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Final Project Reflection

Our final project revolved around the ethical questions and legal concerns that accompany the usage of the computational risk assessment software COMPAS, which is currently in use in the states of Florida, Michigan and Wisconsin. These concerns are characterized by popular thoughts and fears about an agent whose internal function is a mystery to the court, the legal counsel, and the general public. This mysterious agent is impossible to trust or question and the fact that such an agent has power over the ultimate fate of convicted defendants violates these defendants' legal rights.

Additionally, the bias that was shown to exist in ProPublica's statistical analysis of the software seriously questions the reliability and objectivity of the program. If the software's capabilities to function in a responsible manner while preserving the legal rights of humans are still in doubt, then it is hard to justify the use of the program in court. As we were interested in some of the stories we read and in the numerical analysis from ProPublica that helped quantify complex moral issues, we decided to pursue this topic and a few of its intricacies for our final project.

Conceptually, we felt that a simple presentation and poster combination would be the best way to convey our message to those passing by. Initially, we debated several ways to make the presentation more interactive including allowing people the possibility of filling out the extensive survey required for defendants and see what their hypothetical score on the risk assessment software and what that information could mean for their sentence. Unfortunately, this idea would have been difficult to put into use because of the unwieldy length of the survey, the extremely personal nature of some of the questions, and our inability to obtain a copy of the COMPAS software. Therefore, we ultimately decided against having people take the survey and instead provided a PDF copy of the questions at our booth in order to provide examples about the type of data COMPAS evaluates.

For our final presentation, we added this informational survey component to our poster with our main points, and the slideshow with in-depth charts and commentary from the ProPublica research. When combined with the freedom that the less structured presentation allowed, the three of us could effectively engage with anyone who walked past about whatever parts of the issue they were most interested in and adjust our presentation to most fully engage with each individual.

The overarching objective of our project was to give those who walked past a informative background about the use of the COMPAS software and the ethical controversies surrounding it. Using the ProPublica report, we could show people how using big data to decide sentences for criminals carried the possibility of institutionalizing past biases and unfairly punishing minorities and women. We also showed that there were alternatives in place such as the system in use in Pennsylvania where the agent used is open-source and is only used to adjust the rehabilitation plans in extreme cases.

We highlighted the case *Loomis V. Wisconsin* to provide a specific example showcasing the questionable legality of the software and reveal the complicated challenges of the legal system. We also wanted to show how the case has impacted the way states use the software. This knowledge helps those who visited our table decide whether or not they think such a system can be used responsibly and what changes they think should be made to the system in order to make it more applicable in the criminal justice system.

The class fair was a unique experience and an enjoyable and rewarding way to share our research with the wider Vanderbilt community and we were pleased by the number of people who showed interest in our project. Though we initially had some issues with

organization, we quickly fell into a confident routine after our first few visitors. Although our topic had many technical components from different fields, we found ways to communicate the critical findings of the research in an accessible manner through charts, graphs, and tables. One thing that worked in our favor was the fact that historical bias and controversies within human-computer interaction, especially when people's livelihoods are on the line, tend to generate interest and questions even with an audience that has no background knowledge on the topic. This afforded us the ability to get the attention of passerby with relative ease and helped create more interesting conversations with visitors.

These conversations exposed us to new perspectives on the topic and challenged our personal interpretations of the findings. For example one visitor asked us why the COMPAS algorithm and other technologies like it were in use in the first place if they are so problematic. Many of the sources we came across in our research emphasized the benefits of standardized and unbiased analysis procedures that result from a computer program. Although these benefits hypothetically exist, our research taught us that these "unbiased" procedures are based on historical data that are actually quite biased. The point brought up by this visitor questioned the assumption that technology and progress are always positive things for society. Although we have discussed this idea extensively in class, we had not explicitly focused in on this topic for our project and we appreciated the conversations this question provoked.

Several conversations with visitors were focused on possible solutions for approaching this problem. We enjoyed chatting with visitors as they offered their own suggestions based on both their understanding of our project and also their personal knowledge of and experience with the criminal justice system. Diverse viewpoints were extremely important, as none of us are exceptionally well versed in the intricacies of the legal system; we greatly appreciated hearing these insights from our visitors.

In our research and presentation, we learned some unsettling things about the way data is used in the criminal justice system and how it affects the livelihoods of many defendants. Although these problems are appalling and there are no easy solutions, our project provided an important opportunity to increase awareness and understanding. As a result, we hope that further conversations develop about how to approach these problems and the best way of integrating technology into the solutions.