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CHAROTAR UNIVERSITY OF SCIENCE AND TECHNOLOGY

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CERTIFICATE

This is to certify that the report entitled "**Dugmates**" is a bonafied work carried out by **19IT017** under the guidance and supervision of **Dr. Bimal Patel** & **Mr. Dhaval Butani** for the subject **Summer Internship – II (IT 446)** of 7th Semester of Bachelor of Technology in **Department of Information** at Chandubhai S. Patel Institute of Technology (CSPIT), Faculty of Technology & Engineering (FTE) – CHARUSAT, Gujarat.

To the best of my knowledge and belief, this work embodies the work of candidate Omshree Butani, has duly been completed, and fulfills the requirement of the ordinance relating to the B.Tech. Degree of the University and is up to the standard in respect of content, presentation and language for being referred by the examiner(s).

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Dt.: 07th July 2022

TO WHOM IT MAY CONCERN

This is to certify that **Miss Omshree Butani**, a student of B.Tech (IT) students of Chandubhai S. Patel Institute of Technology, CHARUSAT, Changa, has successfully completed 01 month internship As a developer. During the period she is working on **Dugmate (Developer)**.

We wish her every success in life.

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ACKNOWLEDGEMENT

I and my team members, the developers of Xpertnest mobile based application “Dugmates”, with immense pleasure and commitment would like to present our Internship group project. Building this mobile based application has given us a wide opportunity to think, implement and interact with various aspects of computer technologies as well as learning new skills. One of the most fruitful benefits of working in this project is that we got a proper experience of working as a team, working on our assigned tasks, supervising and correlating with others and management of the entire team with their tasks and completion of the whole project. not all professionals do their work by themselves. Although they can be as prolific or as adept in their respective fields, they will still need assistance one way or another.

I am overwhelmed in all humbleness and gratefulness to acknowledge my depth to all those who have helped us to put this idea, well about the level of simplicity and into something concrete. I would like to express our special thanks to our professor and project supervisor Assistant Dr. Bimal Patel, who helped us throughout the completion of our project and guided our way through the entire process of the idea to implementation and presentation.
I would also like to express our sincere thanks to our HOD and Course Directors, because of them we got the opportunity, and a result provided us the seed of execution of such a wonderful idea in to action. any attempt at any level wouldn’t have been satisfactorily completed without the help and constant support of our family, friends, and most importantly Our Team Members and the reliable sources of the Internet.

Thanks,

ABSTRACT

In the present time, practically anything that one can think of, is possible on the internet. Due to this fact, a person always tries to find solution of his/her problem on the internet. So we decided to make a system for the data management of employees for the company so that the company can manage their employees and the employees can also get information about the other employees who are in the same Department where the employee is employed So that he can interact with them and we can also provide contact information so that a new fresher can get the information of their seniors and other employee and their contact details so that they can contact their seniors and discuss problems with them.

DESCRIPTION OF COMPANY

Summary of the Work

For the one month of the Summer Internship, I occupied the position of a full time Intern as software developer in Back-End with work schedule from Monday to Friday 10:00am to 7:30 pm at my company . Additionally, I worked with my team as per guidance of my Team manager.

My task was to learn Angularjs and dotnet framework as a backend developer, I had tried my best way to learn the framework. I showed my Creativity skills in my work .

Firstly, Whole project was planned and scheduled the work. After that analysis of project as team manager was done. Then Designing of project using designing tools were carried out. Lastly, demo version was created and we created an web based project.

Administrative structure

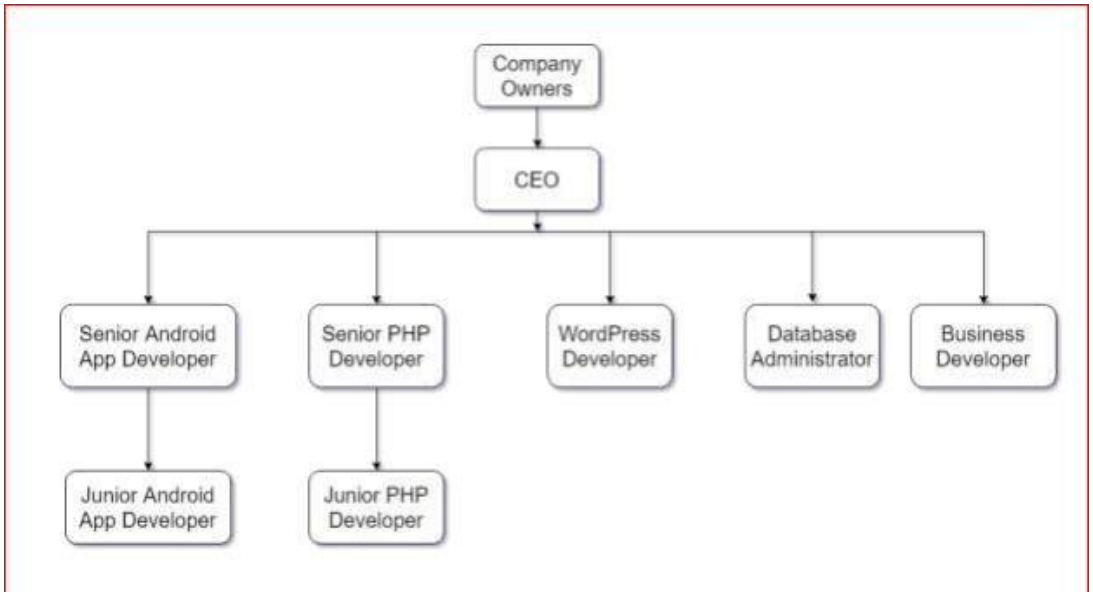

Figure 1. Administrative Structure

number of employees

The number of employees are 80.

Location and spread of company

517 - 520 , Center Square, Rajkot, Gujarat

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CHAPTER 1: INTRODUCTION

1.1PROJECT OVERVIEW:

In the current scenario Everything is online and WFH (Work From Home) has started so fresher's can not interact with other senior employees so for further interaction they have to ask their senior to give them details like contact no, email etc. and for a team it is hard to get all members details so and company can`t share all the details so for that we have made this solution for the problem. We can provide users to send and receives the messages throw our web application without any number and other details.

1.2 OBJECTIVE:

The main objective to make this project of web based application is to the learn and implement the basic to advanced knowledge concepts of HTML, CSS, JavaScript, Socket.io, NodeJs and frameworks like ExpressJs that have been known to us or have been learned by us. furthermore another goal apart from the learning that has been setup by us at the Chat System is to help all the necessary people out there with all the knowledge that we have learned. And most importantly provide a single platform and an easy understandable user interface from where everyone can sendtheir messages and can get a satisfactory messages based on what they have entered and even if a satisfactory solution hasn't been provided then to suggest us to improve the system by providing us improvementsolutions.

1.3Tools And Technologies:

When the idea of making a web based application came to our mind, the first thing that was required to be done was to gather the information of the things that were required to be learnt by us in order to make this project come to life. Hence after some brain storming and group discussions we followed the following figure and according to that learned the things in order.

After the conduction of this brainstorming and learning the process the tools and technologies that we had to use were as follows:

- HTML5
- CSS
- JavaScript
- NodeJs
- ExpressJs
- Socket.io
- Stackoverflow(to learn for our software requirements)
- GitHub (to learn about our topics)

IDE's :

- Visual Studio Code

CHAPTER 2: PROJECT MANAGEMENT

2.1 Project Planning:

This is the very famous spiral model which gives the brief detail about our planning of the project, luckily for us the capital i.e the cumulative cost was not the constraint as our current goal did expect such high rise. Hence this suited our project appropriately, also the prototype designing time consumption was comparatively very low as we were just supposed to update the information and along with it just adding some of greater functional capabilities.
The only major part that consumed a large amount of time comparatively was the learning and the detection of the projected errors because this were relatively new concepts that had been learnt by us on our own and hence understanding and solution of the errors to quite a long time.

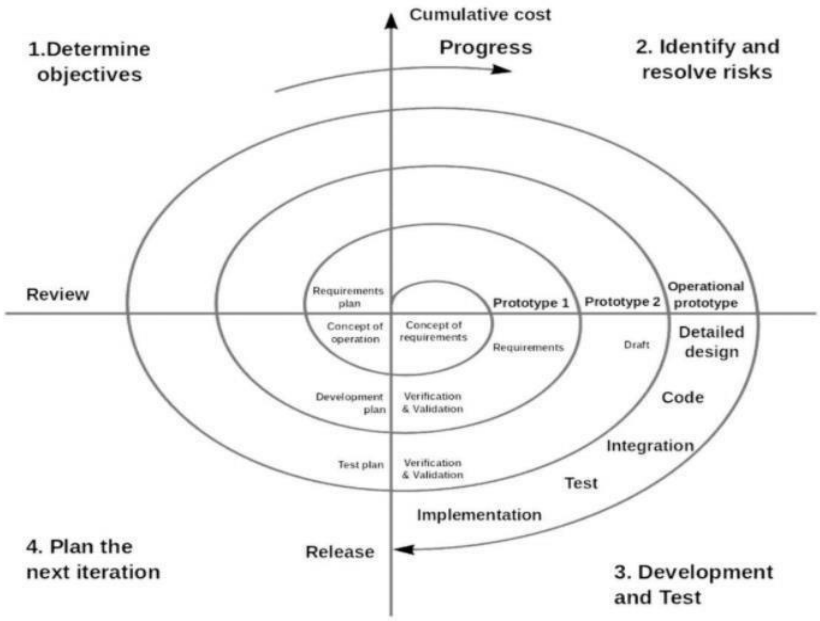

Fig 2.1 Spiral Model

In any project, for a perfect execution what major requirement is the planning of the execution. Our project, just like the other project has to be properly planned beforehand too. To understand and manage our workflow after gathering the required knowledge about what to do, the first thing that we did was to refer the reports of the earlier projects to know about the planning and the way of execution. After going on through a lot of samples, and discussing in various group meets we finally decided to go with the following planning chart that was highly inspired by the some successful projects that were done and noticed by us earlier.

2.2 Project Scheduling:

Scheduling any project perfectly reduces all the unusual efforts that are going to occur later. Hence scheduling the workflow was also a keen part of our planning. Since our project was of preliminary basis, the very first thing that we did for about8 weeks was to study the new concepts. That being related with software skills like NodeJs,ExpressJs. Then we were supposed to Research by ourselves for the different type of requirements in outfits That Being:

- Finding out the terms like cookie,session.
- Identifying their uses and relevance in our projects.
- Implementing the knowledge to get the data from the company.
- Running a quality check for us to check if the data being gathered by us was relevant or not.
- Writing the code for the send and receive the Employee messages.

Moreover, the management of time along-with the lectures, extra sessions, exams, and extra learning was the ultimate barrier that was faced by us. Hence we cleverly divided the workflow of different type, among us. For eg. The data collection and web designing are totally different aspects so we divided them into two totally different portions. So I have mainly worked on web site designing, data collection. Latter external supervisor co related and helped with all the works and also on the supervision, quality control, testing, etc. works.

Chapter 3: SYSTEM REQUIREMENT STUDY

3.1Hardware and software requirements:

Hardware requirement

It can run on any system even if the hardware is not good. It only require web browser to run on any system.

Software requirement:

HTML:

Hypertext Markup Language is the standard markup language for documents designed tobe displayed in a web browser. It can be assisted by technologies such as Cascading Style Sheets and scripting languages such as JavaScript.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items.

HTML can embed programs written in a scripting language such as JavaScript, which affects the behavior and content of web pages. Inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.

Figure3.1.1 HTML

CSS:

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript.

CSS is designed to enable the separation of presentation and content, including layout, colors, and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file which reduces complexity and repetition in the structural content as well as enabling the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braillebased tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.

Figure3.1.2CSS

NodeJs:

Node.js is an open-source, cross-platform, back-end JavaScript runtime environment that runs on the V8 engine and executes JavaScript code outside a web browser, which was designed to build scalable network applications. Node.js lets developers use JavaScript to write command line tools and for server-side scripting—running scripts server-side to produce dynamic web page content before the page is sent to the user's web browser. Consequently, Node.js represents a "JavaScript everywhere" paradigm, unifying web-application development around a single programming language, rather than different languages for server-side and client-side scripts.

Node.js has an event-driven architecture capable of asynchronous I/O. These design choices aim to optimize throughput and scalability in web applications with many input/output operations, as well as for real-time Web applications (e.g., real-time communication programs and browser games).

The Node.js distributed development project was previously governed by the Node.js Foundation, and has now merged with the JS Foundation to form the OpenJS Foundation, which is facilitated by the Linux Foundation's Collaborative Projects program.

Figure3.1.3NodeJs

ExpressJs:

Express.js, or simply Express, is a back end web application framework for Node.js, released as free and open-source software under the MIT License. It is designed for building web applications and APIs. It has been called the de facto standard server framework for Node.js.

The original author, TJ Holowaychuk, described it as a Sinatra-inspired server, meaning that it is relatively minimal with many features available as plugins. Express is the back-end component of popular development stacks like the MEAN, MERN or MEVN stack, together with the MongoDB database software and a JavaScript front-end framework or library.

Socket.IO is an event-driven library for real-time web applications. It enables real-time, bi-directional communication between web clients and servers. It has two parts: a client-side library that runs in the browser, and a server-side library for Node.js. Both components have a nearly identical API.

Socket.IO primarily uses the WebSocket protocol with polling as a fallback option,while providing the same interface. Although it can be used as simply a wrapper for WebSockets, it provides many more features, including broadcasting to multiple sockets, storing data associated with each client, and asynchronous I/O.

Figure 3.1.3 ExpressJs

Figure 3.1.4 Socket.io

Visual Studio:

Microsoft Visual Studio is an integrated development environment (IDE) from Microsoft. It is used to develop computer programs, as well as websites, web apps, web services and mobile apps. Visual Studio uses Microsoft software development platforms such as Windows API, Windows Forms, Windows Presentation Foundation, Windows Store and Microsoft Silverlight. It can produce both native code and managed code.

Visual Studio supports 36 different programming languages and allows the code editor and debugger to support (to varying degrees) nearly any programming language, provided a language-specific service exists. Built-in languages include C,

C++, C++/CLI, Visual Basic .NET, C#, F#, JavaScript, TypeScript, XML, XSLT, HTML, and CSS. Support for other languages such as Python,[11] Ruby, Node.js, and M among others is available via plug-ins. Java (and J#) were supported in the past.

Figure3.1.5VisualStudio

CHAPTER 4: SYSTEM DESIGNING:

4.1 Login Box And Display of Message:

For us, the Login Box asking the name of the user when the user give his/her name then only it will give permission to go to the send the message.
After the login-box the site provide userface for doing chat. The message is send by the user is received by all the users who are connected to the chat web application.
The messages are stored into the Database with their user name so that we can see all the history of the chats.

CHAPTER 5:IMPLEMENTATION AND TESTING

5.1Implementation Environment:

The backbone and the main aspect from the software side of the project was to run the HTML code, perform the JavaScript and making the site more user friendly by adding CSS. So the implementation was carried out in such a way that co-relation of different files would be done easily. Hence, the use of an IDE was a must. Initially we thought of using IntelliJ IDEA but the idea was dropped down later on began working with the visual studio code 2020. Sometimes to organize we even had to use some text editors like sublime text, atom etc. Implementation of the code was done all together after we researched and sorted the image data that we obtained. Basic approach that we used was the partial compilation method and went on integrating the small amount of the code to larger ones, module by module.

5.2 Test Cases:

Throughout the completion of the project, we carried out various testcases of all above mentioned tests. And we even managed to gather successful screenshots of the usability testing that happens at the end of the completion of designing and landed out with successful satisfactory quality results as displayed below.

5.3 Implementation Screenshots:

1)First of all we have to authenticate out self by username.

Figure 5.3.1Login Box

CHAPTER 6: CONCLUSION

On the ending of this these is we would just like to brief how this project helped us to excel our own best level and made us learn a lot of new things, technologies, team management. And also implement all of the skills that we previously acquired or learned later on as a part of the completion of the project. Moreover, this project helped us to learn about the real scenarios of working in a team for real tasks and to cope up with the deadlines, quality management and each and every aspect of the project. This project gave us a motivation to think differently and express our own ideas to implement it. Also it taught us how to deal with the errors, quality related, time related and other management related problems.

Most importantly with the medium of this project we learned Many new skills, ranging from soft skills to technical skills. Qualities related to management, problem saving time saving etc. were also learnt by us. We tried to make an honest solution for people out there facing the problems and learned how all the skilled combined: with the help of a perfect team and a proper management along-with proper skills is the key to provide the solution of any possible problems out there. And we believe that we did a great job implementing all our knowledge, and are grateful to present this execution of one such idea.

Thanking to all those who helped us in a big or a small way for this project. Every contribution that has been given is very valuable to us and is the true reason for this project to stand out as a pioneer based preliminary project and the success of this project. With that being notified we heartily present our project and welcome all the suggestions or improvements with open hands.

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