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A Technology for Fault Detection andFunctional Up-gradationin Security of an Organisation

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Abstract*—This paper presents an approach for any organisation that improve the functioning in field of fault detection and tolerance with that fault. It is common that any company/industry/organisation has a combined network of hardware and software for achieve the expected outcomes. This has come to notice that sometime due to fault in any hardware device dead the whole network and that organisation has to face huge loss to achieve the outcomes. So it is common novel approach that can be implementing in any platform. In this paper we will propose the implementation of this technology on any hardware device of any machinery. This approach will sense the fault and estimate the occurrence of loss due to that fault. This approach can be implementing in field of automation. Every vehicle running on road has an engine which is combination of many different parts. Here the sensing system on clutch plate can be implement of a car/bike.

***Keywords*—Clutch plate, fault tolerance, detection of fault, authentication.**

I. INTRODUCTION

Now days the automation world is growing very rapidly, each company is trying to launch secure and safe vehicles in market with some changes/modifications in existing vehicles. As sensing system is embedded in recent vehicles and the sensor sense the data and transmit it to commanding node in circuit. There are many sensors in a vehicle like fuel indication, ABS, automatic gear box, Door opening sensor, Centre locking etc. There is requirement of sensor that continually control and monitor these functioning. There are many troubleshooting protocol exist that led this development for vehicle system.

Hybrid systems are mainly implemented to give intelligence in electronic systems. In the area of automation, intelligent vehicleshave one electronic controlling system can responsible to control more than ninety functions at a single time. Clutch plate system is one of that functions which play a vital role in automation field of vehicles [1].

Currently clutch plate is most important system in a car in point of running critical issue. Because of sudden damage occurredin system, raised of more happening of accident. Hence to avoid from injuries, there is requirement to tolerate the faultsand improve the performance and efficiency of Clutch System. The proposed idea provides intelligence and troubleshootingto the clutch system in the automation area. It also increases the level of the fault tolerance in the system. While the supposedclutch system is a Dynamic system in which changes take over time. The issue of concurrent development and monitor of dynamic systems explored in this combination of hybrid type system. The dynamics of these issues consider in discrete time.

Real-time sensing and handling are essentially depend on discrete-time dynamic systems. The reliability plays a critical role in the system design and operation of Real time Hybrid system. System should generate faultless and highly safe operation [2]. Fault estimation is an interesting and powerful idea, that accomplish number of works within a phase such as Fault detection is to search a fault at the very coming stage and buzzing an warning sound, Fault isolation is to search out which device is being subjected to bad function from its routine working stage, Fault finding is to detect the size and shape of the fault relative. Fault toleranceis the feature that permits a system for continue work properly even in the happening of faults in system. The fault tolerant will prevents the online enabling a satisfactory operation performance evenwhen a fault rise [3].

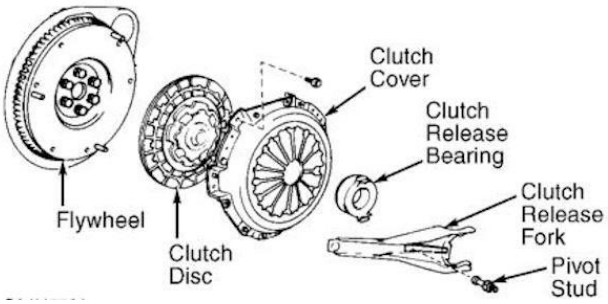

Fig 1: Basic Diagram of Clutch System

II. MOTIVATION

Now days each person has its own car that's why the automobile sector blooms lasts ten years with much demands by consumer. But it has come to notice that the stolen of cars increasing as time passes and other challenge is that no good mechanic available within a diameter of 30 km of mostly rural/urban area. Here the author has motivated from some general life examples like a security manrequired many skills considering communications skills, observations skills, notice to detail, general sense and best decision taking skills. Some security officers and area officers that are not perfect and have never got the expect coaching think that the much important aspect of the security guard job is physical presence. Showing up to work, being on time and leaving on time is just the minimal requirement of the security officer job. A motivated and well coached security officer will display all the above named skills and much more.

This is good job to start with a designation of security consultant or operational manager required a culture modification, due to the security guard work is a work

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one should be feels great. There is no necessary tremendous skill and dedication; otherwise security man also performs a good service to society. The culture shift considersgenerating a culture of coaching and motivation. This also considered feeling and understanding a motive in which one does every day in life. Security men working with authorcan play the critical role that play for the economy and market. So all these things has motivated for looking in the security matter in field of automation for handle of fault.

III. PROPOSED TECHNOLOGY

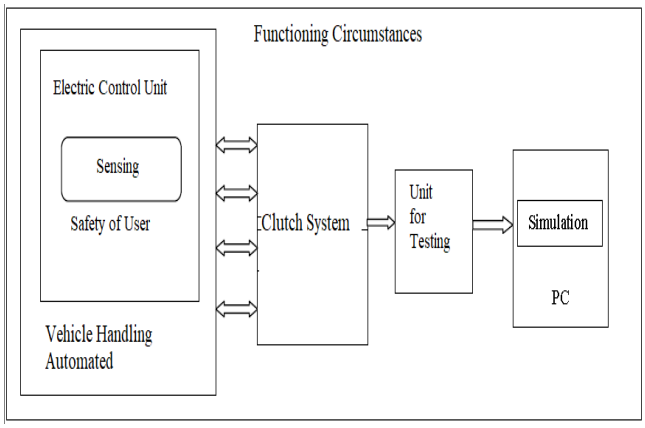

Fig 2. Functioning of clutch system for sensing

This proposed system designed on the basis of some parameter as like fuel, gear oil, speed, number of gears, type of gear and temperature of engine. The monitoring and handling of these parameters will provide the driver and passengers more security and safety. This will work on both phases fault detection and fault tolerance with controlling the fault. Everything plays on correct timing.

IV. FLOWCHART

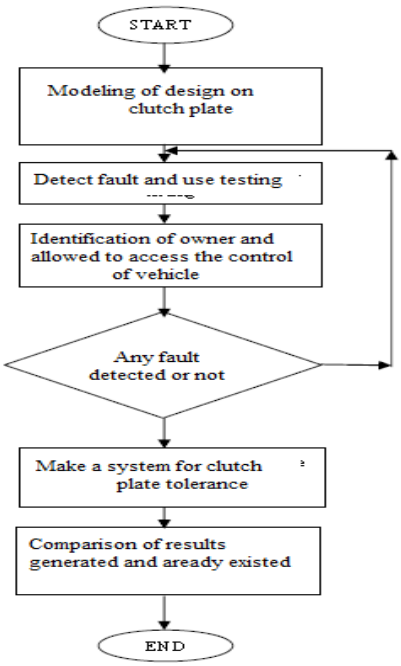

Fig 3 Flowchart

V. TRANSPORTATION AND VEHICULAR NETWORKS

For wireless access in vehicular environments (WAVE), the standard of IEEE 1609.4 projects multi-channel operations are done. With six service channels and one control channel, the WAVE can work over 75 MHz spectrum in 5.9 GHz band. The entire vehicular consumer would run for accessing the channel and to send data in 5.9 GHz band. But, it has to face the problem of spectrum insufficiency [4]. In [5], the problem of spectrum scarcity and cognitive radio need in WAVE has been presented. Few studies in CR-enabled vehicular communications had been performed [6]. In urban situations, vehicular WSN are rising as a novel network framework for collecting surveillance data proactively. In this domain, CWSN are related highly. Few conventions for highway safety had been projected using CWSN; this domain requires to be analyzed.

VI. CONCLUSION

Sensing of fault is adigital technology that represents great surety for manyamazing applications both for huge public and defense. The sensing technology hybrid with functioning power and secure communication that creates it necessary for being exploited in top of future. Some applications of sensing technologyconsiderdefense, medical, climate, water, company, home, horticulture and many others. Despite these applications, safety and security is the main motive in sensing technology for automation. It seems that many attacks on sensed data occurred in last many years considering wormhole attack, sybil attack, selective forwarding, impersonation attack. So this paper presents an overview on the secure and fault tolerance system for automobile sector that give a bright guideline for the manufacturer in future.

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