WEARABLE LASER POINTER FOR AUTOMOTIVE USER INTERFACE

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The invention relates to system and method for allowing the drivers to interact with an automotive user interface using wearable laser pointer

**Area of technology:** Automotive user interface

**Technology Readiness Level (TRL):** 3

**BACKGROUND**

- In modern cars, the infotainment systems use buttons with LCD and touchscreens for interaction. There are lot of interfaces available to improve the interaction of such systems like voice recognition, gesture recognition and so on.
- In addition, researchers have already tried to track hand/finger movement or developing alternate pointing modalities to avoid physically touching the dashboard.
- Different pointing techniques for secondary tasks include infra-red sensor based hand tracking, wearable devices and remote controller.
- Disadvantages of existing systems include fail in accuracy of tracking, demand the driver to stretch his/her arms to reach screen in the dashboard, operating the dashboard using remote controller with buttons etc.
- All these systems are prone to unintended selection of icons in the dashboard screen by engaging for unintended movement of fingers or hands.
- Therefore, systems cause false positives decreasing the performance of drivers while operating secondary tasks.

**TECHNOLOGY**

- An automotive user interface is developed wherein a laser pointer is fixed to one of the fingers of the user and used to point out the intended target at the infotainment screen.
- The intended target position gets selected by gazing at it for a particular time.
- The average response time for operating dashboard has significantly improved with this fusion strategy of using laser pointer and eye gaze tracking together.
Due to laser pointer, immediate feedback in the form of the red dot on the screen will be helpful in vibrating environment compared to existing finger movement tracking and prediction methodologies.

COMMERCIALIZATION

IISc has filed PCT international application (PCT/IB2018/057680) and an application for grant of patent in India. We are looking for potential licensees to commercialize this invention.