

Accident Information and Insurance Dispute Resolution Web Application using Django Web Application

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Abstract:

As per the recent survey conducted, India Records 1, 55,622 Fatalities from Road Accidents Only 5% of the roadways reported 62% of these incidents in 2022, indicating the necessity for preventative actions to lessen accidents along these sections. The authorities has to identify additional equivalent segments within the country and take preventative actions which includes reducing limits on speeds, fixing blind spots, and flattening down excessively sloping sections of road, which represent a few of the primary root causes of collision. Numerous individuals in India have trouble finding knowledge about road accidents right after they occur, particularly accident scene photos, testimony from witnesses, information on fatalities and injuries, the root cause of the mistake, speed, the condition of the road, as well as additional information. Authorities like the law enforcement, the transport authority, the ambulance, or even ordinary citizens who volunteer for the identical reasons are not given the correct data.As per the above subject, we are trying to develop the Web Application on “the spot (Real-time) Accident information & Insurance dispute resolution” that will be effective to solve the above said problems.

Keywords —Accident Spot, Insurance,Life Insurance, Vehicle Insurance, Victims.

I. INTRODUCTION

As per the statistics Total Accidents in 2019 were around 449,002 reported road accidents in India, resulting in approximately 151,113 fatalities and 451,361 injuries. India has one of the highest numbers of road accident fatalities globally. The number of fatalities has been gradually increasing over the years, although there has been some improvement in recent times. The number of road accidents and fatalities can vary significantly across different states in India. Some states with high population density and extensive road networks tend to report higher accident rates. The major causes of road accidents in India include speeding,

reckless driving, drunk driving, poor road infrastructure, lack of road safety awareness, and non-compliance with traffic rules. Pedestrians, two-wheeler riders, and cyclists are particularly vulnerable on Indian roads and often account for a significant portion of road accident victims. For the most recent and accurate statistics, We recommend referring to reports from the Ministry of Road Transport and Highways or other reliable sources that provide official data on road accidents in India. Road accident prevention is also a top priority, and it will be made possible by stringent laws, technical and police controls, ongoing driver training (especially for drivers involved in the transport of hazardous materials), and, if necessary, monetary

and administrative penalties for offenders. The commander (chief) and crew of the impacted mode of transportation are initially in charge of controlling all mishaps. They must use every effort to limit the damage that occurs. Passengers must obey the crew's commands (protection and rescue protocols) and act appropriately in emergency situations, especially those involving the air, rail, or sea. Who will be in charge of search, rescue, and aid operations will depend on the form of transportation and the area (country) where the accident happened.

The recent analysis on road accident report from the Ministry of Road Transport & Highway, Government of India says the report from the of most affected state with accident, Tamil Nadu state as per the table as1.1 shows Total number of Accidents, Fatalities and Persons Injured during 2016 to 2021.

Year	Accidents	% change over previous period	Fatalities	% change over previous period	Persons Injured	% change over previous period
2016	4,80,652	-	1,50,785	-	4,94,624	-
2017	4,64,910	-3.28	1,47,913	-1.9	4,70,975	-4.78
2018	4,67,044	0.46	1,51,417	2.37	4,69,418	-0.33
2019	4,49,002	-3.86	1,51,113	-0.2	4,51,361	-3.85
2020	3,66,138	-18.46	1,31,714	-12.84	3,48,279	-22.84
2021	4,12,432	12.64	1,53,972	16.9	3,84,448	10.39

Table 1.1 Total numbers of Accidents, Fatalities and Persons Injured during 2016 to 2021

This is mainly because of the unique Covid-19 pandemic breakout and the strict nationwide lockdown that followed, especially in March and April of 2020, before the containment restrictions were gradually lifted. The Covid-19 epidemic is to blame for the unexpected, significant drop in accident parameters that happened in 2020 after following a similar trend up to 2019. Table 1.1 demonstrates that main accident indicators fared better in 2021 than in 2019 on average. Another statistics from the India, according to NCRB, Here, the figure 1 shows the accident spots

are of India where we see that Pondicherry state has large number of accident count.

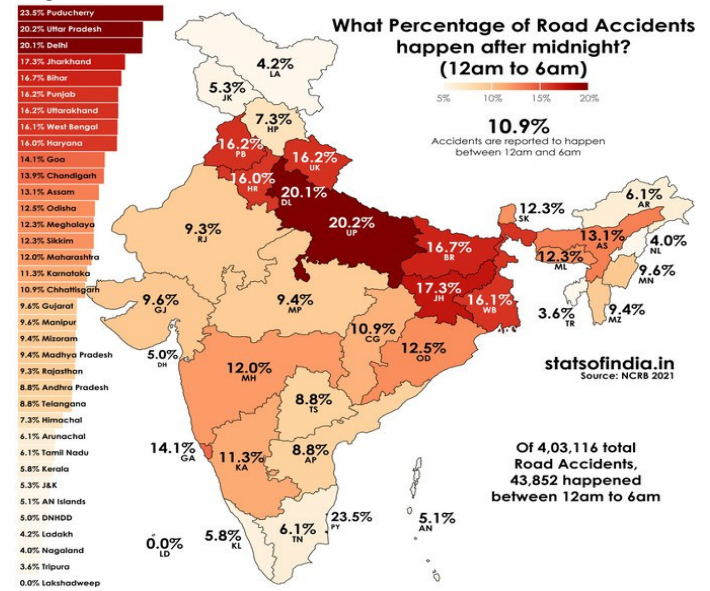


Figure 1: Percentage of road accidents happen area and timing in India.

II INSURANCE CLAIM

A. Life Insurance Claim

Making a request to an insurance company to obtain a benefit payment after the policyholder passes away is known as filing a life insurance claim. Depending on the particular insurance policy and the terms and circumstances established by the insurance company, the requirements and characteristics of life insurance claims may change. However, the following general facts regarding life insurance claims:

- The policyholder's death: When the policyholder dies away, a life insurance claim may be made. The policyholder's heirs, beneficiaries, or estate executor may submit the claim.
- Policy in force: The policy must be active at the time of the policyholder's death in order to be eligible for a claim. This requires that the insurance be current on payments and that the policyholder have not broken any of the terms and conditions of the policy.

B. Vehicle Insurance Claim

Vehicle claims for insurance are submitted to an insurance company in order to get reimbursement for harm or loss to an automobile that is safeguarded by an insurance policy. According to the specific insurance policy and the terms and situations stipulated by the insurance company, the conditions and features of auto insurance claims might shift. However, there are certain fundamental details concerning automotive insurance claims:

- **Accidents:** During an accident affecting a car, claims for insurance are often submitted. The insured car, as well as other vehicles and/or property, might suffer damages in the accident, whether may be the negligence of the insured vehicle's driver or that of another driver.
- **Theft:** If the insured vehicle has been stolen, claims may also be made.
- **Disasters caused by nature:** Claims may also be made in the event that an insured vehicle sustains damage as a result of a hurricane, tornado, or flood.

III RELATED WORK

Using cutting-edge image analysis and pattern recognition technologies, Vaibhav Agarwal, Utsav Khandelwal, Shivam Kumar, Raja Kumar, and others presented the Car Damage Identification and Classification System. A method for automatically locating the damaged area by comparing photos of the automobile from before and after an accident. In order to generate a cost report that the business might use to approve the insurance claim, Siddhant Gole, Pranay Gupta, and others created a web application interface that accepts user input in the form of photographs of the damaged automobiles.

Sosina Lemma et al. expressed the thought on insurance claim time and examined the factors that affect motor vehicle insurance claim processing time by the relevant data was gathered from customers. Muhammad Babar Ali Rabbani et al. explained the tools for the road accident data collection systems, based on which the policymakers can adopt the necessary strategies to avoid the accidents. To establish a system for road accident prevention, records from prior accidents,

evaluation and prediction of the accident, damage, and consequences.

Terry ap Hywe et al. expressed the view on accident prevention and the root causes of accidents and procedures for investigating accidents to identify the root cause. Also the Different root cause analysis techniques are explained.

IV PROPOSED SYSTEM

The aim is to develop an automated system for enhancement, segmentation and classification of Accident information using Django web application techniques.

To develop an efficient system that can support the people to know about the exact root cause of the accident and claiming the insurance based the data gathered. we are trying to develop the Web Application on “ the spot (Real-time) Accident information & Insurance dispute resolution” that will be effective to solve the above said problems using Django framework web applications that provides information in one platform

The objectives of the Project are:

- Login and Logout Dashboards
- Report the Accident and collect the data
- Store the data to the central repository
- Register the complaint to Police Station, Ambulance, RTO and other Public Volunteer.
- Insurance Claim for Persons and Vehicle
- Generate the Reports and Insurance dispute Resolution.

In the proposed method, the police department can update all the information about accidents that can be directly reported to the emergency system. In this we are going to maintain a system where we can gather all the information about the spot information during road accidents. The information can be anything which can include photos of the site, information on injuries and fatalities, reason for accident, speed, road condition on relative basis, etc. The centralized server or database is maintained to store all the information about the accident as the doctor can also upload their

information about the accident it will store in the server. This duty regarding gathering the information could be offered either to police, transport experts, rescue vehicles or even customary subjects who volunteer for the equivalent. Then the user will request the doctor and police for the report to claim the insurance.

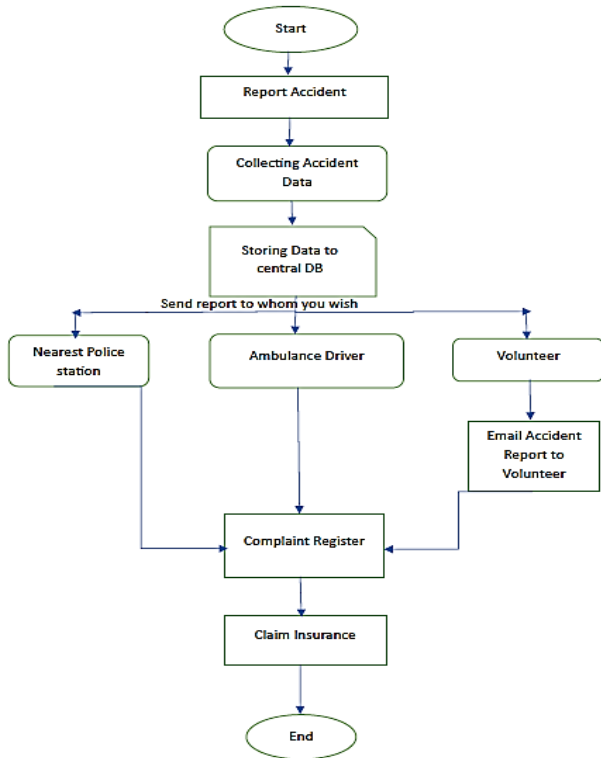


Figure 2: Proposed System

Django is a popular Python web framework that allows developers to build complex web applications quickly and efficiently. Visual Studio, on the other hand, is an Integrated Development Environment (IDE) developed by Microsoft that supports multiple programming languages, including Python. Visual Studio can be used to develop Django applications, as it provides features and tools that are useful for Python web development. Django-Jazzmin GUI is used to maintain the backend database.

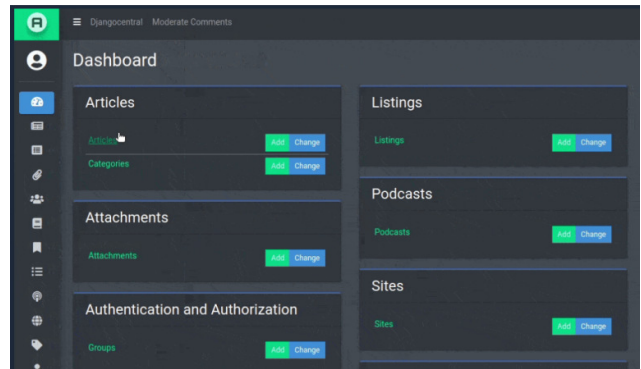


Figure 3: Django-Jazzmin GUI

System Implementation is basically taken the input from system definition, the system definitions are the actual requirements of the project. System definitions consist of System requirements (Functional and Non-Functional requirements), the architectural Design, Design Features, Specifications and complete blueprint of development. The System Implementation is the process where user has to implement the application with the help of all components, defined at design phase of the project. The implementation phase is the final phase of project development where the system is executed in a Real-time environment.

The modules in System Implementation are:

- Data Collection
- Data Analysis.
- Building Django application
- Farmer Ecosystem
- Web Application

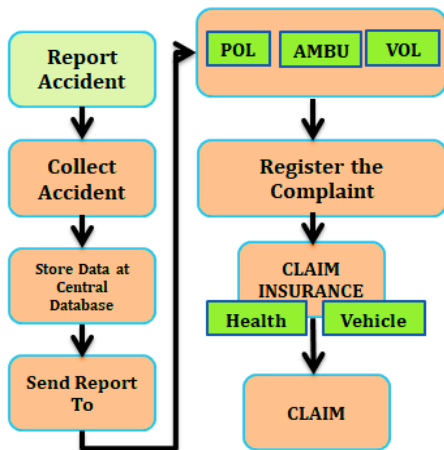


Figure 4: System Architecture

The front end application design can be as follows in the figure 5 below.

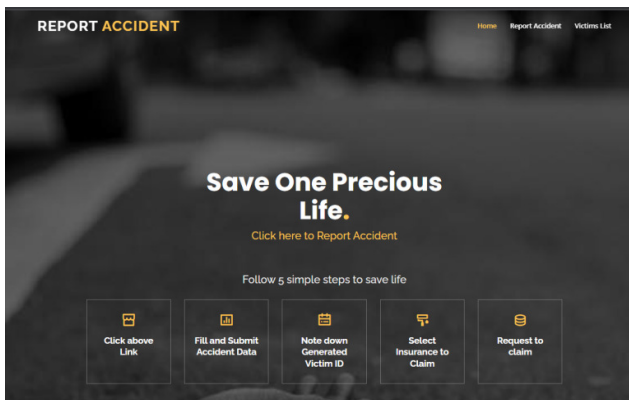


Figure 5: Home page of the Application

Figure 5 shows the Home Page of the accident Information. Here we can redirect to Report Accident and victims List. To save one precious life we have to follow four steps Fill and Submit Accident Data, note down Generated victim ID Select Insurance to Claim and Requested to claim.

The figure 6 shows the shows the Report Accident before submitting. Provide required credential like victim ID, Victim Name, Report Name, Date and Claim Insurance, Address of the accident, Pin

code, Reason for accident, Information on injuries etc.

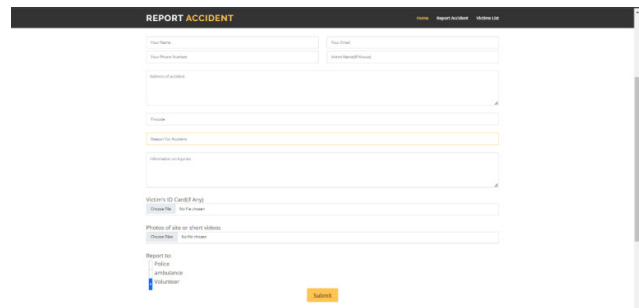


Figure 6: Accident Spot Information

Figure 7 shows the victims list. It consisting of all Victims credentials like victim ID, Victim Name, Report Name, Date and Claim Insurance.

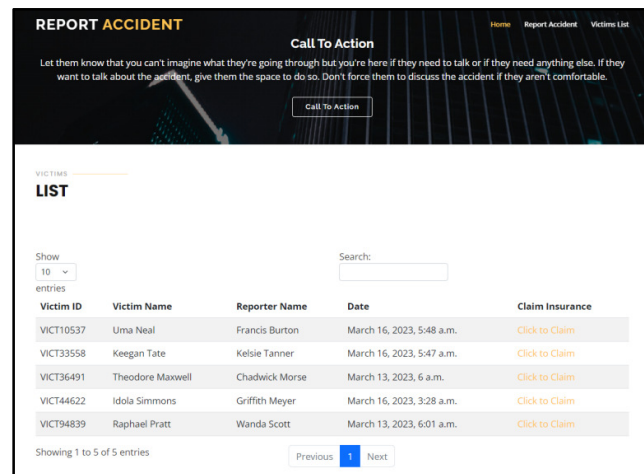


Figure 7: Victim List

Figure 8 shows the Insurance Claim. Here we provide the user credentials like Name, Email, Phone number, Id number and Insurance Agent.

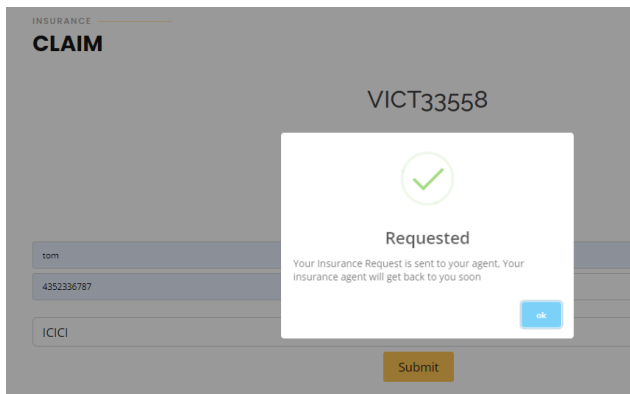


Figure 8: Request for claim

CONCLUSION

In order to obtain accident information and arrive in time, it is established that the system is to offer emergency service. Data integration allows for better and quicker decision-making based on data from diverse sources and offers time and life savings. Automobiles are essential for getting to work and for delivering things. But frequently they open the door to major catastrophes. Even though they happen often, road accidents are the worst thing that may happen to a road user. It was created to facilitate reporting, offer uniformity in data reporting, identify trends, and eventually aid in injury prevention. The management of accident reports and insurance claims can be streamlined by developing an accident report and insurance system using Django. You may create a Django application that enables users to report incidents, submit insurance claims, and access pertinent information by following the methods indicated above.

Legal and regulatory considerations, data security, and user privacy must all be carefully considered while developing an accident report and insurance system. It's crucial to abide by applicable laws and

get legal counsel if necessary. Overall, creating an accident report and insurance system using Django may offer a solid and effective solution for handling accident reports and insurance claims, enhancing the procedure for all parties.

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