Mosque Management System

BY

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DHAKA, BANGLADESH

FEBRUARY 2023

APPROVAL

This Project titled "**Mosque Management System**", submitted by Md. Rifat Mahmud Rakib, ID No: 191-15-2399, and Md. Imtius Ahammed, ID No: 191-15-2398 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 6 February 2023.

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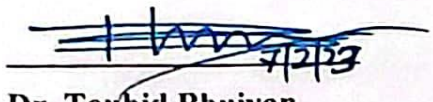

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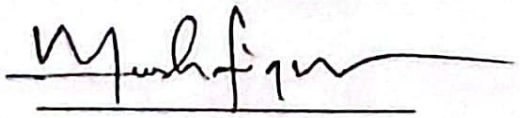

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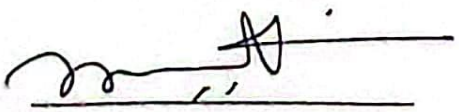

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Shayla Sharmin , Sr. Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

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ACKNOWLEDGEMENT

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project successfully.

We really grateful and wish our profound our indebtedness to **Supervisor Shayla Sharmin**, **Sr. Lecturer**, Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of "*Web Application*" to carry out this project. His endless patience ,scholarly guidance ,continual encouragement , constant and energetic supervision, constructive criticism , valuable advice ,reading many inferior draft and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to Dr. Touhid Bhuiyan and Head**,** Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate in Daffodil International University, who took part in this discuss while completing the course work.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

ABSTRACT

Now a days we all live in a smart society where people can use internet. Technologies are in our hands now. Now all the management systems are online-based. However, as we can see from the mosque management, it has not yet improved. So in this application, people can make their lives easier with the online based mosque management system by listening to khutbas, attending events, and so on. People can see the mosque related events and campaigns. And they can contribute to this from anywhere in the world. The goal of this project is to simplify the mosque donation and management parts of a mosque. To encourage donors, campaigns and events are given. It helps the user classify where he wants to contribute or donate. To make a successful donation, a smart payment gateway is integrated.

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CHAPTER 1

Introduction

1.1 Introduction

Mosque Management System is a management website which will help us to execute all administrative tasks including multiple donations, events, finance tracking and more. We have separate campaigns creating feature where all the upcoming campaigns will be visible and donors can donate easily. When a new campaign will launch the fund rising will be faster than before by using our application. We have smart and secure payment gateway to get the donations.

1.2 Objectives:

Main objectives of this projects is simplify the management system of a mosque and to handle the donation. In Muslim states mosques are common in every city. Every mosque has committee. They maintain the mosque management. But many people wants to know the information about the mosques and the committee info. This projects gives the all related information and there contacts. In every mosque there needed donations to development of the mosque properly. To ensure the donations in every parts the events and campaigns are there in this project.

1.3 Motivation

We live in an age of technology and science, where we are constantly connected to brands and people via social media and communication apps and websites. However, we have been unable to reach our local mosque. We are not familiar with the founder, the Imam, the Muajjan and the committee members. We simply pray our regular prayers and leave the Mosque without any commitment or attachment. Surely, we should have a more connection with our Mosques. To better communicate with their attendees, every Masjid should have their own website. It's the most efficient approach to build a web presence and inform the local community about future religious events, classes, workshops, and other announcements. This online mosque management system is not only for donations; it also acts like a virtual mosque. This application gives the prayer waqt time according to the coordinates and can also manage the jamaat time. [1]

1.4 Expected Outcome

People now a days stay online a lot, There are many scholars who give lectures in mosques in different waqt. All the lectures will be easily accessible on the website. Besides donors can donate monthly for the development of the mosque as required and other charities. The admin panel is very easy to handle admin can manage the Muyajjem, Imam, Khatib, khadem , and Committee members.

CHAPTER 2

Background

2.1 Background

Background discussion is introduced. Involved work, and relation with other hopeful system. Also discussed the challenges and the outcomes of the projects.

2.2 Scope

Our website can be used by anyone from anywhere. The interface of our application is very easy, and it will not require any additional technical knowledge. Our user-friendly interface has a religious flavor. In our country, there is very little scope for women to gain religious knowledge. Women and children, can use this app to listen to recent khutbas and tilawat from their favorite scholars.

2.3 Scope of Problems and Challenges

The most important problem is Security. Second data loading slow because we are using free hosting in current state. We can add maximum 16mb data size into database. Because MongoDB support 16mb max in free version. Sometime site crashes because of the data overloading. Third party integrations are not limited to payment system. When our project is in live we need Support and maintenance.

2.4 Comparative Analysis and Related Works

There are several websites out there related to donations, also there are many Islamic websites. But ours websites is about donations and mosque management related. In our country, there is no management system currently, but we have some donation websites there from we take inspiration such as the "As Sunnah Foundation" [7] and "Bidyanondo" [8]. Their main focus is on donations, though they have some extra activities. But in our website admin can add mosque committee and manage them. User will get the all the committee information and can contact them. And user can donate via Ssslcommerz website.[4]

CHAPTER 3

Requirement Specification

3.1 Requirement Specification:

The user data and the data analysis like user information's, payment information, a proper model or recharts or diagram. Also the flow of data and the payment diagram are showing in this section. The total UI design of the projects are needed.

3.2 Logical Data Model

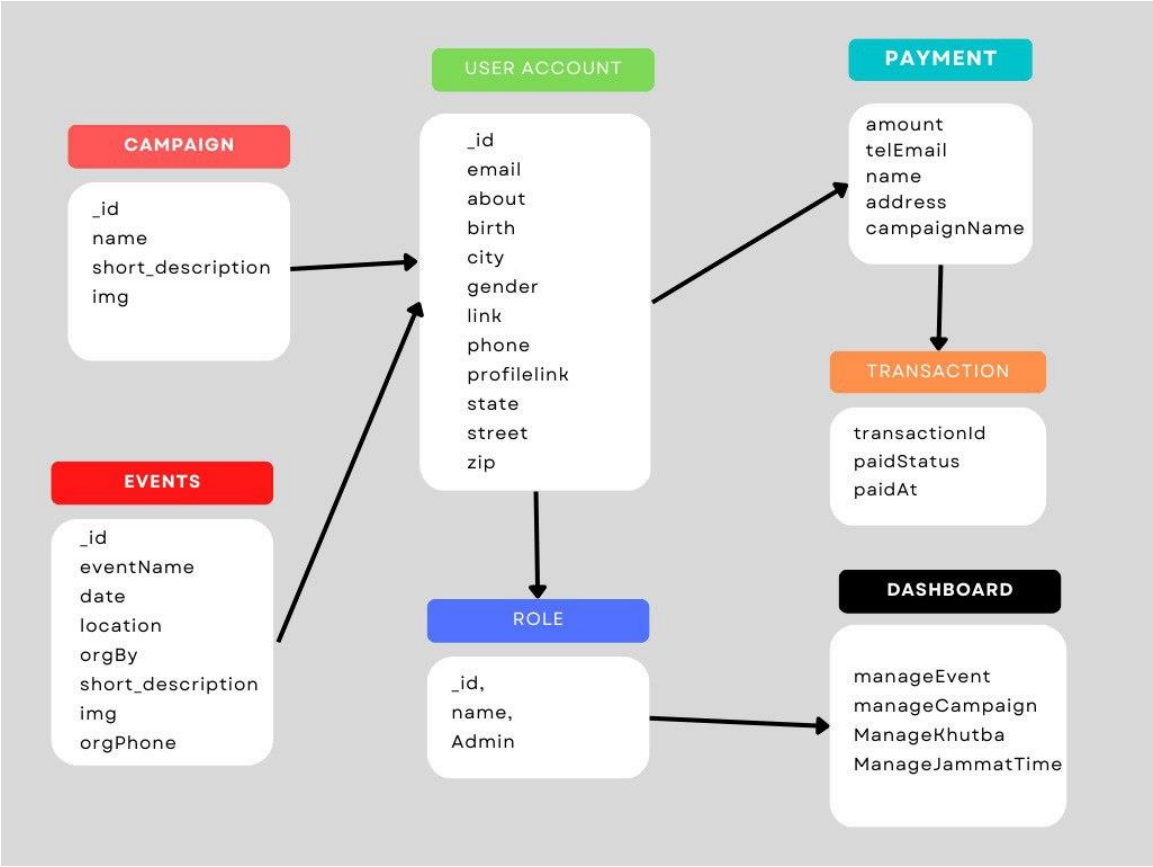


Figure 1.1.1: Logical Data Model

3.3 Project Methodology:

Methodology helps us to design the projects. It ensure us that the final project of the highest standards.

Requirements Analysis:

The first target to analyses our markets requirements. Determining the projects objectives and the targeted users.

Figure 1.1.2: Project Methodology

Formulate digital strategy:

From the requirement part we analyze the needs of users. We analyze how we will get the best output from this website. We follow the market trends and latest technologies. We analyze the trending environment for the future steps. After that we take the future strategies.

Web-Page Design:

In this part we determine the specific UI design for our projects. Define the necessary part like color, logo, Interface etc. We determine the user friendly interface and make a basic structure.

Web-Development:

When we get the design we started development with multiple technologies. We use HTML5, CSS3, and Bootstrap for the design. One the design and implementation is done we proceed for the testing phase.

Pre-launch and Testing:

In this part we test our website in different devices and browsers. If we find any errors or missing features we immediately tries to solve them. After testing was done we try to deploy the projects.

Launch:

After all the testing and error handling was done we host the server and client side code in trusted server. After hosting or deploying was done the website is ready for publish.

3.4 Use Case Diagram

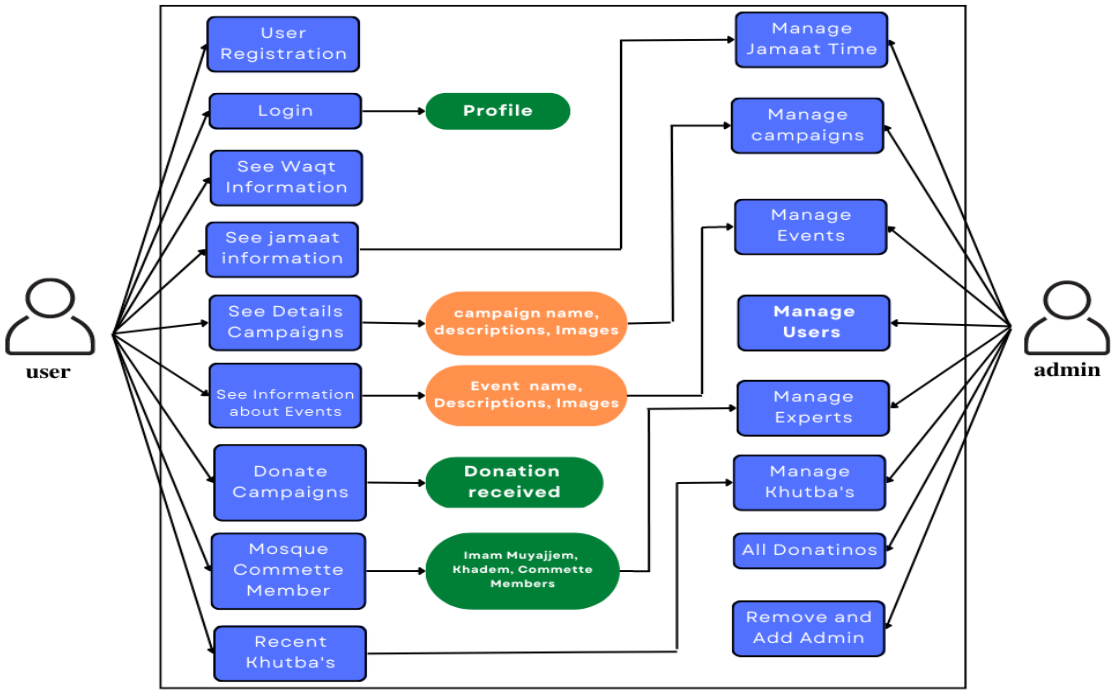


Figure 1.1.3: Use case Diagram

3.5 Activity diagram for user

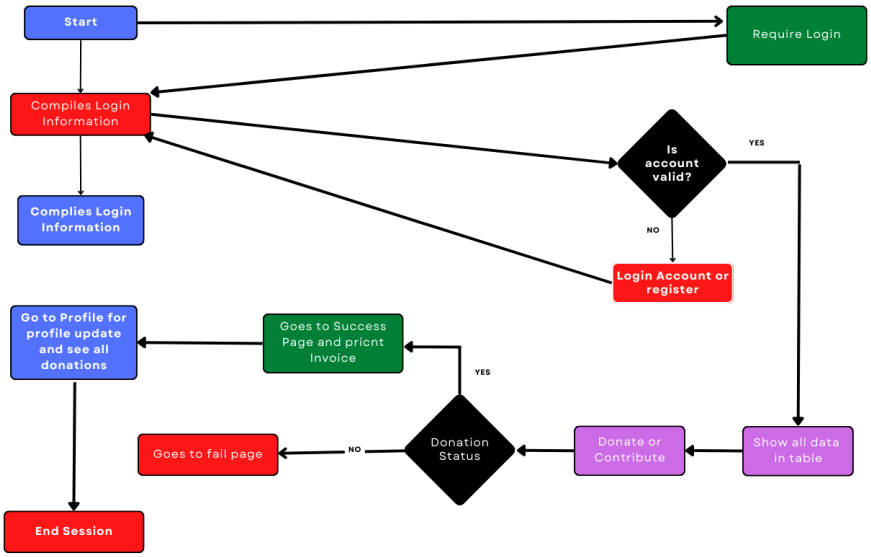


Figure 1.1.4: Activity diagram for user

3.6 Activity diagram for Admin

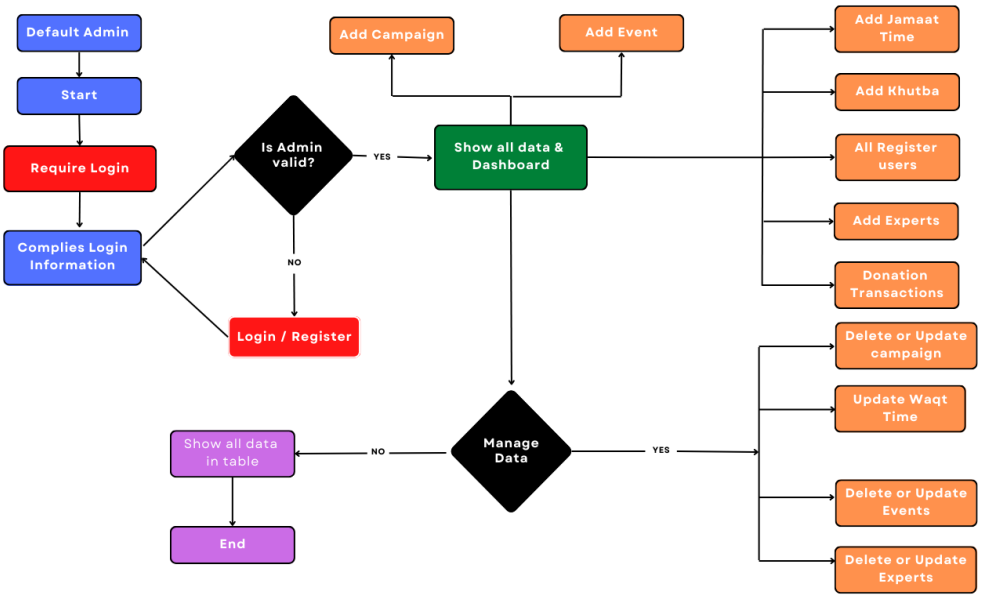


Figure 1.1.5: Activity diagram for Admin

3.7 Requirement Collection and Analysis

Priority of the users is the first goal of our project. Collecting requirements data of an specific user is the first phase of requirement collection and analysis. Without the user requirements we can't understand the user expectations. Without users satisfactions the project goal will be not successful. Solving the issues based on user requirement with the help of data analysis.

3.8 Design Requirement

Design is the important part of this project. A good design of a projects can help to form a good impression on users. It helps to provide smooth experience to the user. More and more user will be interested to visit the website. We research and compare multiple websites for design ideas. And tried to pick the best design for the user.

3.9 System Requirements:

In order to develop such a Mosque Management Project, we started basic web technologies but had to switch on to advanced programming and scripting languages, and frameworks as the application hierarchy required. The required technologies including minimum number of software and programming languages and frameworks such as: Front-end technologies, Back-end technologies, and it will be a responsive website as well.

CHAPTER 4

Core Modules Details of Mosque Management System

4.1 Module 01: Mosque Management System Main Website Pages

- User Registration
- Admin & User Login
- Home page
- Campaigns Page
- Event Page
- Khutba Page
- Experts (Scolars , Imam , Muyajjem , Khatib , Khadem , Chairman , Secretary , Members)
- Profile Page
- Profile Update Page
- Donation Page
- Donation with Transaction info
- Donation Confirmation & Thank You Page
- 404 Page

4.2 Module 02: Mosque Management System Admin Panel Pages

- Admin Dashboard Page
- Campaign Wise Donation (Chart)
- Users Management Page (Make admin and Remove user)
- Update Jamaat Time Page
- Khutba Upload Page
- Khutba Management Page
- Campaign Upload Page
- Campaign Management Page
- Event Upload Page
- Event Management Page

- All Donation information Page
- Expert Upload Page
- Expert Management Page
- Customer Order Management Page

CHAPTER 5

Design Specification

5.1 Design Specification

In this project, there are multiple features. So need many requirements to make this project working properly. User and admin login page and register page needed. Also user add delete, update features needed. For admin Dashboard And all the management part like add, delete or update any user, campaign, event or Tilawat or Khutba . Smart payment system is require. For need all the donors' information with transaction Id. [2]

5.2 Front-end Design: Technology Requirements

- HTML5
- CSS3
- Boostrap
- Javascript (react-router-dom)
- ReactJS,
- Firebase
- Firebase hooks
- Adhan
- React-hook-form
- React Query
- Recharts

5.3 Back-end Design: Technology Requirements

- NodeJS
- ExpressJS
- JSON Web Token

Database Requirements:

- MongoDB

5.4 Interaction Design and User Experience (UX)

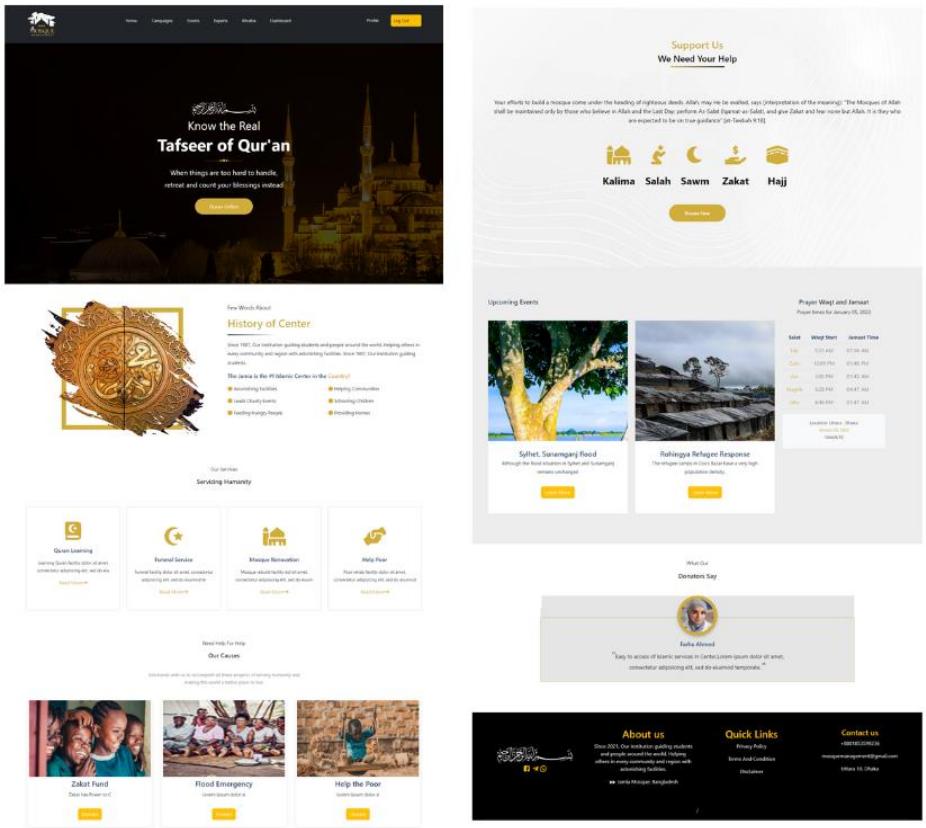


Figure 2.1.1: Home page UI

This is Home Page Multiple data are stored here. Every user will see this page without creating accounts.

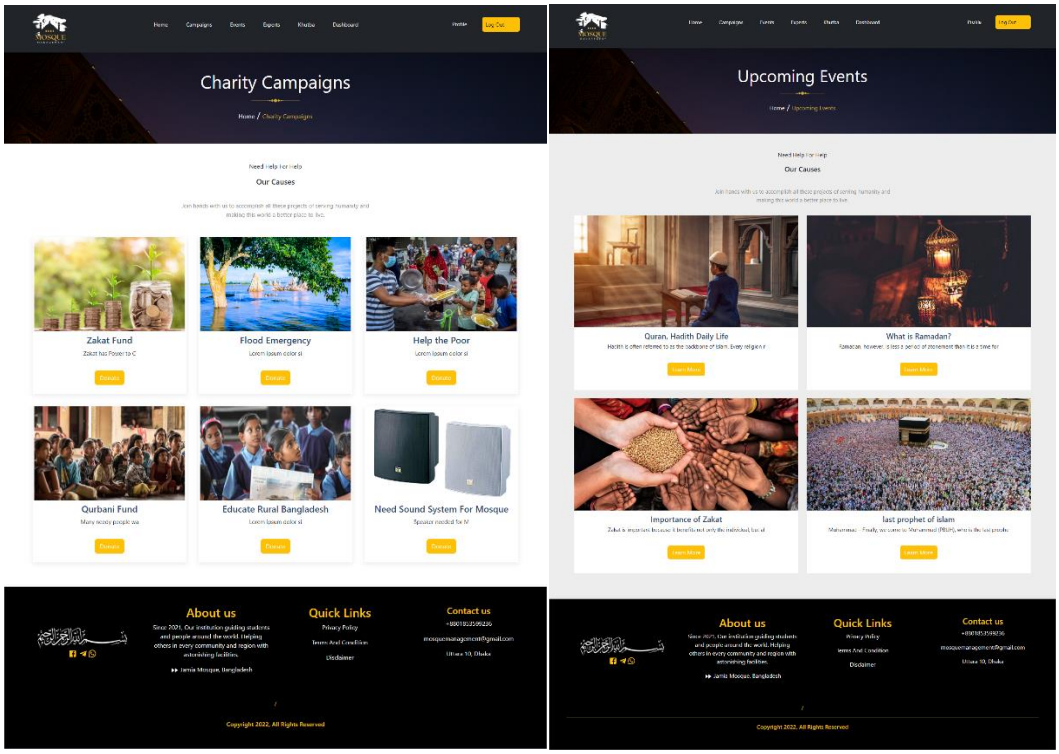


Figure 2.1.2: Events and Campaigns

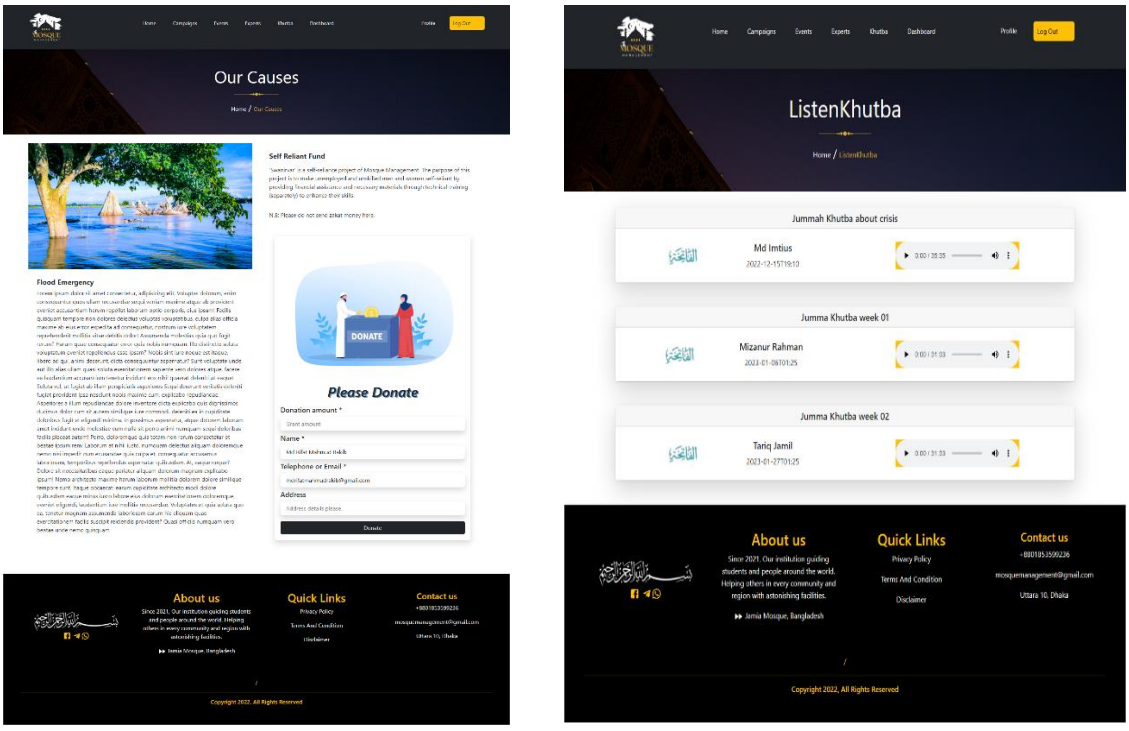


Figure 2.1.3: Khutba and Our Causes

Khutba and campaign details

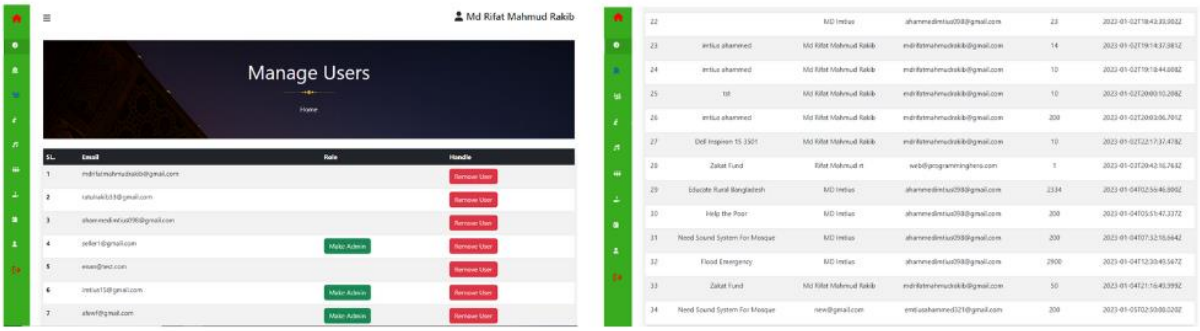


Figure 2.1.4: Manage users and all donation page

Manage Users and All donation by users

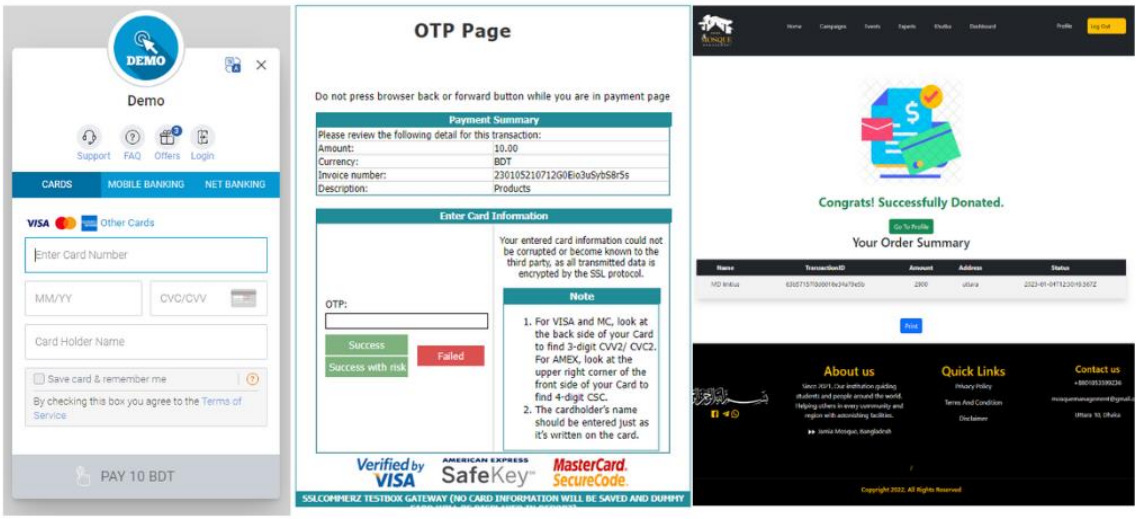


Figure 2.1.5: Payment Systems

SSL Commerz Payment gateway.

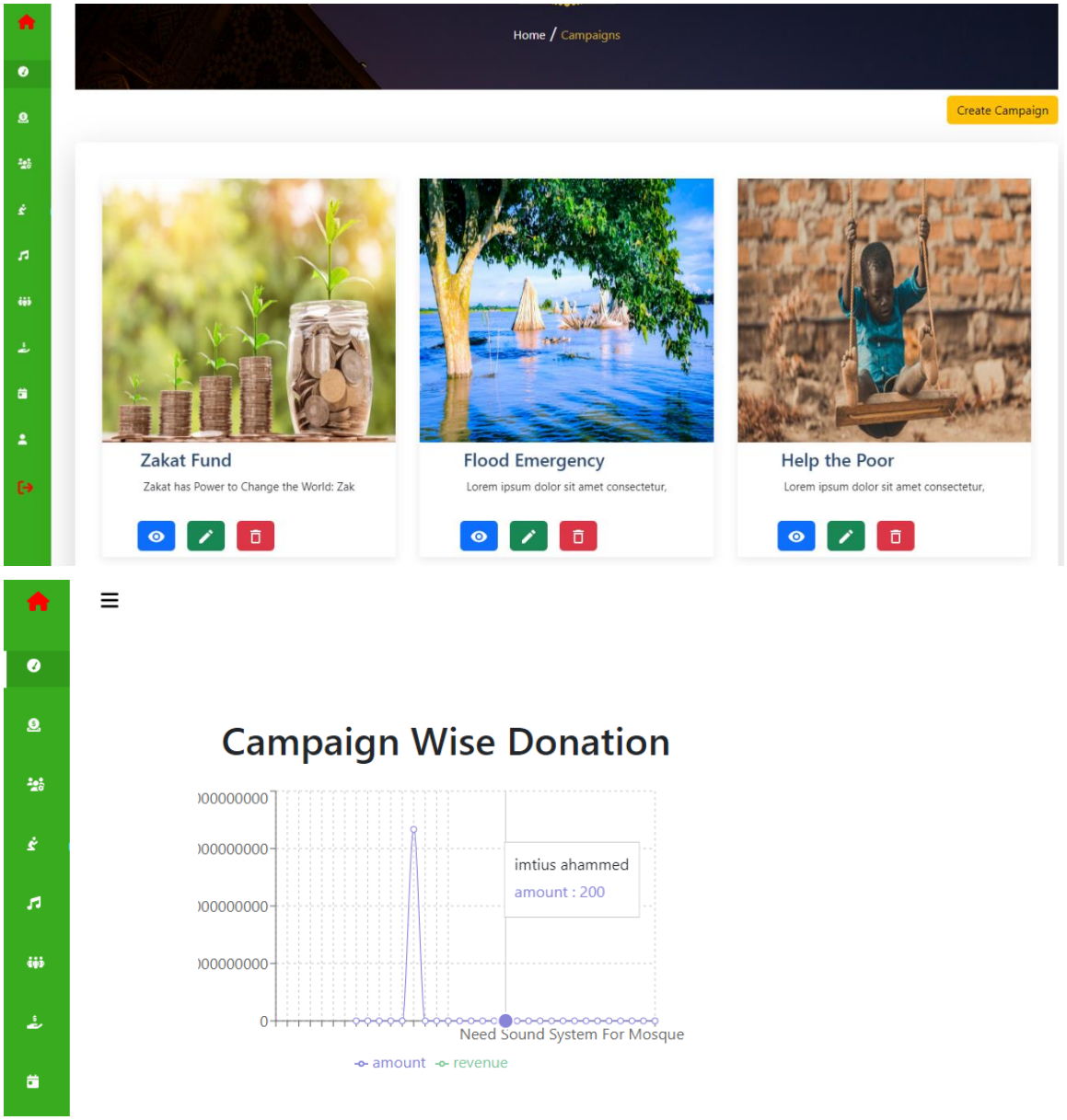


Figure 2.1.6: Manage Campaigns and Recharts

All dashboard and all payments in graph

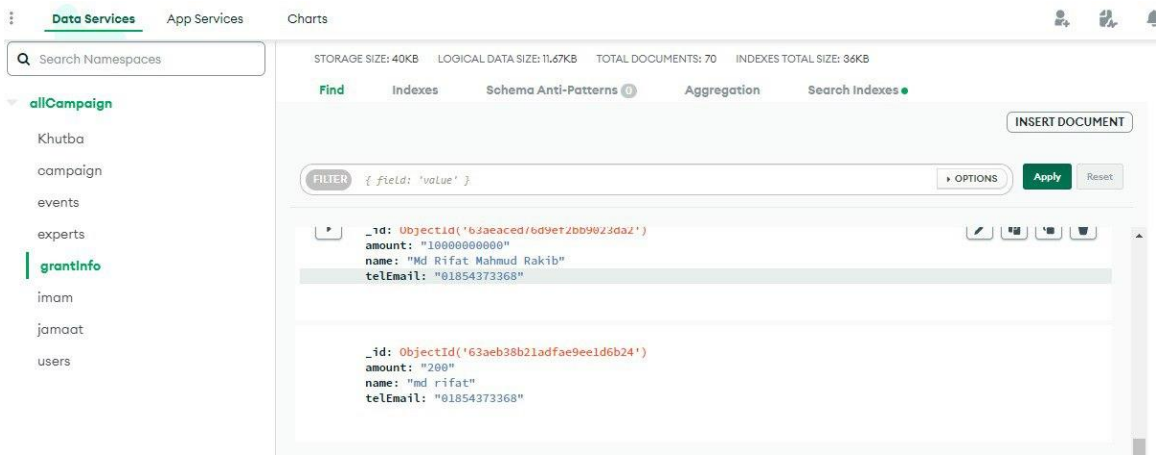


Figure 2.1.7: payment Database

5.5 Implementation Requirements

Minimum Software Requirements:

- Visual Studio Code
- Node module
- Git
- CMD

Tools: Chrome Dev Tools, SSLCommerzPayment, Firebase,Vercel

Web Browsers: Chrome, Firefox, Edge etc.

Operating System: Windows, MacOS, Linux

Minimum Hardware Requirements: Our application need some hardware components to run and compile as other web application needs. Some necessary hardware given below

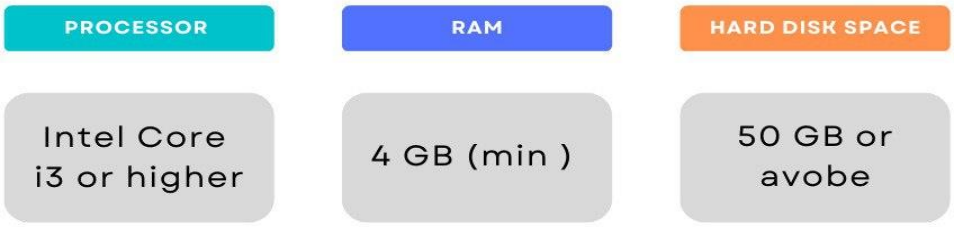


Figure 2.1.8: Hardware requirements

CHAPTER 6

Implementation and Testing

6.1 Implementation and Testing

Implementation and testing and the Future In this chapter, project implementation is discussed. Database implementation and testing errors are checked. The future plan and the project perfection requirements are discussed. [5]

6.2 Implementation of Database

In our project, we use MongoDB as our database. We install MongoDB in the node server and use the usernmae and password of MongoDB in node server. We create collections for each route so that we can store the data in MongoDB collections. For each campaign, events , experts , imam , khutba, users, payment we have indivisual routes for getting data same as collections in MongoDb. Now if a user add a data it will post throw our client site to server site and store it's own collection. Now we can use this data anywhere we want in our client site but we need to get this data from about server side api. This is how we implement our database.[3]

6.3 Implementation of Front-end Design

For the Front-end Design we use technology like HTML5, CSS3, and Bootstrap. And for interactive or dynamic design we use JavaScript and its component ReactJs. After installing ReactJs we design our client side with the help of JSX. JavaScript helps to transform the code into html text format. With the help of those technologies we create a responsive user interface. [6]

6.4 Testing Implementation

Depending on our projects we do some testing before hosting. First step we console our full projects and find out the errors and tried to solve them. Than we test functionality of our projects. These testing contains several testing parameters like database testing, security, client, server and user interface, APIs. After that we test internal links, anchor links, image links.

After the basic testing we check our Html, JavaScript code for finding errors. If no error found we test the database and the database code and check the connections.

After front-end backend error check we check the overall performance of our project.

6.5 Test Results and Reports

In our projects we use SslCommerz Payment gateway. This payment gateway will help user to donation successfully. We have some testing data below here.

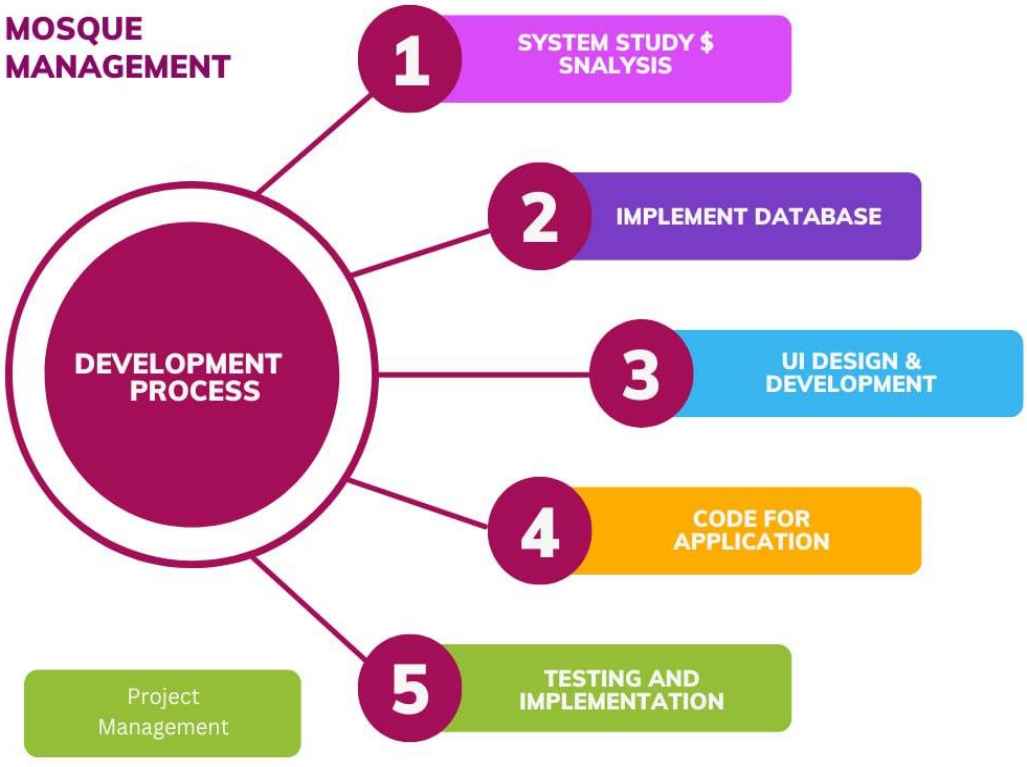


Figure 3.1.1: Development Process

CHAPTER 7

Impact on Society, Environment and Sustainability

7.1 Impact on Environment:

Our Mosque Management website can create a good impact on environment as well. For example, donations, utility bills, Hadiyah of Imam and Muajjan were collected manually but using our website everything will be digital and time saving. With our website we can engage with more people inside and outside from the society, even people can donate from outside of the country. When local Muslim families need information on mosques or Islamic centers in their neighborhood, our mosque website can help. By incorporating location and contact information, as well as services, classes, and events, people can use our mosque website to provide an enriching environment and attract more Muslims to the Mosque.

7.2 Impact on Society:

We live in an age of technology and science, where we are constantly connected to brands and people via social media and communication apps and websites. However, we have been unable to reach our local mosque. We are not familiar with the founder, the Imam, the Muajjan and the committee members. We simply pray our regular prayers and leave the Mosque without any commitment or attachment. Surely, we should have a more connection with our Mosques. To better communicate with their attendees, every Masjid should have their own website. It's the most efficient approach to build a web presence and inform the local community about future religious events, classes, workshops, and other announcements.

7.3 Ethical Aspects:

We have no any confidentiality issues. Our Project have authentication system. Which will make people data secure and safe. Anyone can use and take benefits from our projects people can see the prayer time upcoming events, donations are more. Our doners can donate from anywhere if they want and we are implementing monthly membership system too. This will rise the main funding rather than analog or manual system.

7.4 Sustainability Plan:

There are few steps of sustainability plan. We need some technologies for Frontend, Backend. Such as HTML5, CSS3, Bootstrap, JavaScript, React JS, React-Router, Firebase, Node JS, Express JS, MongoDB, JSON Web Token. Again, we don't need as much money for the project in the current situation. We need to discuss with Imam, Muajjan and Mosque committee members and share our project idea with them and give them a trail of our website to see how the local people response to our system. Finally, we have to take feedback from them and make our project more sustainable according to their feedback. We didn’t see any type of website like this idea in our country. We read some papers where people share their ideas about managing the mosque but we are taking this into next level to help our Mosque and people. With our Zakat funding we will do a great impact on the poverty.

CHAPTER 8

Conclusion and Future Scope

8.1 Discussion and Conclusion:

We have tried to describe this Mosque Management System in detail. This mosque management website is an all in one management application which will help to manage all the administrative tasks. It will provide a great impact to the Mosque fund. For any renovation funding, the collection will be faster than the old manual system. Our application also close the barrier between poor and rich people through Zakat Fund.

8.2 Scope for Further Developments:

The world of technologies are improving day by bay. We have to be updated in every moment passed. We have to keep up with the technical improvements. So we will try to improve our technologies more. We are trying to implement the monthly membership to make this application one step further. In future we will add multiple payment system. Thus the project is flexible we can update in anytime in near future.

References

[1] A. C. P. P. S. Ihsan Rahmat, " THE MOSQUE MANAGEMENT INNOVATION: EXPLAINING PROCESS AND DRIVING FORCES," Researchgate, 2022.

[2] J. Walke, "wikipedia," [Online]. Available: https://en.wikipedia.org/wiki/React_(JavaScript_library). [Accessed 03 01 2023].

[3] "How MongoDB works," [Online]. Available: https://www.geeksforgeeks.org/how-mongodb-works/. [Accessed 28 12 2022].

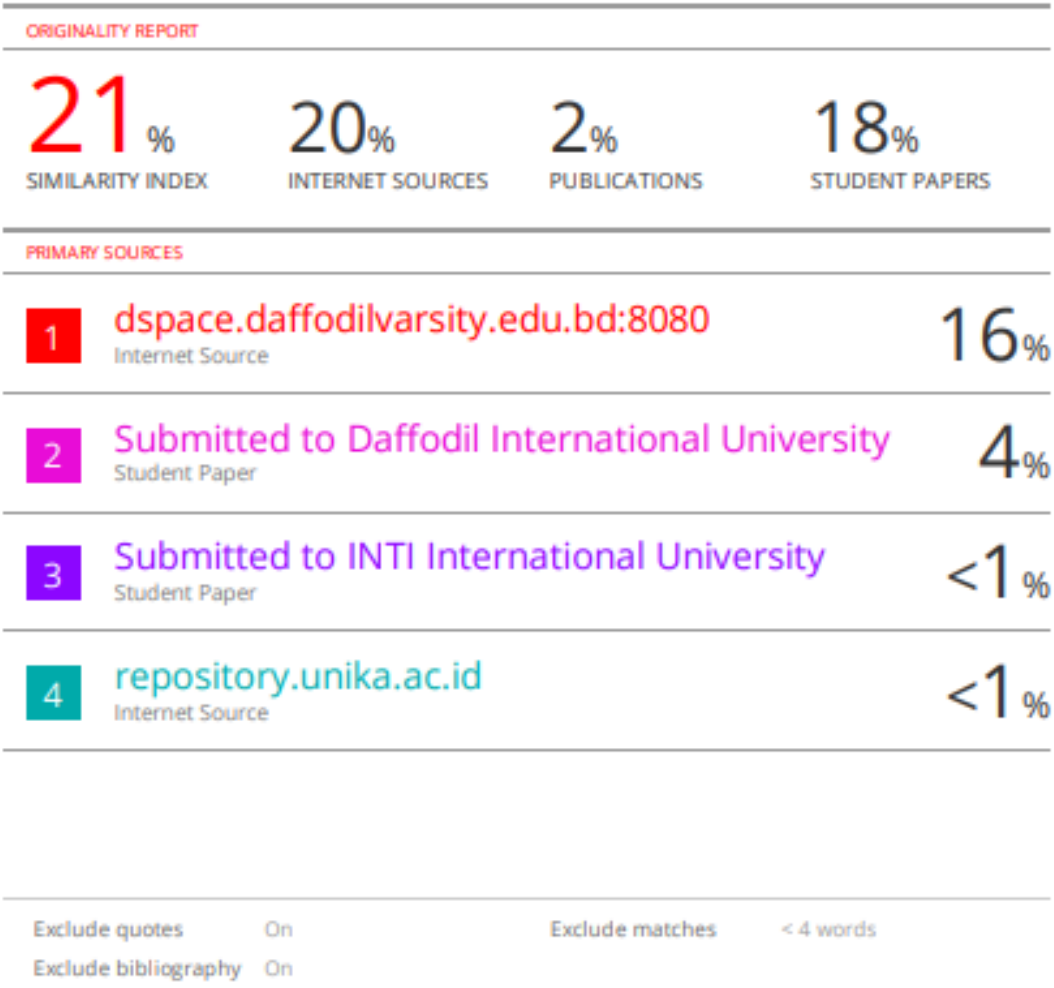
[4] N. U. Hayder Haraty, "Contemporary Trends of Research and Writing on Mosques Design: Analysis of The Most Recent Publications," Researchgate, January 2019.

[5] A.-H. H. O. Sawsan Sahib Abed, "Implementing Web Testing System Depending on Performance Testing Using Load Testing Method," Researchgate, January 2021.

[6] R. G. C. O. Carlos Flavián, "Web design: A key factor for the website success," *Researchgate,* May 2009.

[7] "As Sunnah Foundation," [Online]. Available: https://assunnahfoundation.org/ .[Accessed 22 9 2022].

[8] "Bidyanondo," [Online]. Available: https://bidyanondo.org/.[Accessed 23 9 2022].



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