



INSTITUTE OF AERONAUTICAL ENGINEERING (AUTONOMOUS)

Dundigal - 500 043, Hyderabad, Telangana

Complex Problem-Solving Self-Assessment Form

1	Name of the Student	K.karthik
2	Roll Number	25951A6669
3	Branch and Section	CSE-(AI&ML) - B
4	Program	B. Tech
5	Course Name	Front End Web Development
6	Course Code	ACSE04
7	Please tick (/) relevant Engineering Competency (ECs) Profiles	
EC	Profiles	(/)
EC 1	Ensures that all aspects of an engineering activity are soundly based on fundamental principles - by diagnosing, and taking appropriate action with data, calculations, results, proposals, processes, practices, and documented information that may be ill-founded, illogical, erroneous, unreliable or unrealistic requirements applicable to the engineering discipline	/
EC 2	Have no obvious solution and require abstract thinking, originality in analysis to formulate suitable models.	/
EC 3	Support sustainable development solutions by ensuring functional requirements, minimize environmental impact and optimize resource utilization throughout the life cycle, while balancing performance and cost effectiveness.	
EC 4	Competently addresses complex engineering problems which involve uncertainty, ambiguity, imprecise information and wide-ranging or conflicting technical, engineering and other issues.	/
EC 5	Conceptualizes alternative engineering approaches and evaluates potential outcomes against appropriate criteria to justify an optimal solution choice.	/
EC 6	Identifies, quantifies, mitigates and manages technical, health, environmental, safety, economic and other contextual risks associated to seek achievable sustainable outcomes with engineering application in the designated engineering discipline.	
EC 7	Involve the coordination of diverse resources (and for this purpose, resources include people, money, equipment, materials, information and technologies) in the timely delivery of outcomes	
EC 8	Design and develop solution to complex engineering problem considering a very perspective and taking account of stakeholder views with widely varying needs.	/
EC 9	Meet all level, legal, regulatory, relevant standards and codes of practice, protect public health and safety in the course of all engineering activities.	

	EC 10	High level problems including many component parts or sub-problems, partitions problems, processes or systems into manageable elements for the purposes of analysis, modelling or design and then re-combines to form a whole, with the integrity and performance of the overall system as the top consideration.	✓
	EC 11	Undertake CPD activities to maintain and extend competences and enhance the ability to adapt to emerging technologies and the ever-changing nature of work.	✓
	EC 12	Recognize complexity and assess alternatives in light of competing requirements and incomplete knowledge. Require judgement in decision making in the course of all complex engineering activities.	✓
8	Please tick (✓) relevant Course Outcomes (COs) Covered		
	CO	Course Outcomes	(✓)
	CO 1	Describe language basics like alphabet, strings, grammars, productions, derivations, and Chomsky hierarchy, construct DFA, NFA, and conversion of NFA to DFA, Moore and Mealy machines and interpret differences between them.	✓
	CO 2	Recognize regular expressions, formulate, and build equivalent finite automata for various languages.	✓
	CO 3	Identify closure, and decision properties of the languages and prove the membership.	✓
	CO4	Demonstrate context-free grammars, check the ambiguity of the grammar, and design equivalent PDA to accept the context-free languages.	
	CO 5	Uses mathematical tools and abstract machine models to solve complex problems.	✓
	CO 6	Analyze and distinguish between decidable and undecidable problems.	✓
9	Course ELRV Video Lectures Viewed	Number of Videos	Viewing time in Hours
10	Justify your understanding of WK1	-	-
11	Justify your understanding of WK2 – WK9	-	-
12	How many Wks from WK2 to WK9 were implanted?	-	-
	Mention them	-	-

Date: 11-12-2025

K.Karthik

Signature of the Student

COMPLEX ENGINEERING PROBLEM

A COURSE SIDE PROJECT ON

Front End Web Development

K.karthik

25951A6669

HOME HUB Based on FEWD

A Project
Report
submitted in
partial
fulfillment of
the
requirements for the award of the degree of

**Bachelor of
Technology in
CSE (Artificial Intelligence & Machine Learning)**

By

**K.Karthik
25951A6669**



Department of CSE (Artificial Intelligence & Machine Learning)

INSTITUTE OF AERONAUTICAL ENGINEERING
(Autonomous)
Dundigal, Hyderabad – 500 043, Telangana

November, 2025

DECLARATION

I certify that

- a. The work contained in this report is original and has been done by me under the guidance of my supervisor (s).
- b. The work has not been submitted to any other Institute for any degree or diploma.
- c. I have followed the guidelines provided by the Institute for preparing the report.
- d. I have conformed to the norms and guidelines given in the Code of Conduct of the Institute.
- e. Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references. Further, I have taken permission from the copyright owners of the sources, whenever necessary.

K.karthik

Place: Hyderabad

Signature of the Student

Date: 11-12-2025

CERTIFICATE

This is to certify that the project report entitled **TravelBuddy – Trip logger with itinerary planner and image gallery Task and Expense Management** submitted by **K. Karthik** to the Institute of Aeronautical Engineering, Hyderabad in partial fulfilment of the requirements for the award of the Degree Bachelor of Technology in CSE (Artificial Intelligence & Machine Learning) is a Bonafide record of work carried out under my guidance and supervision. The contents of this report, in full or in parts, have not been submitted to any other Institute for the award of any Degree.

Supervisor
Head of the Department
Principal
Date:11-12-2025
Place: Hyderabad

APPROVAL SHEET

This project report entitled **TravelBuddy. – A Web-Based Application for Trip logger with itinerary planner and image gallery** submitted by Mr. **K.karthik** is approved for the award of the Degree Bachelor of Technology in Branch CSE (Artificial Intelligence & Machine Learning).

Examiner

Supervisor(s)

Principal

Date:11-12-2025

Place: Hyderabad

ACKNOWLEDGEMENT

The satisfaction that accompanies the successful completion of any task would be incomplete without introducing the people who made it possible and whose constant guidance and encouragement crowns all efforts with success.

I am extremely grateful and express my profound gratitude and indebtedness to my project guide **Mr. V Vidya Sagar, Assistant Professor, Department of CSE (AI & ML)**, for his kind help and for giving me the necessary guidance and valuable suggestions for this project work.

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I take this opportunity to express my deepest gratitude to one and all who directly or indirectly helped me in bringing this effort to present form.

ABSTRACT

TravelBuddy is a smart travel-assistance system designed to simplify trip planning, enhance safety, and improve the overall travel experience. It combines real-time navigation, itinerary management, and location-based recommendations into a single user-friendly platform. By using intelligent algorithms, TravelBuddy suggests optimal routes, nearby attractions, accommodation options, and transportation choices based on user preferences. It also provides alerts about weather conditions, traffic updates, and potential travel disruptions. With features like offline support, budget planning tools, and personalized recommendations, TravelBuddy serves as an efficient companion for travelers. The system aims to reduce the stress of organizing trips, promote informed decision-making, and make travel more enjoyable and convenient for users.

Keywords:  **Travel Assistance**

- Itinerary Management**
- Real-Time Navigation**
- Location-Based Services**
- Smart Recommendations**
- User Preferences**
- Travel Planning**
- Route Optimization**
- Safety Alerts**
-

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CHAPTER 1

INTRODUCTION

CHAPTER 1 – INTRODUCTION

1.1 Problem Statement

Consumers today face difficulty finding genuine eco-friendly products due to limited availability, lack of transparency, and unreliable sustainability claims. Many existing marketplaces mix sustainable and non-sustainable products, causing confusion. There is a need for a dedicated platform where environmentally responsible products are displayed clearly and verified for authenticity.

1.2 Introduction

Green Store is an online marketplace that brings together sustainable brands and environmentally conscious customers. The platform helps users discover eco-friendly alternatives such as reusable goods, biodegradable household items, and energy-efficient lifestyle products. It aims to simplify green shopping, spread environmental awareness, and support global sustainability efforts. The project focuses on usability, responsive design, and clear product categorization to give users a smooth and reliable shopping experience.

1.3 Requirements

To build this platform, the project requires:

- Understanding web page layout and design
- Basic knowledge of product listing interfaces
- Ability to handle user interactions and dynamic content
- Familiarity with accessibility and responsive design

1.4 Prerequisites

The student must have knowledge of:

- HTML5 for structure
- CSS3 for styling and layout
- JavaScript ES6 for dynamic behaviour
- Basic understanding of e-commerce concepts
- Optional: React for component-based U

1.5 Technologies Used

- **HTML5** – Page structure
- **CSS3** – Styling, Flexbox, Grid, responsiveness
- **JavaScript ES6** – Interactivity and data handling
- **Local Storage / JSON** – Handling sample product data
- **Git & GitHub** – Version control
- **Optional:** React, Bootstrap, or Tailwind CSS

CHAPTER 2 – REVIEW OF RELEVANT LITERATURE

Research on sustainable marketplaces highlights the increasing demand for eco-friendly alternatives and the growing importance of digital platforms in supporting conscious consumer choices. Studies show that green e-commerce platforms increase environmental awareness and influence customers to adopt low-waste habits. Existing literature emphasizes the need for transparency, product certification, and user-friendly interfaces to ensure trust. Modern web technologies also enable responsive, efficient shopping interfaces that enhance user engagement and encourage sustainable consumption.

CHAPTER 3 – METHODOLOGY

The development process is divided into the following steps:

- **Requirement Analysis:**

Identify essential features such as product listings, categories, filters, and sustainability tags.

- **UI Design:**

Create responsive layouts using HTML5 and CSS3 for mobile and desktop users.

- **Product Module Development:**

Use JavaScript to dynamically load products, handle search filters, and update UI elements.

- **Data Handling:**

Store product details in local storage or JSON objects and display them through DOM manipulation.

- **Testing:**

Check layout, responsiveness, button interactions, filtering accuracy, and navigation flow.

CHAPTER 4 – RESULTS AND DISCUSSIONS

Green Store successfully displays eco-friendly products through a clean and organized interface. The responsive design ensures smooth access from mobile and desktop devices. Users can browse items, filter categories, and understand the sustainability benefits of each product. The results show that a dedicated sustainable marketplace improves user trust and helps customers make environmentally responsible choices. The project demonstrates how front-end technologies can be used to support green commerce effectively.

CHAPTER 5 – CONCLUSIONS AND FUTURE SCOPE

5.1 Conclusion

Green Store proves that a digital marketplace dedicated to sustainable products can encourage responsible purchasing behaviour and support environmental goals. The platform provides a structured and transparent shopping experience, making it easier for users to choose eco-friendly alternatives. The project meets its objectives by combining modern UI design, accessibility, and environmental focus.

5.2 Future Scope

Future improvements may include:

- Adding user login and personalized recommendations
- Implementing a full backend with database
- Real payment integration
- Vendor registration system for sustainable brands
- Rating and review features
- AI-based eco-impact calculator for customer purchases

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