MINI PROJECT

(2022-23)

“Micro-Blogging Website”

Project Report

Institute of Engineering & Technology

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Declaration

We hereby declare that the work which is being presented in the Bachelor of Technology, project **"Micro-Blogging Website"** in partial fulfillment of the requirements for the award of the ***Bachelor of Technology*** in Computer Science and Engineering and submitted to the Department of Computer Engineering and Applications of GLA University, Mathura, is an authentic record of my/our own work carried under the supervision of **Ms. Ruchi Talwar, Technical Trainer, Dept. of CEA, GLA University.**

The contents of this project report, in full or in parts, have not been submitted to any other Institute or University for the award of any degree.

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Certificate

This is to certify that the project entitled "Micro-Blogging Website", carried out in MiniProject – I Lab, is a bonafide work by Anuj Ruhela , Naman Saini , Nandini Shrivastav , Snigdha Singh and Yashank Tiwari and is submitted in partial fulfillment of the requirements for the award of the degree -Bachelor of Technology (Computer Science & Engineering).

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We feel thankful to the college staff for giving me such a big opportunity. I believe We will enroll in more such events in the coming future.

Thanking You

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ABSTRACT

The study described in this research report focused on variables which were posited to capture users' experiences of the online doubt solving service, discussion forums, and connection amongst the users according to their interests and personal opinions.

It is a query discussion & blogging website where people visit to explore information. Every piece of content on the site is generated by users, meaning it is created, edited, and organized by the same people that use the website.

Some of the main highlights of our website includes:

i) It focuses on questions and answers.

ii) It enable users to share their knowledge and opinions to highlight the most accurate information possible.

iii) It is a one stop platform to read and share what is happening around them.

iv) In a world full of search engine options, finding the one that best fits your personal preference is important. Our website is a great tool for anyone looking to find and share of information, especially if you enjoy a more social and conversational experience when researching.

CONTENTS

Chapter One

Introduction

1.1 Overview

A blog is a type of website that is updated regularly with new content. Most blogs contain short, informal articles called blog posts. These posts usually contain some combination of text, photos, videos, and other media. At its core, a blog is just a space on the Web that you can create to record and express your opinions, experiences, and interests.

If you spend much time browsing the Web, you've probably read a blog post before, even if you didn't realize it at the time. Some of the most-read blogs are a bit like online magazines because they're written by a team of people who are paid to update the blog with new posts several times a day.

However, a majority of blogs are written by one person. As a result, the average blog is fairly personal, reflecting the interests and personality of the person who writes it. This is the type of blog we'll focus on in this tutorial.

1.2 Background Study

Interest in blogs and blogging has increased dramatically in recent years. Weblogs or blogs can be described as a form of personal, easy–to–manage Web sites with content presented in reverse chronological order (Schiano, *et al.*, 2004). Bloggers are also frequently described as influential agenda setters. For instance, blogs have been found to have influence on media coverage of politics (Ashbee, 2003; Sweetser, *et al.*, 2008; Wallsten, 2007) as well as facilitating communication among individuals (Baker and Moore, 2008; Hodkinson, 2007) and organizations (Kelleher and Miller, 2006; Sweetser and Metzgar, 2007). It follows from these observations that the blog as a form of mediated human expression and blogging as a human activity is of interest to academics from a variety of scientific disciplines. Although research projects interested in various aspects of blogs and blogging are on the rise, few articles have looked at blog research in a cumulative manner. As far as we know, no major review of methodologies, research topics and disciplinary perspectives in blog research seems to have been undertaken.

Research reviews regarding Internet–related subjects have been undertaken in a variety of scholarly contexts. Employing an interdisciplinary view, Rice (2005) analyzed research papers presented at the 2003 and 2004 Association of Internet Researchers conferences, finding similar results regarding the subjects addressed at the two conferences. Focusing on Internet research within the field of communication studies, Kim and Weaver (2002) analyzed 561 articles in 86 journals and books. They found that the most frequent research focus was *law and policy* (22.5 percent of the articles), followed by *uses and perception* (18.9 percent) and *economic*
(13.7 percent). Methods used were primarily non–quantitative (72.9 percent), and the articles analyzed tended to focus on issues for the Internet itself and uses and users of the Internet, rather than looking at effects of usage or how the Internet might be improved. Research reviews such as
the ones discussed here and the one presented in this paper offers "a powerful tool for synthesizing research and providing the big picture of an area" .

1.3 Project Planning

Project planning is part of project management, which relates to the use of schedules such as Gantt charts to plan and subsequently report progress within the project environment. Initially, the project scope is defined and the appropriate methods for completing the project are determined. Following this step, the durations for the various tasks necessary to complete the work are listed and grouped into a work breakdown structure. The logical dependencies between tasks are defined using an activity network diagram that enables identification of the critical path. Float or slack time in the schedule can be calculated using project management software. Then the necessary resources can be estimated and costs for each activity can be allocated to each resource, giving the total project cost. At this stage, the project plan may be optimized to achieve the appropriate balance between resource usage and project duration to comply with the project objectives. Once established and agreed, the plan becomes what is known as the baseline. Progress will be measured against the baseline throughout the life of the project

1.4 Purposes

A blog is a web page that you update on a regular basis. Oftentimes, brands have blogs right on their websites, making it easier for users to find and engage with your posts. Within your blog, you can share long-form articles that over topics your target audience may want to read or learn about. You can also include hyperlinks to internal or external web pages to enhance your users' reading experience. Adding images or videos can also make reading your blog a more engaging experience.

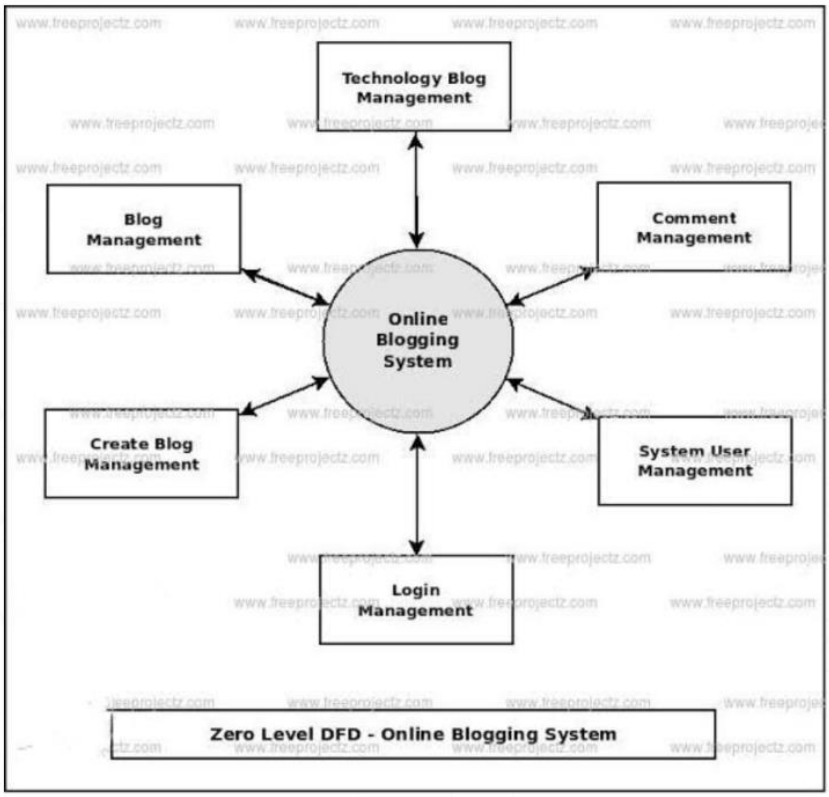
- find and engage with your posts.
- can share long-form articles that over topics.
- Consistently update information.
- Managing security by providing authorized email & password.
- Manage database efficiently.

Chapter -2

System Design

2.1 Design

The system is divided into some parts these are Register system, Login System, Chatbot , Posting Blogs, User interface, Firebase Authentication, Viewing System side with database represent the server using Firebase and React . System diagram and system database diagram illustrated in figure.



2.2 User Characteristics

Users The user can log in to the system by using his specific email and password. User can view the productsand order the products according to their own needs. He can view his profile and update his details. He is the one who has all rights to view the post details, modify those details of his/her replies. He can add various answers based on the category.

He can update his personal information by logging into the system. User can find various blogs of his/her interests by choosing their interests in interest.

2.3 System Information

This system is an automated Blogging System. Through the software user can add members, choose their interests . edit information, post blogs. The systemhas the following advantages:

- User friendly interface
- Fast access to database
- Look and Feel Environment

2.4 System Analysis

System Analysis refers into the process of examining a situation with the intent of improving it through better procedures and methods. System Analysis is the process of planning a new system to either replaceor complement an existing system. But before any planning is done the old system must be thoroughly understood and the requirements determined. System analysis is therefore, the process of gathering and interpreting facts, diagnosing problems and using the information to recommend improvements in the system. System analysis is conducted with the following objectives in mind:

Evaluate the system concept for feasibility.
Perform economic and technical analysis.
Allocate functions to hardware, software people, database and other system elements.
Establish cost and schedule constraints.
Create a system definition that forms the foundation for all the subsequent engineering work.

2.5 Feasibility Analysis

Whatever we think need not be feasible .It is wise to think about the feasibility of any problem we undertake. Feasibility is the study of impact, which happens in the organization by the development of a system. The impact can be either positive or negative. When the positives nominate the negatives, then the system is considered feasible. Here the feasibility study can be performed in two ways such as technicalfeasibility and Economical Feasibility.

2.6 Technical Feasibility

It is technically feasible, since there will not be much difficulty in getting required resources for the developmentand maintaining the system as well. All the resources needed for the development of the software as well as themaintenance.

2.7 Economical Feasibility

Development of this application is highly economically feasible .The organization needed not spend much m one for the development of the system already available. The only thing is to be done is making an environmentfor the development with an effective supervision. I f we are doing so , we can attain the maximum usability ofthe corresponding resources .Even after the development , the organization will not be in a condition to invest more in the organization .Therefore , the system is economically feasible.

Chapter 3
Hardware And Software Requirements

3.1 Hardware Required

- **Processor :** Inspiron 15 3000
- **RAM :** 2GB or above
- **Hard Disk:** 1TB
- **Input Devices :** Keyboard, Mouse
- **Output Devices:** Monitor

3.2 Software Required

- **Operating System :** Linux, Ubuntu, Mac, Windows XP/ 7 / 8 / 10 / 11
- **Frontend :** HTML,CSS, Bootstrap, JavaScript, React JS, Node JS
- **Backend :** MongoDB

Chapter Four

Implementing Tools for the Project

Tools :

- JavaScript
- MongoDB
- HTML
- CSS and Bootstrap

4.1 What is MongoDB ?

MongoDB is a document database with the scalability and flexibility that you want with the querying and indexing that you need.

Run MongoDB with

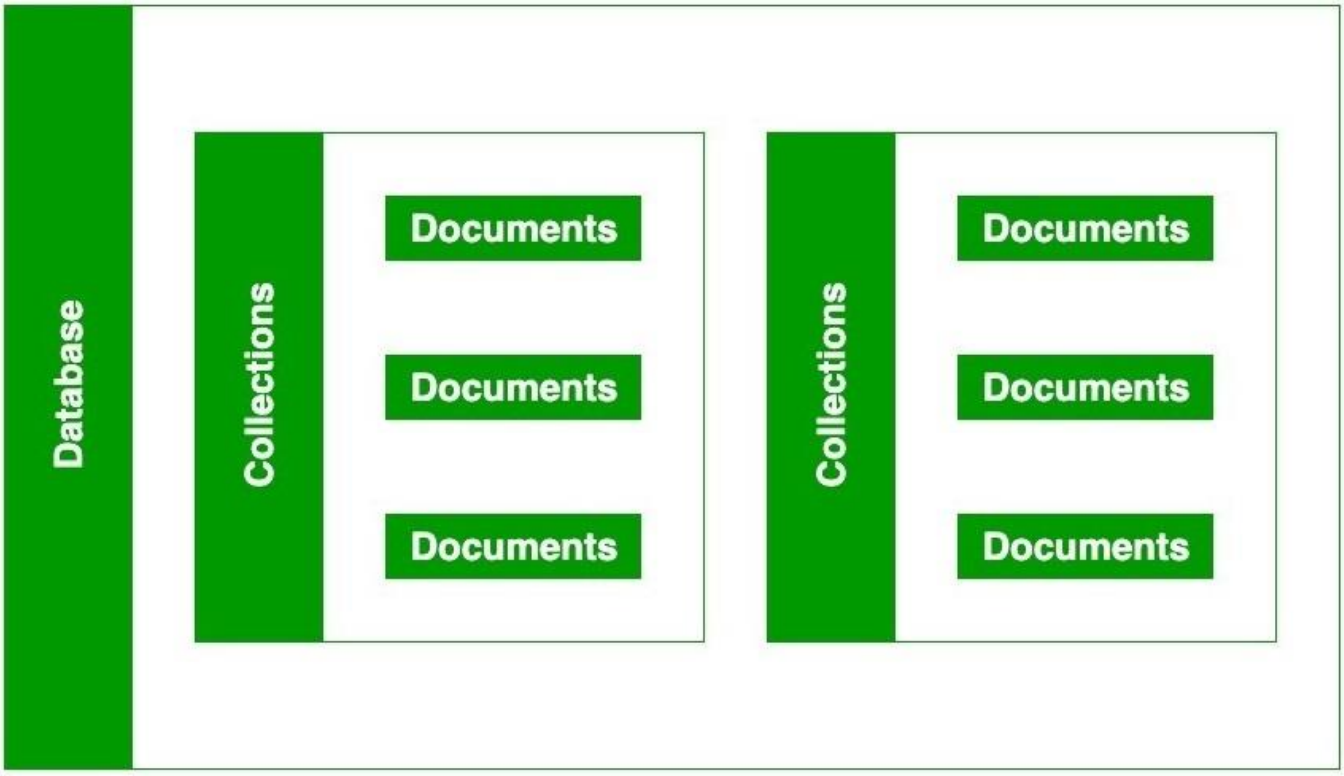
- MongoDB Atlas fully managed in the cloud,
- the source available and free-to-use MongoDB Community, or
- the MongoDB Enterprise Advanced subscription.

MongoDB is an open-source document-oriented database that is designed to store a large scale of data and also allows you to work with that data very efficiently. It is categorized under the NoSQL (Not only SQL) database because the storage and retrieval of data in the MongoDB are not in the form of tables.

The MongoDB database is developed and managed by MongoDB.Inc under SSPL(Server Side Public License) and initially released in February 2009. It also provides official driver support for all the popular languages like C, C++, C#, and .Net, Go, Java, Node.js, Perl, PHP, Python, Motor, Ruby, Scala, Swift, Mongoid. So, that you can create an application using any of these languages. Nowadays there are so many companies that used MongoDB like Facebook, Nokia, eBay, Adobe, Google, etc. to store their large amount of data.

How it works ?

Now, we will see how actually thing happens behind the scene. As we know that MongoDB is a database server and the data is stored in these databases. Or in other words, MongoDB environment gives you a server that you can start and then create multiple databases on it using MongoDB.
Because of its NoSQL database, the data is stored in the collections and documents. Hence the database, collection, and documents are related to each other as shown below:



The MongoDB database contains collections just like the MYSQL database contains tables. You are allowed to create multiple databases and multiple collections.

Now inside of the collection we have documents. These documents contain the data we want to store in the MongoDB database and a single collection can contain multiple documents and you are schema-less means it is not necessary that one document is similar to another.

The documents are created using the fields. Fields are key-value pairs in the documents, it is just like columns in the relation database. The value of the fields can be of any BSON data types like double, string, boolean, etc.

The data stored in the MongoDB is in the format of BSON documents. Here, BSON stands for Binary representation of JSON documents. Or in other words, in the backend, the MongoDB server converts the JSON data into a binary form that is known as BSON and this BSON is stored and queried more efficiently.

In MongoDB documents, you are allowed to store nested data. This nesting of data allows you to create complex relations between data and store them in the same document which makes the working and fetching of data extremely efficient as compared to SQL. In SQL, you need to write complex joins to get the data from table 1 and table 2. The maximum size of the BSON document is 16MB.

Features of MongoDB –

- **Schema-less Database:** It is the great feature provided by the MongoDB. A Schema-less database means one collection can hold different types of documents in it. Or in other words, in the MongoDB database, a single collection can hold multiple documents and these documents may consist of the different numbers of fields, content, and size. It is not necessary that the one document is similar to another document like in the relational databases. Due to this cool feature, MongoDB provides great flexibility to databases.

- **Document Oriented:** In MongoDB, all the data stored in the documents instead of tables like in RDBMS. In these documents, the data is stored in fields(key-value pair) instead of rows and columns which make the data much more flexible in comparison to RDBMS. And each document contains its unique object id.
- **Indexing:** In MongoDB database, every field in the documents is indexed with primary and secondary indices this makes easier and takes less time to get or search data from the pool of the data. If the data is not indexed, then database search each document with the specified query which takes lots of time and not so efficient.
- **Scalability:** MongoDB provides horizontal scalability with the help of sharding. Sharding means to distribute data on multiple servers, here a large amount of data is partitioned into data chunks using the shard key, and these data chunks are evenly distributed across shards that reside across many physical servers. It will also add new machines to a running database.
- **Replication:** MongoDB provides high availability and redundancy with the help of replication, it creates multiple copies of the data and sends these copies to a different server so that if one server fails, then the data is retrieved from another server.
- **Aggregation:** It allows to perform operations on the grouped data and get a single result or computed result. It is similar to the SQL GROUPBY clause. It provides three different aggregations i.e. aggregation pipeline, map-reduce function, and single-purpose aggregation methods
- **High Performance:** The performance of MongoDB is very high and data persistence as compared to another database due to its features like scalability, indexing, replication, etc.

Advantages of MongoDB :

- It is a schema-less NoSQL database. You need not to design the schema of the database when you are working with MongoDB.
- It does not support join operation.
- It provides great flexibility to the fields in the documents.
- It contains heterogeneous data.
- It provides high performance, availability, scalability.
- It supports Geospatial efficiently.
- It is a document oriented database and the data is stored in BSON documents.
- It also supports multiple document ACID transition(string from MongoDB 4.0).
- It does not require any SQL injection.
- It is easily integrated with Big Data Hadoop

Disadvantages of MongoDB :

- It uses high memory for data storage.
- You are not allowed to store more than 16MB data in the documents.

- The nesting of data in BSON is also limited you are not allowed to nest data more than 100 levels.

4.2 HTML

Every webpage you look at is written in a language called HTML. You can think of HTML as the skeleton thatgives every webpage structure. In this course, we'll use HTML to add paragraphs, headings, images and linksto a webpage.

In the editor to the right, there's a tab called test.html. This is the file we'll type our HTML into. Like any language, it has its own special syntax. A browser's job is to transform the code in test.html into arecognizable webpage! It knows how to lay out the page by following the HTML syntax.

4.3 CSS

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document writtenin a markup language.[1] Most often used to set the visual style of web pages and user interfaces written in HTMLand XHTML, and is applicable to rendering in speech, or on other media. Along with HTML and JavaScript, CSS isa cornerstone technology used by most websites to create visually engaging webpages, user interfaces for web applications, and user interfaces for many mobile applications.

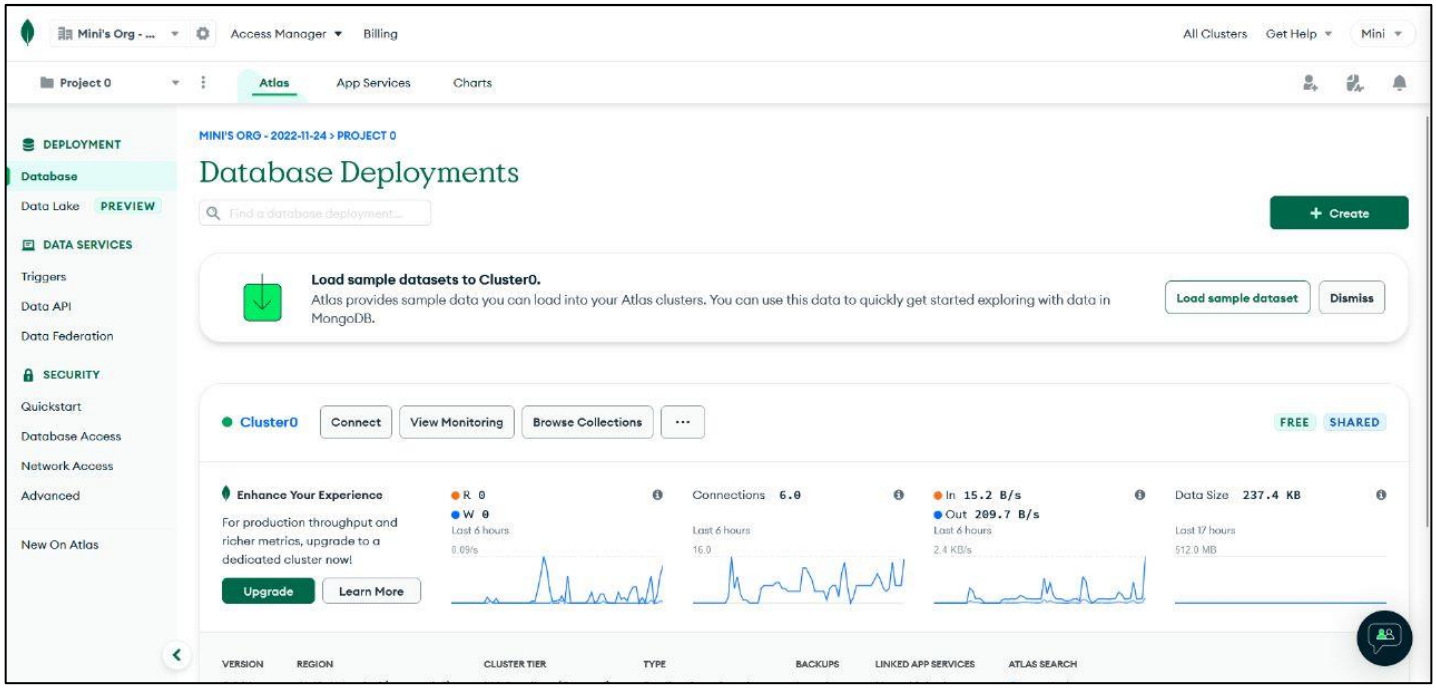
CSS is designed primarily to enable the separation of document content from document presentation, including aspects such as the layout, colors, and fonts.[3] This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple HTML pages to share formatting by specifying the relevant CSS in a separate .CSS file, and reduce complexity and repetition in the structural content.

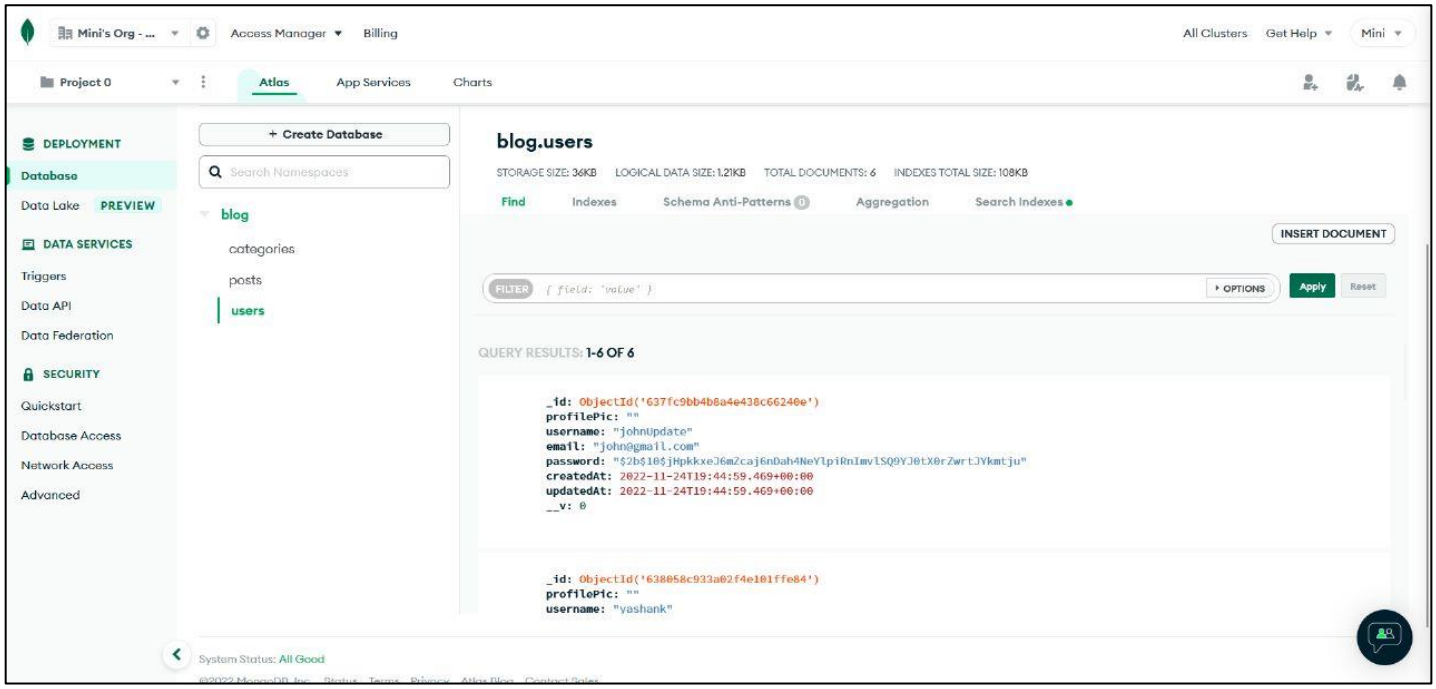
4.4 Bootstrap

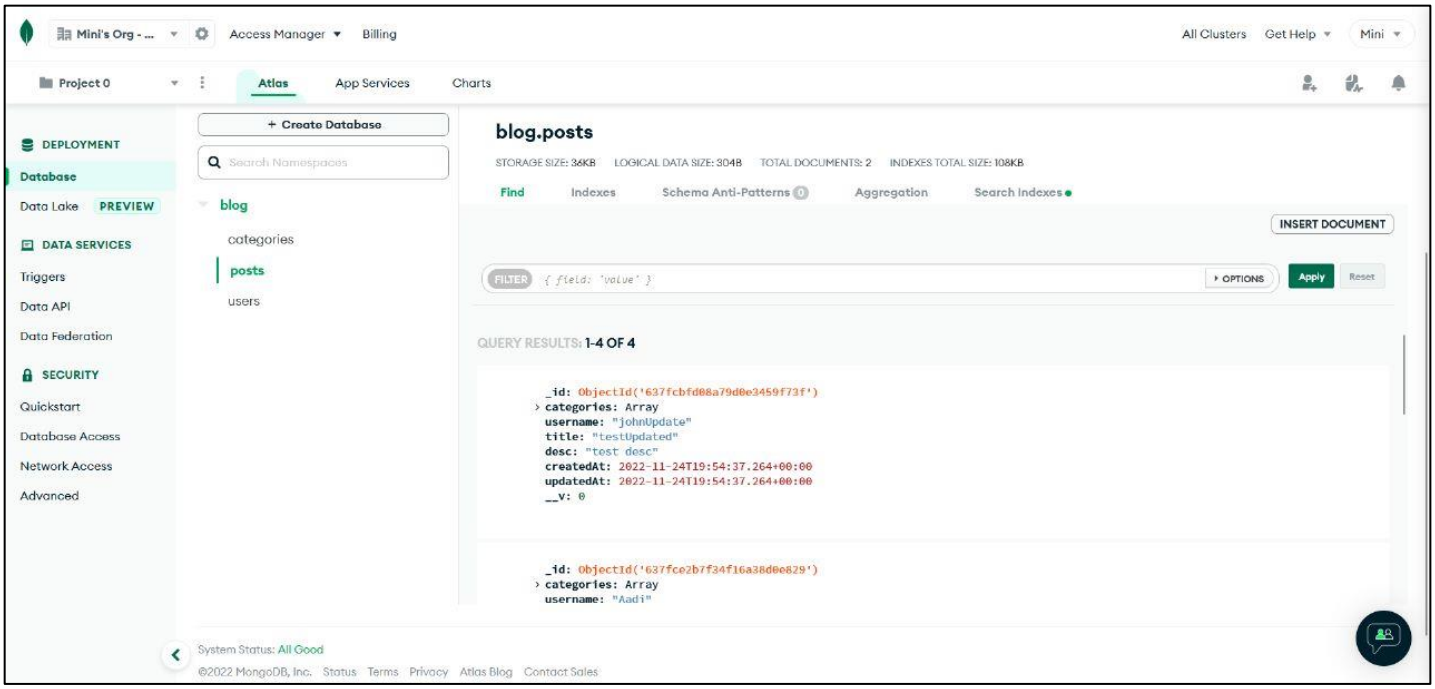
Bootstrap is an HTML, CSS and JS Library that focuses on simplifying the development of informative web pages (as opposed to web apps). The primary purpose of adding it to a web project is to apply Bootstrap's choices of color, size, font and layout to that project. As such, the primary factor is whether the developers in charge find those choices to their liking. Once added to a project, Bootstrap provides basic style definitions for all HTML elements. The result is a uniform appearance for prose, tables and form elements across web browsers. In addition, developers can take advantage of CSS classes defined in Bootstrap to further customize the appearance of their contents. For example, Bootstrap has provisioned for light- and dark-colored tables, page headings, more prominent pull quotes, and text with a highlight

Chapter Five

Project Database Using MongoDB



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©2022 MongoDB, Inc.
Status
Terms
Privacy
Atlas Blog
Contact Sales

Chapter Seven

Software Testing

Why Software Testing is Needed ?

Tool-bars work properly? Are all menu function and pull down sub function properly listed? Is it possible to invoke each menu function using a logical assumptions that if all parts of the system are correct, the goal will be successfully achieved? In adequate testing or non-testing will leads to errors that may appear few months later. Testing represents an interesting anomaly for the software engineer. During earlier software engineering activities, the engineer attempts to build software from an abstract concept to a tangible product. Now comes testing. The engineer creates a series of test cases that are intended to "demolish" the software that has been built. In fact, testing is the one step in the software process that could be viewed (psychologically, at least) as destructive rather than constructive. Testing requires that the developer discard preconceived notions of the "correctness" of software just developed and overcome a conflict of interest that occurs when errors are uncovered.

If testing is conducted successfully (according to the objectives stated previously) it will uncover errors in the software. As a secondary benefit, testing demonstrates that software functions appear to be workingaccording to specification, that behavioral and performance requirements appear to have been met. In addition, data collected as testing is conducted provide a good indication of software reliability and someindication of software quality as a whole. But testing cannot show the absence of errors and defects, it canshow only that software errors and defects are present. It is important to keep this (rather gloomy) statement in mind as testing is being conducted.

Testing Strategy

There are types of testing that we implement. They are as follows:-

While deciding on the focus of testing activities, study project priorities. For example, for an online system, pay more attention to response time. Spend more time on the features used frequently. Decide on the effort required for testing based on the usage of the system. If the system is to be used by a large number of users, evaluate the impact on users due to a system failure before deciding on the effort.

This create two problem :-

- Time delay between the cause and appearance of the problem.
- The effect of the system errors on files and records within the system.

The purpose of the system testing is to consider all the likely variations to which it will be suggested and pushthe systems to limits. The testing process focuses on the logical intervals of the software ensuring that all statements have been tested and on functional interval is conducting tests to uncover errors and ensure that defined input will produce actual results that agree with the required results. Program level testing, modules level testing integrated and carried out.

There are two major type of testing they are:

- White Box Testing.
- Black Box Testing.

White Box Testing

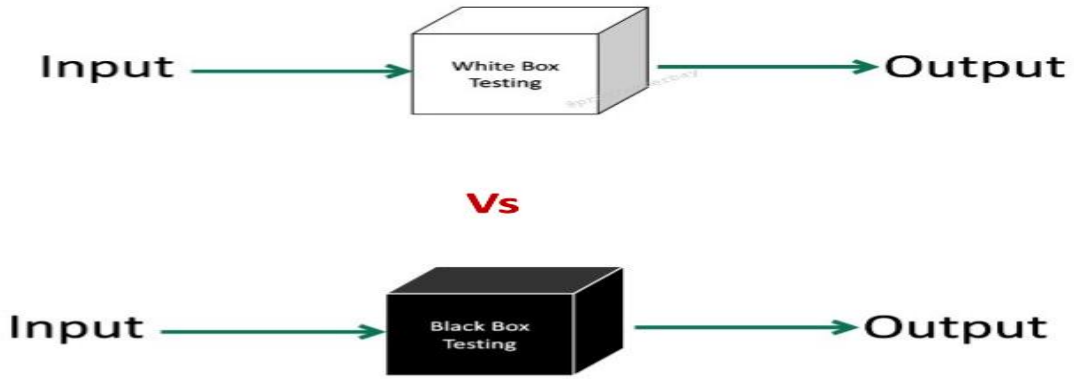
White box sometimes called "Glass box testing" is a test case design uses the control structure of the proceduraldesign to drive test case. Using white box testing methods, the following tests where made on the system.

- All independent paths within a module have been exercised once. In our system, ensuring that case was selected and executed checked all case structures. The bugs that were prevailing in some part of the code where fixed
- All logical decisions were checked for the truth and falsity of the values.

Black Box Testing

Black box testing focuses on the functional requirements of the software. This is black box testing enables thesoftware engineering to derive a set of input conditions that will fully exercise all functional requirements fora program. Black box testing is not an alternative to white box testing rather it is complementary approach thatis likely to uncover a different class of errors that white box methods like.

- Interface errors.
- Performance in data structure.
- Performance errors.
- Initializing and termination errors.



Chapter Eight

Conclusion & Future Enhancement

Conclusion :-

Our project is only a humble venture to satisfy the needs to manage their project work. Several user friendly coding have also adopted. This package shall prove to be a powerful package in satisfying all the requirements of the school. The objective of software planning is to provide a frame work that enables the manger to make reasonable estimates made within a limited time frame at the beginning of the software project and should be updated regularly as the project progresses.

At the end it is concluded that we have made effort on following points…

- A description of the background and context of the project and its relation to work already done in the area.
- Made statement of the aims and objectives of the project.
- The description of Purpose, Scope, and applicability.
- We define the problem on which we are working in the project.
- We describe the requirement Specifications of the system and the actions that can be done on these things.
- We understand the problem domain and produce a model of the system, which describes operations that can be performed on the system.
- We included features and operations in detail, including screen layouts.
- We designed user interface and security issues related to system.
- Finally the system is implemented and tested according to test cases.

Future aspect :-

In a nutshell, it can be summarized that the future scope of the project circles around maintaining information regarding:

- We can add printer in future.
- We can give more advance software for Online Blogging System including more facilities
- We will host the platform on online servers to make it accessible worldwide
- Integrate multiple load balancers to distribute the loads of the system
- Create the master and slave database structure to reduce the overload of the database queries
- Implement the backup mechanism for taking backup of codebase and database on regular basis on different servers

The above mentioned points are the enhancements which can be done to increase the applicability and usage of this project. Here we can maintain the records of Blogs and Comment. Also, as it can be seen that now-a-days the players are versatile, i.e. so there is a scope for introducing a method to maintain the Online Blogging System. Enhancements can be done to maintain all the Blogs, Comment, New Category, New Blog, Technology Blog.

We have left all the options open so that if there is any other future requirement in the system by the user for the enhancement of the system then it is possible to implement them.In the last we would like to thanks all the persons involved in the development of the system directly or indirectly. We hope that the project will serve its purpose for which it is develop there by underlining success of process.