DIGITAL VEHICLE FORENSICS

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INTRODUCTION

Digital Vehicle forensics is an upcoming field of forensics that deals with recovering digital evidence or data which is stored in a vehicle's modules, network, and messages sent across an operating system. In today's world, almost everything is digitalized including vehicles and with this increasing digitalization, smart and driverless cars have become much more popular due to the advancement in technology.

Nowadays, most cars have built-in GPS (Global Positioning System) or other features such as digital multimedia and/or internet connectivity. It also gives us a vast range of data such as favourite locations, home addresses, etc. and other personal data such as contact numbers, pictures, and SMS (Short Message Service) messages, and such information helps in forensic investigations since vehicle investigations mainly focus on the make and model of a particular vehicle.

EVIDENCE FOUND IN DIGITAL VEHICLE FORENSICS

- Black boxes of the vehicle/ Event Data Recorder (EDR).
- Dash Cameras.
- Data can be stored on an app on the owner's phone.
- Key Fobs.
- GPS Systems.
- Electronic Control Unit (ECU) of self-driving cars.

BERLA

Berla is software that is used during the process of forensic investigation to read and understand the data vehicle stores. This software allows forensic investigators to "identify, acquire, and analyse critical information stored within vehicle systems to uncover key evidence that determines what happened, where it occurred, and who was involved."

Berla is able to retrieve logs such as odometer readings, gear shifts, speed logs, ignition cycles, etc. which creates a timeline of an event before and immediately after an incident that can be used as evidence in a court of law.

iVe is an ecosystem consisting of multiple tools to help investigate an entire vehicle with a mobile application to identify vehicles and a hardware kit to acquire systems and analyse data. As of August 22, 2022, version 4.0 has been released, which is able to uncover more data and provide investigators with key information which can be used as evidence by accessing the electronic control units of cars.

they are compared with the biometric database, it gives the calculated similarity score.

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