

Redesign and Implementation of REV Vehicle GUI and Instrumentation & Road Testing of Holden Volt

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ABSTRACT

The UWA Renewable Energy Vehicle Project (REV) is a project that aims to 'revolutionise personal transport' by building zero emission vehicles to combat the growing concerns of carbon emissions due to internal combustion engine vehicles. UWA currently has two road-legal, fully electrical vehicles that provide a possible solution to these environmental issues.

In any vehicle, the first point of human to machine interaction is to the instrumentation inside of the vehicle's cockpit.

Instrumentation is particularly important in an electric vehicle, as a user will need to receive information to gauge the current state of the vehicle whilst not overloading the driver with information and causing a distraction to the actual driving of the vehicle.

This project will focus on creating a more robust and improved version of the Graphical User Interface inside of the two REV vehicles. The new interface will predominantly aim to satisfy the likely users of electric vehicles. As such, the new user interface will aim to give the user what is most likely to be the main reason behind their choice of an electric vehicle over an internal combustion vehicle, efficiency.

Improvements will enable users to measure and see their driving efficiency and compare this with previous trips in real time. This will encourage drivers to more effectively reduce energy use, which will reduce both cost and benefit the environment. This task will involve the addition of new features as well as removing redundant and unrequired features to maintain ease of use.