TATA ELXSI

CASE STUDY

NEXT-GENERATION DRIVER RISK MANAGEMENT

Overview

The DRM system is a camera-based device that captures forward and cab-facing video. Whenever a risky event such as hard braking or swerving occurs, a video clip and other event information are saved & uploaded to the remote server through a cellular modem. The event is analyzed, and results are presented through a Web portal.

Scope

- Requirement Analysis
- HW Detailed Design & Schematics Development
- PCB layout Design
- Product Prototype Development and Manufacturing
- Test plan & Test Case preparation
- Circuit analysis and SI analysis
- HW Board Bring Up
- Functional and Environmental Testing
- Support for Product Certifications
- Acceptance testing at the manufacturing site
- Production support
- Hardware Tools used
- Mentor DX Designer for schematics
- Mentor PADS for PCB

HW Features

The system consists of two modules:

- Base Module
- Camera Module

Camera module has:

- Two Digital Cameras Sensors
- LED Lights for illumination
- Gyro/ Accelerometer sensors
- GPS Receiver
- LTE/ GSM Modem
- APIX Transmitter Interface

Base Unit consists of:

- APIX Receiver interface
- i.MX6 application processor with PMIC and associated memory ICs
- Optional Camera sensor interface
- Vehicle power interface and protection circuit
- Backup battery and charger