Module 1: Short Paper

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A real world issue for me, and a lot of others, is traffic. I currently live in Orlando FL, were it is currently rancked 18th in the US and 96th in the world for congestion. With said congestion, it causes delays in drive times. No matter how well you try and plan, it always is changing and can severly impact your timing. This effects getting to work, dinner reservations, shows, etc.

It would be a cool idea if we had an AI powered system that could automaticlly chose a route according to what I have planned, while updating it real time based on traffic, accidents, and other forms of congestion. This congestion could be historically this way, or caused by an issue that just arose.

In order to accomplish this, the system would need to have access to all the current traffic data, historical data, emergency syatems. The syatem would also need access to the users personal calander, school calanders, and other event calanders in the area that it would be used. In order to predict the routes based on historical data, it would aslo need access to traffic history.

The system would need to be able to house route-finding algorithyms (Peter, 2017), for example, A\* or Dijkstra’s algorithym,it would also need the ability to receive feedback, and have a database of hueristics. A couple ways the feedback could be given is, either the GPS system of the vehicle, other GPS sources such as mobile devices. The reasdon for this is the syatem may route the user down a one way, the wrong way inedvertantly, or other such issues. The heuristics would be more refined the better the feedback given.

The syatem could aslo be set up to route differntly based n time of year. While during certain times of year 1 road might be faster, howeever during the schoolyear it may not be the best option. Or if there is a road that is seasonal based on either water levels, or snow/ice conditions. With the aid of Machine learing the heuristics could be updated automatically.

This AI system would greatly benefit the more users it had. It would be able to take others driving paterns into account, as well as their plans to go places. With *percive-think-act* loops, the AI would be better trained having more predictions and results.

As for the ethical questions of this, now that there are multiple users all with there locations being tracked, what security measures are required to be taken to keep this information out of the wrong hands. Also the question arrises, who would have access to this information once it is in the system. Is there a way to gaurentee the users is annonomous, even though the calander is tied to the individual. What if the user didn’t want their travel patern known (News, 2017)?

Another issue that may arrise, the routes of the users. These routes may avoid major roads as they are congested, in which case they would most likely route through neighborhoods and alleyways. This in turn could cause the residents to get upset, or potentially cause accidents involving pedestrians. Normally if only a few people know of this route it is not an issue, however could become one with larger numbers of users (Salem, 2018). Could the system have acces to local ordenances to avoid these areas? Is it the systems responsibility or the users to avoid these areas?

# References

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