

Homework #7

Using Microsoft Agent for Emotional Agents

Internet Bots, Spiders, and Emotional Agents

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LIACS, Leiden University

for Prof. Doug DeGroot



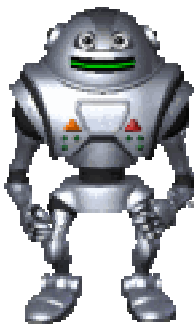
Homework 7: MS Agent Demonstration Example

Goal: Create a functional, animated bot interface using the Microsoft Agent technology. Assess the utility of MS Agent.

Due: Thursday, December 20, 2001. Submit via email to BotClass<degroot@liacs.nl>.

Description:

To date, we have studied and constructed various types of worker bots and chatterbots. The worker bots have been constructed specifically to recede into the background of your computing environment; as a result, their human-computer interface is specifically intended to be minimal — the less seen or heard from, the better. The chatterbots have been constructed to be highly interactive. In fact, they require a human-in-the-loop to operate. (Of course, we might consider that the RemailerBot system “simulates” a limited-functionality chatterbot interface to a worker-bot application.) The chatterbot technology we have looked at supports both work-level tasks as well as entertainment, among other uses. However, even the chatterbots we have explored have mostly been without any graphical interface.



Sometimes, a more personal, graphical interface may be desirable for certain classes of bots and agents. For examples of possible approaches to providing such interfaces, we looked at an example VideoBot construction (Buster) and briefly at Microsoft’s Agent technology. The MS Agent technology is already in use in both production-level applications and systems as well as in various research prototypes. It has been used on desktop as well as Internet-based applications. MS Agents can exhibit movement, emotions, facial expressions, synchronized gesturing, and more. When the computer system supports it, MS Agents can also exploit speech synthesis and speech recognition.

Typically, you might consider using an MS Agent-based interface as the GUI part of a bot or agent that performs some lower-level function of value to the user. As such, the integration of the application and the MS Agent interface would expectedly be both tight and extensive. An MS Agent interface alone (i.e., without an underlying application) would be limited to certain types of functionalities, behaviors, and uses. Even so, it is possible to construct numerous interesting, clever demonstrations of animated, emotional character-based bot behaviors. This is what we will explore in this homework assignment.

Assignment:

Develop an animated, emotional agent/bot interface demo using the MS Agent technology. You can use one or more agents in your demo, but each agent should exploit as many different gestures, expressions, speech modalities, etc. as make sense for the task. Speaking of “task,” your characters must “do” something. It is insufficient for them to just appear on screen, move around a bit, say a few tidbits, and then disappear. The task should accomplish some higher-level goal, e.g., entertain, explain, teach, present, illustrate, demonstrate, etc. Feel free to let them “pretend” that something has happened, such as an important email having arrived, it has just now become time for Terminator 14 to begin playing on the TV, someone is at the door and has rung the doorbell, etc. You can also “fake” events from the viewer; for example, you may have your bot ask a question and then “pretend” that it heard the user utter a specific answer to the question.

Define your bot’s function, define and design a suitable personality for the bot, map the function and personality into a suitable set of gestures, facial animations, utterances, etc. for your agent, and then implement them all in MS Agent. Note that the personality traits you choose to exhibit should be in addition to those already built-into the agent. For example, regardless of the MS Agent character you pick, you can choose to ascribe to your agent’s personality some or all of the following: patience, eagerness, silliness, boredom, politeness, etc. Orthogonal behaviors and built-in personality traits may prove an interesting area of investigation, but they should be compelling.

MASH should prove a completely suitable tool for constructing and testing your bot, although there are other tools available on the Internet that you may wish to use for increased functionality. When you submit your homework, your Agent should work (replay) with little or no interaction on the part of the viewer (e.g., simply by double-clicking on the Agent’s script file). Please be sure to design your bot to work within a screen size of no more than 1024 x 768.

Collaboration:

You should preferably work on this project alone. However, you can work on this project in a team of 2 persons if you prefer. However, the result of a team effort should be *at least* twice as impressive as a single-person project, as a result of synergy. Do not work in a team just to make the homework easier.



Deliverables: (one per team/person)

- Your name or the names of the team members.
- A “Read Me” file that describes each element you are turning in and their use.
- A description of the function you have chosen to demonstrate with the agent.
- A description of the personality for the bot/agent persona you choose (above and beyond the personality traits built into the MS Agent character) and a description of how you chose to implement/exhibit it in your demo.
- A “post mortem” report written by your or the team describing your project, the significance of your approach and accomplishments, your analysis of the strengths and weaknesses of your approach, and a discussion of your thoughts and insights into the MS Agent technology.

- The implementation artifacts, including the working Agent animation file (e.g., MASH script file), design documents, etc.
- Please zip all submitted homework elements into a single file. Include one person's initial somewhere in the file name; please do not use something generic such as Homework.zip. Try something like HW7-DD.zip, if you would.

Resources:

- The MASH program and its documentation (available over the Internet or on the HotLine server, under Class Rez).
- A set of MS Agent characters – already installed on the Windows NT System computers in the WinNT Lab.
- The MS Agent ring (<http://www.msagentring.org>).
- The MS Agent Home Page (<http://www.microsoft.com/msagent>).
- MS Agent documentation from MS (<http://www.microsoft.com/agent2/sdk/alldocs.exe>).
- Links to other MS Agent resources (<http://www.microsoft.com/msagent/resources.htm>).
- The book, *Developing for MS Agent*, Microsoft Press (we still have several copies available).
- A set of papers related to MS Agent, Emotional Agents, and others (on the HotLine server).

Amaze me!

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