DEVELOPERS COMMUNICATION AND NETWORKING SYSTEM

 \mathbf{BY}

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i

APPROVAL

This Project titled "**DEVELOPRES COMMUNICATION AND NETWORKING**", submitted by **MD. Iqbal Hossen, Rijwan Ahmed Sakib and MD. Robiul Islam** ID:181-15-10704,181-15-10899,171-15-8980 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on 4 january,2022

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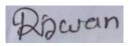
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ABSTRACT

Bangladesh has been significant in interest in IT. Recent few years. The domestic IT industry's value increases day by day. In this era application development and maintenance (ADM) is the most growing sector and there are many ADM base startup companies formed and also Freelancing is one of the most value-added platforms in our economy. That's why we need many expert developers but there are not enough expert developers in this sector.

At our beginning and mid-level phase of development, we face so many obstacles, and many times we could not find the proper solutions, here we build an application. This application will do together beginner and mid-level developers with expert developers and they can share their obstacles and find the solution and guidance. They will also be able to discuss their issues through different communities.

Framework, Server, and Database are the most important tools for developing this project on the Windows platform.

The system is tested at various stages once all functionalities are implemented, and it functions satisfactorily as a spreadsheet-based prototype.

TABLE OF CONTENTS

CONTENTS	PAGE
Board of examiners	ii
Declaration	iii
Acknowledgements	iv
Abstract	v
CHAPTER	
CHAPTER 1: INTRODUCTION	1-3
1.1 Introduction	1
1.2 Motivation	1
1.3 Methodology	2
1.4 Objectives	2
1.6 Expected Outcome	3
1.7 Report Layout	3
CHAPTER 2: BACKGROUND	4-6
2.1 Introduction	4
Daffodil International University	viii

2.2 Related Works	4
2.3 Scope of Problems	4
2.4 Comparative Studies	5
2.5 Challenges	5
CHAPTER 3: REQUIREMENT SPECIFICATION	7- 13
3.1 Business Process Modeling	7
3.2 System Development Life Cycle	7
3.3 Requirement Collection and Analysis	8
3.4 Use case Diagram	9
3.5 ER Diagram	12
3.5 Design Requirement	12
CHAPTER 4: DESIGN SPECIFICATION	14-27
4.1 Front-End Design	13
4.2 Back-End Design	25
4.3 Interaction Design and UX	26
4.4 Implementation Requirements	27
CHAPTER 5: IMPLEMENTATION AND TESTING	28-32
5.1 Implementation of Backend Database	28
5.2 Implementation of Data Model	28
5.3 Integration & Testing	29
5.4 Testing Implementation	30
5.5 Threats to System Security	31
5.6 Secured Admin Area	31
5.7 Session Cookie Secured	31
5.8 Database Security	32
CHAPTER 6: FUTURE SCOPE AND CONCLUSION 6.1 Conclusion	33

REFERENCES	34
LIST OF FIGURES	
FIGURES	GE NO
Fig. 3.1 Different phases of Application development Life Cycle.	8
Fig 3.2 Use Case Diagram of requirement gathering for agile software development	9
Fig 3.3 Case Diagram	10
Fig 3.4 Data Model for a Client and Developer Module	12
Fig 4.1 Home Page Feature Developer Blog	15
Fig 4.2 Other Blog post by Author	16
Fig 4.3 User Login Page	17
Fig 4.4 Sign up Page	18
Fig 4.5 Developer Portfolio Overview	19
Fig 4.6 About Developer Page	20
Fig 4.7 Developer Services	21
Fig 4.8 Developer Work Area	22
Fig 4.9 Blog Post by Developer	23
Fig 4.10 Contact with Developer	24
Fig 4.11 Chat	25
Figure 5.2.1 User table	28
Figure 5.2.2 Blogs table	29
Figure 5.2.3 Blog Indexing Data	29

33

33

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6.2 Future Scope

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29

LIST OF TABLES

5.4 Testing Implementation Table

30

CHAPTER 1

Introduction

1.1 Introduction:

This project "Developer communication and networking platform" is mainly a web application that helps developers to communicate with other developers for solutions to their problems. It helps beginner developers to solve their problems and solutions from other professional developers.

Even though this is often mentioned as a social network for programmers, However, that doesn't change the fact that it is worth mentioning it as one of the main sites where developers discuss different issues. This is an open community for developers. Here, they can discuss programming and development-related problems they have, look for answers and share their knowledge. So, if you ever tried to look for a solution to any coding problem you had connected with this site.

When we talk about groups and chats where developers get together and share their knowledge, this site has to be mentioned. This is also a messaging platform that is usually used for developer to developer communication. It creates channels to connect with other developers all around the world.

1.2Motivation:

Many beginners and mid-level developers around us face various problems while doing projects or development. They often do not find the perfect solutions easily. In that case, they feel the help of an expert developer. But there is no such platform in the context of Bangladesh. Many developers are frustrated with this type of problem. To solve all these problems, we are thinking of a platform where they can easily solve their problems through consultants with expert developers.

- > Developers easily communicate with each other.
- To make an easier system to complete the documentation.
- > To encourage developers in writing their thoughts.
- > To monitor the developer's progress.
- ➤ The live chat in the system.

1.3 METHODOLOGY

A methodology is a collection of methods, techniques, and instruments that are used to create a product. The concepts, reasoning, and assumptions that drive the research or investigation, as well as the techniques themselves, are all part of the methodology. Software development methodology aids us in contributing our effort to construct and implement a system by collecting ideas and concepts, comparing alternative procedures, and inventing distinct ways. This methodology was followed-

- ➤ Web Language NODE JS
- Databases MongoDB
- > Framework ANGULAR
- ➤ JavaScript Framework ANGULAR
- ➤ Web Servers NGINX
- ➤ Development Tools NetBeans, Macromedia Dreamweaver
- Development Platforms LINAX
- > Design Platforms Adobe Photoshop, Adobe Illustrator

1.4 Objectives

The major goals of our initiative are to create a strong community of people who want to support each other and learn through collaboration. This paper aids us in gaining a fundamental understanding of how we build and develop our help desk by fostering and utilizing a strong community.

Help us figure out how to use the strength of the learner's community to address our day-to-day difficulties.

1.5 Expected Outcome

The basic goal of the Community Based Help Desk is to create a flexible, decentralized system that allows learners to create a community to meet for a specific problem of virtual and real-world communication. The Community Based Help Desk is intended to create a community for the purpose of providing assistance. This project contributes to the development of a dynamic helping society with its own goals and rewards.

1.5 Report Layout

Chapter 1: Introduction

Motivation, objectives and the expected outcome of the project have been discussed in this chapter. The report layout has been mentioned in the last part of this chapter.

Chapter 2: Background

Background circumstances of my project have been discussed here. Related work, comparing with other web sites, the scope of the problem and challenges of the project are explained here.

Chapter 3: Requirement Specification

This chapter discusses about the requirements. Business process modeling, the requirement collection and analysis, the use case model of the project with description, the logical relational database model and the design requirements are the topics of this chapter.

Chapter 4: Design Specification

This chapter consists of all the designs of the project. These are Front-end design, backend design, Interaction design and UX and the implementation requirements.

Chapter 5: Implementation and Testing

Implementation of database, front-end designs and interactions, testing implementation, test results and reports are the contents of this chapter.

Chapter 6: Conclusion and Future Scope

It is the last chapter where conclusion and future scope of the project have been discussed.

CHAPTER 2

BACKGROUND

2.1 Introduction

Bangladesh has shown a strong interest in information technology. The last few years. The worth of the domestic IT business is increasing every day. In our period, application development and maintenance (ADM) is the fastest-growing sector, with many ADM-based startup companies springing up, and freelancing is one of our economy's most valuable platforms. As a result, we require a large number of professional developers, however there are currently insufficient expert developers in this field.

We confront a lot of hurdles in the early and middle stages of development, and we often can't find the right solutions, so we construct an application here. This program will bring together beginning and mid-level developers with expert developers, allowing them to share their challenges and seek help. They will also be able to talk about their problems in other communities. The "Developer communication and networking platform" project is primarily a web application that allows developers to contact other developers for problem-solving assistance. It assists new developers in resolving issues and obtaining solutions from more experienced developers.

2.2 Related Works

A lot of effort has already been done in the subject of web-based applications. Quora, Stack-Overflow, Code Mentor, GitHub Community, and other specialized platforms are examples.

2.3 Scope of Problems

Many novice and mid-level developers encounter a variety of issues while working on projects or developing software. They frequently struggle to discover the ideal solutions. In that situation, they will benefit from the assistance of a professional developer. In ©Daffodil International University

Bangladesh, however, such a platform does not exist. This type of issue irritates a lot of developers. To address all of these issues, we're considering creating a platform where they can simply solve their issues with the help of advisors and skilled engineers.

2.4 Comparative Studies

While working on projects or development, many beginning and mid-level developers experience a variety of issues. They can find answer in Quora, Stack-Overflow, Code Mentor, GitHub Community etc.

Quora: Quora is a question-and-answer website where users may get answers to their questions. Users create, modify, and organize all of the content on the site, which means it is created, edited, and organized by the same people that use it.

Code Mentor: Code mentor is a for-profit service that connects mentors and mentees (learners). You may think of it as an online programming tutoring platform, although it isn't fully accurate. Beginners are undoubtedly a target audience, but the learners can also be professionals who require assistance from experts in a certain sector. It may be a university project, a new skill, or even a new hobby.

GitHub Community: GitHub is the world's largest and most advanced development platform, assisting millions of developers and organizations in creating, deploying, and maintaining software.

2.5 Challenges

The interactive web application:

A web application should be as interactive as feasible. As a result, designing quirky and unique features will be extremely difficult and time-consuming.

Keeping the web application operational Simple:

Web programs that are difficult to use and inconvenient are not user-friendly. As a result, users will be less interested in using these complicated web applications.

Keeping the user's communication open:

A web application's structure and functionality change and improve every day. As a result, we need to stay in touch with users on a regular basis to learn about and understand the features they want and are comfortable using.

Performance: The most challenging component of building such a web application is maintaining a consistent look while ensuring that it performs smoothly and without errors.

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

We aim to design strategies to attain goals using an appropriate business process model that can participate in safe development phases, dictate product development direction, and collaborate in safe development steps. The Business Process Model Plan template walks us through establishing a rigid, well-structured system plan.

3.2 SYSTEM DEVELOPMENT LIFE CYCLE:

The system's life cycle is a series of events that occur throughout time. It's a method for creating and managing a system that's well-organized. The system's life cycle is a series of events that occur throughout time. It's a method for creating and managing a system that's well-organized. It aids in the creation of a system project plan and provides an overview of the requirements for constructing a system.

Following are the different phases of the Application development cycle:

- ➤ Initial Idea
- > System analysis
- > System design
- > Implementation
- > Testing
- ➤ Maintenance

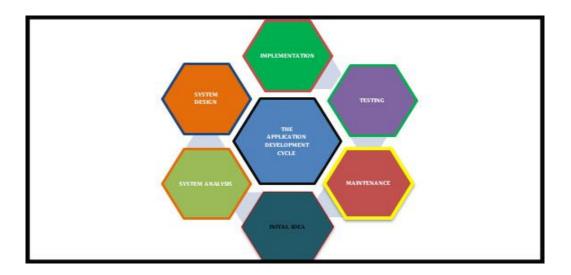


Fig. 3.1 Different phases of Application Development Life Cycle

3.3 Requirement Collection and Analysis

A broad characterization of the planned rationale and condition for programming a work in progress is an essential detail. Here, we examine our structure to determine the number of items we will need. The system's requirement for scrutiny is demonstrated quickly here. This task is free of charge in order to gain access to a large number of customers. Furthermore, customers can use the web program to access their preferred event location for information, booking, and viewing other event locations in the same area at any time. Plan of Business Demonstration, Use Case Demonstration, Data Model Demonstration, and Implementation Prerequisites are the main essentials of our framework.

The following models would be included in the admin panel:

- > Build relation between learn and mentor
- ➤ Ability to maintain all of question and answer.
- View important information regarding various mentor information on same place and categorized.

3.4 Use case Diagram

To make analysis, communication, navigation, and planning easier, a model element is utilized to structure the use case model. Use-case packages can be used to further structure the use-case model if there are several use cases or actors.

In our project there are two actors who execute their performance according to their sections. These are

- ➤ User
- Developer

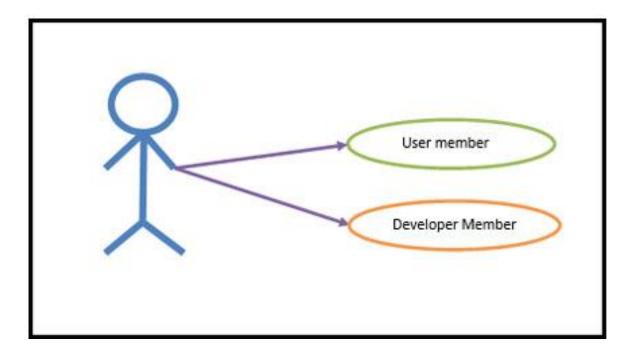


Fig 3.3: Use Case Diagram of requirement gathering for agile software development

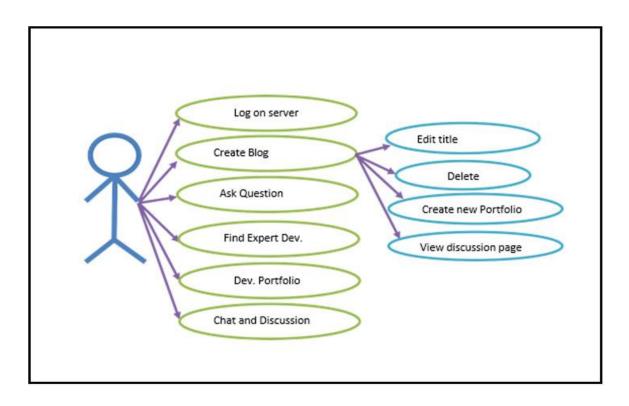


Fig 3.4: Use Case Diagram

Use Case Model Template Login:

Use case: Login Use case

ID: U001 Description:

Login Actor:

Create Prototype Model:

Use case: Create Prototype Model

Precondition: Login

Use case ID: U002

Description: Create Prototype

Model Actor : Client

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View Prototype Analytic Report:

Use case: View Prototype Analytic Report

Precondition: Login

Use case ID: U003

Description: View Prototype Analytic Report Actor: Developer

Primary Path:

➤ Key-in: Prototype Title

➤ Key-in: From date

➤ Key-in: End date

Collaborate with client:

Use case: Collaboration

Precondition: Login

Use case ID: U007

Description: Collaboration

Actor: Client

3.5 ER DIAGRAM

The following figure shows the ER diagram of system module

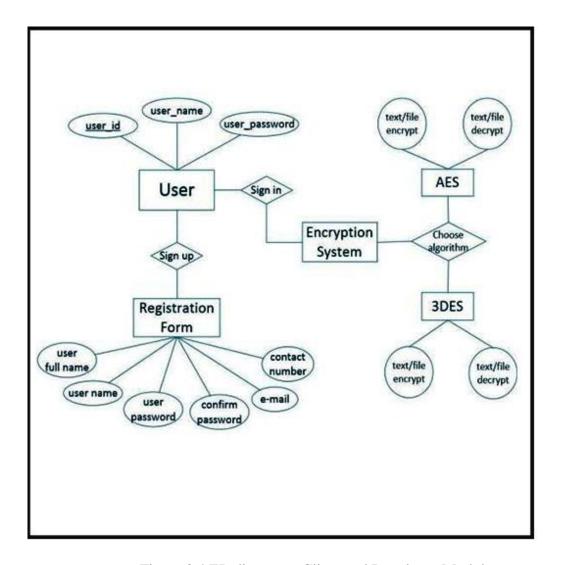


Figure 3.4 ER diagram a Client and Developer Module

3.6 Design Requirement

There are two types of users in this system: customers and administrators.

- > General users have the option of registering or signing up.
- Mentor users are also required to register or join up.
- ➤ Users can display their profile information after logging in.
- > User can easily to understand to write Question.
- ➤ User can easily find their answer from mentor.

- ➤ Mentor can communicate with user easily to give proper explanation.
- ➤ User and Developer(mentor) can update their track on profile.

CHAPTER 4

Design Specification

4.1 Front-end Design

Initially, frond end attempted to create an introduction layer. It demonstrated to the client that working with our framework is the best option. The most important aspect of improving an online framework is the front end. The front end is also known as the customer side zone. The goal of site structure is to ensure that when clients access the site, they can see the info in it. An organization that isn't tough to navigate. Advancement of the web from the front. Wikipedia, a free online encyclopedia Go to the following pages: route, seek. Front-end web design. The act of developing HTML, also known as client-side advancement, is referred to as improvement. For a site or Web application, CSS and JavaScript are used so that a client can see and interact with it. A straightforward manner A back-end designer is a type of computer programmer who creates the back-end of a website. A site's sophisticated back end and center computational logic, programming, or data framework. Engineers create components and highlights that are unique.

Become a front-end web developer: -

- Learn HTML & CSS, JAVASCRIPT and Material UI. And become
- > good at it.
- > Build things.
- Read.
- There's more to front-end development than building a website.
- Version control will save your life.
- > Be the middleman.

Home page

It shows the Home page our system

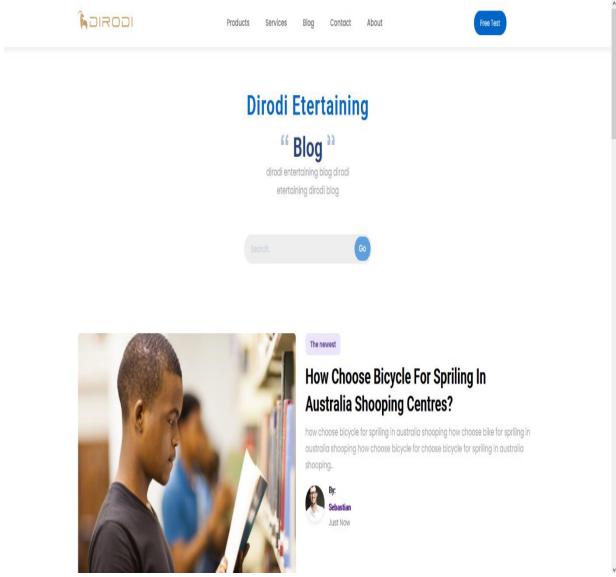


Figure 4.1 Home Page Feature Developer Blog

Author:

Figure 4.2 Show us Another Blog post by Author



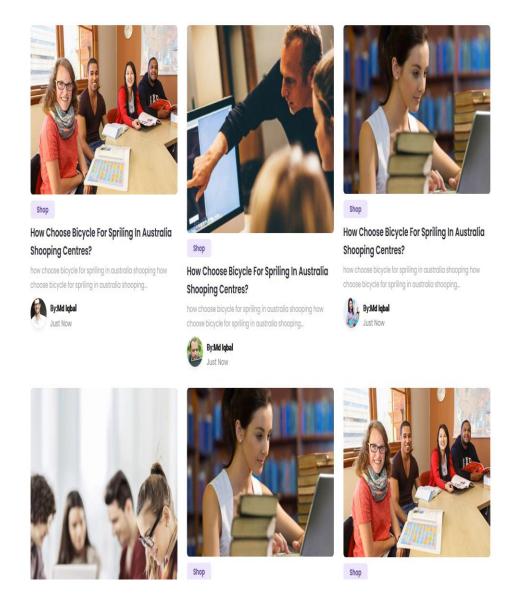


Figure 4.2 Other Blog post by Author

Login:

Figure 4.3 shows Login Page for developer and user.

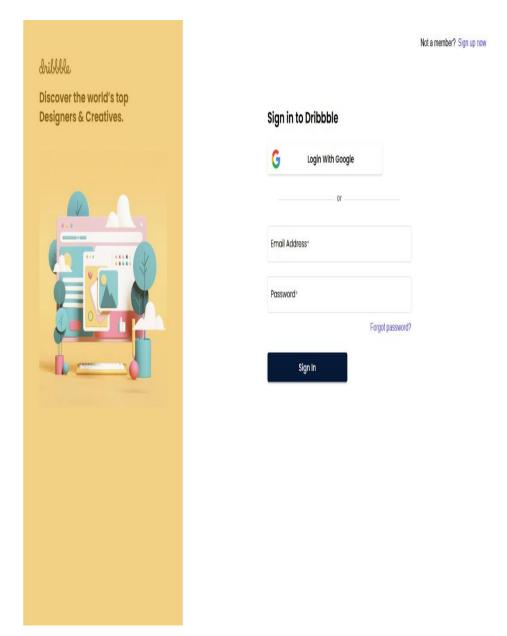


Figure 4.3 User Login Page

Sing Up:

Figure 4.4 show Sing up page for new user

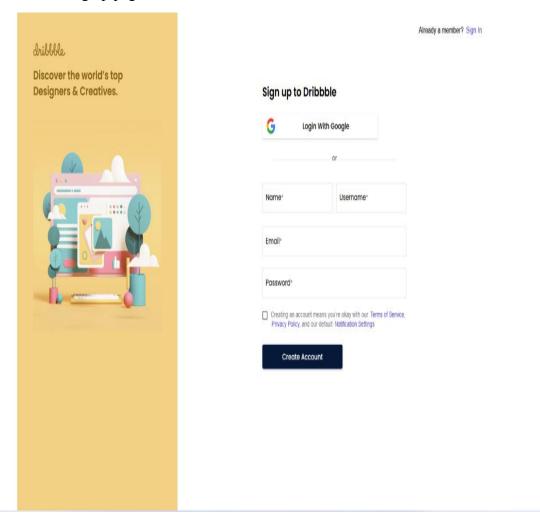


Figure 4.4 Sign up Page

Developer Profile:

Figure 4.4 show developer portfolio who is mentor for this developer community platform.

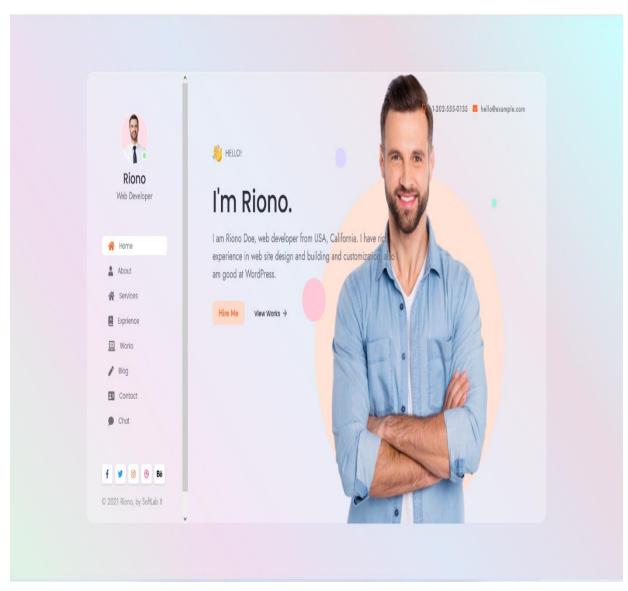


Figure 4.5 Developer Portfolio Overview

Developer Page:

In these sections, Developer who is the mentor for this site, have the full of details personal information. It will help our user to find best mentor to learn.

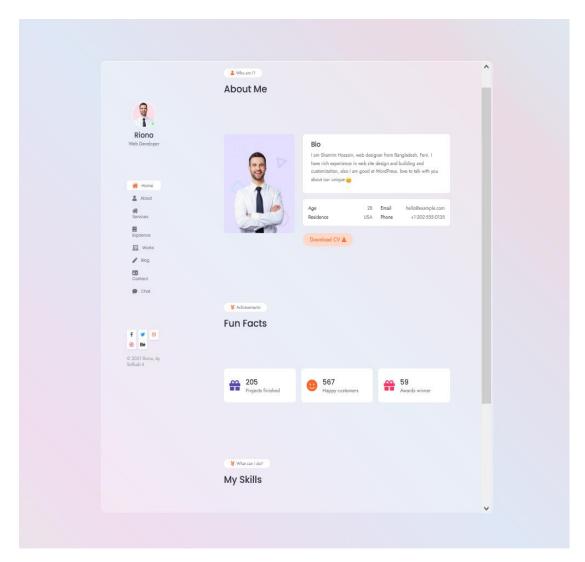


Figure 4.6 About Developer Page

Developer Services:

In these sections, Developer who is the mentor for this site, have the full of details services information.

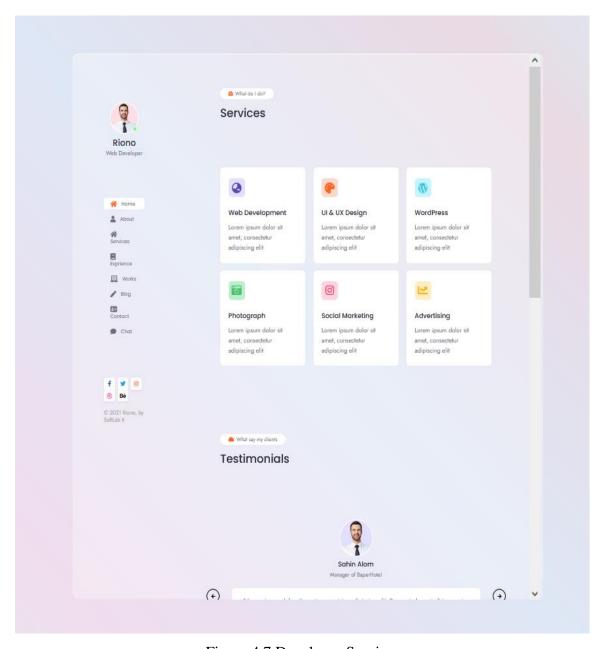


Figure 4.7 Developer Services

Developer Working Area:

In these sections, Developer who is the mentor for this site, have the full of details working area information. It is very useful for user and developer to communicated with each other. They can find themselves with proper match.

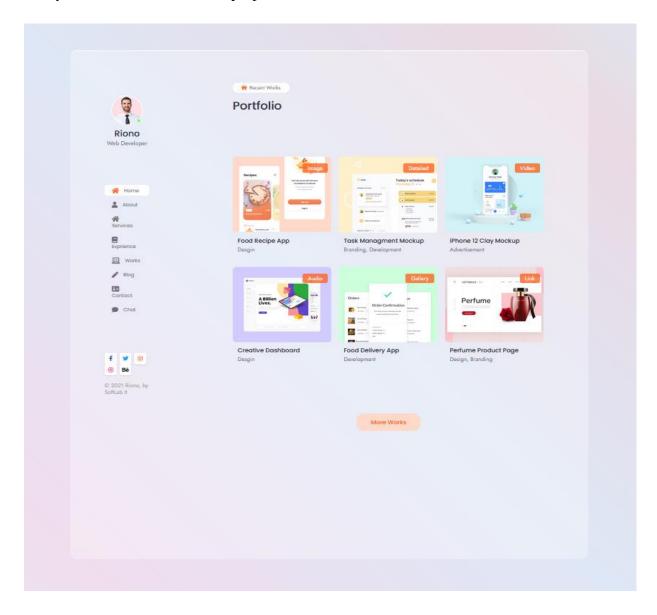


Figure 4.8 Developer Work Area

Blog Post by Developer:

In these sections, Developer who is the mentor for this site, have the full of Blog Post by Developer information. It is very useful for user and developer to communicated with each other.

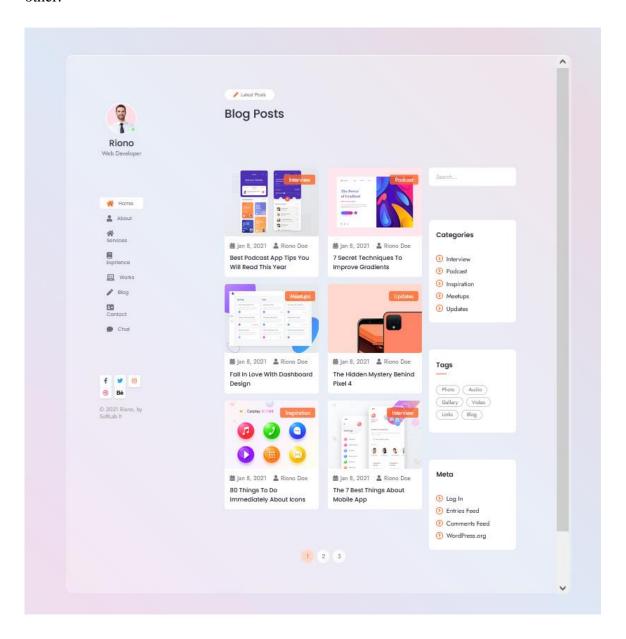


Figure 4.9 Blog Post by Developer

Contact with Developer:

In these sections, Developer who is the mentor for this site, have the full of details contact information. It is very useful for user and developer to communicated with each other.

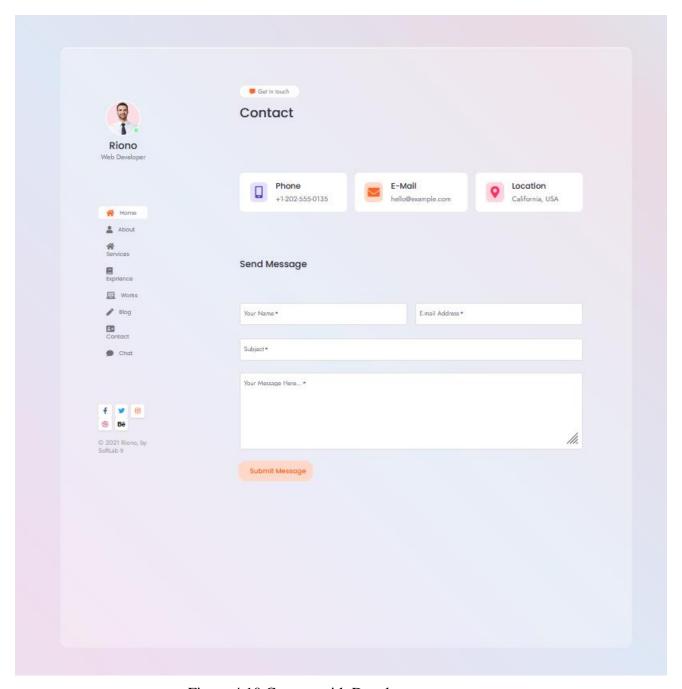


Figure 4.10 Contact with Developer

Chat:

In these sections, User and Developer who is the mentor for this site, have liabilities chat with each other's. It is very useful for user and developer to communicated with each other.

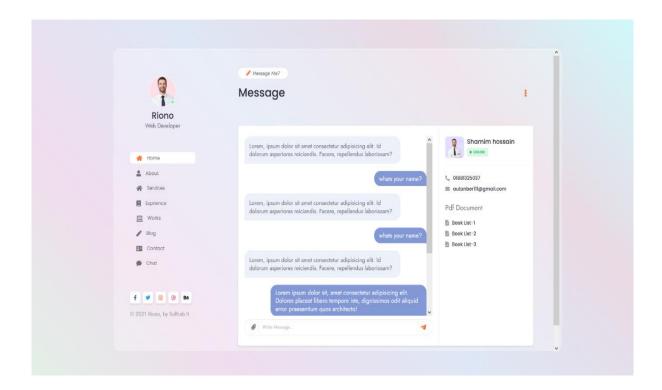


Figure 4.11 Chat

4.2 Back-End Design

Similar to client-side development, the back end is the machine that runs a site that the customer does not see or openly partner with, but it routinely falls short without hesitation. Incorporate smooth functionality and data from the database into the software. The setup is a server-side vernacular blend of database and item writer that continues to run on web servers and cloud servers. The front end is sometimes referred to as the client-side, and it is frequently considered when putting together a website. A back-end engineer is a type of

computer programmer who creates a clear back end and a computational technique of reasoning for a website, programming, or information system. The expert creates fragments and features that a client can access via a front-end application or structure in a circuitous way.

They can be viewed as a contraption or organization in media transmission, while the back is the structure that supports this organization.

Become a web designer for the back end:

- ➤ Become familiar with JavaScript and MongoDB. Furthermore, we will get better at it.
- ➤ We should have a better understanding of databases.

The terms front end and back end are used in programming to describe the tensions between the presentation layers and the data layer, which can be a piece of programming, a physical system, or hardware.

Although some presentation work is done on the server, the client is typically viewed as the front end, while the server is viewed as the back end in the client-server show.

There may be several levels between the gear and the end-user while programming. Each has back and front-end part which can be explored separately. That reflects the essential component being unraveled by providing an easy-to-use interface, while the back typically handles business logic and data storage.

4.3 Interaction Design and UX

The new strategy layout is used in this section to demonstrate the messages connecting performing craftsmen and structural elements to the course of action procedure. The new game plan system interface, online organizations, and course of action database are all consolidated in these areas. Starting up, recouping user focal learning points, recording developer and user learning process, and sorting out a course of action are four gathering diagrams chosen to address this methodology.

4.4 Implementation Requirements

For client login, there is no client name or secret phrase in the framework. This framework is completely free for clients on this website. Clients can also propose to us using their name and email address. To complete the structure and send us the necessary data for a proposal. Participation setup is a method of delivering visual representations of an online organization that will be utilized for early proof of concept testing and later as judgments for producers and originators. Mockups, frameworks, and models are passed on by a correspondence maker. Regardless, a correspondence organizer can plainly use client inquiries, field studies, and organizational setup to create this collaboration framework. A percentage of the time, the correspondence organizer is also the experience creator, and other times, the jobs are separate. Part of the time, the association organizer considers an all-encompassing approach. Other times they simply improvise, and other times they mostly focus on online correspondence.

Usage is an affirmation of a certain assurance or figuring as a program, component, or another PC structure through PC programming and sending in programming construction. For a given specified or standard, there may be several executions. Web programs, for example, include implementations of Internet Consortium-proposed nuances, and programming development tools include the use of programming languages. In structured challenge programming, a surprising case arises when a strong class executes an interface; in this scenario, the strong class of the interface executes procedures that use the techniques demonstrated by the interface.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Implementation of back end database

The data storage used to store all data types is known as a database. We chose the MongoDB database because of its simplicity. We utilize primary keys and foreign keys in the database to connect tables.

Installation specifications:

- ➤ Angler (framework)
- > JSON API (database connection)
- ➤ MongoDB (database)
- JavaScript (Primary language)

5.2 Implementation of Data Model

The following Figure 5.2.1 shows the User table in MongoDB database.

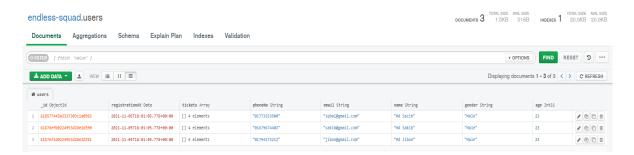


Figure 5.2.1 User table

The following Figure 5.2.2 shows the blogs table in MongoDB database.

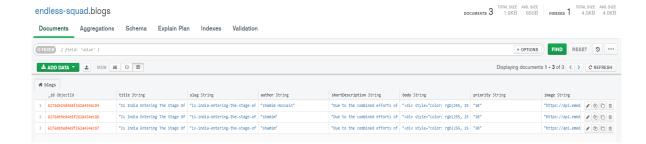


Figure 5.2.2 Blogs table

The following figure 5.2.3 shows the Blog Indexing

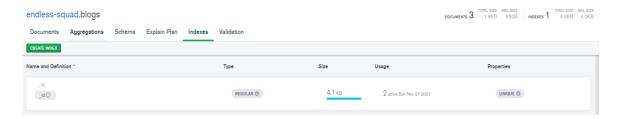


Figure 5.2.3 Blog Indexing Data

5.3 Integration & testing

The following figure 5.3.1 shows the blog title, description and images add environments

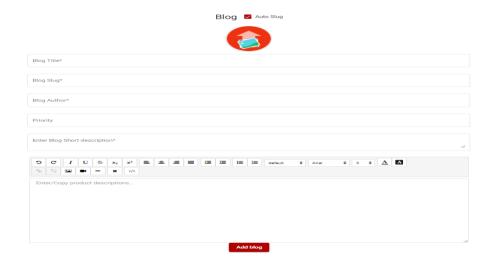


Figure 5.3.4 Added Blog Title, Description and Images

5.4 Testing Implementation

Table 5.4: Enroll

In below table, discuss about testing implement. You have to maintain some steps to gets the expected outcome and they are Test Cases, Test Input, Expected Outcome, Obtained Outcome, Passed/Failed and Testing Pe

Test Cases	Test Input	Expected	Obtained	Passed/failed	Testing
		Outcome	Outcome		period
1.Registration	Registered by valid info	Home page	Home page	Passed	1st
2.Log In	By email & pass	Home Page	Home page	Passed	2nd
3.Create post	Developer panel for writing blog	Post in dashboard	Seen in dashboard	Passed	3rd
4. Dynamic portfolio	Developer creates dynamic portfolio	Dynamic portfolio visible	Seen in developer portfolio	Passed	4th
5. Live chat	User can chat with developer	Chat with Developer	Seen in developer portfolio	passed	5th

5.5 THREATS TO SYSTEM SECURITY

Errors and omissions—people making mistakes—cause the most damage, according to research. In the event of an external attack, one would most likely want to begin from within the company and work their way out.

The following are some of the possible dangers:

- Errors and omissions are the first two things to look for.
- > Users who are dissatisfied and dishonest.
- > Fire
- Natural catastrophes.
- An outside threat.

5.6 SECURED ADMIN AREA

The admin portion of our system is completely secure. Nobody can access the admin section unless they know the correct password. Nobody can change the settings or other aspects of our system unless they enter the admin area.

5.7 SESSION COOKIE SECURED

The session cookie is only kept in temporary memory and is deleted when the browser is closed. Session cookies do not collect data from the computer of the user. They usually save information in the form of a session identifier that does not identify the user directly. Websites and their servers have no memory if cookies aren't used. A cookie, like a key, allows you to go quickly from one location to the next. Without a cookie, each time a person visits a new web page, the server where the page is stored treats them as if they are a brand-new visitor.

Cookies are an integral part of the state management system on the internet. In this example, "state" refers to an app's ability to interact with a user, which includes

remembering all data entered since the app's origin as well as distinguishing between users and their distinct data sets.

A cookie is a text-only string that stores the value of a variable set by a website in the browser's memory. This string is stored to file for future reference if the lifetime of this value is set to be greater than the time you spend at that site.

5.8 DATABASE SECURITY

Unauthorized access to the database's contents, as well as the insertion of inconsistencies by accident, must be avoided.

- Crashes during transaction processing may occur due to an unintentional loss of data consistency.
- Anomalies are caused by multiple users accessing the database at the same time.
- Anomalies result from the spread of data over multiple computers.

To protect the database, take the following steps:

- > Unauthorized data reading,
- > unauthorized data change
- > and unauthorized data deletion.

CHAPTER 6

FUTURE SCOPE AND CONCLUSION

6.1 Conclusion

Our novel module for the requirement collecting system, developed utilizing the Web technology software development approach, is the paper's essential contribution. In the context of client demand, this model includes services and capabilities such as creating prototypes, uploading excel documents and reporting images, relevant links, assessment, and a simple prototype search. Our motivation for creating this website is to make all the basic interaction patterns in excel documents as simple as possible. PHP Platform, Apache Web Server, CodeIgniter Framework, and MySQL database are some of the technologies utilized to create a web-based e-learning system. Our Excel Prototyping web-based solution, in my opinion, has two key advantages.

The proposed module, which has a hierarchical content structure and prototype links between concepts, can give relevant, valuable information for locating and sequencing learning resources in a web-based communication platform.

The other benefit is that it can assist an instructor in building communication by assisting the structure in understanding the how and why of the requirement gathering through the development of an excel prototype. This website will provide teachers with a comprehensive picture of each developer's prototype progress, allowing instructors to provide focused feedback and assistance to the client.

6.2 Future Scope

- In future we will extend whiteboard solution for documentation present easily.
- ➤ Presently we are working on excel prototype in future it will be more features with the other prototype concept.

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