

Design and Implementation of Online Marriage Certificate Platform

by

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Supervised by

Bulbul Ahamed

Submitted in partial fulfillment of the requirements for the degree of
Bachelor of Science in Computer Science and Engineering



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
SONARGAON UNIVERSITY (SU)**

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APPROVAL

The project titled “**Design and Implementation of Online Marriage Certificate Platform**” submitted by Liton Mia (CSE1901016107), Al Helal Meraj (CSE1903018058) and Sadia Siddique Tonni (CSE1903018108) to the Department of Computer Science and Engineering, Sonargaon University (SU), has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Engineering and approved as to its style and contents.

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DECLARATION

We, hereby, declare that the work presented in this report is the outcome of the investigation performed by us under the supervision of **Bulbul Ahamed, Associate Professor and Head,** Department of Computer Science and Engineering, Sonargaon University, Dhaka, Bangladesh. We reaffirm that no part of this project has been or is being submitted elsewhere for the award of any degree or diploma.

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ABSTRACT

An online marriage certificate is a digital copy of a marriage certificate that can be obtained through a website or online service. It is a convenient alternative to obtaining a physical copy of the certificate through traditional channels, such as a government office or registry. To obtain an online marriage certificate, a person typically needs to submit an application through an online portal or website. The application may require the person to provide personal details, such as their name, address, and the details of the marriage, such as the date and location of the ceremony. The online service may also require the person to provide identification and other supporting documents to verify their identity and the authenticity of the marriage. Once the application is processed and verified, the online service will typically generate a digital copy of the marriage certificate, which can be downloaded and printed by the applicant. The digital copy of the marriage certificate is often considered to be a legal document and can be used to prove the person's marital status for various purposes, such as applying for a passport or changing their name. One of the main advantages of obtaining an online marriage certificate is that it can be done quickly and easily, without the need to visit a government office or registry in person. Additionally, online services may offer faster turnaround times and more flexible hours of operation, making it easier for people to obtain the certificate they need. However, it is important to note that the availability and legal validity of online marriage certificates may vary depending on the jurisdiction in which the marriage took place.

ACKNOWLEDGMENT

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Finally, our deepest gratitude and love to my parents for their support, encouragement, and endless love.

LIST OF ABBREVIATIONS

CPU	Central Processing Unit
CSS	Cascading Style Sheet
DBMS	Database Management system
DDS	Design Document Specification
HTTP	Hyper Text Transfer Protocol Secure
HTML	Hyper Text Markup Language
JS	JavaScript
PERT	Program Evaluation and Review Technique
RAM	Random Access Memory
ROM	Read Only Memory
SRS	Software Requirement Specification
UAT	User Acceptance Testing

TABLE OF CONTENTS

Title	Page No.
DECLARATION	iii
ABSTRACT	iv
ACKNOWLEDGEMENT	v
LIST OF ABBREVIATIONS	vi
CHAPTER 1	1 – 3
INTRODUCTION	
1.1 Introduction	1
1.2 Objectives	1
1.3 The Scope of the work	2
1.4 Beneficiaries and Benefits	2
1.5 Expected Outcomes	2
1.6 Report Layout	3
CHAPTER 2	4-6
BACKGROUND	
2.1 Introduction	4
2.2 Project Planning	4
2.3 Stakeholders	5
2.4 Project Schedule	5
2.2 Scope of the Problem	6
2.3 Challenges	6
CHAPTER 3	7-14
REQUIREMENT SPECIFICATION	
3.1 Business Process Modeling	7
3.2 Requirement Collection and Analysis	8
3.3 Functional Requirement	8
3.4 Use Case Modeling	9
3.4 Sequence Diagram	12

3.4	Logical Data Model	13
3.5	Design Requirement	14
CHAPTER 4		15-16
DESIGN AND DEVELOPMENT		
4.1	Design and Implementation	15
4.2	Development Task	15
4.3	Class Diagram	16
CHAPTER 5		17-18
DESIGN SPECIFICATION		
4.1	Front-end Design	17
4.2	Back-end Design	17
4.3	Interacttion Design and UX	18
4.4	Implementation Requirements.....	18
4.5	Web Platform	18
4.6	MongoDB	18
CHAPTER 6		19-34
IMPLEMENTATION AND TESTING		
6.1	Implementation of Database	19
6.1.1	Authentication Rule	19
6.2	Admin Information	20
6.1.2	Quazi's Information	20
6.1.3	User Information	21
6.2	Implementation of Front-end Design	21
6.2.1	Home Page	23
6.2.2	User Registration	27
6.3	Application Process	26
6.2.3	Quazi Registration	28
6.2.4	Quazi Sign In	29
6.2.5	Admin Sign In	30

6.2.6	Marriage Certificate	32
6.3	Implementation of Interaction	33
6.4	Testing Implementation	33
6.4.1	Test Case Table	33
6.5	Test Result and Reports	34
CHAPTER 7		35-38
CONCLUSION AND FUTURE WORKS		
7.1	Conclusion	35
7.2	Limitations	35
7.3	Future Works	36
REFERENCES	39

LIST OF TABLES

<u>Table No.</u>	<u>Title</u>	<u>Page No.</u>
Table 3.1	Functional Requirement	9
Table 5.1	Test Case	18

LIST OF FIGURES

<u>Figure No.</u>	<u>Title</u>	<u>Page No.</u>
Fig.3.1	Business process model	7
Fig.3.2	Use case model	10
Fig.3.3	Marriage Applicant Perspective Sequence Diagram	12
Fig.3.4	Admin Perspective Sequence Diagram	13
Fig.3.5	Logical data model	14
Fig.4.3	Class Diagram	16
Fig.5.1	Authentication rule	19
Fig.5.2	Quazi's information	20
Fig.3.3	Home page	22
Fig.5.1	User Registration	22
Fig.5.2	Application process	26
Fig.5.3	Quazi's Registration	28
Fig.5.4	Quazi sign in	28
Fig.5.5	Admin sign in	30
Fig.5.6	Marriage certificate	32

CHAPTER 1

INTRODUCTION

1.1 Introduction

A marriage certificate is an official statement that two people are married. In most jurisdictions, a marriage certificate is issued by a government official only after the civil registration of the marriage. In some jurisdictions, especially in the United States, a marriage certificate is the official record that two people have undertaken a marriage ceremony[1]. This includes jurisdictions where marriage licenses do not exist. In other jurisdictions, a marriage license serves a dual purpose of granting permission for a marriage to take place and then endorsing the same document to record the fact that the marriage has been performed. An online marriage certificate website is a digital platform that simplifies the process of obtaining a marriage certificate. It offers a convenient and secure way for couples to apply and receive their marriage certificate without the need to visit a government office physically.

1.2 Objectives

Obtaining an online marriage certificate offers several benefits and objectives, including:

1. **Legal Proof of Marriage:** An online marriage certificate serves as legal proof of your marriage. It is a recognized document that verifies the union of two individuals in the eyes of the law.
2. **Social and Cultural Recognition:** Marriage certificates are often required for social and cultural purposes. They can be essential for participating in various ceremonies, customs, and traditions.
3. **Rights and Benefits:** Marriage certificates grant couples certain legal rights and benefits, such as spousal insurance coverage, inheritance rights, and the ability to make medical decisions for a spouse.
4. **Changing Legal Status:** Marriage changes the legal status of individuals, and a marriage certificate reflects this change. It may affect taxation, property ownership, and legal responsibilities.
5. **Divorce Proceedings:** In the unfortunate event of divorce, a marriage certificate may be required as proof of the marriage to initiate the divorce process.

6. **Name Change:** Many individuals choose to change their last name upon marriage. A marriage certificate is often needed to update identification documents, such as a driver's license or passport, with the new name.
7. **Social Services and Assistance:** Some government programs and social services consider marital status when determining eligibility for benefits, making a marriage certificate essential for qualification.

These objectives highlight the significance of obtaining an online marriage certificate in various aspects of life, including legal, social, financial, and personal matters.

1.3 The Scope of the Work

This system will help the married couples to reduce the time, money for their official work. It will help the common people who are use the system.

1.4 Beneficiaries and Benefits

- i. This web application is fully functional and flexible.
- ii. It is very easy to use.
- iii. The system helps to Admin to control the all the functionality.
- iv. It saves a lot of time and money.
- v. This system acts as an office that is open 24/7.
- vi. It increases the efficiency of the management at offering quality services to the common people.
- vii. Admin keep the user list. The system provides an opportunity for married couples.

1.5 Expected Outcome

By using this web application marriage certificate can easily get all the information about the couples such as national id, picture and all previous record of the marriage couples. On the other hand couples also easily fill up the information from which are easy and comfortable from the previous analog system and this save their time. In case the marriage lity in divorce, the marriage certificate can be crucial for legal proceedings related to the dissolution of the marriage. In some cases, a marriage certificate might be needed when applying for a spouse's visa or for other immigration-related purposes. It is used for updating your marital status with government agencies like Social Security and the Internal Revenue Service for tax purposes.

1.6 Report Layout

Chapter 1: We have discussed about introduction, objectives and the expected outcome of our project.

Chapter 2: Contains scope of the problem and the challenges we have to face to implement this web application.

Chapter 3: We have discussed about requirement specification such as business process modeling, requirement analysis and modeling, logical data model and design requirement.

Chapter 4: Contains the Front-end design, back-end design interaction design and UX and Implementation requirements are described in this section.

Chapter 5: We have discussed about the implementation of database, implementation of front-end design implementation of interaction, testing implementation and test results and reports.

Chapter 6: We have discussed Conclusion and the future scope of our project.

CHAPTER 2

BACKGROUND

2.1 Introduction

The platform typically offers a simple and easy-to-use interface that allows couples to enter their personal details and other relevant information required for processing the certificate. The goal of the web app offers a convenient and secure way to apply and receive a marriage certificate from the comfort of one's home. The web app allows couples to upload their identity proof documents and other necessary documents required for the marriage certificate application. It provides a feature that allows couples to track the status of their application. They can check whether their application is under processing or has been approved, and when they can expect to receive the marriage certificate.

2.2 Project Planning

Project Scenario:

The system has been designed with three modules in mind. These modules are, admin portal module, quazi portal module and married couple user module. These three modules will make up the structure of the system. Admin module will help the admin to maintain the unauthorized users. Admin can see the details of the user from the site and also the updated or deleted. Quazi portal module will help the married couple to provide marriage certificate. He can add couple information. Everybody can visit the website. But only married couples can apply for a marriage certificate.

Scenario 1: User (Married Couple) Based

- i. First, the user has to register to sign in.
- ii. After successfully registering, the user can log in.
- iii. Finally, the user can apply for the certificate.

Scenario 2: User (Quazi) Based

- i. First, the user has to register to sign in.
- ii. After successful registration, Quazi can log in.
- iii. Finally, Quazi can add the couples' information.

Scenario 3: User (Admin) Based

- i. Admin login to the system.
- ii. He can see the all marriage register list.
- iii. He can delete or update information.
- iv. Then he can log out from the system.

2.3 Stakeholders

The Admin :

- i. Check information
- ii. Check validation
- iii. View applicant list
- iv. Do Update and Delete
- v. Provide Certificate

The Quazi:

- i. Add couple information
- ii. Update information
- iii. View information

The User:

- i. View Marriage related information
- ii. View Contact Details

2.4 Project Schedule

We complete our project following by agile model.

Task No	Task Name	Duration
01	Planning	20 days
02	Requirement gathering & analysis	15 days
03	System Design	10 days
04	Development	30 days
05	Testing	7 days
06	Implementation	20 days
07	Relies	7 days
08	Total	109 days

Table-2.1: Project

2.5 Scope of the problem

In web application, so if the certificate applier does not have smart phone or if they do not know how to use smart phone it will be no effective for them. The married couple must be logged in with the specific government registration number. Otherwise, a married couple will not be able to fulfill the sign in process. Married couples cannot apply for the certificate until Quazi add their marriage information.

2.6 Challenges

- i. First of all, we had to face how to generate a unique idea for implement this web application.
- ii. Hence, it's a government-based web application, so we had to collect a lot of fake data to create an API similar to a government server.
- iii. Validation is also a critical part of this web application.
- iv. The next challenge we faced was to create a PDF option.
- v. Use a suitable database to store all the information securely.
- vi. The final challenge was to create a signature on the certificate.
- vii. These corrections improve the clarity and correctness of the sentences

CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Modeling

Business Process modeling is a process of constructing a structural view of a system or process. It includes some process, starts and symbol, condition as like flow chart. In our system we construct business process model which shows how to send the married couple information to the government authority and authority verifies the information. And it also shows what will happen if the authority does not verify the information. If the information is correct, then the authority provides a certificate. Figure 3.1 shows business process modeling.

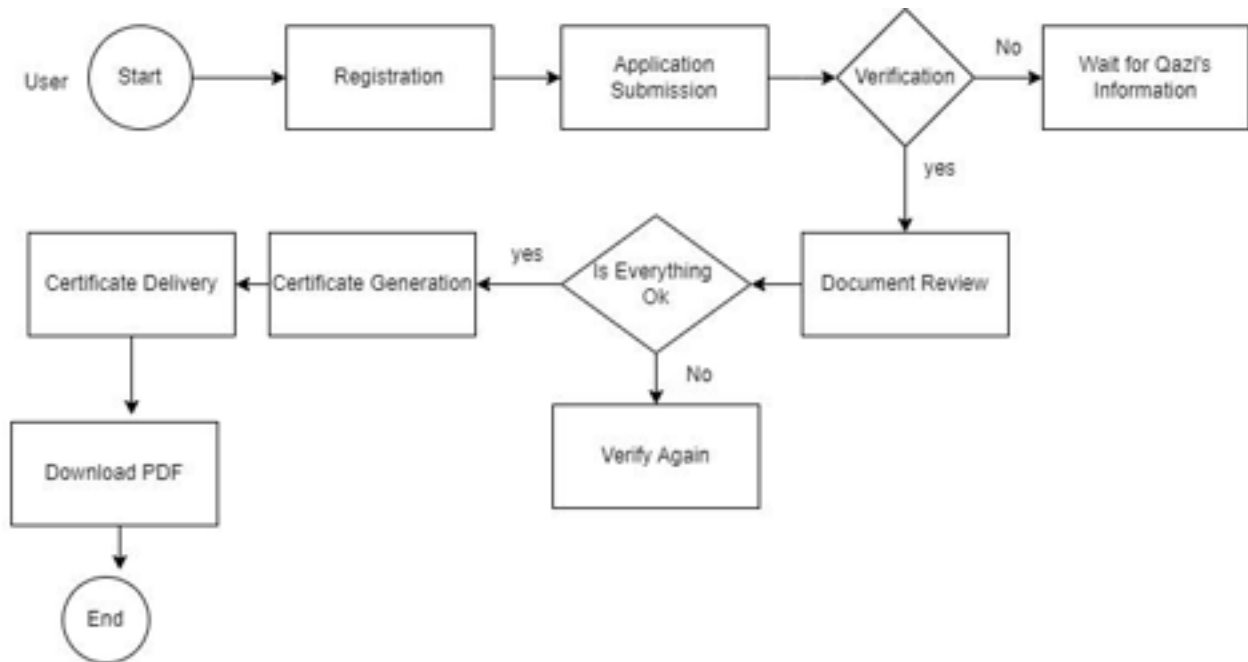


Figure 3.1: Business Process Model

3.2 Requirement Collection and Analysis

Requirement collection and analysis are very significant term to develop a system or any kind of web application. It meets the goal of the user, Quazi and the admin. As our application is concerned with the requirements of the married couple and the admin so, we went to them and tried to know what their requirement for this app are. Here the Government is the admin user. They all suggested developing a simple app which they can use expediently. To maintain the information of the married couples this app will provide them a great service.

3.3 Functional Requirement

Admin log in:

FR-01	Admin login
Description	In this system admin must login then access this system functionality
System User	Admin

Add Applicant:

FR-02	Add applicant
Description	In this system, the admin can add certificate applicants and delete applications. The admin can also view the list of all users.
System User	Admin

Certificate applicant Login:

FR-03	Certificate applicant login
Description	In this system applicants must login then access this system functionality
System User	Married couple

Certificate application:

FR-04	Certificate application
Description	In this system, certificate applicants can submit applications with all the required information, and it is mandatory to provide their NID number. Applicants can also view and update their applications if needed.
System User	Married couple

Check and Download Certificate:

FR-03	Check and Download Certificate
Description	In this system Marriage register can check married status
System User	Married couple

3.4 Use Case Modelling

A use case model is a graphic description of the interactions among the elements of a system. A use case is a methodology used in system analysis to identify, clarify and organizing system requirements[3]. Figure 3.2 shows the use case modelling of the app.

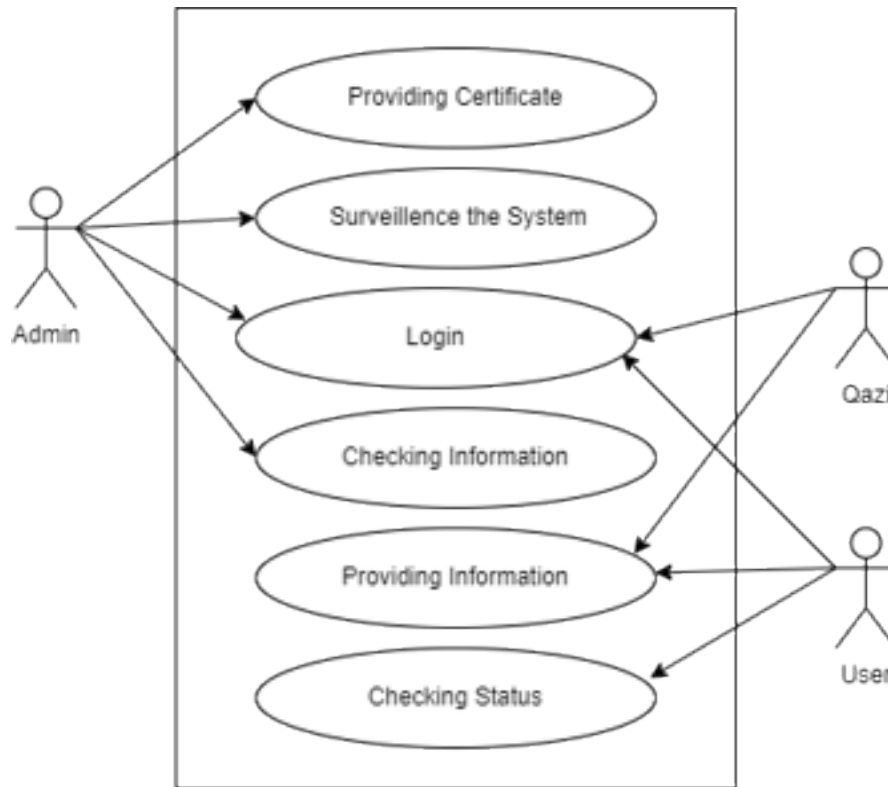


Figure 3.2: Use Case Model

Certainly, here's a simplified use case diagram for an online marriage certificate system with three main actors: Applicant, Qazi and Admin.

Actors:

Applicant: The person applying for a marriage certificate.

Qazi: Providing Marital information.

Admin: The system administrator responsible for managing and maintaining the online marriage certificate system.

Use Cases:

1. Apply for Marriage Certificate

Actor: Applicant

Description: The applicant initiates the process applying of for a marriage certificate.

2.Submit Application

Actor: Applicant

Description: The applicant provides all necessary information and documents to the system.

3.Officiate Marriage

Actor: Qazi

Description: The Qazi providing necessary details to the system.

4.Verify Application

Actor: Admin

Description: The admin reviews the submitted application for completeness and accuracy.

5.Approve Application

Actor: Admin

Description: If the application meets all requirements, the admin approves it.

6.Generate Certificate

Actor: Admin

Description: After approval, the admin generates the marriage certificate.

7. Download Certificate

Actor: Applicant

Description: The applicant downloads the marriage certificate from the system.

8. Adminstrate System

Actor: Admin

Description: The admin is responsible for managing and maintaining the online marriage certificate system, including user accounts, system settings, and updates.

3.5 Sequence Diagram

A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario[2].

3.5.1 Admin Perspective Sequence Diagram:

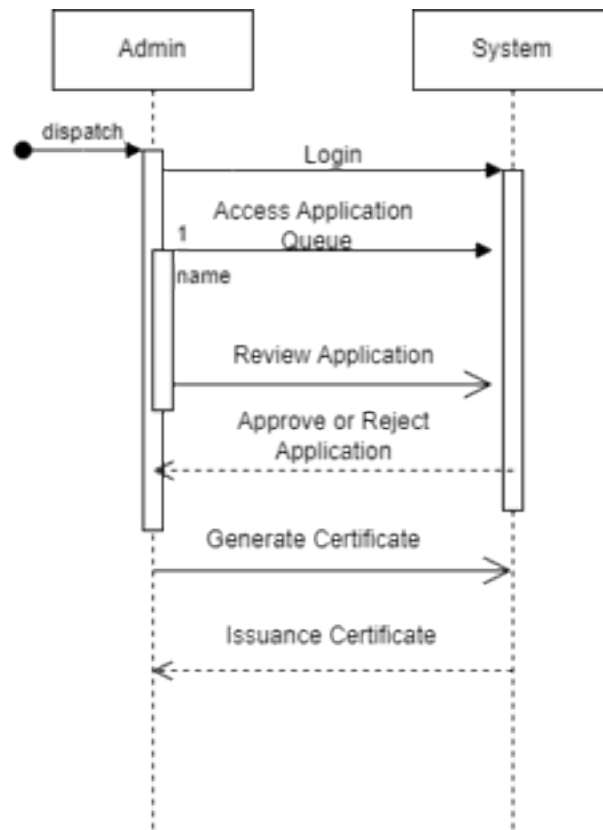


Figure 3.3: Admin Perspective Sequence Diagram

3.4.2 Marriage Register Perspective Sequence Diagram

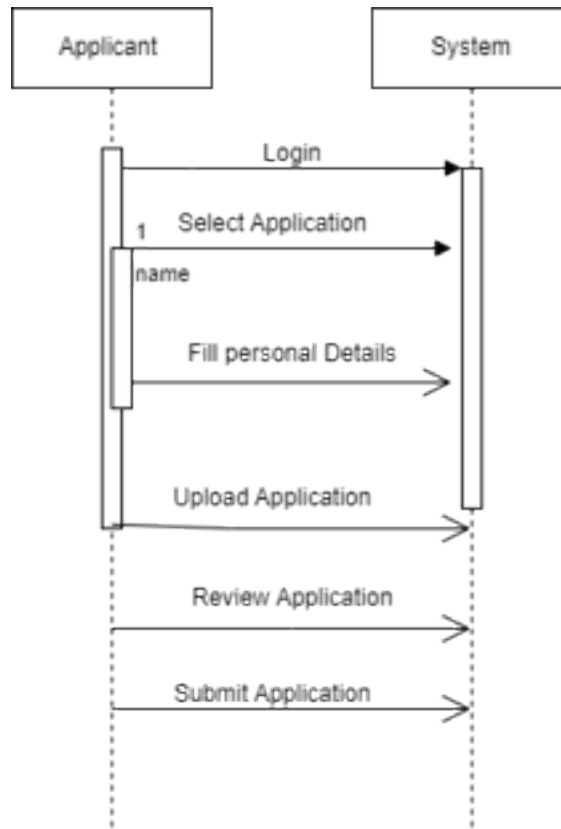


Figure 3.5.2: Marriage Register Perspective Sequence Diagram

3.3 Logical Data Model

logical data model has relational table named Admin. Quazi, Married Couple. It serves as an abstract representation of how data is organized and related within the system. The total relational model has shown on Our project's the following Figure 3.4.1.

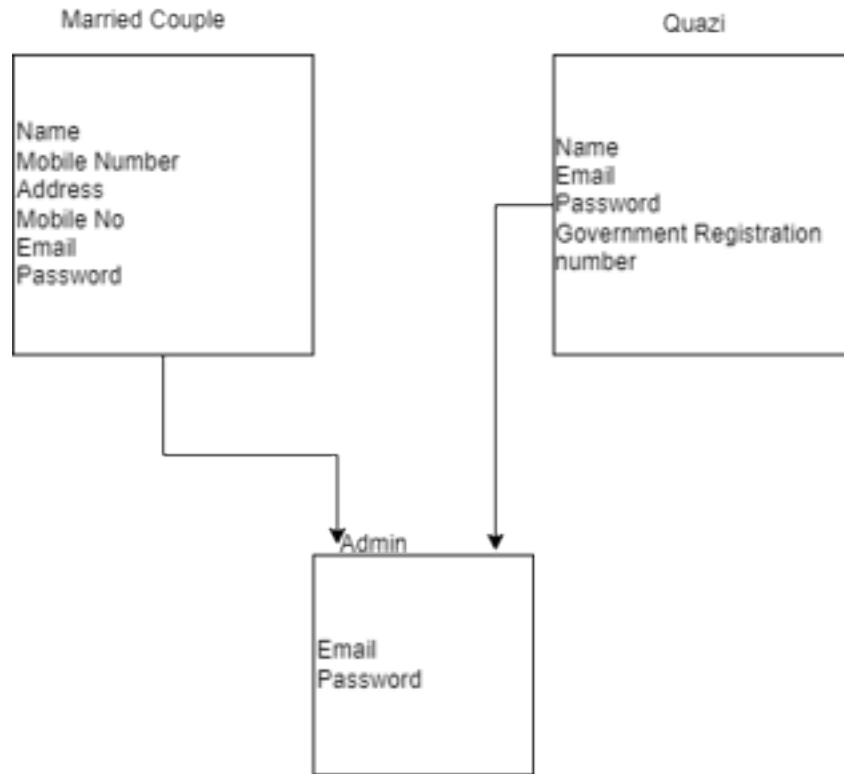


Figure 3.4.1: Logical Data Model

3.4 Design Requirement

A well design web app is pleasure to use. Our web app provides service to the married couple and the government to maintain security in an area. Here, government authority does their job as the admin of the database and the married couples is the field user. Though the users of our app are married couples so, we try to make the interface of the app convenient to the user. Well design of web app is very essential but we should concentrate to the output design of the app first. User typically uses this app to maintain their personal information which is required by the government. So simplifying this app by making user interface simple is our primary responsibility.

CHAPTER 4

DESIGN AND DEVELOPMENT

4.1 Design and Implementation Constraints

Technology:

- MERN

System Language:

- JavaScript

Library:

- React JS

Runtime Environment:

- Node JS

Database:

- MongoDB

4.2. Development Tools:

User Interface Technology:

- Visual Studio

Implementation Tools and Platforms:

- MongoDB Server
- Server name: local host
- Visual Studio

4.3 Class Diagram

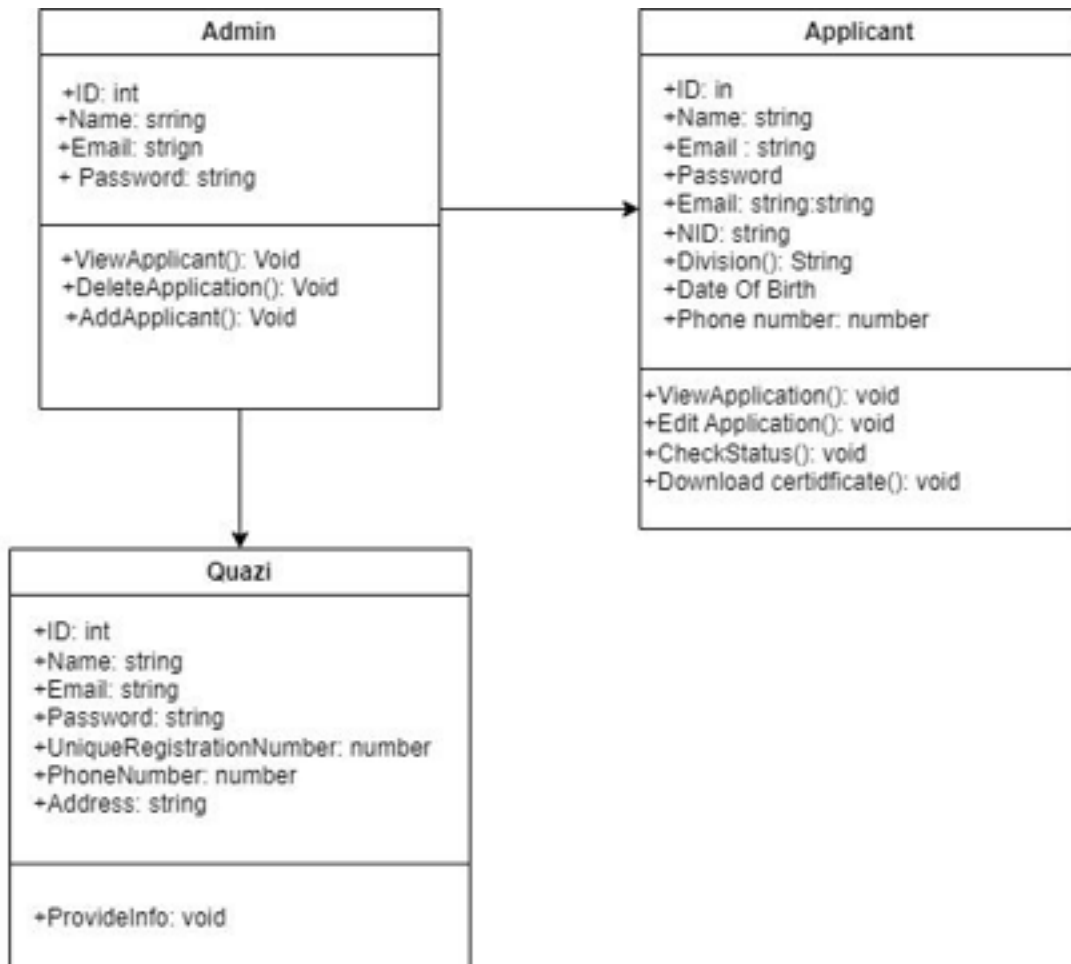


Figure 4.3: Class Diagram

CHAPTER 5

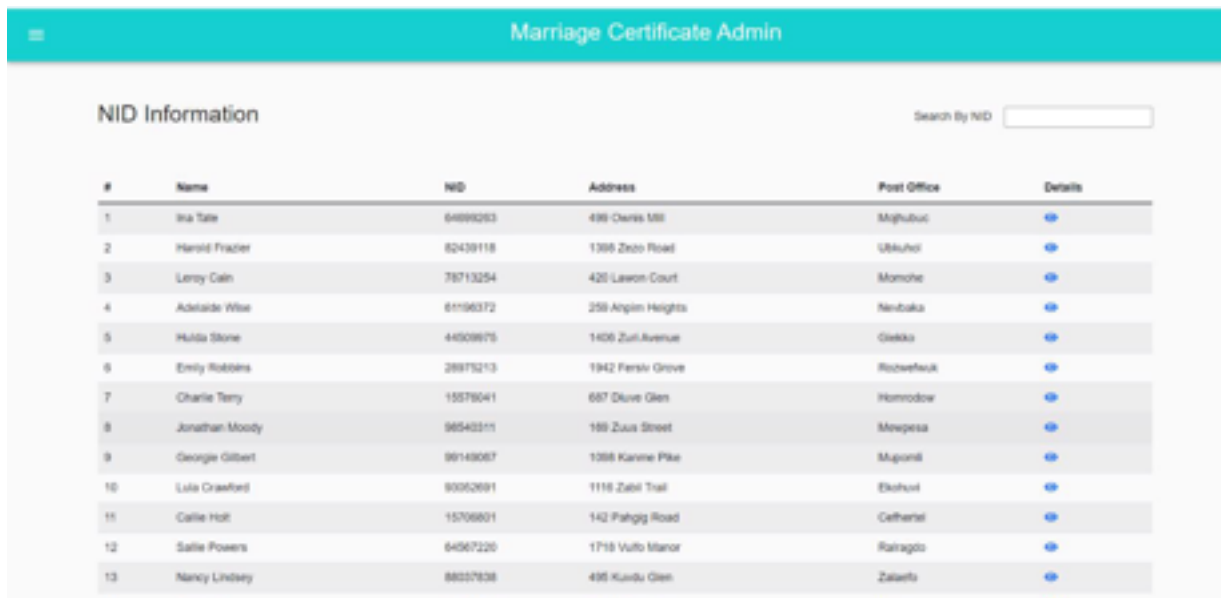
DESIGN SPECIFICATION

5.1 Front-end Design

Front page of web application must draw the attention of the user. To make our application attractive to the user we use React JS. We Design our project with easily understandable React JS so that, the user can easily access the app the user. In the front page we simply use a registration option and sign in option. To sign in this app the user must complete the registration first.

5.2 Back-end Design

Back-end design is only seen by the programmer. How will the application interact with the user is implement in the back-end. User cannot interact with the back-end design. As our project maintain the information that seen by government authority so, we need to create a database to store this information We use MongoDB to create database. The following figure describe how we designed the back-end of our project. Figure 4.1.1 shows the back-end design for the user. This



The screenshot shows a web application interface for 'Marriage Certificate Admin'. It features a teal header bar with the title and a search input field labeled 'Search By NID'. Below the header, there is a table titled 'NID Information' with the following data:

#	Name	NID	Address	Post Office	Details
1	Ira Tate	6489283	498 Davis Mill	Mghubuc	Details
2	Harold Frasier	82439118	1398 Zuko Road	USAuhoi	Details
3	Lenny Cain	78713254	420 Lawson Court	Momoho	Details
4	Adelaide Wise	61196372	258 Argon Heights	Nebuka	Details
5	Hilda Stone	4400875	1406 Zuri Avenue	Gekko	Details
6	Emily Robbins	28975213	1942 Ferns Grove	Rozwefuk	Details
7	Charlie Terry	15578041	667 Olive Glen	Homrodow	Details
8	Jonathan Moody	96543211	189 Zeus Street	Mwepesa	Details
9	George Gilbert	99149067	1388 Karrie Pike	Mugoni	Details
10	Lula Crawford	93052691	1118 Zabi Trail	Ekohud	Details
11	Celia Holt	15706801	142 Fahgig Road	Celferid	Details
12	Sally Powers	64967220	1718 Vulo Manor	Ratragto	Details
13	Nancy Lindsey	88027838	495 Kudu Glen	Zakelfo	Details

Figure 5.1.1: User List

5.3 Interaction Design and UX

Interaction design describes the relationship between the application and the user. It is important to know how much web application will popular among the user that depends on the interaction of the app with the user. If the app is convenient to use and it provides great outcomes to the user, then it will gain popularity. Experience is very essential for interaction design because the user experience mainly focuses on the interaction between the user and the application. From this experience, we tried to make the most of the features of our app that can interact with the user. Although ours is a security-based web app, we tried to provide great security to users by using the registration option, which requires a valid email ID and password. UX design or user experience design is the most challenging part for a programmer. Always the need to focus on the experience of user of using web app and how they satisfy with a product. We pay attention on this sector and tried to implement an application that has satisfactory interface which should be accepted by the user.

5.4 Implementation Requirement

To implement a project, we need different types of tools, components, and software. We also need some tools and components to implement our project. Ours is a web-based application project, so we used web-based design tools and components to implement our application. Here is a short description of the tools and components that required implementing our application.

5.5 Web Platform

Web platform is a popular platform to implement any kind of Web application. It provides the great features to the programmer to implement a web app. It provides almost all the components and tools and frame works for developing web app easily and quickly. We use web platform as our application IDE. It's an open source platform so, programmer prefers Web application to develop various types web application.

5.6 MongoDB

One of the most important characteristics of NoSQL databases like MongoDB is that they have no schema. We need a database to store the information of the user. We use MongoDB as the main database of our application to store and maintain the information of the user. We also had a maintain the security of the personal information of the of the married couples. It synchronize the data in to every connected user in the application.

CHAPTER 6

IMPLEMENTATION AND TESTING

6.1 Implementation of Database

To sign in the further time if the user does not provide the valid id or password user cannot sign in. MongoDB use in authentication rule if the email is valid or invalid. Figure 5.1.1 shows the authentication rule.

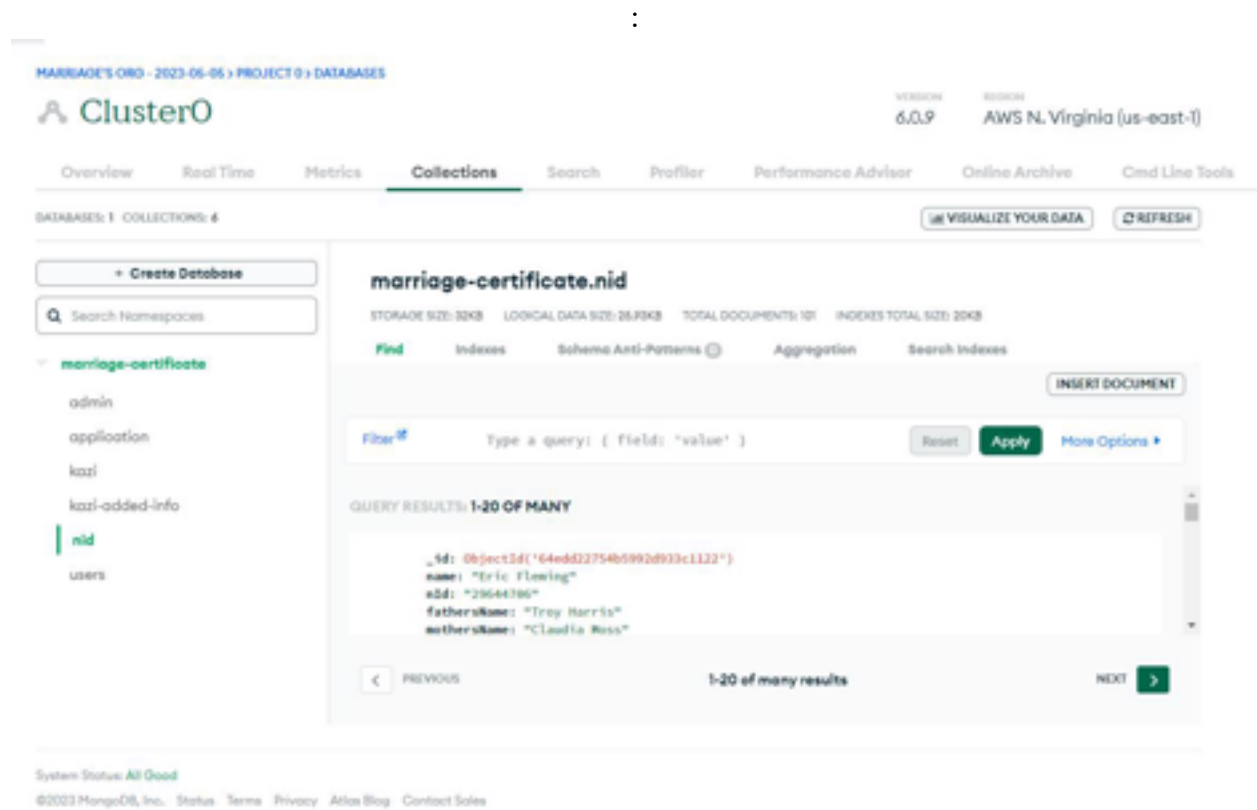


Figure 6.1.1: Authentication Rule

The user of our app is admin, Quazi and married couple. The information is stored in the unique id. When a user sign in the database MongoDB gives a unique id. Figure 5.1.2 shows Quazi’s information.

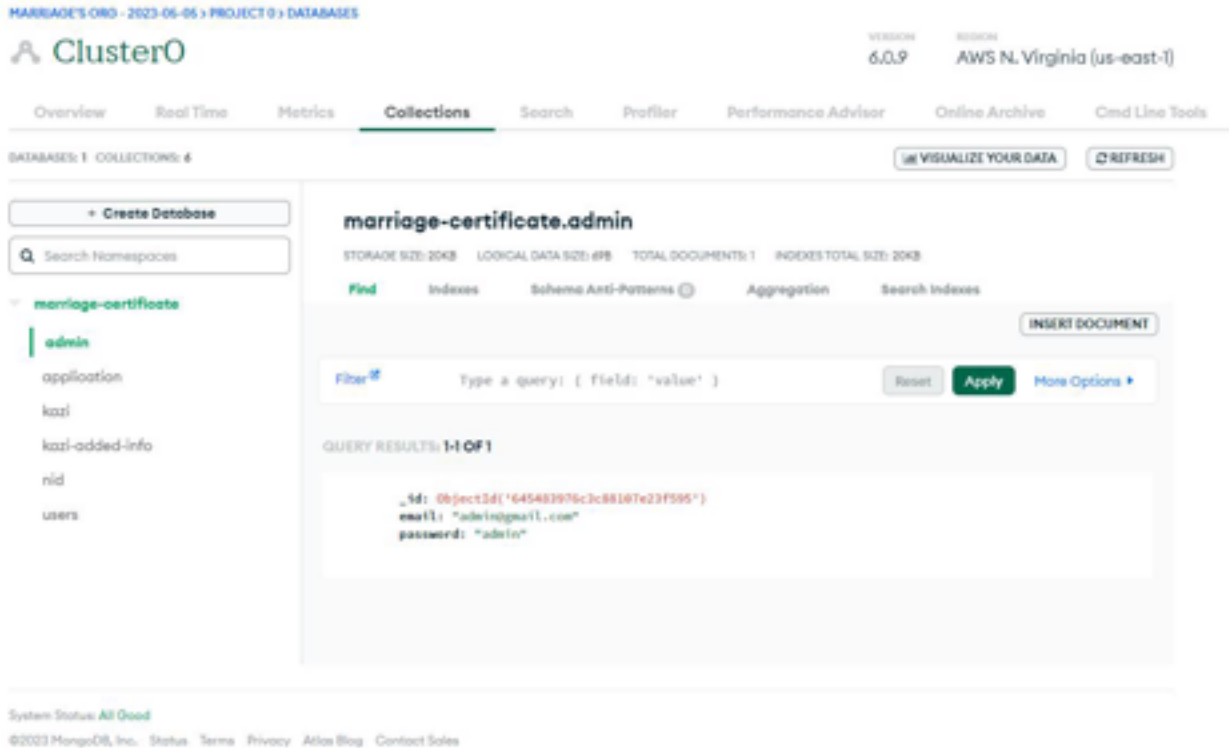


Figure 6.2: Admin Information

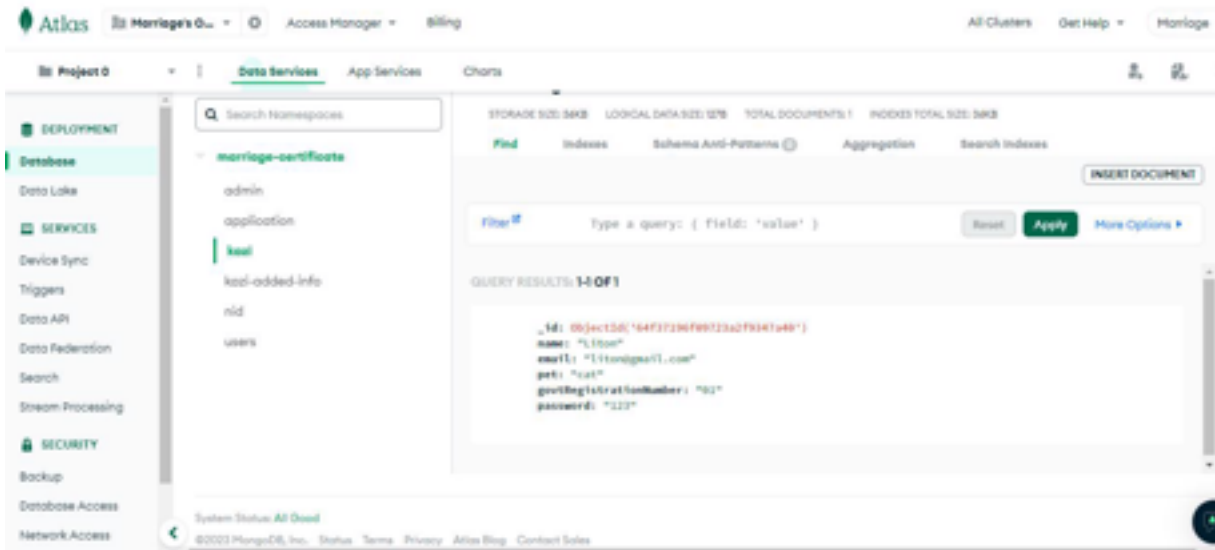


Figure 6.1.2: Quazi’s Information

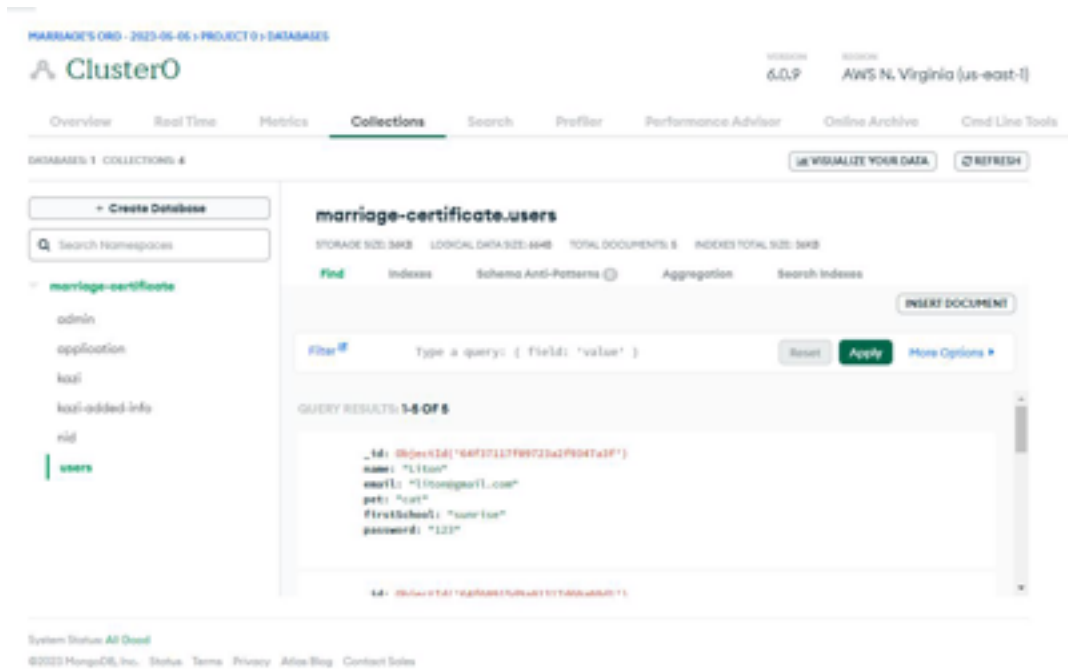


Figure 6.1.3: User Information

When Quazi provide married couple information then they can application for certificate

6.2 Implementation of Front-end Design

Only the front-end design is visible to the user. So it should affectionate to look at. It also should user friendly and convenient to use. We already have said that the user of our web app is Quazi, married couples and the admin. At the first page of our app we arrange registration and sign in option. Figure 5.2.1 shows how we implement the front-end of our app.

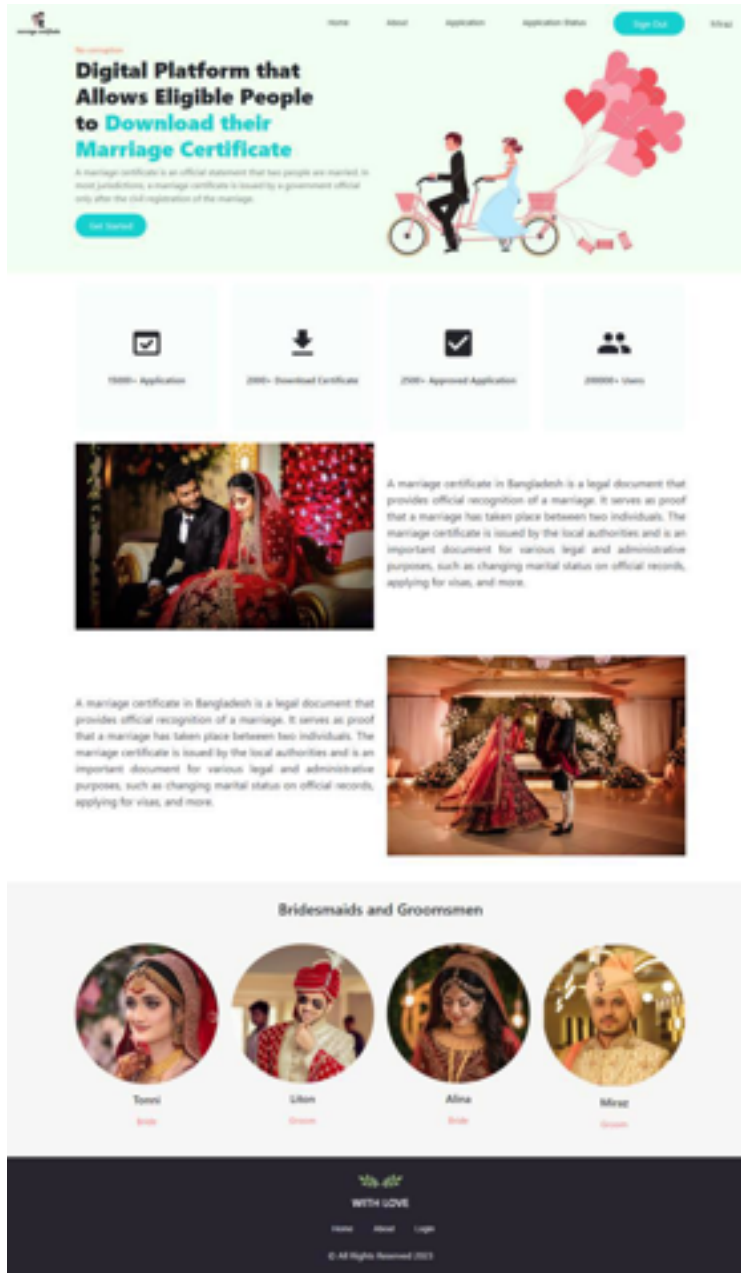


Figure 6.2.1 Home Page



Digital Platform that Allows Eligible People to Download Their Marriage Certificate

An online marriage certificate is a digital copy of a marriage certificate that can be obtained through a website or online service. It is a convenient alternative to obtaining a physical copy of the certificate through traditional channels, such as a government office or registry.

To obtain an online marriage certificate, a person typically needs to submit an application through an online portal or website. The application may require the person to provide personal details, such as their name, address, and the details of the marriage, such as the date and location of the ceremony. The online service may also require the person to provide identification and other supporting documents to verify their identity and the authenticity of the marriage.

Once the application is processed and verified, the online service will typically generate a digital copy of the marriage certificate, which can be downloaded and printed by the applicant. The digital copy of the marriage certificate is often considered to be a legal document and can be used to prove the person's marital status for various purposes, such as applying for a passport or changing their name.

One of the main advantages of obtaining an online marriage certificate is that it can be done quickly and easily, without the need to visit a government office or registry in person. Additionally, online services may offer faster turnaround times and more flexible hours of operation, making it easier for people to obtain the certificate they need. However, it is important to note that the availability and legal validity of online marriage certificates may vary depending on the jurisdiction in which the marriage took place.



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Figure 6.2: About

The image shows a web application interface for applying for a certificate. The page has a light green background. At the top, there is a navigation bar with links for Home, About, Application, Application Status, and a Sign Out button. The main content area is a white box with the title "Apply For Certificate". Below the title, there are two identical sets of form fields. Each set includes: Name, Father's Name, Mother's Name, House Number, Ward Number, Union/City Corporation, Post Office, Thana, District, Date of Birth (with a calendar icon), NID Number, and Registration Serial Number. A blue "Submit" button is located at the bottom of the form. The footer is dark and contains the "Sujata WITH LOVE" logo, navigation links for Home, About, and Login, and a copyright notice: "© All Rights Reserved 2023".

Figure 6.3: Application Form

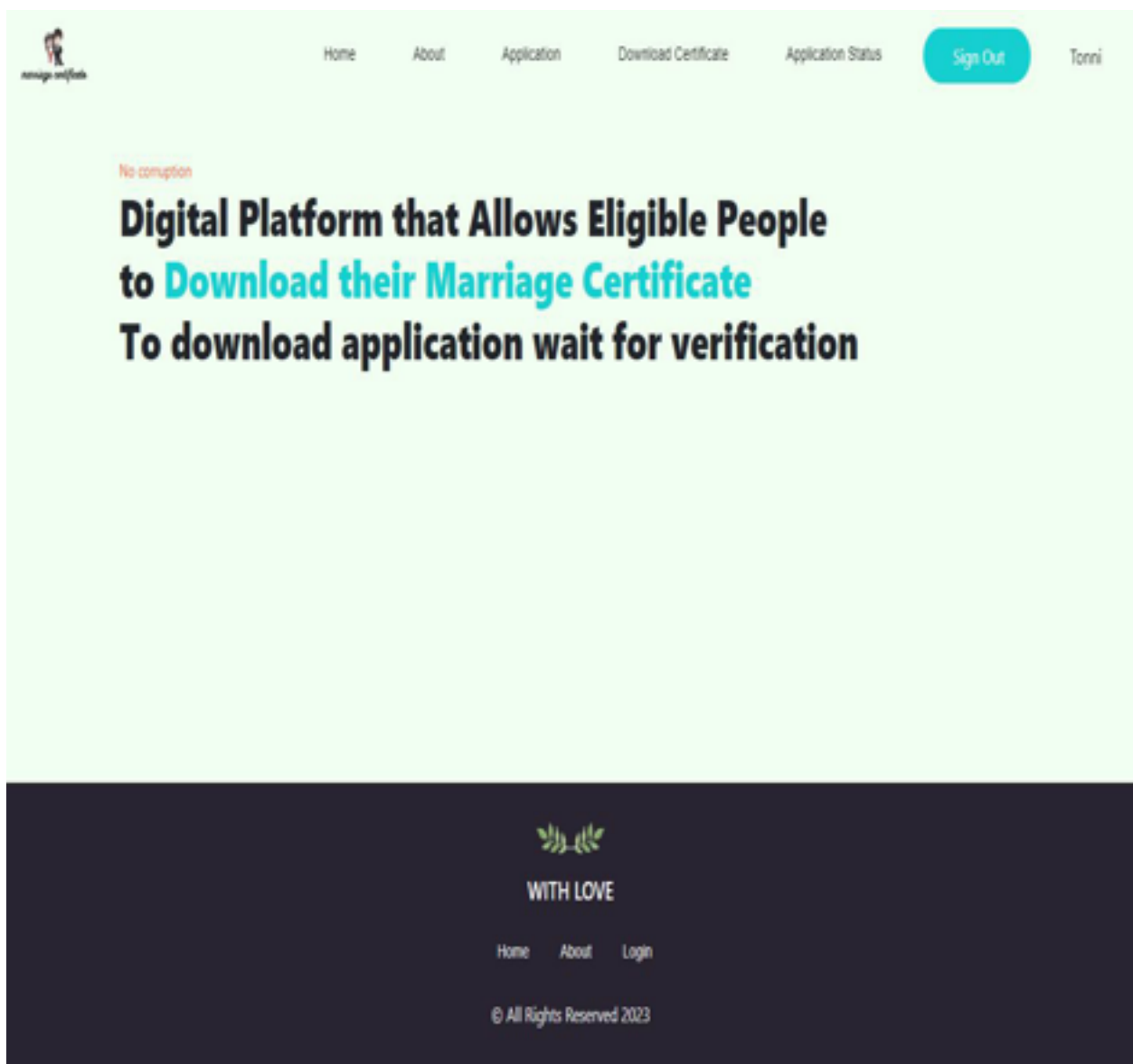


Figure 6.4: Download Certificate

If the user apply for the certificate then they needs to select application option. And if the download certificate then select download option.

Field	Value
Applicant's Name	: Serena Dalton
Father's Name	: Sigourney Saunders
Mother's Name	: Jarrod Webster
House Number	: 691
Ward Number	: 75
Union/City Corporation	: Id aut dignissimos v
Post Office	: At quibusdam ut non
Thana	: Quod dolorem labore
District	: Voluptatem Perferen
Date Of Birth	: 1972-05-18
NID Number	: 82439118
Wife Name	: Fuga Sit molestias
Father's Name	: Rana Sparks
Mother's Name	: Victoria Byers
House Number	: 243
Ward Number	: 26
Union/City Corporation	: Quam accusamus dolor
Post Office	: Dolor labore elit t
Thana	: Suscipit delectus e
District	: Reprehenderit Nam do
Date Of Birth	: 1978-10-03
NID Number	: 64699263
Date Of Marriage	: 2014-11-09
Registration Serial Number	: 8
Volume Number	: Tenetur omnis tempor
Book Number	: Ea dolor velit sed s
Status	: Pending
Application Date	: 2023-09-07


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[Home](#) [About](#) [Login](#)
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Figure 6.5: After Application

If any user wants to use our app at first he or she need to register using register option. After clicking on the register option the following page will appear to the user. In figure we can see how a user completes the registration to user our app.

The image shows a mobile application interface for user registration. At the top, there is a notification banner that reads "localhost:3000 says User Successfully Registered" with an "OK" button. Below the banner is a "Register" form with the following fields: Name (filled with "Meraj"), Email (filled with "ahmed041@gmail.com"), Phone Number (filled with "ahmed"), Address (filled with "Ahmadia Govt. School"), Password (masked with "*****"), and Confirm Password (masked with "*****"). At the bottom of the form are two buttons: "Register" and "Login". In the top right corner, there are three navigation buttons: "Sign In", "Forgot Login", and "Dashboard".

Figure 6.2.2: User Registration

Qazi typically refers to a person who performs Islamic marriages and may not be relevant in all regions so that, Quazi also sign in this app. Also need registration for sign in. Quazi has to be register with unique registration number of Govt. We can see how Quazi registration and sign in.

The image shows a registration form titled "Register". It contains the following fields from top to bottom: "Your Name", "Your Pet Name", "government register number", "Your Email", "Your Password", and "Re-enter Password". Below the fields are two buttons: a teal "Register" button and a teal "Login" button, separated by the word "or".

Figure 6.2.3: Quazi Registration

The image shows a login form titled "Login" centered on a website page. The form has two input fields: "Enter your Email" and "Enter your Password". Below these is a teal "Login" button, followed by a blue link "Forgot Password?". Below the link is the word "or" and a teal "Register" button. The form is set against a light green header with navigation links "Home", "About", "Sign In", "Fast Login", and "Dashboard". The footer is dark blue with the text "WITH LOVE" and navigation links "Home", "About", "Login".

Figure 6.2.4: Quazi Sign In

Navigation: Add Information, View Information, Sign Out, Tonni

#	Bride NID	Groom NID	Marriage Date	Volume NO.	Book NO.	Status
1	82439118	64699263	2014-11-09	Tenetur omnis tempor	Ea dolor velit sed s	

Footer: WITH LOVE, Home, About, Login, © All Rights Reserved 2023

Figure 6.2.5: Quazi Add Information



Figure 6.2.3: Sign In

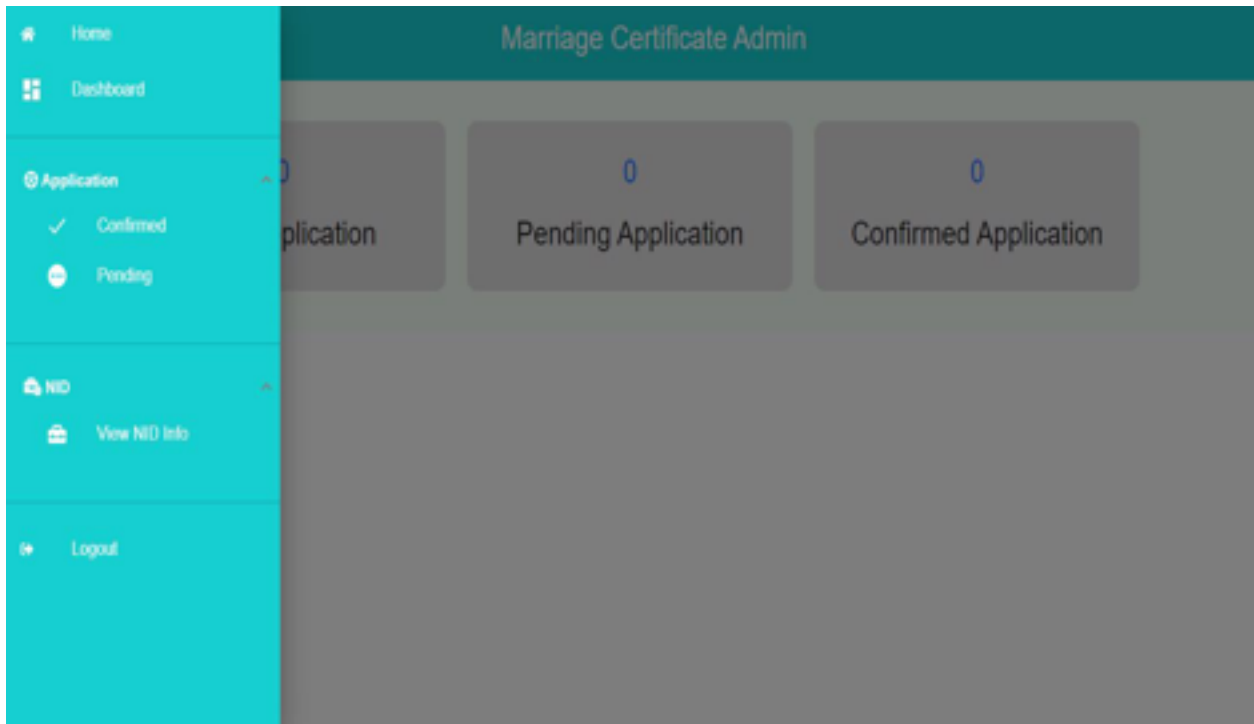


Figure 6.2.4: Dashboard

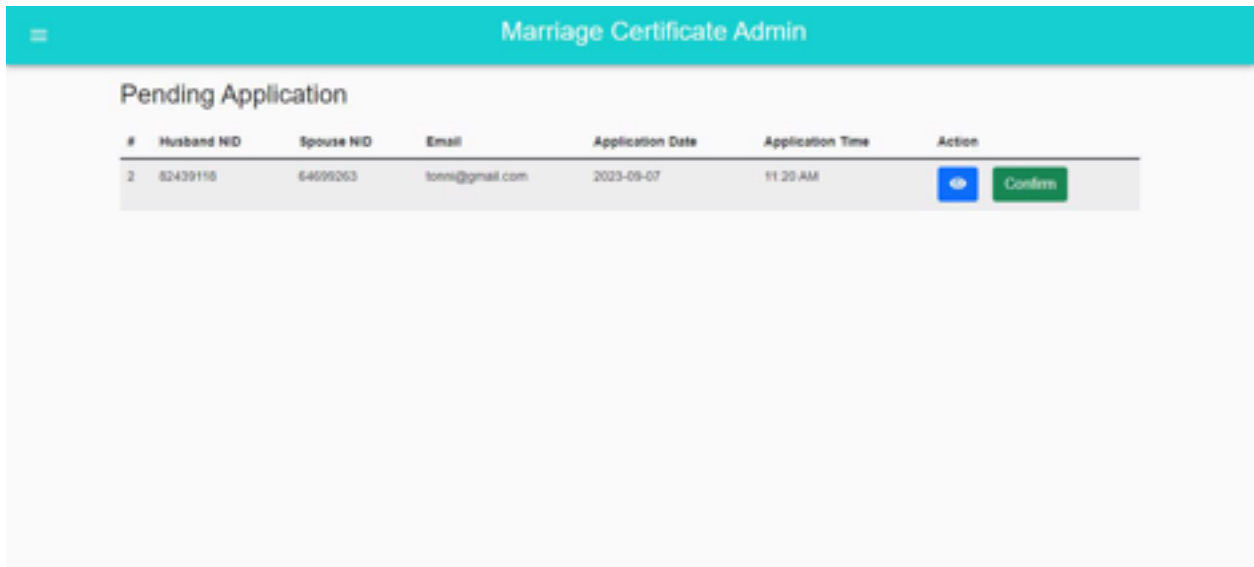


Figure 6.3.5: Pending Application

Marriage Certificate Admin						
Confirmed Application						
#	Applicant NID	Wife NID	Email	Application Date	Application Time	Action
1	64690263	62439118	lton@gmail.com	2023-09-04	04:05 PM	

Figure 6.3.6 : Confirmed Application



Marriage Certificate

This is certify that , Maya Bauer S/O : Barrett Randall and Ocean Hull
 Of Holding Number # 458/Ward # 92, Union Sed voluptate ut con Post Office illo praesentium dol
 Thana Delectus adipisci v District Molestias velit acc Date Of Birth 2006-11-10
 Married With Voluptate libero ips Daughter Of Caldwell Hewitt and Yvette Vargas
 Of Holding Number # 446/Ward# 68 , Union Quis nesclunt non q , Post Office Aute rerum ipsam ani
 Thana Laborum non incidunt District Voluptatem Recusand Date Of Birth 1970-06-11
 The marriage was solemnized on 2017-10-26 Registration Serial No. 13
 In Volume No. Ipsum cum dolores do Of Book No. Elit omnis qui Volu Year 2017
 We wish them every success in life.

Figure 6.2.4: Marriage Certificate.

6.3 Implementation of Interaction

Implementing an online marriage certificate system involves creating a web-based platform where couples can apply for and obtain marriage certificates. This system should also allow government authorities to process and verify these requests. Interaction makes a system attractive and popular to the user. So it's very important to interact with the user so that it can meet up their need. To interact with the user we try to make our app simple and easily usable. We implement our app with responsive UI for better user experience. To implement an easy interface we use easily understandable icon, text and button option. Our app is successfully implemented with necessary equipment that can easily interact with the user. It has an impressive interaction with the user. Implement data validation to ensure that applicants provide accurate and complete information.

6.4 Testing Implementation

Our goal is to design a series of test cases that has a high likelihood of finding errors. To finding errors. To uncover the errors software techniques are used. There techniques provide systematic guidance for designing test:

1. Exercise the internal logic of software components and
2. Exercise the input and output domains of the program to uncover errors in program function, behaviour and performance.

Table 6.4.1: Test case shows the following test case has been done for several time to detect errors.

Sl. No	Test Case id	Test Case name	Test Case Description	Step	Expected result	Actual Result	Test Case status Pass/Fail
1	Login Admin	Validate login	To verify That login Name on Login page	Enter the Login name and password and click Sign in button	Login successful or an error message “Failed Sign in” must be shown	Login success-ful	Pass

2	Login User	Validate login	To verify That login Name on Login page	Enter the Login name and password and click Sign in button	Login successful or an error message “Failed Sign in must be shown”	Login success-ful	Pass
3	Login Quazi	Validat e login	To verify That login Name on Login page	Enter the Login name and password and click Sign in button	Login successful or an error message “Failed Sign in must be shown”	Login success-ful	Pass
4	Password	Validat e passwo rd	To verify that password on login page	Enter password and login name and click sign in button	An error message “password invalid” must be displayed	Passwor d is invalid	Fail
5	Sign Out	Sign out from the system	To log out from the account	Click on the sign out button	Sign out from the system	Sign out success-ful	Pass

6.5 Test Result and Reports

Test reports represent the result of the test in a formal way. Report contains the data which we evaluated in a professional and organized manner. Report describes the operating condition and shows the result with test objective. By analyzing the testing report we can say whether the app is ready to use or not. In table 5.1 we describe the test case no, test case id, test case description, step of the test case, expected result and what is the actual result is and the test case status which can be pass or fail.

CHAPTER 7

CONCLUSION AND FUTURE WORKS

7.1 Conclusion

In conclusion, an online marriage certificate website is a digital platform that simplifies the process of obtaining a marriage certificate. It offers a convenient and secure way for couples to apply and receive their marriage certificate without the need to visit a government office physically.

The platform typically provides features such as online form filling, secure online payment, document upload, status tracking, certificate download, and customer support. The platform's user interface is designed to be easy-to-use, and the processing of the application is well defined, including verification of provided details and dispatching the certificate to the couple.

Overall, an online marriage certificate website offers an efficient and streamlined way for couples to obtain their marriage certificate, saving the time and effort. It is a prime example of how technology can simplify traditional bureaucratic processes and make them more accessible to people.

7.2 Limitations

Validity and Acceptance: The acceptance of online marriage certificates can vary from one jurisdiction to another. Some regions and organizations may not recognize digital certificates, preferring physical copies with official seals and signatures. It's important to check with the relevant authorities to ensure the online certificate is accepted where it is needed[5].

Security Concerns: Online marriage certificates may be susceptible to fraud or hacking. If not properly secured, they could be altered or forged. Ensuring the security of digital records is crucial to maintaining their integrity.

Access and Technology: Not everyone has easy access to the internet or the necessary technology to access online marriage certificates. This can be a barrier for individuals who need to obtain or verify their marriage status, particularly in less-developed or remote areas.

Privacy: Online certificates may raise concerns about privacy. Personal information, such as names, dates of birth, and addresses, may be accessible online, potentially exposing individuals to identity theft or other risks.

Technical Issues: Online systems can experience technical glitches, downtime, or server outages. These issues can hinder individuals from accessing their marriage certificates when they need them.

Dependence on Digital Infrastructure: Online marriage certificates rely on digital infrastructure, including databases and servers. Any disruption or failure in this infrastructure can result in the unavailability of these documents.

Lack of Physical Copy: Some individuals may prefer or require physical copies of marriage certificates for various purposes, such as visa applications, name changes, or insurance claims. Online certificates may not fulfill these needs without additional steps to obtain a physical copy.

Authentication Challenges: Verifying the authenticity of online marriage certificates can be more challenging than physical ones. Digital signatures and encryption may help address this issue, but they are not foolproof.

Legal Differences: The legal requirements for marriage certificates can vary widely by jurisdiction. Online certificates may not always comply with the specific requirements of a particular region, leading to issues when trying to use them for legal or administrative purposes.

Long-Term Accessibility: There is a risk that online marriage certificates may become inaccessible or lost over time due to changes in technology, website closures, or other unforeseen events. Storing digital copies in multiple secure locations or using trusted third-party services may mitigate this risk.

In summary, while online marriage certificates offer convenience and accessibility, they also come with limitations related to acceptance, security, privacy, technology, and legal requirements. It's essential to understand these limitations and consider the specific requirements of your situation when choosing between online and physical marriage certificates.

7.3 Future Works

Real Data Collection: We have to collect real data from government to create a database for all the people of Bangladesh. So that we can implement our web application for every users. Then every user can apply for their marriage certificate.

Blockchain Technology: Integrating blockchain technology can enhance the security and authenticity of online marriage certificates. Blockchain provides a tamper-resistant and transparent ledger, making it difficult to alter or forge records. Several governments are already exploring the use of blockchain for vital records like marriage certificates[3].

Smart Contracts: Smart contracts, which are self-executing contracts with the terms of the agreement between parties directly written into code, could automate various processes related to marriage certificates. This could include automatically updating records after a marriage ceremony, simplifying name change procedures, and managing spousal benefits.

Global Standardization: Efforts to create global standards for online marriage certificates could make them more universally recognized and accepted. Standardized formats and data structures could facilitate cross-border recognition and reduce administrative burdens[4].

Biometric Authentication: To enhance security, future online marriage certificates may incorporate biometric authentication methods, such as fingerprints or facial recognition, to ensure that individuals accessing the certificates are authorized.

Mobile Accessibility: Mobile applications and digital wallets could become more common for storing and accessing online marriage certificates, increasing convenience for individuals who need to present them for various purposes.

Enhanced Privacy Measures: Future systems may incorporate advanced encryption and data protection techniques to safeguard the personal information contained in marriage certificates, addressing privacy concerns.

Interoperability: Improved interoperability between government agencies, healthcare providers, financial institutions, and other organizations that rely on marriage certificates could streamline processes like name changes, beneficiary designations, and insurance claims.

Digital Signatures: The use of digital signatures and certificates issued by trusted authorities could become more widespread, making it easier to verify the authenticity of online marriage certificates.

Cloud Storage: Cloud-based storage solutions could offer long-term accessibility and data redundancy, ensuring that online marriage certificates remain accessible even if the original issuing authority experiences technical issues or discontinues its service.

AI and Automation: Artificial intelligence and automation could be used to streamline the issuance and verification of marriage certificates, reducing processing times and errors.

Multilingual Support: Online marriage certificate systems may offer multilingual support to cater to a diverse population, ensuring that individuals from different linguistic backgrounds can access and understand their certificates.

Cross-Agency Integration: Integration between agencies responsible for various aspects of marriage, such as marriage licenses, tax benefits, and immigration services, could create a more seamless experience for couples.

Digital Preservation: Robust digital preservation strategies could ensure the long-term accessibility and integrity of online marriage certificates, preventing loss of data due to technological changes or obsolescence.

User Education: Future efforts may focus on educating the public about the benefits and proper use of online marriage certificates, as well as the importance of safeguarding personal information.

It's important to note that the adoption of these future developments may vary by region and depend on legal and regulatory frameworks. As technology continues to advance, online marriage certificates have the potential to become more secure, convenient, and widely accepted in the years ahead.

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