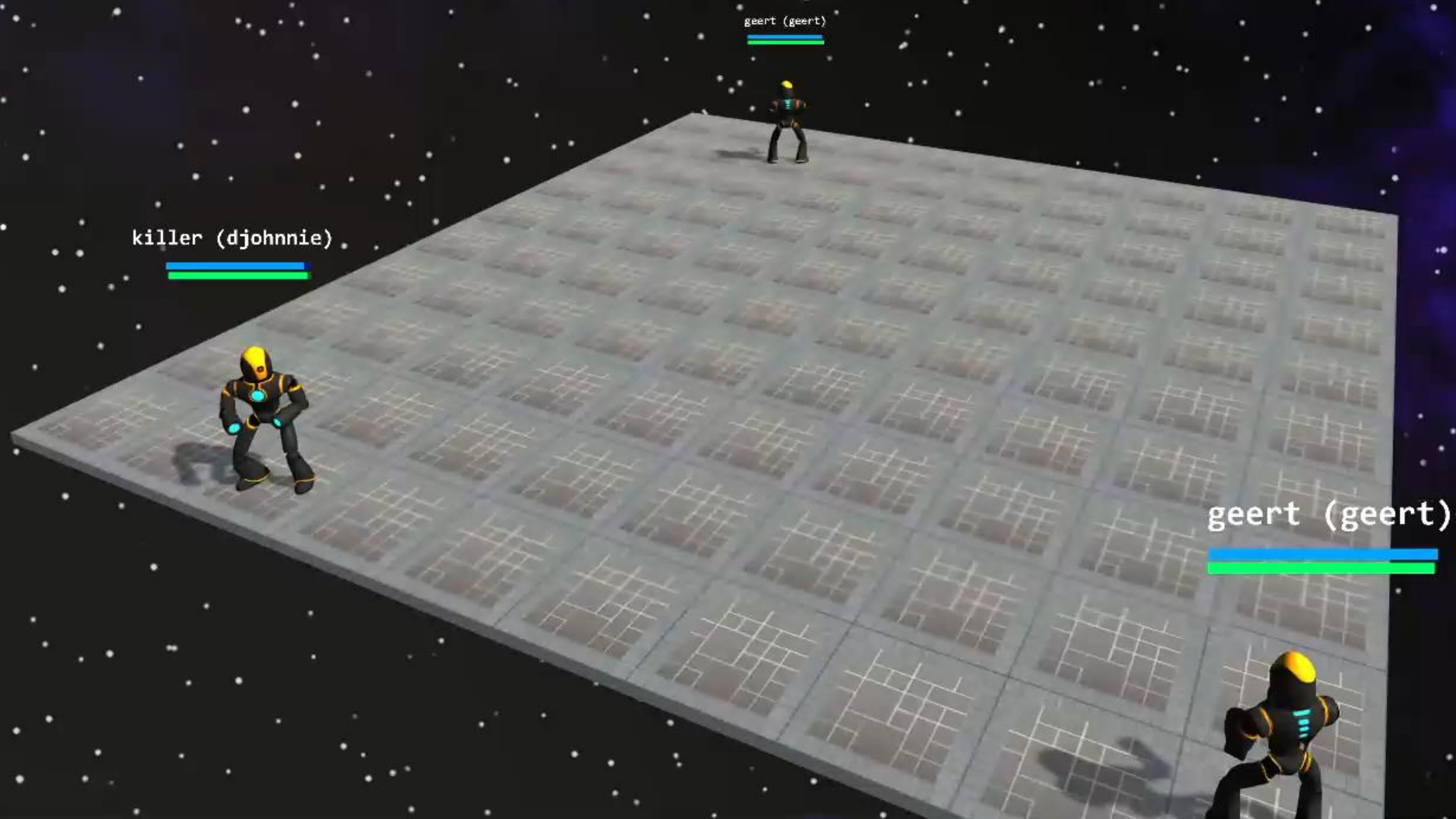
- Passionate Developer
- Principal Software Consultant/Architect (.NET)
- Microsoft MVP, Developer Technologies
- Operational Manager at Involved



killer (djohnnie)

geert (geert)

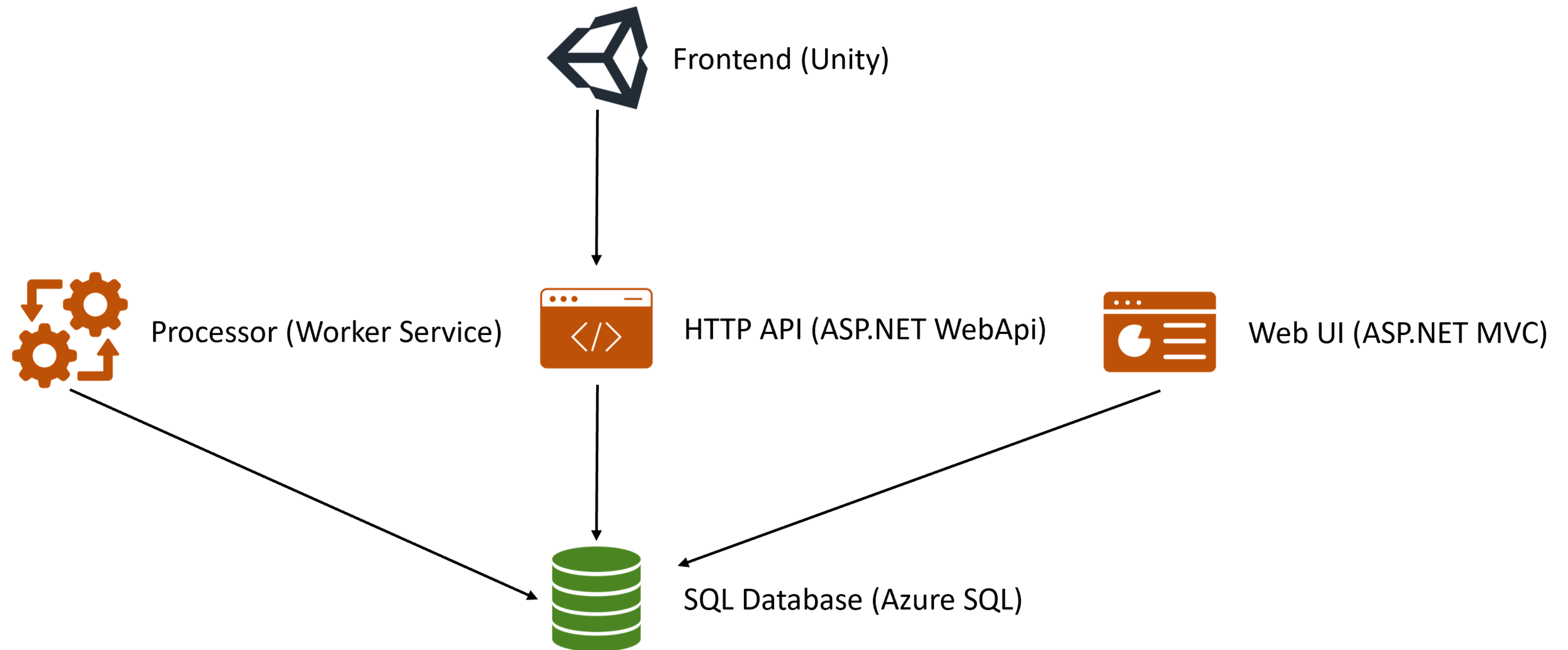
geert (geert)



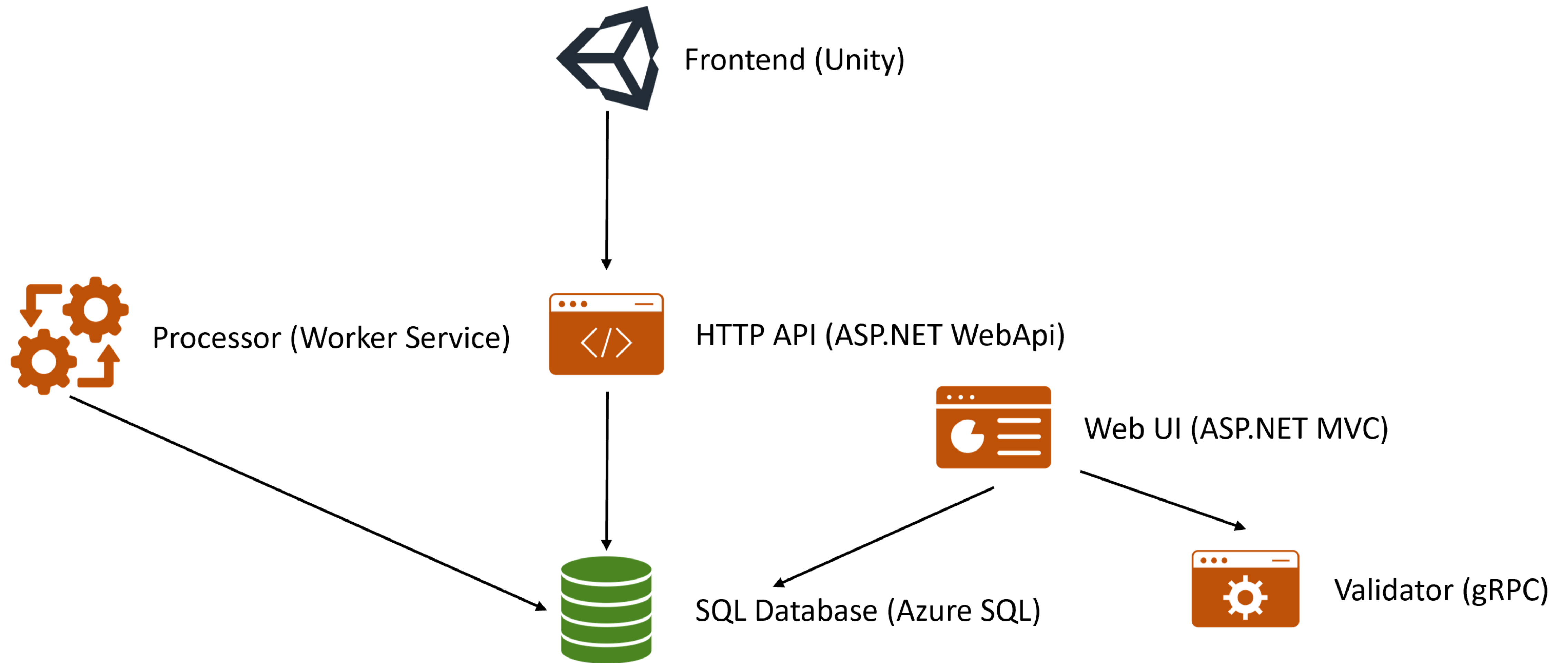
CSharpWars

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

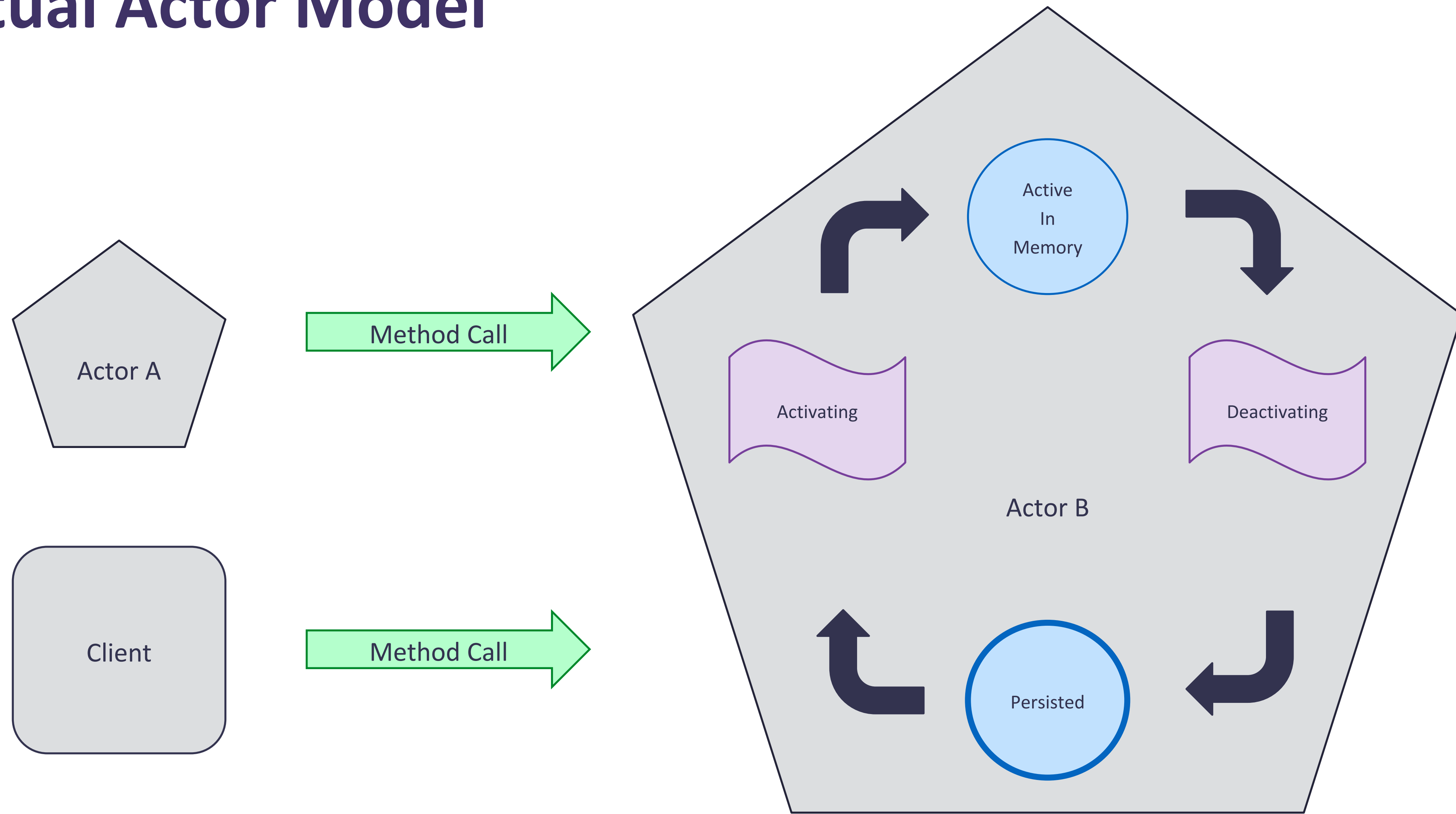

CSharpWars (first version)



CSharpWars (second version)



Virtual Actor Model



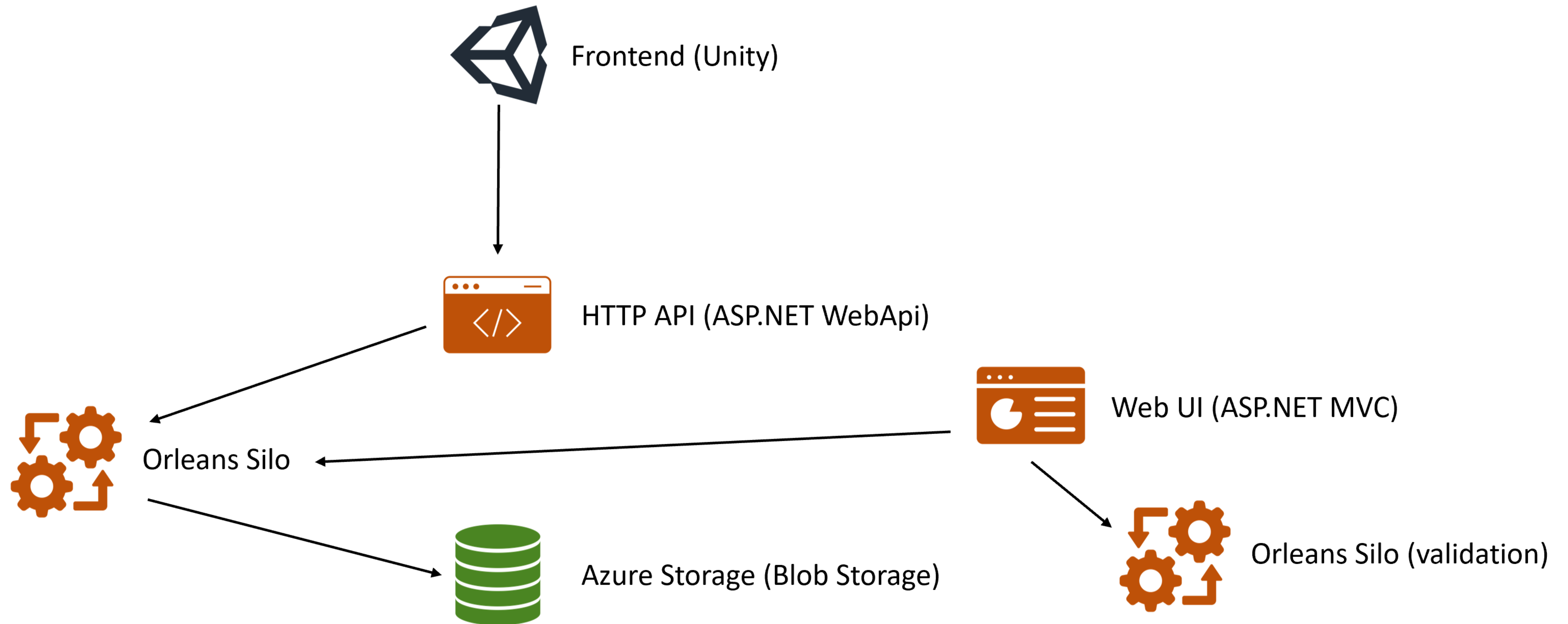
Grains

(Player)Grain = ^{player/djohnnie}
identity + behavior [^{In-Memory or persisted}
+ state]
PlayerGrain : Grain, IPlayerGrain

Silos



CSharpWars (Orleans version)



CSharpWars demo

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



Grains

(Player)Grain = ^{player/djohnnie}
identity + behavior [^{In-Memory or persisted}
+ state]
PlayerGrain : Grain, IPlayerGrain

Grains

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

Silos



Silos

- Hosting
- Clients
- Heterogeneous silos

Questions?

 Johnny Hooyberghs

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<https://github.com/Djohnnie/BuildingCloudNativeApplicationsUsingOrleans-AzureUserGroupSweden>