Title
Mob.ly App Makes Driving Safer by Changing How Drivers Navigate

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Author
Millar, Jason

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by: Jason Millar

A group of multi-disciplinary researchers from across North America today announced the launch of a new app, Mob.ly, that reduces the incidents of road rage by promoting a driver's sense of well-being and safety without sacrificing efficiency and access.

The researchers, who gathered at the Summer Institute for Artificial Intelligence, Ethics and Society, came together to discuss new modalities for AI assisted turn-by-turn navigation. Current navigation offerings focus on speed and efficiency, leaving a large portion of the population underserved. Many drivers, including young or new drivers, the elderly, and parents of young children, often have different needs when navigating city streets. Those drivers, though licensed and fully capable of driving in all traffic scenarios, benefit from navigation decisions that reduce their overall cognitive burden, that is, reduce the level of attention needed to safely operate an automobile. Reducing cognitive burden has been identified as a navigation strategy that can enable a greater sense of well-being and increase safety by avoiding unprotected left turns, major highways, confusing intersections and roundabouts, and other difficult-to-navigate road features that demand higher levels of concentration and focus.

"We saw the need for a navigation app that is designed for values other than simply finding the fastest route. We designed Mob.ly to minimize the cognitive burden placed on drivers by their route," said lead developer Jason Millar. "Some traffic

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interactions are simply more demanding than others. Our system allows drivers to specify which high-cognitive-load situations they want to avoid, and we route them accordingly."

The Mob.ly app interface. (left) Current routing options as determined by an algorithm that minimizes time-to-destination; (middle) Mob.ly allows drivers to select various high-cognitive-load situations they wish to avoid; (right) Mob.ly's algorithms optimize for low cognitive load.

Experts say this app could fill an important need in society. "With road rage, you're basically driving under the influence of impaired emotions," says Leon James, PhD, a professor of psychology at University of Hawaii and co-author of Road Rage and Aggressive Driving. Managing those emotions by providing options to avoid uncomfortable situations will reduce agitation and could improve outcomes in many ways.

Mob.ly is currently available worldwide on iOS and Android devices.

About Mob.ly Group*

by: Jason Millar

Mob.ly Group is interested in creating navigational aids that intersect the fields of artificial intelligence, ethics and society. The group is led by Dr. Jason Millar, Canada Research Chair in the Ethical Engineering of Robotics and Artificial Intelligence (University of Ottawa) and is comprised of:

Nicholas Novelli, PhD student, University of Edinburgh;

Anne Boily, PhD Candidate, Université de Montréal;

Carlos Ignacio Gutierrez, Doctoral Fellow, The Rand Corporation;

Courtney Doagoo, AI and Society Fellow, University of Ottawa Centre for Law Technology & Society;

Kathryn Bouskill, Researcher, The Rand Corporation;

Elizabeth Wright, MA Candidate, George Washington University;

Brent Barron, CIFAR;

Elizabeth Joh, Martin Luther King Jr. Professor of Law, UC Davis;

Thomas Gilbert, PhD Candidate, University of California, Berkeley;

Leilani Gilpin, PhD Candidate, MIT;

Graham Taylor, Canada Research Chair in Machine Learning, University of Guelph and Vector Institute;

Nicolas Rothbacher, Master's student, Technology and Policy Program, MIT; and,

Margaret Glover-Campbell, Alberta Machine Intelligence Institute.

*Mob.ly is the result of a Design for Human Values mini-workshop conducted at the CIFAR-funded Summer Institute on Artificial Intelligence and Society. The app described above is one prototype among many that participants (listed above) imagined as alternatives to the current regime of turn-by-turn navigation apps, all of which focus on minimizing time-to-destination as the primary value embedded in the system. The workshop demonstrated that we can realize interesting alternatives when we focus on alternative values in design.