



The Presentation and Perception of Automotive AI in Fictional and Non-Fictional Narratives

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Background

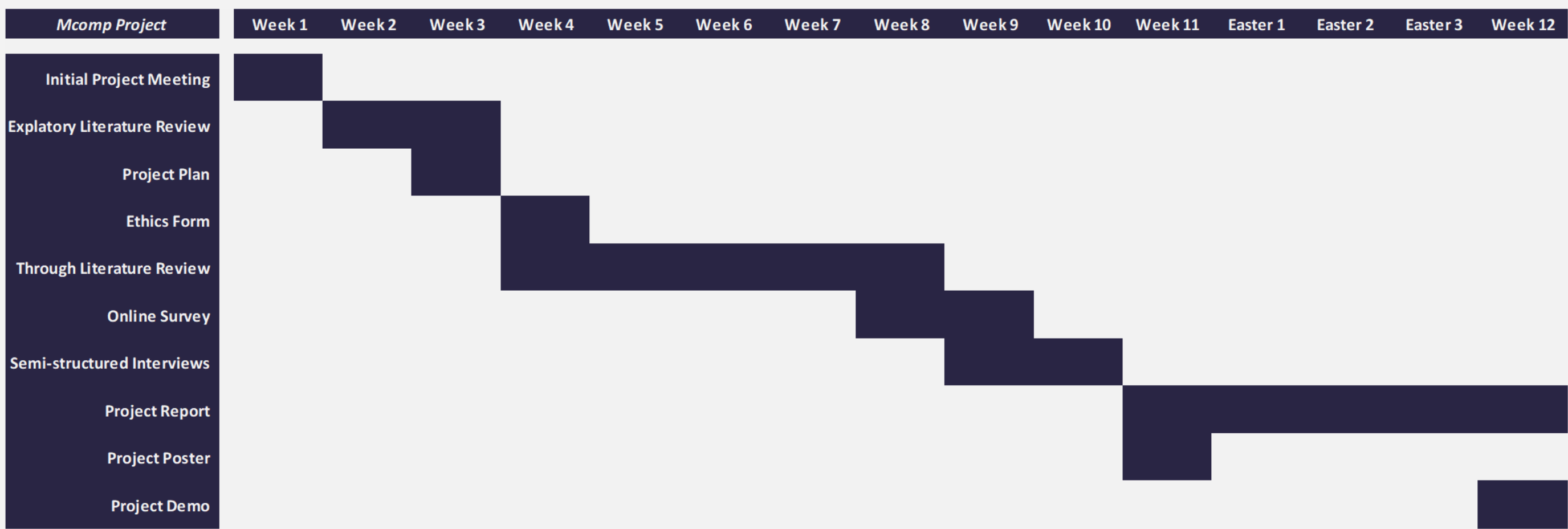
It is commonly misconceived that the automobile industry can be lethargic in its adaptation to new technologies, including artificial intelligence, however in reality, there are a number of new technologies that are deployed through vehicles that are then translated to other industries (Gusikhin, et al., 2007). This realisation correlates to the concerns that people may have regarding new technology and their subsequent acceptance.

Public acceptance can be influence by a number of factors, one of which is the presentation and perception of technology in both fictional and non-fictional narratives. A study conducted by Cave, et al. identified 8 factors categorized as ‘hopes and fears’ that are commonly represented in narratives.

Aim

The main aim of the project is to evaluate the extent to which overpowering images of automotive AI can be mitigated by emphasising real, current applications, or narratives of control and involvement. This idea stems from the recommendation of Cave, et al. who suggests the investigation of the impact of alternative narratives on public perception (2019).

Gantt Chart



Case Study (Tesla)



Tesla “Autopilot” System

There are 3 known fatalities involving Tesla’s “Autopilot” (Wikipedia, 2019), the first of which was in 2016 when the system failed to detect a white tractor trailer due to it blending in with a brightly lit sky, resulting in the breaks not being applied (Solomon, 2016).

Banks, et al. uses principles of Schema Theory and the Perceptual Cycle Model (PCM) to explore the circumstances surrounding the fatality (2018). They argue that there is more fault on design rather than driver error, in line with reports from the National Transportation Safety Board.

Case Study (Uber)



Uber “self-driving” car

The collision that killed a pedestrian walking across the street at night could have been avoided if the “safety driver” had been paying attention instead of streaming a TV show on her phone (The Guardian, 2018). It is reported that she looked up just half a second before the incident took place.

Kohli and Chadha used the Uber crash as a case study (2018), stating that it has strengthened the argument that autonomous vehicle technology is not ready for deployment on public roads. Their study uses Computer Vision models to evaluate various image enhancement and object recognition techniques for enabling pedestrian safety in low light conditions.

Research Methods

Systematic Literature Review (SLR)

To ensure the aim of the project is thoroughly investigated, an SLR will help explain factors such as ethics and trust that can influence a person’s perception. This review looks to incorporate real-world and fictional representations or current and future automotive technology. The intended outcome is to identify a broad selection of concerns that the public may have regarding deployment of automotive AI.

Online Survey

These concerns will be ranked by level of identity through an online survey. Level of awareness will be interesting as according to Fast and Horvitz, although media presence of AI has increased rapidly since 2009, discussions have been more optimistic than pessimistic (2017).

Semi-structured Interview

Semi-structured interviews will be used to investigate whether exposure to real-world applications can mitigate concerns. Each subject will be presented with an explanation of a concern and then shown a real-world application or narrative to see whether there is a decrease in their pessimism towards it.

Next Steps

- 1) Deploy online survey
- 2) Explore real-world and fictional narratives representing concerns
- 3) Semi-structured interviews
- 4) Complete project report

References

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