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

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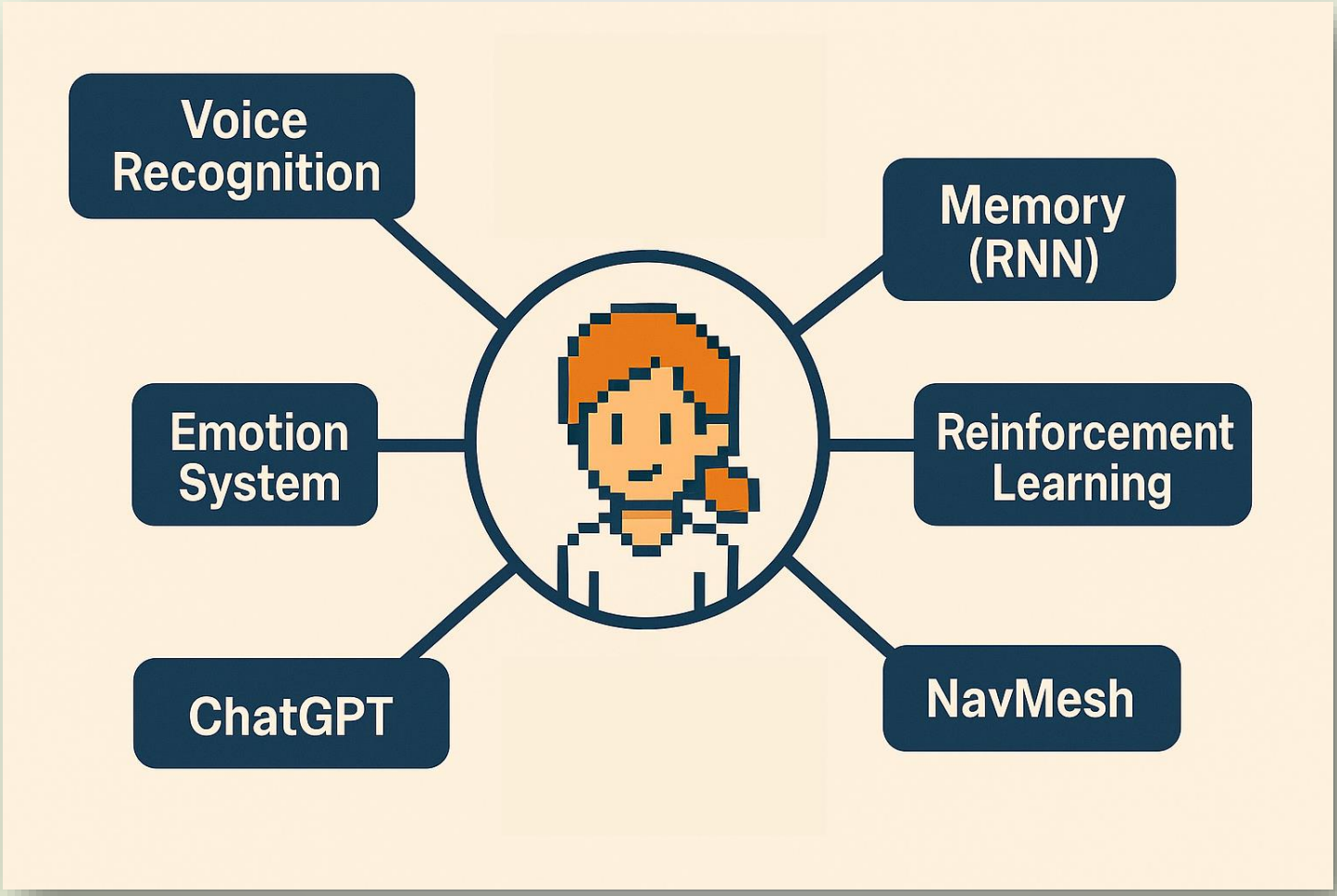
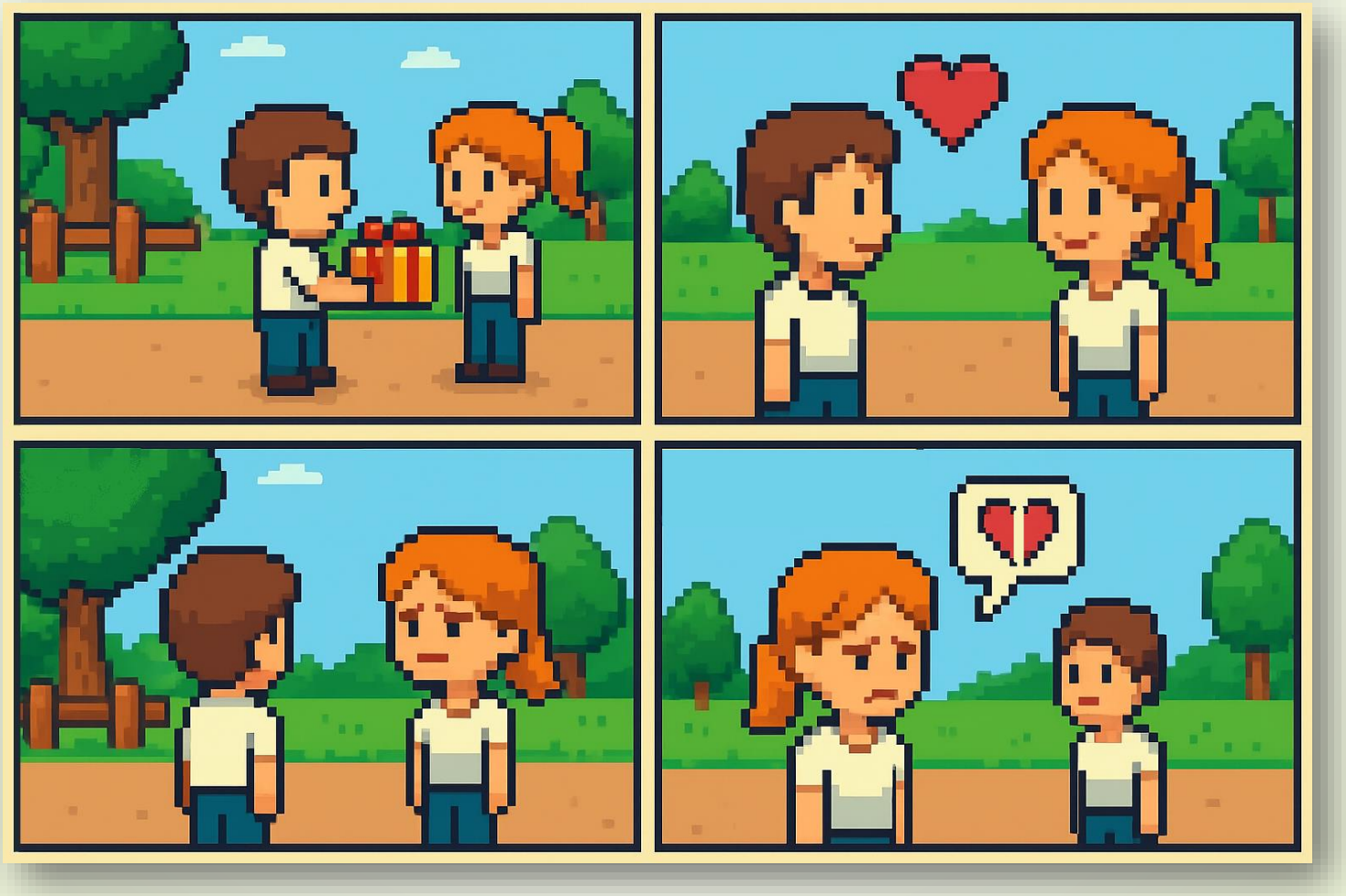
The problem

I'm still upset with you.
I'm still upset with you.
I'm still upset with you.

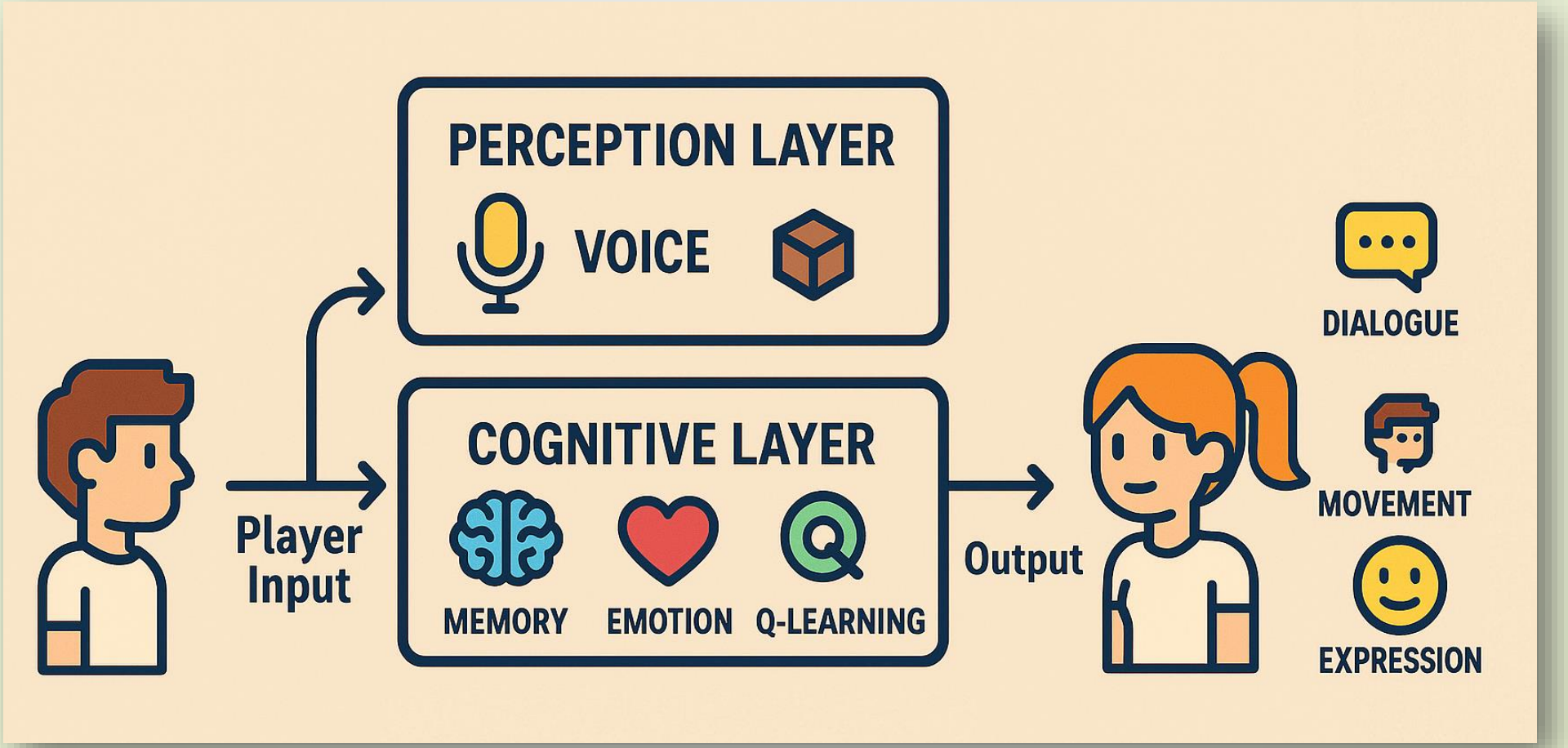
The Sophia Solution



How it works

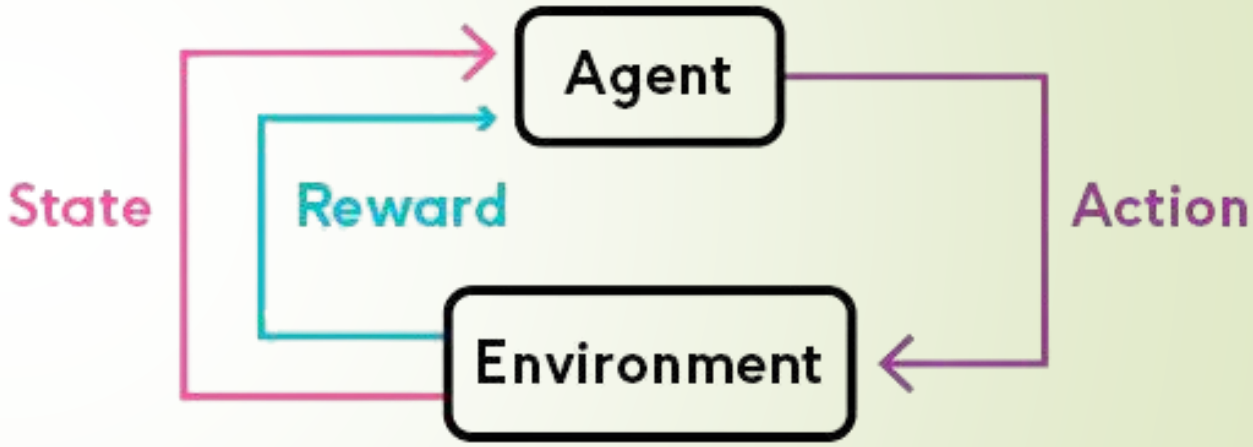


The Technical Architecture

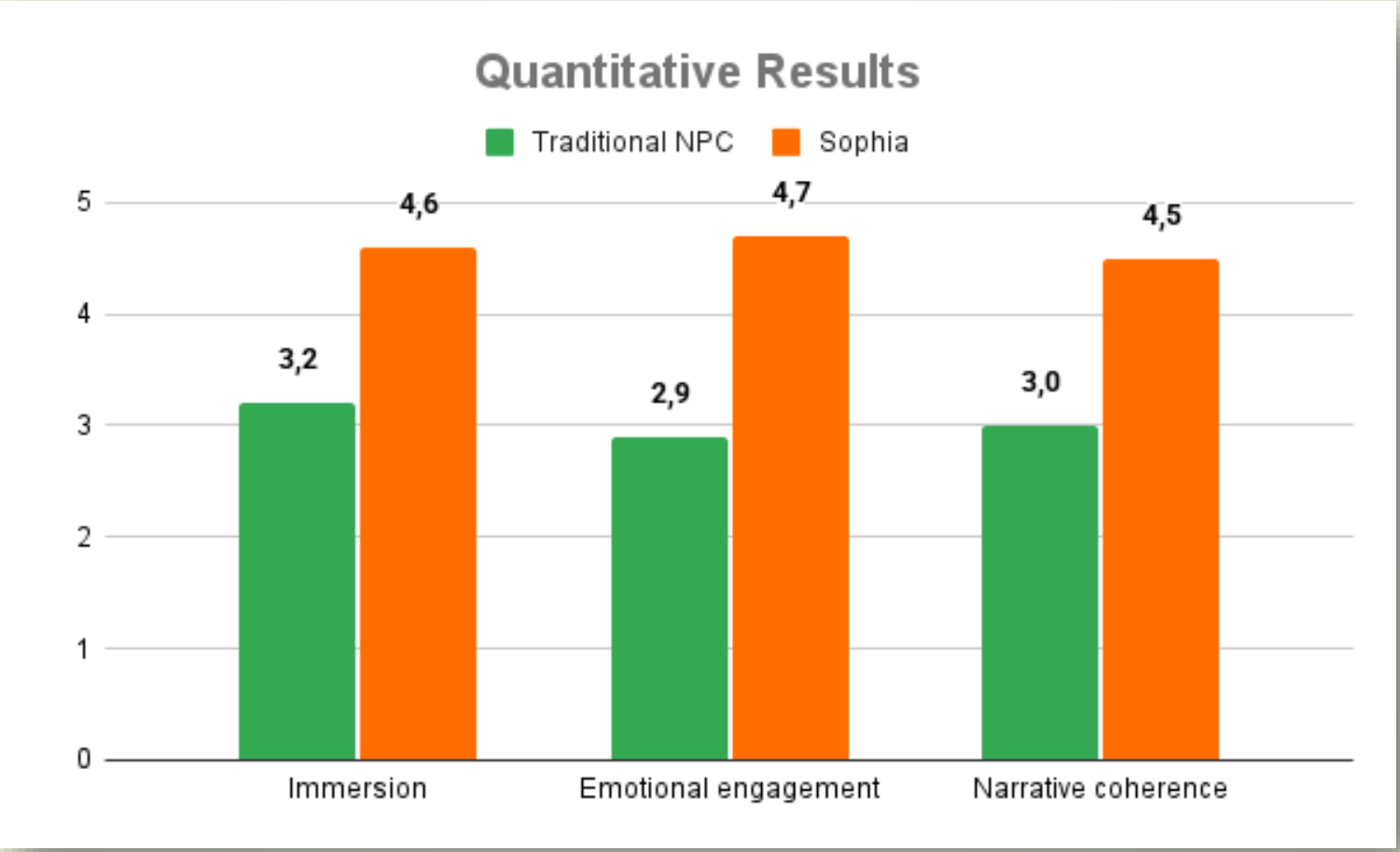


Deep Q-Learning

- **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**

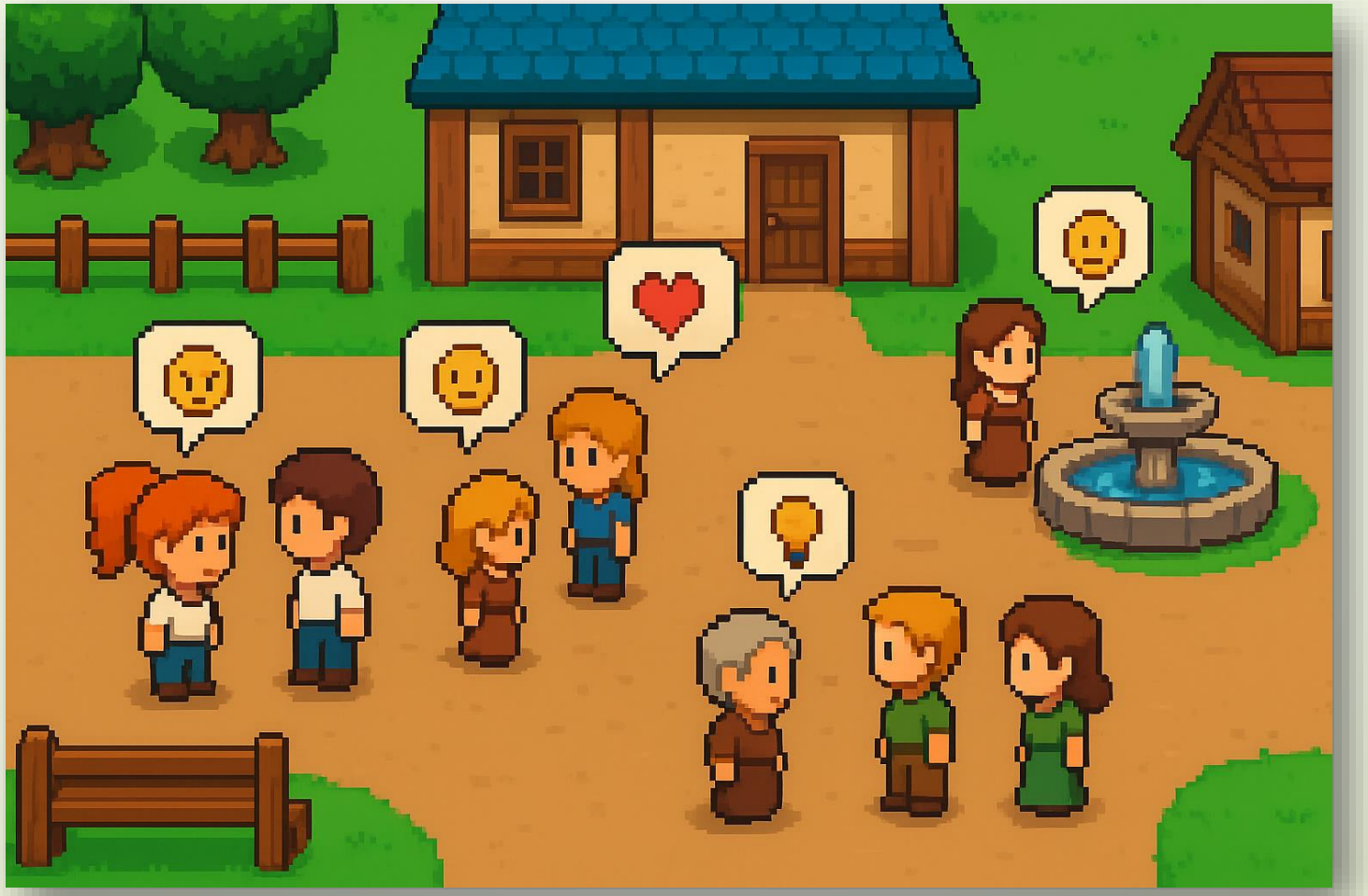


Research Study Results



Current Limitations

Future Vision



Impact & Applications

- Entertainment
- Education
- Therapy
- Training

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ITUIUTABA

Sophia
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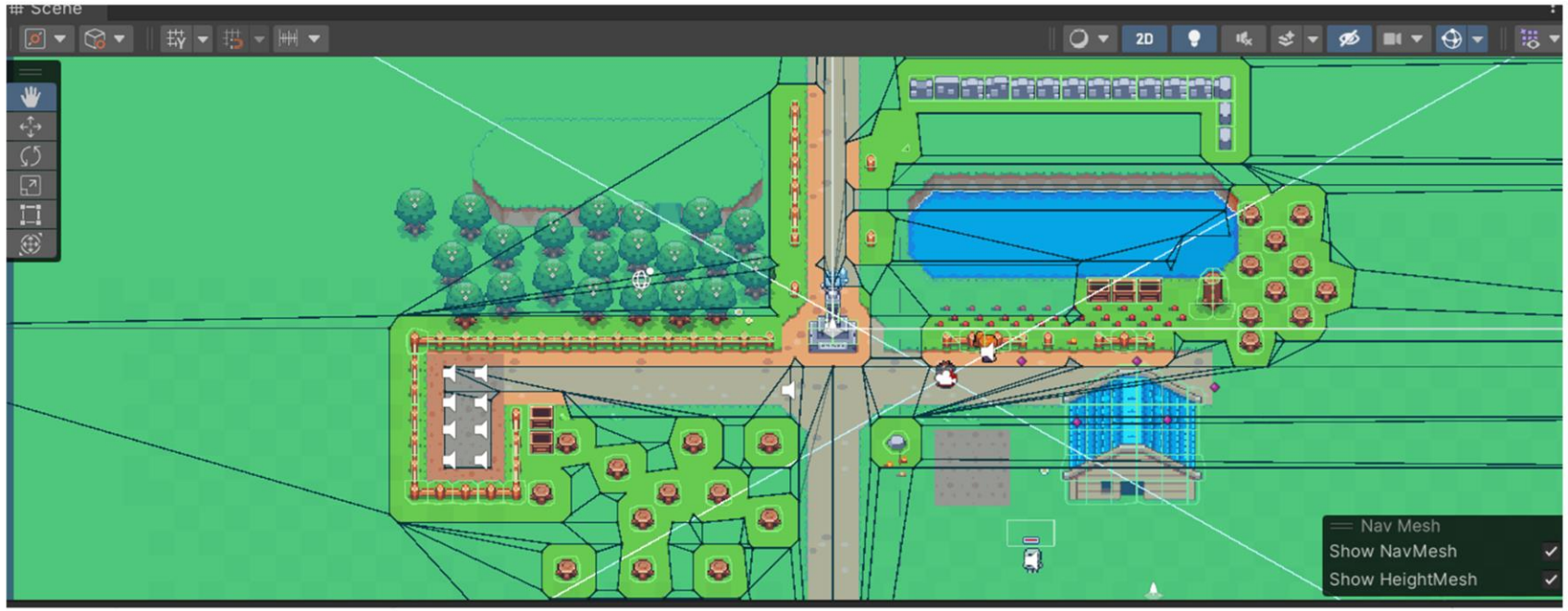
2D


Scene
2D
Nav Mesh
Show NavMesh
Show HeightMesh