SNL-1: White Paper

Title

TALIA: A Conversational AI Interface with Personality, Memory, and Emotional Awareness

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Abstract

TALIA (Talk, Learn, Adapt, Interact, Assist) is a human-facing conversational agent designed to simulate personalized interaction through emotion-aware memory, symbolic reasoning, and adaptive behavior. TALIA builds on the Netti-AI cognitive engine to deliver rich, engaging dialogue systems that are capable of retaining context, learning user preferences, and expressing mood through tone, timing, and content. This white paper presents the design, architecture, and goals of TALIA as an intelligent assistant for research, education, embedded systems, and cognitive experimentation.

1. Introduction

Modern assistants are either too rigid or too ambiguous. TALIA introduces a new middle ground: a conversational framework that combines memory persistence, mood states, and symbolic cognition into a highly interactive and emotionally resonant experience. TALIA is not just a chatbot - it's a long-term memory-capable AI designed to build relationships, reflect emotional context, and adapt to changing goals and user inputs.

2. Key Capabilities

- Conversational Memory: Tracks named entities, intentions, and user interactions across time.
- Emotion Simulation: Mood vectors influence responses in tone, brevity, and engagement.
- Symbolic Contextualization: Links language tokens to neural concept graph powered by Netti-AI.
- Episodic Recall: Can reference past sessions or conversations with users.

- Adaptive Learning: Adjusts responses, behavior, and focus over time.

3. System Architecture

TALIA interfaces directly with Netti-AI's symbolic token engine. Components include:

- Frontend Interface (CLI, Web, Embedded)
- Dialogue State Manager: Tracks user intent, memory threads, and current topic
- Mood Engine: Influences linguistic choice and pacing
- Memory Adapter: Stores episodic and semantic memory chunks
- Behavior Layer: Determines conversational strategy (e.g., clarify, mirror, inform)

4. Use Cases

- Cognitive Companions: Personalized assistants for wellness, memory support, or companionship
- Research Agents: Simulating symbolic behavior in language and emotion research
- Embedded Interfaces: Personality-driven voice or text interfaces in SNL-1 powered systems
- Learning Tools: Conversational tutors with affective feedback
- Narrative AI: Games, story generation, and emotionally-aware NPCs

5. Roadmap

- v0.1.0: Symbolic dialogue + mood engine (Complete)
- v0.2.0: Episodic recall + name tracking (2025 Q3)
- v0.3.0: Embedded mode + personality scripting (2025 Q4)
- v1.0.0: Full SDK with Netti-AI bridge and emotion scripting (2026)

6. Future Directions

- Integration with visual emotion cues (facial, voice tone input)
- Long-term memory indexing with mood tagging
- Cloud synchronization of emotional profiles across devices
- Research extensions for modeling trauma, learning curves, empathy

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7. Conclusion

TALIA represents a leap forward in interactive AI - merging emotion, memory, and symbolic reasoning into a compact, explainable system for adaptive human-AI relationships. As a personality layer atop Netti-AI, TALIA enables truly meaningful digital interaction, from embedded assistants to experimental companions.

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