Assignment 1 Part 2: Ethical Dilemma Analysis

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The trolley problem

The trolly problem is a famous experiment widely used in ethics and psychology to explore moral decision-making in an ethical dilemma. In this problem, a trolley on a rail is approaching a switch. If it continues its track, it will overrun a group of five people. A human operator is given the option to pull the switch to move the trolley to another track, where it will instead overrun one person. The operator has a moral dilemma: do they let five people die or choose to sacrifice one - in which case they are directly responsible (Wintersberger et al., 2017).

Trolley transposed with autonomous vehicle

The trolly problem can be converted into a similar modern-day version of autonomous vehicles. In our second scenario, the programmed autonomous car will have to make a decision similar to the operator in the trolly problem above.

Critical analysis framework

Using the critical analysis framework will help us analyse the moral and ethical issues before jumping to conclusions.

Understand the situation

In our situation, the autonomous car is heading down the road with only two outcomes that can happen: A - Continue to go straight, killing 3 passengers as they hit a wall or B - Swerve to the right, killing 3 adult pedestrians, a baby, and a dog.

Isolate the major ethical dilemma

This introduces the ethical dilemma: When the crash becomes unavoidable with the autonomous car, should the car's programming handle it by prioritising the lives of the 3 passengers, or should it calculate for the minimal casualties possible, in our case, continue straight to save 5 lives?

Identify all stakeholders

The stakeholders in the autonomous car problem can be divided into 2 groups: direct and indirect. Direct stakeholders are the vehicles' passengers, the pedestrians, the baby, and the dog. Indirect stakeholders include the company producing the autonomous car, insurance companies providing services for direct stakeholders, and the public who trust in self-driving vehicles will be impacted by both outcomes.

Legal implications

There are legal implications to consider in our autonomous car scenario. According to (Gurney, 2013), since the autonomous car most likely caused the collision, the autonomous technology manufacturer should be held accountable for accidents occurring when the system operates autonomously. Product liability lawsuits can be filed if the AV contains manufacturing, design, or warning failures. However, we need to consider that the legal system might determine fault and liability but does not dictate how the car should be programmed to behave in our unprecedented emergency.

Informal guidelines

Our ethical dilemma can be run through an informal guideline. For the smell test, the mum test, and the TV test, the answer is yes, as in a situation where lives are at stake regardless of the choice, our instinct is alerted, and so are nationwide audiences. On the other hand, the market test is a no, and people wanting silence would be the autonomous car company as they would want the accident to die down in public news instead of advertising it.

Formal guidelines

In terms of formal guidelines, according to (American Planning Association, 2018), principle 16 states: "APA supports the Vision Zero construct and encourages the development of policies and technologies, including Vehicle to Pedestrian (V2P) technologies, to reduce or eliminate fatal vehicle crashes for all users of the transportation systems, but especially pedestrians/cyclists". In our case, prioritising the safety of the pedestrians means taking option A.

Future policy considerations from the autonomous industry will likely be developed as they consider various factors, including responsibility, safety, transparency and sustainability (Gleadow, 2022).

Ethical Principles

We will analyse this dilemma using the definitions of 3 ethical principles: consequentialism, the rights and duties theory, and Kant's Categorical Imperative.

Through the lens of consequentialism and minimising actual and potential harm, going straight and sacrificing the passengers appears more plausible than swerving and killing the pedestrians (3 versus 5 casualties).

Egoism considers the best outcome for "me". In this case, "me" is the passengers, therefore taking option B of swerving.

Utilitarianism is good for the group, least harm to the group, meaning the car going straight to potentially save more lives.

Altruism is a principle of sacrificing for others, in our case, prioritising the safety of the pedestrians over the passengers.

However, the rights and duty theory highlights the conflict between passengers' and pedestrians' right to life. The car's duty of care is also challenged as it must ensure its passengers' well-being while avoiding causing accidents to surrounding traffic.

Kant's Categorical Imperative applies to treating all individuals' lives equally and not prioritising the lives of the car's passengers over pedestrians on the road.

Making a decision and planning an implementation

Considering these factors, a defensible decision based on minimising harm is to continue straight.

While there may be conflicts in the rights and duty theory, the duty to minimise harm and maximise well-being should take precedence.

The implementation steps for our decision include ensuring the car's programming is designed to prioritise minimising casualties, implementing advanced sensors to detect and analyse the situation, and developing a decision-making algorithm that considers various factors such as the number and type of individuals involved and the likelihood of survival in different scenarios.

For the direct stakeholders, while some argue that the car should prioritise the passengers' safety, saving more lives should be in their interest as members of society. For the pedestrian, the car going straight would save their lives.

The situation should not have happened in the first place, as autonomous car engineers and manufacturers must focus on preventing such situations with advanced safety features.

Moving forward, there are crucial steps that the involved parties have to take. Clear regulations from the industry, the law, and public awareness education are essential.

Conclusion

In conclusion, autonomous vehicles present a challenging ethical dilemma regarding unavoidable accidents. We explored this dilemma through the lens of the trolley problem, highlighting the problematic choice between sacrificing the lives of passengers or pedestrians. Our analysis considered various ethical frameworks, emphasising the importance of minimising harm. However, there is no perfect solution, and any decision will involve trade-offs. By carefully considering these ethical issues, we can pave the way for a safer future with autonomous vehicles.

References

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