



PES UNIVERSITY, BANGALORE

Department of Computer Science and Engineering

**B.TECH (CSE)
V SEMESTER
UE20CS303 - SOFTWARE ENGINEERING**

PROJECT REPORT

ON



TRAVEL BLOG WEBSITE

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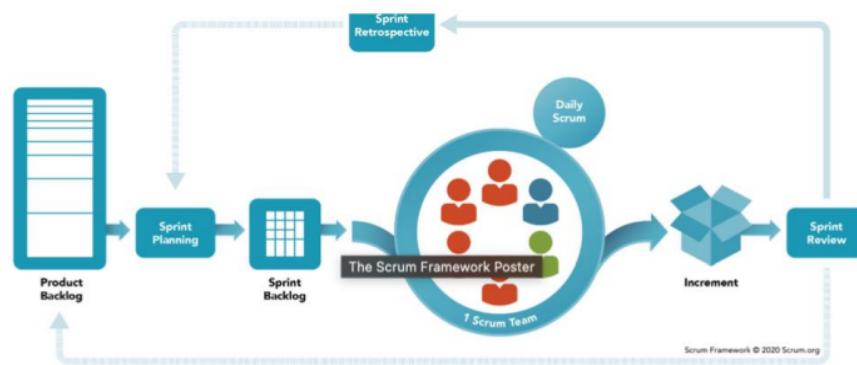
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PROPOSAL OF THE PROJECT:

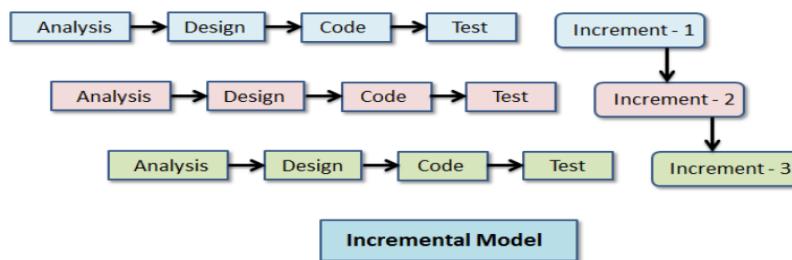
Our website will serve as a platform for people to share their travel experiences and inspire people to explore unexplored places in the world! Each article will help viewers to take a dive into the essence of the place.

Incremental Agile approach:



Since our project is well thought out and planned this is the ideal methodology for the proposed project.

- a. It accounts for parallel development. Multiple modules can be worked on by different teams, and modules can be completed at different times.
- b. Lower initial delivery cost
- c. It is more customer oriented
- d. Errors are more easily identified and solved.



- 2) Divides the periodic increments and twerks into sprints where the goal for each sprint is to build the most important features first and come out with a potentially deliverable product.

3) Since our project is a customer need based project and agile methodology focuses on customer interaction and involvement , it is the perfect methodology to employ.

The system we have chosen to work on is a Travel Blog system. Travel websites can be very interactive and have a lot of information that helps the travel enthusiasts connect and gain knowledge about the places they want to discover. Since the travel industry is growing increasingly every day, we would like to analyze the functionality and list the features to provide to our customers.

The main objective of this project is to provide the public with a platform to share their travel related information, experience, ideas and use this platform to solve their queries. The travel website design is all about functionality, aesthetics, and user experience. Besides, the customers can comprise any person irrespective of age and background. Hence, our website will act as a travel guide and will consist of following features:

-A website using the MERN stack containing the following features-

- Pictures and short notes about different tourist spots for people to know about the place, thus, giving them a nudge to step out and explore
- Knowledge about the place from an experienced person highlighting the good and the bad experiences.
- Networking to facilitate people with similar interests come together.
- Sign in of existing users and admins as well as registering for the new customers.
- Customer reviews help you drive sales and establish credibility with your readers -integral part as focus is to meet all user requirements.

-The model used will be Agile as we want our product to be customer based and interactive.

SOFTWARE REQUIREMENT SPECIFICATION

VERSION 2.0

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Revision History

Name	Date	Reason For Changes	Version
Version 1.0	12/09/2022	Not Applicable	1
Version 2.0	26/11/2022	Updates to code and specifications	2

INTRODUCTION

Purpose

The main objective of this project is to provide public with a platform to share their travel related information, experience, ideas and use this platform to solve their queries on any number of topics related to it. This platform aims to have a collection of all possible data once more and more people start to access it. And this data will be again be used by users to deal with their travel issues.

Intended Travel Audience

The travel audience can range from a teenager wanting an adventurous trip with friends or bag-packing across Europe or newly married couple searching for honeymoon sites or for people with tedious jobs planning to go and release the stress on the beach on a weekend to old people who want to travel the world after retiring. To cut short, our enthusiastic travelers. This project is a prototype for the travel guidance system. This has been implemented under the guidance of college professors. This project is useful for tourists and as well as to the travel enthusiasts.

Product Scope

- The product has a wide range of scope as a vast majority of career sectors in the world is affected by travel and tourism directly or indirectly. As a result, the travel and tourism scope's something that is as vast as the oceans.

OVERALL DESCRIPTION

Product Perspective

The information stored in the working model of the website are as follows:

- Official details: Details used by the travelers to start using the facility will be just used by the administration and will have security policy. For example- Name, email, phone number etc.
- Travelling details- The information will be stored in the database depending on traveler to traveller. Every traveller will have a folder containing his or her travel related information and a part of it may pop up when a search is done by other related to places they want to travel.

Product Functions

1. Understanding the end-user perspective. Users will dive into such websites when they are planning a trip and have to explore possibilities for mapping out a plan.
2. Understanding the user's age and geography. Anyone ranging from a teenager to a senior citizen would want to explore the website to learn more about the place, which also serves as a leisure hobby.
3. Keeping in mind the demographical information, professional and financial information, values, fears, concerns, and in the end, goals.

OPERATIONS AND OPERATING ENVIRONMENT

Login- For office people and travellers

Login for office people, he or she will be able to manage the records containing description of places as well as the pictures of those places put up by different bloggers .

Login for travellers, they will be able to create their account on the website where they can post and write blogs to share their experience while they will also see the things posted by others.

1. Navbar menu
2. Home page with stories
3. Login
6. Contact us
7. Recommendations

Operating environment microblogging site is as listed below:

1. Mongo DB database
2. client/server system
3. Operating system: Windows and Linux
5. platform: React JS

DESIGN AND IMPLEMENTATION

User of the system –

Office people-

For the person who will manage the entire system. He is allowed to verify people for letting them create account on our website and can remove accounts if any kind of irregular activity is encountered. This person or group of people will maintain the database (mongo DB) and will also do any kind of updates required. The task of maintenance and control of the application of the system is provided by him. He or she takes a responsibility to register new bloggers and new entries to the database. Some or whole part of the website can be updated and edited like increasing the various domains of travel.

Implementation of the blogging site-

- Stories and blog-

Here the data provided by different people is maintained and regularly updated blogs are displayed which shows description of different destinations and spots. It will be connected to the database where the records are stored based on different accounts created by people.

- Navbar menu-

Menu helps us navigate to different pages on the website including stories, login, destinations.

- Account Report -

System provides an option for reviewing the activities pertaining to a particular account. The contents of the report as the following:

1. Stories
2. pictures
3. description of prices, lifestyle and accommodation

This system will help travel loving people all over to come together and start a community where their ideas and opinions are shared. The different destinations can be thoroughly reviewed and new entries are accommodated. Blogging help to achieve this goal and all travel related issues are solved. Get help section ensures that people are given opportunity to contact if they face any issues in exploration. The user can be removed or his account can be blocked if unwanted activities are encountered. This ensures best solution for this micro blogging website where people all over the globe come together and satisfy their traveller in themselves by ensuring that all issues faced are resolved and opinions and spellbinding stories are shared around.

Constraints-

1. Personal information security for all our clients. Users cannot interfere with the details of others and neither of the admin.
2. Design constraints allow the application to be used only on windows/linux operating system.
3. Content constraint- checked and verified by the admin.

ASSUMPTIONS AND DEPENDENCIES

The requirements provided in the SRS are subjected to change based on updates done by the customers in their needs. Different versions of SRS is to be updated as we proceed with the project.

External Interface Requirements

User Interfaces

1. Front-end software: React JS(HTML and CSS)
2. Back-end software: Node JS and Express JS
3. Database- Mongo DB

Hardware Interfaces

1. Windows
2. A browser which supports HTML & Java script.

SOFTWARE INTERFACES

Following are the software used for the blogging site online application. Software used MERN stack using vs code and github.

Operating system

We have chosen Windows/linux operating system for its best support and user-friendliness.

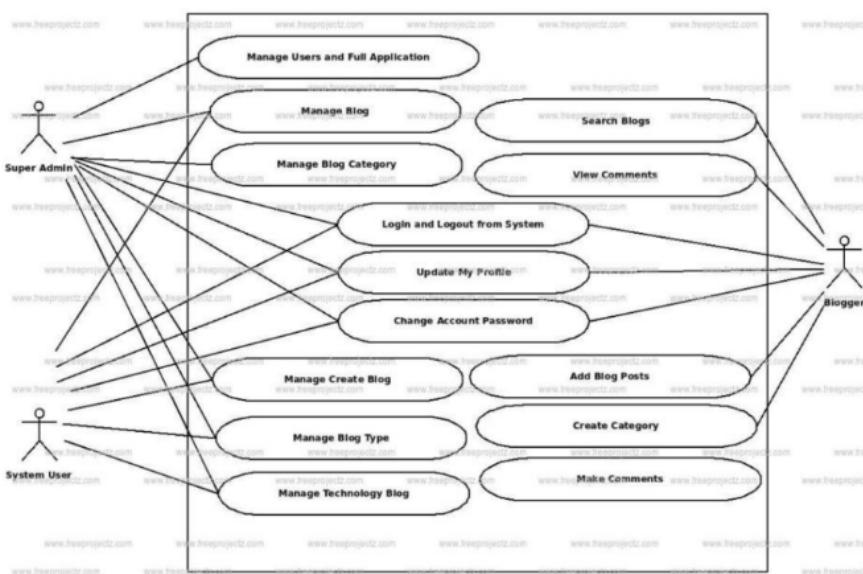
Database To save the travel records, admin records we have chosen mongo DB database

Communication Interfaces-

This project supports all types of web browsers. We are using simple electronic forms for the login details etc.

ANALYSIS MODELS

Agile model to be used for the implementation of the project. The basic features and tasks to be done are depicted in the following case diagram:



System Features

Description And Priorities-

It maintains travel information of the clients including their personal information as well as blogs. There is no such limit on the number of participants as the details are classified from person to person. The display of information will be according to priority decided on first come first serve basis.

Stimulus/Response Sequences-

- Search for details of a travel destination
- Displays a detailed list of user experiences and photograph of the place as well as related places.
- Creating a community of travellers with same interests.

Non-functional Requirements

Performance Requirements

The steps involved to perform the implementation of database are as listed below.

- Case diagram:

Case diagram is a way to summarize details of a system and the users within that system. It is generally shown as a graphic depiction of interactions among different elements in a system. Use case diagrams will specify the events in a system and how those events flow, however, use casediagram does not describe how those events are implemented.

- Safety Requirements

If there is extensive damage to a wide portion of the database due to catastrophic failure, such as a disk crash, the recovery method restores a past copy of the database that was backed up to archival storage (typically tape) and reconstructs a more current state by reapplying or redoing the operations of committed transactions from the back up log, up to the time of failure.

- Security Requirements

Security systems need database storage just like many other applications. However, the special requirements of the security market mean that vendors must choose their database partner carefully.

Software Quality Attributes

1) Usability -

It is described as how the user is utilizing a system effectively and the ease of which users can learn to operate or control the system. The well-known principle of usability is KISS (Keep It Simple Stupid). Software applications should be user-friendly.

2) Reliability -

It is the ability of a system to continue to keep operating over time

3) Availability -

It is the ratio of the available system time to the total working time it is required or expected to function.

4) Portability -

It is the ability of a software application to run on numerous platforms such as data portability, hosting, viewing, etc.,

5) Testability -

It shows how well the system or component facilitates to perform tests to determine whether the predefined test criteria have been met.

6) Scalability -

It is the ability of a system to handle the demand for stress caused by increased usage without decreasing performance.

7) Flexibility -

It is the ability of a system to adapt to future changes

8) Reusability -It is the use of existing software in more than one software with small or no change. It is a cost-efficient and time-saving quality attribute.

9) Maintainability -

It is the ability of a software application to maintain easily and support changes cost-effectively.

10) Supportability -

It is the ability of a system that satisfies necessary requirements and needs to identify and solve problems.

11) Interoperability -

It is the ability of two or more systems to communicate or exchange data easily and to use the data that has been exchanged.

12) Performance -

It is the ability of a system in the form of responsiveness to various actions within a certain period of time

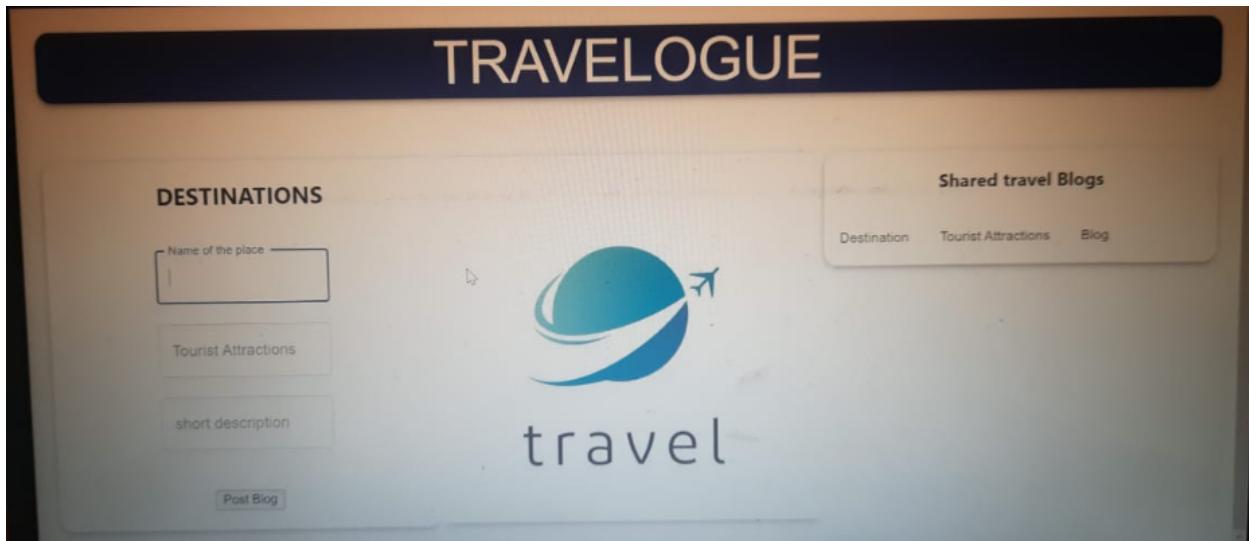
Business Rules

Requirements based on business rules are found by further exploration of the business process requirements. A typical approach consists of exploring business scenarios with a group of stakeholders. A rule of thumb is that business rules are found when you establish the reasons for stopping a scenario. Business rule techniques help in the discovery of derivation and calculation rules. The second important way to find business rules requirements is by reviewing the information rules. The typical approach is to establish the boundaries of the different terms and quantifiers used in the structural rules. Business rule techniques also assist in finding an appropriate enforcement of the rule. Enforcement does not stop at printing error messages; it may include reporting afterwards, warning a supervisor, or obtaining explicit authorization. This enforcement information is part of the fit criteria of the requirement.

PROJECT PLAN

PROTOTYPE BUILT

Simple single page frontend as a prototype to check for MERN functionalities:



Subsequent features added as well as beautifying the website using the following user stories:

- Need for separate blog space in form of sticky notes.
- Recommendations to be displayed besides blogs.
- Contact us pages for message requests.
- Improvised version of css.

SCM TECHNIQUES USED:

We have used GitHub and JIRA to make our task easy and cooperate with the team members as well as the users.

JIRA is used to assign different tasks and update the progress at each step throughout our project lifecycle.

JIRA helps us in accomplishing our work using agile methodology:

(Incremental)

The sprint backlogs and the deadlines are all displayed for the group members.

The screenshot shows the Jira Software interface for the 'TravelBlog' project. The left sidebar includes options for 'Planning' (Roadmap, Backlog, Board), 'Development' (Code, Project pages, Add shortcut, Project settings), and a note that the project is in a team-managed state. The main area displays the 'Backlog' view with two sprints: 'TB Sprint 1' and 'TB Sprint 2'. 'TB Sprint 1' has three issues: 'TB-3 Creating login page', 'TB-18 Creating a field for username and password for the user si...', and 'TB-24 Creating hyperlinks for social media handles'. 'TB Sprint 2' has one issue: 'TB-2 Creating the home page'. A 'Quickstart' sidebar on the right provides a guide to creating a project and issues, with links to 'Create a project', 'Create an issue', and 'View issue tutorial'.

Github is for making changes and updating it using pull requests.

All team members contribute to the project by forking the repositories and making the updates according to the tasks mentioned.

The final project has been achieved by merging all the branches and resolving the merge conflicts.

The screenshot shows the GitHub repository page for 'Adarsh275 / Travel-Blog-Website'. The repository is public and has 1 watch, 2 forks, and 0 stars. The 'Insights' tab is selected, displaying various metrics: Pulse, Contributors (AshritaKumar and AyushiSoumya), Community Standards, Commits, Code frequency, Dependency graph, Network, and Forks. The left sidebar lists these metrics as well.

Merging of the requests and feedback provided by the team members via email.

@Adarsh275 commented on this pull request.

It was a great work. keep going

In [HomePage/Index.html](#):

```
>           <h1>Amazing Place on Earth</h1>
-           <button class="btn">Explore</button>
```

Let this button be here.

In [HomePage/Index.html](#):

```
> @@ -92,33 +93,30 @@
    <h1>Amazing Place on Earth</h1>
    <div class="blog-content" data-aos="fade-right" data-aos-delay="200">
        
        <div class="blog-title">
-           <h3>London Fashion week's continued the evolution</h3>
-           <button class="btn btn-blog">Fashion</button>
```

keep this button as well

—

TESTING:

Static Testing

Static testing involves validating your code without any execution. Under this problem statement, you

will be expected to analyze and calculate the cyclomatic complexity of your code.

Q) Using the unit you selected in the first problem statement as an example, develop the control

flowgraph of your problem statement.

```
export const createDestination = async (req, res) => {
    const destination = req.body;

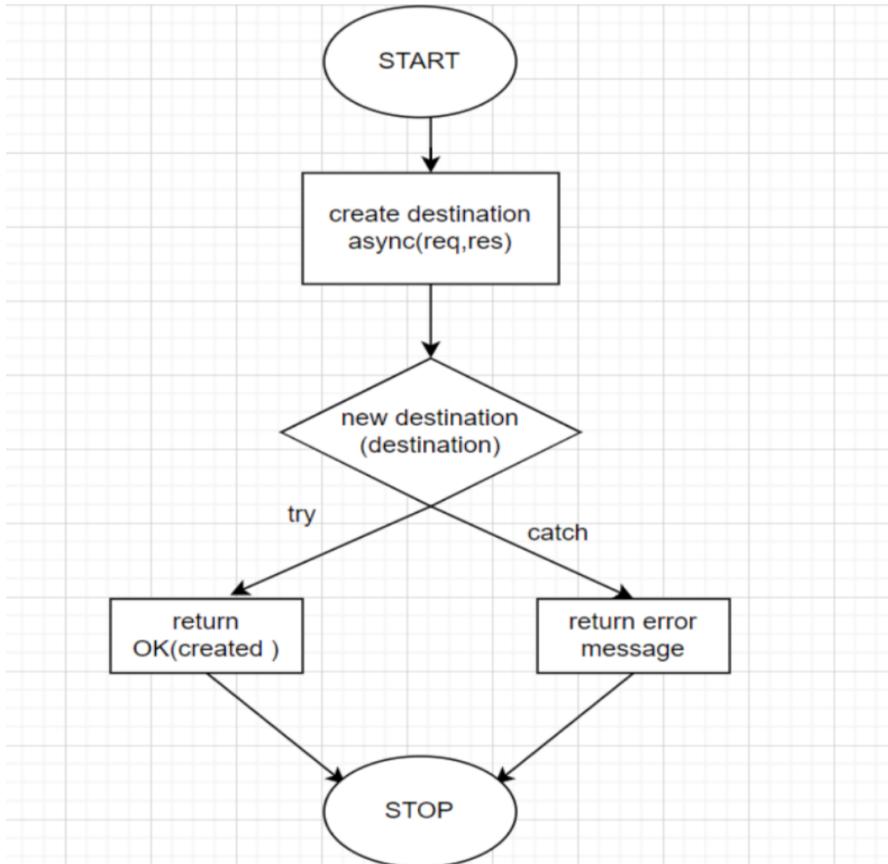
    const newDestination = new destination(destination);
    try {
        await newDestination.save();
        res.status(201).json(newDestination);
    } catch (error) {
        res.status(409).json({ message: error.message });
    }
}
```

Cyclomatic complexity is especially important when it comes to testing.

By calculating the cyclomatic complexity of a function, we can know the minimum number of test cases

we'll need to achieve full branch coverage of that function.

Creating control flow graph for this try/catch statement:



- Using the Control flow graph, calculate the cyclomatic complexity of your code

$$M = N - E + 2P$$

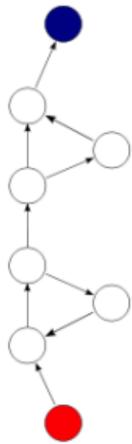
N=number of nodes

E=number of edges

P=the number of connected components

$$M = 6 - 6 + 2 * 1 = 2$$

- Using the cyclomatic complexity as an indicator, Ideate and code your unit again to reduce complexity



Cyclomatic complexity refers to the number of possible execution paths inside a given piece of code—for instance,

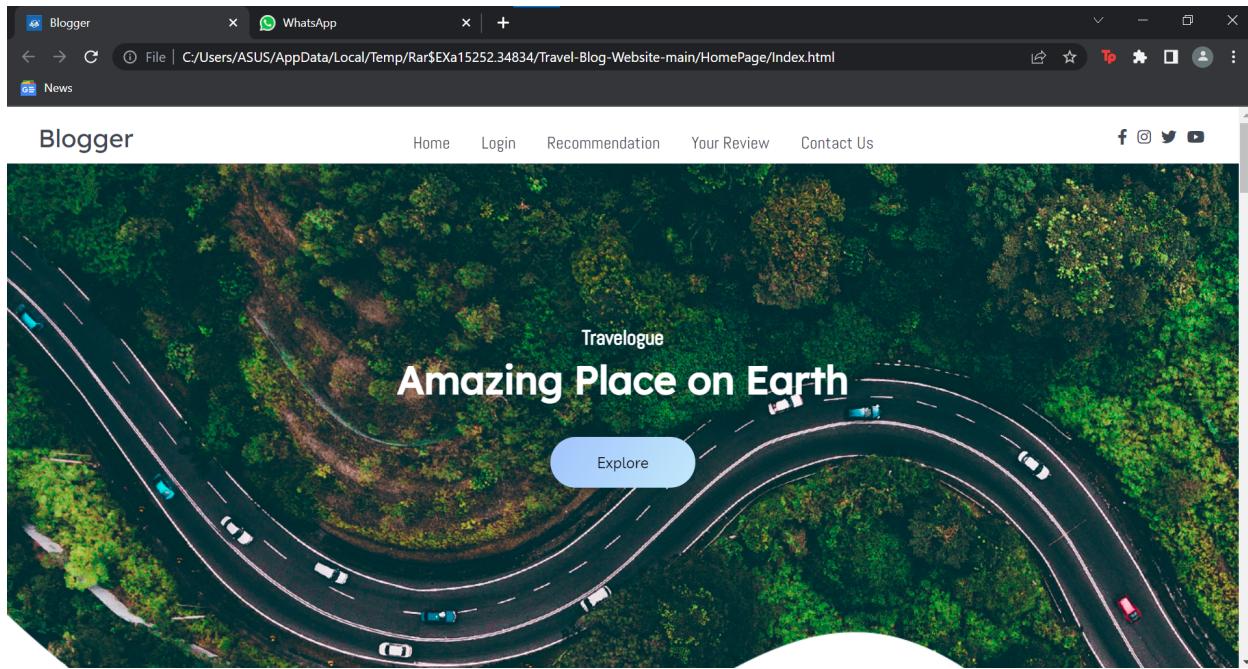
a function. The more decision structures we use, the more possible branches there are for our code.

Ways for reducing cyclomatic complexity:

- ✓ Preferring smaller functions/methods
- ✓ Reduce number of decision structures
- ✓ Reduce if/else statement
- ✓ Get rid of duplicate code
- ✓ Increasing code clarity

OUTPUT SCREENSHOTS OF THE FINAL WEBSITE:

HOME PAGE:



ABOUT:



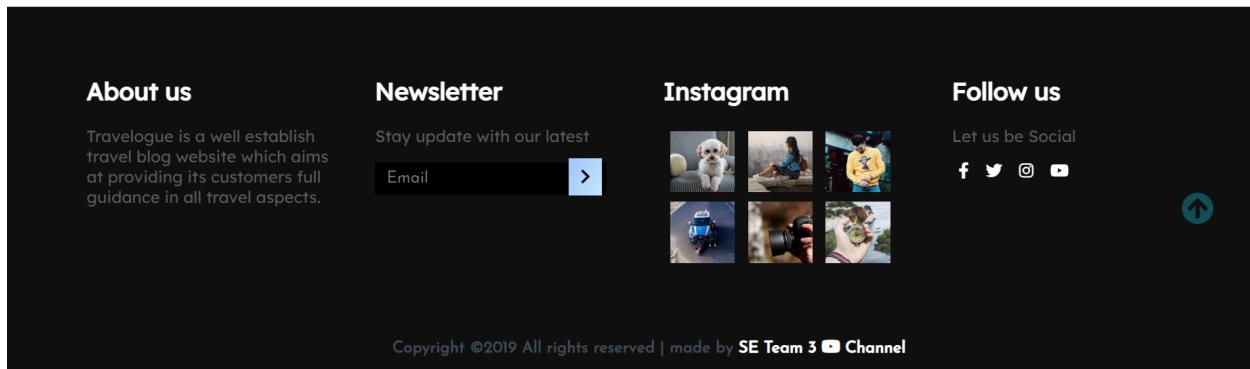
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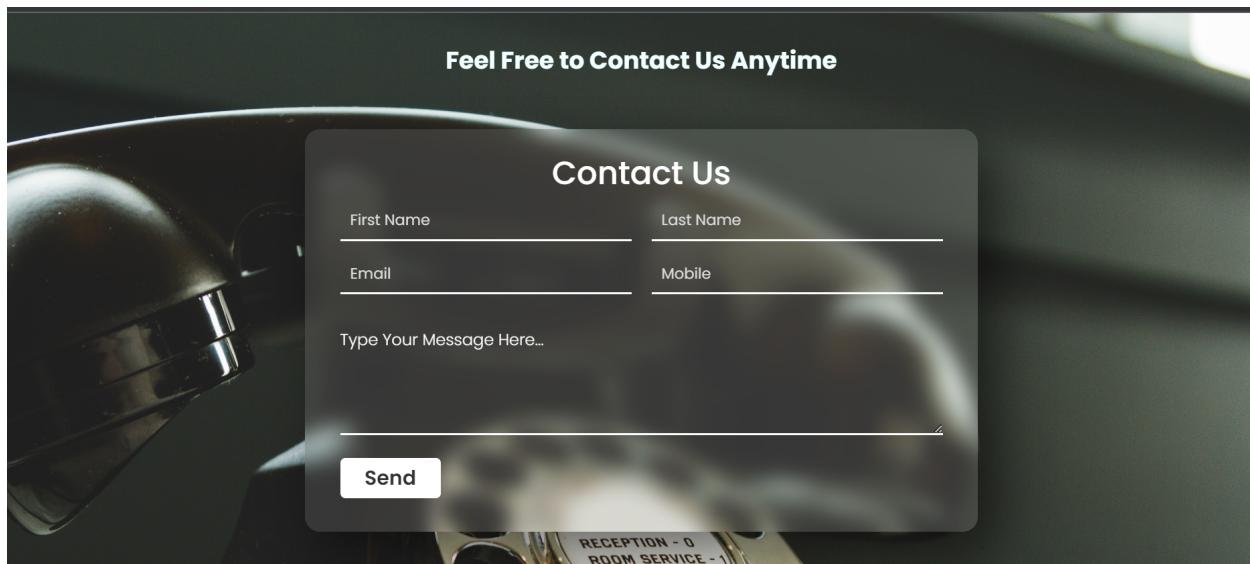
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Goa- Calangute

It was a very fun experience . The beaches are the best place for a peaceful and exciting holiday. Besides, the new year parties here are indistinguishable. -Ayushi

Lotus Temple

Although the Lotus Temple can be visited all throughout the year, considering the winter season between November and February would be an ideal choice

Manali Trip

Manali is among the best budget-friendly tourist destinations where tourists come from all over the globe and spend months traveling around the places with a light pocket

Ladakh

Ladakh is most famous for breathtaking landscapes, the crystal clear skies, the highest mountain passes, thrilling adventure activities, Buddhist Monasteries and festivals

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