DEPARTMENT OF COMPUTER SCIENCE

PROJECT PRESENTATION (KCS 753)

AMBULANCE TRACKER

Guide - Mr. Anurag Mishra

By-Anshika Dubey (2000290120029) 8A
Ashlesha Sharma (2000290120044) 8A

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BACKGROUND

- According to an AIIMS report, in 2020 98.5% of ambulances carry dead bodies as they are late in reaching the spot because of the unavailability of ambulances and heavy traffic.
- Emergency response is critical in saving precious lives, but we don’t have any criteria that ensures that patient will reach the hospital on time and will get proper treatment with standardized protocols.
- Many hospitals lack in providing ambulance services on time because they don’t have a proper record of ambulances.
- After contacting the ambulance service, the further process is also delayed due traffic and other reasons like not getting medical history of patient that will obstruct the treatment and can also lead to severe problems.
- So we need an integrated system that will provide all the services starting from booking ambulances to treatment.
- We have seen that general public doesn't possess basic first aid skills and that too is very important in saving lives

ABSTRACT

- The world seems to get better every day thanks to the rapidly evolving technology, systems to support them, and back-end processing power.

- The ambulance tracking application is a proposed user interface that is directly updated by its own, where 24/7 server will automatically check the request and bookings.

- It also helps in emergency cases where lots of people died on daily basis. This is a life-saving application.

PROBLEM STATEMENT

- There is no national access to contact for emergency medical help.
- There is no specific protocol for an ambulance to the reach destination immediately therefore it gets delayed due to traffic and people suffer by losing their loved ones.
- We can cut the time traveled by ambulance to minimum which will save many lives.
- Many hospitals lack in providing ambulance services on time because they don’t have a proper record of ambulances.
- We have seen that general public doesn't possess basic first-aid skills and that too is very important in saving live.

FIELD OF INVENTION

- Ambulance tracking is a critical component of emergency medical services (EMS) management, and there are several fields of invention that could improve ambulance tracking systems.
- One field of invention could be the development of advanced GPS tracking systems that provide real-time location data for ambulances.
- This could include the use of satellite-based GPS systems, as well as ground-based systems that use sensors to track the movement of ambulances.
- Such systems could also incorporate advanced analytics capabilities to help EMS managers optimize ambulance routes and respond to emergencies more quickly.
- Another field of invention could be the use of advanced communication technologies to enable real-time communication between ambulances, hospitals, and emergency response teams.

OBJECTIVES

- Our objective is to provide emergency services to needful people in minimum time So that they get medical services on time.
- We can cut the time traveled by ambulance to a minimum which will save many lives.
- By using our app the patient gets to the hospital on time .You can track your ambulance using your phone.
- It helps people by guiding them about basic first-aid that is to be provided to the patient on time.

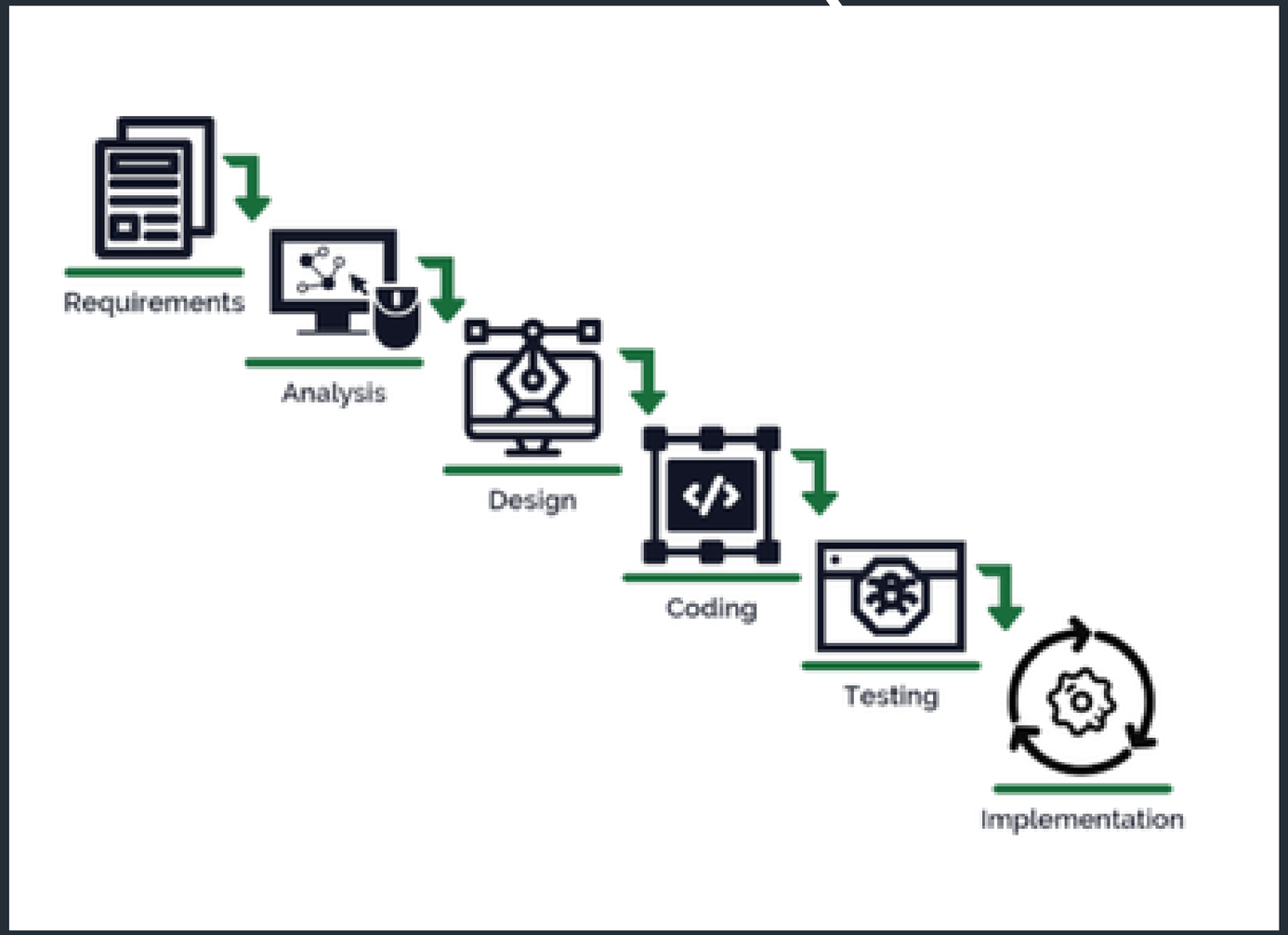
APPROACH

We have analyzed the problems and requirements now based on these requirements a technical solution will be developed. This involves designing, coding, testing, and refining the solution until it meets all the requirements.

The technical solution development involves several sub-steps, such as:

- Design: The design step involves developing a high-level overview of the system or application, including its architecture, user interface, and data structures. This step may also involve creating wireframes or prototypes to validate the design with stakeholders.
- Coding: The coding step involves writing the code for the application or system. This step may involve using programming languages, frameworks, or libraries, depending on the requirements of the project.
- Testing: The testing step involves verifying that the code works as intended and meets the requirements.
- Refinement: The refinement step involves making modifications and improvements to the code based on feedback from testing and user feedback.

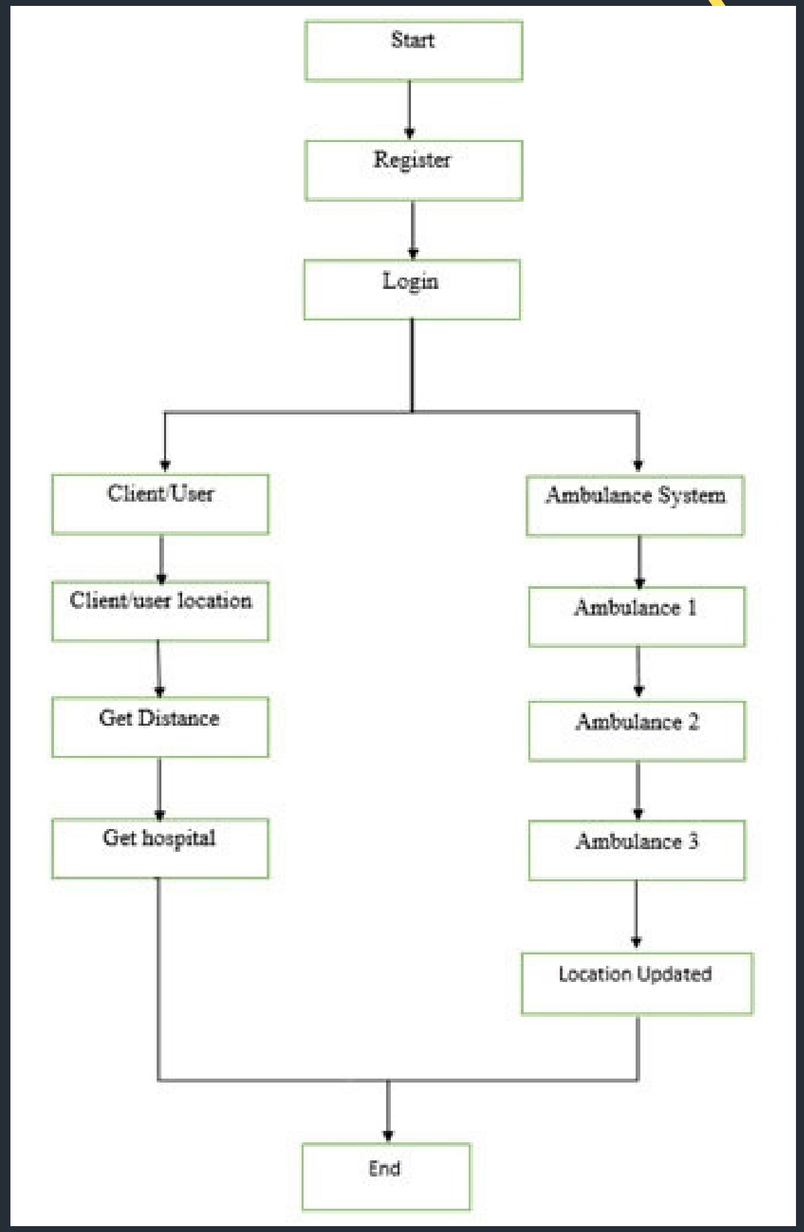
APPROACH


Requirements
Analysis
Design
Coding
Testing
Implementation

ADVANTAGE

- Increased safety
- Increased public trust.
- Enhanced Accountability.
- Scalibilty.
- Improved Efficiency.
- Patients can now book an ambulance for an emergency as well as for non-emergency services. User can keep history of the trips and can view any time
- You can locate the nearest available ambulance and request the same.
- Instantly get the information & contact details of the driver

FLOWCHART


Start
Register
Login
Client/User
Client/user location
Get Distance
Get hospital
Ambulance System
Ambulance 1
Ambulance 2
Ambulance 3
Location Updated
End

OUTCOMES

- Improved Responses Time.
- More Efficient resource allocation..
- Enhanced Patient Care.
- Data driven Insights.

TECHNOLOGY USED

- React JS
- Django
- Javascript
- Html, CSS
- Hooks
- Material UI
- Tailwindcss
- Redux
- API
- Templates
- Firebase
- Router

PATENT

Patent was **submitted** to the guide,
and **published.**

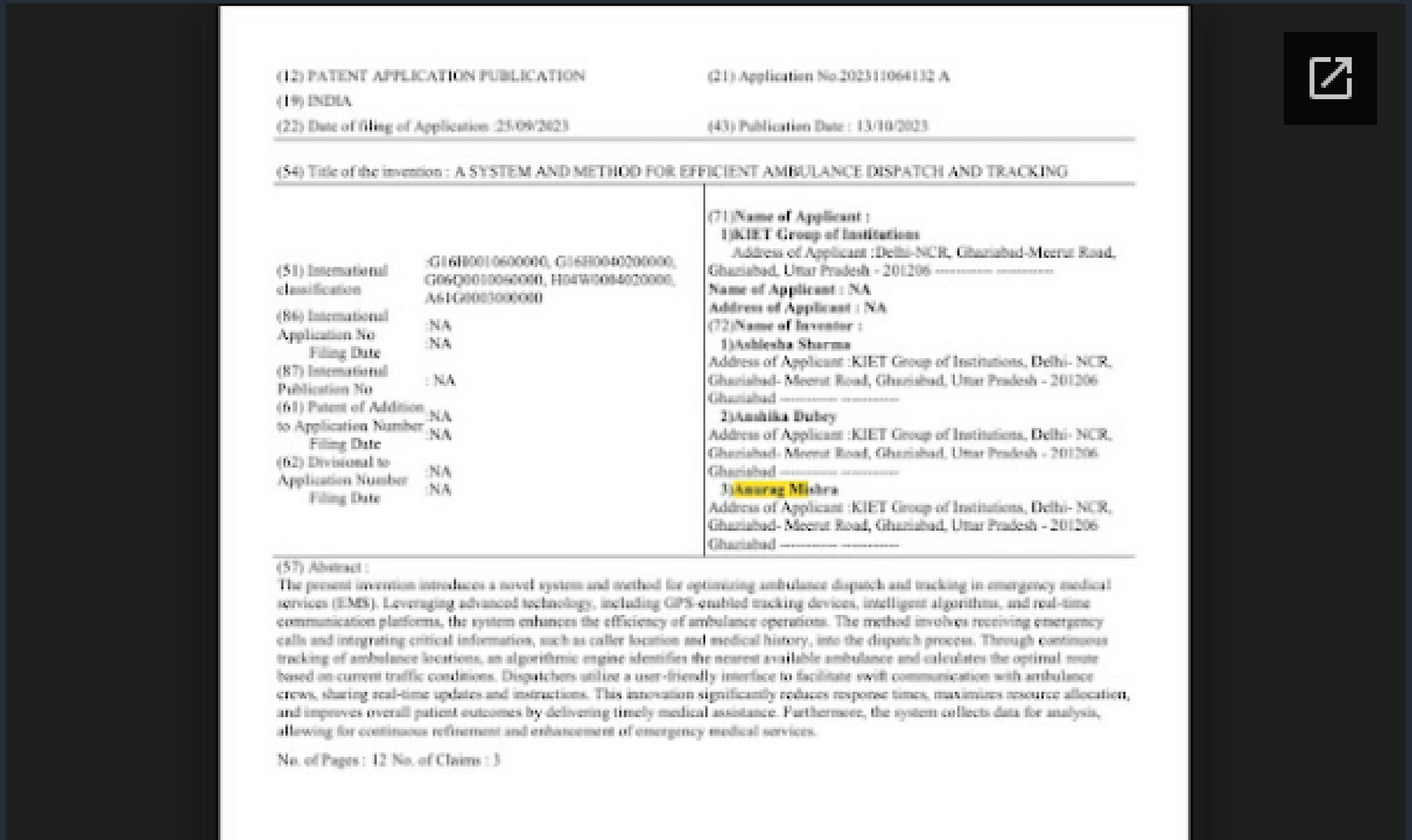
https://drive.google.com/file/d/113v88-9XGy3r3HJiRsjQDumZ4638PFaV/view?usp=drive_linkh text

RESEARCH PAPER

Research paper is completed.

https://drive.google.com/file/d/1yactwWE6BeCM858xXtS4qP2CLWRoId19/view?usp=sharing

PATENT STATUS



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(71)**Name of Applicant :**
1)KIET Group of Institutions
Address of Applicant :Delhi-NCR, Ghaziabad-Meerut Road, Ghaziabad, Uttar Pradesh - 201206 ---------- ----------
Name of Applicant : NA
Address of Applicant : NA
(72)**Name of Inventor :**
1)Ashlesha Sharma
Address of Applicant :KIET Group of Institutions, Delhi- NCR, Ghaziabad- Meerut Road, Ghaziabad, Uttar Pradesh - 201206 Ghaziabad ---------- ----------
2)Aashika Dubey
Address of Applicant :KIET Group of Institutions, Delhi- NCR, Ghaziabad- Meerut Road, Ghaziabad, Uttar Pradesh - 201206 Ghaziabad ---------- ----------
3)Anurag Mishra
Address of Applicant :KIET Group of Institutions, Delhi- NCR, Ghaziabad- Meerut Road, Ghaziabad, Uttar Pradesh - 201206 Ghaziabad ---------- ----------

(57) Abstract :

The present invention introduces a novel system and method for optimizing ambulance dispatch and tracking in emergency medical services (EMS). Leveraging advanced technology, including GPS-enabled tracking devices, intelligent algorithms, and real-time communication platforms, the system enhances the efficiency of ambulance operations. The method involves receiving emergency calls and integrating critical information, such as caller location and medical history, into the dispatch process. Through continuous tracking of ambulance locations, an algorithmic engine identifies the nearest available ambulance and calculates the optimal route based on current traffic conditions. Dispatchers utilize a user-friendly interface to facilitate swift communication with ambulance crews, sharing real-time updates and instructions. This innovation significantly reduces response times, maximizes resource allocation, and improves overall patient outcomes by delivering timely medical assistance. Furthermore, the system collects data for analysis, allowing for continuous refinement and enhancement of emergency medical services.

No. of Pages : 12 No. of Claims : 3

TESTING REPORT

https://docs.google.com/document/d/1TmeZD-zVC77S_iWpP4Xg8a3y-kbJHNcy/edit?usp=sharing&ouid=104406762139101490082&rtpof=true&sd=true

CONCLUSION

- Nowadays, Most of the deaths are occurring from less facilities which we are providing by Janrakshak application to give access for book an ambulance from anywhere and anytime in the case of emergency and also provides the first -aid until the ambulance come to the people.
- We provide green corridor using IOT model that will help people reaching hospital on time and this model will manage and divert traffic to make the route of the ambulance traffic free

THANK YOU