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

Stefan Marti, February 14th - 15th, 2002

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Subject: Questions for your exam
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Question 1

A problem with the idea of "common sense" is that it seems to cover so many subjects and situations. What is the scope of knowledge that we call "common sense" -- how do you decide what's included and what's excluded? Is common sense an "AI-Complete" problem? That is, is there a way to get a computer that has a reasonable degree of common sense without having to solve the entire AI problem first?

Question 2

A difference between computer reasoning and human reasoning is that the more humans learn, the faster they tend to be at solving problems. On the other hand, the more facts and inference rules you give a computer, the more it tends to slow down by searching through and considering all the possibilities. How do we resolve this dilemma?

Question 3

How does designing for small and mobile devices affect the amount and kind of intelligence appropriate for a system? On one hand, a small device might be limited in the amount of memory or computing time it has. On the other hand, the inability to type and varied circumstances in which the device might be used might call for more intelligence or context sensitivity.