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SAM demo in a Unity game Title : *Pribor*

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Chronicles: Journeys & Bonds

Context

- **Software:** *Unity* (2D, retro 16bit style, *Super Family Computer* or *SNES* system).

- **Game language**: English

- **Main Objective:** Place Anella at the heart of the *game design* to generate emergences and relevant interactions through a quest, transforming the game into a living gaming experience. Enhance SAM's potential through dynamic NPCs, capable of interacting with the player while responding to their own needs, thus embodying an AI likely to play the role of intelligent collaborator and participant in its universe.

- **Other:** using documents posted on Whatsapp

AI concept

1. **Weighted Word Network:**

   - Each NPC has a **semantic graph** (words/phrases related to its needs, history and knowledge).

   - Interactions (dialogues, actions) relieve the weight of words/needs.

2. **Affect dynamics:**

   - NPCs have **primary needs** (hunger, fatigue, income, socialization, among others) and **secondary** needs (transmission of quest-related information).

   - **A tension system** prioritizes actions: e.g., an NPC interrupts a conversation if his hunger reaches a critical threshold.

3. **Learning and adaptation:**

   - NPCs memorize the words/phrases used by the player and integrate them into their semantic network.

   - E.g.: A robot assistant narrates *Cinderella*, negotiating the knowledge he has acquired *from* the player to a certain extent.

Game Design

Phase 1: Classic introduction

- The player (young researcher) receives a quest from **Professor P.**

- The player enters his name, dynamically integrated by the SAM into the interactions.

- **Initial objective:** Collect 50 coins to finance a boat trip from the town of Pribor.

- **End of demo:** The player boards the *George Washington*, while a robot assistant concludes the end credits with *"Ready to board?"*

Phase 2: Immersion with SAM

- **Professor's House:**

  - Observable NPCs: Professor P., his wife, and a robot assistant named Anella.

  - Autonomous routines: Robot reading *Cinderella*, couple chatting.

  - Limited tutorial once the professor explains the workings of Anella (the robot), with which the player will interact. This is an opportunity to make the player realize that a tutorial is dispensable for his quest: the SAMs will be able to guide him in his quest, find solutions, tell him about their day, share their knowledge, etc.

- **Pribor village:**

  - NPCs manage their needs in real time (working at the market, resting, relieving themselves, etc.).

  - **Emotion Bubbles:** Contextual messages *("Ah, I'm hungry... I must eat!")*. In this way, the player sees the states and can observe the scene.

Phase 3: Advanced interaction

- **Written dialog interface:**

  - Direct communication with NPCs via chat (e.g.: ask the robot about *Cinderella*).

  - Responses adapted to the NPC's mood and needs (e.g.: The professor informs us that he needs to rest. He comes right back).

  - Needs hotkeys (F1-F4): Activate/deactivate needs (player/NPC), update NPC needs on screen, etc.

- **Emerging quests :**

  - E.g.: An NPC asks the player to deliver an item in exchange for his trust.

  - **Classic**: (e.g.: deliveries to earn coins) combined with emergent quests triggered by NPC crises (famine, power failure).

  - **Narrative emergency:** An NPC in critical condition (e.g. 90% hunger) generates a unique quest (*"Find flour for the baker"*), with a timer visible via the emotion bubbles.

  - ◦ **Impactful scenario**: Ignoring an emergency leads to chain consequences (e.g.: temporary closure of a stall → market price inflation).

Story and Lore

- **Universe:**

  - Pribor, a village where NPCs (SAM) live together.

  - Village square name: Sigmund Freud.

  - Professor's message at start of game: *"The George Washington is our only hope of studying this technological life. But the captain won't leave without a financial contribution... Help me raise the money!"*

  - The *George Washington*, a mythical ship, symbolizes the link between humanity and the awakening of AIs: legend tells of an advanced AI prototype hidden in her holds before she sailed to Central America.

- **SAM lore:**

  - Professor P. was a pupil of Freud. He was interested in the emergence of thought in language. One of his thesis is "We think because we speak".

  - City lore to be created.

  - NPCs continue to develop their stories as the game progresses.

Technical points

- **AI engine :**

  - Anella

  - Integration of a natural language processing API (*Unity ML-Agents* or custom libraries).

- **Map :**

  - Modular environments (house, village, port) designed to observe NPCs in a variety of contexts.

Key innovations

1. **Conscious NPCs:** Unscripted AI, reacting to its environment and story.

2. **Emergent storytelling:** Quests generated by NPC needs, not by a linear scenario.

3. **Implicit pedagogy**: AI discovery through observation and experience. Integrated SAM tutorial. Some SAMs will be unaware of certain information, which will prompt them to direct them to someone else or seek the answer.

4. **Unique experience:** Each game evolves through interaction.

Tagline : *"What if NPCs had a life of their own?"*

Target audience

AI developers, gamers curious about innovative narrative mechanics, ethnosimulation researchers.

Schedule Type (Solo)

Weeks	Tasks
1-2	Integration of maps (house, Freud square, port) in Unity. Implementation of main quest (cab) and side quests.
3-4	Finalize merchant NPC+ buy/sell mechanic. Sprites/animations created.
5-6	Coded menu and UI interfaces. Addition of free ticket and associated interactions.
7-8	Test NPC routines (hunger, collaboration, emergency). Price/cost balancing (50 pieces).
9-10	Polishing (transitions, dialogues). Final build+ user testing.

Risks to anticipate

1. **AI bugs**: Possible conflicts when integrating with quests/UIs.

2. **Artistic delays**: Sprites/animations not delivered on time.

3. **Economic balancing:** delicate adjustment of the win/expense ratio for the 50 coins.

Development Acceleration Tips

- **Assets Ready:**

    - *RPG Character Pack* (NPCs), *Simple RPG UI* (menu).

- **Minimalist Prototyping:**

    - Simplified map at start, gradually enriched.

- **Automated testing:**

    - Test scenarios simulating 24 hours of play in 2 minutes.

Final deliverable

A **10-15 minute** demo including:

- Cab quest,

- 3-5 NPCs with dynamic AI (hunger, collaboration, urgency),

- Pribor village (Freud square+ port),

- A professional menu.

- **Objective:** Convey the excitement of interacting with SAM, encouraging players to prolong their immersion.

Summary

With AI already up and running, and a focus on asset/UI integration, the demo is achievable in **2-3 months** on its own. The absence of complex music or 3D requirements simplifies the process.