A Triage Information Agent (TIA) based on the IDA Technology

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Triage in Trouble

- Hospital emergency rooms are busy
- Patients are impatient
- Triage nurses, and physicians, make mistakes
- Patients are harmed
- Malpractice suits ensue
TIA to the Rescue

- Triage nurse rules out an immediately life-threatening situation
- Patient dialogues with TIA
- TIA passes information and recommendations
- Nurse observes, interviews & schedules initial testing
- Convert a 2-step patient to a 1-step patient

From TIA to the Triage Nurse

- Patient demographics, condition, chief complaint
- Differential diagnosis, recommendations for
  - Prioritization
  - Non-physician care (testing)
My Research Directions

• How do minds work?
  – Human minds
  – Animal minds
  – Artificial Minds

• How to make smart software agents?
  – Copy them after humans

The IDA Project

• IDA finds new jobs for sailors
• Negotiates in colloquial English
• Adheres to Navy policies
• Automates task of a human detailer
• Cutting edge software agent technology
• Employs diverse “new AI” mechanisms
• Models animal and human cognition
• Hypotheses for cognitive scientists and neuroscientists
The IDA Modules for TIA

- Perception
- Working memory
- Semantic memory
- “Consciousness”
- Action selection
- Language generation
- Deliberation
- Volition
- Diagnosis

IDA suffices for TIA

- TIA can be implemented on the IDA technology
- Much knowledge engineering needed
- Some basic research
  - Differential diagnosis
  - Interfacing with voice recognition
Goals for TIA

- Shorten patient time in the emergency room
  - TIA initiates routine non-physician care actions
  - Converts 2-step patients into 1-step patients
  - Decreases the time a physician spends with patients
- Decrease triage-related errors and malpractice risk
  - Reduce prioritization errors leading to errors of delay
  - Reduce errors of oversight or omission

Issues of Concern

- Will patients willingly interact with TIA?
- Quality of voice recognition software
- Variety of patient’s
  - incapacity due to illness/stress
  - intelligence level
  - English fluency
- Knowledge engineering costs
TIA as an idea

- So far, high-level planning only
- One partner at remote location and otherwise occupied
- No intention to seek funding
- Willing to collaborate with other interested parties

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