# Project Synopsis

on

# **Ambulance Tracker**

Submitted as a part of course curriculum for

# Bachelor of Technology in Computer Science



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# **TABLE OF CONTENTS**

			Page No.
TITLE PAG	ъЕ		i
DECLARA	ΓΙΟΝ		ii
CERTIFICA	ΛΤΕ		iii
ACKNOWL	LEDGE	EMENT	iv
ABSTRACT	Γ		v
LIST OF FIG	GURE	S	vi
LIST OF AE	BBREV	VIATIONS	vii
CHAPTER	1 INTI	RODUCTION	1-n
	1.1.	Introduction	1
	1.2	Problem Statement	
	1.2.	Objective	2
	1.3.	Scope	3
CHAPTER 2 LITERATURE REVIEW			7-p
CHAPTER 3 PROPOSED METHODOLOGY			8-m
3.1	Flowch	art	
3.2 A	Algorit	hm Proposed	10
CHAPTER 4 TECHNOLOGY USED			12
CHAPTER 5	5 DIA	GRAMS	
CHAPTER (	6 CON	ICLUSION	
REFERENC	CES		



# TITLE PAGE

KIET GROUP OF INSTITUTIONS
MAJOR PROJECT
2024 BATCH, SESSION 2022-23
APPROVAL OF TITLE BY GUIDE
Guide Name: Mr. Anurag Mishra
Project ID: PCS24-5
Domain: Web Development
Title: Ambulance Tracker
Date:
Student Names with Signature Ashlesha Sharma
Guide Sign:

## **DECLARATION**

We hereby declare that this submission is our work and that, to the best of our knowledge and belief, it contains no material previously published or written by another person nor material which to a substantial extent has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

Signature of Students

Name: Ashlesha Sharma Roll No.: 2000290120044

Date: 14-11-2022

## **CERTIFICATE**

This is to certify that Project Report entitled "Ambulance Tracker" which is submitted by ASHLESHA SHARMA in partial fulfillment of the requirement for the award of degree B. Tech. in Department of Computer Science of Dr A.P.J. Abdul Kalam Technical University, Lucknow is a record of the candidates own work carried out by them under my supervision. The matter embodied in this report is original and has not been submitted for the award of any other degree.

**Date:** 14-11-2022 MR. Anurag Mishra **Supervisor Signature** (Assistant Professor)

### **ACKNOWLEDGEMENT**

It gives us a great sense of pleasure to present the synopsis of the B.Tech Mini Project undertaken during B.Tech. Third Year. We owe a special debt of gratitude to MR. Anurag Mishra (Assistant Professor), Department of Computer Science, KIET Group of Institutions, Delhi- NCR, Ghaziabad, for his/her constant support and guidance throughout the course of our work. His sincerity, thoroughness and perseverance have been a constant source of inspiration for us. It is only his/her cognizant efforts that our endeavours have seen the light of the day.

We also take the opportunity to acknowledge the contribution of Dr. Ajay Kumar Shrivastava, Head of the Department of Computer Science, KIET Group of Institutions, Delhi- NCR, Ghaziabad, for his full support and assistance during the development of the project. We also do not like to miss the opportunity to acknowledge the contribution of all the faculty members of the department for their kind assistance and cooperation during the development of our project.

Last but not the least, we acknowledge our friends for their contribution to the completion of the project.

Signature:

Date: 14-11-2022

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# **ABSTRACT**

Some of the most amazing discoveries in this decade have been made thanks to technology and technological advancements. 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 (Janrakshak) 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. 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.

# **Chapter -1**

### INTRODUCTION

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 clearing the route by creating green corridors.

We have seen that general public doesn't possess basic first aid skills and that too is very important in saving lives.

## PROBLEM STATEMENT

There is no standardized national access to contact for emergency medical help where users can register and can add members with their ABHA ID (a unique identifier that enables you to share and access your health records digitally) for future reference.

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 travelled 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 lives.

# **Objective**

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 and it will reduce the time of travel by green corridors.

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.



# **Chapter-2**

## LITERATURE REVIEW

# 1. ROLE OF RESPONSIVE DESIGN IN WEB DEVELOPMENT

**Author**: Fernando Almeida, J.Monteiro

Responsive design allows software developers to build a Web page that can dynamically adapt to the size of the devices. This development philosophy enables the rendering of Web pages in a fast and optimized way, ensuring a good user experience on mobile devices, tablet and desktop. In the scope of this study, we intend to explore the main advantages and limitations associated with responsive Web design. We adopted a quantitative approach based on a questionnaire filled by 181 professionals in the industry that allowed us to identify the reasons that lead software developers to the adoption of the responsive design and address the limitations felt by them. The results obtained indicate that offering a good user experience and increasing stands out as being the most important advantages.

The advent of the Web turned possible the appearance of new form of transmission ideas and contents in online environments. The Web design process uses techniques to adequate structuring of information, using appropriate resources to serve on web pages, in a manner that the user can reach his goal in a direct and pleasant way. Web design distinguishes itself from other traditional forms of design. The Web is a unique channel that forces designers not to be able to control the environment around them. Elements such as colors, shapes, and layouts can be customized by the user (or by the users' web browser), and there are no guarantees that all users will see the same Web page in the same way that it was designed and developed. In this sense, Web designer need to concept Web applications, without knowing in advance the Web browsers that will be used, the technological platform on which application will be run, such as operating systems, personal preferences of users, resolution of the access devices, and the characteristics and speed of the Internet connection.

# 2. A review and analysis of technologies for developing web applications

**Author:** Asha mandana, Solomon Antony

In this paper we review technologies useful for design and development of web-based applications. We also discuss about the technologies that are used at the client side and server side of web application. Next, we compare different web application development frameworks. In addition, we discuss life cycle model and framework of web application development.

Some web applications deliver organizational functionality, some are designed too interactive. Others are for communicational dialogue and others are for presentation. This paper deals with websites that cater to the delivery of business functionality. We examine three popular web application platforms and make recommendations for typical business applications.

Web applications tend to be multitiered by nature, with the most common structure being the three-tiered architecture. A web browser is the first tier which is presentation tier. The middle tier will host the application logic. Finally, a database is a third-tier storage. Most development work is done in an ad hoc manner, without any specific methodologies. Before the development starts, modeling the sites using flowcharts, screen mock-ups and storyboards is common. With smaller teams, lighter more agile methods can be employed.

The presentation layer of web applications provides nearly the same user experience as desktop applications. Such interfaces employ a group of technologies collectively called Rich Internet Applications (RIA) (Driver, 2005). There are four categories of RIA technologies, namely Script based, plugin-based, browser-based, and web-based desktop technologies.

The object-oriented approach builds web applications very efficiently when one can accomplish more in less time. Because it uses modern processes, by this both developers and clients can benefit. To develop these types of applications there are so many scripting languages and new technologies are there we don't have to stick to one. It gives good knowledge to the developers as well as clients in choosing a web application platform.

# 3. Web Application Development

**Author:** Zhen Jiang, Dilip Kothamasu

The use of the Unified Modelling Language (UML) with the newly added Web Application Extension (WAP) resulted in a Web application with good design regarding maintainability. The UML WAE had a good level of support for extensibility, reusability and documentation. We believe that the use of UML for Web application development will result in good design and maintainability. We have divided the term maintainability into three criteria: Extensibility, Reusability and Documentation. To help draw conclusions from our hypothesis we will answer the following questions. UML WAE: We will use Web Modelling Extension (WAE) to model a Web shop that sells products. WAE is an extension to UML and was developed by Jim Connellan. We will not use class elements when we model but we may mention them in the \r text. Web Applications: A Web application is a site that has invoked business logic, interactivity, \r transaction handling and states. The three components to achieve this are a browser, a Web server, and an application server. Often a database is added to make the application more dynamic.

Web Applications VS Client server: In this report we define a Web application by the definition by Jim Connellan. A Web application is a computer program that has at a minimum, a browser, a Web server, an application server and possibly also a database server. The applications have the same architecture, functionality and are used in many of the same situations.

Conclusion: The use of UML for Web application development will result in good design, regarding to maintainability. Extensibility was supported through low coupling, high cohesion and the possibility to create generalization/specialization hierarchies. Reusability was supported by the ability to apply white-box reuse. This thesis was unable to resolve whether UML WAE supports black-box reuse. With our three criteria extensibility, reusability and documentation examined and found to be in support, the conclusion is that the use of UML for Web application development resulted in good design regarding to maintainability.

# 4. Research on Html 5 in Web Development

Author: Ch Rajesh, 2 K S V Krishna Srikanth

HTML5 is everywhere these days. HTML5 is the new and elegant standard for HTML that provides web users and developers enhanced functionality. The older versions of HTML, HTML 4.01, which came in 1999, and the web development have changed notably since then. HTML 4, XHTML, CSS and the HTML DOM Level 2 are now replaced with HTML5. It was brought to deliver rich content without the need for additional plug-ins and proprietary technologies. The new power of HTML5 supplies the user with everything from animation to graphics, music to movies, and can also be used to build complicated web applications and also supports cross-platform. HTML5 standard initiates the development of real-time collaborations in web browsers, which leads to less work for web developers.

INTRODUCTION- The web is a resource that is widely and steadily usable across many platforms. Some vendors have developed their own proprietary technologies that provide more functionality than web standards. W3C is developing HTML5 with the cooperation of Web Hypertext Application Technology Working Group (WHATWG).

HTML- New standard for HTML allows us to build rich and interactive web pages. It can play audio and video and supports animations from the browser without the need for proprietary technologies. HTML5 supports cross-platform, designed to display webpages on a PC, a Tablet, a Smartphone, or a Smart TV.

### HTML5 FEATURES:

HTML5 provides new features that include

- Canvas 2D/3D Graphics
- Audio & Video
- Location-based Services
- Working Offline
- Web Workers
- Drag & Drop
- New Input Types
- New Elements
- Form Elements

### New Elements in HTML5:

- <acronym>
- <applet>
- <basefont>
- <big>
- <center>
- <dir>
- <font>
- <frame>
- <frameset>

# 5. Security Patterns for Web Application Development

Author: Takao Okubo, Hidehiko Tanaka

There is a huge disconnect between security professionals and systems developers. Security patterns are intended to capture security expertise in the form of worked solutions to recurring problems. While the emphasis is on security, these patterns capture the strengths and weaknesses of different approaches. They are meant to be constructive and educational as well as educational.

#### PROBLEM:

The Problem describes the conditions that motivate the usage of the pattern. This section outlines the context in which the pattern is applicable. When multiple patterns address the same basic problem, the Problem section for each pattern provides the more detailed context that would make that pattern specifically appropriate. The problem statement does not contain a lengthy discussion of secondary effects. For example, the Problem section for the Password Authentication pattern does not include the need to protect against password-guessing attacks. The Password Authentication pattern addresses the problem of authenticating users. Susceptibility of this approach to password-guessing attacks is a secondary effect of using passwords.

### SOLUTION:

The Solution describes at a high level how the pattern solves the problem described in the problem statement. This section explains how the pattern is applicable to the problem and the rationale for applying the solution. Optionally, the Solution section will include a diagram to describe the solution structure visually. A solution will also be explained in terms of particular components and their interactions, if appropriate. Significant scenarios comprising the solution are presented in detail in this section.

### CONCLUSION:

We have identified a number of candidate security patterns, collected in Version 1.0 of our Security Patterns Repository at SECURITY PATTERNS AT PLOP SECURITY PATTERNS MAILING LIST OPENGROUP SECURITY FORUM Security Patterns for Web Application Development 23 http://www.securitypatterns.com. Our initial investigation into security patterns has produced a promising package for collecting and conveying security expertise. The next step is to evaluate the utility of the specific patterns in our repository. In the patterns community, formal evaluation does not occur on a specific pattern prior to publication. The evaluation process consists of feedback and discussion in a public forum to reach a consensus concerning the validity and utility of a particular pattern. By publishing our repository of security patterns on the Web and providing a mechanism for collecting feedback, we hope that the security and patterns communities will assess our existing patterns and provide suggestions for new security patterns. We will incorporate feedback and maintain the repository online. Evaluation of the security patterns in Version 1.0 of the repository sets the context for a more formal evaluation of the security patterns concept as a whole. We hope to collect structured feedback from developers who attempt to use the patterns on actual projects. Potentially,.

# 6. Evaluation of a Virtual Lab Environment for Teaching Web Application Development

**Author:** Peter Meso, Jens O ligele

In this paper, we explore how one aspect of virtual computing – the virtual lab – effectively addresses many of the challenges of teaching web application development. Based on a case study at a large south-eastern university, we begin by providing a description of the technical resources needed to teach such a course. We then briefly describe the shortcomings of previous approaches for providing a suitable environment, followed by a description of the recently implemented virtual lab approach. Thereafter, we report the results of a survey that asked students exposed to this environment about their experience and perception of the virtual lab. The paper concludes with a discussion on the benefits, drawbacks, and lessons learned from the virtual lab approach.

### INTRODUCTION:

The teaching of business courses requires the use of definite computing\r technologies either within a laboratory setting or individuals outside of the classroom. These perceptions have a direct bearing on the instructor's evaluation by students. Technologies that simplify the teaching of IT enhance pedagogical quality. The study was based on a pilot project at a large south-eastern university and provides a description of the recently implemented virtual lab approach.

### **EVALUATION OF THE VIRTUAL LAB:**

The virtual lab was installed and tested during the spring 2005 semester. Two faculty members were given access to 25 virtual workstations for use in their web development and systems design courses. The primary question was: how effective is the VLsetup as a pedagogical resource for application development? TAM as a tool is designed to evaluate technology in isolation. We expect a number of factors to have an influence on a student's perception of the usefulness and ease of use of the VL. Some students would have successfully installed a web server at home or on their laptop while others would fail to do so for various reasons.

### CONCLUSION:

Students on average found the virtual lab useful and easy to use (3.75 out of 5), but it was also useful and a little bit easy to use. Results indicate that the power of the personal computer, the presence of a running personal web server, and programming experience have a significant influence on students' perception.

## 7. Website Development Technologies: A Review

**Author:** Pratiksha D Dutonde, Shivani S Mamidwar, Monali Sunil Korvate, Sumangla Bafna, Prof. Dhiraj D Shirbhate

"Web development" typically refers to the most non-design aspects of building net sites. Net development could use content management systems (CMS) to create content changes easier. There is square measure 3 styles of net developer specialization: frontend, back-end and full-stack.

Traditional Technologies in Web Development:

Knowing the fundamental classes of net technologies is important if you propose to figure in net development. JavaScript could be a lightweight, cross-platform, and taken scripting language. Node.js is an event-driven, non-blocking (asynchronous) I/O and it's not an artificial language.

Back-end development cares with web site design, scripting, and communication with databases. Back-end code permits the communication\r between browsers and data from databases. Databases are necessary as a result of the permit websites and applications to handle user knowledge. There are two main sorts of databases: SQL and NoSQL. Once a business case has been developed and approved, it's time to begin building. A level-3 heading must be indented, in Italic and numbered with an Arabic numeral followed by a right\r parenthesis. The final check of system practicality is when the web site is ready to deploy. The developer should make sure that the positioning is responsive i.e., it seems. properly on devices of all sizes not a part of the web site ought to behave abnormally no matter the scale of the screen. HTML, CSS, and JavaScript square measure the languages used for face development.

### Conclusion:

The Worldwide internet represents the highest technology to the perfect of a very distributed network atmosphere for polymorphic communication. As such, it should be although of as a paradigm shift aloof from earlier network protocols. Web Applications design issues the look and implementation of pc code that runs on internet servers, rather than running only on desktop computers, laptops, or mobile devices.

### 8. APPLICATION DEVELOPMENT USING FLUTTER

**Author:** Aakanksha Tashildar\*1, Nisha Shah\*2, Rushabh Gala\*3, Trishul Giri\*4, Pranali Chavhan\*5

Cross-platform mobile application development is the pressing priority in today's world and generation. Developers are enforced to either construct the same application numerous

times for various OS (operating systems) or accept a low-quality similar solution that trades native speed and accuracy for portability.

### INTRODUCTION:

Mobile applications are having a progressively more significant role in our day to day lives. Ever since November 2016, there is more network traffic made by mobile devices (48.19%) compared to desktops or laptops (47%). To dispense it to most of the users, a mobile application needs to familiarize itself with two independent platforms which are Android and iOS. These two platforms share immense dissimilarities which often necessitate different skill sets for development.

#### FLUTTER:

Flutter is a cross-platform framework that targets developing high-performance mobile applications. Flutter was publicly released in 2016 by Google. Besides running on Android and iOS flutter applications also run on Fuschia. Flutter is chosen as Google's application-level framework for its next-generation operating system. Flutter is exceptional because it is dependent on the device's OEM widgets rather than consuming web views. Flutter uses a high-performance rendering engine to render each view component using its own. This provides a chance to build applications that are as high-performance as native applications can be. In view of architecture, the engine's C or C++ code involves compilation with Android's NDK and LLVM for iOS respectively, and during the compilation process, the Dart code is compiled into native code.

### **CONCLUSION:**

Points to the success of a mobile-driven reward system are helping retailers and small to medium-shop owners to attract new customers, retain existing ones, and motivate increased purchases among current consumers. Offering loyalty programs attract customers to invest in your brand and also leaves its imprint on their mind and bring your brand into the limelight.

# 9. Exploring End User's Perception of Flutter Mobile Apps

**Author:** Ola Dahl

When developing mobile applications, developers need to make a decision: either develop multiple native applications for different operating systems or develop one app that is cross-platform compatible. Many technologies for creating cross-platform applications have emerged over the years, and new technologies are released every year. One such technology is Flutter, which is a mobile application SDK (Software Development Kit). Flutter promises the ability to build native applications on iOS and Android that achieve native performance.

### Introduction:

The smartphone market has consistently grown ever since the introduction of the first iPhone in 2007. The number of units shipped worldwide has gone from 173 million in 2009 to 1.4 billion in 2015 and a forecast of 1.8 billion units sold in 2018 [27]. The main reason for the success of the smartphone is the popularity of mobile applications (hereafter referred to as "apps"). The app market today consists of more than two million apps and downloaded billion of times from app stores such as the Google Play Store and Apple App Store [25].

Result and analysis:

In this section, the results from the user evaluation will be presented. Apps In this study, two prototype apps were developed. One app (App A) was developed using the Flutter SDK, and the other (App B) was developed using the native Android SDK. Both apps include the same functionality and design. The apps are divided into four parts. The first three parts are Buttons, Input and List. These parts include a number of simple UI components. The purpose of these three parts is to evaluate if there is a difference in user satisfaction between systems while interacting with simple UI components. The fourth par Weather Apap is a more concrete example of how a basic app can look and behave in these systems. It includes the ability to search for cities and get the weather information for these cities. The purpose of this part is to evaluate if there is a difference in user satisfaction between systems while using an app that is familiar to many users.

# 10.A Research Paper on a Progress Tracking Application using Flutter and Firebase

**AUTHOR:** Parth Jindal1, Piyush Sharma2, Mohit Kumar3

The world is in chaos and we are confined to our homes because of the ongoing pandemic and all of the working industry and students are confined to their homes. The classes have shifted to the online mode of teaching and the working classes are either out of work or are working from home. Considering current times and situations we carried out several interviews among students and people working tech. and business jobs, and found out that most people find it difficult to manage the sudden paradigm change as they suddenly find themselves in a situation in which they have no monitoring system set in place to maintain or even measure their productivity.

### **CONCEPTS:**

Flutter is a simple but high-performance UI framework based on the Dart language developed by Google, which reduces the time overhead of the development cycle of an application by rendering the UI directly into the OS's canvas rather than through a native framework. It offers a large and well-maintained library of UI components which not only make the development process extremely fast as compared to other frameworks but also produce high-fidelity applications which not only look beautiful but perform very well. Every UI component in Flutter is called a Widget and each Widget is optimized for the mobile environment designing an application using these widgets is as simple as arranging HTML elements.

### CASE STUDY AND SURVEY:

Problem Statement Web-based media and other effectively available online interruptions make it difficult for us to remain fixed on our undertakings and make it hard for us to manage our job productively. Likewise, continually exchanging between undertakings may give us the bogus inclination that we are being beneficial when we are, indeed, not. It's more significant for us to focus on undertakings and work on those that are generally significant, as opposed to zeroing in on erasing little things from our daily agenda only to look good.

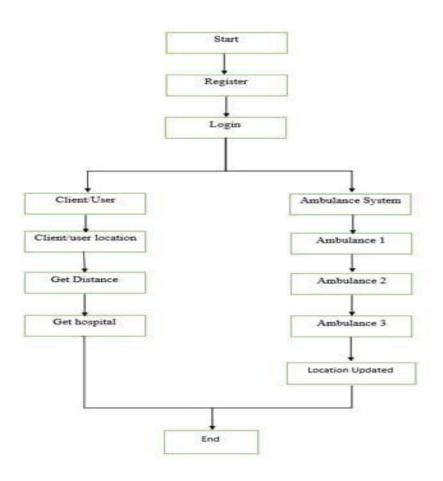
### Interviews and Survey:

We were Hoping to utilize interviews to get familiar with task application clients who either work full-time or as freelancers. We picked these classifications on the grounds that these clients are well on the way to work in a climate that requires productive time assignments and in which a task manager application could be generally advantageous.

# **Chapter-3**

# PROPOSED METHODOLOGY

# **Flow Chart**



## **ALGORITHM**

# **TECHNOLOGY USED**

Various technologies which is to be used in developing the project are-

- 1. REACT JS
- 2. MATERIAL UI
- 3. CHART JS
- 4. CSS
- 5. JAVASCRIPT

## **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.

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