Karunya INSTITUTE OF TECHNOLOGY AND SCIENCES
(Declared as Deemed to be University under Sec.3 of the UGC Act, 1956)
MoE, UGC & AICTE Approved
NAAC A++ Accredited

An internship report submitted by

MANOSHIKA CATHERINE S J (URK21CS1196)

MEENALOSHINI C (URK21C02010)

in partial fulfillment for the award of the degree of

BACHELOR OF TECHNOLOGY
in
COMPUTER SCIENCE AND ENGINEERING

under the supervision of

Dr. T JEMIMA JEBASEELI, Associate Professor

DIVISION OF COMPUTER SCIENCE AND ENGINEERING
KARUNYA INSTITUTE OF TECHNOLOGY AND SCIENCES
(Declared as Deemed to be University under Sec-3 of the UGC Act, 1956)
Karunya Nagar, Coimbatore - 641 114. INDIA

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BONAFIDE CERTIFICATE

This is to certify that the report entitled, "**Accident Locations on Indian Roads**" is a bonafide record of Internship work done at **Intel Unnati Training Program** during the academic year 2022-2023 by

MANOSHIKA CATHERINE S J (URK21CS1196)

MEENALOSHINI C (URK21C02010)

in partial fulfillment of the requirements for the award of the degree of Bachelor of Technology in Computer Science and Engineering of Karunya Institute of Technology and Sciences.

Guide Signature

Dr. T Jemima Jebaseeli

Associate Professor

ACKNOWLEDGEMENT

First and foremost, I praise and thank ALMIGTHY GOD whose blessings have bestowed in me the will power and confidence to carry out my internship.

I am grateful to our beloved founders **Late. Dr. D.G.S. Dhinakaran C.A.I.I.B, Ph.D** and **Dr. Paul Dhinakaran M.B.A, Ph.D**, for their love and always remembering us in their prayers.

We extend our tanks to **Dr. Prince Arulraj M.E., Ph.D.,** our honorable vice chancellor, **Dr. E. J. James, Ph.D.,** and **Dr. Ridling Margaret Waller Ph.D.,** our honorable Pro-Vice Chancellor(s) and **Dr. R. Elijah Blessing Ph.D.,** our respected Registrar for giving me this opportunity to do the internship.

I would like to thank **Dr. Ciza Thomas M.E., Ph.D.,** Dean, School of Engineering and Technology for her direction and invaluable support to complete the same.

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I would also like to thank all my friends and my parents who have prayed and helped me during the Internship.

ACCIDENT LOCATION ON INDIAN ROADS

INTEL UNNATI TRAINING PROGRAM

SUMMER – 2023

TEAM NAME : INTELLIGENCESTER

Author:

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Project Details :

TEAM NAME	:	INTELLIGENCESTER
PROJECT TITLE	:	ACCIDENT LOCATION ON INDIAN ROADS
TEAM LEADER	:	MANOSHIKA CATHERINE S J
TOOL USED	:	ARC GIS
WEBSITE LINK	:	Accident Locations on Indian Roads (arcgis.com)
APP LINK	:	Install Imagery Map Viewer | AppHost

Project Status Report

Overall Status: Successfully Completed

Project Name: Accident Location on Indian Roads

Date _ From : 1 /June/2023 - To : 8 /July / 2023

Status Code Legend

- To get a Clear Idea of the Project
- To Analyse the Data of the Accident Prone Locations in the Chennai City.
- To develop a Website to plot the Accident Locations in a Map
- To develop a Android Application to Access the Website

The project is **Successfully Completed** the week of 01/06/2023 – 08/07/2023, with following work done :	• Analyzing the Data of Accident Prone locations in Chennai City. • Developing a Website to showcase the Accident Prone Areas with their Ward no. • Developing an Android App to view the Website. • Creating a Project Report.
Data Analysis : 01/06/2023 – 08/06/2023	• The Chennai City was selected to do the Project. • The list of Accident Prone Areas in Chennai City was Analysed based on the Number of Accidents in Chennai in the last 5 years. • The Ward No's of that Particular zones were Identified. • The Pincode of the Particular Zones were Identified. • The Hospitals that are nearby to the Accident Prone Areas were Identified to be helpful in case of an Emergency was Identified. • These Data was depicted and was created as a table in an SVG File file:///C:/Desktop/Data/Data%20Analysis%20-%20Accident%20Locations.svg
Mapping : 11/06/2023 – 17/06/2023	• The Arc Gis Tool was Identified and selected to create the Project. The Greater Chennai Ward Boundaries Map was Identified from the World Atlas map in the Arc Gis Stimulator Tool . • The Ward No's were Identified in the Map to plot the Ward no's that we have Analysed. • The Accident Prone Places with their Ward no's in their respective places was Plotted on the Map. • Using the Properties option in the Map , the Data with their Ward no was Feeded. • A Button was Created using the Properties option to display the details that were feeded when the Button is Onclicked .
Website Devlopment : 19/06/2023 – 24/06/2023	• The Map that was Created in the Arc Gis Simulator Tool was Imported into the Arc Gis Wepage Developing Software. • A Website was developed to showcase the Map. https://www.arcgis.com/apps/instant/imageryviewer/index.html?appid=4fe10f64eeae409ab83407dec9f1d5ba&locale=en-us
App Devlopment : 25/06/2023 – 27/06/2023	• The App Geyster Software was selected to develop An App. • An Mobile Application was Developed to access the Website. • The App was Hosted in the AppHost Platform , APP NAME: IMAGERY MAP VIEWER. • https://appho.st/d/0pmEtoAF - Link to Download the App

Publishing the App : 28/06/2023	• The App was Tested and was Checked Thoroughly. • The App was Published and was Installed by the Users . • The users started using this Mobile Application without any Interruptions
Reviewing the App : 28/06/2023 – Until date	• The Review for the App was Taken from the Users • There was a Positive Review from the Users . • The App was Reviewed by the Industrial Mentor and had an Positive Feedback.
Report Generation : 02/07/2023	• An Project Report was Generated by the Head of the Team . • The Project was collected based on the work that we had accomplished while doing this Project.

Contact Information :

PROJECT HEAD ;

PROJECT TEAM NAME : INTELLIGENCESTER

TEAM LEAD BY : MANOSHIKA CATHERINE S J (B.Tech Computer Science Engineer)

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Accident Location on Indian Roads – Chennai City

***Abstract* —** Road accidents are one of the most important problems being faced by modern societies. Apart from the humanitarian aspect of reducing road deaths and injuries in developing countries, a strong case can be made for reducing road crash deaths on economic grounds alone, as they consume massive financial resources that the countries can ill afford to lose. The deaths of persons and serious economic loss caused by road accident demand a continuous attention in accordance with the spectacular growth in road transportation. It is nowrealized that better and more efficient techniques of accident information management are required. GIS provides a single framework within which both spatial and attribute information can bestored and effectively displayed. This paper explains the development of a GIS using theMap Info and ArcVIEW GIS to access accident in Chennai. Also deals with the forecasting of the road accident and based on the datacollected from various accident studies. The outcome ofthe study is highly useful for the retrieval of road accidents in Chennai. An Android App is developed to view the Accident Locations in the Chennai City.

INTRODUCTION

Traffic on the Indian City roads has increased tremendously due to the increasing rate of Urbanisation. Globalisation of the Indian economy and the improvement in economic status of the people has also induced greater impact on the transportation system. Increasing inadequacy of public transport, rising rate of vehicle ownership and migration of people to urban fringes have led to extensive use of private modes and closing the road network. The traffic movements in city roads have been compounded by frequent interruptions, resulting in drastic reduction in speed, leading to congestion and accidents. Road accidents cause injury, death, loss of property and damages to vehicles. All these involve amonetary loss to the economy. When roads are improved, road accident rate comes down. This results in quantifiable benefits to the economy (Kadiali, 1990). Though the overall death rate has declined and expectation of life has gone up, the death risk on roads has considerably increased. Apart from the humanitarian aspect of reducing road deaths and injuries in developing countries, a strong case can be made for reducing road crash deaths on economic grounds alone, as they consume massive financial resources that the countries can illafford to lose. That said it must of course be borne in mind that in developing and emerging nations, road safety is but one of the many problems demanding its share of funding and other resources. Even within the boundaries of the transport and highway sector, hard decisions have to be taken on the resources that a country can devote to road safety. In order to assist in this decision-making process it is essential that method be devised to determine the cost of road crashes and the value of preventing them.

Collection of Data Resources

Accident Prone zones in Chennai City

Road traffic injuries are the eighth leading cause of death globally. In its study highlighting the larger share of Low and Middle Income Countries in road accident fatalities, the World Bank underscores a distinct co-relation between socio-economic status and road use patterns in low and middle income countries such as India. The report states that daily wage workers and those employed as casual labourers in informal activities are more prone to be defined as vulnerable as compared to workers engaged in regular activities. It is often the poor, especially male road-users of working age that constitute the vulnerable road users (VRU) in India where VRUs share road space with other less vulnerable users with their income level having a direct bearing on the mode of transportation used and resultant risk faced by them on that account. Numerous factors can be attributed to be the causative factors of road accidents and can be broadly classified into road environment factors, human factors and vehicular factors .

DATA ANALYSIS

Data Analysis - Accident Locations.svg - This svg file has been created to show the Accident Locations in the Chennai City with its Ward no to allocate in the Map and the Famous Hospitals that are nearer to the Accident Prone Locations in the Chennai City , based on the data that has been analyzed.

Accident Locations on Chennai Roads

#	Accident Location	Ward no	Pincode	Famous Hospitals
1	Anna Road GPO (Mount Road)	100	600 002	G.Apollo Hospitals
2	Greams Road (Gemini Flyover)	111	600 006	Apollo Hospital
3	Saidapet	117	600 015	Poornima Hospital
4	T.Nagar	117	600 017	Bharathiraja Hospital and Research Centre
5	Teynampet	112	600 018	Apollo Speciality Hospitals
6	Adyar (Madhya Kailash Junction)	176	600 020	Fortis Malar Hospital
7	Raj Bhavan	174	600 022	Bharathiraja Hospital
8	Guindy Engineering College	174	600 025	Sri Balaji Hospital
9	Vadapalani	117	600 026	Fortis Hospital Vadapalani
10	Industrial Estate Guindy	170	600 032	Kalaignar Cenetary Super Speciality Hospital
11	Nandanam	141	600 035	Venkateshwara Hospitals
12	Anna Nagar	67	600 040	Be Well Hospitals
13	Velacheri	179	600 042	Prashanth Super Speciality Hospital
14	Chromepet	36	600 044	Parvathy Hospital
15	Tambaram IAF	38	600 046	Apollo Clinic
16	Tambaram Sanatorium	38	600 047	Tambarum Government Hospital
17	K K Nagar	131	600 078	S M Hospital
18	Ashok Nagar	132	600 083	J E Naesam Hospital
19	Arumbakkam	106	600 106	Sai Speed Hospitals
20	Tharamani	180	600 113	Dr. SPL 24/7 Polyclinic
21	Sholinganallur	15	600 119	K L Hospital
22	Thirumullaivoyal	7	601 209	Medgold Hospitals
23	Kattankolathur	17	602 203	SRM General Hospital

Plotting the Accident Zones in the Map

ARC GIS Tool

ArcGIS Experience Builder empowers you to easily build the exact web apps to create a compelling, immersive web experience for your audience with flexible design and page options that allow you to unify apps, pages, and both 2D and 3D data. Exercise creative control on how your web app looks on mobile, tablet, and desktop to ensure that your audience gets information on any device when they need it. Build custom widgets, themes, and actions to further extend your web app. This ARC GIS Tool is used to stimulate the collected data in a Map view. The Greater Chennai Ward Boundaries map is used to Plot the Accident Areas.

Description

The city ward boundaries represent the administrative and electoral boundary areas of the city. It plays a great role in planning of the city, for each council of the municipal corporation.

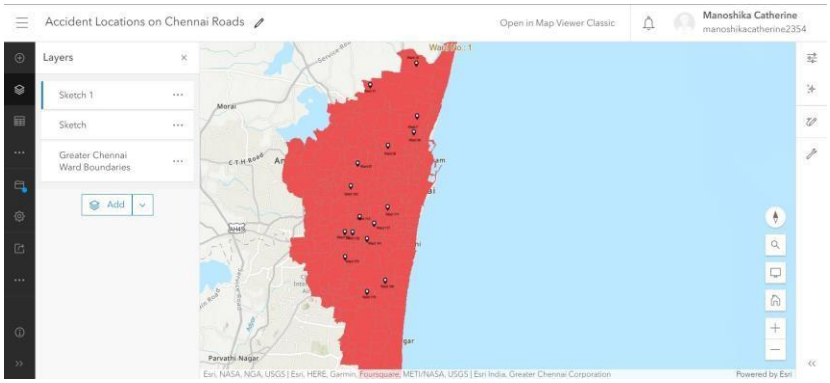
This web layer represents ward boundaries of Greater Chennai Corporation along with following attributes:

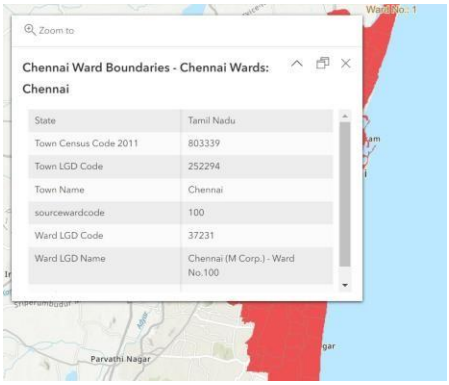
- Town Name
- Town Census Code 2011
- Town LGD Code
- Ward LGD Code
- Ward LGD Name
- Ward Name (Source)
- Ward Code (Source)
- State

Data Development Approach:

1. **Map Search** - Search for authentic/relevant ward boundary map, (Map Source)
2. **LGD Mapping** - Match the ward details with Local Govt. Directory,
3. **Data Development** - Convert the digital map to GIS format with ESRI platform,
4. **QA/QC** - Quality check of the developed boundaries,
5. **Sharing** - Publish to Living Atlas of the World.

https://www.arcgis.com/apps/mapviewer/index.html?webmap=11126cb413b9466fb3d3bea38c7ba805





When an accident plotted area is clicked it displays the Ward details of that particular area

[Accident Locations on Indian Roads (arcgis.com)]

App Development

Imagery Map Viewer App

Web application development allows web-based projects to function and behave like mobile applications. Web applications prioritize responsive interactions with users while still delivering content through a network and the internet. An Android Application is developed using the website that has beencreated using the Arc Gis Tool. The Android Application is easier to use than the Website.

App Designing in Configure Imagery Viewer

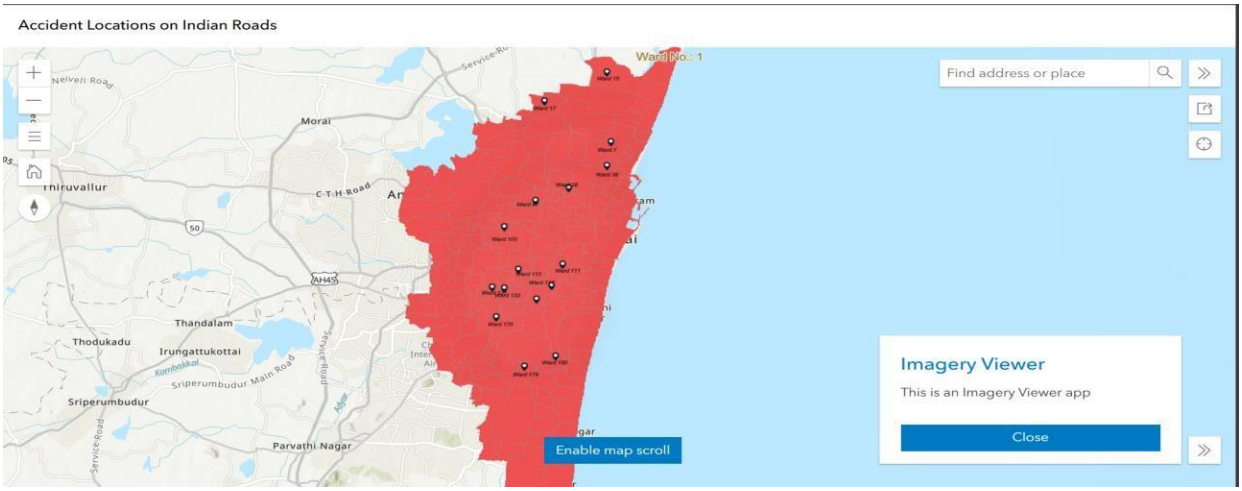
[Install Imagery Map Viewer | AppHost]

App Downloading QR code

Scan QR-code with your phone camera to download APK

Your users can download your app from:
https://appsgeyser.io/17214701/Imagery-Map-Viewer

App Logo



Imagery Map Viewer App

This Imagery Map Viewer App allows you to access the accident points and showcases their ward number details , it allows us to zoom in or zoom out an area , it enables usto scroll the Map , It allows us to search a particular area in that Map . It showcases the Accident Points in Chennai City. These Accident locations can be taken into special consideration by the Tamilnadu Ministry to avoid the accidents in that area. The Accident Locations on Chennai City is spotted Succesfully.