



**Neuric Technologies, LLC**

**The Neuric<sup>®</sup> Brain in Education**

By  
Thomas A. Visel

April 13, 2007

Neuric Technologies, LLC  
4030 W. Braker Suite 180  
Austin, TX 78759  
(512) 773-4447  
Neuric.com



neuric

## The Neuric<sup>®</sup> Brain in Education

**Summary:** Neuric Technologies, LLC, is developing a human-like brain with feeling, emotion, temperament and expression. Artificial personalities ó created and configured with unique back-stories ó can be useful in education. These “agents” can be applied to the training of teachers, students or in a commercial environment for the achievement of goals. These capabilities for artificial intelligence do not exist outside of Neuric’s patented system.

The agent can have emotional content associated with its memories, giving it behaviors *similar* to those of a human being with the same experience. Because the emotional associations can be configured (added or removed) at will, the Neuric Brain becomes an excellent tool for training, *for example, in the interaction with people, but also for myriad other purposes.*

### Example Applications of the Neuric<sup>®</sup> Brain

- First-Person Role . Talking Head of historical figures (e.g., Churchill, Washington)
  - Interactive conversation on their life, personal experiences and feelings
  - Interactive discussion on their contemporary times and events
- Second-Person Role . Teaching Assistant in the classroom
  - Tasked for specific lessons
  - Directly interacts with student
  - Immediately identifies problem areas, suggesting courses-of-action for teacher
  - Identifies the temperament and best learning modes of the student
  - Configured for personality that is a suitable match for the student
- Third-Person Role . Scenario-based training to safely let teachers experience their impact
  - Demonstration of the significance of the student’s back-stories
  - Training in means to mitigate the impact of negative back-stories
  - Safely try out alternative approaches on alternative Artificial Personalities
  - Awareness of temperament and its impact on personality
  - Awareness of the impact of student personality differences
  - Scenario-based *what-if* handling based on personality
  - Training of conversational technique
  - Training in proper and effective social engagement

### Benefit of the Neuric<sup>®</sup> Brain

- Train safely with artificial personalities
- The underlying temperament can be chosen to fit the task
- Back-stories that shape the personality can be defined and applied

## How the Neuric<sup>®</sup> Brain is Applied

- An Artificial Personality is Created:
  1. Any temperament *may be* selected
  2. Training is applied
  3. Back-stories relevant to the shaping of character are applied
- Scenarios relevant to the student's training program are defined
- Student interacts with the artificial person by keyboard and/or voice

## Status of Development<sup>1</sup>

- Demo of English-based learning (a geography lesson) released 9-15-2006.
- Animation demo of emotional interaction with the environment released 12-15-2006.
- Completion of core processes for interactive discussion targeted about 9-15-2007
  - Expansion of grammar styles
  - Interactive discussion and dialog
  - Motor skills
  - Speech output
  - Speech input (see below note)
- Funded by private investors

**Remarks** - Much of the brain model used at Neuric is predicated on *concepts* rather than on words and grammar alone. This permits learning based upon past experience, *both remote and recent*.

Present work in progress extends the brain's capabilities beyond those needed for animation (for example). This includes interactive dialog, analytical skills and comprehensive motor skills such as for robotics. Speech recognition systems are presently *less than* perfect; the contextual facilities of the Neuric Brain model offers means of *˘sense-making* for corrective purposes. Neuric is working towards such a system based on commercial technology, but corrected for intent by the brain's short-term awareness of the flow of conversational content.

*Many other subtleties and capabilities to be incorporated in the core, such as humor recognition and management, will be completed in the next three months.*

---

<sup>1</sup> Document was published in 2007.