**SPEAK TO ME**

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SpeakToMe. Speak To Me is an implementation if the research paper “SELENA”

## introduction

“Speak To Me” or STM is an application of the theories presented in the paper “SELENA: An experiment in human consciousness.” SELENA lays out the requirements of a conscious-like organism while STM implements those algorithms in function.

STM requires three simple algorithms in order to function.This is the basis and must be no matter what else is done.

· **Integration** – this is the learning process. In this process the automaton absorbs information from its senses as well as internal states and uses their data to make associations and store them (thus learning).

· **Search** – Decision making and is similar to what occurs when neurons are fired within the brain. This consists of paths, which are overlaid over the brain’s existing vertices (nodes) and arcs.

· **Sort** – this is a cleanup period where data is reorganized and made more efficient for access. Also, processes put on the backburner can be completed during this phase.

**2. continued**

The second layer of importance in processing is the following:

**Pattern Matching**

**·**  The brain is not only able to remember outside stimuli (such as pictures, sound, touch) but it is also able to remember and generate complex algorithms. This is similar to a computer program.

That is, STM must have a functional memory with **Recall** and **Store**. It also remembers a series of commands (generate complex algorithms) and repeats those algorithms..

· **Recall** is some form of unknown search (path finding or tree traversing) algorithm in which associations along the path become recalled as associated ideas within the mind of the individual.

**Communicate** - These unknown search mechanisms would be able to generate and run external scripts. Making some algorithms not necessarily

**Integration -**  Some concepts become heavily weighted and permanent; when used frequently become heavily "weighted" and are remembered easily, appearing permanent.

**Integration -** The brain is also able to generate new "ideas" or thoughts internally. These are new associations generated by the integration (specifically the sorting portion of the) process.

**Integration** - In short term memory in sleeping hours, but unlike waking hours, the brain is receiving minimal outside stimuli

· **The integration process of data is a biologically based SORTING algorithm** the brain uses to evaluate associations, determining their validity or invalidity, and restructure associations.

· The integration process goes on during the day as well as night, but as the body is resting at night, the integration process is much more intense, taking the form of dreams.

**3.third layer of functionality**

**Recall/Recognition**

Must be able to rewrite its own procedures or instruct itself in some other manner (create new ways of solving problems).

**Memory - Structure**

Must be able to make valid associations (remember information)

Memory is the overarching core of STM and the essential reason why SELENA is designed the way she is. **Sort, Integration, Search and Recall/Recognition and Pattern Matching are all INFLUENCED** and are children of the Memory.

**Metaphor**

Must be able to abstract (create more generalized patterns from learned patterns). The ability to infer one thing to another thing is one of the most unique things that man has. Creativity doesn’t happen without Metaphor.

**Utility/Integration**

Punishment/Praise. Once again a function of memory. The pain is localized where the event’s memory is located.

**Communication**

Must be able to learn and output in natural language

**3. education**

STM must be able to perform **unsupervised learning**. In this implementation STM mines the internet net learning using a UL algorithm.

**Memory - Structure**

. The system shall be able to discern likely correct information from likely incorrect information through recognition of internal conflicts (confusion) with its current knowledge base, whether that knowledge base is supplied or learned in the same manner as the new information .

**Self-Education (Integration)**

The system shall have if necessary, accessible, ongoing **internal dialogue** in a known and comprehensive natural language such as English.

**3. higher level functions**

**NLP**

So a computer natural language must be read in a “flowing” manner, where meaning (semantics) is developed in a cumulative manner.

3. The system shall instruct itself using a context-given-grammar of its own, similar to the way people work through problems in their minds using natural language.

4. The machine’s language should be what the machine runs in, what it writes scripts in (for self-instruction), and how it executes scripts.

5. The system shall conduct all thought using a context-given-grammar that takes advantage of natural language as well as the benefits of context-free grammars that exist in present-day scripting languages. This is translated eventually into an self-instructing assembly language (see above).

6. The autonomous machine should operate using natural language in the form of self-talk similar to humans. The autonomous machine should make more complex decisions using natural language.

7. The autonomous machine should be able to output and input decisions that must be made requiring assistance from other autonomous entities.

**SEARCH**

1. The system shall be able to retrieve memories through an efficient ANN –like search algorithm.

2. The system shall be able to integrate search data with short-term memory.

3. The system shall be able to retrieve memories from tagged keywords, these keywords trigger related memories (neurons).

4. The system shall use search for decision making

5. A single node joins the search chain when its node is fired

6. The search process begins when sensory input enters the brain

7. When sensory input enters the brain, it fires a chain of neurons. The value of this chain is dependent upon the current configuration of the neurons and neurotransmitters.

8. When sensory input, in the form of a chain, occurs, each neuron is a processor taking in the unique assembly language of Selena. The assembly commands are abstracted into natural language. Thus Selena thinks in a natural language.

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