

Research Report Summary



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Advanced Vehicle Technology Simulation and Research Outreach to STEM Programs

A collaborative effort to reach to STEM programs



The University of Iowa (UI) and the leaders of the MyCarDoesWhat campaign partnered with the National Advanced Driving Simulator (NADS) miniSim and the UI Mobile Museum to build an interactive exhibit as part of the overall museum for visitors to experience simulation research and technology. The UI's Mobile Museum is a 36-foot recreational vehicle (RV) that features the cutting-edge research being conducted within the UI community. The museum exposes visitors to several disciplines and areas of expertise on campus. The UI team believed there was a unique opportunity to bring together MyCarDoesWhat's educational platform with the miniSim to connect to museum visitors, especially the frequent school-age visitors. The UI exhibit within the museum included a digital display featuring complementary material from MyCarDoesWhat and the NADS. The content included an overview of the MyCarDoesWhat program, the

An Outreach Program
developed in
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NADS research programs, and an introduction of the technologies the visitor had the opportunity to experience during their miniSim drive. The miniSim, located on the exterior, was developed to provide visitors with a simulated driving experience with a few of the prevalent advanced vehicle safety technologies on the market. The technologies featured during the drive included back-up cameras, forward collision warning, and lane departure warning. These technologies were selected based on their market prevalence and realistic experience on the standing miniSim.

The UI Mobile Museum launched in April 2016 and continued through mid-October 2016. The 2016 Mobile Museum season had an attendance of 31,402 visitors throughout the 9,037 miles traveled in the state of Iowa. A total of 36 counties in Iowa were visited, accounting for 86 different events and a total of 702 hours open.

MyCarDoesWhat and the NADS miniSim had a tremendous experience with the Mobile Museum during the 2016 season. The miniSim program received feedback that it was a significant attractor to passersby and visitors, given its location on the exterior of the RV. Other feedback indicated that visitors enjoyed the opportunity to experience advanced vehicle safety technologies they had heard about in an automotive commercial or from their friends and family but had not had the opportunity to experience for themselves. Given the Mobile Museum's targeting of an educational audience, the miniSim and MyCarDoesWhat's presence provided a new opportunity to engage younger children and students to pique their interest in the simulation, naturalistic, engineering, and driving sciences. miniSim and MyCarDoesWhat staff attended key Mobile Museum events to interact directly with museum visitors, not only to assist with the interior digital content and the exterior miniSim, but also to talk to the students about what the



Figure 2: Students engaging with the NADS miniSim during a Mobile Museum event.



Figure 1: The Mobile Museum allowed the miniSim to reach Iowans and STEM programs across the state in unique ways. The event featured above is a nationally known bike ride across Iowa (referred to as RAGBRAI). RAGBRAI riders provided feedback that they'd enjoy seeing a future simulation scenario featuring how cars can interact safely with cyclists on the road. Additionally, the social media platforms between the NADS and Mobile Museum offered additional outreach to Iowans.

researchers do at the UI and the unique research being conducted in the state of Iowa.

The miniSim provides visitors a unique way to engage with museum visitors, and it has been requested as a permanent presence with the UI's Mobile Museum. Going forward, the team will consider additional options to enhance the miniSim's presence, including but not limited to additional driving scenarios and driving technologies, information about driving simulation science research, and opportunities for young students to get into the field