

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

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A Project Report On

“EVIDENCE COLLECTION FROM CAR BLACK BOX USING SMART PHONE”

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ABSTRACT

This project is an implementation of black box for vehicular safety based on LPC2129 controller. When the vehicle is started some initial routine tests are conducted. These tests check some critical parameters like seat belt, brake test, lane detection, GSM test etc. The vehicle can be started only if it passes all these tests. Once the vehicle is started, we can control its speed and direction with smart phone. Meanwhile the controller records continuously different parameters like temp, reading from ultrasonic sensor, lane detection, readings from pressure sensor etc into EEPROM.

Whenever there is any accident, this information is sent with the help of GSM modem to the concerned person. Thereafter, the latest saved vehicle parameters are displayed on the LCD.

This demonstration shows how to effectively collect and manage information obtained from car black boxes in vehicular networks using smart phones. The car black box is a vehicle-based smart phone which detects sound, GPS position, speed, and time and accident spot. These data can be used for accurate car accident investigation and some public crimes prevention. Critical video clips in the black box are hashed to provide data integrity before being transmitted to the police server.

Smart phones are very useful communication media for car black boxes. However, there are important issues such as user privacy and a data management for a vehicle-based smart phone records. The proposed evidence collection system can reduce driver privacy concerns and communication and management overheads. Our contribution is that we propose a feasible and useful scenario for public safety.