

# Sophia Project: Enhancing Player Immersion with Intelligent Autonomous NPCs in 2D RPGs

André Luiz França Batista

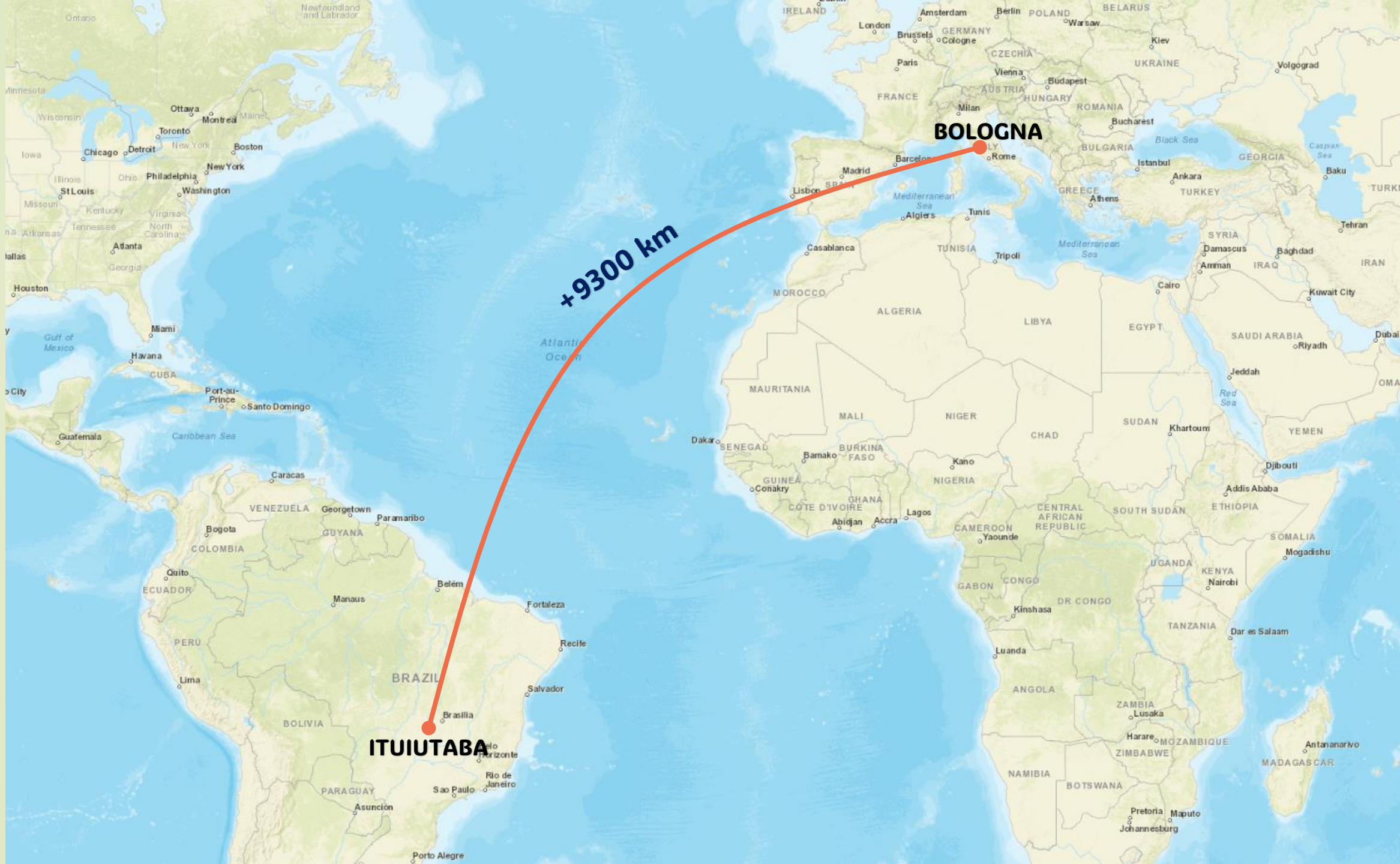
Instituto Federal do Triângulo Mineiro



+9300 km

BOLOGNA

ITUIUTABA

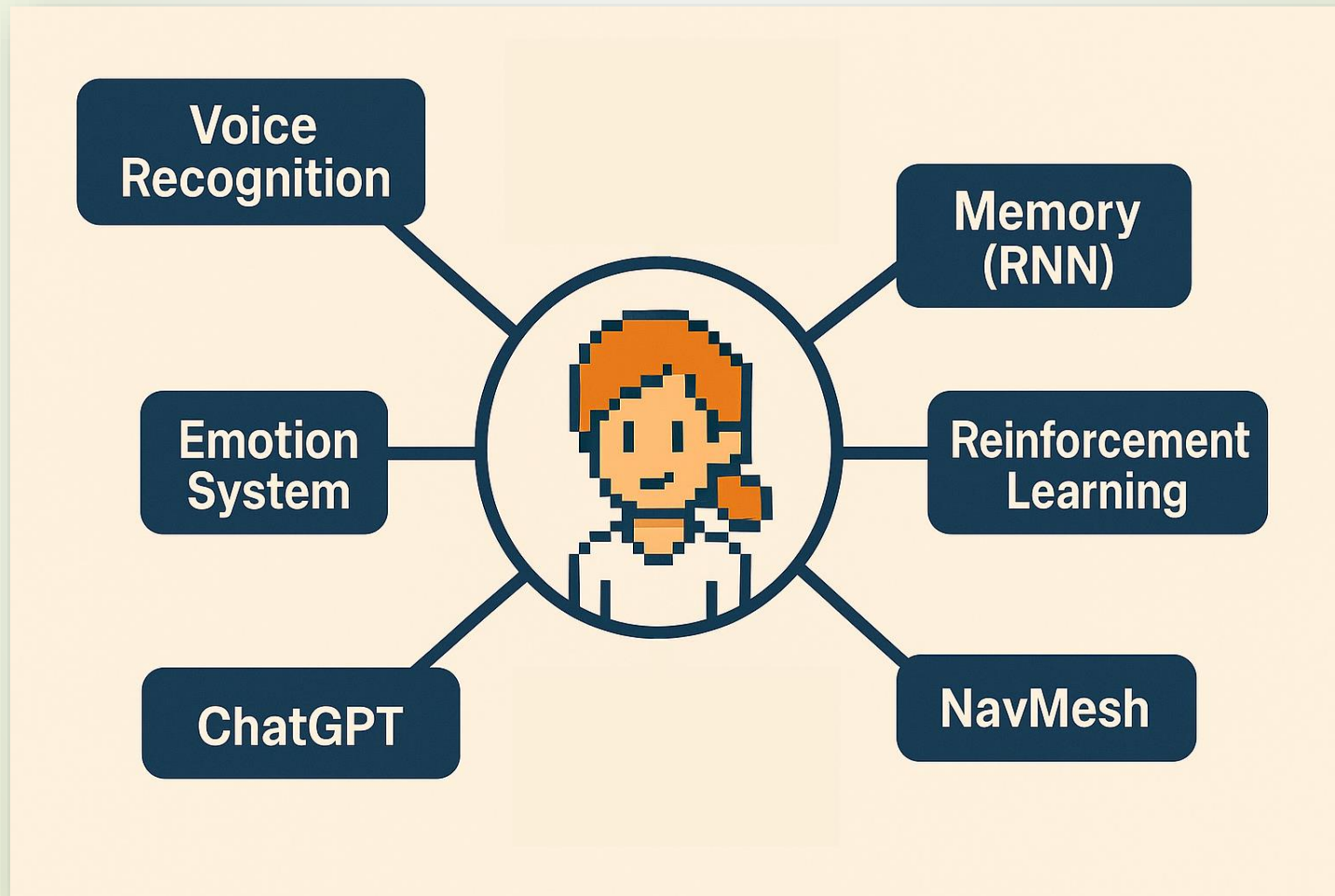




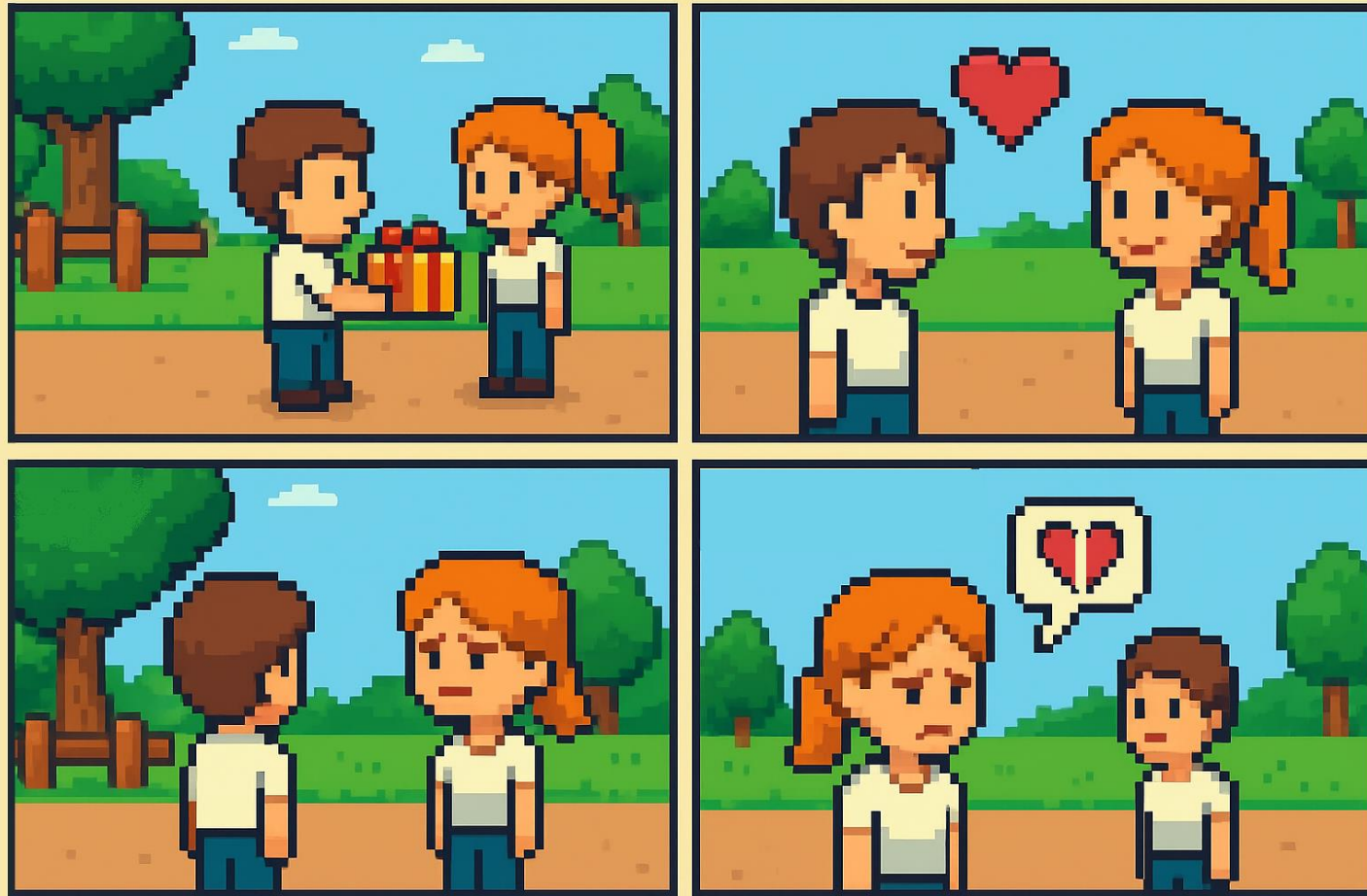
# The problem



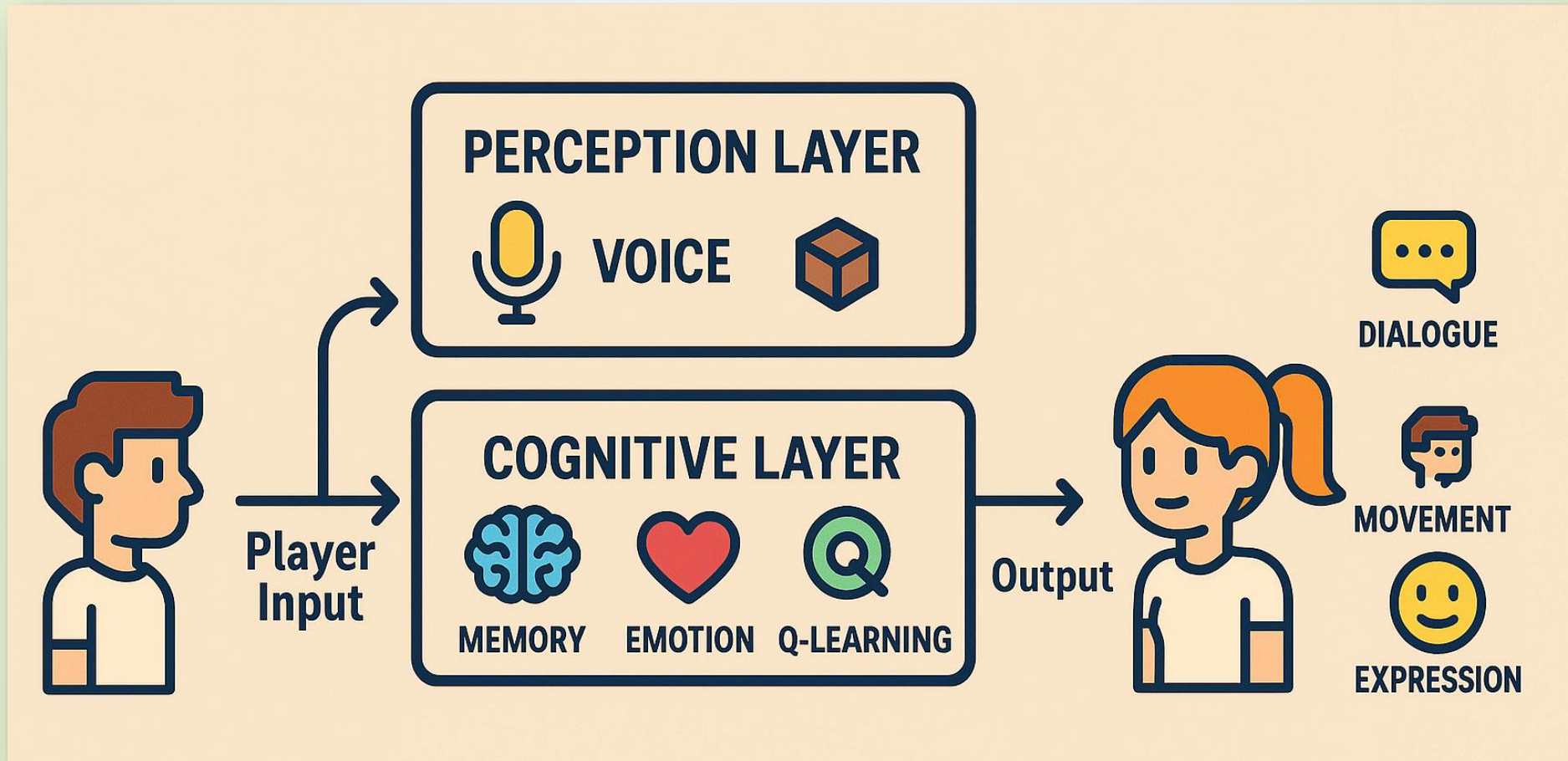
# The Sophia Solution



## How it works



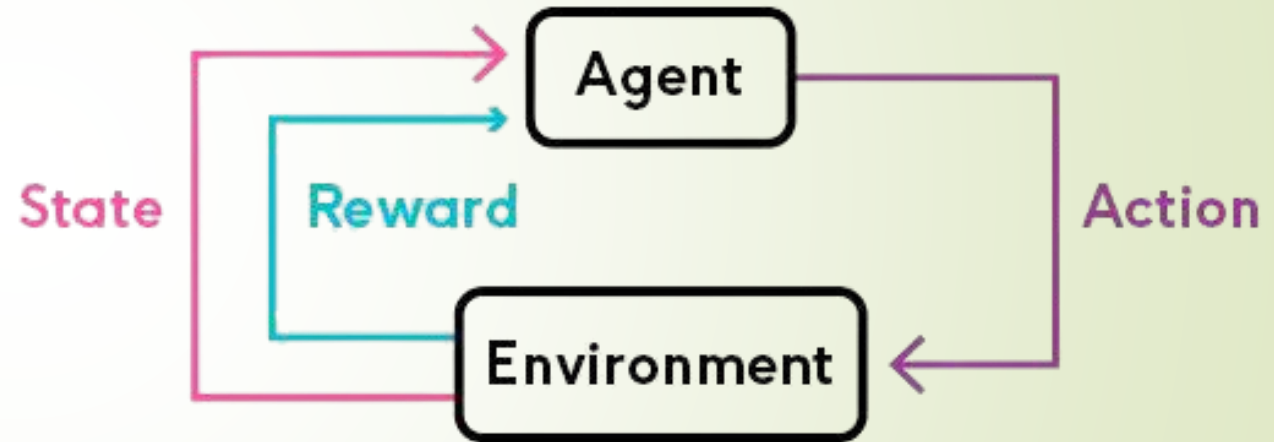
# The Technical Architecture



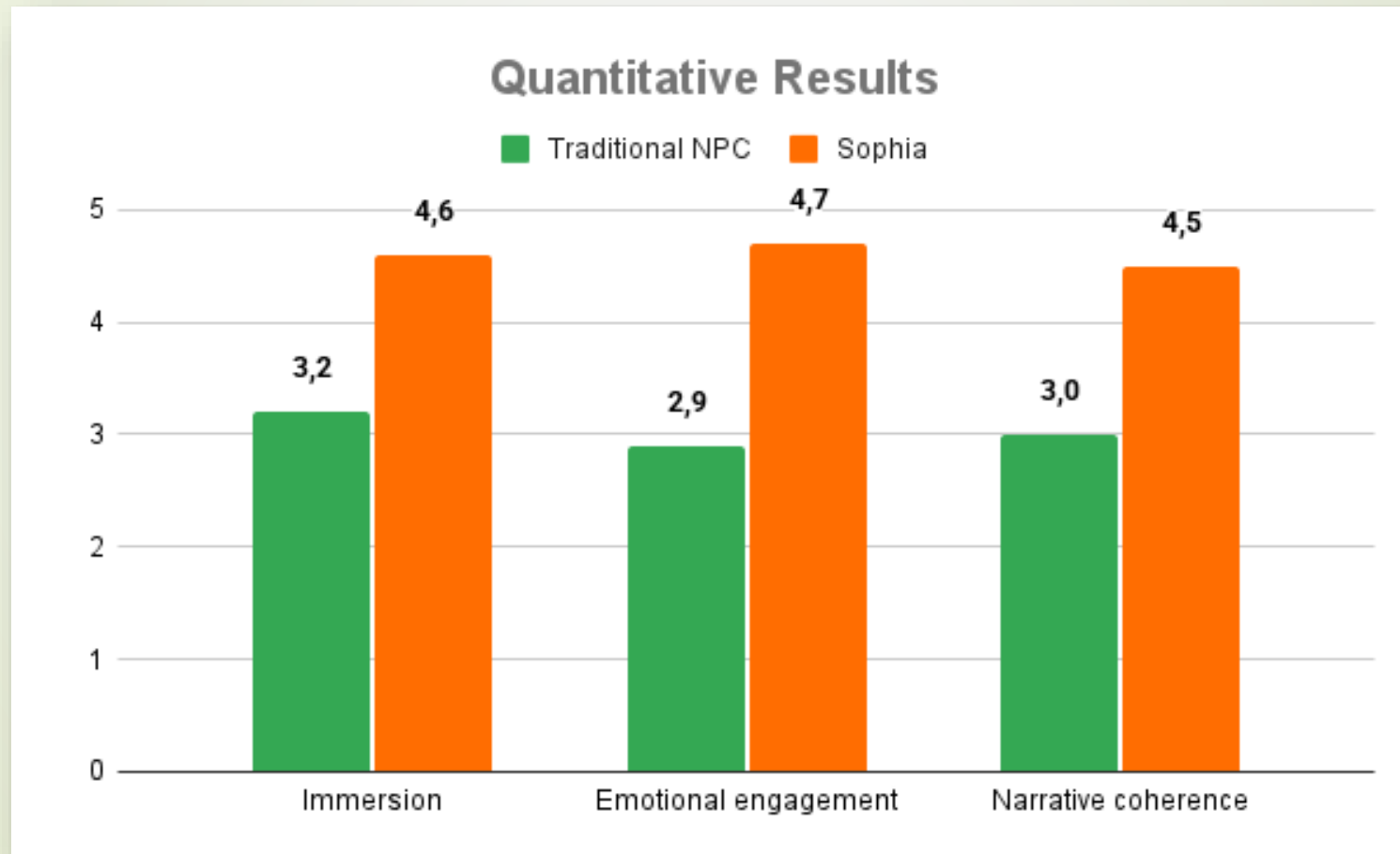


# Deep Q-Learning

- **State:** 42 features (location, dialogue tone, trust level, time of the day, etc...)
- **Actions:** 12 possibilities (approach, retreat, start conversation, express emotion, etc...)
- **Rewards:**
  - Continue conversation: **+1 point**
  - Walk away: **-1 point**



# Research Study Results





## Current Limitations



# Future Vision



# Impact & Applications

- Entertainment
- Education
- Therapy
- Training





# Contact information

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