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FROM: Group 6
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SUBJECT: LSR, Cognitive Science, and Artificial Intelligence

PROJECT

We chose to investigate the ongoing live subject research at the University of Illinois in the cognitive sciences field, and focusing on the role its research plays in furthering the development of artificial intelligence. As a group our interest fell into the psychology department. We specifically looked into cognitive science as a result of the contacts that were willing to assist us in our investigations, as this was their field of expertise. Cognitive science has beginnings dating back to Plato and Aristotle, however only in the past half century has it developed into an actual field of study. This change can easily be credited to the rise of new and more powerful technologies. Artificial intelligence can also be accredited to technological advances as well as the furthering of research in cognitive science to develop machines with human intelligence capabilities. These developments bring about ethical issues with the implications of the machines capabilities. Our project investigated the history, current ongoing, and future in cognitive science relating to artificial intelligence in both the field as a whole and here on campus.

PROBLEMS

Our group encountered several problems when researching and conducting our investigation. We discovered there actually is not cognitive science department at the University of Illinois but there were faculty, staff, and students who conducted research in this field. This caused a roadblock in finding contacts to interview that would be able to provide us with insight into the live subject research on campus. We were able to overcome this through persistence and sending out several emails hoping at least one person would be willing to respond and help us. Other problems were found in the research. It was difficult to find any ethical issues relating to the live subject research here on campus. This was a result of the strict guideline implemented by the IRB. We finally discovered that the ethical issues in the artificial intelligence field dealt with the implications of new technological advances of machines with human intelligence and the fears people have about machines knowing too much.

PROJECT GOALS

The goals of our project were to investigate the ongoing live subject research in cognitive science and artificial intelligence at the University of Illinois. We discovered that the University of Illinois is making great strides in developing machines with human intelligence. Our document will benefit the universal discussion of research in cognitive science and developments in artificial intelligence in various ways. We detailed the ethical issues that artificial intelligence will encounter through technological advances in machines with human intelligence capabilities. This will aid in discussions of what direction artificial intelligence is likely to take and the outcomes it may imply. We also included the media and its views on artificial intelligence, that in many cases it plays on people's fears of the machines becoming too powerful. Movies such as *The Matrix*, *Terminator* and several others were examples of this. Through detailing the past, present,

and future of this research this document will provide a great source of information for debate.

RECOMMENDATIONS

Our group decided to focus on a particular field of research in artificial intelligence. We had to narrow our subject from the much broader area of cognitive science. Future research in other areas of cognitive science would be beneficial. This will allow for another application of the research in cognitive science and the ethical issues that it may imply. The applications of the research in cognitive science to artificial intelligence bring about many great advances, along with many ethical issues. Our research was directed to help society understand the benefits of furthering research and development into artificial intelligence. We hoped to help them gain a better insight into the possibilities of the research which will make our lives easier. We provided them with examples of the fears in which the media is playing on and making movies about to show them the absolute worst outcomes and exemplify the far-fetched notions of this occurring. Additional information to help society further investigation and development would be more examples of the machines we have today that are a direct result of this research. We did provide some examples, but I feel further investigation into all the projects done here at the University would also be beneficial.

Our group made decisions and overcame problems we encountered along the way to the best of our ability. We did have to bypass a great deal of information due to the extensive information about cognitive science and the various applications. Further researches into other areas as well as more detailed research into the University are strongly recommended to future groups.