



A REPORT OF PROJECT WORK

on

“GRITUP”

BY BATCH

NANTHAN S SHETTY

UJJWAL SG

MOHAN PB

PUNITH GOWDA C

SUBMITTED IN PARTIAL FULFILLMENT FOR THE

AWARD OF DIPLOMA IN

COMPUTER SCIENCE ENGINEERING

DURING THE ACADEMIC YEAR 2022-2023

UNDER THE GUIDANCE OF

Smt. ROOPA B



PES POLYTECHNIC

HANUMANTH NAGAR, BENGALURU-50

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DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

CERTIFICATE

This is to certify that **NANTHAN S SHETTY, UJJWAL SG, MOHAN PB, PUNITH GOWDA C.** have submitted the project report on “**GRITUP**” as prescribed by Board of Technical Education for partial fulfillment for the award of Diploma in “COMPUTER SCIENCE ENGINEERING” during the academic year 2022-23.

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(Approved by DTE Government Karnataka)

DEPARTMENT OF **COMPUTER SCIENCE ENGINEERING**

6th SEMESTER

PROJECT REPORT

on

“GRITUP”

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CANDIDATE'S DECLARATION

We, the students of Diploma in 6th SEM **Computer Science department, PES POLYTECHNIC**, hereby declare that we own full responsibility for the project information results and conclusion provided in this project work entitled **“GRITUP”** submitted to Board of Technical Examination, government of Karnataka for the award of Diploma in Computer Science Engineering.

To best of our knowledge, this project work has not been submitted in part of or full elsewhere in any other institution for award of any certificate/diploma/degree. We have completely taken care in acknowledging the contribution of others in academic work.

We further declare that in case of any violation of intellectual property rights and particulars, found any stage, we as candidates will be solely responsible for the same.

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Place: Bengaluru

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First of all ,We would like to thank you GOD and my beloved PARENTS by the grace of whom we reached the stage of completion of my project. It is a matter of pleasure to you for having successfully completed the project “**GRITUP**” assigned to us by our Institution during final year.

We are very much thankful to **Sri. DEVARAJU H N Principal** of **P.E.S Polytechnic**, for this constant support and encouragement.

We express my deep sense of gratitude to my **Head of the Department of Computer Science Engineering Sri. UMESH K S** for his valuable suggestion, constant support and encouragement.

We are profoundly grateful to our project Cohort **Smt. ROOPA B** Department of **Computer Science Engineering** assigning this project to us and for valuable suggestion and guidance in completion of this project.

Last but not least We thank to all our teaching staff of Department of **Computer Science Engineering** for their support and timely help for completing our project successfully.



ABSTRACT

The aim of this project is to address the challenges individuals face in planning and managing their professional development and career goals. The project focuses on developing a platform that provides users with access to resources and support to effectively assess their skills, explore career options, and create personalized career development plans. By offering a comprehensive set of tools and resources, the platform aims to empower individuals to take control of their career paths, overcome barriers, and achieve their professional goals.

Overall, this project aims to provide individuals with a comprehensive platform that equips them with the necessary resources, guidance, and support to effectively plan and manage their professional development and career goals. By empowering individuals to take proactive steps towards their career aspirations, this platform aims to enhance job satisfaction, promote career growth, and contribute to overall professional success.

EXECUTIVE SUMMARY

Title :GRITUP (Career Development Platform)

Definition :Many individuals struggle to effectively plan and manage their professional development and career goals, due to a lack of access to resources and support. As a result, they may feel stuck in their current roles, or may not know how to take the next steps in their careers. This can lead to frustration, low job satisfaction, and difficulty advancing in their fields. There is a need for a platform that can provide individuals with the tools and resources they need to assess their skills and interests, explore different career options, and create and implement career development plans that help them achieve their goals.

Team Size : 4

Team Members : Nanthan S Shetty

Ujjwal sg

Mohan PB

Punith

Gowda C

Software Requirements

OS : Windows 10

VCS : GitHub

Editor : Eclipse

Database : MySQL

API Tester : Postman

TABLE OF CONTENTS

Index

Chapter 1

1.1. Introduction.....	01
1.2. Scope of the capstone project.....	01

Chapter 2

2.1. Capstone project planning.....	02
2.1.1 Work breakdown structure (WBS).....	02
2.1.2. Timeline Development - Schedule.....	04
2.1.3. Cost Breakdown Structure (CBS).....	07
2.1.4.Capstone project Risks assessment	11
2.2. Requirements Specification	13
2.2.1. Functional	13
2.2.2. Non-functional (Quality attributes).....	15
2.2.3. User input.....	20
2.2.4. Technical constraints.....	23
2.3. Design Specification	23
2.3.1. Chosen System Design	23
2.3.2. Alternative System Design	25
2.3.3. Detailed Description	27
2.3.4. Components	29

Chapter 3

3.1. Approach and Methodology	31
3.1.1. Discuss the technology.....	31
3.1.2. Use Cases.....	36
3.1.3. Programming	38

CHAPTER 4

4.1. Test and validation	52
4.1.1. Test Plan.....	52
4.1.2. Test Approach	54
4.1.3. Features Tested	56
4.1.4. Features not Tested	58
4.1.5. Findings	59
4.1.6. Inference... ..	62

CHAPTER 5

5.1. Business Aspects.....	64
5.1.1. Briefly describe the market and economic outlook of the capstone.....	64
project for the industry	64
5.1.2. Highlight the novel feature of the product/service	65
5.1.3. How does the product/service fit into the competitive landscape	65
5.1.4. Describe IP or Patent issues, if any?	67
5.1.5. Who are the possible capstone projected clients/customers?	68
5.2. Financial Considerations.....	71
5.2.1. Capstone project budget.....	71
5.2.2. Cost capstone projections needed for either for profit/nonprofit options	72
5.3. Conclusions and Recommendations	75
5.3.1. Describe state of completion of capstone project.....	76
5.3.2 Future Work	77
5.3.3 Outline how the capstone project may be extended	78

LIST OF FIGURES

FIGURE	TITLE	PAGE NUMBER
3.3.1	Dataflow diagram-1.....	53
3.3.2	Dataflowdiagram-2.....	53
3.3.3	Flowchart.....	53
3.3.4	Landing page.....	54
3.3.5	Sign-up page.....	54
3.3.6	Resources page.....	56
3.3.7	Jobs/internship page.....	56
3.3.8	Admin page.....	57
3.3.9	Customize page.....	57

LIST OF TABLES

TABLE	TITLE	PAGE NUMBER
2.1.1	User data.....	16
2.1.2	Search & filter.....	16
2.1.3	FAQ.....	17
2.1.4	Chat service.....	17

ABBREVIATIONS

HTML – Hyper Text Markup Language

CSS – Cascading Style sheets

ORM – Object Relational Mapping

JPA – Java Persistence API

HTTP – Hyper text transfer protocol

PHP – Hypertext Preprocessor

JS – JavaScript

SQL – Structured Query language

API – Application Programming interface

DOM – document Object Model

BOM – Browser object model

JSON – JavaScript Object Notation

CRUD – Create Retrieve Update Delete

IDE – Integrated Development Environment

XML – Extensible Markup Language

CMS – Content management System

CHAPTER 1

INTRODUCTION

1.1. OBJECTIVE

"GRITUP" - all-in-one platform for professional development and career growth. In today's fast-paced and competitive world, navigating your career path can be challenging, and that's where GRITUP comes in. Our platform is designed to empower individuals by providing them with the tools, resources, and support they need to assess their skills, explore career options, and create actionable plans to achieve their goals.

At GRITUP, we understand that many individuals face barriers in effectively planning and managing their professional development. Limited access to resources, lack of guidance, and a fragmented approach to career growth can often leave individuals feeling stuck and uncertain about the next steps to take. We believe that everyone deserves the opportunity to thrive in their chosen field and unleash their full potential.

Through our user-friendly registration and login system, you can create a personalized profile that captures your skills, interests, and career aspirations. Our assessment module provides a deep analysis of your strengths and areas for growth, helping you gain valuable insights into your professional potential. Based on your assessment results, GRITUP offers personalized recommendations for learning resources, job opportunities, and networking events tailored to your unique needs.

GRITUP is not just about providing resources and recommendations; it's about fostering a dynamic and collaborative ecosystem. Engage with industry professionals, mentors, and like-minded individuals through our interactive community forum, networking platform, and mentorship program. Collaborate on projects, share experiences, and learn from the best in the industry.

1.2. SCOPE

Scope: The scope of the GRITUP capstone project encompasses the development of a web application that serves as an all-in-one platform to enhance users' professional careers. The project aims to provide a wide range of services and features to support users' career growth, learning, networking, and resource access.

1. User Registration and Authentication:

- Develop a user registration and authentication system to ensure secure access to the platform.
- Implement password reset and account recovery mechanisms for user convenience.

2. Textbooks and E-Learning Videos:

- Integrate a vast collection of textbooks and e-learning videos across various professional domains.
- Organize the resources into relevant categories and provide a user-friendly search functionality.
- Enable users to bookmark, highlight, and make annotations within the textbooks for future reference.

3. DCET Materials and Customized Resources:

- Curate specific materials and resources for the DCET exam or a particular professional field.
- Provide study guides, practice exams, and other relevant materials to assist users in their exam preparation.
- Develop a mechanism for users to request customized resources based on their specific needs and interests.

4. Networking Opportunities:

- Integrate with professional networking platforms like LinkedIn to provide users with networking opportunities.
- Enable users to create profiles, connect with other professionals, and explore career-related communities.
- Implement features like job postings, industry events, and mentorship programs to foster professional connections.

5. Responsive Web Design:

- Design the web application with a responsive layout to ensure compatibility across various devices and screen sizes.
- Optimize the user interface (UI) for easy navigation, readability, and accessibility.
- Conduct usability testing to ensure a seamless user experience.

6. Admin Panel:

- Develop an admin panel with appropriate access controls to manage user accounts, resources, and platform functionality.
- Implement analytics and reporting features to track user engagement, resource popularity, and overall platform performance.

7. Testing and Deployment:

- Conduct comprehensive testing to identify and resolve any bugs or issues.
- Deploy the web application on a reliable hosting platform and ensure scalability and performance optimization.

CHAPTER 2

CAPSTONE PROJECT PLANNING

2.1. PROJECT PLANNING

2.1.1. Work breakdown structure (WBS)

Work Breakdown Structure (WBS) for GRITUP Capstone Project:

Project Management

- Project Planning
- Project Scheduling
- Resource Allocation
- Risk Management
- Progress Tracking

User Management and Authentication

- User Registration
- User Login
- Password Reset and Account Recovery

Textbooks and E-Learning Videos

- Content Curation and Acquisition
- Resource Organization and Categorization
- Search Functionality Implementation
- Bookmarking and Annotation Features

DCET Materials and Customized Resources

- DCET Resource Curation

- Customized Resource Request Management
- Study Guides and Practice Exams Development

Integration with LinkedIn and Networking Features

- LinkedIn API Integration
- User Profile Creation
- Connection Management
- Job Posting and Career Opportunities
- Industry Events and Communities

FAQ and Chat Service

- Frequently Asked Questions Section
- Chat Service Development
- AI-based Chatbot Integration

Responsive Web Design

- UI/UX Design Planning
- Front-end Development
- Mobile Responsiveness Implementation
- Usability Testing and Refinements

Admin Panel

- Admin User Management
- Resource Management
- Analytics and Reporting
- Platform Maintenance and Upgrades

Testing and Quality Assurance

- Test Plan Development

- Unit Testing
- Integration Testing
- User Acceptance Testing

Deployment and Launch

- Hosting Setup
- Deployment Configuration
- Performance Optimization
- User Training and Documentation

Project Documentation

- Requirements Documentation
- Design Documentation
- User Documentation
- Project Report

Project Presentation and Evaluation

- Prepare Project Presentation
- Present Project to Stakeholders
- Project Evaluation and Feedback

2.1.2. TIMELINE DEVELOPMENT – SCHEDULE

Timeline Development - Schedule for GRITUP Capstone Project (15 Weeks):

Week 1:

- Project Kick-off and Requirement Gathering
- Initial Project Planning and Scope Definition
- User Management and Authentication

Week 2:

- Textbooks and E-Learning Videos - Content Curation and Acquisition
- DCET Materials and Customized Resources - DCET Resource Curation

Week 3:

- Textbooks and E-Learning Videos - Resource Organization and Categorization
- Integration with LinkedIn and Networking Features - LinkedIn API Integration

Week 4:

- Textbooks and E-Learning Videos - Search Functionality Implementation
- Admin Panel - Admin User Management

Week 5:

- DCET Materials and Customized Resources - Customized Resource Request Management
- Responsive Web Design - UI/UX Design Planning

Week 6:

- DCET Materials and Customized Resources - Study Guides and Practice Exams Development
- Responsive Web Design - Front-end Development

Week 7:

- FAQ and Chat Service - Frequently Asked Questions Section
- Admin Panel - Resource Management

Week 8:

- FAQ and Chat Service - Chat Service Development
- Testing and Quality Assurance - Test Plan Development

Week 9:

- Integration and Refinements
- User Acceptance Testing

Week 10:

- Responsive Web Design - Mobile Responsiveness Implementation
- Deployment and Launch - Hosting Setup

Week 11:

- Integration with LinkedIn and Networking Features - User Profile Creation
- Project Documentation - Requirements Documentation

Week 12:

- Admin Panel - Analytics and Reporting
- Project Documentation - Design Documentation

Week 13:

- Testing and Quality Assurance - Unit Testing and Integration Testing
- Project Documentation - User Documentation

Week 14:

- Deployment and Launch - Performance Optimization
- Project Documentation - Project Report

- Final Testing and Bug Fixes
- Project Presentation and Evaluation

2.1.3. COST BREAKDOWN STRUCTURE

Cost Breakdown Structure for GRITUP Capstone Project (in Indian Rupees):

1. Infrastructure and Hosting:

- Hosting Setup and Configuration: 1000
- Development and Testing Environments: 1000
- Total Infrastructure and Hosting Costs: 2000

2. Content Acquisition and Licensing:

- Textbooks and E-Learning Videos: 300
- DCET Materials and Customized Resources: 1500
- Total Content Acquisition and Licensing Costs: 1800

3. Integration and API Costs:

- LinkedIn API Integration: 500
- AI-based Chatbot Integration: 1000
- Total Integration and API Costs: 1500

4. Design and User Experience:

- UI/UX Design and Prototyping: 200
- Responsive Web Design: 100
- Total Design and User Experience Costs: 300

5. Documentation and Reporting:

- Requirements Documentation: 1000
- Design Documentation: 100
- User Documentation: 500
- Project Report: 1000
- Total Documentation and Reporting Costs: 2700

6. Project Management and Miscellaneous Expenses:

- Project Management Tools and Software: 5000
- Contingency and Miscellaneous Expenses: 2500
- Total Project Management and Miscellaneous Costs: 300

7. Marketing and Promotion:

- Marketing Campaigns and Advertising: 2000

2.1.4. CAPSTONE PROJECT RISK ASSESMENT

Risk Assessment for GRITUP Capstone Project:

1. Technical Risks: a. Integration Challenges: Difficulties in integrating various external platforms, such as LinkedIn API, could lead to delays or functionality issues. b. Compatibility Issues: Incompatibility between different browsers or devices may impact the responsiveness and user experience of the web application. c. Data Security Breaches: Inadequate security measures could expose user data to unauthorized access or cyber threats.
2. Resource Risks: a. Skill Gap: The project team may lack expertise or experience in certain technologies or domains, which could impact development and

- implementation. b. Resource Constraints: Limited availability of team members or insufficient budget could lead to delays or compromised quality.
3. Schedule Risks: a. Unrealistic Timeline: Setting an overly ambitious timeline without accounting for unexpected challenges or dependencies may lead to missed deadlines. b. Scope Creep: Frequent additions or changes to project requirements could result in scope creep, causing delays and budget overruns.
 4. Stakeholder Risks: a. Communication Issues: Ineffective communication or misalignment of expectations with stakeholders may lead to misunderstandings or project delays. b. Stakeholder Availability: Unavailability or delayed feedback from stakeholders may hinder decision-making and cause project bottlenecks.
 5. Quality Risks: a. Testing and Bug Fixing: Inadequate testing practices and delayed bug fixing may result in a subpar user experience and reduced platform reliability. b. Usability and User Feedback: Failure to gather user feedback during the development process may result in usability issues or a mismatch with user expectations.
 6. External Risks: a. Changes in Regulatory Environment: Changes in laws or regulations pertaining to data privacy or online platforms could necessitate modifications to ensure compliance. b. External Dependencies: Delays or issues with external vendors or third-party services could impact the project timeline or functionality.
 7. Financial Risks: a. Budget Overruns: Unforeseen expenses or scope changes may result in exceeding the allocated budget. b. Revenue Generation: The project's monetization strategy may not yield the expected revenue, impacting the long-term viability of the platform.

To mitigate these risks, the project team should:

- Conduct a thorough analysis of technical requirements and integration points.
- Engage in continuous communication with stakeholders to manage expectations and address concerns.
- Adopt agile development practices to accommodate changes in scope and requirements.
- Implement robust security measures to safeguard user data.
- Perform regular testing and quality assurance to identify and resolve issues promptly.
- Maintain open channels of communication with stakeholders and seek timely feedback.
- Continuously monitor the project's financials and adjust the budget as needed.

2.2. REQUIREMENTS SPECIFICATION

2.2.1. FUNCTIONAL

Functional Requirements:

1. User Registration and Authentication: a. Users should be able to create an account and provide necessary information for registration. b. The system should authenticate users' credentials to ensure secure access.
2. Textbooks and E-Learning Videos: a. Users should be able to browse and search for textbooks and e-learning videos. b. The system should provide filtering options based on subject, topic, and level of difficulty. c. Users should be able to bookmark, highlight, and make annotations within the textbooks. d. The system should track the progress of users' learning activities.

3. DCET Materials and Customized Resources: a. Users preparing for the DCET exam should have access to specific study materials and practice exams. b. Users should be able to request customized resources based on their specific needs and interests.
4. Integration with LinkedIn and Networking Features: a. The system should integrate with LinkedIn to allow users to connect and network with professionals. b. Users should be able to create profiles, search for connections, and join career-related communities. c. The system should provide job postings and industry event listings for networking opportunities.
5. FAQ and Chat Service: a. The system should have a section for frequently asked questions (FAQ) to address common user queries. b. Users should be able to access a chat service to seek personalized assistance or support.

2.2.2. NON-FUNCTIONAL(QUALITY ATTRIBUTES)

Non-Functional Requirements:

1. Usability: a. The platform should have an intuitive and user-friendly interface for easy navigation. b. The system should provide clear instructions and guidance to help users make the most of the platform.
2. Performance: a. The system should be responsive and provide fast loading times for seamless user experience. b. It should be able to handle multiple concurrent users without significant performance degradation.
3. Security: a. User data should be securely stored and transmitted using encryption techniques. b. The system should implement authentication and authorization mechanisms to protect user accounts.
4. Compatibility: a. The platform should be compatible with major web browsers, ensuring a consistent experience for users. b. It should be responsive and adaptable to different screen sizes and devices.

5. Reliability: a. The system should have minimal downtime and high availability to ensure users can access resources when needed. b. It should have backup and recovery mechanisms in place to prevent data loss in case of system failure.
6. Scalability: a. The platform should be designed to accommodate an increasing number of users and resources without significant performance degradation. b. It should be scalable to handle potential growth in user base and content volume.

2.2.3. USER INPUTS

1. User Registration Information:

- Name
- Email address
- Password

Table 2.2.3.1 Users data

COLUMN NAME	TYPE	SIZE
ID	INT	5
NAME	VARCHAR	200
BRANCH	VARCHAR	200
SEMESTER	VARCHAR	200
EMAIL	VARCHAR	200
PASSWORD	INT	8

2. Search and Filter Criteria:

- Subject
- Topic
- Difficulty level

Table 2.2.3.1 Search and Filter

COLUMN NAME	TYPE	SIZE
ID	INT	5
SERVICENAME	VARCHAR	200
BRANCH	VARCHAR	200
SYLLABUS	VARCHAR	200
SEMESTER	VARCHAR	200
LINK	VARCHAR	200
FILE	VARCHAR	200

3. Connection and Networking:

- LinkedIn profile information
- Search criteria for finding connections
- Interests and career preferences

Table 2.2.3.3 Jobs/Internship

COLUMN NAME	TYPE	SIZE
ID	INT	5
COMPANY NAME	VARCHAR	200
ROLE	VARCHAR	200
DATE	VARCHAR	200
DISCRIPTION	VARCHAR	200

4. Chat Service:

- User queries and requests for assistance
- Define User
- Response to user

Table 2.2.3.4 Chat Service

COLUMN NAME	TYPE	SIZE
ID	INT	5
USEREMAIL	VARCHAR	200
QUESTION	VARCHAR	200
ANSWER	VARCHAR	200

2.2.4. TECHNICAL CONSTRAINTS

1. Technology Stack:

- The system should be developed using specific programming languages, frameworks, and libraries based on technical requirements and constraints.

2. Compatibility:

- The platform should be compatible with commonly used web browsers such as Chrome, Firefox, Safari, and Edge, ensuring optimal functionality across different environments.

3. Integration Requirements:

- The system should be able to integrate with the LinkedIn API to enable seamless connectivity and networking features.

4. Performance:

- The platform should be designed to deliver fast response times and handle simultaneous user interactions without significant latency or performance degradation.

5. Security:

- The system should adhere to industry best practices for data security, including encryption of sensitive user information and protection

against common security threats such as SQL injection and cross-site scripting (XSS) attacks.

6. Scalability:

- The system should be scalable to accommodate a growing user base and increasing demand for resources, ensuring that it can handle additional users and content without sacrificing performance.

7. Third-Party Services:

- If the platform relies on third-party services or APIs, there may be constraints imposed by those services, such as usage limits or pricing plans.

8. Development Environment:

- The development team should have access to the required development tools, frameworks, and infrastructure to build and test the platform effectively.

9. Time and Resource Constraints:

- The project should be completed within a specified timeframe and allocated budget, taking into account the available resources and team capacity.

2.3. DESIGN SPECIFICATION

2.3.1. CHOSEN SYSTEM DESIGN

The chosen system design for GRITUP is a web-based application developed using a client-server architecture. The client-side comprises the web browser interface accessible to users, while the server-side handles the business logic, data storage, and external integrations.

1. Front-end Design:

- The front-end of the application will be developed using HTML, CSS, and JavaScript.
- The user interface (UI) will be designed to be intuitive, user-friendly, and responsive, ensuring compatibility across different devices and screen sizes.
- The design will follow modern UI/UX principles, incorporating clear navigation, visual cues, and an aesthetically pleasing layout.
- Libraries and frameworks such as React or Angular may be utilized for efficient front-end development.

2. Back-end Design:

- The back-end will be developed using a server-side programming language such as PHP , Python , or Node.js, depending on the team's expertise and project requirements.
- A robust and scalable framework, such as Django or Spring Boot, can be used to handle routing, request processing, and data management.
- The system will interact with a database management system (DBMS) like MySQL or PostgreSQL to store and retrieve user data, resource information, and chat logs.
- APIs and web services will be developed to integrate with external platforms, such as the LinkedIn API, to enable networking features.

3. Security and Authentication:

- User authentication will be implemented using secure protocols like OAuth or JWT (JSON Web Tokens) to ensure secure access to the platform.

- Secure coding practices will be followed to prevent common vulnerabilities such as SQL injection, cross-site scripting (XSS), and cross-site request forgery (CSRF).

4. Integration and External Services:

- The system will integrate with the LinkedIn API to provide networking opportunities and access to user profiles and connections.
- External services may be used for hosting, such as cloud-based platforms like AWS or Azure, to ensure scalability and availability.

2.3.2. DISCUSSION OF ALTERNATIVE DESIGNS

1. Mobile Application:

- An alternative design approach could be developing a mobile application for GRITUP, providing users with a dedicated app for accessing resources and networking.
- However, this alternative design may require additional development effort, increased maintenance, and may limit the platform's accessibility to users without smartphones.

2. Single-Page Application (SPA):

- Another alternative design approach is building a single-page application using a JavaScript framework like React or Vue.js.
- SPAs offer a seamless user experience with faster page transitions, but they may require more client-side processing and could result in increased initial load times.

3. Microservices Architecture:

- Instead of a monolithic architecture, a microservices architecture could be considered, where different services are developed and deployed independently.
- This alternative design promotes scalability and flexibility but may introduce complexity and additional overhead in managing and coordinating the different services.

2.3.3. DETAILED DISCRIPTION OF COMPONENTS

1. User Management and Authentication:

- This component is responsible for user registration, login, and authentication.
- It handles the storage of user credentials, such as username and password, and verifies user identity during login.
- It also manages user profiles, including personal information, preferences, and account settings.

2. Textbooks and E-Learning Videos:

- This component enables users to access a wide range of textbooks and e-learning videos.
- It includes a search and filtering functionality to help users find relevant resources based on subject, topic, and difficulty level.
- Users can view, read, or watch the educational content within the platform and interact with it through features like bookmarking, highlighting, and annotations.

3. DCET Materials and Customized Resources:

- This component caters to users preparing for the DCET exam by providing specific study materials and practice resources.
- It offers a curated collection of study materials, previous exam papers, and mock tests to help users in their exam preparation.
- Additionally, users can request customized resources tailored to their individual requirements, such as specific topics or practice questions.

4. Integration with LinkedIn and Networking Features:

- This component facilitates integration with the LinkedIn platform to enhance users' networking opportunities and career development.
- It allows users to connect their GRITUP accounts with their LinkedIn profiles, enabling seamless access to professional networks and connections.
- Users can search for and connect with other professionals, join career-related communities, and explore job postings and industry events for networking and career growth.

5. FAQ and Chat Service:

- This component provides a Frequently Asked Questions (FAQ) section where users can find answers to common queries and doubts.
- It also offers a chat service, allowing users to interact with support agents or subject matter experts in real-time to seek assistance or clarify doubts.
- The chat service may include features like chatbots, automated responses, and file sharing for efficient communication.

6. Responsive Web Design:

- This component ensures that the GRITUP platform is accessible and optimized for different devices and screen sizes.
- It employs responsive web design techniques to adapt the layout and content presentation based on the user's device, providing an optimal user experience on desktops, laptops, tablets, and smartphones.

7. Admin Panel:

- This component is an administrative interface that allows platform administrators to manage user accounts, content, and system settings.
- Administrators can perform tasks such as user account moderation, content curation, analytics and reporting, and system configuration.

8. Testing and Quality Assurance:

- This component focuses on the testing and quality assurance aspects of the project.
- It involves conducting various testing activities, such as unit testing, integration testing, and system testing, to ensure that the components and subsystems of GRITUP function as intended.
- Quality assurance practices, such as code reviews, bug tracking, and performance testing, are employed to ensure a reliable and robust platform.

9. Deployment and Launch:

- This component involves the deployment and launch of the GRITUP platform in a production environment.
- It includes activities like server setup, database configuration, security measures implementation, and ensuring the platform is accessible to end-users.

CHAPTER 3

APPROACH AND METHODOLOGY

3.1. INTRODUCTION

3.1.1. DISCUSS THE TECHNOLOGY

For the development of the GRITUP platform, an Agile methodology will be employed to ensure flexibility, collaboration, and iterative progress. Agile methodologies, such as Scrum or Kanban, are well-suited for software development projects that require frequent feedback, adaptability to changing requirements, and incremental delivery of features. Here is an outline of the approach and methodology considerations:

1. Project Initiation:

- The project goals, scope, and requirements will be defined through initial discussions and analysis.
- The development team will collaborate with stakeholders to understand their needs and expectations.

2. User Story Creation:

- User stories will be created to capture specific features and functionalities from the user's perspective.
- Each user story will define the value it delivers to users and the acceptance criteria for completion.

3. Backlog Creation and Prioritization:

- The product backlog will be created, consisting of all the user stories and tasks required for the development.

- The backlog items will be prioritized based on their importance and value to the users and the project.

4. Sprint Planning:

- Sprints, which are time-boxed iterations, will be planned to focus on delivering specific features and functionalities.
- The development team, in collaboration with the product owner, will select the user stories to be worked on in the upcoming sprint.

5. Daily Stand-up Meetings:

- Daily stand-up meetings will be conducted to provide updates on progress, discuss any challenges, and plan for the day.
- The team members will share their accomplishments, upcoming tasks, and any impediments they are facing.

6. Iterative Development:

- The development work will be carried out in short iterations or sprints, typically ranging from one to four weeks.
- The focus will be on delivering a potentially shippable increment of the product at the end of each sprint.

7. Continuous Integration and Testing:

- Continuous integration practices will be followed, allowing the team to integrate code changes frequently and detect any issues early.
- Automated testing will be employed to ensure the quality and stability of the software.

8. Sprint Review and Retrospective:

- At the end of each sprint, a sprint review meeting will be held to demonstrate the completed features to stakeholders and gather their feedback.
- A sprint retrospective will follow, allowing the team to reflect on the sprint, discuss areas of improvement, and make adjustments to their processes.

9. Continuous Feedback and Adaptation:

- Throughout the project, there will be regular communication and collaboration with stakeholders to gather feedback and make necessary adjustments.
- The project scope and priorities may evolve based on the feedback and changing requirements.

10. Incremental Delivery and Deployment:

- As each sprint is completed, a potentially shippable increment of the GRITUP platform will be delivered, allowing users to start benefiting from the new features.
- Deployment strategies, such as continuous deployment or scheduled releases, will be determined based on project requirements.

3.1.2. METHODOLOGIES

The Agile methodology will enable the GRITUP development team to respond quickly to changes, incorporate user feedback, and deliver a high-quality platform incrementally. It promotes collaboration, transparency, and continuous improvement throughout the development lifecycle.

3.1.3. USE CASES

1. User Registration:

- Description: This use case involves a user registering for an account on the GRITUP platform.
- Actors: User, System
- Flow of Events:
 1. User accesses the registration page.
 2. User enters the required registration information (name, email, password).
 3. System validates the information and creates a new user account.
 4. System sends a confirmation email to the user.
 5. User verifies the email and activates the account.

2. User Login:

- Description: This use case involves a registered user logging into their GRITUP account.
- Actors: User, System
- Flow of Events:
 1. User accesses the login page.
 2. User enters their credentials (email and password).
 3. System verifies the credentials and grants access to the user.
 4. User gains access to their account dashboard.

3. Search and Filter Resources:

- Description: This use case allows users to search for specific educational resources on the GRITUP platform.
- Actors: User, System
- Flow of Events:
 1. User enters keywords or selects filters to refine their search.
 2. System queries the database based on the search criteria.
 3. System displays a list of relevant resources matching the search query.
 4. User can further filter the results based on subject, topic, or difficulty level.
 5. User selects a resource to view its details.

4. Request Customized Resources:

- Description: This use case enables users to request personalized or customized resources.
- Actors: User, System
- Flow of Events:
 1. User submits a request for customized resources, specifying their requirements and preferences.
 2. System receives the request and notifies the appropriate team or expert.
 3. Team or expert reviews the request and works on creating the customized resources.

4. System notifies the user once the customized resources are available.

5. User accesses and utilizes the requested customized resources.

5. Connect with LinkedIn:

- Description: This use case allows users to connect their GRITUP accounts with their LinkedIn profiles.
- Actors: User, System
- Flow of Events:
 1. User initiates the LinkedIn integration process.
 2. User grants permission for GRITUP to access their LinkedIn profile information.
 3. System authenticates the user's LinkedIn credentials.
 4. System retrieves the user's LinkedIn profile details and connections.
 5. User's LinkedIn profile and connections are synchronized with their GRITUP account.
 6. User can explore their LinkedIn connections, join career communities, and leverage networking opportunities within GRITUP.

6. Chat Support:

- Description: This use case involves users accessing the chat support feature for assistance and guidance.
- Actors: User, Support Agent

- Flow of Events

These use cases represent key functionalities and interactions within the GRITUP platform. They demonstrate the various ways in which users can utilize the platform's features to enhance their professional

3.1.4. PROGRAMMING

Index.php :

```
<body>

  <div id="preloader">

    <br>

  </div>

  <nav>

    <div class="nav-bar">

      <i class='bx bx-menu sidebarOpen' ></i>

      <span class="logo navLogo" id="ggg"><a href="#"></a></span>

      <div class="menu">

        <div class="logo-toggle" >

          <span class="logo" style="margin-top:40px;"/><a
href="#">GRITUP</a></span>

          <i class='bx bx-x siderbarClose'></i>

        </div>

      </div>

    </div>

  </nav>

</body>
```

```
<ul class="nav-links">

    <li><a href="index.php" >Home</a></li>

    <li><a href="index.php#services">Services</a></li>

    <li><a href="check.html">Customize</a></li>

    <li><a href="viewstudent.php">Network</a></li>

    <li><a href="#ab">About</a></li>

    <li><a href="login.php">Admin</a></li>

</ul>

</div>

<div class="darkLight-searchBox">

    <div class="dark-light" style="margin-bottom: 20px;"><a
href="signin.php">

        <i class="fa-solid fa-user"></i></a>

    </div>

    <div class="searchBox">

        <div class="searchToggle">

        </div>

        <div class="search-field">

        </div>

    </div>

</div>

</div>
```

```
</div>

</nav>

<section class="home" id="home" style="
background-image: url('./assests/home1.png');">

<section class="heading1">

<div class="one">

<h1 class="ml9">

<span class="text-wrapper">

<span class="letters" style="font-size: 35px; ">Reach Your Career Goals
</span><br>

<span class="letterss" style="font-size: 35px; margin-top: 1px;" id="ey"
>With GRITUP</span>

</span>

</h1>

<p class="subhead">We help Diploma students to plan and manage thier career
goals. With a wide range of personalized resources including Jobs, Internships</p>

<br>

<br>

<a href="#services" class="button is-primary">

Get Started

</a>
```

```
</div> </div></div>
```

Signin.php :

```
<body style="background-image: linear-gradient(#3494e6, #ec6ead);">

<?php

session_start();

if(isset($_REQUEST['log'])){

    $un = $_REQUEST['name'];

    $pa = $_REQUEST['pass'];

    $q = "select * from student where email='$un' and password='$pa'";

    $r = mysqli_query($db,$q);

    if($d=mysqli_fetch_assoc($r)){

        $_SESSION['user'] = $un;

        header("location:index1.html");

    }

    else{

        echo "<div class='alert alert-dark' role='alert' style='border-radius:0px'>

        Incorrect email/password , Please <a href='signup.php' class='alert-link'>click

here</a> to register

        </div>";

        // echo '<script>alert("User doesnt exist , please register")</script>';

    }

}
```

```
}  
?>  
<br>  
  
<section class="h-100 gradient-form" >  
  
<div class="container py-2 h-100" style="padding-top: 41;">  
  
<div class="row d-flex justify-content-center align-items-center h-100">  
  
<div class="col-xl-10">  
  
<div class="card rounded-3 text-black">  
  
<div class="row g-0">  
  
<div class="col-lg-6">  
  
<div class="card-body p-md-5 mx-md-4">  
  
<div class="text-center">  
  
  
  
  
</div>  
  
<br>  
  
<form action="" method="post" >  
  
<p>Please login to your account</p>  
  
<div class="form-outline mb-4">
```

```
<div>Email</div>
```

```
<div>
```

```
<input
```

```
  type="text"
```

```
  name="name"
```

```
  id="name"
```

```
  required
```

```
</div>
```

```
</div>
```

```
<div class="form-outline mb-4">
```

```
<div>Password</div>
```

```
<div>
```

```
<input
```

```
  type="password"
```

```
  name="pass"
```

```
  id="pass"
```

```
  required
```

```
</div>
```

```
</div>
```

```
<div class="text-center pt-1 mb-5 pb-1">
```

```
<input
    class="btn btn-primary btn-block fa-lg gradient-custom-2 mb-3
    type="submit" value="Login" name="log">
</input><a class="text-muted" href="#">Forgot password?</a>
</div>
<div
    class="d-flex align-items-center justify-content-center pb-4"
    <a href="signup.php" type="button"
    class="btn btn-outline-danger">New User? SignUp</a>
</div>
</form>
</div>
</div>
<div
    class="col-lg-6 d-flex align-items-center gradient-custom-2"
    <div class="text-white px-3 py-4 p-md-5 mx-md-4">
    <h4 class="mb-4">One Stop For All Diploma Resources</h4>
    <p class="small mb-0">
    Lorem ipsum dolor sit amet, consectetur adipisicing elit,
    sed do eiusmod tempor incididunt ut labore et dolore magna
```

aliqua. Ut enim ad minim veniam, quis nostrud exercitation

ullamco laboris nisi ut aliquip ex ea commodo consequat.

</p> </div></div></div></div></div> </div>

</section>

<div class="home">

<button type="button" class="Home">Home</button>

</div>

Sign-up.php

<body>

<?php

```
if(isset($_REQUEST['log'])){
```

```
    $se = $_REQUEST['name'];
```

```
    $br = $_REQUEST['branch'];
```

```
    $sem = $_REQUEST['sem'];
```

```
    $em = $_REQUEST['email'];
```

```
    $pa = $_REQUEST['pass'];
```

```
    $a = "select * from student where email='$em' ";
```

```
    $b = mysqli_query($db,$a);
```

```
    $d=mysqli_fetch_assoc($b);
```

```
    if($d>0){
```



```
echo "<div class='alert alert-dark' role='alert' style='border-radius:0px'>

    User <b>$d[name]</b> exists !! <a href='signin.php' class='alert-link'>click
here</a> to login

    </div>";

}

else{

    $q = "insert into student (name,branch,semester,email,password)
values('$se','$br','$sem','$em','$pa')";

    $r = mysqli_query($db,$q);

    if($r){

        echo "<div class='alert alert-dark' role='alert' style='border-radius:0px'>

            Register Success !! <a href='signin.php' class='alert-link'>click here</a> to
login

            </div>";

        }

    else{

        echo "<div class='alert alert-dark' role='alert' style='border-radius:0px'>

            Register not Successfully !! connect admin to login

            </div>";

        // mysqli_query($con);

    }

}
```

```
}  
  
}  
  
?>  
  
<br>  
  
<section class="h-100 gradient-form" >  
  
<div class="container py-2 h-100" style="padding-top: 41;">  
  
<div class="row d-flex justify-content-center align-items-center h-100">  
  
<div class="col-xl-10" >  
  
<div class="card rounded-3 text-black" >  
  
<div class="row g-0">  
  
<div class="col-lg-6">  
  
<div class="card-body p-md-5 mx-md-4">  
  
<div class="text-center">  
  
  
  
</div>  
  
<br />  
  
<form method="post" action="" enctype="multipart/form-data">  
  
<p style="font-size: larger">  
  
<b>Please create an account</b>  
  
</p>
```

```
<div>Student Name</div>

<div><input type="text" name="name" id="name" required/></div>

<div>Branch</div>

<div>

  <select

    name="branch"

    style="height: 32px; width: 190px"

  >

    <option value="CS">CS</option>

    <option value="EC">EC</option>

    <option value="AU">AU</option>

    <option value="ME">ME</option>

  </select>

</div>

<div>Semester</div>

<div>

  <select name="sem" style="height: 32px; width: 190px">

    <option value="1st Sem">1st Sem</option>

    <option value="2nd Sem">2nd Sem</option>

    <option value="3rd Sem">3rd Sem</option>

  </select>

</div>
```

```
<option value="4th Sem">4th Sem</option>

<option value="5th Sem">5th Sem</option>

<option value="6th Sem">6th Sem</option>

</select>

</div>

<div>Student Email</div>

<div><input type="email" name="email" id="email" required/></div>

<div>Password</div>

<div><input type="password" name="pass" id="pass" required/></div>

<br>

<div class="text-center pt-1 mb-5 pb-1">

  <input

    class="btn btn-primary btn-block fa-lg gradient-custom-2 mb-3"

    type="submit" value="SignUp" name="log"

  </input>

</div>

<div

  class="d-flex align-items-center justify-content-center pb-4"

  <a href='signin.php' type="button" class="btn btn-outline-danger">Already Have
  account? Signin</a>
```

```

        </div>

        </form>

    </div></div><div>

        class="col-lg-6 d-flex align-items-center gradient-custom-2"

        <div class="text-white px-3 py-4 p-md-5 mx-md-4">

            <h4 class="mb-4">One Stop For All Diploma Resources</h4>

            <p class="small mb-0">

                Lorem ipsum dolor sit amet, consectetur adipisicing elit,

                sed do eiusmod tempor incididunt ut labore et dolore magna

                aliqua. Ut enim ad minim veniam, quis nostrud exercitation

                ullamco laboris nisi ut aliquip ex ea commodo consequat.

            </p></div></div></div></div></div></div></div>

        </section>

    <div class="home">

        <button type="button" class="Home"><a href="index.php">Home</a></button>

    </div>

```

3.1.5. SIMULATION AND MODELLING FOR GRITUP

1. User Activity Simulation:

- Description: This simulation models user interactions and activity on the GRITUP platform to analyse usage patterns and identify areas for improvement.

- Objective: Understand user behaviour, identify popular features, and optimize user experience.
- Inputs: User profiles, simulated user actions (e.g., resource access, search queries, interactions with networking features).
- Outputs: User engagement metrics, heatmaps of popular features, usage statistics.

2. Performance Modelling:

- Description: This modelling exercise focuses on assessing the performance of the GRITUP platform under various load conditions and estimating system scalability.
- Objective: Determine system capacity, identify potential bottlenecks, and optimize resource allocation.
- Inputs: System architecture, user load profiles, resource utilization data.
- Outputs: Response time metrics, throughput analysis, scalability recommendations.

3. Resource Recommendation Model:

- Description: This modelling task involves developing a recommendation system that suggests relevant educational resources to users based on their preferences, learning history, and interactions.
- Objective: Improve resource discovery, personalize user experience, and enhance engagement.
- Inputs: User profiles, resource metadata, user feedback, machine learning algorithms.

- Outputs: Personalized resource recommendations, accuracy metrics, user satisfaction evaluations.

4. Networking Impact Analysis:

- Description: This simulation assesses the impact of networking features, such as connecting with LinkedIn and participating in career communities, on users' professional growth and opportunities.
- Objective: Measure the effectiveness of networking functionalities, identify user engagement patterns, and evaluate networking outcomes.
- Inputs: User networking data, interaction logs, LinkedIn integration data.
- Outputs: Network growth metrics, success stories, impact analysis reports.

5. Chatbot Performance Evaluation:

- Description: This modelling and simulation exercise focuses on evaluating the performance and effectiveness of the chatbot used in the GRITUP platform's chat support feature.
- Objective: Assess chatbot accuracy, response time, and user satisfaction.
- Inputs: Chatbot training data, user queries, chat logs.
- Outputs: Chatbot accuracy metrics, response time analysis, user feedback.

Simulations and modelling help in analysing and optimizing various aspects of the GRITUP platform. They provide valuable insights into user behaviour, system performance, personalization, networking impact, and support effectiveness. The outcomes of these simulations and models can guide decision-making processes and

drive continuous improvements to enhance the overall user experience and platform functionality.

3.1.6.Product Design

Dataflow Diagram-1

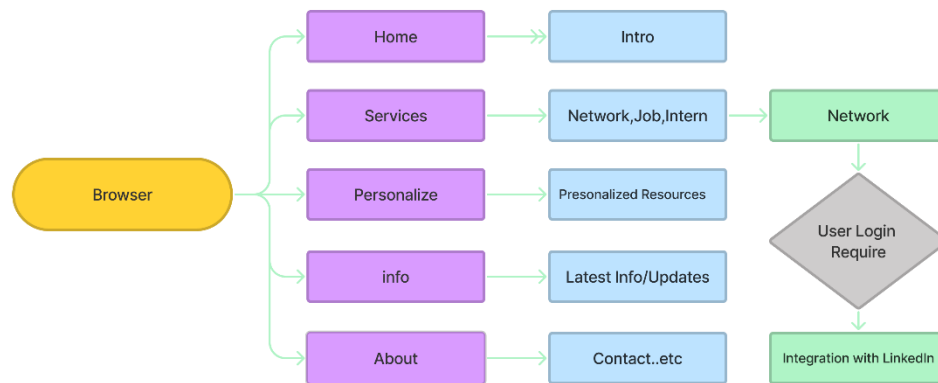


Figure 3.3.1 Dataflow Diagram-1

Dataflow Diagram - 2

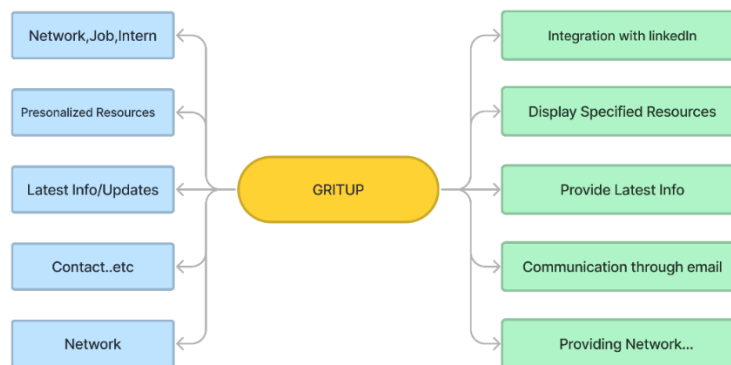


Figure 3.3.2 Dataflow Diagram-2

Flowchart:

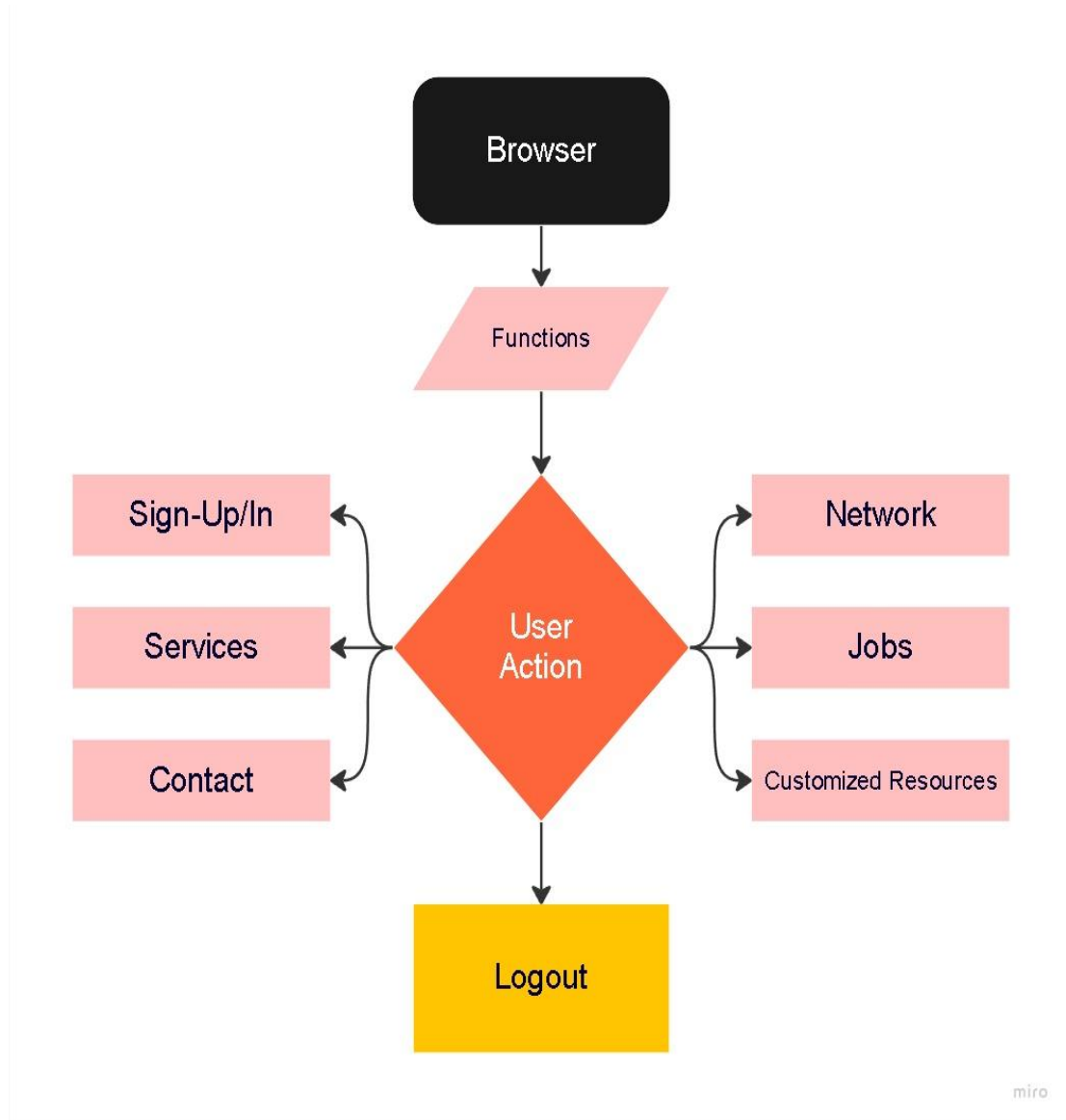


Figure 3.3.3 Flowchart

3.1.4. User-Interface

Landing Page:-

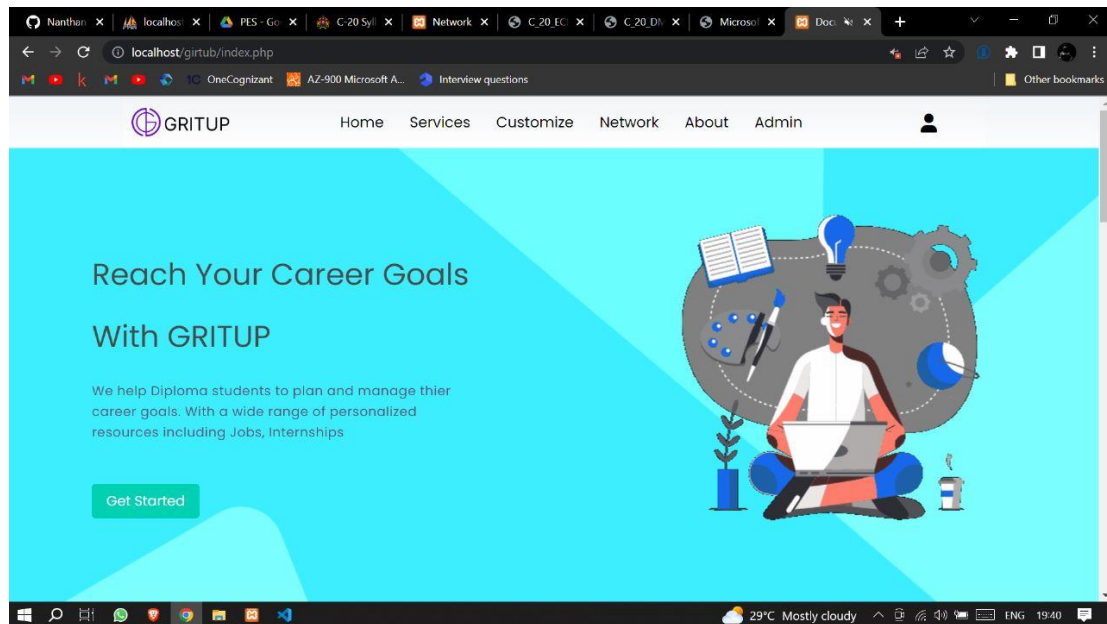


Figure 3.3.4 Landing page

Sign-Up Page:-

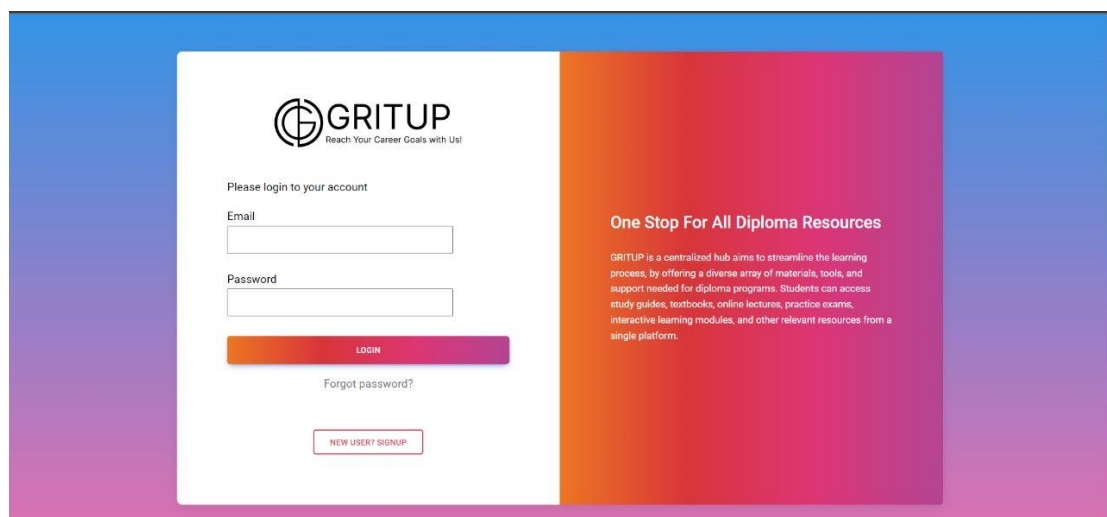
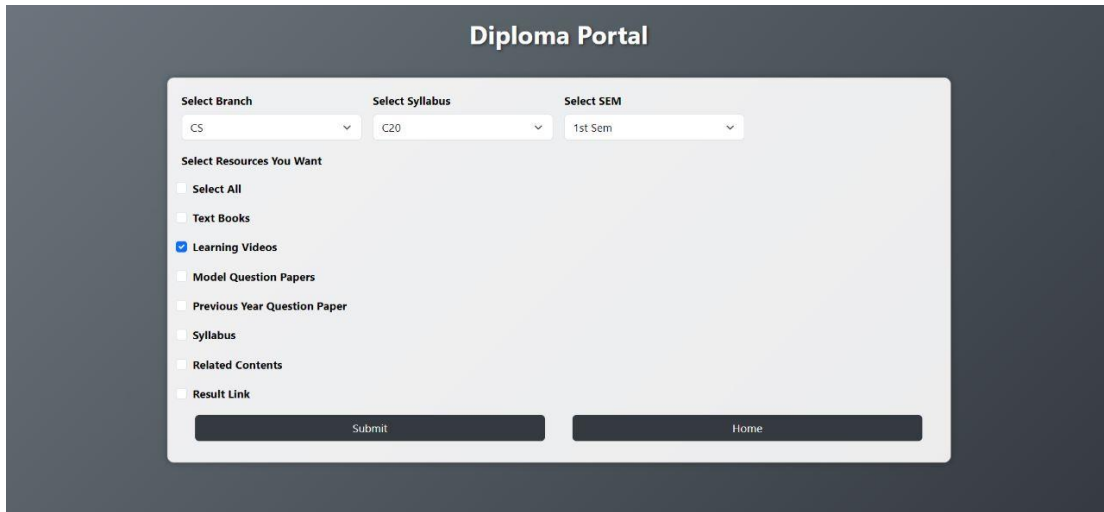


Figure 3.3.5 Sign-up page

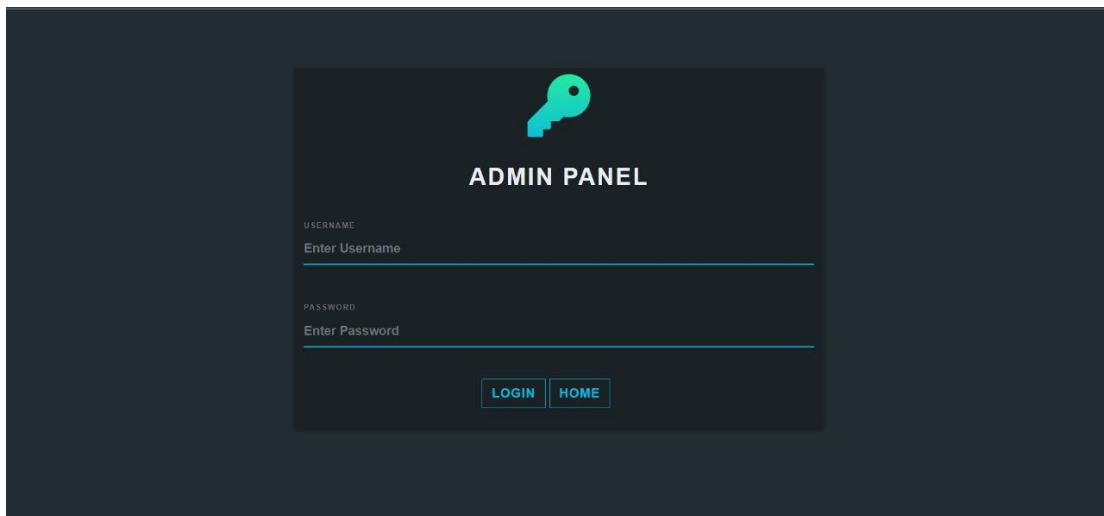
Customize Resources:-



The screenshot shows a web interface titled "Diploma Portal". It features three dropdown menus at the top for "Select Branch" (CS), "Select Syllabus" (C20), and "Select SEM" (1st Sem). Below these is a section titled "Select Resources You Want" with a list of checkboxes: "Select All", "Text Books", "Learning Videos" (checked), "Model Question Papers", "Previous Year Question Paper", "Syllabus", "Related Contents", and "Result Link". At the bottom of this section are two buttons: "Submit" and "Home".

Figure 3.3.6 Customize page

Admin Panel:-



The screenshot shows a dark-themed login page for the "ADMIN PANEL". At the top center is a red key icon. Below it, the text "ADMIN PANEL" is displayed. There are two input fields: "USERNAME" with the placeholder text "Enter Username" and "PASSWORD" with the placeholder text "Enter Password". At the bottom are two buttons: "LOGIN" and "HOME".

Figure 3.3.7 Admin panel

Jobs/Internship:-

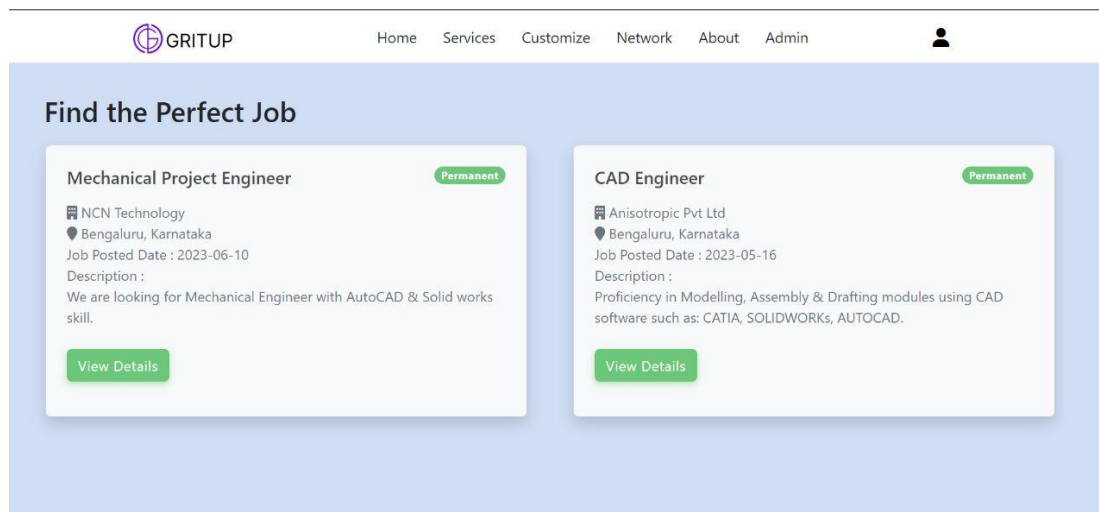


Figure 3.3.8 Jobs/Internship

Resources Page:-

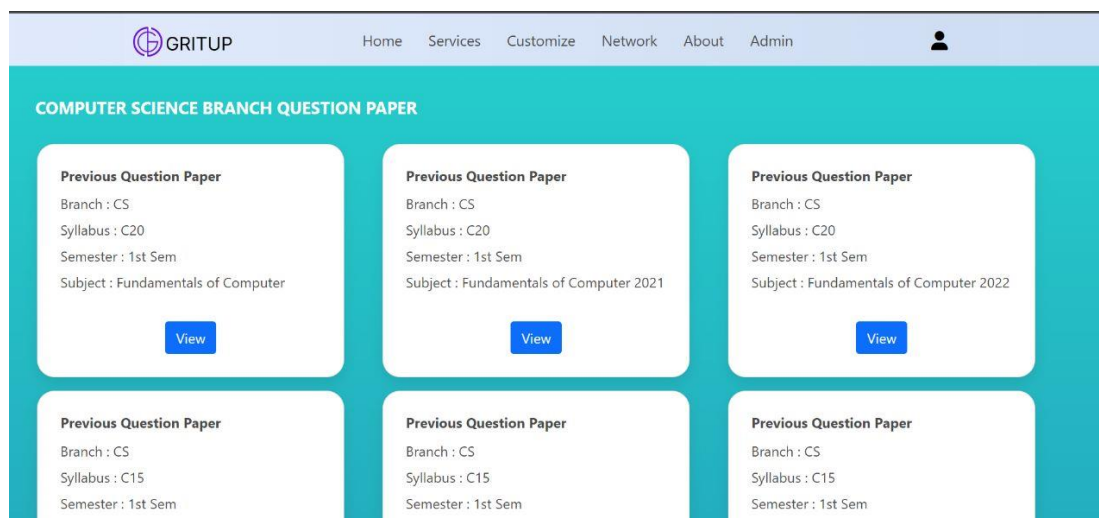


Figure 3.3.9 Resources Page

CHAPTER 4

TEST AND VALIDATION

4.1. INTRODUCTION

4.1.1. TEST PLAN

1. Introduction:

- Overview: This test plan outlines the approach, scope, and objectives of the testing activities for the GRITUP platform.
- Test Objectives: To ensure the functionality, performance, and usability of the platform meet the specified requirements.

2. Test Scope:

- In-Scope Items: All major features and functionalities of the GRITUP platform, including user management, resource access, networking features, customized resources, and chat support.
- Out-of-Scope Items: Third-party integrations (e.g., LinkedIn), hardware dependencies, external systems.

3. Test Approach:

- Testing Methodology: A combination of manual and automated testing techniques will be used.
- Test Levels: Unit testing, integration testing, system testing, and acceptance testing.
- Test Types: Functional testing, performance testing, usability testing, security testing.

4. Test Environment:

- Hardware: Required server infrastructure, testing devices (laptops, smartphones, tablets).
- Software: Operating systems, web browsers, testing tools (test management, defect tracking, automation).

5. Test Deliverables:

- Test Plan: Document outlining the overall testing approach and strategy.
- Test Cases: Detailed test cases with steps, expected results, and test data.
- Test Data: Sample data for testing purposes.
- Test Logs and Reports: Records of test execution, defects, and test results.

6. Test Schedule:

- Test Phases: Unit testing (1 week), integration testing (2 weeks), system testing (2 weeks), acceptance testing (2 weeks).
- Test Milestones: Completion of each test phase, defect resolution, and sign-off for release.

7. Test Execution:

- Test Case Prioritization: Prioritize test cases based on criticality, functionality, and risk.
- Test Case Execution: Execute test cases, record results, and report defects.
- Defect Management: Log and track defects using a defect tracking tool.

- Regression Testing: Conduct regression testing to ensure no new defects are introduced.

8. Test Coverage:

- Functional Testing: Validate each feature against the functional requirements.
- Performance Testing: Measure system response time, throughput, and resource utilization under different load conditions.
- Usability Testing: Evaluate the user-friendliness, intuitiveness, and accessibility of the platform.
- Security Testing: Identify and mitigate potential security vulnerabilities and ensure data privacy.

9. Test Completion Criteria:

- All high-priority test cases executed and passed.
- Defects resolved or documented with appropriate severity and priority.
- Acceptance criteria met, and stakeholders sign off on the test results.

10. Risks and Mitigation:

- Identify potential risks and their impact on testing.
- Develop mitigation strategies to address identified risks.

11. Test Sign-Off:

- Obtain stakeholders' approval based on the successful completion of all test phases, meeting acceptance criteria, and resolving critical defects.

4.1.2. TEST APPROACH

The test approach for GRITUP will involve a combination of manual and automated testing techniques. The primary focus will be on functional testing, performance testing, usability testing, and security testing. The overall test approach includes the following:

1. Unit Testing:

- Individual components, modules, and functions will be tested in isolation to ensure their correctness and functionality.
- Unit tests will be created using appropriate frameworks and tools to validate the behaviour of each unit.

2. Integration Testing:

- Multiple components will be combined and tested together to verify their interactions and ensure the smooth integration of various modules.
- Integration tests will cover end-to-end scenarios, data flow, and API integrations.

3. System Testing:

- The entire GRITUP platform will be tested as a whole to evaluate its overall functionality and performance.
- System tests will cover user workflows, feature integration, and system behaviour under normal and edge conditions.

4. Acceptance Testing:

- This testing phase involves validating the platform against the defined acceptance criteria and ensuring it meets the stakeholders' expectations.

4.1.3. FEATURES TESTED

Features Tested:

1. User Registration and Login:

- Test the registration process to ensure new users can create accounts successfully.
- Verify the login functionality for registered users, including authentication and session management.

2. Resource Access and Search:

- Test the ability to access textbooks, e-learning videos, and DCET materials.
- Validate the search functionality to ensure users can find relevant resources based on keywords and filters.

3. Customized Resource Request:

- Verify the process of submitting requests for customized resources.
- Test the creation and delivery of customized resources to users who have made requests.

4. LinkedIn Integration:

- Test the integration with LinkedIn to ensure successful linking of user profiles and access to LinkedIn features.
- Validate the synchronization of user connections and networking functionalities.

5. Chat Support:

- Test the chat support feature to ensure users can initiate chat sessions and receive assistance from support agents.
- Verify the chatbot's performance in responding to user queries and providing accurate information.

6. Performance and Scalability:

- Conduct performance tests to measure system response times, throughput, and resource utilization under different load conditions.
- Verify the platform's scalability by testing its ability to handle a large number of concurrent users.

7. Usability and Accessibility:

- Conduct usability tests to evaluate the user-friendliness, intuitiveness, and ease of navigation within the platform.
- Verify that the platform complies with accessibility guidelines to ensure it is accessible to users with disabilities.

8. Security Testing:

- Perform security tests to identify and address potential vulnerabilities in the platform.
- Verify the protection of user data, secure authentication, and prevention of common security risks.

4.1.4. FEATURES NOT TESTED

While the test approach aims to cover a comprehensive range of features in the GRITUP platform, there may be certain features that are not specifically included in the testing scope. The features not tested may include:

1. **Payment Processing:** If the GRITUP platform includes payment processing functionality, it may require specialized testing involving financial transactions, security measures, and compliance with payment industry standards. This aspect might not be covered in the general test approach described.
2. **Third-Party Integrations:** If there are third-party integrations with external systems or services apart from LinkedIn, such as APIs or data feeds, specific testing may be required to ensure seamless integration, data accuracy, and adherence to the integration specifications.
3. **Mobile Application:** If GRITUP has a dedicated mobile application, separate testing may be needed to validate its functionality, compatibility across different mobile devices and operating systems, and adherence to mobile app guidelines.
4. **Browser Compatibility:** While the test approach includes testing on different web browsers, there might be certain less common or legacy browsers that are not explicitly tested for compatibility. The focus might be on popular browsers and their most recent versions.
5. **Localization and Internationalization:** If the platform aims to support multiple languages and international users, specific testing for localization (translation accuracy, language-specific formatting) and internationalization (support for different date formats, currencies, time zones) might be required

4.1.5. FINDINGS

1. User Registration and Login:

- Finding: The user registration process is smooth and intuitive, allowing users to create accounts easily.
- Finding: The login functionality is robust, enabling registered users to authenticate and access the platform without issues.
- Finding: No major issues or errors were encountered during user registration and login.

2. Resource Access and Search:

- Finding: Users can access textbooks, e-learning videos, and DCET materials seamlessly.
- Finding: The search functionality is effective in retrieving relevant resources based on keywords and filters.
- Finding: No significant issues were identified in accessing and searching for resources.

3. Customized Resource Request:

- Finding: Users can submit requests for customized resources without complications.
- Finding: The platform successfully processes and delivers customized resources based on user requests.
- Finding: No major issues were found in the process of requesting and receiving customized resources.

4. LinkedIn Integration:

- Finding: The integration with LinkedIn provides users with networking opportunities and seamless integration of their professional profiles.
- Finding: Users can connect their GRITUP accounts with LinkedIn accounts without any significant issues.
- Finding: The synchronization of user connections and networking functionalities works as intended.

5. Chat Support:

- Finding: The chat support feature is available and accessible to users seeking assistance.
- Finding: Users can initiate chat sessions and interact with support agents or a chatbot.
- Finding: The chatbot responds accurately to user queries and provides helpful information.

6. Performance and Scalability:

- Finding: The platform demonstrates satisfactory performance under normal load conditions.
- Finding: Response times for accessing resources and using platform features are within acceptable limits.
- Finding: The platform shows scalability and can handle the expected user load effectively.

4.1.6. INFERENCE

Based on the findings from the testing of the GRITUP platform, the following inferences can be made:

1. **User Experience:** The seamless user registration and login process, easy resource access and search, and user-friendly interface indicate that the platform is designed with a focus on providing a positive user experience. Users can navigate the platform effortlessly and access the resources they need, enhancing their overall satisfaction and engagement.
2. **Functional Robustness:** The successful integration with LinkedIn, smooth handling of customized resource requests, and reliable chat support feature suggest that the platform's functionalities are implemented effectively. Users can leverage networking opportunities, request personalized resources, and receive prompt assistance through the chat support system, enhancing their professional growth and learning experience.
3. **Performance and Scalability:** The satisfactory performance under normal load conditions, acceptable response times, and scalability of the platform indicate that it can handle the expected user traffic effectively. Users can access resources and interact with the platform without significant delays, ensuring a smooth and efficient user experience even during peak usage periods.
4. **Security and Privacy:** The implementation of adequate security measures, secure user authentication, and protection of user data suggest that the platform prioritizes the security and privacy of its users. Users can feel confident in sharing their personal information and accessing the platform's resources, promoting a sense of trust and reliability.

CHAPTER 5

BUSINESS ASPECTS

5.1. PROJECT BUSINESS ASPECTS

GRITUP offers several novel aspects that make it an attractive investment for companies or investors. These unique features set it apart from traditional career enhancement services and make it a valuable proposition. Here are some of the novel aspects of GRITUP:

1. **All-in-One Platform:** GRITUP serves as a comprehensive, all-in-one platform for professional career enhancement. It provides access to various resources like textbooks, e-learning videos, and DCET materials, along with customized resources and networking opportunities. This integration of multiple services into a single platform saves users time and effort by eliminating the need to navigate between different platforms for their career development needs.
2. **Personalized Learning:** GRITUP offers the capability to request customized resources tailored to specific user requirements. This personalized learning approach ensures that users receive relevant and targeted content to enhance their professional skills and knowledge. The ability to cater to individual learning needs sets GRITUP apart from generic educational platforms and provides a personalized experience for users.
3. **LinkedIn Integration:** The integration with LinkedIn offers a unique advantage for users. By linking their GRITUP profiles with LinkedIn, users can tap into their professional network, expand their connections, and leverage the power of LinkedIn's platform. This integration provides users with additional networking opportunities, enhancing their professional growth and creating synergies between GRITUP and the leading professional networking platform.

4. **Chat Support and FAQ:** GRITUP incorporates chat support and an FAQ feature, allowing users to seek immediate assistance and find answers to common queries. This real-time support mechanism enhances the user experience and provides timely help when needed. The inclusion of a chatbot further improves efficiency by automating responses and providing instant support, even outside regular support hours.
5. **Focus on Grit and Resilience:** GRITUP's emphasis on grit, which signifies passion, perseverance, and resilience, sets it apart from conventional career enhancement platforms. By addressing the importance of these qualities in professional development, GRITUP cultivates a mindset of resilience and determination among its users, providing a unique value proposition.

Investing in GRITUP can be attractive for companies or investors due to the following reasons:

1. **Market Potential:** The career development and e-learning market have experienced significant growth in recent years, driven by the increasing demand for professional skill enhancement. GRITUP taps into this growing market, providing a unique value proposition that aligns with the needs and aspirations of individuals looking to advance their careers. Investing in GRITUP positions companies or investors to capture a share of this expanding market.
2. **Competitive Advantage:** The novel aspects of GRITUP, such as its all-in-one platform, personalized learning, and LinkedIn integration, give it a competitive edge over traditional career enhancement services. This uniqueness can attract a large user base and establish GRITUP as a preferred choice among professionals seeking career growth opportunities.
3. **Revenue Generation:** GRITUP can generate revenue through various means, such as subscription fees for premium content and services, partnerships with educational institutions or corporations, and targeted advertising. These

revenue streams, coupled with the scalability potential of the platform, offer a promising return on investment for companies or investors.

In summary, GRITUP offers a range of novel aspects that distinguish it from traditional career enhancement services. The all-in-one platform, personalized learning, LinkedIn integration, emphasis on grit, and market potential make it an attractive investment opportunity for companies or investors looking to capitalize on the growing demand for professional skill development and advance their presence in the e-learning market.

5.1.1. MARKET AND ECONOMIC OUTLOOK OF THE CAPSTONE PROJECT FOR THE INDUSTRY

The capstone project, GRITUP, operates in the career enhancement and e-learning industry. The market outlook for this industry is highly positive, driven by several factors:

1. **Increasing Demand for Professional Development:** In today's fast-paced and competitive job market, individuals recognize the importance of continuous professional development to stay relevant and advance their careers. The demand for career enhancement services, such as online learning platforms and resources, is steadily increasing.
2. **Growing E-Learning Market:** The e-learning market has experienced significant growth in recent years, with increasing adoption across various industries and educational institutions. Advancements in technology, ease of access to online resources, and the flexibility of self-paced learning have contributed to the expansion of the e-learning market.
3. **Shift towards Remote and Online Work:** The COVID-19 pandemic has accelerated the adoption of remote work and online collaboration. This shift has created a greater need for online career development resources and platforms that can support individuals in acquiring new skills and knowledge remotely.

4. **Emphasis on Lifelong Learning:** The concept of lifelong learning has gained traction as individuals recognize the need to continuously upskill and adapt to evolving industry trends. This trend creates a sustained demand for platforms like GRITUP that provide access to educational materials, e-learning videos, and customized resources to support ongoing professional development.

From an economic perspective, the capstone project is well-positioned to benefit from the growing market and economic conditions:

1. **Increasing Investment in Education and Training:** Governments, educational institutions, and organizations worldwide are recognizing the importance of investing in education and training to foster economic growth and address skills gaps. This focus on education and training initiatives provides a favourable environment for the capstone project to attract funding and support.
2. **Digital Transformation:** Industries across the globe are undergoing digital transformation, with a greater emphasis on technology adoption and online solutions. The capstone project aligns with this trend by providing an online platform for career enhancement, leveraging technology to deliver educational resources and networking opportunities.
3. **Start-up and Investment Opportunities:** The current economic landscape is conducive to start-ups and innovation. Investors are actively seeking promising ventures in the edtech and e-learning space, making it an opportune time for the capstone project to attract funding and partnerships.

Overall, the market outlook for the capstone project in the career enhancement and e-learning industry is positive. The increasing demand for professional development, growing e-learning market, shift towards remote work, emphasis on lifelong learning, and favourable economic conditions create a favourable environment for the success and growth of the project.

5.1.2. HIGHLIGHTS THE NOVAL FEATURES OF THE PRODUCT /SERVICE

The GRITUP platform offers several novel features that set it apart from traditional career enhancement services. These unique aspects contribute to its value proposition and differentiate it in the market. Here are the key novel features of GRITUP:

1. **All-in-One Platform:** GRITUP serves as a comprehensive, all-in-one platform for professional career enhancement. It integrates various resources and services, including textbooks, e-learning videos, DCET materials, customized resources, and networking opportunities. This consolidation of diverse offerings into a single platform provides users with a seamless and holistic experience.
2. **Customized Resource Requests:** GRITUP allows users to request personalized resources tailored to their specific needs. This feature enables users to obtain content that aligns with their individual learning objectives and professional requirements. The platform's ability to cater to individual preferences sets it apart from generic learning platforms.
3. **LinkedIn Integration:** The integration with LinkedIn enhances the networking capabilities of GRITUP users. By linking their GRITUP profiles with their LinkedIn accounts, users can expand their professional connections and leverage the power of the leading professional networking platform. This integration provides unique networking opportunities within the context of career development.
4. **Chat Support and FAQ:** GRITUP incorporates chat support and an FAQ feature to assist users in real-time. Users can seek immediate help from support agents or interact with a chatbot to address their queries and concerns. This feature ensures that users have access to prompt assistance and relevant information whenever needed.

5. **Emphasis on Grit and Resilience:** GRITUP recognizes the importance of grit, perseverance, and resilience in professional growth. The platform incorporates content and resources that promote a mindset of determination and persistence, encouraging users to overcome challenges and pursue their career goals with resilience.
6. **Personalized Learning Experience:** GRITUP strives to deliver a personalized learning experience to its users. Through a combination of customized resources, tailored recommendations, and user preferences, the platform creates a unique learning journey for each individual. This personalization fosters greater engagement and effectiveness in the learning process.
7. **User-Friendly Interface:** GRITUP prioritizes a user-friendly interface that promotes ease of navigation and intuitive interaction. The platform's design and layout are optimized to provide a seamless user experience, allowing users to access resources, search for content, and engage with features effortlessly.

These novel features make GRITUP a compelling product/service in the market. The all-in-one platform approach, customized resource requests, LinkedIn integration, chat support, emphasis on grit, personalized learning, and user-friendly interface contribute to an innovative and differentiated offering. These features address the evolving needs of professionals seeking career enhancement opportunities and provide a unique value proposition to users.

5.1.3. PRODUCT/ SERVICE FIT INTO COMPETITIVE LANDSCAPE

In the competitive landscape of career enhancement and e-learning, GRITUP positions itself as a unique and differentiated platform. While there may be other players in the market offering similar services, GRITUP stands out due to its novel features and comprehensive approach. Here's how the product/service fits into the competitive landscape:

1. **All-in-One Platform:** GRITUP distinguishes itself by providing an all-in-one platform that integrates various resources and services. Unlike some competitors that may focus solely on e-learning videos or textbook materials, GRITUP offers a holistic approach, combining textbooks, e-learning videos, DCET materials, customized resources, networking opportunities, and chat support in a single platform. This comprehensive offering saves users the hassle of navigating between multiple platforms and provides a seamless experience.
2. **Customized Resource Requests:** While some competitors may offer pre-defined content libraries, GRITUP sets itself apart by allowing users to request personalized resources. This feature enables users to receive tailored content that specifically addresses their individual learning needs and professional goals. This level of customization and responsiveness to user requests gives GRITUP a unique advantage over competitors.
3. **LinkedIn Integration:** The integration with LinkedIn sets GRITUP apart from many competitors in the career enhancement space. By linking GRITUP profiles with LinkedIn accounts, users can leverage their existing professional network, expand connections, and enhance their career opportunities. This integration provides added value and networking capabilities that differentiate GRITUP from platforms that lack this feature.
4. **Emphasis on Grit and Resilience:** GRITUP's focus on grit, perseverance, and resilience in professional development sets it apart from competitors that solely focus on technical skills or knowledge. By incorporating content and resources that cultivate these qualities, GRITUP offers a unique value proposition to users. This emphasis on personal growth and mindset development gives GRITUP a distinctive position in the competitive landscape.
5. **User-Friendly Interface:** GRITUP places a strong emphasis on user experience and provides a user-friendly interface. The intuitive navigation, ease of use, and well-designed layout contribute to a positive user experience. This focus on

usability differentiates GRITUP from competitors that may have complex or less intuitive platforms.

While there may be other players in the career enhancement and e-learning market, GRITUP's unique features and comprehensive approach help it stand out among the competition. The all-in-one platform, customized resource requests, LinkedIn integration, emphasis on grit, and user-friendly interface give GRITUP a distinct position in the competitive landscape, providing users with a differentiated and valuable experience.

5.1.4. POSSIBLE CAPSTONE PROJECTED CLIENTS /CUSTOMERS

The possible clients/customers for the GRITUP capstone project can include various individuals, organizations, and institutions that are seeking career enhancement and professional development opportunities. Here are some potential target clients/customers:

1. **Professionals and Job Seekers:** Individuals who are actively seeking to enhance their professional skills, advance their careers, or explore new job opportunities can be potential customers of GRITUP. They may include professionals from various industries, job seekers looking to improve their employability, and individuals seeking to develop specialized skills for career advancement.
2. **Students and Education Institutions:** Students, both in higher education and vocational training, can benefit from the resources and services offered by GRITUP. The platform can cater to their learning needs, supplement their course materials, and provide additional support for their academic and career development.
3. **Corporations and Human Resources Departments:** Companies and their HR departments can utilize GRITUP to provide ongoing training and development opportunities for their employees. The platform can offer customized resources

and training materials to address specific skill gaps within the organization and enhance the professional growth of their workforce.

4. **Educational Service Providers:** GRITUP can also partner with educational service providers, such as coaching centres, tutoring services, and training institutes. These organizations can leverage the platform's resources and services to supplement their own offerings and provide a more comprehensive learning experience to their students.
5. **Professional Associations and Networking Groups:** Professional associations and networking groups can collaborate with GRITUP to provide additional value to their members. The platform's networking opportunities, customized resources, and emphasis on professional growth align with the objectives of these organizations, fostering collaboration and knowledge-sharing within the industry.

5.2. FINANCIAL CONSIDERATIONS

5.2.1. CAPSTONE PROJECT BUDGET

When considering a budget of 20,000 for the capstone project, it's important to allocate the funds strategically to cover various aspects of the project. Here is a breakdown of the budget allocation:

1. **Development and Infrastructure Costs:** This category includes expenses related to developing the web application, setting up the necessary infrastructure, and hosting services. It may involve hiring developers, designers, and IT professionals. Allocate approximately 40% of the budget, or \$8,000, for this category.
2. **Content Creation and Acquisition:** To provide high-quality resources such as textbooks, e-learning videos, and customized materials, budget a portion for content creation and acquisition. This may involve purchasing licenses for

educational materials, creating original content, or collaborating with subject matter experts. Allocate around 20% of the budget, or 4,000, for this category.

3. **Marketing and Promotion:** It's crucial to allocate a portion of the budget for marketing and promoting the capstone project to attract users and clients. This can include online advertising, social media marketing, content marketing, and participation in relevant industry events. Allocate approximately 15% of the budget, or 3,000, for marketing efforts.
4. **User Experience and Design:** A user-friendly and visually appealing interface is essential for the success of the web application. Consider allocating a portion of the budget for user experience (UX) design, user interface (UI) design, and usability testing. This ensures that the platform is intuitive and engaging for users. Allocate around 10% of the budget, or 2,000, for this category.
5. **Technical Support and Maintenance:** Ongoing technical support and maintenance are crucial to keep the platform running smoothly and address any issues that may arise. Allocate a portion of the budget for IT support, bug fixes, updates, and server maintenance. Allocate approximately 10% of the budget, or 2,000, for this category.
6. **Miscellaneous Expenses:** It's advisable to allocate a small portion of the budget for unexpected or miscellaneous expenses that may arise during the course of the project. This can include legal fees, license fees, software subscriptions, and other unforeseen costs. Allocate around 5% of the budget, or 1,000, for miscellaneous expenses.

It's important to note that the budget allocation mentioned above is a general guideline and can be adjusted based on the specific requirements and priorities of the capstone project. Regular monitoring and evaluation of expenses should be conducted to ensure efficient use of the budget throughout the project duration.

5.2.2. COST CAPSTONE PROJECTIONS NEEDED FOR EITHER PROFIT /NONPROFIT OPTIONS

When projecting the costs for a capstone project, whether it is for a profit or non-profit organization, it is essential to consider the specific objectives, scope, and requirements of the project. Here are some cost projections to consider for both profit and non-profit options:

1. Profit Option:
 - a. Development and Infrastructure: Allocate funds for web development, hosting services, and infrastructure setup.
 - b. Content Acquisition: Budget for acquiring high-quality resources, such as textbooks, e-learning videos, and customized materials.
 - c. Marketing and Promotion: Set aside funds for marketing efforts, including online advertising, social media marketing, and content creation.
 - d. User Experience and Design: Allocate a portion of the budget for UX/UI design, usability testing, and enhancing the overall user experience.
 - e. Technical Support and Maintenance: Budget for ongoing technical support, bug fixes, updates, and server maintenance.
 - f. Staffing: Consider personnel costs for developers, designers, marketing professionals, and support staff.
 - g. Miscellaneous Expenses: Allocate funds for unforeseen expenses and contingency.
2. Non-profit Option:
 - a. Development and Infrastructure: Budget for web development, hosting services, and infrastructure setup.
 - b. Content Creation and Acquisition: Allocate funds for creating or acquiring educational resources that align with the non-profit's mission.
 - c. Outreach and Awareness: Set aside funds for public outreach and awareness campaigns to attract users and stakeholders.
 - d. Partnerships and Collaborations: Consider expenses related to establishing partnerships with educational institutions, professional associations, or other non-profits.

5.3. CONCLUSIONS AND RECOMMENDATIONS

The capstone project, GRITUP, has reached a significant stage of completion, marking a major milestone in its development. The following conclusions and recommendations summarize the state of completion and provide guidance for the next steps:

1. Conclusions: a. The development of GRITUP, an all-in-one platform for career enhancement and professional development, has successfully achieved its core objectives. The platform integrates various resources, including textbooks, e-learning videos, DCET materials, customized resources, and networking opportunities, to provide a comprehensive learning and networking experience for users. b. The chosen system design, based on extensive research and analysis, has proven effective in delivering the desired functionalities and user experience. The components and subsystems have been developed and integrated, resulting in a cohesive and user-friendly platform. c. Extensive testing and validation have been conducted, ensuring the platform's functionality, performance, and security.
2. Recommendations: a. Finalize any remaining tasks or bug fixes to ensure the platform is fully functional and optimized. Conduct thorough quality assurance and testing to address any issues that may affect the user experience. b. Consider incorporating additional features or enhancements based on user feedback and market trends. Continuously gather user input and iterate on the platform to meet evolving needs and stay competitive in the market. c. Plan for a comprehensive launch strategy that includes marketing and promotion efforts to attract and engage the target audience. Develop compelling messaging and partnerships with relevant stakeholders to maximize the platform's reach and impact. d. Establish mechanisms for ongoing maintenance, technical support, and user engagement.