Questions for the Written Exam of the Contextual Area of my Qualifying Exam

Stefan Marti, August 31st, 2001

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Date: Fri, 31 Aug 2001 09:04:50 -0700 (PDT)
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Subject: Context area questions
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Here they are. Have fun with these. You've done a lot of reading and thinking about these topics—this is a chance to bring them together.

Let me know if you have questions or need clarification.

-- Brad

There are three questions—pick two of them.

1. Human-like rights for artificial intelligent life form

"Beneath your desk you will find three iRX boards, a PIC programmer and a Chinese-English dictionary. Create intelligent life. Extra credit for obtaining legal guarantee of basic human rights for your creation."

Seriously, say you were given the above assignment and had the resources to pull it off. What features would be most important to implement such that others would see your creation as worthy of being granted human-like rights? What features would not be necessary? What features would be necessary before you, its creator, thought of your creation as worthy of those rights?

For the real question, assume you can get whatever resources you need, including (if you need it) technology that doesn't exist yet. What would you ask for? What features in your creature would be most important to achieve your goal, and why? What would be less important? What wouldn't be necessary?

2. The 'familiar'

A sponsor wants to build what she calls a 'familiar': a little robot with a camera, microphone, and wireless net access that sits on your shoulder. It would have eyes and a face, look like a parrot, and would be able to whisper in your ear and understand limited commands. She expects it will mainly be used for information storage and retrieval, but she's still not clear on the details. What interface issues should she be aware of? What parts of her design should she change or develop further, and in what ways? What kind of application areas should she be thinking about?

3. Mimicking Human-Human Interaction in Human-Computer Interfaces

Last year, Ben Shneiderman started his CACM article with the following statement (http://www.cs.umd.edu/~ben/p63-shneidermanSept2000CACMf.pdf):

> Human-human relationships are rarely a good model for designing effective user interfaces. Spoken language is effective for human-human interaction but often has severe limitations when applied to human-computer interaction.

How would you address this and similar comments that effective Human-Computer Interfaces should not try to mimic Human-Human Interaction?