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**Improvement of Man-machine Interface Design Based on
Efficient Functions and User-friendly Concepts**

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ABSTRACT.

As machines, vehicles have seen countless upgrades that have sought to make them more user friendly. The dynamic nature of technology has seen new materials and coding approaches integrated into the innovation of this integral part of a car. Through trends like using liquid crystal display, older, more manual ways to display information on a car's dashboard are being phased out. This work aims to give a straightforward representation of the improvements that have taken place in this field. Questions regarding usability, efficiency in displaying needed information, and possible car dashboard advancements guided our experiments. Current dashboard systems include a digital amalgamation of comfort features in the car, driver assistant aspects like interactive maps, and infotainment. These features can be considered acute advancements rooted deep within the dynamic and ever-growing need for technology to be as efficient and user friendly as possible. Interactivity and efficiency are the key determiners of any 21st-century human-machine interface design in modern vehicles.

KEYWORDS.

Advancements in Interface Analysis; Innovation in Vehicles Dashboards; Digital dashboards; Human-machine Interaction; Automobile Interface

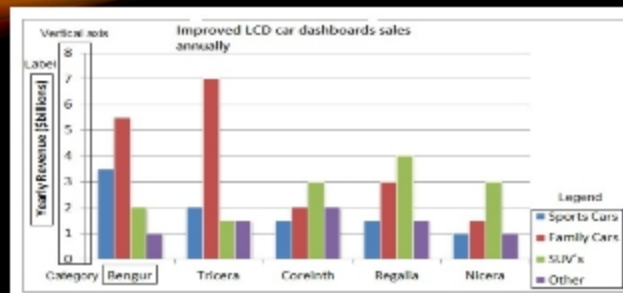


Fig.1 Demand for LCDs around the World (Fitch, & Oberpriller 2016).



Fig.2 Speedometer Digital Dashboard (2018-Ford Mustang).



Fig.3 Digital Dashboard displays Speedometer, Time, Music Player, and Cellphone-Car Integration (Tesla Model X).



Fig.4 Digital Dashboard displays Map (Tesla Model S).

CONCLUSION

Countless innovations have made today's vehicle the technical marvel it is. Through advancements such as LCD, the fidelity of screens used for this one purpose has increased. Improvements on this front have allowed for genuinely spectacular feats to be achieved. Drivers can now use their dashboards as rearview mirrors through the integration of these dashboards with backup cameras. Some of these cameras go as far as including night-vision and infrared modes for use by the drivers. Improvements in the man-machine interface have increased in-car popularity as driving has been made easier for many individuals from fifteen and up. Road safety has improved due to these advancements. Accuracy in and out of the roads has also been increased, and road proficiency has been exponentially boosted. The automobile industry sees an innovation that has revitalized its viability as a transport industry and given it a horizon to shoot. Future designs are already being worked on, and among them is the fully self-driving car that will only work through man-machine interface systems.

THANK YOU FOR YOUR ATTENTION !