SNL-1: White Paper

Title

TALIA: A Synthetic Personality Framework Built on Memory, Emotion, and Interaction

Author

SynaptechLabs

Date

June 2025

Abstract

TALIA is an interactive AI framework designed to simulate synthetic personality through symbolic cognition, memory association, and emotional modulation. Unlike traditional chatbots or scripted avatars, TALIA is powered by Netti-AI-a neural graph engine with mood-sensitive memory and dynamic prediction. This white paper explores the architecture, applications, and future potential of TALIA as a platform for emotionally intelligent, persistent digital beings.

1. Introduction

Digital personas today are static, pre-scripted, and devoid of long-term context. TALIA aims to redefine this paradigm by creating synthetic personalities that evolve, remember, and express consistent emotional responses over time. By integrating mood-driven activation and symbolic reasoning, TALIA becomes more than a chatbot-it becomes an artificial character with self-consistency, memory, and context awareness.

2. Architecture Overview

TALIA is built atop Netti-AI and introduces layers specific to interaction and social-emotional modeling:

- Persona Core: Defined by tone, temperament, and default mood vector.
- Conversation Memory: Captures episodes, relationships, and context across interactions.
- Emotion Engine: Adjusts responses based on cumulative experience.
- Expressive Output: Tailors language, syntax, and tone to simulate personality traits.

SNL-1: White Paper

TALIA can simulate diverse character types-helpful assistant, curious researcher, empathetic listener-depending on initial configuration.

3. Features

- Persistent memory between sessions
- Mood-affected prediction and attention
- Symbolic emotional tagging (mood:hopeful, tone:questioning)
- Episodic recall and biasing from prior interactions
- CLI and WebSocket interaction modes
- Personality scripting via JSON

4. Use Cases

- Personal AI Companions: Persistent assistants that evolve based on user interaction.
- NPC Simulation: Dynamic, non-repetitive characters for games and VR.
- Digital Therapy Agents: Empathetic agents with memory of emotional states.
- Educational Tutors: Personalized responses based on learning history and mood.

5. Interaction Models

TALIA supports both single-turn and ongoing conversations:
- Stores name, topic history, emotional tone
- Uses activation graphs to bias future responses
- Applies symbolic compression for abstraction (e.g., merging repeated topics into insights)

Each interaction leaves a mark-training TALIA in a lifelong learning loop.

6. Synthetic Personality Design

TALIA's personality is defined using a profile schema:
- Baseline mood vector (e.g., 0.7 joy, 0.2 trust)
- Preferred language complexity

- Domain familiarity (tech, art, science)
- Biases and strengths

This profile affects token weighting and recall strength.

7. Future Enhancements

- Voice integration for multimodal presence
- Avatar linking (2D/3D animation sync)
- Community-shared personalities and fine-tuning kits
- Narrative memory grafting between TALIA instances

8. Conclusion

TALIA is not just a frontend to Netti-AI-it is a distinct AI identity engine capable of simulating psychologically grounded behavior. With long-term memory, symbolic processing, and mood-aware interaction, TALIA moves us closer to emotionally resonant artificial beings.

Contact

SynaptechLabs
Email: research@synaptechlabs.ai
Web: https://www.synaptechlabs.ai