



Immersive Lab
AP Hogeschool Antwerpen
Expertise center for immersive technologies

Proof Of Concepts technologisch luik

POC 1 Gas analyse stand:

- Electromechanica

POC 2 Brand evacuatie training:

- Veiligheidsinstituut
- Opleiding Toegepaste informatica en Elektronica ICT



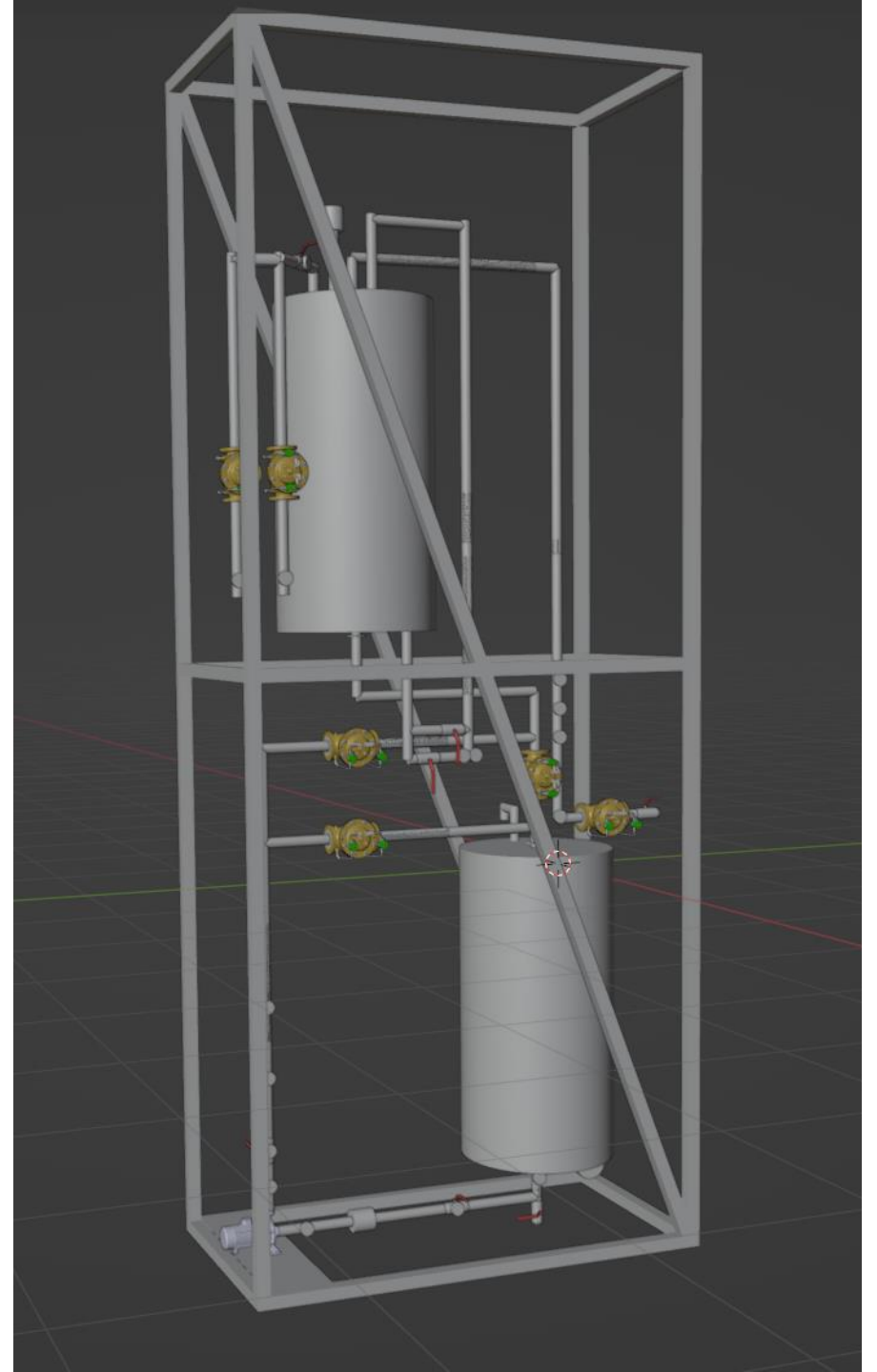
POC 1 Gasanalyse stand

- Integratie van CAD modellen
- Omgeving en Intro
- Interactie
- Adaptive interface V1
- Motion capture Ergonomie & data



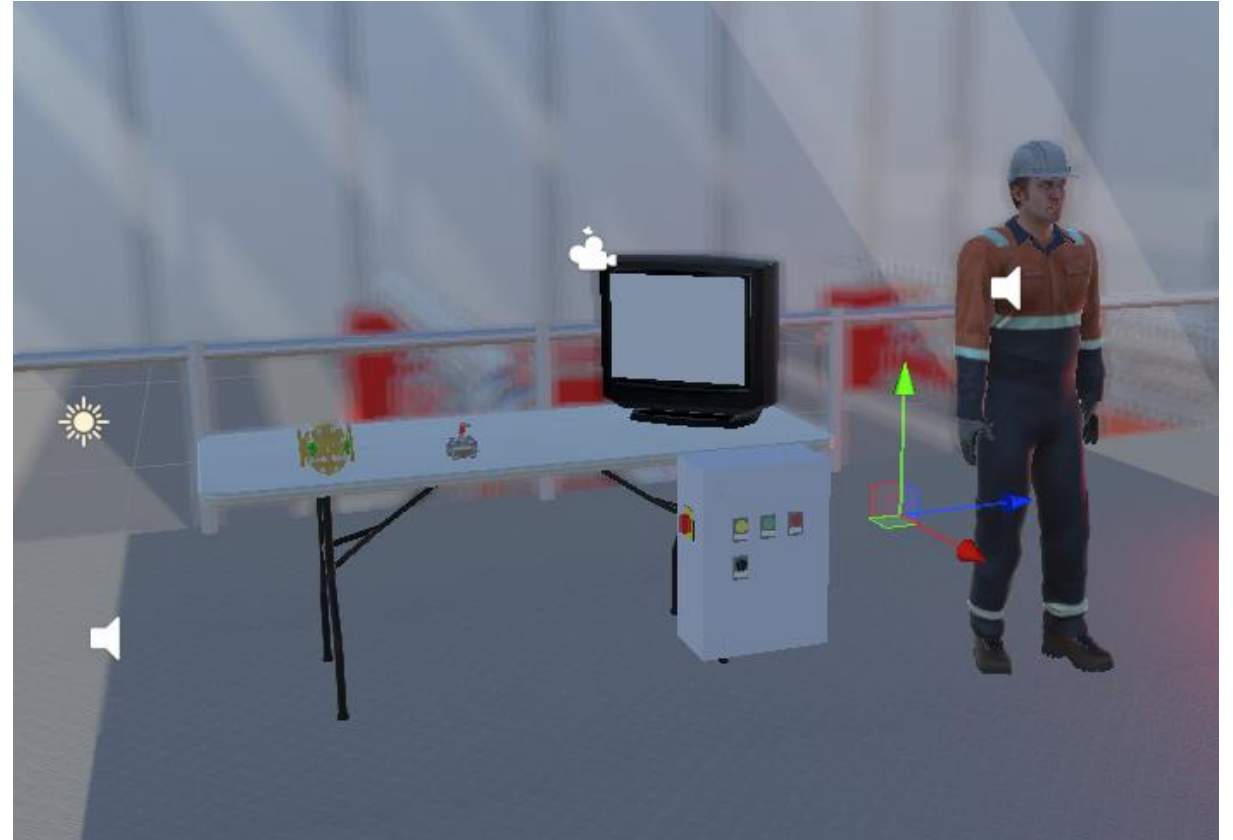
Integratie van CAD modellen

- 1 geheel bij export
- Individueel exporteren van componenten helpt bij interactie
- Export naar game-engine 3d formaten helpt bij performance



Intro & Omgeving

- Introductie naar belangrijke handelingen
- Eerste Interactie met componenten
- Uitleg van de trainer(Ghost)
- Herkenbare omgeving maar niet te afleidend!



Interactie

- Handelingen moeten direct vertaalbaar zijn naar praktijk
- De trainee moet toegang hebben tot alle data van elke component
- Tussenkomsst van de trainer

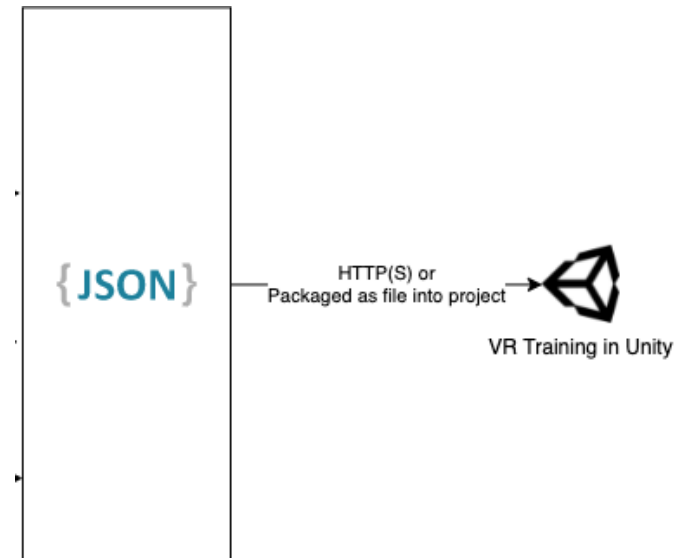


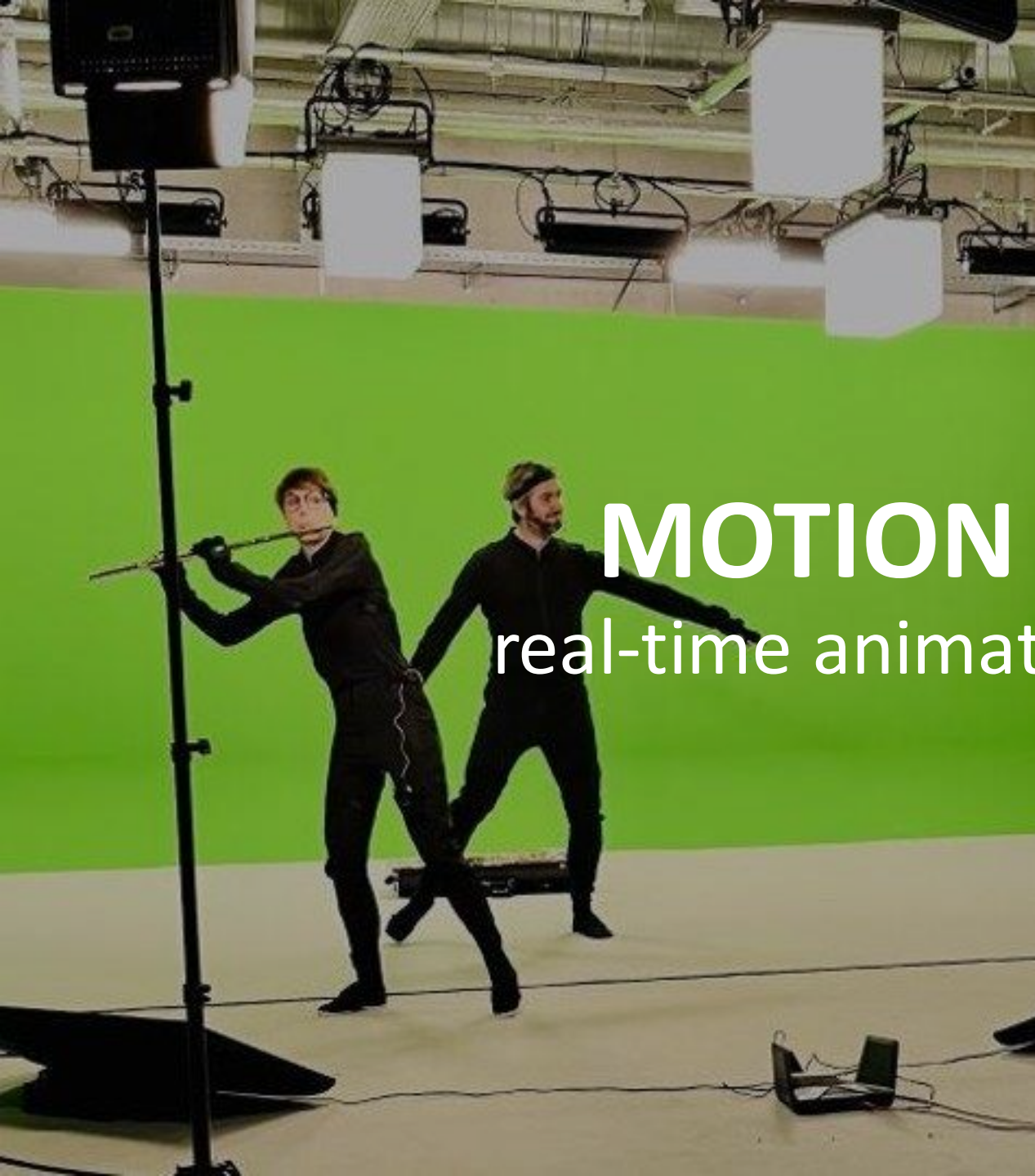
Adaptive Interface V1

- Expertise tijdens development
- Mogelijkheid voor de trainer om zelf de scenario's te bepalen
- Verhoging van de ROI

Zie whitepaper

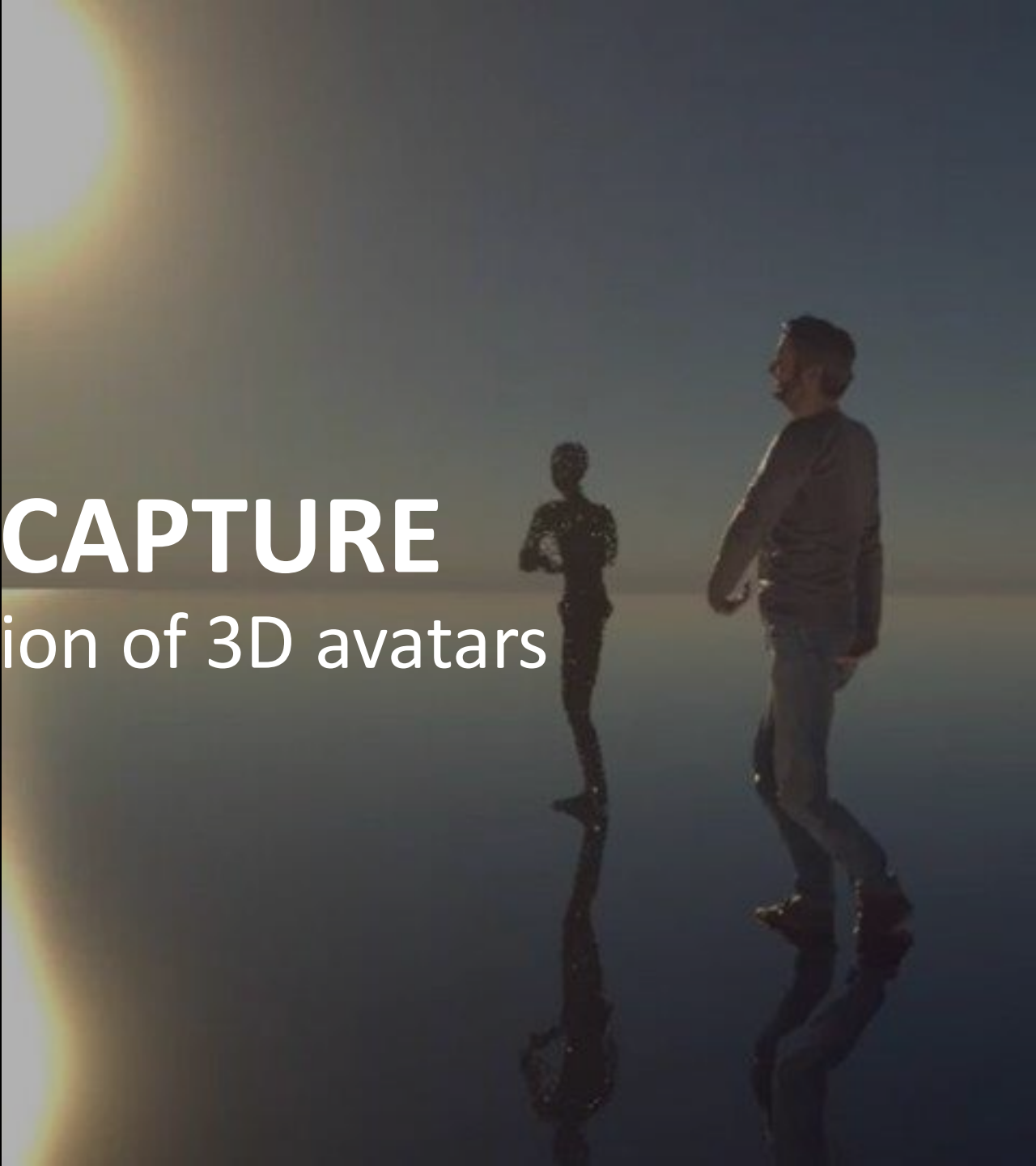
Slide 7, 17





MOTION CAPTURE

real-time animation of 3D avatars



Mocap & VR

Voordelen:

- Geen fysiek testgebied vereist
- Kritische fouten sneller herkenbaar
- Verzameling van data
- Embodiment



Mocap & VR

Nadelen:

- Hoge kost
- Synchronisatie blijft op dit moment een complex probleem



POC 2 Evacuatie training

- Problemen
- Inspiratie
- Visual coding => visual scenario bouwer
- Model overview
- Future Work(ChatGPT,.....)



Benefits of VR training

Due to its convincing depiction of reality, VR is an effective medium for developing and practicing skills.



Combined with instructional design, it can have a more significant effect on learning efficiency, learning curve, and retention than classical lectures or instruction videos.



The amount of VR training simulations has grown exponentially.

Problems with VR training


VR controllers do not accurately mimic the motor patterns of actual movements.



The environments look unrealistic.



The training is static, not tailored to the user's skill set, and little replay value.



Building VR trainings is expensive & time consuming, therefore a **low return on investment**.

Problems with VR training


VR controllers do not accurately mimic the motor patterns of actual movements.



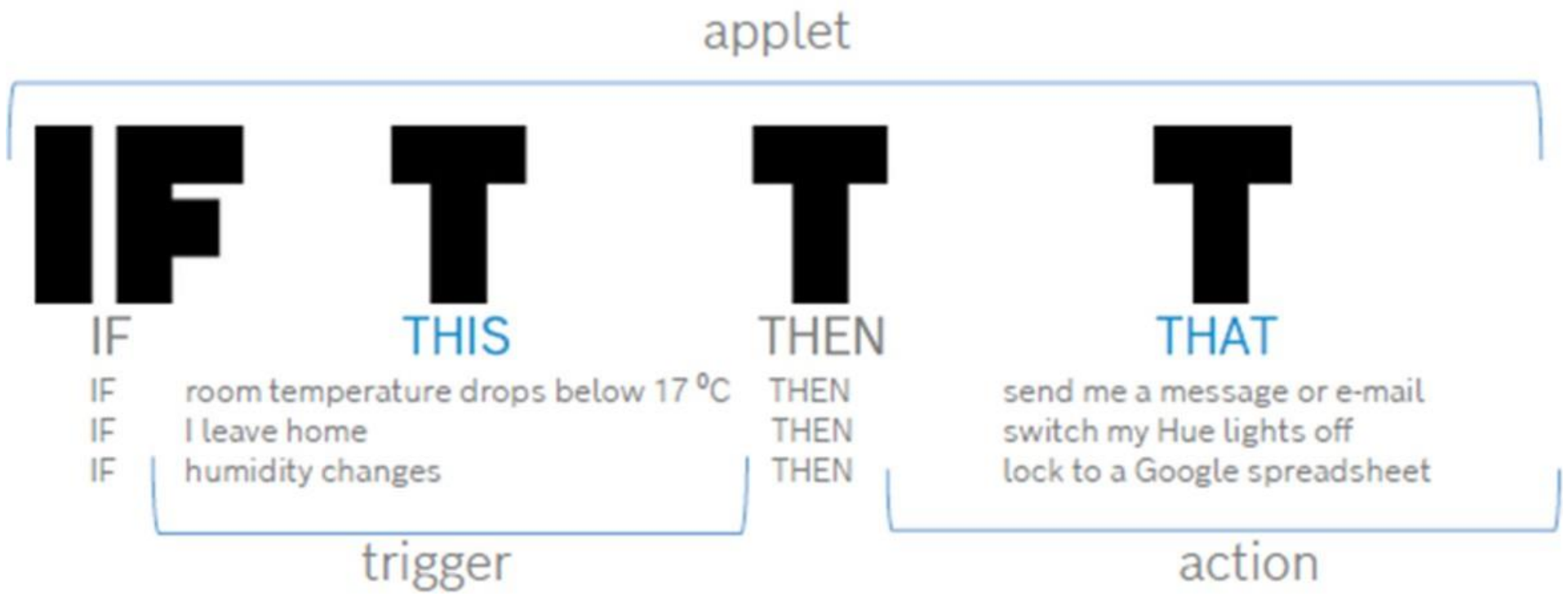
The environments look unrealistic.

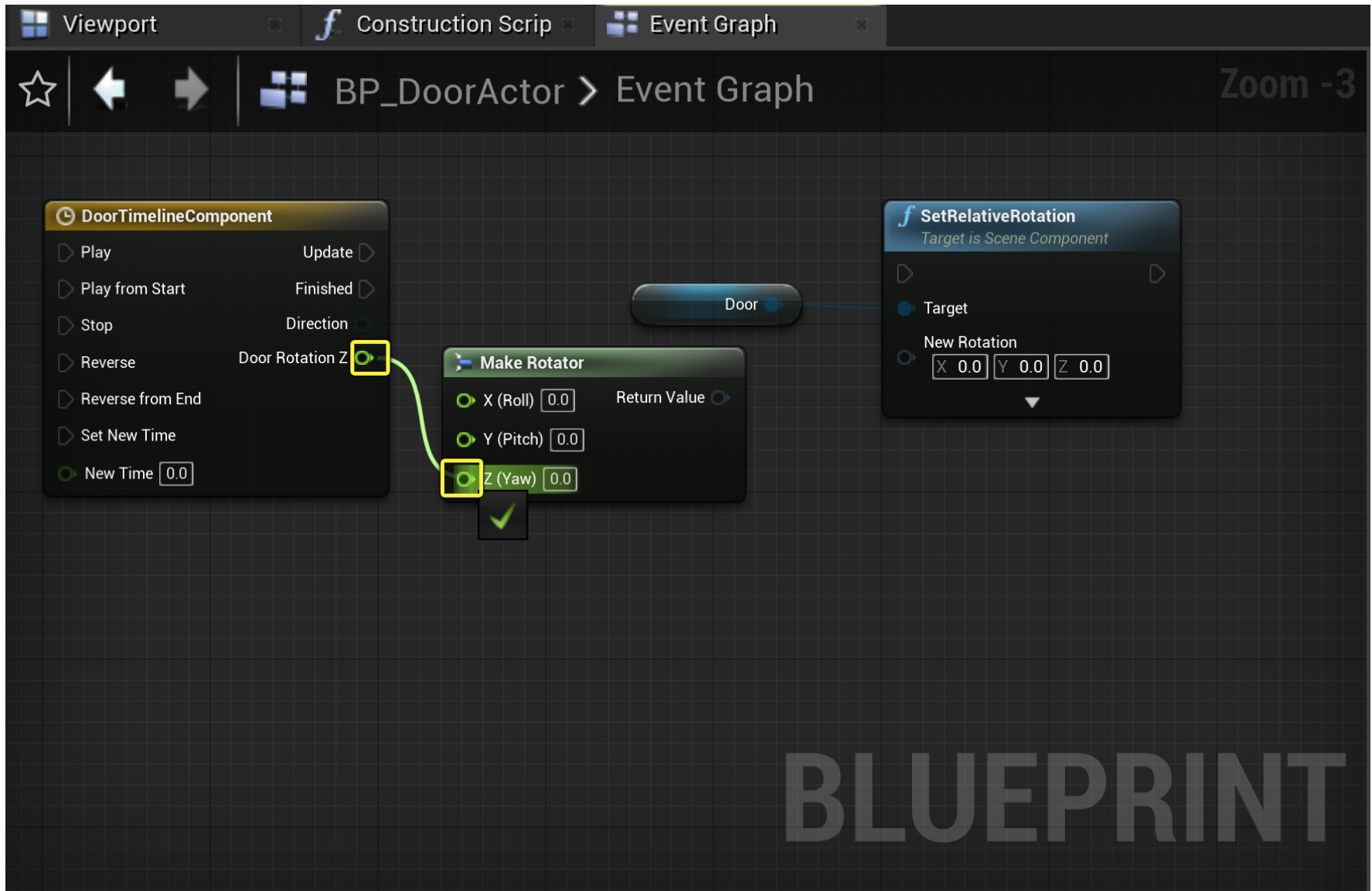


The training is static, not tailored to the user's skill set, and little replay value.

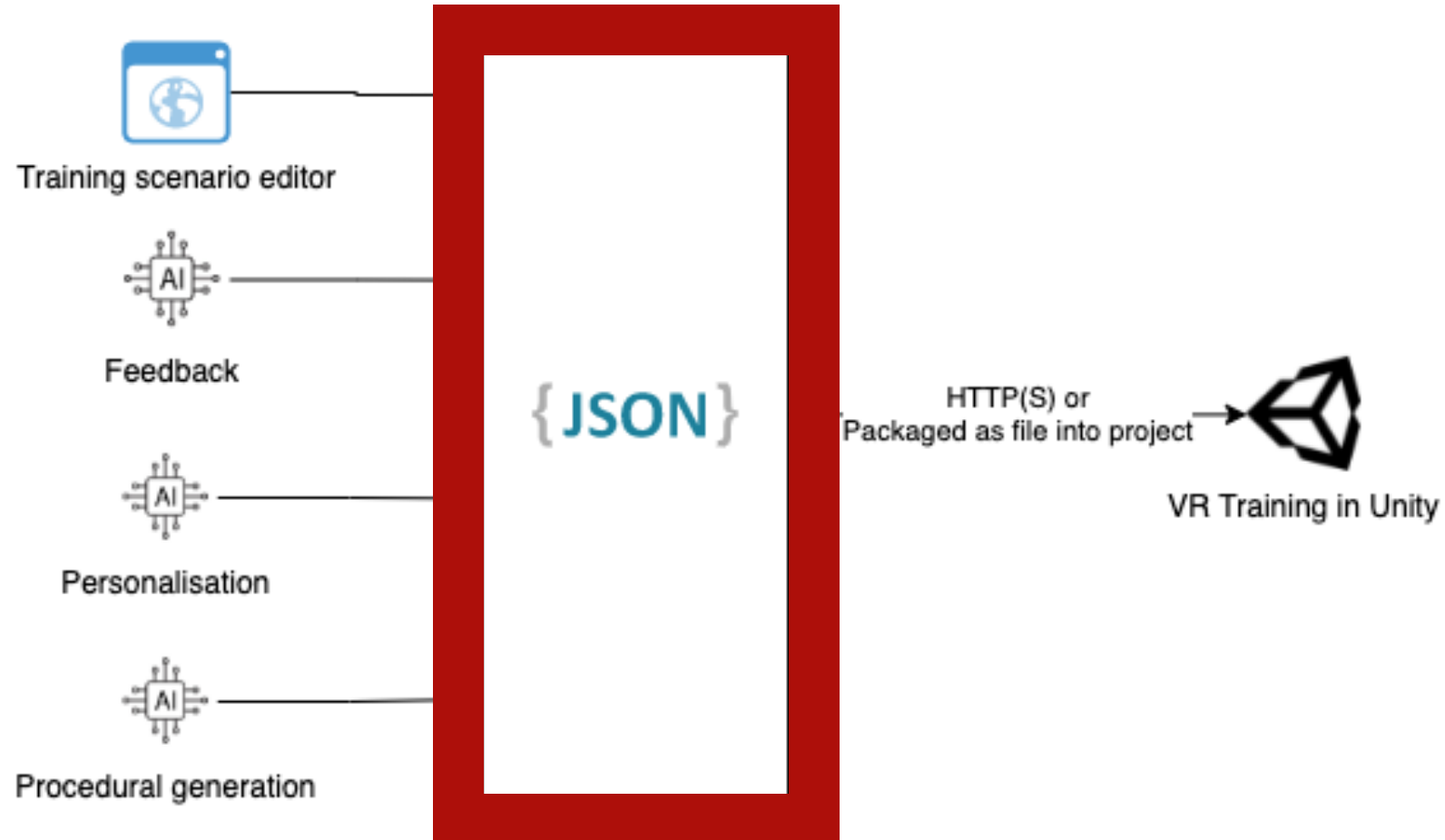


Adaptive VR training

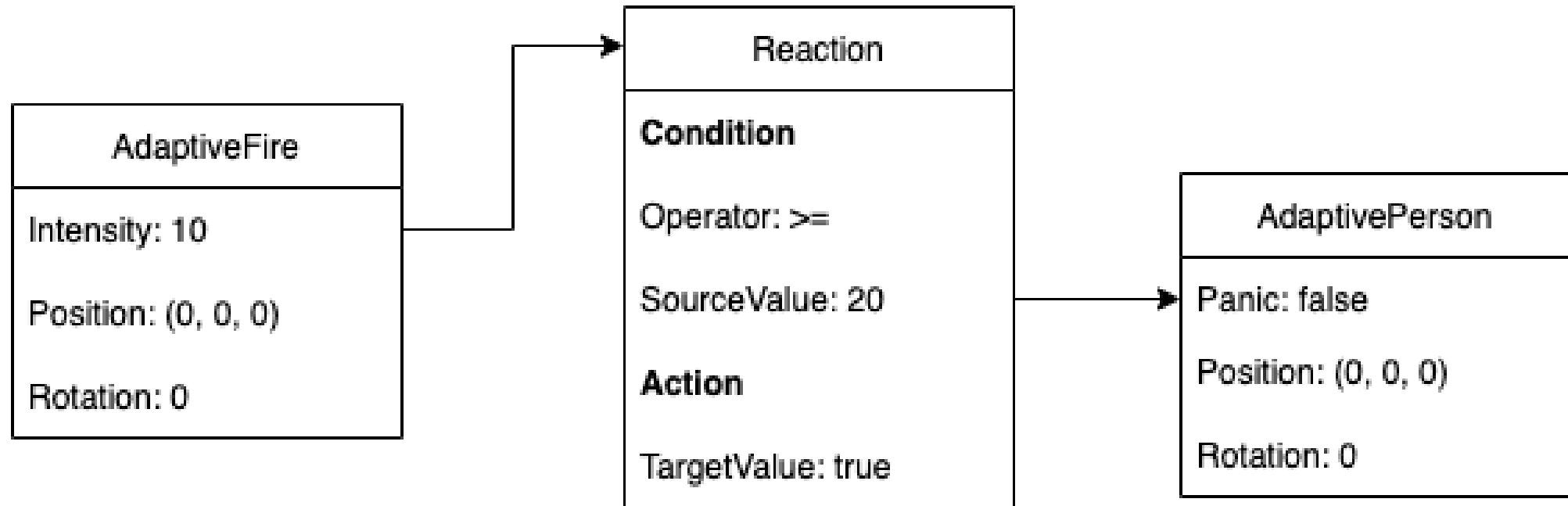




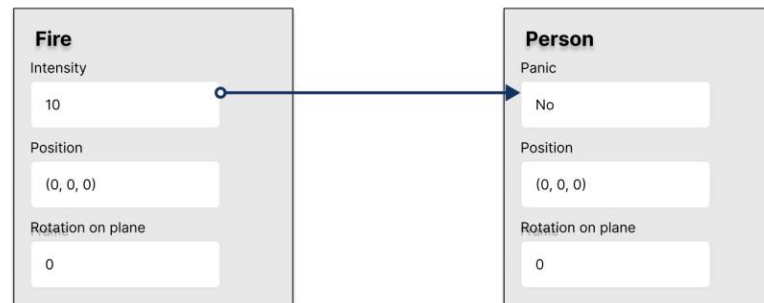
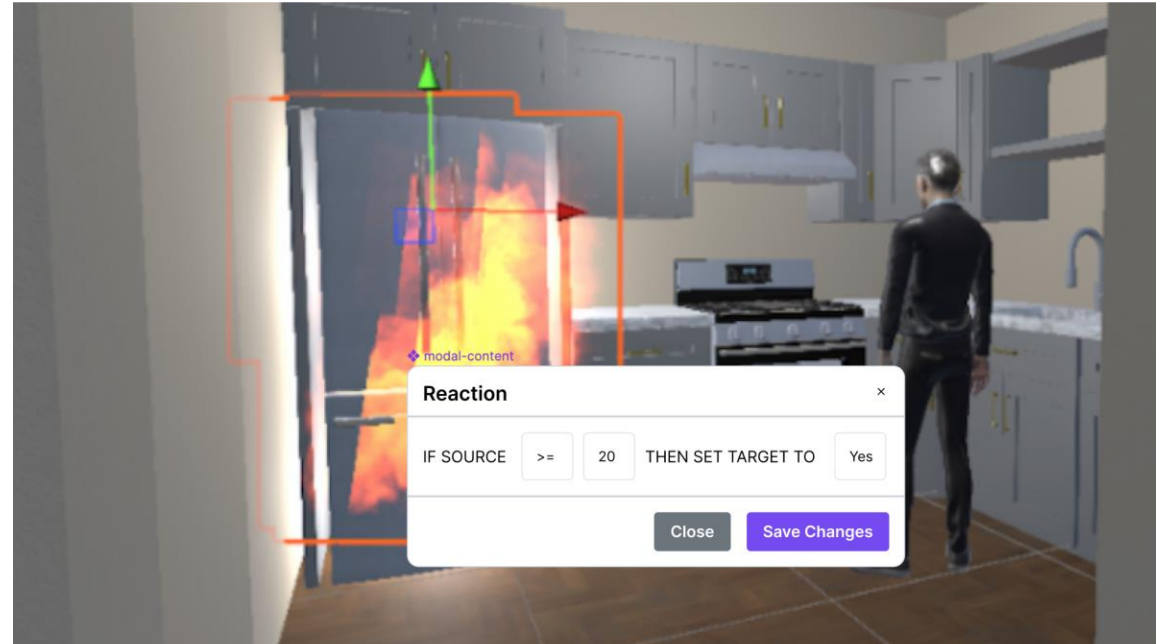
Deployment diagram – adaptive interface(POC 1: interatie V1 & POC 2: geavanceerde versie)



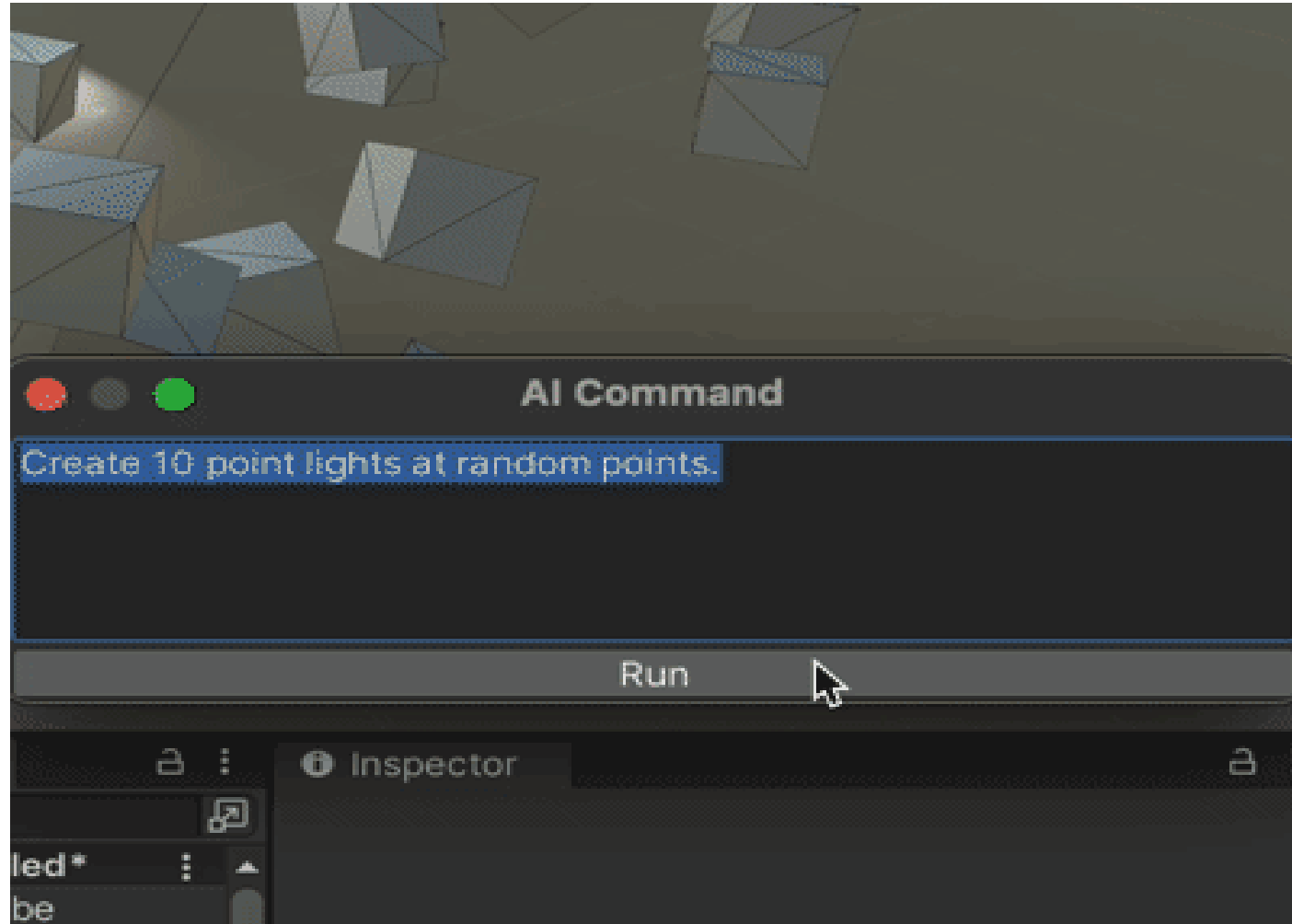
Example scenario



Voorbeeld GUI



ChatGPT als Visualcoder





Vragen?

Contact:

Lowie Spriet (lowie.spriet@ap.be)

Kristof Overdulve (kristof.overdulve@ap.be)