Independent University, Bangladesh

An undergraduate internship report submitted by

Rifat Mustari Rimu

In consideration of the partial fulfilment of the requirements for the degree of

BACHELOR OF SCIENCE

in

Computer Science and Engineering

Department of Computer Science and Engineering

Spring 2021

An undergraduate internship report submitted by

Rifat Mustari Rimu

has been approved on --/--/--.

Md Fahad Monir

Internship Supervisor & Lecturer

Department of Computer Science and Engineering

School of Engineering & Computer Science

Independent University, Bangladesh

Attestation

I certify that this report is my own work, base on my personal work by me during my internship. And that I have acknowledged all material and sources used in this report.

I also certify that this report has not previously been submitted for assessment in any other unit and that I have not plagiarized the work of other student or persons. However, following the internationally accepted academic guideline of using other's written work and/or software (in the form of code) in my University project is properly cited if used in any part of this work.

---------- ----------

Signature: Date:

Name

Acknowledgements

First and foremost, I desire to express my deepest sense of gratitude Allah, it is because of His mercy and blessing that I have come so far. It has been a great privilege to work for Massive Station as an Intern. I have received so much support and encouragement from the individuals of Massive Station who have years of experience in Web Development. I would like to thank the member of Massive Station for spending their valuable time and knowledge which was essential for the completion of this report.

I express my gratefulness to my internal supervisor, Md Fahad Monir, Lecturer, Department of Computer Science and Engineering, Independent University, Bangladesh (IUB) and my external supervisor Mohaimun Sayeed Robiul, Chief Technology Officer, Massive Station for his invaluable instructions, continuous guidance, support and motivation during my internship period and preparation of this report

My gratitude also extends to all other employees of Massive Station who help me learn so much in my own skill development process and made me fit right in the environment. Many many thanks to the co-developers of this project, specially

Finally, I proudly acknowledge the great sacrifices, good wishes, moral support fruitful advice, inspirations and encouragements from my family member, relatives and friends.

Rifat Mustari Rimu

February,2021

Letter of Transmittal

7th May 2021

Md. Fahad Monir

Lecturer,

Department of Computer Science and Engineering,

Independent University, Bangladesh

Subject: Letter of Submission for Internship Report, Spring 2021

Dear Sir,

This is to inform that with due honour and respect, I Rifat Mustari Rimu (ID: 1722139) from Internship Course of Spring 2021 Semester, Section 9, would like to submit my Internship report. This is based on my internship program and the project I have worked on. My internship was conducted from 1st February 2021 to 4th May 2021 and it has been completed at Massive Station.

This report is based on my experience and the work I did at Massive Station during my internship program. The primary goal for my internship was to gain experience from working in the software engineering industry and familiarize myself with all the different technology related fields of the company, including research and development, documentation, software development and to get acquainted with software development processes and practices.

Over the period of my internship at Massive Station, I had to learn and adapt to the evolving technologies being used in different situations and requirements and to be able to apply them in real life projects.

I hope the following report can achieve your approval and is adequate.

Sincerely,

_____

Rifat Mustari Rimu

Email: rifatmustari@gmail.com

Evaluation Committee

…….. Signature

…….. Name

…… Supervisor

……. Signature

……... Name

…… Internal Examiner

…… Signature

…….. Name

…… External Examiner

……. Signature

…….. Name

……. Convener

Abstract

Marriage, it' s about entering into it with a healthy idea of love and relationships. And it's important to know that you both have clear communication about foundational aspects of a relationship. Marriage is the beginning the beginning of the family and is a life-long commitment. It also provides an opportunity to grow in selflessness as you serve your wife and children.

Illegal marriage is simply marriage that does not conform to the legal restrictions of marriage present in a specific area. If a person is married in an area that allows a certain type of marriage but then moves to or visits an area where that type of marriage is illegal, the rights of that person may not be upheld. A marriage certificate helps an individual in proving they are legally married to someone, especially beneficial for getting a passport, visa, work permit, etc. if their spouse lives abroad. It is also beneficial in availing life insurance benefits, family pension, bank deposits, etc.

To deal with such a situation, a certain group of developers at Massive Station; including myself, have decided to work on this application that is an important document to have for married couples. It has been decided to call the application, “Digital Marriage Registration System”.! The background, scope, objectives and other analytical points about this application will be discussed in detail in this report. Company Profile of Massive Station will also be addressed.

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Chapter 1

Introduction

1.1 Background of the work

Marriage, it' s about entering into it with a healthy idea of love and relationships. And it's important to know that you both have clear communication about foundational aspects of a relationship. Marriage is the beginning the beginning of the family and is a life-long commitment. It also provides an opportunity to grow in selflessness as you serve your wife and children. A marriage certificate helps an individual in proving they are legally married to someone, especially beneficial for getting a passport, visa, work permit, etc. if their spouse lives abroad. It is also beneficial in availing life insurance benefits, family pension, bank deposits, etc.

While love may be the biggest reason people marry, it's not the only one. In general, people make the commitment to spend their lives together for more than a single reason. Every couple

chooses to commit to marriage because it serves their needs and supports their values and dreams. Marriages are matches made in heaven but registration are done here at Earth. A group of developers from Massive Station; which also includes myself have decided to work on mobile application, The idea of the application is online marriage registration system and verify groom and bride background about they are already married or not. User can fixed marriage registration time and admin can accept or cancel this.

This application will require the user to create an account first for registration via his/her mobile number or Email on his/her. The user gives groom and bride information and fill up the registration form. Then admin check the notification and verify groom and bride background like they are already married or not. If every information is correct then admin accept and fixed a date. Then the need three witness to get marriage registration done. But if the information was wrong admin cancel this.

1.2 Objectives

Authentic verification of marriage: We verify by national id (NID) that married persons would want their spouses to see them as they saw themselves but that dating persons would want their relationship partners to evaluate them favourably.

Online registration system are secure: Online registration systems are highly secured.
Form submission is done through a well-secured platform because they can't registration without NID. Everybody can visit my website. But only register person can doing marriage registration operation. Common user can see the marriage related information.

Immediate confirmation: When it comes to online registration systems, the entrant will be able to receive a confirmation email immediately after fulfilling the requirements.

Realtime update about the statistics: An online registration system, the database automatically updates allowing the organizers to have a real-time update about the numbers.

Easy to do marriage registration without any hassle: Marriage Register portal module will help the common people to marriage registration and provide marriage confirmation. He/she

can control the marriage registration system easily. Everybody can visit website. Using this application Register can easily provide confirmation of married people.

1.3 Scopes

Features available to the user after the development of this web application Digital Marriage Registration System:

- Whole Screen.
- Admin Login Screen.
- Admin Screen
- Dashboard.
- New application screen.
- Verified application Screen.
- Rejected application Screen.
- All application Screen.
- Report Screen.
- Search Screen.
- Profile Screen.
- Registration form Screen.
- View marriage application Screen.

Company Profile

Background of the company:

Massive station is an industry leading agency specializing in web development, graphic design, content writing and search engine optimization. It was founded in the year of 2015. Massive station is comprised of a small team of software craftsmen who learn, collaborate, and innovate together. They host regular live events (workshop, meetups and discuss) that are geared towards sharing with the local community. Massive Station is all about the dream to provide the best web solutions and create a unique user experience. Each completed project makes us more hungry, hungry for designs, more and at least some more twinkles.

Address and Contact Information:

Address: House 38, Block A, Road 1

West Rampura, Dhaka, Bangladesh

Contact: http://www.massivestation.com/

Chapter 2

Literature Review

2.1 Relationship with Undergraduate Studies

Knowledge and skills gained from undergraduate courses have helped in the development of "Digital Marriage Registration System" project. It would have proven more difficult if these courses were not covered before working on this project. Some of the courses are:

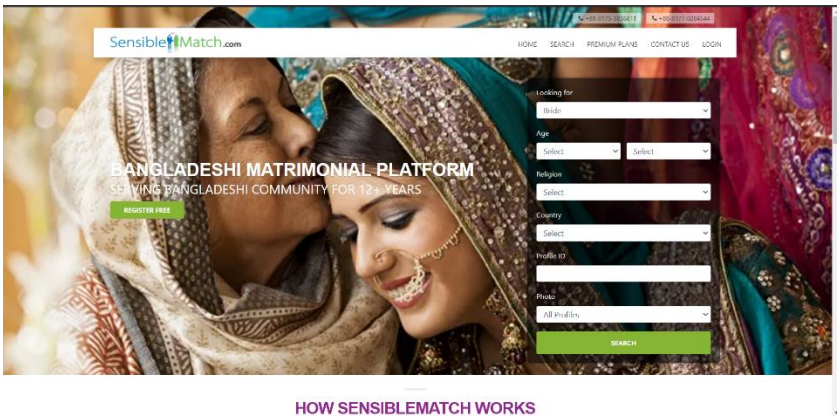
CSE 213 Object-Oriented Programming: this course is a dep dive into classes and its objects of programming. It also taught how to write modular programs which made codes less repetitive and more reusable. It helped to design "Digital Marriage Registration System" code in a modular format. Also, as the application grew bigger, this practice helped avoid writing new modules from scratch by using parts of old modules and adding new functions to them.

CSE 303: Database Management: This was the first course which taught how to design and plan a project. It covered popular planning and strategy practices such as System Development

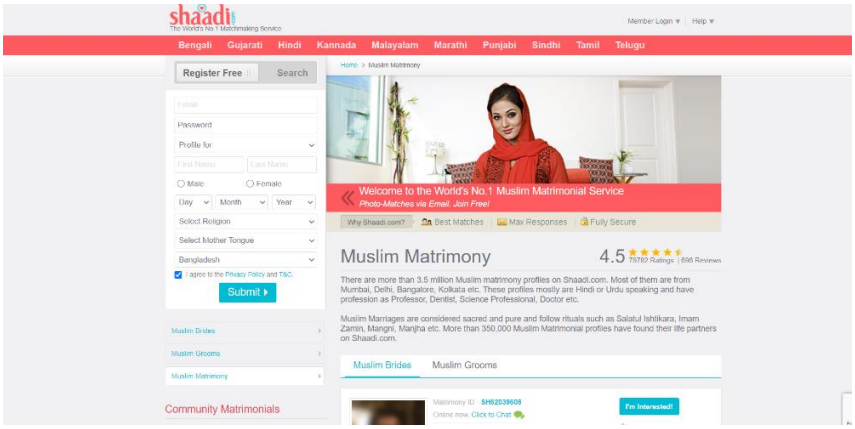
Life Cycle, Rich picture, Requirement Analysis, Entity Relationship Diagram, Business Process Model and Notation Diagram and many more. These techniques helped in the development planning and strategy of “Digital Marriage Registration System” and also they helped in writing this report.

CSE 309: Web Applications and Internet: This is the course where the development of web applications was taught. It covered very important technologies that are highly in demand in the industry, such as HTML, CSS, JavaScript, jQuery, View Engines (Handlebars and embedded JavaScript), Node.js, Express.js, MongoDB. The tools and technologies learned from this course immensely contributed to the development of “Digital Marriage Registration System” as it is a mobile application built with similar web technologies and it has a backend server which had to be deployed to the cloud server as well.

2.2 Related Works



Link-https://sensiblematch.com



Link:https://www.shaadi.com

Figure 2.1: UI screenshot of Sensible Match & Shaadi

Virtual is an online platform to host and organize running events such as matrimonial platform, Shaadi, etc This application and Digital Marriage Registration System keep special attention to privacy (name, location, photo can remain private) and all information go thru our verification process.

Security Screen:

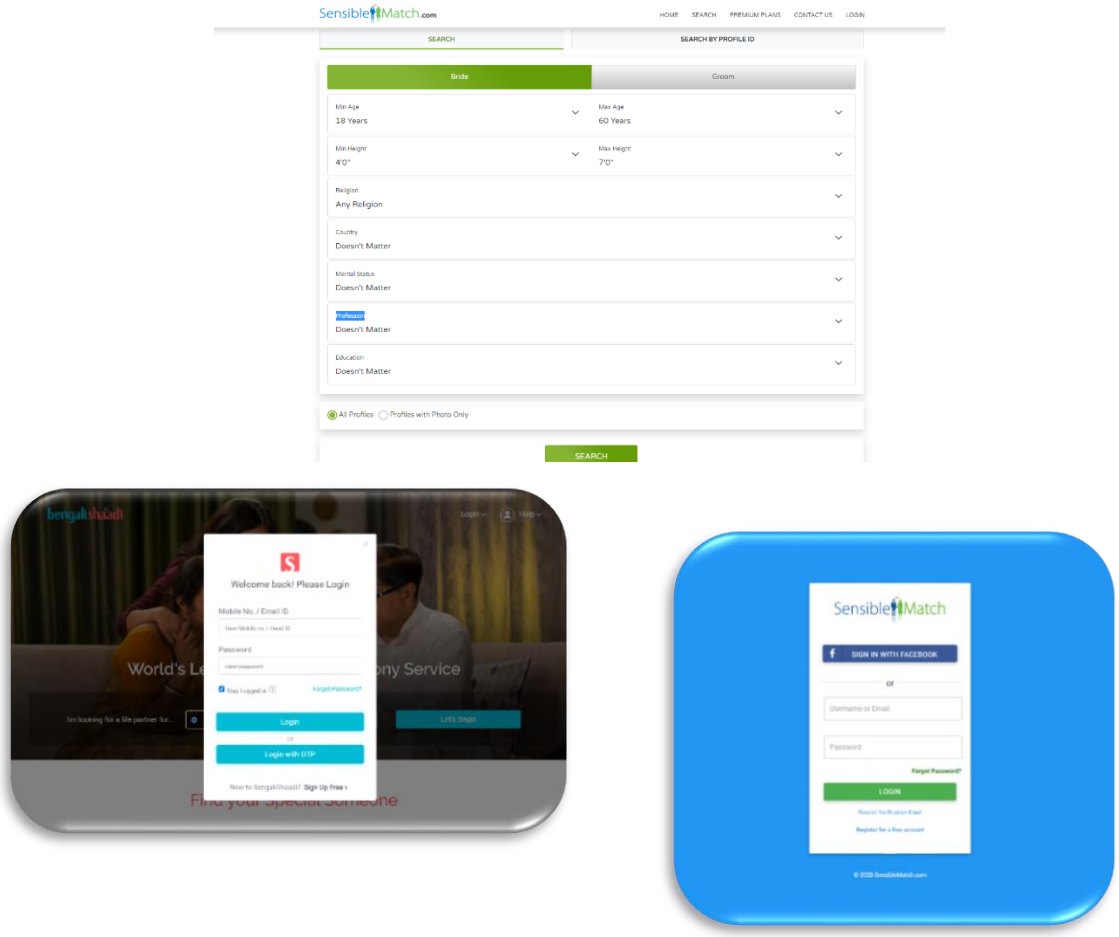


Figure2.2: UI screenshot of marriage registration form

A unique application for marriage system security. It has made in India and "Digital Marriage Registration System" is from Bangladesh. There are many differences with Digital Marriage Registration System. But the main similarity is both are marriage registration system and

"Digital Marriage Registration System" has more features with more facility and easy convenient to user.

Chapter 3

Project Management & Financing

3.1 Work breakdown Structure

Work breakdown structure or WBS in project management is a method for getting a complex, multi-step project done. The object of a Work breakdown structure is to make a large project more manageable. Breaking it down into smaller chunks means work can be done simultaneously by different team members, leading to better team productivity and easier project management. Under is the of "Digital Marriage Registration System"

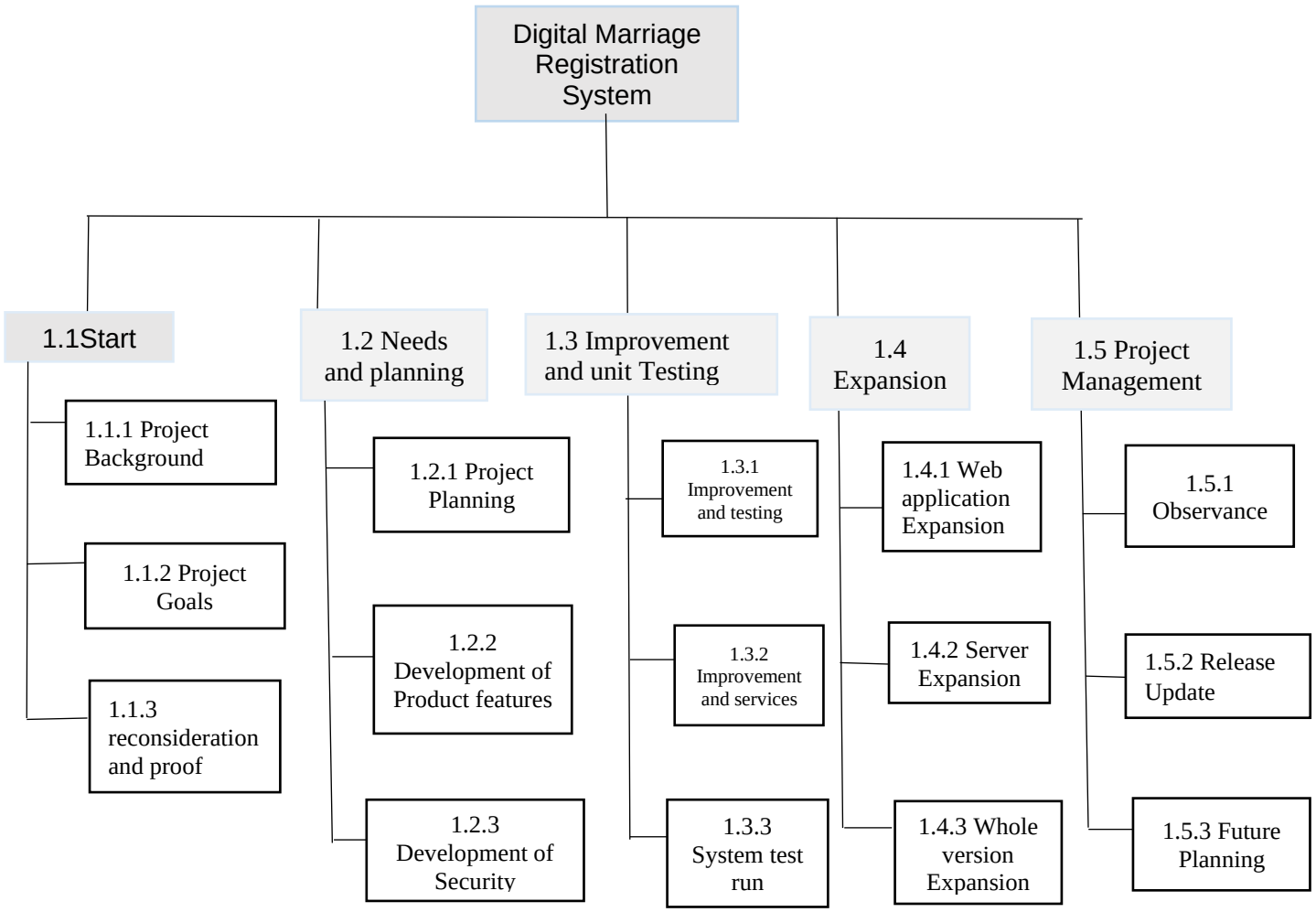


Figure 3.1: Work breakdown Structure of Digital Marriage Registration System

3.2 Activity wise Time Distribution

Work Breakdown Structure is collected where all the activities are included. We effort to total these works in a time outline. In company of working with a group extend, supervision the time and working nearby with group individuals time planning. This whole work is different among the venture group. To preserve this workflow conveyance time is assessed is nearly is nearly 9 days for the project.

Serial	Activity	Days	Work Percentage
1	Project Manager	12	15%
2	Front End Developer	22	25%
3	Back End Developer	30	30%
4	Testing Process	7	10%
5	Result and Analysis	10	12%
6	Deployment	9	8%
	Total	90	100%

Table 3.1: Time Distribution Table

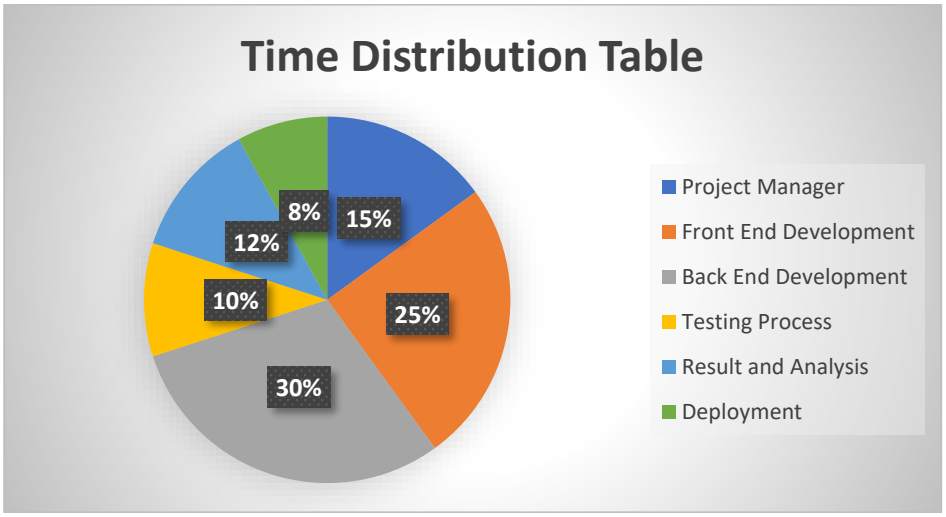


Figure 3.2: Time Distribution Table

3.3 Gantt Chart

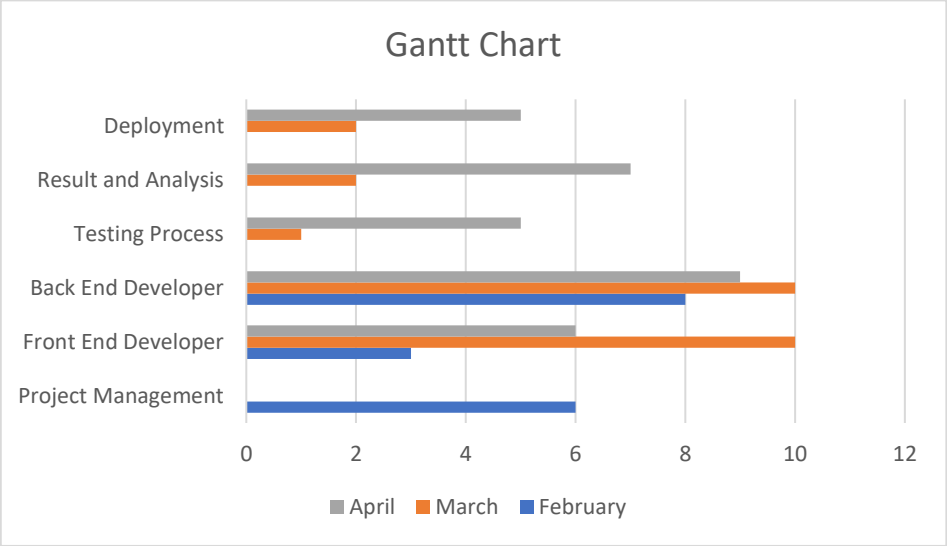


Figure 3.3: Gantt Chart of Digital Marriage Registration System

3.4 Estimated Costing

The starting Evaluated Costing was around nearly 90,000 BDT. This is the approximant cost of the project. It also can be elaborate on the changes in the software and keeps up fetched.

Serial	Activity	Days	Costing
1	Project Management	12	13,000 BDT
2	Front End Developer	22	12,500 BDT
3	Back End Developer	30	13,500 BDT
4	Testing Process	7	14,000 BDT
5	Result and Analysis	10	14,000 BDT
6	Deployment	9	10,000 BDT
	Total	90	77,000BDT

Table 3.2: Estimated Costing of Digital Marriage Registration System

3.5 Estimation Cost PIE Chart

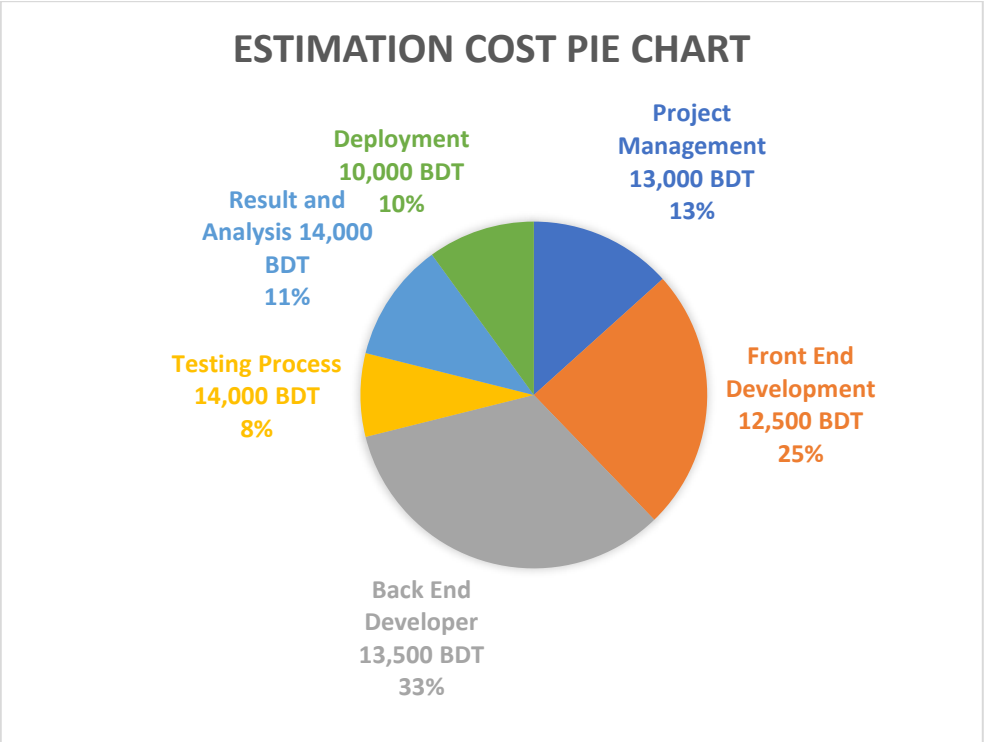


Figure 3.4: Estimation Cost PIE Chart of Digital Marriage Registration System

Chapter 4

Methodology

Software Development Methodology

In software engineering, a software development process is the process of dividing software development work into distinct phases to improve design, product management, and project management. Software development methodology is a process or series of processes used in software development. Again, quite broad but that it is things like a design phase, a development phase. It is ways of thinking about things like waterfall being a non -iterative kind of process. Generally it takes the form of defined phases. It is designed to describe the how of

the life cycle of a piece of software. It is also known as a software development life cycle (SDLC). The main idea of the SDLC has been "to pursue the development of information systems in a very deliberate and structured. The software development methodology is a framework that is used to structure, plan, and control the process development of an information system. In this kind of development methodology, the only concern of this software development process is that it does not involve any technical aspect but demands proper planning for the software development lifecycle.

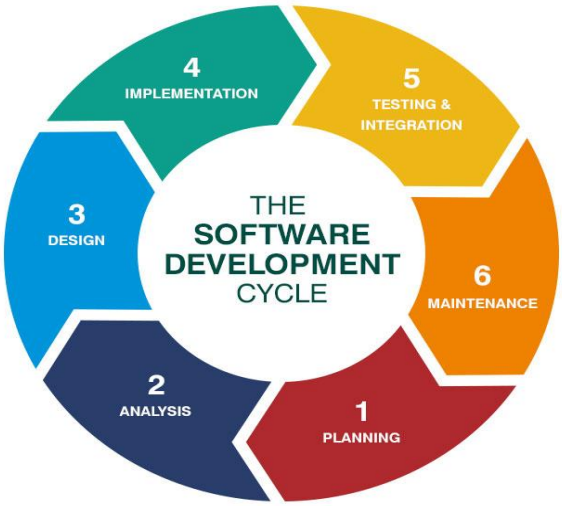


Figure 4.1: Software Development Life Cycle (SDLC)

Other methodology include waterfall, prototyping, iterative and incremental development, spiral development, rapid application development and extreme programming. The methodology completed by a project team to develop or maintain application. Fundamentally, programming or framework advancement approach is a system that is utilized to structure, plan and control the way toward building up a data framework. A framework that is used to structure, plan, and control the process of developing information systems.

There are various system development methodologies that are used in developments; some of the most used are given below:

- Waterfall Model.
- Prototyping.
- Spiral Model.
- Scrum.

- Agile.
- Evolutionary Model.
- Incremental.

Web Application Development

Web application development is the creation of application programs that reside on remote servers and are delivered to the user's device over the Internet. A web application (web app) does not need to be downloaded and is instead accessed through a network. An end user can access a web application through a web browser such as Google Chrome, Safari, or Mozilla Firefox. A majority of web applications can be written in JavaScript, Cascading Style Sheets (CSS), and HTML5.

Web application development will typically have a short development life-cycle lead by a small development team. Front- end development for web applications is accomplished through client-side programming. Client refers to a computer application such as a web browser. Client-side programming will typically utilize HTML, CSS and JavaScript. HTML programming will instruct a browser how to display the on-screen content of web pages, while CSS keeps displayed information in the correct format. JavaScript will run JavaScript code on a web page, making some of the content interactive.

Back-end Development

Back-end Development refers to the server side of development where are primarily focused on the site works. Web development usually consists of three parts: a server, an application, and a database. It is the term used for behind-the-scenes activities that happen when performing any action on a web application. Code written in the back end helps to communicate the database information to the browser or web application. A back-end application or program supports front-end user services, and interfaces with any required resources.

Back-end development includes:

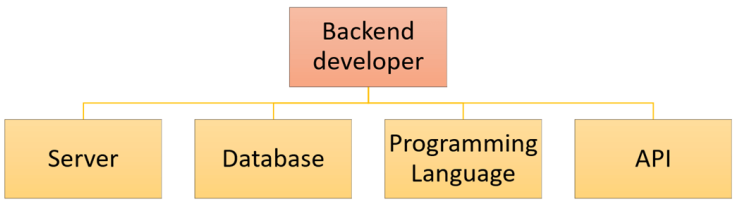


Figure 4.2: Back-end Development

Server:

A good background in Linux helps tremendously in administering servers.Current most popular servers are Apache, IIs servers, Nginx and Microsoft IIS.

Database and Cache:

DBMS technology is one of the important Backend developer skills. MySQL, MongoDB, Oracle, SQL Server, Redis are widely used for this purpose. Knowledge of caching mechanisms like varnish, Memcached, Redis is a plus.

Web Development Languages:

web developers use to write code and create an appealing design. Includes a series of server-side or Backend programming language like Java, Python, Ruby, Net etc.

API (Application Programming Interface):

Knowledge of web services or API is also important for full stack developers. Knowledge of creations and consumption of REST and SOAP services is desirable.

Development Tools Used:

In the development of the web application, “Digital Marriage Registration System” several modern application development tools used

XAMPP:

Figure 4.3: XAMPP Logo

XAMPP is a free and open-source cross-platform web server solution stack package developed by Apache Friends, consisting mainly of the Apache **HTTP** Server, **MariaDB** database, and interpreters for scripts written in the **PHP** and Perl programming language. Since most actual web server deployments use the same components as **XAMPP**, it make transitioning from a local test server to a live server possible.

The web server solution stack installed in Personal PC or the development system faces common issues of having the common port numbers requested by **XAMPP**. Most commonly Skype or **MySQL** installed in PC have common conflict due to the same port number being requested by **XAMPP**. Although a port number conflict can be bypassed by stopping the applications using the same port, the better solution is to change the ort number. The most common **MySQL** port can be found in my.ini and php.ini files from **XAMPP** control panel.
XAMPP also provide support for creating and manipulating database in MariaDB and SQLite among others.
Once **XAMPP** in installed, it is possible to treat localhost like a remote host by connecting using an FTP client. Using a program like FileZilla has many advantages when installing a content management system (CMS) like Joomla or WordPress. It is also possible to connected localhost via **FTP** with an **HTML** editor.
XAMPP is an acronym that stands for **Apache**, **MariaDB**, **PHP**, and **Perl**. In other words, it packs all the software you need to run WordPress. This particular local development tool comes in two flavours: regular **XAMPP** and **XAMPP-VM**.

JavaScript:

Figure 4.4: JavaScript Logo

JavaScript is a client-side programming language which helps web developer to do Web Application Development and make dynamic and interactive web pages by implementing

custom client-side scripts. Developers can also use cross-platform runtime engines like Node.js to write server-side code in **JavaScript** Development toots (JSDT) This provides plugins that support debugging JavaScript using Rhino and crossfire. It can debug JS in all major browser. **JavaScript** is the programming Language for the web. JavaScript can update and change both **HTML** and **CSS**. JavaScript can calculate, manipulate and validate data.

The JavaScript language itself, as a format, is free, and use of JavaScript in a web site is not necessarily bad. The term "**web application**" was designed to disregard the fundamental distinction between software delivered to users and software or server. JavaScript depends on a host environment, the most common of which is the browser. In that case, it's front-end. JavaScript can also run on the back-end, as there server-side host environments.

JavaScript is used both on the frontend and backend, creating a more seamless infrastructure.

PHP:

Figure 4.5: PHP Logo

PHP is a server-side scripting language. that is used to develop Static websites or Dynamic websites or Web applications. **PHP** stands for **Hypertext Pre-processor**, that earlier stood for Personal Home Pages. **PHP** scripts can only be interpreted on a server that has **PHP** installed. A PHP developer is responsible for writing server-side web application logic. **PHP** developers usually develop back-end components, connect the application with the other (often third-party) web services, and support the front-end developers by integrating their work with the application.

PHP is the fastest and most widely used server-side scripting language for building websites and web apps. **PHP** includes detailed documentation, numerous ready-to-use scripts, a huge community, and well-supported frameworks. To make **PHP** work easier, experts have developed some **PHP** development tools that increase programming efficiency. **PHP** tools are

meant to account for a perfect **IDE** (Integrated Development Environment) where **PHP** developers can efficiently build engaging, innovative and feature-rich **PHP** projects

One of the major advantages of the PHP programming language is that it is accessible for free to web developers. It is executed at the server side that means it functions on the web server.

PHP Storm Features:

- Code completion.
- Code re-arranger.
- Zero Configuration Debugging.
- Native Zen Coding support.
- Support extension with plenty of useful plugins like Vim Editor.

PHP Storm Specialties:

- Languages supported: **PHP. JavaScript, Visual Basic, C, C++ and C#**
- Platforms supported: **Microsoft Windows**, **Linux** and **Mac OS X**
- Visit: PHP Strom.

HTML:

Figure 4.6: HTML Logo

Hypertext Markup Language, or **HTML**, is a programming language used to describe the structure of information on a web page. Together, **HTML**, **CSS**, and **JavaScript** make up the essential building blocks of websites, with **CSS** controlling a page's appearance, and

JavaScript programming its functionality. Web browser receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for the appearance of the document.

HTML, when combined with **JavaScript** and **CSS**, has become a milestone for web development. One of the useful aspects of HTML is, it can embed programs written in a scripting language like **JavaScrip**t, which is responsible for affecting the behaviour and content of web pages.

Hypertext Markup Language (**HTML**) is the standard markup language for documents designed to be displayed in a web browser.

HTML important for web application:

HTML allow video, image and other files to be embedded which is used to create interactive web pages. **HTML** also embed scripts and styles, scripts affect the behaviour of HTML web pages and styles (Cascading Style Sheets) define the look and layout of web pages.

CSS:

Figure 4.7: CSS Logo

CSS (Cascading Style Sheets) is a language for styling the webpage. The appearance and the layout of the webpage by using CSS. It is also define how a website's view changes in different screens like desktops, tablets, and mobile devices. CSS is not a programming language, like C++ or JavaScript. CSS stands for Cascading Style Sheets. It is the coding language that gives a website its look and layout. Along with HTML, CSS is fundamental to web design. Without it, websites would still be plain text on white backgrounds.

Cascading Style Sheets (CSS) is a used for describing the presentation of a document written in a markup language such as HTML. CSS is a cornerstone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colours and fonts. This separation can improve content accessibility, provide more flexibility and control in the specification of presentation characteristics, enable multiple web pages to share formatting by specifying the relevant CSS

in a separate. CSS file which reduces complexity and repetition in the structural content as well as enabling the .CSS file to be cached to improve the page load speed between the pages that share the file and its formatting.

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

The Advantages of CSS

- The layout of a web page is better controlled.
- Style (CSS) kept separate from structure (HTML), means smaller file size.
- Reduced file size means reduced bandwidth, which means faster loading time.

Bootstrap:

Figure 4.8: Bootstrap Logo

Bootstrap is a free and open-source CSS framework directed at responsive, mobile-first front-end web development. It contains CSS- and (optionally) JavaScript-based design templates for typography, forms, buttons, navigation, and other interface components. Bootstrap is a potent front-end framework used to create modern websites and web apps. It's open-source and free to use, yet features numerous HTML and CSS templates for UI interface elements such as buttons and forms. Bootstrap also supports JavaScript extensions.

Bootstrap is a surprisingly powerful and effective tool for developers building responsive websites and web applications. Bootstrap was launched as a mobile-first framework for web development.

The Advantages of Bootstrap are:

- Fewer Cross browser bugs.

- A consistent framework that supports major of all browsers and CSS compatibility fixes.
- Lightweight and customizable.
- Responsive structures and styles.
- Several JavaScript plugins using the jQuery.
- Good documentation and community support.

Chapter 5

Body of The Project

5.1 Work Description

Digital Marriage Registration System is very helpful to registration of marriage and easily check who are married or not married? People can know the information about marriage of particular person which are married or not married and also know how many got marry before. Using this application Register can easily provide certificate of married people. Child marriage is one of the most problem in our country. Using this application we can fully control the child marriage because they can't registration without NID. Digital Marriage Registration System that provides successful help to manage the Register Registration process and also manage remove Register. This application fully control early child marriage and also control deceitful people who are got married many. As it is a new idea it needs a very powerful and comprehensible presentation that will have the right influence on the user. The basic functionality of this system is making the process user friendly for Register. An online registration system, the database automatically updates allowing the organizers to have a real-time update about the numbers It helps admin to control the Register Registration system. Admin can update, delete and also add the register. This system will help the Marriage register to reduce the time, money for their official work. It will help the common people who are use the system.

5.2 Systems Analysis

System analysis can also be described as the meticulous breakdown of a system into its organized components or parts. It's important because the different aspects of the analysis provide avenues to reduce the occurrence of errors in the system, make improvements or modifications, or implement test alternatives. It is a problem-solving technique that improves the system and ensure that all the components of the system work efficiently to accomplish their purpose. It's need to analyse data input or data flow systematically, process or transform data, store data, and output information in the context of a particular organization or enterprise.

5.2.1 Six Element Analysis

Process	**System Roles**					
	Human	**Non computing Hardware**	**Computing Hardware**	**Software**	**Database**	**Comm. And Network**
View home screen	User	N/A	Functional smartphone/ tab / web	Any version of windows	PHP my admin	WAN
Registration and signing screen	User	N/A	Function smartphone/ tab/web	Any version of windows	PHP my admin	WAN
View marriage registration form	User	N/A	Functional smartphone/ Tab/web	Any version of Windows	PHP my admin	WAN
View Marriage application	User	N/A	Functional smartphone/ Tab/web	Any version of Windows	PHP my admin	WAN
View Dashboard	User	N/A	Functional smartphone/ Tab/web	Any version of Windows	PHP my admin	WAN
View Search Screen	User	N/A	Functional smartphone/ Tab/web	Any version of Windows	PHP my admin	WAN

Table 5.1: Six Elements analysis of "Digital Marriage System"

5.2.2 Feasibility Analysis

A feasibility study is an analysis that takes all of a project's relevant factors into account including economic, technical, legal, and scheduling considerations to ascertain the likelihood of completing the project successfully. Feasibility study is the feasibility analysis or it is a measure of the software product in terms of how much beneficial product development will be for the organization in a practical point of view. Feasibility study is carried identify potential obstacles that may impede its operations, based on many purposes to analyse whether software products will be right in terms of development, implantation and recognize the amount of funding it will need to get the business up and running.

Economic Feasibility:

Economic feasibility is a kind of cost-benefit analysis of the examined project, which assesses whether it is possible to implement it. It consists of market analysis, economic analysis, technical and strategic analysis. The purpose of an economic feasibility study is to demonstrate the net benefit of a proposed project for accepting or disbursing electronic funds/benefits, taking into consideration the benefits and costs to the agency, other state agencies, and the general public as a whole.

In In the development of "Digital Marriage Registration System", the services that needed being paid were Google Fit App, Cloud Server and application launching to Google Play Store. Since the cost of these services had to be paid yearly, it can be easily covered from the estimated revenue gained from advertisements and paid subscriptions. Thus, in conclusion, it can be said that the project is Economically Feasible.

Operational Feasibility

Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development. In Operational feasibility is the measure of how well a proposed system solves the problems, and takes advantage of the opportunities identified during scope definition and how it satisfies the requirements identified in the requirements analysis phase of system development.

"Digital Marriage Registration System" is made for who want timely marriage registration and it's secure for user.

Technical Feasibility

Technical feasibility involves the evaluation of the hardware, software, and other technical requirements of the proposed system. In technical Feasibility, current resources, both hardware and software along with required are analysed to develop the project.

Digital Marriage Registration is built using HTML, CSS and PHP. These are technologies that are very popular in the modern industry and everyone involved in the making of this project had the skills to work with at least one of the technologies mentioned.

5.2.3 Problem Solution Analysis

A marriage is a voluntary institution between a man and a woman who matrimonially establish the rights and obligations between them. Usually, all marriages in every religion are solemnized according to the personal law of the spouses. Now day we don't know who are married or not married and all document are not correct and verified. Child marriage is one of the most problem in our country. Child marriage negatively affects the Bangladesh economy and can lead to an intergenerational cycle of poverty. Girls and boys married as children more likely lack the skills, knowledge and job prospects needed to lift their families out of poverty and contribute to their country's social and economic growth. Time problem, no fixed time to registration.

Realtime update: Some time when they want to get marriage registration they have no fixed time so they have face some problem.

Immediate confirmation: On time they fixed the date and fulfil marriage registration form but no confirmation mail immediate.

Marriage Registration not secure: When he/she gives the all information, not all are perfectly verified. So we don't know who are married or not married and also don't know how many got marry before.

Child Marriage: Child marriage is one of the most problem in our country. Child marriage negatively affects the Bangladesh economy and can lead to an intergenerational cycle of poverty.

Solutions: The problems that have been analysed can be solve by the use of the Digital Marriage Registration System application by:

Realtime update solutions: an online registration system, the database automatically updates allowing the organizers to have a real-time update about the numbers.
Immediate confirmation solutions: When it comes to online registration systems, the entrant will be able to receive a confirmation email immediately after fulfilling the requirements.

Solution of Marriage Registration security: Online registration systems are highly secured. Form submission is done through a well-secured platform. Because people can know the information about marriage of particular person which are married or not married and also know how many got marry before. Using this application Register verified by National Id (NID).

Child Marriage solution: Using this application we can fully control the child marriage because they can't registration without National Id (NID).

5.2.4 Effect and Constraints Analysis

Problem	Solutions	Constraints
Realtime update	Realtime update solutions.	System Problem
Immediate confirmation	Immediate confirmation solutions.	Time and slot issue
Marriage Registration not secure	Solution of Marriage Registration security.	Hacker
Child Marriage	Child Marriage solution	N/A

Table 5.2: Effect and Constraints Analysis

5.3 System Design

Systems design is the process of defining elements of a system like modules, architecture, components and their interfaces and data for a system based on the specified requirements.

Design represent the system, how it will work and how it can be assessed for quality. The main goals of the design phase is to produce a model of the systems. Thus, system's design is the bridge between analysis & development of software. Software architecture provides an abstract representation of the overall structure of software. The purpose of the System Design process is to provide sufficient detailed data and information about the system and its system elements to enable the implementation consistent with architectural entities as defined in models and views of the system architecture.

Entity Relationship Diagram (ERD):

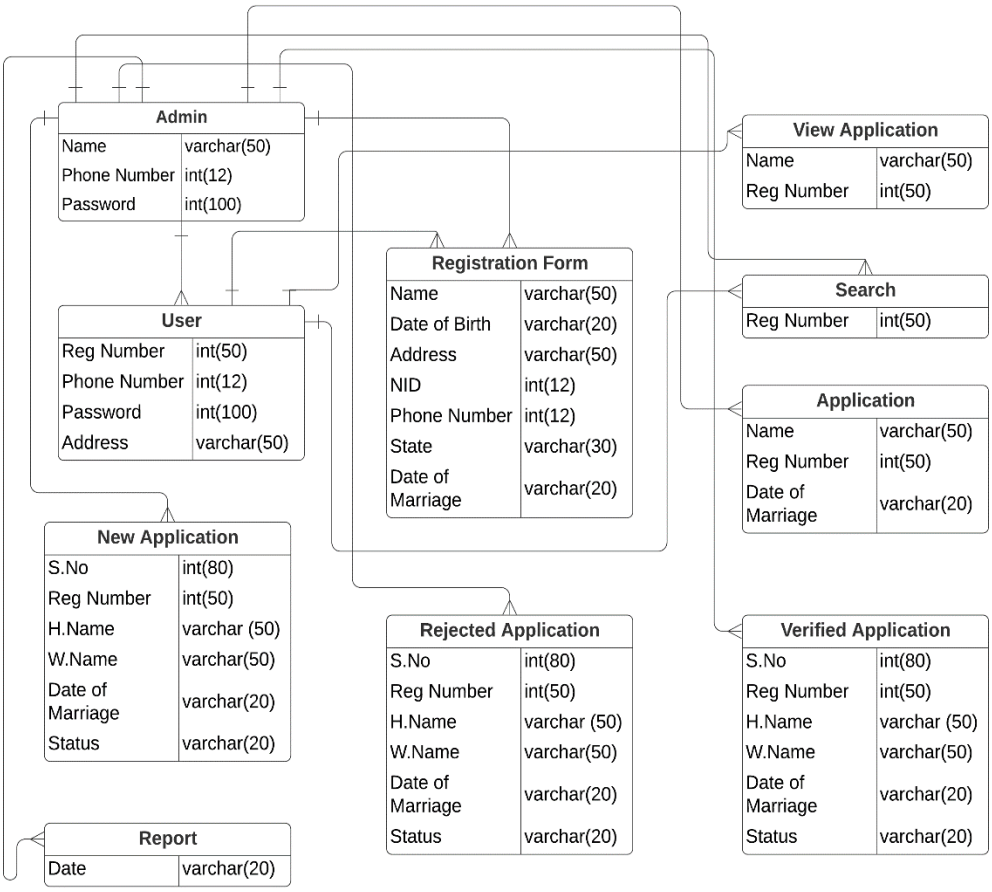


Figure 5.1: Entity Relationship Diagram of Digital Marriage Registration System

5.3.1 Rich Picture

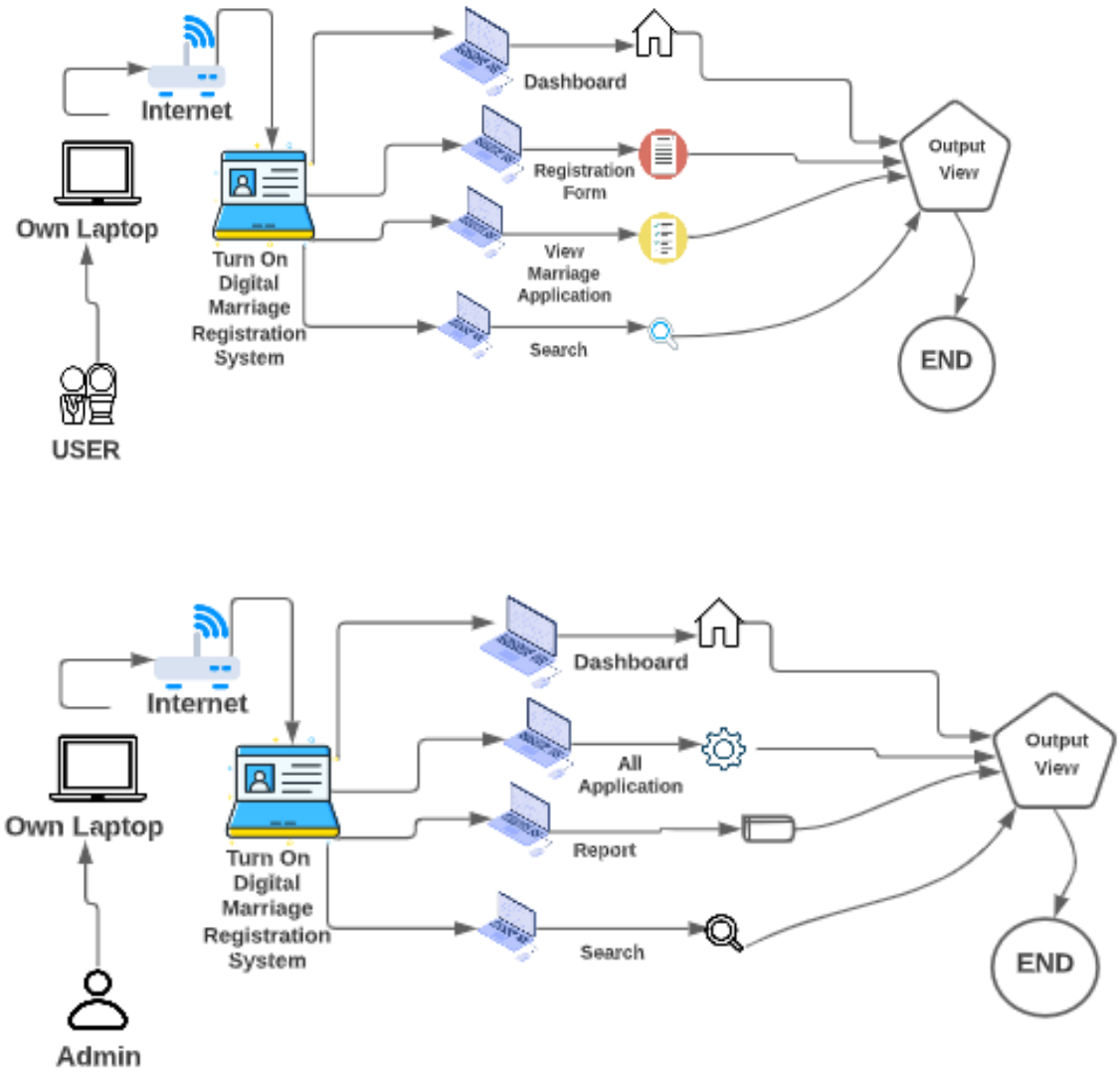


Figure 5.2: Rich Picture of Digital Marriage Registration System

5.3.2 UML Diagrams

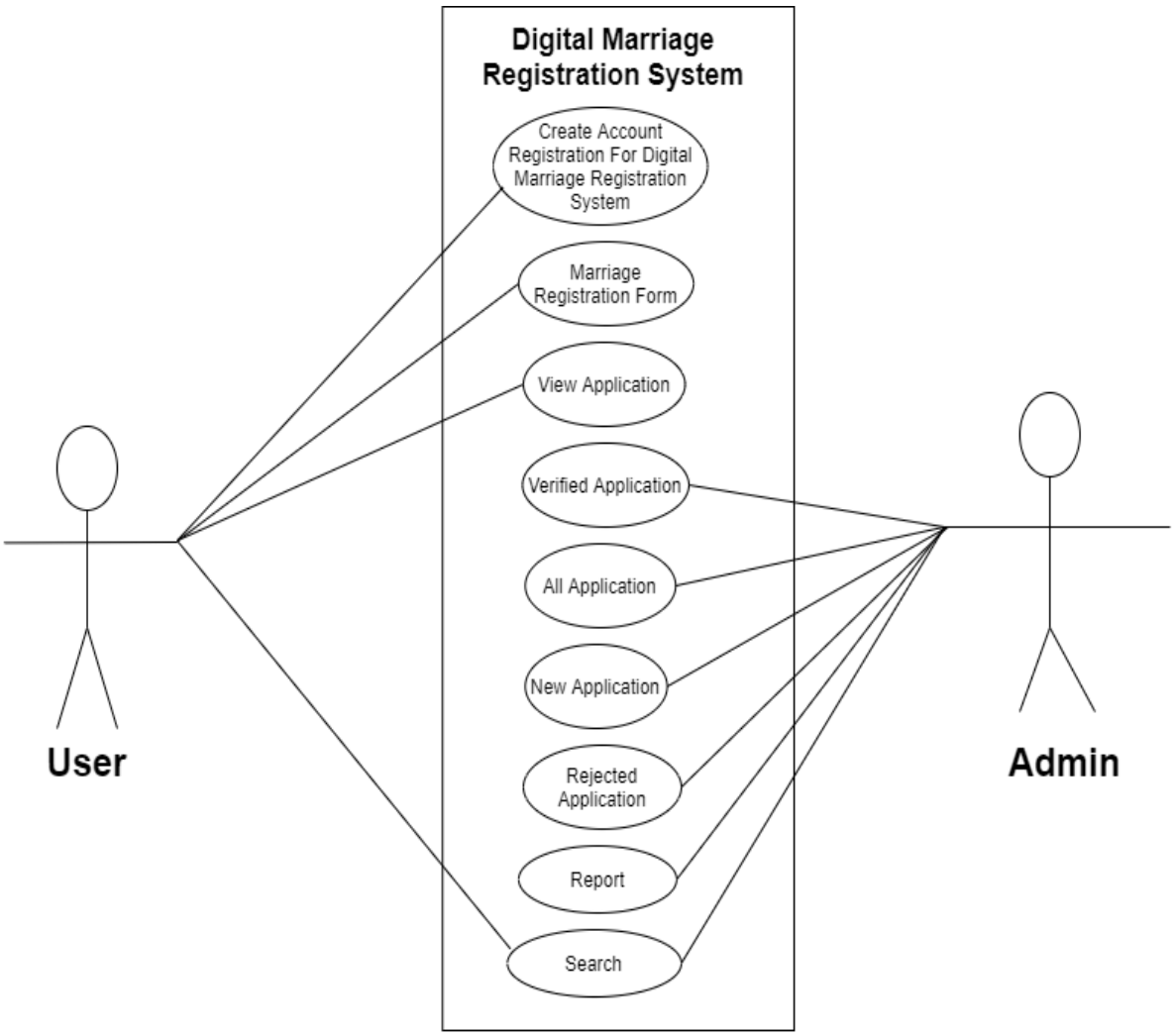


Figure 5.3: UML diagram of Digital Marriage Registration System

Requirements

Requirement analysis is the process of identifying the user satisfaction form the System. So, requirements analysis is an important part of project management. When I selected this project I thought about some specific Software requirement, like as.

- Who is the user of this system?
- Is it helpful for them or not?
- Functional & Non-functional requirement.

5.3.3 Functional Requirements

Function-Must be compatible with all type of Windows, Android and iOS (mobile app) devices		
Input: Home Screen	**Process:** Application must be Digital Marriage Registration System must be developed in environment user friendly	**Output:** Application can be accessible from all sorts of devices.
Pre-condition: User must have a working windows or Android or IOS (mobile app) mobile device with internet connection.		
Post-condition: All can use this application.		

Table 5.3: Functional Requirement 1: compatibility

Function: Navigate from one Screen to Another.		
Input: Select View to Navigate to	**Process:** Setup Screen Navigation	**Output:** Navigate to desired Screen
Pre-condition: The application is turned on		
Post-condition: Screen navigated to, will be displayed and further Navigations are possible		

Table 5.4: Navigation

Function: Registration to use the application		
Input: User phone number and password.	**Process:** Server to create an account from provided data	**Output:** Account created and will be

		navigated to home screen.
Pre-condition: User in create account or registration screen the device must be connected to the internet.		
Pre-condition: User will get a success message and will be navigated to Digital Marriage Registration System Home.		

Table 5.5: Create an Account

Function: Create your dates of Marriage Registration from Registration form		
Input: Husband and wife all details and choose dates	**Process:** Stored on the database from provided data	**Output:** Marriage registration date created, confirmation message will be shown after created
Pre-condition: User in create app screen and device must be connected to the internet		
Post-condition: User will get a success message and will be given notifications		

Table 5.6: Create your date of Marriage Registration from Registration form

Function: View dates of Marriage Registration from view marriage application		
Input: View marriage registration application	**Process**: Registration form	**Output:** View all the dates provided

		by the user
Pre-condition: Using view marriage application must be connected to the internet		
Post-condition: User will be able to view the all the dates created in a list format		

Table 5.7: View dates of marriage registration from view marriage application

Function: View user's Dashboard		
Input: Dashboard click to	**Process:** Welcome to Digital Marriage Registration System	**Output:** Not applicable
Pre-condition: The system accessed		
Post-condition: User can view the dashboard		

Table 5.8: View user's Dashboard

Function: View User's Registration form		
Input: Registration form click to	**Process:** Registration form	**Output:** View all the details provided by the user
Pre-condition: The system accessed		
Post-condition: User can view the Registration form		

Table 5.9: View user's Registration Form

Function: View User's Search Screen		
Input: Search click to	**Process:** Search Marriage Application	**Output:** Not applicable
Pre-condition: User in search screen and device must be connected to the internet		
Post-condition: User can view the search screen		

Table 5.10: View user's Search Screen

Function: View Admin's Dashboard		
Input: Dashboard click to	**Process:** Total Application	**Output:** View total marriage application
Pre-condition: The system accessed		
Post-condition: Admin can view total Application		

Table 5.11: View Admin's Dashboard

Function: View admin's Application		
Input: Dashboard click to	**Process:** All Marriage Application New Application Verified Application Rejected Application	**Output:** View all marriage application.
Pre-condition: The system accessed		
Post-condition: Admin can view all the Application		

Table 5.12: View Admin's Application

Function: View Report Screen

Input: Report click to	**Process:** Between date report	**Output:** Not applicable
Pre-condition: The system accessed		
Post-condition: Admin can view report screen		

Table 5.13: View Report Screen

Function: View Admin's Search Screen		
Input: Search click to	**Process:** Search marriage application	**Output:**
Pre-condition: The system accessed		
Post-condition: Admin can view search screen		

Table 5.14: View Admin's Search Screen

Non-Functional Requirements

Non-functional requirement is another type of requirement. Non-functional requirements define system attributes such as security, reliability, performance, maintainability, scalability and usability. They serve as constraints or restriction on the design of the system across the different backlogs.

Performance

Performance requirements define how well the software system accomplishes certain functions under specific conditions. Examples include the software's speed of response, throughput, execution time and storage capacity. The service levels comprising performance requirements are often based on supporting end-user tasks.

Security

This non-functional requirement assures that all data inside the system or its part will be protected against malware attacks or unauthorized access. But there's a catch. If you want to protect the admin panel from unauthorized access, you would define the login flow and different user roles as system behaviour or user actions. So, the non-functional requirements

part will set up specific types of threats that functional requirements will address in more detail. But this isn't always the case. If your security relies on specific standards and encryption methods, these standards don't directly describe the behaviour of a system, but rather help engineers with implementation guides.

Scalability

Scalability is a non-functional property of a system that describes the ability to appropriately handle increasing (and decreasing) workloads. Scalability competes with and complements other non-functional requirements such as availability, reliability and performance.

Maintainability

Maintainability is how easy it is for a system to be supported, changed, enhanced, and restructured over time. This impact makes maintainability an important non-functional requirement to consider when developing software.

Product Features

5.4.1 Input & Output

Digital Marriage Registration System Home Screen:

Everyone can view home screen and signing this web app.

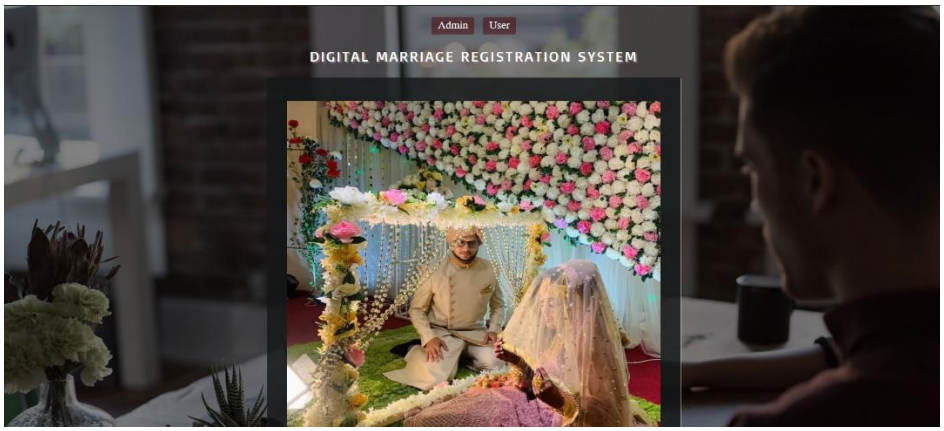


Figure 5.4: Home Screen of Digital Marriage Registration System

Digital Marriage Registration System New User Registration Form:

New user will be registration here for sign up for the application to use. Have to provide his/her first name, last name, mobile number, address, password to registration here.

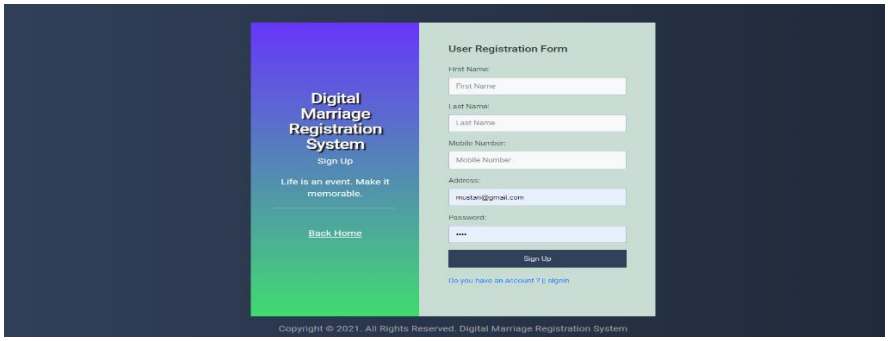


Table 5.5: User Registration Form of Digital Marriage Registration System

Digital Marriage Registration System Sign Up Screen:

User will have the option to sign up for the application to use it. Have to provide his/her mobile number and password.

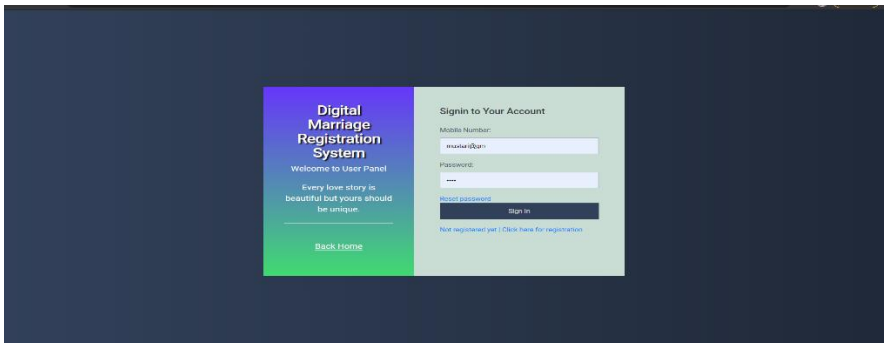


Figure 5.6: Signin Screen of Digital Marriage Registration System

User Dashboard:

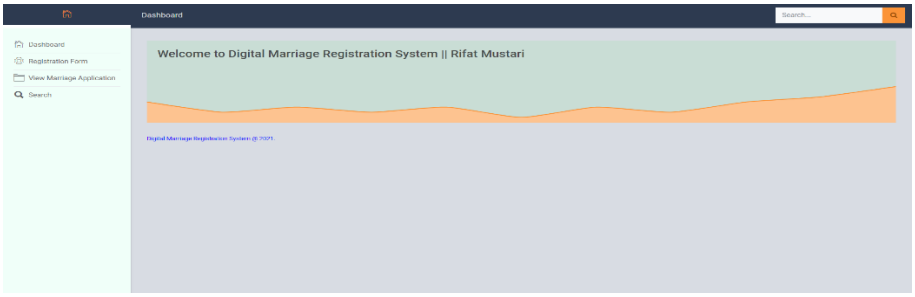


Figure 5.7: User's Dashboard of Digital Marriage Registration System

Marriage Registration Form:

User can view ragistration form and ragistar here

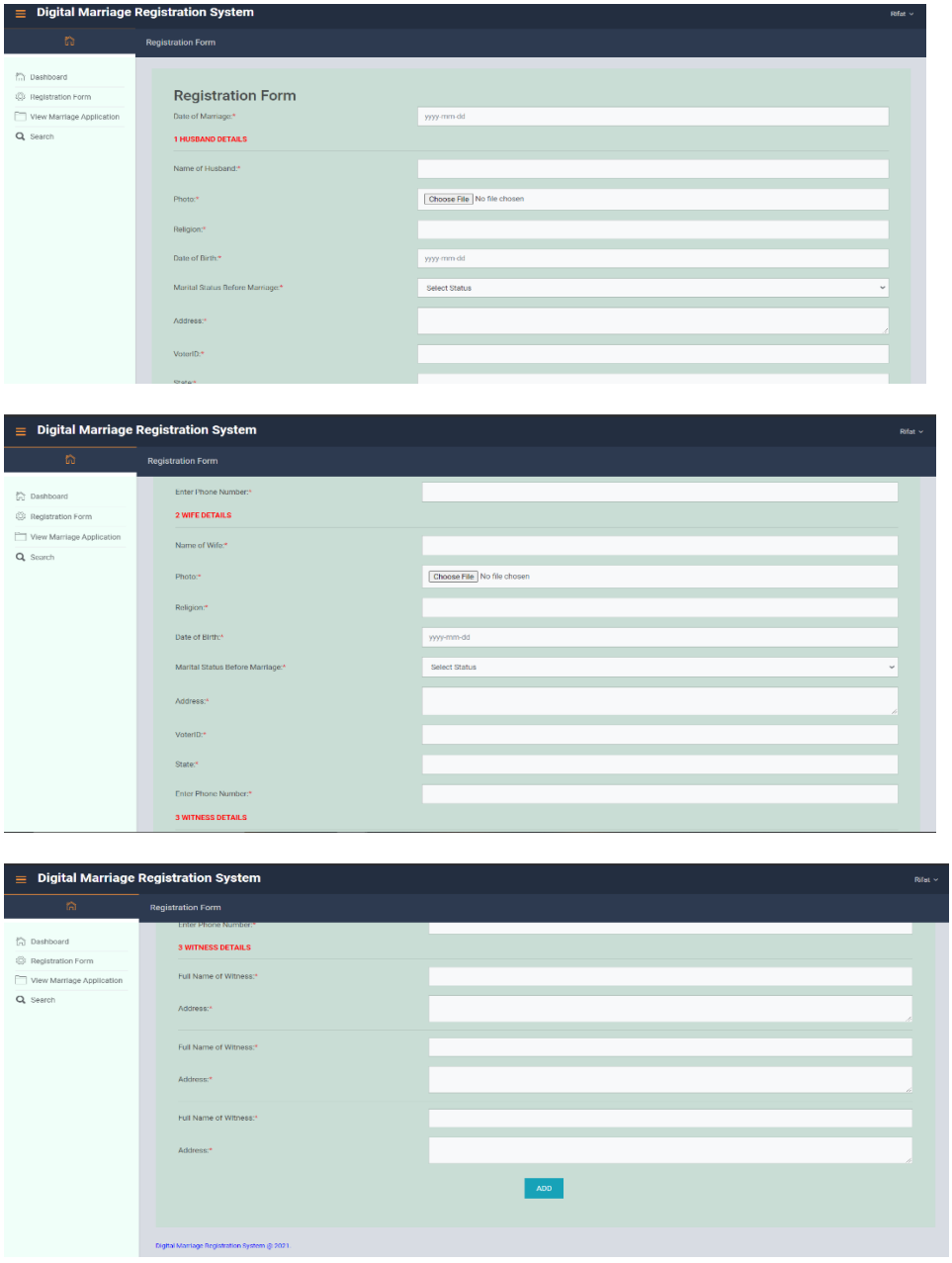


Figure 5.8: User's Marriage Registratio Form

Verified Marriage Application Screen:

User can view application rejected or verified.

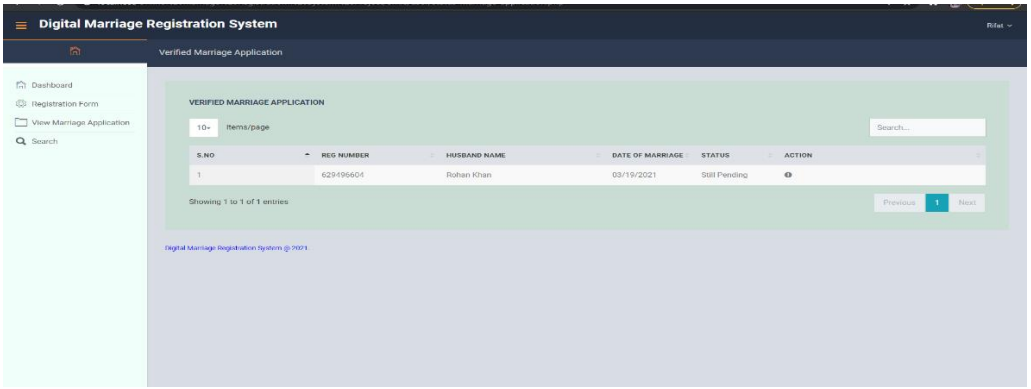


Figure 5.9: User's verified Application

User Search Screen:

User can searche his/her marriage application by registration number.

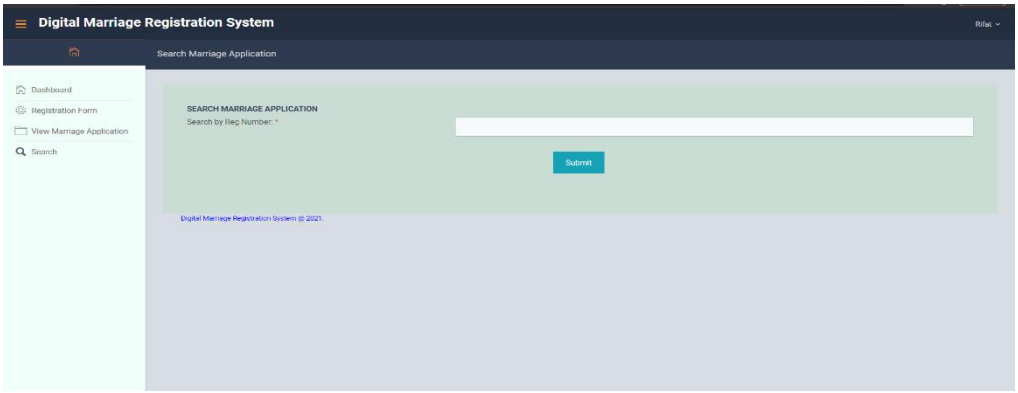


Figure 5.10: Search Marriage Application Screen

Admin Singin Screen:

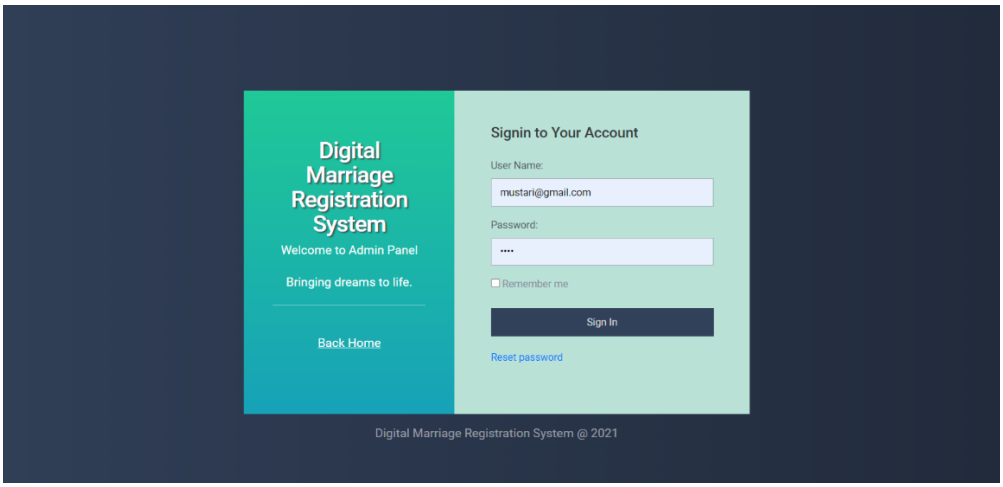


Figure 5.11: Admin Signin Screen of Digital Marriage Registration System

Admin Dashboard:

Admin can view total marriage application.

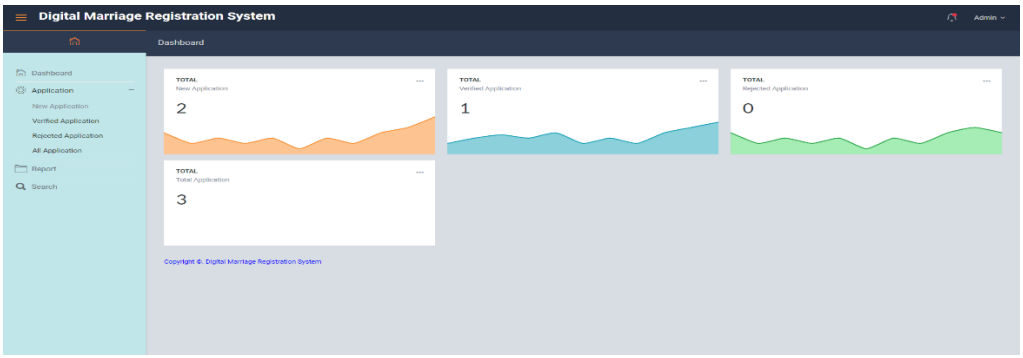


Figure 5.12: Admin Dashboard Screen

Admin Application Screen:

Admin can view all marriage application, and can reject or verify marriage application

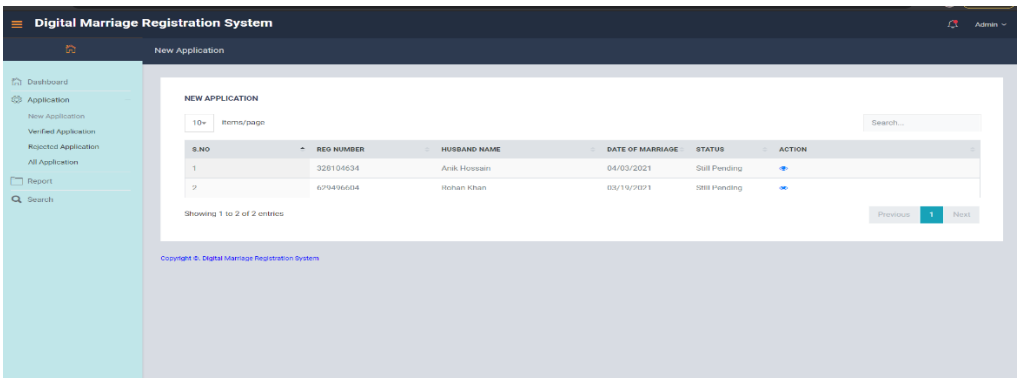


Figure 5.13: Admin New Application Screen

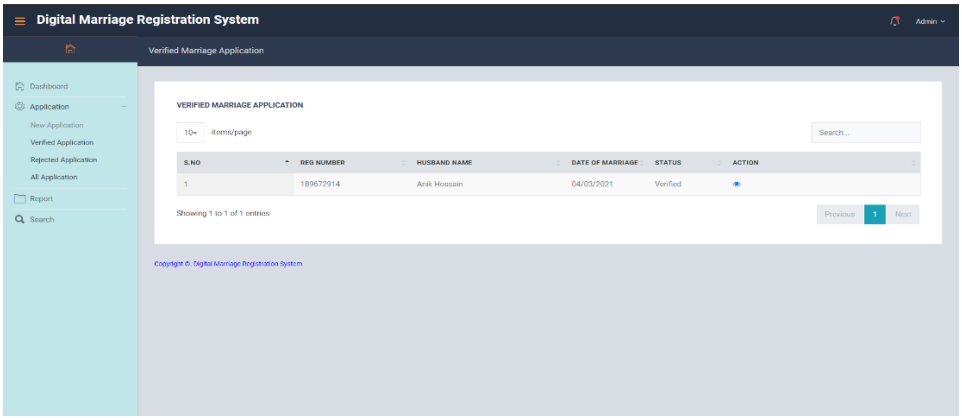


Figure 5.14: Admin Verified Application Screen

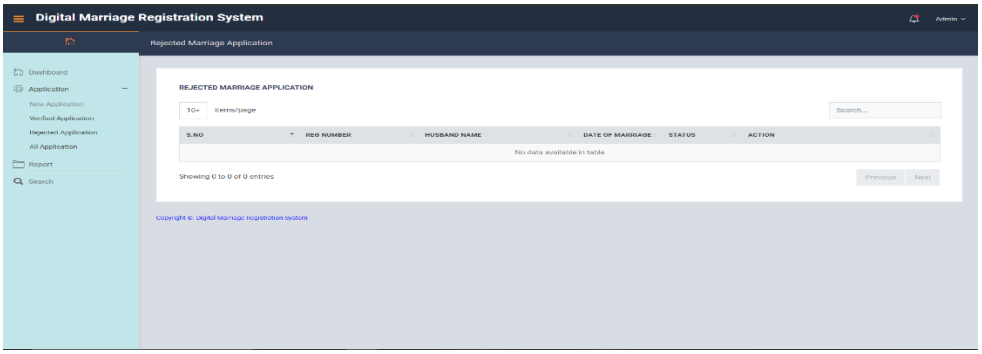


Figure 5.15: Admin Rejected Application Screen

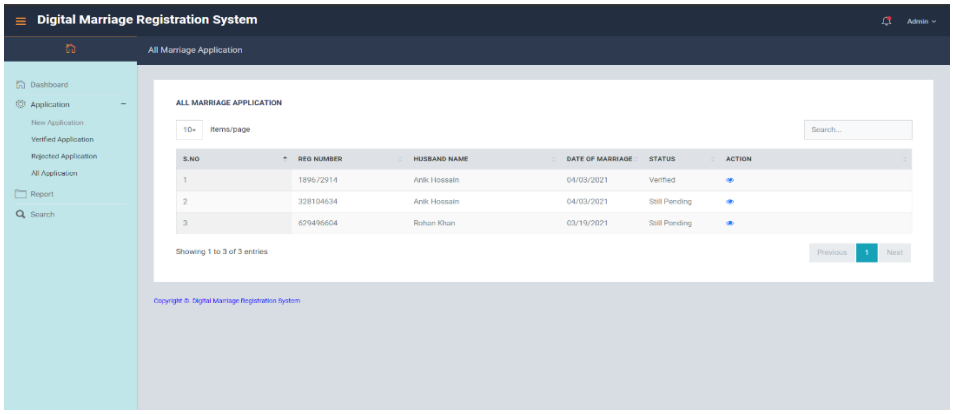


Figure 5.16: Admin All Application Screen

Admin Report Screen:

Admin can report here about registration date.

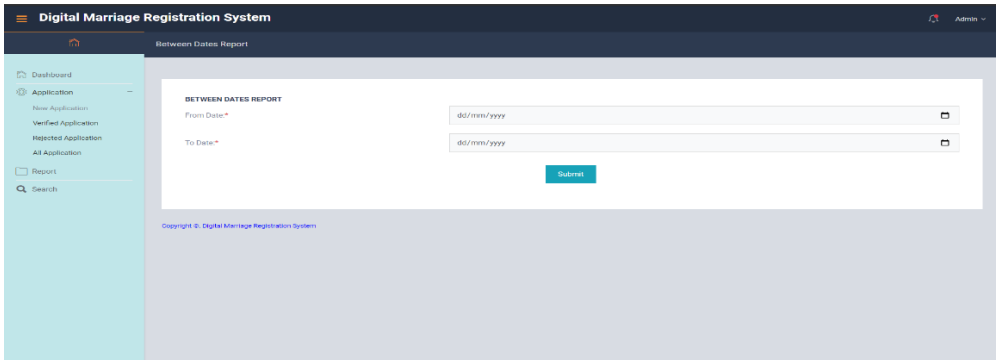


Figure 5.17: Admin Report Screen

Admin Search Screen:

Admin can search marriage application here.

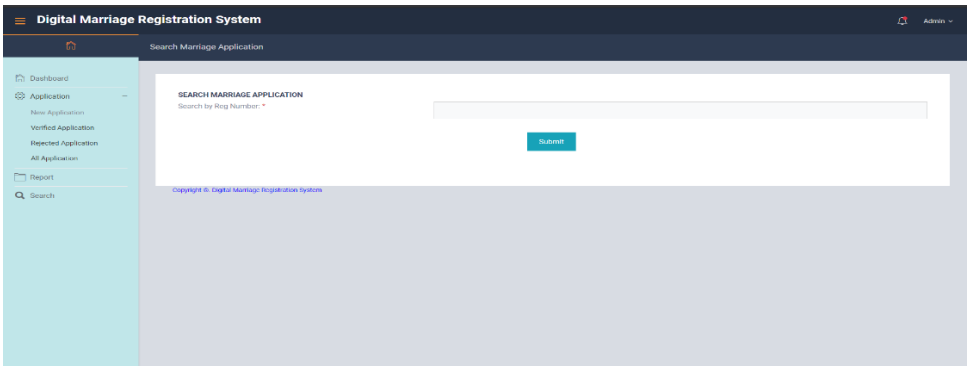


Figure 5.18 Admin Search Screen

View Marriage Application:

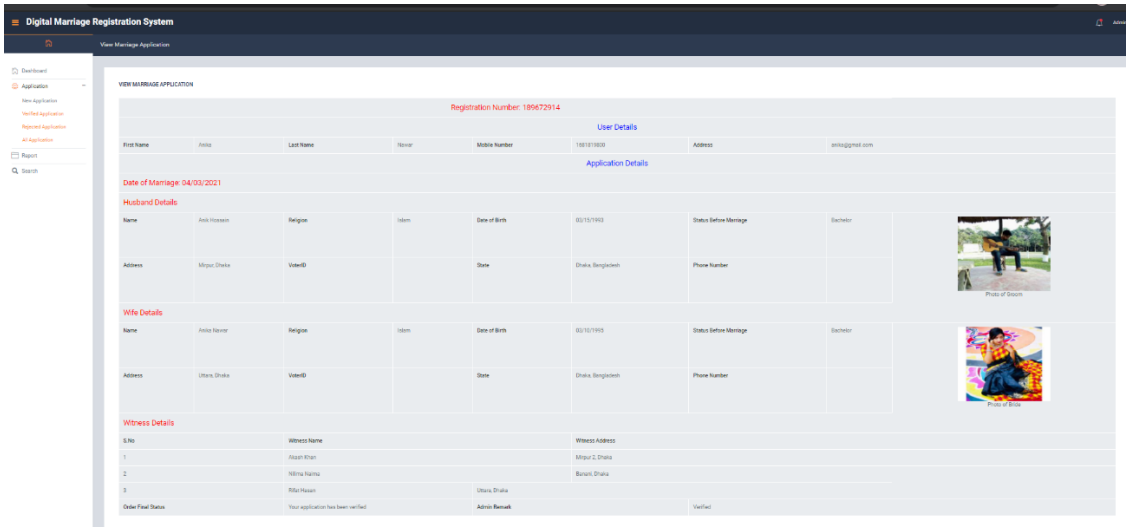


Figure 5.19: View Marriage Application Screen

5.4.3 Architecture

A system architecture is the conceptual model that defines the structure, behaviour, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures and behaviours of the system. They objectively analyse desired processes and outcomes and advice on the right combination of IT systems and components to achieve those goals. Software architecture optimizes attributes involving a series of decisions, such as security and manageability.

Chapter 6

Result & Analysis

As mentioned earlier, for the development of the project, XAMPP has been used to build the web application and PHP, JavaScript, Bootstrap were used for the back-end development. HTML and CSS use for the front-end. The main reason for the use of JavaScript because JavaScript can be used in both the front-end and back-end of web app. JavaScript is standardized, so it's frequently updated with new version. XAMPP also provides support for creating and manipulating databases in MariaDB and SQLite which is used in this project.

This chapter contains screenshots of the web application so it can be seen about how the actual application looks like:

Task	Description	Condition	Error	Output
User registration	User need to fill-up form	User needs laptop, mobile phone, tab for using this. And user must need one and unique phone number.	N/A	Success

User marriage registration form	User gives all details for fill-up marriage registration form	User needs laptop, mobile phone, tab for using this. And user must need NID.	N/A	Success
View marriage application	User can view verified marriage application and status.	User needs laptop, mobile phone, tab for using this. And user must need registration number.	N/A	Success
Search	User can search marriage application.	User needs laptop, mobile phone, tab for using this. And search by registration number.	N/A	Success

Table 5.15: User analysis table

Task	**Description**	**Condition**	**Error**	**Output**
Admin all application	Admin can view all application here. And can verify or reject application.	User needs laptop, mobile phone, tab for using this. And must need one and unique password.	N/A	Success
Rejected Application	Admin verify application and if all details are not correct then admin reject application.	User needs laptop, mobile phone, tab for using this. And must need user all details.	N/A	Success
Verified Application	Admin verify application and all details are correct**.**	User needs laptop, mobile phone, tab for using this. And	N/A	Success

		must need user all details.		
Admin can search application	Admin search marriage application by registration number.	User needs laptop, mobile phone, tab for using this. And registration number.	N/A	Success

Table 5.16: Admin analysis table

Chapter 7

Project as Engineering problem analysis

7.1 Sustainability of the Project

Sustainability in project management is about balancing or harmonizing social, environmental and economic interests in a project. Sustainability of the product refers to its ability to be maintained and updated. It is able to meet new requirements, future maintenance is made easier, every application being released need to be maintained and continuously updated for its user base.

7.2 Social and Environment Effects and Analysis

A web application (or web app) is application software that runs on a web server, unlike computer-based software programs that are run locally on the operating system (OS) of the device. Web applications are accessed by the user through a web browser with an active network connection. Adding to the power of mobile, web apps are an essential tool for garnering and keeping customers. Since web apps are Internet-enabled apps accessible through the mobile device's web browser, this savvy method gives businesses powerful resources to use on smartphones to market goods and services.

Social Effect:

Digital Marriage Registration System target to keep control early child marriage and secure marriage. Child marriage ends childhood. It negatively influences children's rights to education, health and protection. To accelerate the reduction of child marriage, keeping girls in school; empowering adolescent boys and girls through provision of life skills based education; transferring cash to vulnerable families with adolescent girls; ensuring protection of children at risk; and raising awareness through community mobilization and behaviour change initiatives. Many people are stuck in bad marriages. Children of divorce are more likely to experience negative feelings, lower self-esteem, behavioural problems, anxiety, depression, and mood disorders. Safety depends on each being sure that the other person is committed to the promise of commitment and will do whatever they can to live up to that promise. NID verification is the process of re-verifying the eligibility of your partner. This is the moral obligation and we know that essential if our business is to maintain the trust and reputation we are aspire to. By using Digital Marriage Registration System web application fully control early child marriage and also control deceitful people who are got married many.

Environment Effect:

Benefit Digital Marriage Registration System control child marriage so girls can Educated. Educated girls can make informed choices and from a far better range of options. Educating girls saves lives and builds stronger families, communities and economies. An educated female population increases a country's productivity and fuels economic growth. If someone can fraud marriage bad effect for environment. Mental health is better when you are married. Poor social supports have been strongly linked with higher rates of depression, loneliness, and social isolation, which have in turn been associated with poorer health outcomes. The environment can influence peoples' behaviour and motivation to act. While this is not the main object of the application “Digital Marriage Registration System” this build up of subconscious behaviour is believed to be good thing, it result in having positive impact on their environment.

7.3 Addressing Ethics and Ethical Issues

Ethical issues occur when a given decision, scenario or activity creates a conflict with a society's moral principles. Both individuals and businesses can be involved in these conflicts,

since any of their activities might be put to question from an ethical standpoint. Participant privacy, confidentiality and anonymity. Participant privacy, confidentiality and anonymity were the most commonly reported ethical concerns. These concerns are applicable to internet research across all disciplines, not just those involving families and children.

- **Information collection:** A technical description of how user data is collected on the Web site. This description should specify the types of data that are required to perform a transaction or create an account, and the types of data that are optional. The description should also specify the types of data that are gathered in aggregate rather than for a specific user.

- **Use of information:** A detailed description of how user data is used on the Web site. The Digital Marriage Registration System App does collect user data, but those are strictly stored & maintained and used only relevant for this application. This description should specify whether user data will be used to send occasional e-mail messages to the users or to create personalized recommendations for them as they browse the site.

- **Information transfer**: "Digital Marriage Registration System" does not violate any rules of the third-party services or the APIs that have been used in its development. a description detailing the situations in which user data will or might be transferred to a third party.

- **No use of absence of devotion:** The application has been development with no slang, swear words offensive language, etc.

If not currently plan to transfer user data but we can foresee a circumstance in which you might, describe that in this section. Specify the data that is or would be transferred, and the way it would be transferred.

Challenges Faced

Sitting for Hours:

When it comes to software development, I sitting for long hours is part of the job. So is back pain, numb legs, and neck sprains. As a new programmer, I might not be used to sitting for a prolonged period of time. After all, tasks didn't take me eight hours to complete in school.

Sitting might not be perceived as a problem for programmers, but considering the health impacts, it should be a consideration.

Time Estimation:

Time estimates are important in software development. They can be a basis for price quotes and project schedules. Schedule delays cause problems and may compromise trust.

Communication:

As a new programmer, I probably don't know anyone in my new workplace. Sure, maybe I know the colleague who told me about the job opening, but not the members of my team or the project manager I will be working with. And if I don't know them, I might hesitate to talk to them about anything, from code-related issues to getting to know the corporate pecking order. Poor communication is a problem that most new programmers face at some point. And the worst part is that it can cause conflicts in the workplace. If I find myself unclear about issues regarding a project, I may not know how to fix them or get help if I can't talk to my teammates.

Not Understanding the Requirement:

In software development, requirement fulfil isn't an option it's a priority. Of course, to make any software user centric, I have to know what was really required.

Sure, project management techniques like Agile/Scrum make it easier for development teams to update the software as requirement demands change throughout the development cycle, but it can be challenging for programmers who are still learning the ropes to balance the needs of the requirement with the lack of access to them.

Speed:

having a website that loads in just one second before losing the attention of the user is one of the biggest challenges that is faced in web app development today. Web developers have to try

their hardest to create a website that can load at an extremely high speed without having to sacrifice the special features that they need to include. Speed is incredibly important because many users actually give up on websites after having to wait less than five seconds for it to load. This lack of patience has caused massive problems for web app developers and so speed is something which needs to be carefully considered.

Chapter 8

Lesson Learned

8.1 Problems faced during this period:

While doing this project, I had faced some technical problems, interface development issue and code implementation. There are also few other matters which becomes complicated during the project time. Data merging is one of the vital issues for me to merge the data with their functionality in the web development portion. While building the interface with HTML, CSS and JavaScript, I have faced numerous errors in the Subline code such as format setup issue, API connectivity issue and database matters. Then I have few issues in setting up the stack developer system. Several Correction in ERD diagram, because several changes needed while implementing the same method through the Back-end developer module. Handling JavaScript is also essential issue for me because I am new to animations handling and dynamic content. In the web development, managing the server and application together is also hardest for me.

8.2 Solution of those problems:

In this time period, Internet searching helped me a lot to recognize the problems and found the guidelines and solution on the internet. The website Bootstrap helped me to understand the ruling and synthesis of the html code for developing the website. The website stack overflow helped me find out the idea of the confusion portion which guide me the solution of the problem.

Chapter 9

Future Work & Conclusion:

9.1 Future Works:

i)If they are not citizen of Bangladesh the verification will be done with the passport.

ii) There will a mobile application for users/people for accessing from any mobile devices/cell phone.

iii) Pre-booking for argent registration date.

9.2 Conclusion:

During Internship I worked on web application called “Digital Marriage Registration System”. In this application Massive Station look after fully control early child marriage and also control deceitful people who are got married many. And using this application Register can easily provide registration date and verified information for married people. Using this application, only register person can doing marriage registration operation. Common user can see the marriage related information.

It has been good Experience working in Massive Station as an intern. I have learned a lot about development style. I was able to gain practical skills, work in a fantastic environment, and make connections that will last a lifetime. Working with technology like HTML, CSS, JavaScript and Bootstrap among major from the internship program. Moreover, the project indirectly helped me to learn independently, discipline myself, be patient, take initiative and the ability to solve problems.

This was a great experience to interact with everyone in an informal setting outside of work. Overall, my internship at Massive Station has been a success. I was able to gain practical skills,

work in a fantastic environment, and make connections that will last a lifetime. I could not be more thankful.

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