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# UI Development Of eMIS- Support Ticket

ONAMIKA, AIRIN SIKDER

Independent University, Bangladesh

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**An Undergraduate Internship on the  
UI Development Of eMIS- Support Ticket**

By

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**Summer, 2022**

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**September 14, 2022**

Dissertation submitted in partial fulfillment for the degree of Bachelor of Science in  
Computer Science

Department of Computer Science & Engineering

**Independent University, Bangladesh**

## Attestation

This is to certify that the report titled "Development UI Of Ticket Management System" was completed by me, Airin sider onamika (ID - 1822098) submitted in partial fulfillment of the requirement for the Degree of Computer Science from Independent University, Bangladesh (IUB). It has been completed under the guidance of Ajmiri Sabrina Khan (Internal Supervisor) and Sadeq-ur Rahman (External Supervisor). I also certify that all my work is original and has not been submitted earlier to this university or any other institution. All the sources of information used in this Project Report have been duly acknowledged in it.

  
Signature

14.09.2022  
Date

AIRIN SIKDER ONAMIKA

Name

# Acknowledgment

I would like to start by thanking Almighty Allah for His blessings and for providing me with the capacity to work hard and the chance to complete this report. I'd like to express my gratitude to Ajmiri Sabrina Khan, Lecturer, Department of Computer Science Engineering, Independent University of Bangladesh, for her constant assistance and advice, which enabled me to successfully finish my project and report. I would also want to thank everyone who provided information, ideas, and recommendations to assist me to prepare this report. My gratitude goes to the Department of Computer Science and Engineering at Independent University Bangladesh for assisting me in gaining the necessary information and skills during my Bachelor's degree in CSE. My heartfelt gratitude goes to Mr.Sadeq-ur-rahman, senior programmer of ICDDR, B, for providing me with the chance to serve as an intern with ICDDR, B. My time in ICDDR, B was nothing short of fantastic, and I greatly liked working and studying here. I'd also want to thank Mr. Sadeq-ur Rahman for his excellent advice and supervision throughout the internship. Last but not least, I would want to thank all of my colleagues in ICDDR, B for welcoming me and providing continual assistance to complete my project and report. It would not have been possible without them. Finally, I would want to thank Independent University Bangladesh, as well as all of the respected faculty and staff members who were an integral part of my bachelor's degree in CSE. All of what I've done has been made possible exclusively by their direction and assistance, and I convey my appreciation to them.

# Letter of Transmittal

September 2022

Ajmiri Sabrina Khan

Lecturer

Department of Computer Science and Engineering,

Independent University, Bangladesh (IUB)

Bashundhara R/A, Dhaka 1229, Bangladesh.

Subject: Report submission of the internship.

Dear Madam,

With great respect and dignity, I would like to submit my Internship report in order to complete my Bachelor of Computer Science and Engineering degree. This report is based on my internship experience at Icdrr,b, which began on May 26th, 2022, and continues to this day. As a Frontend and backend Developer intern, I was assigned to their office. I completed my internship at Icdrr,b effectively. I worked in Icdrr,b under the direction of Mr. Sadeq-ur Rahman. This report is based on my Icdrr,b project. I was assigned to the project eMIS support ticket website, where I worked as the front-end and back-end developer. My time in Icdrr,b was terrific. The major goal of the internship is to study and gain information, improve our abilities, and receive our first experience of the corporate world, which I feel I have accomplished by working here.

I hope and wish that this report is comprehensive and meets your expectations. I have done my best to prevent flaws and hope that my report will be of excellent standard. I would also want to thank you for providing me with the chance to submit my report.


Sincerely,

Airin Sikder Onamika

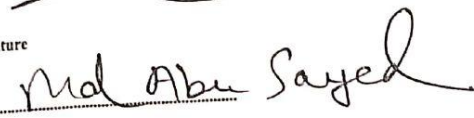
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iii

# Evaluation Committee



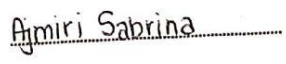
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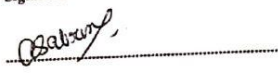
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Supervisor



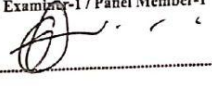
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Internal Examiner-1 / Panel Member-1



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Name

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External Examiner / Organizational Supervisor / Panel Member 2

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Signature

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Name

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Head of the Department / Convener

  
**Dr. Mahady Hasan**  
Head, Department of CSE  
School of Engineering & Computer Science  
Independent University, Bangladesh (IUB)

# Abstract

Bangladesh has been updated day by day. Now it is called a digital nation, with a large number of people utilizing the internet and the number continues to grow. The internet is now widely available. Nowadays in every office, they want to make their work on a website by using the internet. Icddr,b, like every other organization sector, has also expanded its work widely through the internet. They create their online platform. The website's goal is to collect essential information about pregnant mothers' and child health. The report also describes my internship experience with Icddr,b, a well-known research organization based in Dhaka, Bangladesh. It's an international organization with a lot of research facilities. I am glad to join them and work with them as a front-end and back-end developer intern. The report is divided into nine sections that provide an overview of the project and the development process. It starts with an introduction to the project in the first chapter, which focuses on the project's overview and goal, as well as the scope of work we had. The second chapter discusses the literature review and how the project ties to my bachelor's degree. In the third chapter, I discussed project planning, project management, and finance, which included a breakdown of time, resources, and cost to continue development. The fourth chapter then explains the project strategy and how that methodology benefited us in planning and development. The fifth chapter, titled "body of the project," is the most important component of the report. The system analysis is covered in detail here, with an emphasis on various analytical approaches and visualizations. The following chapter, Results, and Analysis describes the development process's outputs and analyzes what we did. The seventh chapter covers the project's long-term feasibility, social and environmental implications, and ethical concerns. Chapter eight is devoted to going over the problems I ran across during this period and how I solved them. Finally, in the final chapter, I highlighted the scope of future work as part of the report's conclusion.

# Contents

Attestation	i
Acknowledgment	ii
Letter of Transmittal	iii
Evaluation Committee	iv
Abstract	v
<b>1. Introduction</b>	
1.1 Overview/Background of the Work . . . . .	10
1.2 Objectives . . . . .	10
1.3 Scopes . . . . .	11
<b>2. Literature Review</b>	
2.1 Relationship with Undergraduate Studies. . . . .	12
2.2 Related works. . . . .	13
<b>3. Project Management &amp; Financing</b>	
3.1 Work Breakdown Structure . . . . .	14
3.2 Process/Activity wise Time Distribution . . . . .	15
3.3 Gantt Chart . . . . .	16
3.4 Process/Activity wise Resource Allocation . . . . .	17
3.5 Estimated Costing . . . . .	17



4. Methodology . . . . .	18-19
5. Body of the Project	
5.1 Work Description . . . . .	20
5.2 Requirement Analysis . . . . .	21-23
5.3 System Analysis . . . . .	24
5.3.1 Six Element Analysis . . . . .	25
5.3.2 Feasibility Analysis . . . . .	26
5.3.3 Problem Solution Analysis . . . . .	27
5.3.4 Effect and Constraints Analysis . . . . .	27
5.4 System Design. . . . .	27-31
5.5 Implementation . . . . .	32
5.6 Testing . . . . .	32-38
6. Results & Analysis. . . . .	39-40
7. Project as Engineering Problem Analysis	
7.1 Sustainability of the Project/Work. . . . .	41
7.2 Social and Environmental Effects and Analysis. . . . .	41
7.3 Addressing Ethics and Ethical Issues . . . . .	42
8. Lesson Learned	
8.1 Problems Faced During this Period. . . . .	43
8.2 Solution to those Problems. . . . .	43
9. Future Work & Conclusion	
9.1 Future Works . . . . .	44
9.2 Conclusion. . . . .	44
<b>Bibliography. . . . .</b>	<b>45</b>

# List of Figures

3.1 Work Breakdown Structure . . . . .	15
3.2 Critical Path . . . . .	16
3.3 Gantt Chart . . . . .	17
3.4 Activity wise work percentage allocation . . . . .	18
4.1 Waterfall Methodology. . . . .	19
5.2.1 Rich Picture. . . . .	22
5.2.2 Functional Requirements. . . . .	23
5.3.1 Six Element . . . . .	26
5.4.1.1 Use Case Diagram . . . . .	30
5.4.1.2 Activity Diagram . . . . .	31
5.4.1.3 Entity Relationship Diagram . . . . .	32
5.4.2 System Architecture. . . . .	33
5.6.1.1 Login Page. . . . .	34
5.6.1.2 Registration Page. . . . .	35
5.6.1.3 Dashboard . . . . .	36
5.6.2.1 New Ticket Creates A form . . . . .	37-38
5.6.2.2 New Ticket Details . . . . .	39
5.6.3 Designing Test Cases. . . . .	41

# Chapter 1

## Introduction

### 1.1 Background of the Work

Nowadays A website helps create brand awareness and showcase any brand to prospective customers. It helps to establish a company's image by letting the audience know who they are and what they represent. A website provides reliable information to consumers, which helps in setting businesses apart from their competitors. When people hear about any kind of thing about an organization first, they reviewed the website to gather knowledge about the organization. This helps them to get an idea about the whole thing about the organization's activities. The project I am assigned by my supervisor Mr. Qazi Sadeq-ur Rahman at icddr, b is a web-based project for their organization. I will work along with a programmer of icddr, b to help build this project. The website is basically a data collection-based website. it will help to collect all the mother's and children's necessary information. On this website, there is a login and a registration section. There is a dashboard where the users can input and know about the information. The ticket information will also be available on the dashboard. There will also be a complaint form if the users want to complain, they will fill up the form if they have any kind of trouble. The new ticket section issue and model type. will helps to get the type of problems.

### 1.2 Objectives

The project I am assigned by my supervisor Mr. Qazi Sadeq-ur Rahman at icddr,b is a web-based project for their organization. I will work along with a programmer of icddr,b to help build this project. The website will be used to collect all the necessary information about the maternal phase and children's health. To its users, it is provided a login section that will help people to get the main dashboard. The new ticket-assigned information will also be available on the dashboard. There will also be a complaint form if the users have any issues.

## 1.3 Scopes

During the development of this project, some of the features that will be available for the users are mentioned below-

1. Login page
2. Registration page
3. Status Dashboard
4. New-ticket Section
5. Created an All-tickets section
6. Details section

# Chapter 2

## Literature Review

### 2.1 Relationship with Undergraduate Studies

I'm working on the web-based project because I learned some of the courses which will help me to gather knowledge about the topic and inspire me to do my career in this side. The courses I learned at my university are-

**Web Application and Internet-** at the university this course gave me an interest in web development. During the course I learned HTML, CSS, and PHP and after completing it, web development grew in me and I learned about it to know more about JavaScript, Nodejs, and such and I hope to implement them in my project.

**MIS455-** I also learned the same things in my minor MIS course. And also made some projects.

**Database Management System-** It's a fundamental core subject that taught us how to plan and develop a project. This course gave me the fundamentals of a database and how it works, as well as database languages, Rich Picture, ER Model, Converting ERD-Relations, Six elements, Introduction to Normalization, and Structured Query Language.

**System Analysis and Design-** It also helped to get the idea of software making. From this course, I gather a lot of knowledge that is helping me to develop the project.

## 2.2 Related works

The organization I am doing my internship in is known as a health organization, but they are also doing some of their projects based on software and web development to collect data from mothers and children. Here are some highlighted projects of them given below-

- **EMIS:** This project is one of the best projects in icddr, b. This project is about data collection about pregnant mother and their child. This is a governmental project. Bangladesh health ministry took their project. Which helps to count the exact information about pregnant mother and their child from all over Bangladesh.
- **DHIS2:** This is another governmental project which is created for the Health ministry. This project also collects data from all over Bangladesh which helps to collect health-related information.

# Chapter 3

## Project Management & Financing

### 3.1 Work Breakdown Structure

A work breakdown structure (WBS) is a project management tool that takes a step-by-step approach to complete large projects with several moving pieces. By breaking down the project into smaller components, a WBS can integrate scope, cost, and deliverables into a single tool.

A work breakdown structure (WBS) is a tool that can be used for projects, programs, and even initiatives to understand the work that must be done to successfully produce a deliverable(s). The benefits of creating a WBS include defining and organizing the required work. Let me give a short description of how the stages are implemented in my project:

- 1. Requirement Analysis:** Requirements are gathered from the client and start the work.
- 2. Design Layout:** ERD diagrams are used to develop the design layout. A user interface is then designed, depending on the study.
- 3. Development:** Starting with front-end development and after finishing the front we will start to build the backend.
- 4. User Acceptance Testing (UAT):** This step begins once the site is up and running.
- 5. Deployment:** After getting all the approval the app will be started.

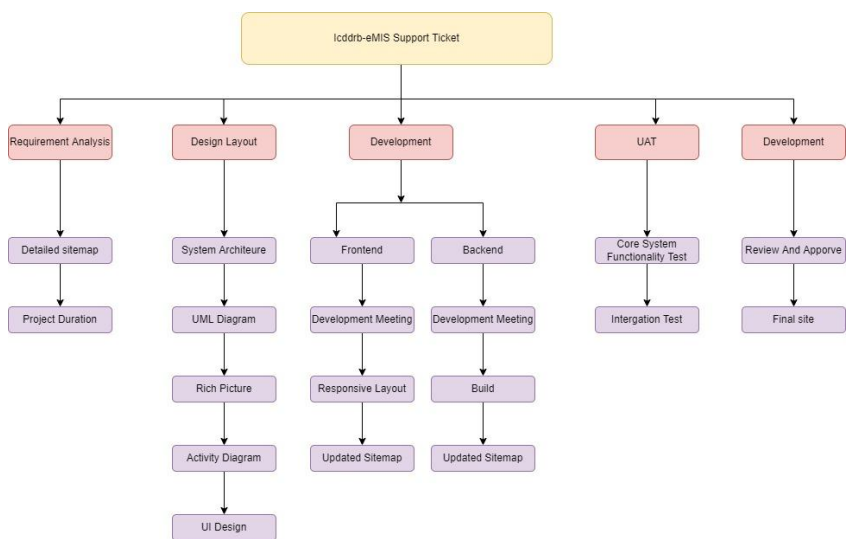


Figure 3.1: Work Breakdown Structure

## 3.2 Process/Activity wise Time Distribution

The project is worked on is expected to take 90 working days to complete. The entire task is separated into five core functions, which account for 100 percent of the overall effort. Some of which are critical, and some are non-critical. The five core functions are:

- 1. Requirement Analysis:** After having the idea and information of the client, I start the progress. This takes approximately 15 working days.
- 2. Design Layout:** Based on the requirements, UI/UX design is completed in visual code, and using react NextJs and antd for designing. Which takes 15 days.
- 3. Development:** The frontend and backend codings are finished at this phase. This is the longest phase of the project, lasting around 35 working days. During this phase, I tried to build exactly what the client finalized in the design feedback section.
- 4. User Acceptance Testing (UAT):** Following the completion of the previous three phases, the customer is presented with the project in a meeting. I walk the client and their team through all of the features and scopes. Quality assurance is also done during this period which is very crucial. This takes around 10 working days.
- 5. Deployment:** Finally, after getting a go from the customer, the project is hosted on the client's domain and hosting. The project is handed over to the client. This takes around 15 working days.

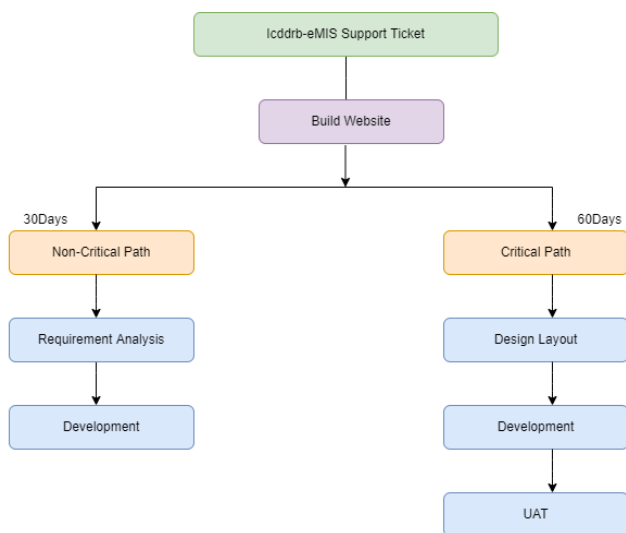


Figure 3.2: Critical Path



### 3.3 Gantt Chart

Gantt charts help to plan work around deadlines and properly allocate resources. Project planners also use Gantt charts to maintain a bird's eye view of projects. They depict, among other things, the relationship between the start and end dates of tasks, milestones, and dependent tasks. It allows project managers and team members to see the start, end, and milestone dates of a project timeline in a single stacked bar chart. A Gantt chart's vertical axis represents the tasks to be done, while the horizontal axis indicates the project timeline. The project is expected to be completed in three months at 90 working days.

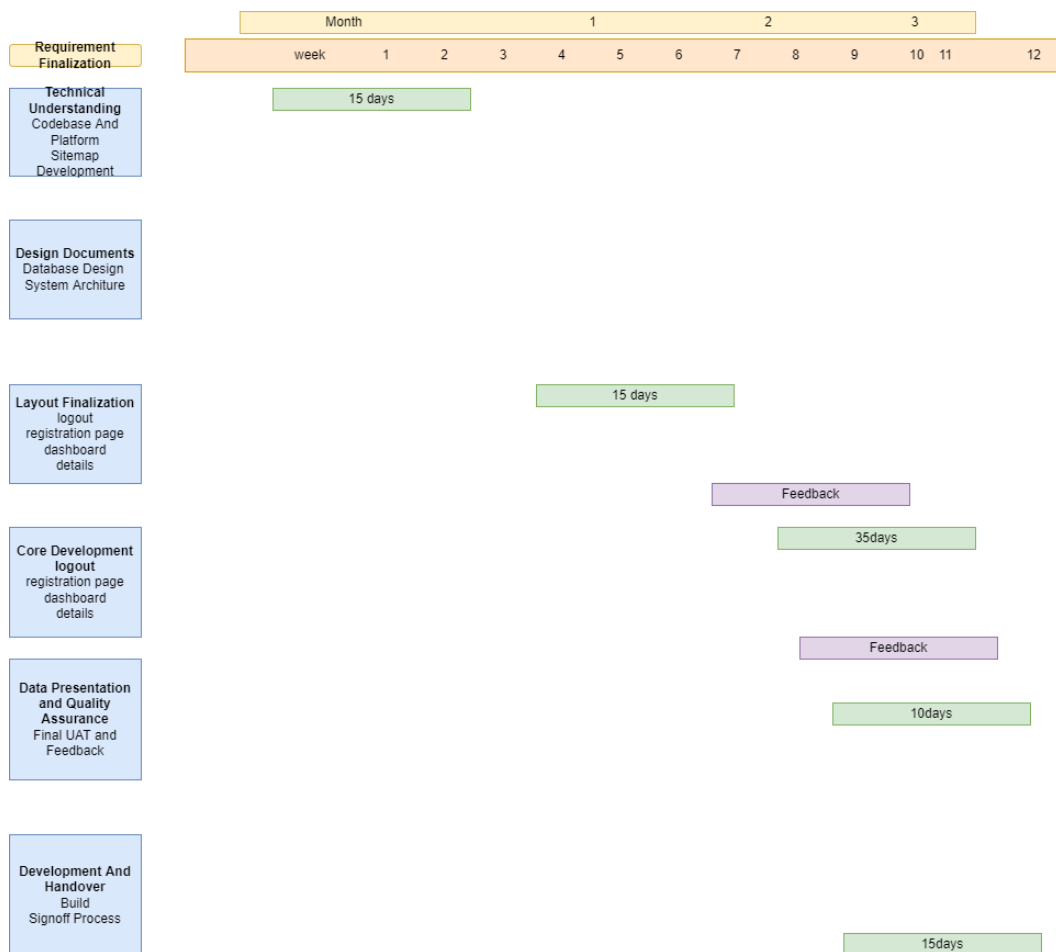


Figure 3.3: Gantt Chart

### 3.4 Process/Activity wise Resource Allocation

As I stated before, the entire task is separated into five basic functions, each of which accounts for 100 percent of the overall effort from the designer. The project is expected to take around 90 working days to complete in three months. The project is being worked on by only me people. I'm doing UI Design, Frontend, and Backend Development.

Task	Days	Work Percentage
Requirement analysis	15	15%
Design Layout	15	15%
Development	35	45%
UAT	10	10%
Development	15	15%
Total	90	100%

Figure 3.4: Activity-wise work percentage allocation

### 3.5 Estimated Costing

As my project already has an existing system and I just need to update the project by updating UI with react and NextJs we don't need to invest any kind of cost right now. My organization is just wanting to re-design the whole design which cost nothing only we use the coding app.

# Chapter 4

## Methodology

Many methodologies exist in the world. But we use the Waterfall method. The waterfall software development technique is one of the most straightforward and efficient methods for integrating an idea for development purposes. The waterfall methodology is a project management approach that emphasizes a linear progression from the beginning to the end of a project. This methodology, often used by engineers, is front-loaded to rely on careful planning, detailed documentation, and consecutive execution.

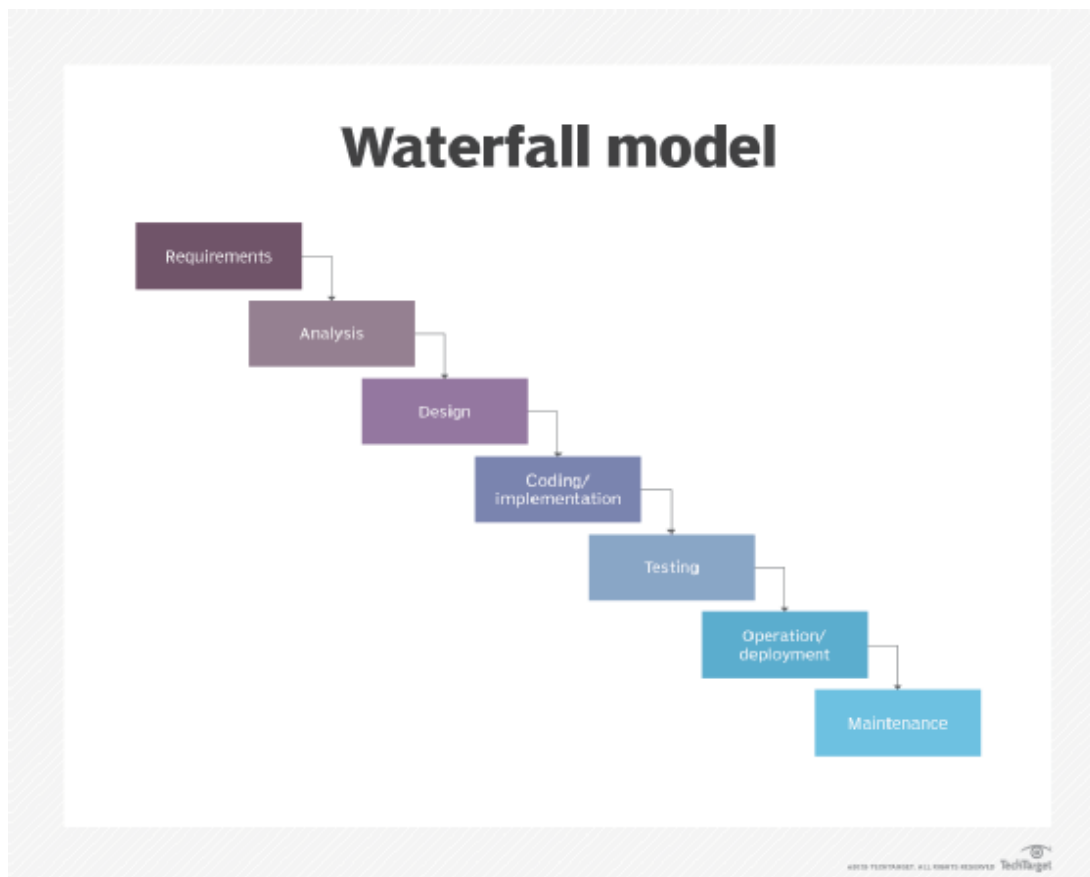


Figure 4.1: Waterfall Methodology

Advantages of the Waterfall model. Waterfall relies on teams following a sequence of steps and never moving forward until the previous phase has been completed. This structure is suited to

smaller projects with deliverables that are easy to define from the start. We chose the waterfall method so that we can respond quickly to changes in developments or user input without deviating from the original plans. An agile gather around a common vision and then brings it to life in the way they believe is best. Each part establishes its quality, usability, and completeness requirements.

# Chapter 5

## Body of the Project

### 5.1 Work Description

ICDDR, B is an international health research organization that is the only cholera hospital in Bangladesh. icddr, b is located in Dhaka, Bangladesh. Dedicated to saving lives through research and treatment, icddr, b addresses some of the most critical health concerns facing the world today, ranging from improving neonatal survival to HIV/AIDS. They are committed to solving public health problems facing low- and middle-income countries through innovative scientific research – including laboratory-based, clinical, epidemiological, and health systems research. For more than 50 years, they have been carrying out high-quality research and promoting the uptake of evidence-based interventions.

I had the privilege to be a part of this international research organization's website development team. This is a data collection website. The main functionality of the website was to collect data from pregnant mothers and children. Anyone visiting the website can enter their information or complain. They just need to register on the website. My role in this project was primarily in the front-end section and I also do some work on the backend. The first few weeks passed for me to align my code structure with the developers as they followed an industry-standard design and the language was totally new to me. And after some time I started my work on the main project. The front end is built with React, NextJs, Firebase, and AntD. I used MySQL for the database for the Backend.

## 5.2 Requirement Analysis

### Rich Picture

A rich picture is a drawing of a situation that illustrates the main elements and relationships that need to be considered in trying to intervene in order to create some improvement. Any approach may be used to build a rich image, and it can be applied in any scenario, regardless of its complexity. The following figure shows a rich picture of the project.

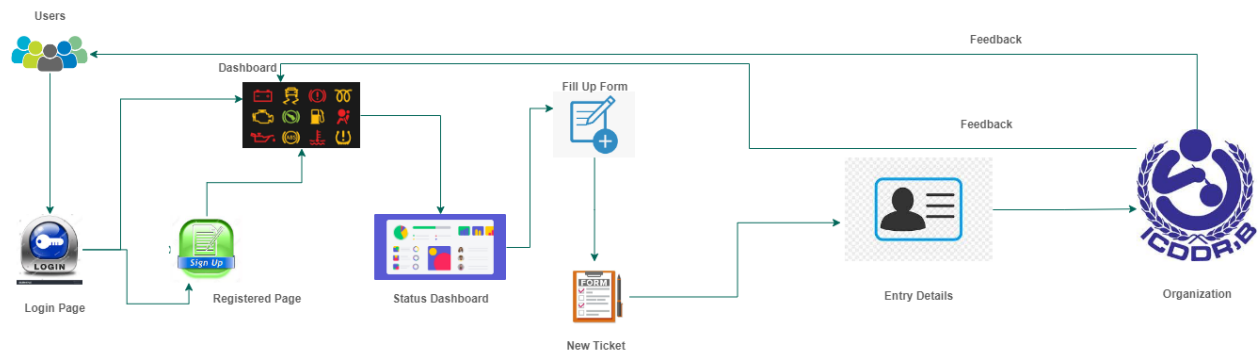


Figure 5.2.1: Rich Picture

# Functional and Non-Functional Requirements

## 1. Functional Requirements

Function	LOGIN OR REGISTRATION ON THE WEBSITE	
INPUT N/A	process: visit the login page then login or if there is no registered id then registries first	Output: able to entry the dashbaord
Pre-conditions	users must have internet access and computer or mobile	
post-Conditions	users allow to reach the dashboard page	

Function	CHECK THE Dashboard	
INPUT N/A	process: visit the Dashboard and select the next section	Output: able to create the new ticket
Pre-conditions	users must have internet access and computer or mobile	
post-Conditions	users must have a brief idea about the next process	

Function	NEW TICKET CREATE	
INPUT N/A	process: visit the new ticket option and fill the form to create one	Output: able to fill up the form
Pre-conditions	users must have internet access and computer or mobile	
post-Conditions	users successfully entry their data to the form and get feedback	

Figure5.2.2: Functional Requirements

## 2. Nonfunctional Requirements

Non-functionals are required for the system's primary operation.

**Performance:** The performance of the final outcome is expected to be very frequent and top-notch even after meeting all the functional requirements, the system needs to load its functions very fast.

**Efficiency:** The system should be efficient in using the shortest path to complete a task. If there is any duplicate path leading to the same outcome which may result even in milliseconds, needs to be eliminated.

**Availability:** The website should be up and available online 24/7 without any trouble like broken pages or server errors.

**Ease of Use:** The website should be easy to maneuver. The design and functionality should be easy for users.

**Information:** Users should give the right information for the outcome.

**Maintainability:** Necessary sections of the website should be made dynamic for user ease. Users should be able to create, update and delete data to the live site.

**Security:** Security will always be a concern for websites. Must ensure the security of the data which are collected from the users.



## 5.3 System Analysis

System analysis is the process of gathering and comparing information about the web and its operation and use in order to improve the web's overall quality and to identify problem areas. It is used in information technology when computer-based systems require specific examination based on their structure and design. Another perspective defines system analysis as a problem-solving approach that distills a system into its component elements and examines how effectively those parts operate and interact to achieve their goals.

### 5.3.1 Six-Element Analysis

PROCESS	HUMAN	NON-COMPUTING HARDWARE	COMPUTING HARDWARE	SOFTWARE	DATABASE	NETWORK
LOGIN	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
MANAGE FORM	ADMIN	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
REGISTRETION	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
VIEW DASHBOARD	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
NEW TICKET CREATE	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
SUBMIT THE FORM	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
VIEW THE DETAILS	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN
LOGOUT	Users	N/A	computer/mobile	Web Browser	Mysql	WAN/LAN

Figure 5.3.1: Six Element

## 5.3.2 Feasibility Analysis

A feasibility study is a method of determining the viability as well as the liability of a project. A feasibility study is one of stage among important four stages of the Software Project Management Process. As the name suggests feasibility study is the feasibility analysis or it is a measure of the software product in terms of how beneficial product development will be for the organization from a practical point of view. Before investing time and money in a project, any corporation might have the urge to know how successful the initiative will be. In short, the decisions of this project were taken on following feasibility studies.

**1. Technical Feasibility:** icddr is a very renowned organization that has worked with some biggest organizations and health ministries. They worked hard to make the project perfect. This project is technically possible since all of the necessary hardware, software, and other technical requirements are on hand.

**2. Economic Feasibility:** This analysis is carried out to determine the cost and benefit of the project. A detailed cost proposal for website development was generated, including all cost breakdowns. This expense is then weighed against whether the website would be financially beneficial to the company. More digital presence means more revenue.

**3. Legal Feasibility:** Before beginning this project, all legal constraints, such as data protection legislation, social media rules, and government restrictions, were assessed to guarantee that it does not meet any legal constraints in the future.

**4. Operational Feasibility:** Because of this website, visitors and overseas clients may now quickly and easily collect the data information they need as this is an international organization. Also, the project plan satisfies all of the project completion standards.

**5. Schedule Feasibility:** We predict the length of time it will take to finish a project in scheduling feasibility which in this case is 90 working days and some room for flexibility. The project will complete on time as the given milestones are being accomplished on schedule. This is the most critical assessment for project success.

### 5.3.3 Problem Solution Analysis

When I started my internship the project was in the requirement analysis phase. The main part was started after almost 1 month. This is my first real-world project for me. I was overwhelmed with the accountability and deadline pressure. I had basic knowledge about website development from both self-taught and university courses but as I have mentioned before that the languages were totally new to me. I did not have the industry standards for the code structure and I'm not as good as other coders. So, I had to learn my way to code REACT, NEXTJS, and ANTD alongside learning CSS and MYSQL. And now a days every website is made to be mobile responsive which was another challenge. It took me some time to get with the flow but I eventually contributed to sections that were mobile responsive as well as optimized for fewer server requests initially and increasing while the user loads the page. This was not easy because even after getting help from seniors they could not spend hours teaching me new methods. So, I had to teach myself with the help of vast online resources.

### 5.3.4 Effect and Constraints Analysis

When we take the first to develop any website there are some points of constraints that need to be kept in mind. For example, budget, deadline, unique design and features, etc. This project is about deadline and design. When developing a website, Each user is unique in their own way. Before we begin designing, we must do research and have a knowledge of our target audience. Our design should be a wonderful experience for the user, not for us. That's why it takes almost 15 working days to finalize a design. As I have a deadline for this project so I need to focus on the main part with efficiency. the deadline was about 90 days. apparently, it looks very huge but actually, it's not for a fresher. There is no budget-related issue included in this project.

## 5.4 System Design

System Design is the process of designing the architecture, components, and interfaces for a system so that it meets the end-user requirements.

## 5.4.1 UML Diagrams

A UML diagram is a diagram based on the UML (Unified Modeling Language) with the purpose of visually representing a system along with its main actors, roles, actions, artifacts, or classes, in order to better understand, alter, maintain, or document information about the system.

**1. Use Case Diagram:** A use case diagram is a method of summarizing information about a system and its users. Use case diagrams define the events in a system and how they flow, but they do not describe how those actions are implemented. The figure below shows the use case of a user and an admin.

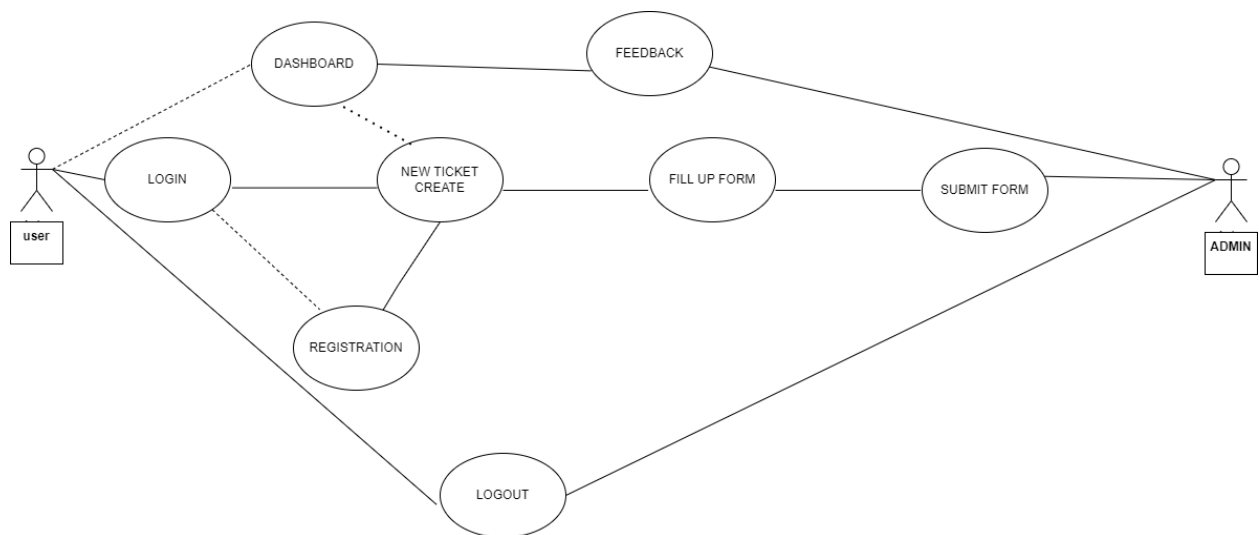


Figure 5.4.1.1: Use Case Diagram

**2. Activity Diagram:** An activity diagram is essentially a flowchart that illustrates the flow of one action to the next. The action may be thought of as a system operation. The control flow is drawn from one operation to the next. This flow might be sequential, branching, or concurrent. Activity diagrams deal with all types of flow control by embedding various parts such as fork, join, and so on. The figure below shows the Activity diagram.

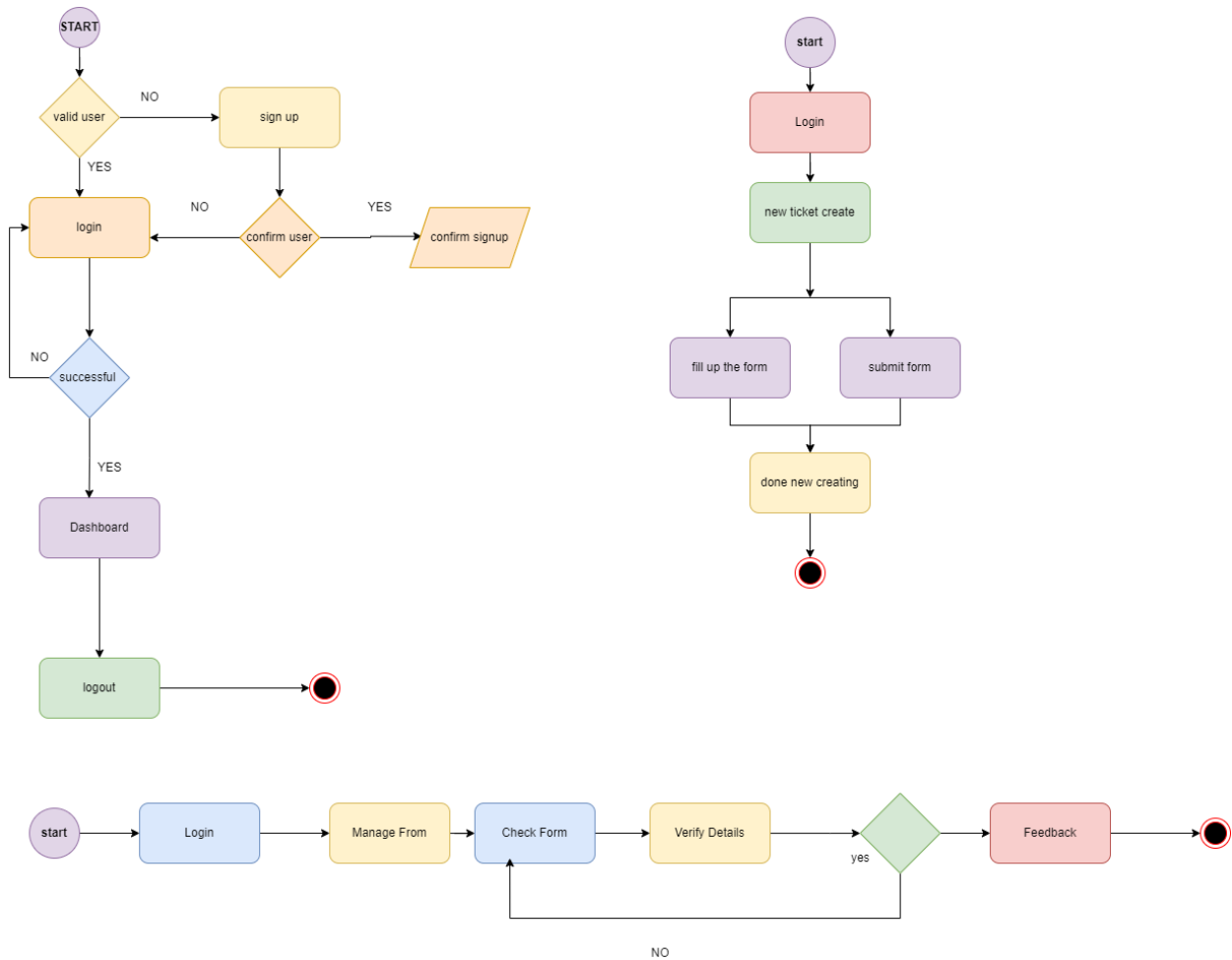


Figure 5.4.1.2: Activity Diagram

**3. Entity Relationship Diagram** An ER diagram depicts the connection between entity sets. In terms of DBMS, an entity is a field or an attribute of a field in a database, hence an ER diagram depicts the whole logical structure of a database by displaying the link between tables and their attributes. Here is the diagram given below-

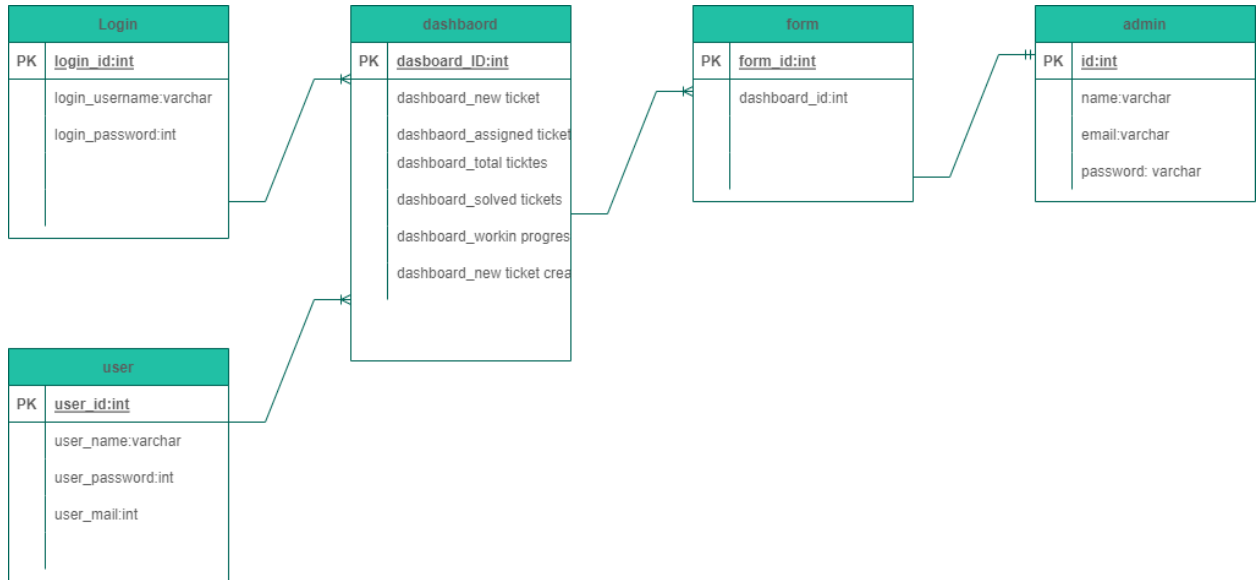


Figure 5.4.1.3: Entity Relationship Diagram

## 5.4.2 Architecture

Web application architecture defines the interactions between applications, middleware systems, and databases to ensure multiple applications can work together. When a user types in a URL and taps “Go,” the browser will find the Internet-facing computer the website lives on and requests that particular page. It is also the layout that logically specifies the link between the server and the client side for a better online experience. A well-thought-out web app architecture can accommodate diverse loads and respond to new service requirements with ease, resulting in a quick user experience that increases app performance even more. We may look at the architecture we created for our project. The figure shows that users can only view and interact with the front end of the website; the frontend takes user requests and sends them to the web server, which then obtains and stores data from the database and creates a new ticket as output, and delivers it back to the frontend as a response.

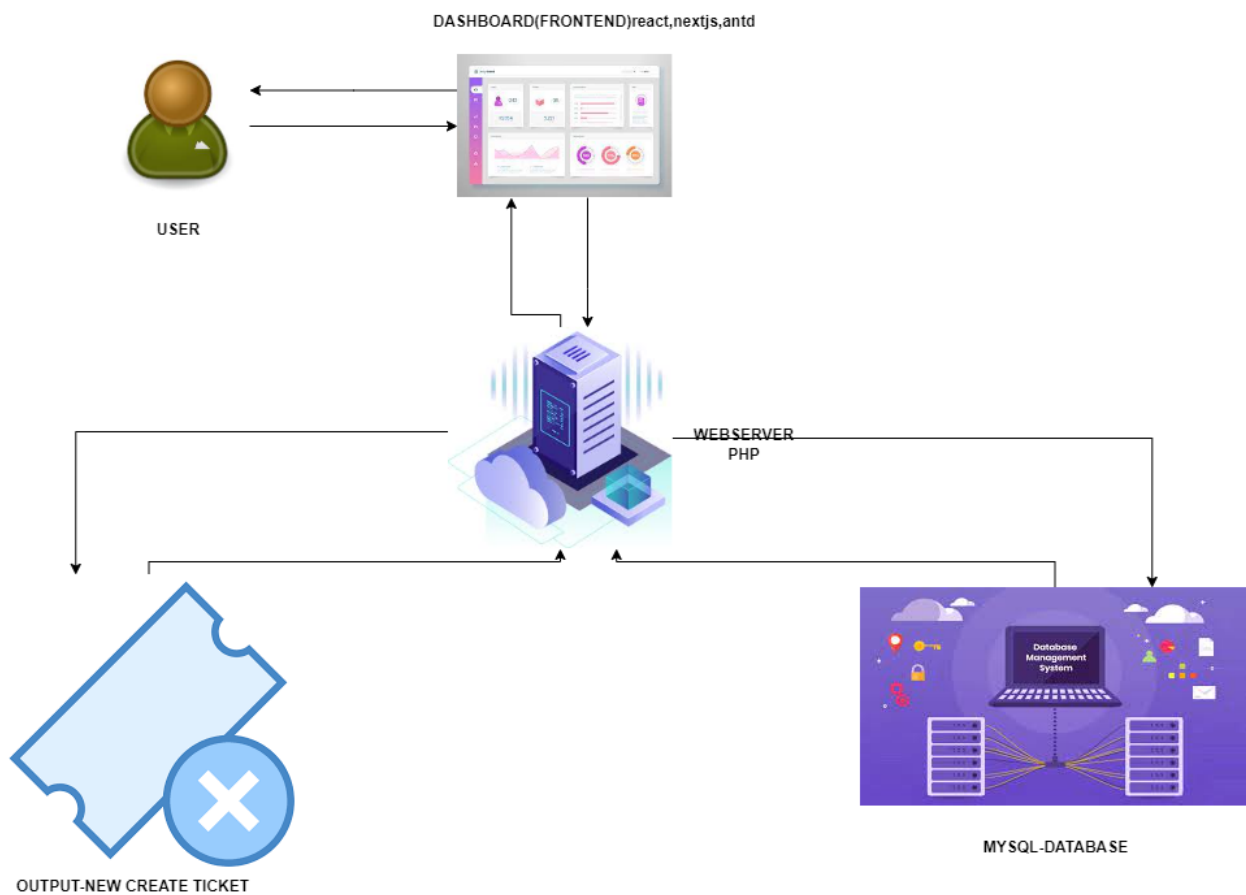


Figure 5.4.2: System Architecture



## 5.5 Implementation

Implementation is the process of building the web according to its design. The project I worked is created by REACT, NextJs, and AntD. And for the database I used MySQL. First, I prepared the design then I worked on the front end. Then I worked in the backend. This is how my project is ready to run.

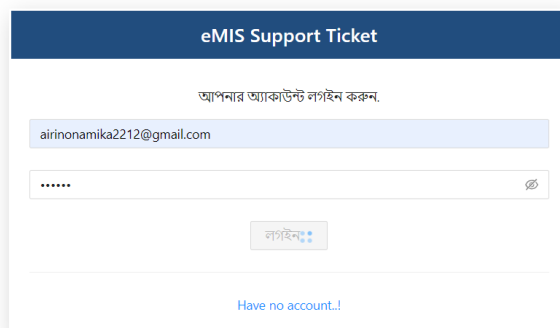
## 5.6 Testing

Web testing, or web application testing, is a software practice that ensures quality by testing that the functionality of a given web application is working as intended or as per the requirements. Web application testing allows you to find bugs at any given time, prior to a release, or on a day-to-day basis.

### 5.6.1 Input

In this section, I have added screenshots of scenarios of inputs.

**1. LOG IN PAGE-** first of all, users log in to the website by giving their email and password.



eMIS Support Ticket

আপনার অ্যাকাউন্ট লগইন করুন.

airinonamika2212@gmail.com

.....

লগইন

[Have no account..!](#)

Figure 5.6.1.1: Login page

**2. REGISTRATION PAGE-** Then if they don't have an account they need to register a new account by giving their name email and a new password.

### eMIS Support Ticket

আপনার অ্যাকাউন্ট নিবন্ধন করুন.

  
  
  
  
  
[Have an account..!](#)

Figure 5.6.1.2: Registration page

**3. DASHBOARD-** After login in, they reached the dashboard. here the user can see some options that will help them to understand what they want to see. In the dashboard, there are new tickets, assigned tickets, work in progress, solved tickets, and total ticket options available. There also we can see new creating tickets details on the dashboard. And on the other side, we can see the new ticket create option.

The screenshot shows the 'eMIS Support Ticket - Provider Dashboard'. The main content area is titled 'আপনার তৈরিকৃত সকল টিকেট সমূহ' (All tickets created by you) and displays a table with 10 entries. The table has the following data:

ID	Module	Issue	Date	Details
26	HI e-supervision	Software related	Sat Jul 16 2022	gttgt...
27	CSBA e-Register	Software related	Sat Jul 16 2022	gttgt...
47	FPI e-supervision	Administrative	Tue Jul 19 2022	আমি পিযুষ কান্তি সরকার পরিবার পরিকল্পনা ...
48	FWA e-Register	Content related	Tue Jul 19 2022	its done...

The sidebar on the left contains five cards: 'New Tickets', 'Assigned Tickets', 'Work in Progress', 'Solved Tickets', and 'Total Tickets'. The right sidebar contains a form for creating a new ticket with fields for 'মডিউল টাইপ' (Module Type) and 'ইস্যু ধরণ' (Issue Type), and a 'নতুন টিকেট তৈরি করুন' (Create New Ticket) button. A 'Login Successful' notification is visible at the bottom right.

Figure 5.6.1.3: Dashboard

## 5.6.2 Output

**1. NEW TICKET CREATE FORM-** from this option we can easily collect or enter our data. Here we can see module types where some categories like FWA, UPAZILA, FPI, HA, etc are added for clearance. The issue type option is also present where we can find the type of the problem. Then there is a problem box where we can detail our problems and then submit them to the site.

টিকেট সমূহ	Details
Jul 16 2022	gtgtgt...
Jul 16 2022	gtgtgt...
Jul 19 2022	আমি পিষুখ কান্দি সরকার পরিবার পরিকল্পনা ...

নতুন টিকেট তৈরি করুন

মডিউল টাইপ \*

ইস্যু ধরণ \*

- Area related
- Content related
- Hardware related

নতুন টিকেট তৈরি করুন

মডিউল টাইপ \*

- মডিউল টাইপ \*
- FWA e-Register
- HA e-Register
- FPI e-supervision
- AHI e-supervision
- HI e-supervision
- CSBA e-Register
- Upazila Manager

Figure 5.6.2.1: New ticket creates a form

**5. NEW TICKET DETAILS-** when the form is submitted we can see details about the user. Then we can ensure that the form is submitted.

আপনার তৈরিকৃত সকল টিকেট সমূহ

Show 10 entries Search: Search Here

ID	Date	Details	Added BY	Action
26	Sat Jul 16 2022	gttgtt...		<a href="#">Details</a> <a href="#">Delete</a>
27	Sat Jul 16 2022	gttgtt...		<a href="#">Details</a> <a href="#">Delete</a>
47	Tue Jul 19 2022	আমি পিযুষ কান্তি সরকার পরিবার পরিকল্পনা ...	airinonamika2212@gmail .com	<a href="#">Details</a> <a href="#">Delete</a>
48	Tue Jul 19 2022	its done...	airinonamika2212@gmail .com	<a href="#">Details</a> <a href="#">Delete</a>

< 1 >

তৈরিকৃত টিকেটটির বিস্তারিত

ID: 26

**Added by:**

**Module:** HI e-supervision

**Issue:** Software related

**Date:** Sat Jul 16 2022

**Details:** gtgtgt

Cancel OK

Figure 5.6.2.2: New ticket details

## 5.6.3 Designing Test Cases

It is important that project tests are designed well, or the project could fail to identify bugs and defects in software during testing. There are many different test case design techniques used to test the functionality and various features of your software.

The following functionalities have been tested for this website:

- user login
- registration
- new ticket create
- submit form
- Logout

	CASE	ACTION	PRECONDITION	STEPS	EXPECTED RESULT	RESULT OBTAINED	STATUS	REMARKS
1	Login	User login	connected to the dashboard through the internet	add user information in DB	Login successfully and reach the dashboard	succssfully login	pass	N/A
2	Registration	User Registration	connected to the dashboard through the internet	add user information in DB	register successfully and login	succssfully login	pass	N/A
3	New Entry	user create new ticket	after reach dashboard use the new ticket form option	add information to the boxes	successfully enter the data and submit	succssfully fill-up	pass	N/A
4	submit form	user submit form	fill-up the form and submit	click submit button	successfully submitted	successfully created the new ticket	pass	N/A
4	Logout	useres can easily logout	need to be logged out after submitting the data's	click log out button	successfully logout	successfully created the new ticket	pass	N/A

Figure 5.6.3: Designing

Test cases

## 5.6.4 Test Results

The final outcome of this project is it can successfully create a new form and entry the data. Iccdrb just needs to add its own database, and the whole project will be shared with the development team and a quality assurance tester. During the development phase, the QA tester will begin testing alongside the members of the development team. All modules and capabilities will be tested thoroughly. When a problem is detected, it will be documented on a shared Google sheet with a thorough explanation of the issue. As I have many lacking they are very helpful to me to resolve the identified problems. otherwise the website run in a fluent way.

# Chapter 6

## Results & Analysis

ICDDR, B was trying to expand its developing site in the real world. They want to boost their company's exposure in order to attract more clients and develop their business. They thought that having a strong online presence would aid them in their goal since people would have the access to see all their vast online. I tried my best to fulfill their needs and created a website for them that met all of the client's expectations.

**LOGIN PAGE-** On the login page, there is only a login form that was styled by REACT, nextjs. We also use render to show the title of the page. it shows dynamically. To login into the main page we need to enter our email and password then click the submit button.

**REGISTRATION PAGE-** It also creates a login page. We use on finish option for data submission. it's a function of ANTD. sometimes we enter the wrong email and password for this error handling. To log in we need to register our identity..we need to use our email, and name and set a new password, then we can easily be logged in to the main page.

**DASHBOARD-** After completing the login formalities we can reach the dashboard otherwise we can't. in here we do responsive which is taken from ANTD. we also use a menu bar which is named a status dashboard. In the middle part, we see a table. here the data are shown. collected data are loaded in this table by link. From the cloak host, we loaded the data. for the module section, we used pop-ups also collected from antd. In this section, we enter the data and collected them in a table.

**CONTEXT-** In here we are doing props dealing, and data processing. context passes the data in a chaining way is called the mother and child process. for selective people, this context is used. After creating context we need to context API to cover the whole app. Auth provider passes the data it also covers the whole process of the website.

**HOOK-**Auth provider is a function of Hook. anytime we can share the data by using a hook. we use firebase for the hook. by using this we can automatically register the data and pass the data.



we call the function in the registration form from the firebase then it automatically registered. if login with password is successfully done then it will go in dash form otherwise back to the login page.

# Chapter 7

## Project as Engineering Problem Analysis

### 7.1 Sustainability of the Project/Work

It's very necessary for every system must emphasize sustainability to keep up with the race of modernization. In the case of software and web development, systems are built to be sustainable so that they may be used continuously without causing difficulties for both the owners and the users. To ensure the long-term viability of our project, the website is built to be accessible independent of the user's machine's environment. The website we designed in a way so that it does not rely on the computer specifications, operating system, resolution, or internet speed of the user. The website will work on all desktops and devices using any browser. The website's long-term sustainability will also be ensured through frequent maintenance of the website and its server which will be done by the maintenance team collaborating with developers. The websites with which I worked in REACT, NEXTJS, ANTD, and backend code are all nicely optimized. It is ensured that the website works properly and is easily accessible by users. In terms of style and layout, the website is meant to be user-friendly. This system can easily fulfill users' expectations. Data are easily collected.

### 7.2 Social and Environmental Effects and Analysis

The Website of icddr is called the eMIS Support ticket system saves individuals time by allowing them to gather information online rather than visiting the field physically to collect the data about pregnant mothers and children. People may do this from the comfort of their own homes rather than walking in the field. which eventually saves time, and fuel meaning fewer cars on the road, which helps lessen pollution created by automobiles. People may also contact the organization over the website without physically visiting the people in the field. Just like all the other websites that are developed at icddr, this website is designed and developed to maximize efficiency while utilizing fewer resources. The website is ad-free, there are fewer redirections, and only basic plugins are utilized, all of which contribute to overall optimization, resulting in less power consumption and energy savings. which has a beneficial impact on the environment.

## 7.3 Addressing Ethics and Ethical Issues

Ethical reasonings are a must in every kind of web or software development because the more technologically advanced our society becomes and also abide by some basic ethical principles and guidelines. Sensitive data is constantly shared on the internet via numerous systems, thus it must be assured that the data is not compromised in any manner. Data nowadays can be measured at a higher price than that of patrol. The following are considered by our team in every project,

- The website only collects necessary user information, such as a user's name, email address, and phone number.
- On the website, there is no kind of discrimination or preference based on race, sexuality, gender, religious beliefs, color, language, political or other perspectives national or social origin, property, birth, or any other status.
- To preserve the organization and our client's privacy, Icddr,b maintains all project-related documentation, transactions and agreements, and coding confidentiality.

# Chapter 8

## Lesson Learned

### 8.1 Problems Faced During this Period

When I first started my internship in ICDDR, B I was quite nervous because this was my first real-world project. At first, It was quite difficult for me to work 8 hours in this place because I'm an introverted person. But the people are so nice to me and they tried hard to get over me this problem. As I'm working alone on this project it's also very hard for me to cope the things because of the language. forms and other kinds of stuff are totally new to me. The senior people are busy all the time and sometimes they are out of the country in this situation it's impossible for me to learn from them. As this is a huge international organization the people are always busy with their work. So I tried my best to learn by myself. on the other side, I'm less knowledgeable about office manners so I always worried about how to react or behave. But there are some nice people who helped to learn about office manners and schedule. When I was working on the project it was quite difficult for me to build code so easily. It was also difficult to master so many new technologies in such a short period of time and get with the flow of the other developers. Every project here has very tight scheduling and each section has deadlines. Meeting those deadlines as well as learning the new features was very challenging. Also, It was really difficult to study and apply the knowledge in such a short period of time. It was exhausting for me to keep up with the experienced developers' fast pace.

### 8.2 Solution to those problems

The solution to the next issue is to continue learning and practicing the technology in greater depth because what I have seen in these three months is that even seniors are learning new technologies every month because new features are coming every day and we have to keep up with the web trend. But surely, after stirring a bit more with these technologies I see myself in the position of an expert like the other skilled developers in the organization.

# Chapter 9

## Future Work & Conclusion

### 9.1 Future Works

Icddr,b intends to add many additional features to the website as the project proceeds in order to make it more useful to users and appear more attractive. From my point of view, there can be more options that should add to the website for the users. It will help them to know more about the site. listing pages where more pieces of information can be displayed. they need to make their system more efficient with more pieces of information and speeding power.

### 9.2 Conclusion

As an intern with ICDDR.B was an incredible experience. For my project purpose, I met a lot of nice people. They are so nice to me and I learned so many things from them. Throughout my project, I collaborated with my mentors and seniors to solve obstacles. I've also learned how to work within tight deadlines and under pressure. They improved my skills od coding. I will undoubtedly learn and seek a career in this field. I would like to thank everyone who has made my stay as an intern so wonderful, boost my self-confidence and help me prepare to step into my professional career.

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## **An Undergraduate Internship on UI Development**

### **Of eMIS- Support Ticket**

By

**Airin Sikder Onamika**

Student ID: **1822098**

**Summer, 2022**

#### **Consent Form**

The student modified the internship final report as per the recommendations made by his/her academic supervisor and/or panel members during final viva, and the department can use this version for archiving.

(Signature of the Supervisor)

**Ajmiri Sabrina Khan**

Department of Computer Science & Engineering  
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