



Transform Yourself

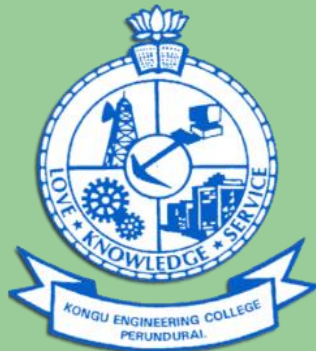
# AI-Driven Adaptive NPC Personalities in Video Games

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Estd : 1984

# INTRODUCTION

- NPC Limitations:** Traditional NPCs have fixed behaviors and give predictable responses.
- Adaptive NPC Concept:** NPCs change and develop based on how the player interacts with them.
- Objective:** To make gameplay more immersive and create unique, personalized experiences for each player.

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## Concept Overview

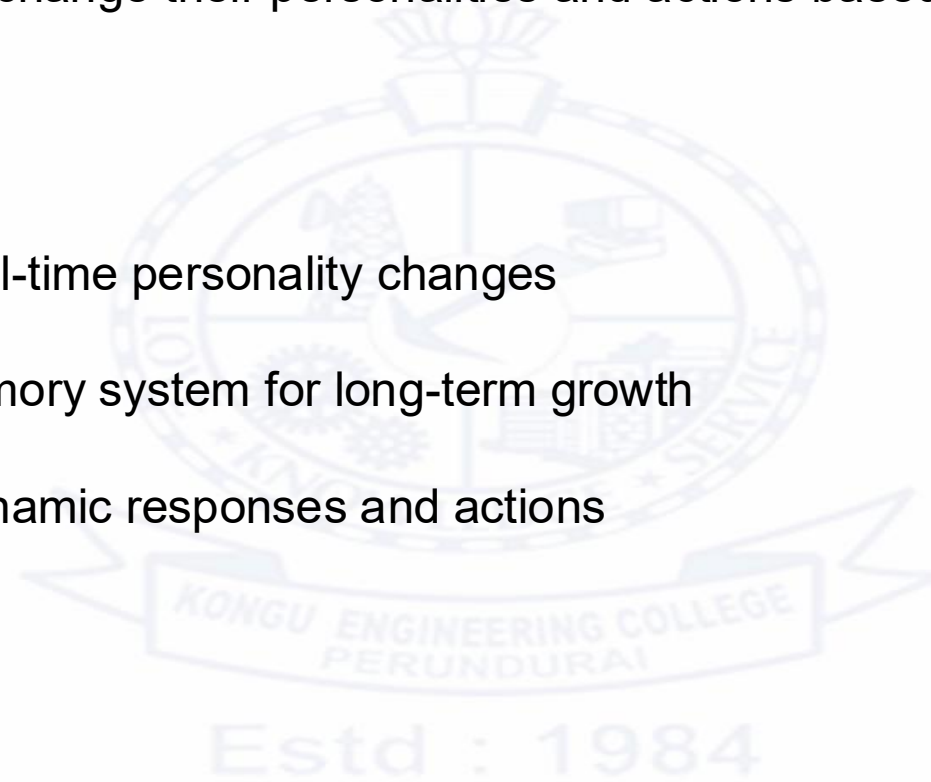
- Core Idea:** NPCs change their personalities and actions based on what the player does.

- Components:**

Real-time personality changes

Memory system for long-term growth

Dynamic responses and actions



## Key Components of the System

Player Interaction Tracking: Monitor player actions and behaviors.

Adaptive Personality Model: Modify NPC traits (e.g., trust, loyalty).

Behavior/Dialogue Adaptation: NPCs respond dynamically.

Memory System: NPCs remember past player actions.

## Player Interaction Tracking

Purpose: Track actions to build player profile.

Key Data: Dialogue choices, combat style, moral decisions.

Outcome: Personalizes NPC behavior based on the player's profile.



## Benefits of NPC

The benefits of adaptive NPCs include making the game feel more realistic, as NPCs seem alive and respond to the player.

They also create personalized gameplay, giving each player a unique experience based on their choices, and make the game more engaging by offering new interactions on each playthrough.

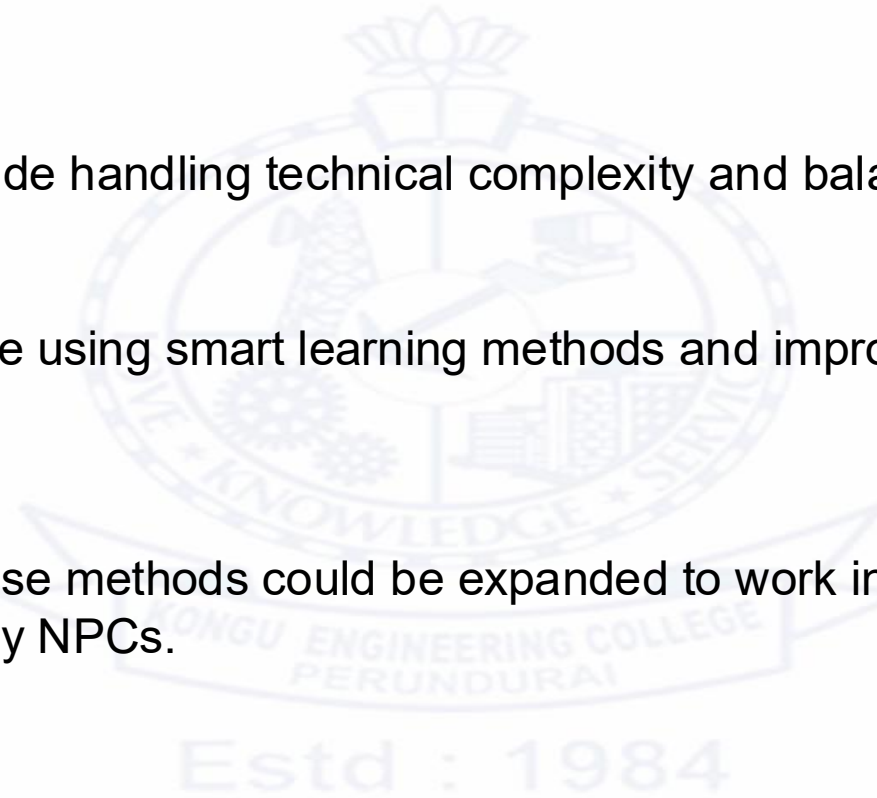
Additionally, they allow for creative storytelling by letting characters develop and change over time.

## Challenges and Solution

Challenges include handling technical complexity and balancing memory use.

Solutions involve using smart learning methods and improving memory efficiency.

In the future, these methods could be expanded to work in large open-world games with many NPCs.





## Example senario

- **Trusting Companion:** Becomes a loyal friend if the player helps them repeatedly.
- **Suspicious Merchant:** Increases prices if the player acts untrustworthy.
- **Rival Warrior:** Acts more competitive or respectful depending on how the player interacts with them.

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## Conclusion

AI-driven adaptive NPCs make games feel more immersive and improve the player experience.

In the future, they could set new standards for NPC behavior and interactions in gaming.





**Thank you**