Thesis On
Internship at Professional Associates Ltd.

by

Towsif Tazwar Zia
19301266

A thesis submitted to the Department of Computer Science and Engineering
in partial fulfillment of the requirements for the degree of
Bachelor of Science in Computer Science and Engineering

Department of Computer Science and Engineering
Brac University
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Declaration

It is hereby declared that

1. The internship report submitted is my/our own original work while completing degree at Brac University.
2. The report does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The report does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

Student's Full Name & Signature:

Towsif Tazwar Zia
19301266

Supervisor's Full Name & Signature:

Nadia Rubaiyat
Lecturer, Department of Computer Science and Engineering
Brac University

Approval

The thesis titled "Internship at Professional Associates Ltd." submitted by

Towsif Tazwar Zia (19301266)

Of Spring, 2022 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of B.Sc. in Computer Science on May 30, 2022.

Examining Committee:

Supervisor:
(Member)

Nadia Rubaiyat
Lecturer
Department of Computer Science and Engineering
Brac University

Head of Department:
(Chair)

Sadia Hamid Kazi, Ph.D.
Chairperson
Department of Computer Science and Engineering
Brac University

Letter of Transmittal

Nadia Rubaiyat
Lecturer.
Department of Computer Science and Engineering
BRAC University
66 Mohakhali, Dhaka-1212

Subject: Regarding my Final Report of Internship at Professional Associates Ltd.

Dear Madam,

I am glad to display that my internship position at Professional Associated Ltd. went very well. While at the recruitment procedure the interviewers were very friendly with me and asked what sort of opportunities that I was hoping to learn from them. After having my answers, they chose to hire me as an intern at their agency. I have learnt a variety of skills in my short tenure with the agency.

I did my best to finish the report with the most important information and recommendations in the most compact and concise way available.

I sincerely hope that my report meets your expectations.

Sincerely,

Towsif Tazwar Zia
19301266
Department of Computer Science and Engineering
Brac University

Date: May 29th, 2022

Non-Disclosure Agreement

This agreement is made and entered into by and between Professional Associates Ltd. and the undersigned student at Brac University that during the course of this internship, the student may have access to and be engaged in the processing of verbal, written, computer-generated, computer-accessed, filmed, and/or recorded material pertaining to clients and employees of the Mentor Organization. The student agrees to abide by the company's confidentiality policy.

Student's Full Name & Signature:

Towsif Tazwar Zia
19301266

Company Executive's Full Name & Signature:

Sakib Jubab Amlan
Team Leader, IT
Professional Associates Ltd.

Acknowledgement

I cannot express enough gratitude for my mentors at Professional Associates Ltd. for their continued support and encouragement: Sakib Jubab Amlan, Sharin Hossain. I offer my sincere appreciation for the learning opportunities provided by them.

My completion for this project could not have been accomplished without my supervisor Nadia Rubaiyat ma'am and her immense support throughout my internship tenure.

Last not but not least, to my parents for their constant support throughout my academic career.

To all of these people I give them my heartfelt thanks.

Abstract

Included in this paper are accounts of my internship undertaken in the fulfillment of my Bachelor of Science in Computer Science and Engineering from Brac University; with Professional Associates Ltd. As part of my internship at Professional Associates Ltd. I have researched about different type of maps which that was recorded in different census to see if there are any lands in our country which was a water body at first. As these types of lands will sunk in water due to geographical condition, houses and building built over these lands will be badly impacted due to this.

Keywords: Land Acquisition App; Superimposed Maps; Mobile Application.

Table of Contents

Declaration i

Approval ii

Letter of Transmittal iii

Non-Disclosure Agreement iv

Acknowledgment v

Abstract vi

Table of Contents vii

List of Figures x

List of Acronyms xi

1 Introduction 1

1.1 1

1.2 About this report 1

1.3 Objective 2

1.4 Literature Review 2

1.5 Methodology 3

2 Related Work **4**

2.1 Background 4

2.2 Our Services 5

2.3 Mission 5

2.4 Vision Statement 6

2.5 Enlisted Membership 6

2.6 Company Departments 6

2.7 Mega Projects 6

2.8 Field of specialization of PAL 12

2.9 Recruitment Process 12

3 Training Phase **13**

3.1 Getting familiar with the company 13

3.2 Work environment 13

4 About the App **14**

4.1 The problems it will solve 14

4.2 Surveys used in the project 15

4.2.1 CS 15

4.2.2 RS 16

4.2.3 BS 17

4.2.4 Superimposed Maps 17

4.3 Functional Requirements 18

4.4 Nonfunctional requirements 18

4.5 System requirements 18

4.6 Web Browsers 19

4.7 Other Softwares 19

4.8 Mobile Application 19

4.9 Flowchart 21

5 My work and observation **22**

5.1 Registration Page 22

5.2 Inside the Web Application 23

6 Conclusion **27**

List of Figures

2.1 Company Logo 4

4.1 3D model of a CS map 15

4.2 3D model of a RS map 16

4.3 Superimposed 3D model of a CS map 17

4.4 Superimposed 3D model of a RS map 18

4.5 Registration and Login page of the mobile app 20

4.6 User interface of the mobile application 20

4.7 A flowchart explaining how the app works. 21

5.1 Registration page of the web application. 22

5.2 Home page of the Web application. 23

5.3 Different ministry sections of PALA. 23

5.4 User interface of the water ministry. 24

5.5 All maps of 64 districts of our country. 25

5.6 Various types of maps of a map inside the application 26

List of Acronyms

BS Bangladesh Survey

$BWDB$ Bangladesh Water Development Board

CS Cadastral Survey

DPP Development Project Proposal

MEP Mechanical Electrical Plumbing

PAL Professional Associates Limited

$PALA$ Professional App For Land Acquisition

$RDPP$ Revised Development Project Proposal

RS Revisional Survey

$WaSH$ Water, Sanitation and Hygiene

Glossary

Embankment A wall or bank of earth or stone built to prevent a river flooding an area..

Internship A student or trainee who works in an organization, occasionally for free, in order to get job experience or fulfill qualifying criteria..

Mouza A mouza is a village in the rural areas of our country. In this report, the maps of mouzas are used to identify water bodies..

Retrofit To supply a machine with a part or an area with equipment that it didn't have when it was created..

Superimposed To place anything, such as an image, words, or other media, on top of something else, such as another picture, words, or media, such that what is in the lower position may still be seen, heard, or understood..

Chapter 1

Introduction

1.1

This report is about our experience in working with a team of quality architects, engineers, and other professionals contributing to several remarkable projects in interior designing and water-resource engineering. We intended to look into our newly designed software named "PALA" and how it looks, what its works are, and how it carries its responsibility in helping the people of Bangladesh. An internship is a professional way to gain experience and skills that offer helpful and practical work related to a person's field of study. He/she wanted to develop his career under supervision. Also, it helps to gain revelation to upper management and to develop professional contacts in a way that helps to bring innovative ideas and energy into the workplace and to develop themselves. For my internship, I chose Professional Associates Limited, an Architectural and Engineering Consultancy Firm which is providing its services from very preliminary/ conceptual drawings to final design and construction supervision by a team of quality Architects, Engineers, Planners, and other professionals drawn from in-house or outside, full-time and part-time resource personnel. In addition, the firm has advisors and associates who are experts in their field of competence. This company has been working from 1988 in electromechanical drawing, 3D modeling and video animation, feasibility study, architectural/structural consultancy, landscape design, project management and supervision, retrofit and renovation, EIA (environmental impact assessment), SIA (social impact assessment) and many more.

1.2 About this report

For completing my bachelor's degree program, I am working on this internship project so that BRAC University can evaluate me through this report. Mostly in this report, I have explained the ideas, challenges, and experiences I was able to gather working within this company for a certain period of time. Therefore, I have

written a detailed overview of the internship project I have been working on as an intern till now.

1.3 Objective

- To know about how it works.
- To know about the problems faced in website development and how it is solved.
- To know the designing concept and conventions of the development sector.
- To know about how it is going to help the people.
- Understanding the end user's requirements.

1.4 Literature Review

Every project was a big challenge for us because there were a lot of requirements from the clients that we needed to work on. Our newly designed software PALA provides a client with digital mapping of his land with accurate data and also helps that person to know whether his owning land was previously a part of any river or canal. Now the question arises of how this information will help a client. Article 42 of Bangladesh's Constitution provides that land of government can be acquired, nationalized, or requisitioned upon the authority of law and with compensation. That means no one can grab or use government-owned property without the permission of the law. If anyone does that, that person will be in danger of losing it because at any time the government will take its property for conserving the natural resources. So that's how our website is providing its services.

Our team faced the two most difficult challenges while designing the software and implementing the new ideas to make this one different. First, map collection was the toughest of all because according to the Land ministry the first land survey was taken in 1887 in the Indian subcontinent which is known as a cadastral survey (CS) This first survey is the survey and the prepared design and ledger are still accepted as very accurate and reliable. After 50 years of CS survey, the Revisional Survey is done. This survey was conducted to update the condition, nature, owner, occupier, etc. of the land but there were some limitations because much of the information was given by the landlords of that time. Then comes Bangladesh Survey (BS) which was started in 1998 but this is still in process. So, these are required maps that we need to help our client. But because of the survey being done many years ago most of the clients cannot give us the original map that they had with them. For which we have to collect it by ourselves so that we can meet their requirements.

Second, we serve the clients with digital maps to make the geographical features accurate and to protect the records of their lands. But as the survey was done many

days ago, these maps are not manifested properly. So, our architects need to use AutoCAD software, a 2D drawing tool used for technical drawings to create floor plans, elevations, and sections. Through this software, we rewrite the old maps to give them the digital shape so that we can make sure that their property is the government's property or not.

There are other websites like **dalil.com** that works for the general public by providing information on online document registration of their land. But like our website **PALA** they do not provide digital maps and also do not give accurate information about the ownership of the land.

1.5 Methodology

This report focuses on my internship at Professional Associates Ltd and the things I learned from there through working as a team. Most of the information and facts in this report are based on my understanding. And the other company-based information which are referenced in this report is taken from the company's website. Most of the data were acquired from my work experience there as an intern with my colleagues and team leader's discussions and teachings. However, some part of the data that I used in this project was acquired from other sources that I researched from the internet and that is only because it was needed to acquire a good understanding of what I will be working with.

Chapter 2

Related Work

Figure 2.1: Company Logo

2.1 Background

The Professional Associates Limited is an Architectural and Engineering Consultancy Firm that was established in 1988 by a group of experienced and highly motivated professionals to meet together to provide good services for the clients. This is a professional service providing company that provides its services from very preliminary/conceptual drawings to final design and construction supervision. The services are provided by a team of quality Architects, Engineers, Planners, and other professionals. The directors of **Professional Associates Limited** are Arch. Monzoor K. H. Uddin and Mr. Fazle Rabbi. Arch. Monzoor is one of the directors of our team, Sr. Architectural designer and supervisor of all projects of the company and Mr.Fazle Rabbi is the main team leader of our management team. Its head office is in Adorsho Chaya Nir (Level-3, 4, 5, 6 7) Ring Road, Shyamoli, Adabor, Dhaka-1207. Our company worked for many government and non-government organizations. Such government organizations are BAFA, BMA, BNA, BAF Shaheen College, Jahanabad Cantonment, etc.

2.2 Our Services

- MASTER PLAN
- WEB DEVELOPMENT
- DEVELOPMENTPROJECT PROPOSAL (DPP) RDPP
- 3D MODELLING VIDEO ANIMATION
- FEASIBILTY STUDY
- ARCHITECTURAL CONSULTANCY
- ELECTRO-MECHANICAL DRAWING
- PROJECT MANAGEMENT SUPERVISION
- RETROFIT RENOVATION
- EIA (ENVIRONMENTAL IMPACT ASSESSMENT)
- SIA (SOCIAL IMPACT ASSESSMENT)

2.3 Mission

The mission of The Professional Associates Limited is to provide a wide range of Engineering and Consultancy services to its clients from Project Design Consultancy to Project Implementation Consultancy and also Project Management Consultancy Services with quality management. The Professional Associates Limited desires to be a pioneer as Engineering and Consultancy Service providing company by its highly creative and professional serviceability. Our tradition of commitment, expertise and exceptional customer service is a testament to that mission as we strive each day for excellence in bringing our valued clients' ideas to life. Along with catering the needs of our clients we work in harmony to build a better future and create a sustainable impact with our structures in the community we serve.

2.4 Vision Statement

To be known as the strongest link in excellent teams, delivering value and quality to clients and team members. To be known as an employer of choice and an investor in people and their innate and learnt skills.

2.5 Enlisted Membership

1. BACE (Bangladesh Association of Consultation Engineering)
2. DIFE (Department of Inspection for Factories and Establishments)
   - ➢ Architecture
   - ➢ Structure
   - ➢ MEP
   - ➢ FIRE

2.6 Company Departments

- Architecture
- Civil
- MEP (Mechanical Electrical Plumbing)
- Planning
- IT
- HR and Admin

2.7 Mega Projects

Bangladesh Military Academy

Detailed Description of Actual Services Provided by our Staff:

- ✓ Master plan of the project area;
- ✓ DPP and RDPP preparation;
- ✓ Preparation of Architectural and structural design/drawing, 3-D of individual building/ structure, and layout of furniture;

- ✓ Solar Panel provisioning;
- ✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping;

Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ, Tender Documents preparation and supervision of all work of BMA Bangabandhu Complex at Bhatiary, Chittagong.

Bangladesh Naval Academy

Detailed Description of Actual Services Provided by our Staff:

- ✓ Master plan of the project area;
- ✓ DPP and RDPP preparation;
- ✓ Preparation of Architectural and structural design/drawing, 3-D of individual building/ structure, and layout of furniture;
- ✓ Solar Panel provisioning;
- ✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping;
- ✓ Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ, Tender Documents preparation and supervision of all work of BMA Bangabandhu Complex at Bhatiary, Chittagong

Bangladesh Air Force Academy

Detailed Description of Actual Services Provided by our Staff:

- ✓ Master plan preparation of the area,
- ✓ DPP and RDPP preparation,
- ✓ Preparation of Architectural and structural design/drawing,3-D of individual building/ structure, and layout of furniture

- ✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping, basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ, Tender Documents preparation and supervision of all work of BAFA Bangabandhu Complex at Jessore.

Combined Military hospital (CMH-2)

Detailed Description of Actual Services Provided by our Staff:

- ✓ Detail survey, as build condition investigation
- ✓ Structural, Architectural Design, MEP design with cost estimation.
- ✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping,
- ✓ Preparation of Development plan Proposal With Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ

Super Market in Savar Cantonment

Detailed Description of Actual Services Provided by our Staff:

- ✓ Digital Survey of Site.
- ✓ Soil Investigation.
- ✓ Power Point Presentation about Design Concept and Ideas.
- ✓ Preparation of detailed architectural drawing, structural drawing, electro-mechanical drawing and plumbing drawings.
- ✓ Preparation of detailed working drawing.
- ✓ Preparation of detailed cost estimate.
- ✓ Preparation of tender documents.
- ✓ Construction supervision by Sr. personnel.
- ✓ Preparation of Progress Report

BAF Shaheen School and college, Bogura Radar Unit.

Detailed Description of Actual Services Provided by our Staff:

- ✓ Preparation of Master Plan,
- ✓ Preparation of DPP
- ✓ Preparation of Architectural design/drawing,3-D of individual building/ structure, and layout of furniture,
- ✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping,
- ✓ Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ.
- ✓ Preparation of tender documents, Construction Supervision Management for construction of School Building at BAF Shaheen School and College, Bogura RADAR Unit

Residential Facilities for Khulna Jahanabad Cantonment

Detailed Description of Actual Services Provided by our Staff:

- ✓ Feasibility study of the project.
- ✓ To prepare Detail Master Plan Including Electric Line, Water Supply Line, Drainage Sewerage System (With Design/ Drawing) Showing Existing Future Building Installations at Jahanabad Cantonment.
- ✓ Digital survey soil investigation.
- ✓ Design and cost estimates.
- ✓ Supervision of civil works including other utility facilities such as Sanitary Plumbing system, Internal External Electrification Works etc.
- ✓ Architectural design/drawing,3-D of individual building/ structure, and layout of furniture

Residential Facilities for Savar DOHS

Detailed Description of Actual Services Provided by our Staff:

- ✓ Feasibility study of the project.
- ✓ To prepare Detail Master Plan Including Electric line, Drainage Sewerage System (with drawing /design), Road network system (with drawing design) showing Future Building Installations.
- ✓ Detailed survey, soil investigation, environmental impact study
- ✓ GIS database Underground natural drainage network analysis, Contour map generation, Digital Elevation Mapping (DEM), Central PA system, Networking, Site development, architectural, Structural, Electrical, Mechanical, Sanitary Plumbing design drawing.

STA HQ for Jessore Cantonment

Detailed Description of Actual Services Provided by our Staff:

- ✓ Master plan preparation of the area,
- ✓ Preparation of Architectural and structural design/drawing,3-D of individual building/ structure, and layout of furniture
- ✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping, Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ, Tender Documents preparation and supervision of all work of Multipurpose Auditorium at Jessore.

Feasibility Study for "Dhaka Circular Route: Eastern Bypass Project"

Detailed Description of Actual Services Provided by our Staff:

- ✓ Feasibility of the project.
- ✓ Preparation of alignment of drainage canal including ponding area along the alignment of embankment.
- ✓ Land use change pattern through analyzing of CS, RS, BS and City Mouza map.
- ✓ Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ.

✓ Methodology for Land Acquisition Plan (LAP)

Feasibility Study of Sheikh Kamal International Cricket Football Stadium Complex at Cox's Bazar

Detailed Description of Actual Services Provided by our Staff:

✓ Feasibility Study of the project.

✓ Complete Architectural Design and Master Plan of the proposed site, Detailed Building Plans of Cricket and Football Stadium Complex and Sports Hostel.

✓ Incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping,

✓ Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ, Tender Documents

Technical Assistance for Preparation of Master Plan and Design Including Cost Estimate for Renovation and Expansion of Dhaka Medical College Hospital

Detailed Description of Actual Services Provided by our Staff:

✓ Feasibility of the project.

✓ Master Plan and basic Structural and Architectural Design including cost estimates.

✓ Development Project Proposal (DPP) Preparation

Construction of Necessary Residential, Administrative and Other Physical Infrastructure at BWDB Establishments

✓ Site survey, Soil Investigation, Preparation of Master Plan, Preparation of Architectural design/drawing,3-D of individual building/ structure, and layout of furniture, incorporating mechanical, electrical and plumbing (MEP) and structural design input, landscaping, Basement details specification for the works, detail working drawing, technical specification, engineering estimate, BOQ.

2.8 Field of specialization of PAL

The Company is a member of the Bangladesh Association of Consulting Engineers (BACE). The professional staff including consultants of PAL comprise 110 professionals in the Head Office and Regional Offices. Major sector areas of Professional Associates Ltd. Are as follows:

- Roads and Highways, Transportation
- Health and health education
- Urban Development and Management
- Water, Sanitation and Hygiene (WaSH)
- Agricultural and Natural Resources
- Digitalization works for any Government and Private Organization.
- Environment and Climate Change
- Disaster Management
- Web portal and Website development
- Providing ICT related training

2.9 Recruitment Process

First of all, candidates have to provide their resumes and offer letters with correct information to the company's HR. Then if they accept it, they will call the candidate to let them know about the interview which will be taken face to face. But due to this pandemic, my interview was taken online where I have been asked about the sector, I am interested in working in. Also, they asked me about my skills, hobbies, goals, and any previous experience in any work. They were very cooperative and understanding, for which was a very interesting interview for me. This was a great experience for me as I got to know how interviews are conducted. This also prepares me for my future job endeavors as well.

Chapter 3

Training Phase

3.1 Getting familiar with the company

- I was introduced to the office staff and the working environment.
- I had the opportunity to learn some basic information about our company, Professional Associates, Ltd.
- I was introduced to our Chairman, Managing Director, Executive Director, HR and Admin, Head of Civil Department, Head of Architecture Department, Head of MEP Department, Head of Planning Department, Head of IT Department.
- I was given a short brief by my team leaders on how to work on a particular project and how to pre-plan the projects before moving towards the next stage of the development process and its overall management.

3.2 Work environment

Professional Associates Limited offers me a very friendly working environment where I got to learn many things and gather ideas and experiences that will help me throughout my life. I have closely monitored and experienced the way how the IT professionals works in real time. This definitely helped me gain various knowledge about doing professional work. Additionally, various programming language and web services were used to built the app that we are designing right now. So, I have a good idea how various types of programming languages work and where to implement them, for building an app. As this is mainly an architectural firm, I also got to know which types of software are used for doing architectural work. With the help different softwares it is possible to solve various land and real estate problems of our country. I got to learn these aspects of computer science which we can use for these type projects. This work environment helped me to accumulate a versatile experience which in turn will help me a lot in my professional life in the future.

Chapter 4

About the App

4.1 The problems it will solve

With the beginning of industrialization, the amount of real estate has been on the rise exponentially. Different types of areas in various parts of our country are being sold as real estate to the citizens of our country. These types of areas often have a water body passing through them such as rivers, lakes and canals etc. However, the real estate agents often fill up this waterbody with soil and sand to make more land area which they can sell later as real estate. Even though this is a good investment for them and the buyers can get a good amount of land which seems like rest of the lands, on the contrary it is not a good thing to do. According to geologists, the land areas which were filled by sand which was in fact a water body, could become be filled with water again with the passage of time. In that case, the building or project which was built on the land will sunk and get destroyed due to the limitation. Although, how long will it take to become like it was before varies. It could take more than 5 years or it could take a few decades or a century to get submerged by water. Therefore, this process of making lands by putting sand into the water bodies would ultimately destroy the value of real estate as a permanent asset. So, for protecting the citizens from this type of scam, we have made an app which would help them figure out is there any sort of water bodies flowing underneath the real estate that they are going to buy.

4.2 Surveys used in the project

4.2.1 CS

Cadastral Survey or CS in short is a type of land survey that is the first survey of the Indian Subcontinent which was done during the time period 1888 – 1940. It was first used in the areas like Sylhet and hilly areas of our country. In this survey, the owner of the land areas is marked in a way that it is possible to identify the present state, area, class, measure etc. of the land.

Now in the case of our project, we have used AutoCAD for getting a 3d model of the maps that we will give information to the client. Atharo Biler Khal is one of the maps that I have worked alongisde my mentors at the company.

Figure 4.1: 3D model of a CS map

4.2.2 RS

After 50 years of the completion of the CS survey, the Revisional Survey or RS short was conducted. It was basically an updated version of Cadastral Survey. The present state of the land, the owner of the land and the type of land was the main focus of this survey.

Similar to the CS maps, the 3d model of the RS maps are rendered with the help of AutoCAD and is saved in the apps database. The RS map which is more updated than the CS maps have a different recorded map. Using the same example of Atharo Biler Khal we can see the difference in the two maps.

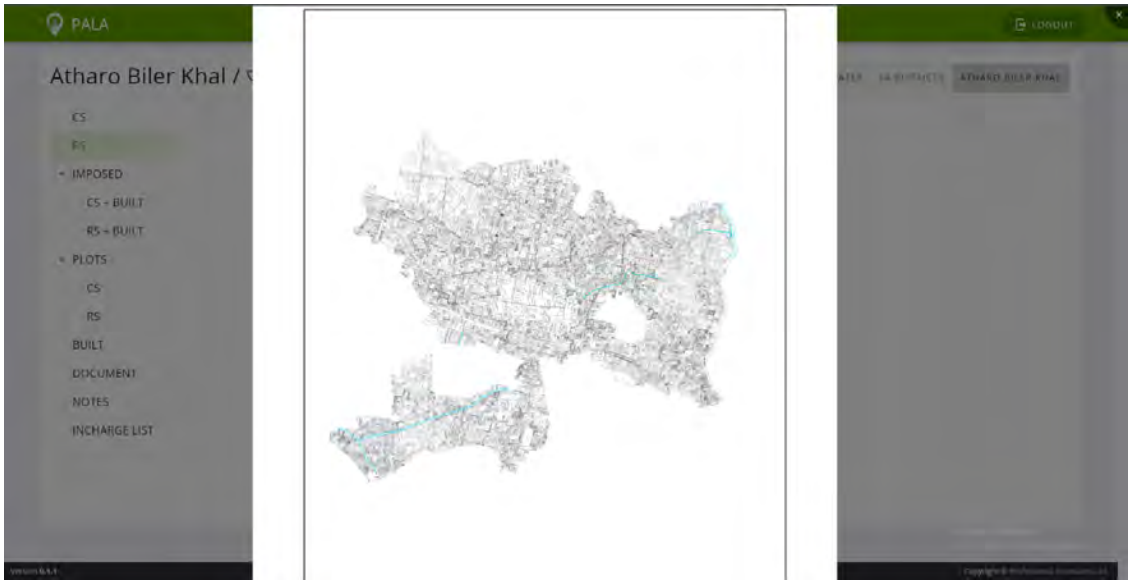


Figure 4.2: 3D model of a RS map

4.2.3 BS

Bangladesh Survey or BS for short was conducted during the period of 1998-99. This survey is a running survey that is yet to be completed. The BS survey for Dhaka city is also called City Survey. After the Revisional Survey the Bangladesh government took steps for this survey to update the land information of all areas of our country. It could be said it is the most scientific survey of the present era that is being conducted in our country.

4.2.4 Superimposed Maps

The meaning of superimposed is to place or lay on top of something else, usually to keep both things visible. Superimposed maps are often the combination of two or more maps of the same maps but recorded on different times.

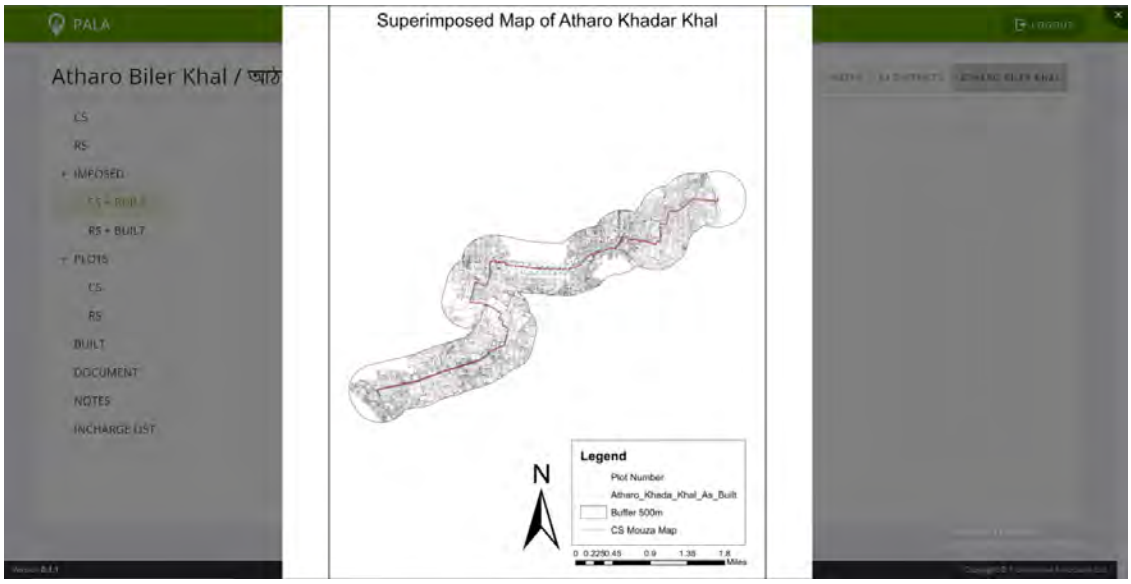


Figure 4.3: Superimposed 3D model of a CS map

Here, we can see a difference from the not imposed maps of CS and RS of the same recorded area. The area surrounding the lake has been cut out to give a more specified view of the map.

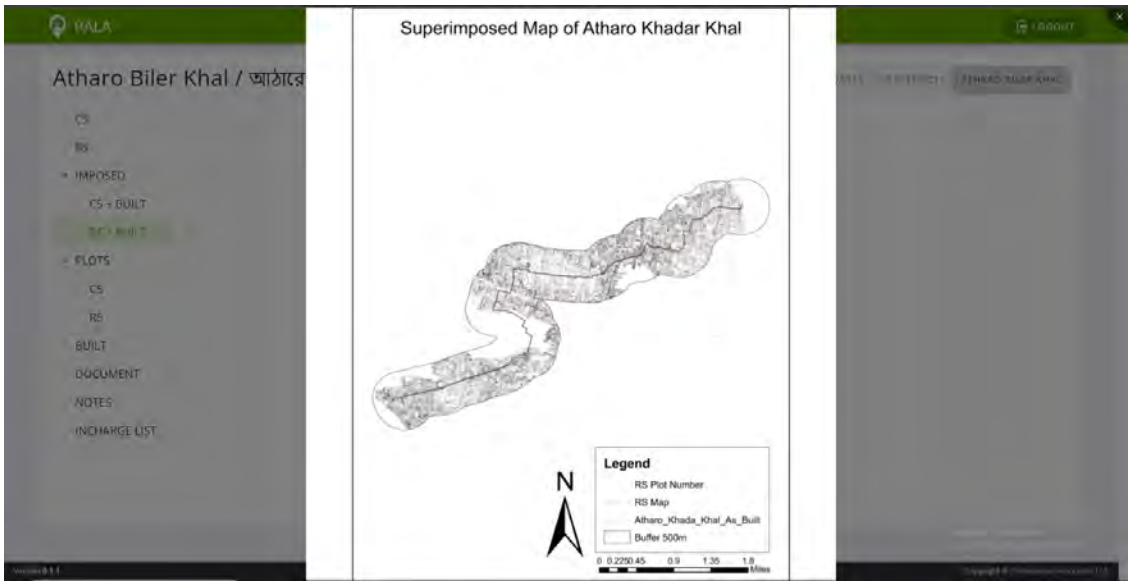


Figure 4.4: Superimposed 3D model of a RS map

4.3 Functional Requirements

- Login credential
- Record of land that is CS map
- Recent record of map
- Superimposition of the maps of CS and RS
- Shows that is the land on any water body
- Gives the info of who has jurisdiction over that land

4.4 Nonfunctional requirements

- The database used for the Web app is PostgreSQL
- Backend is done using Spring boot
- Frontend is done in Vue.js
- The server used to store the data is AWS (Amazon Web Services)
- Works on any web browser

4.5 System requirements

- Windows 7/8/10/11

- 1 GB ram
- Dual-core processor

4.6 Web Browsers

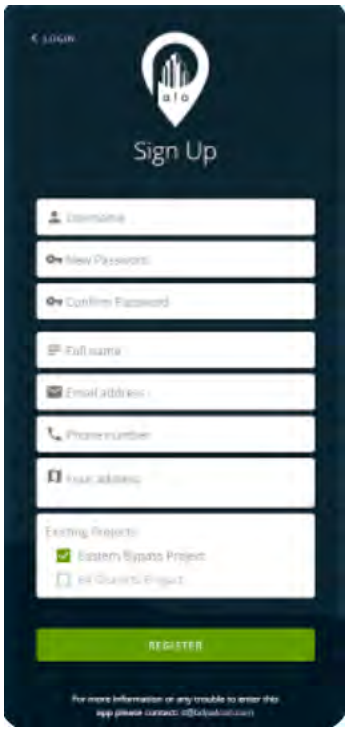
- Chrome
- Safari
- Firefox
- Edge
- Internet Explorer

4.7 Other Softwares

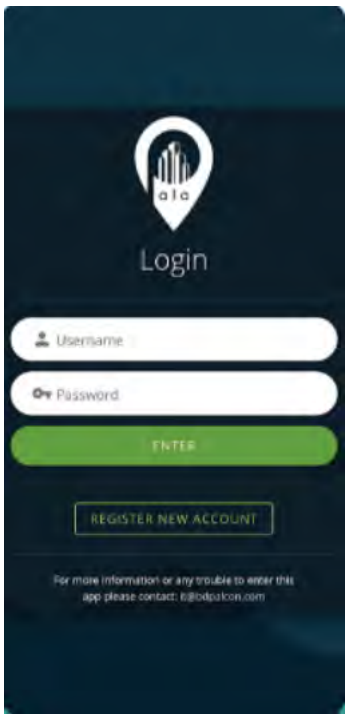
- AutoCAD was used to superimpose the maps that was found in the surveys like CS, RS and BS.
- Adobe XD was used to make the demo of the mobile app.

4.8 Mobile Application

In addition to the website, the mobile application of the PALA app is in development, which will be available to use in android devices. Such steps to make a mobile is taken side by side of the development of the web app is for the ease of the customers seeing the information about any land from the palm of their hand. As PALA is trying to solve land acquisition problems throughout our country in some cases clients might not have access to web app especially in the rural areas. For these reasons the development of the mobile application is going on a fast pace with the goal to give the clients every information they want to know about different land plots and areas in Bangladesh.



(a) Registration page of the mobile app



(b) Login page of the mobile app

Figure 4.5: Registration and Login page of the mobile app

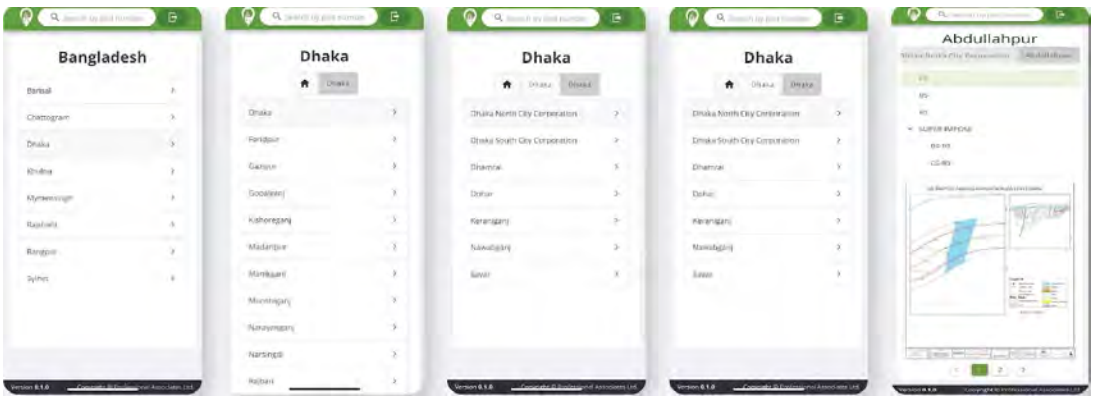


Figure 4.6: User interface of the mobile application

4.9 Flowchart

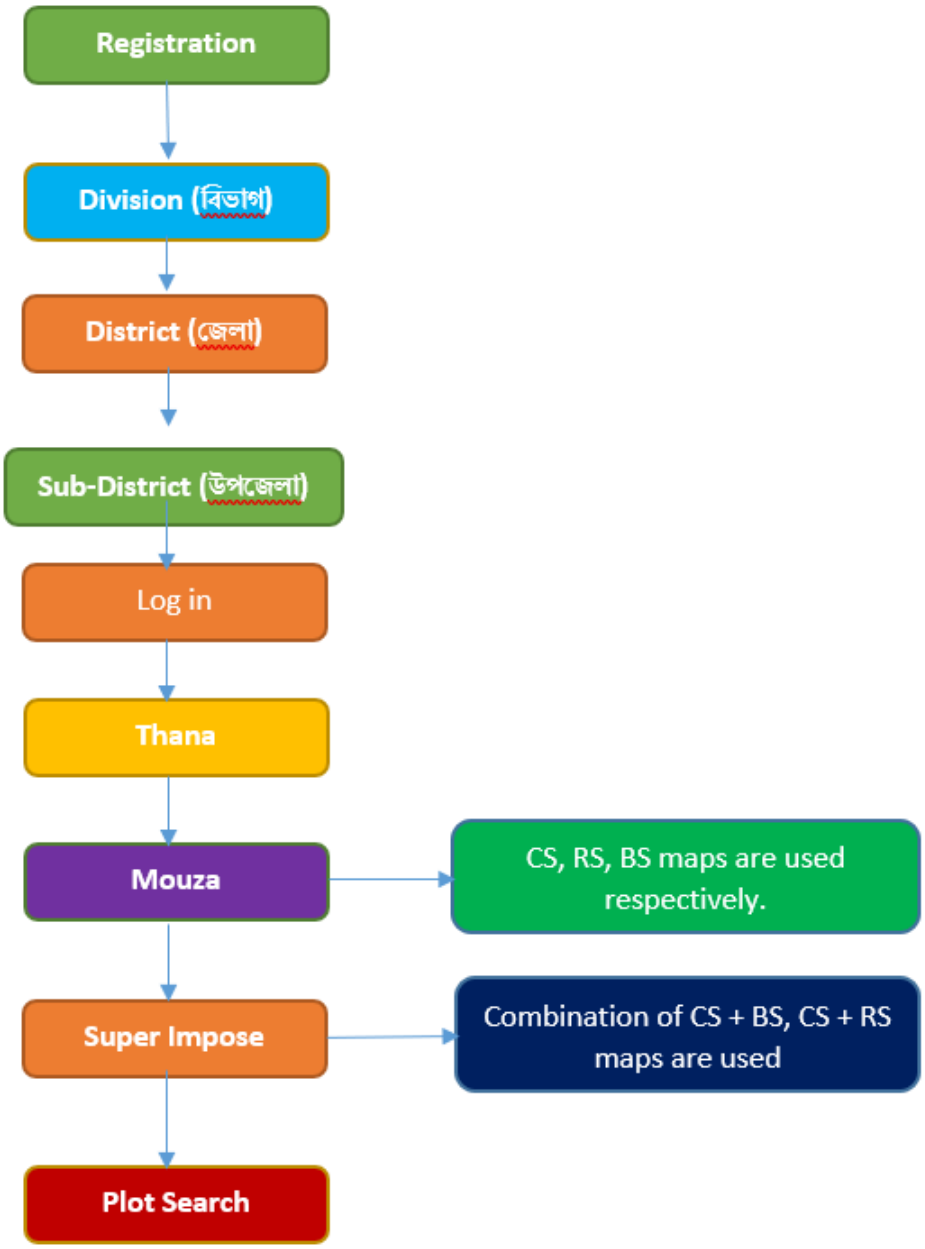


Figure 4.7: A flowchart explaining how the app works.

Chapter 5

My work and observation

Even though most of the work was done by the industry professionals, there was some part of the project which I had the opportunity to work on. I was present most of the time during the time they were working on the project, and learnt what types of programming languages and web services were built for these web app. I was the project analyst of this web application. My contribution for this project was to create a user-friendly interface that would be easy to use and a devoted experience to the users. Therefore, I did an ample part of the UI designing of the website.

5.1 Registration Page

Figure 5.1: Registration page of the web application.

This is the first page which will users encounter after going to the website. They either have to register an account to their name or log in to an existing account. The page also contains a mail address for users if they have any queries regarding the website. The information of the clients account are stored in a secure amazon web service platform, so there is no scope of information leakage. The users can register

their account giving information like their first name, last name, a username and mail address. In the future, a confirmation mail system will be implemented where they will be asked to verify themselves in order access the rest of the website.

5.2 Inside the Web Application

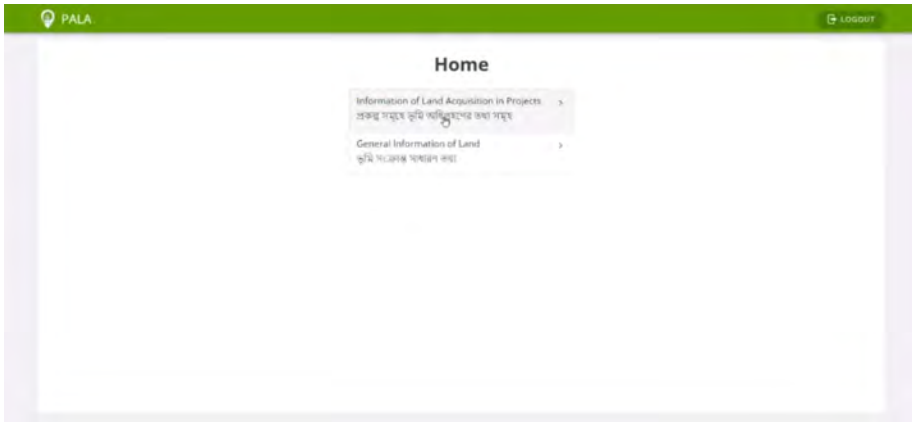


Figure 5.2: Home page of the Web application.

After logging in the clients will get to see this home screen. There are two types of information that can be provided by using PALA. One is information regarding land acquisition in various real estate project across our country.

Figure 5.3: Different ministry sections of PALA.

PALA will also give information regarding other ministries which are related to the real estate, so we can aspect information related to health facilities, sports facilities like playing fields and recreational areas, information regarding roads and highways. Therefore, more information regarding specific land plots will be availavle in the coming future.

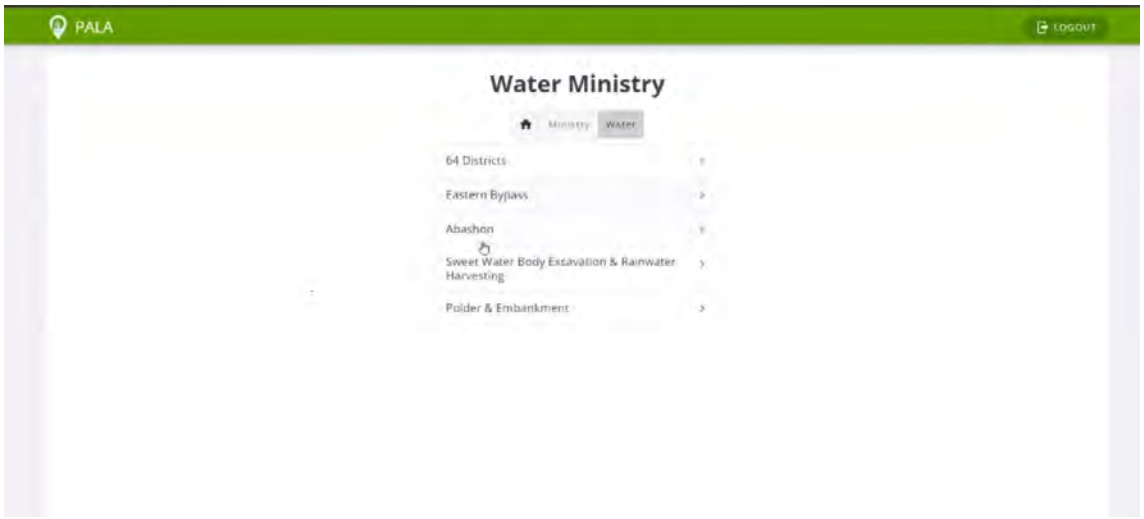


Figure 5.4: User interface of the water ministry.

Now, going inside the water ministry section, we can see few different options. The first optoion is available options where we can find the superimposed CS, RS and BS map of our land areas. The other options include Eastern Bypass, Abashon, Polder and Embankment, and the information regarding sweet water body and rainwater harvesting. This option will give information if the user or client needs to cultivate crops or wants to give fish hatcheries in their land areas. For example, the land surveys will have sometimes have fertile lands and good area for cultivating fish. If any farmer or fisherman wants to do, get information regarding which land or water area would be ideal for them to cultivate crops or fish, they can get that information from PALA.

Figure 5.5: All maps of 64 districts of our country.

On the above picture, you can see various types of options that will lead the users to their respective map which they want information of. The information are stored in a way that every area falls under the category of Division, District, Upzila and River respectively. The River option also consist of any lake or canals that fall under that jurisdiction of that area. As there are varios river or canals in an area, all of them have a unique code so that it is possible to indentify them discretely. By choosing the proper options the users can find information of their land area.

Figure 5.6: Various types of maps of a map inside the application

After clicking view, the users will be taken to the page where they can view any information which was found from the CS, RS and BS surveys. They can also see the deviation from the CS and RS map. There is a possibilty that the land was filled with soil or sand in between the time the surveys was being conducted. By using AutoCAD a superimposed map of the specific river was created which consisted all of the information regarding the deviation of the CS and RS maps. Under the Plot options we can again see the CS and RS options. This gives us the information about which plots are made over the river channel. There should be a difference between CS survey and RS survey as with passage of time, there should be a change of the way this river went through that area. So, by seeing which plots falls under the water body, clients can get their required information about their plot or before they will buy that plot.

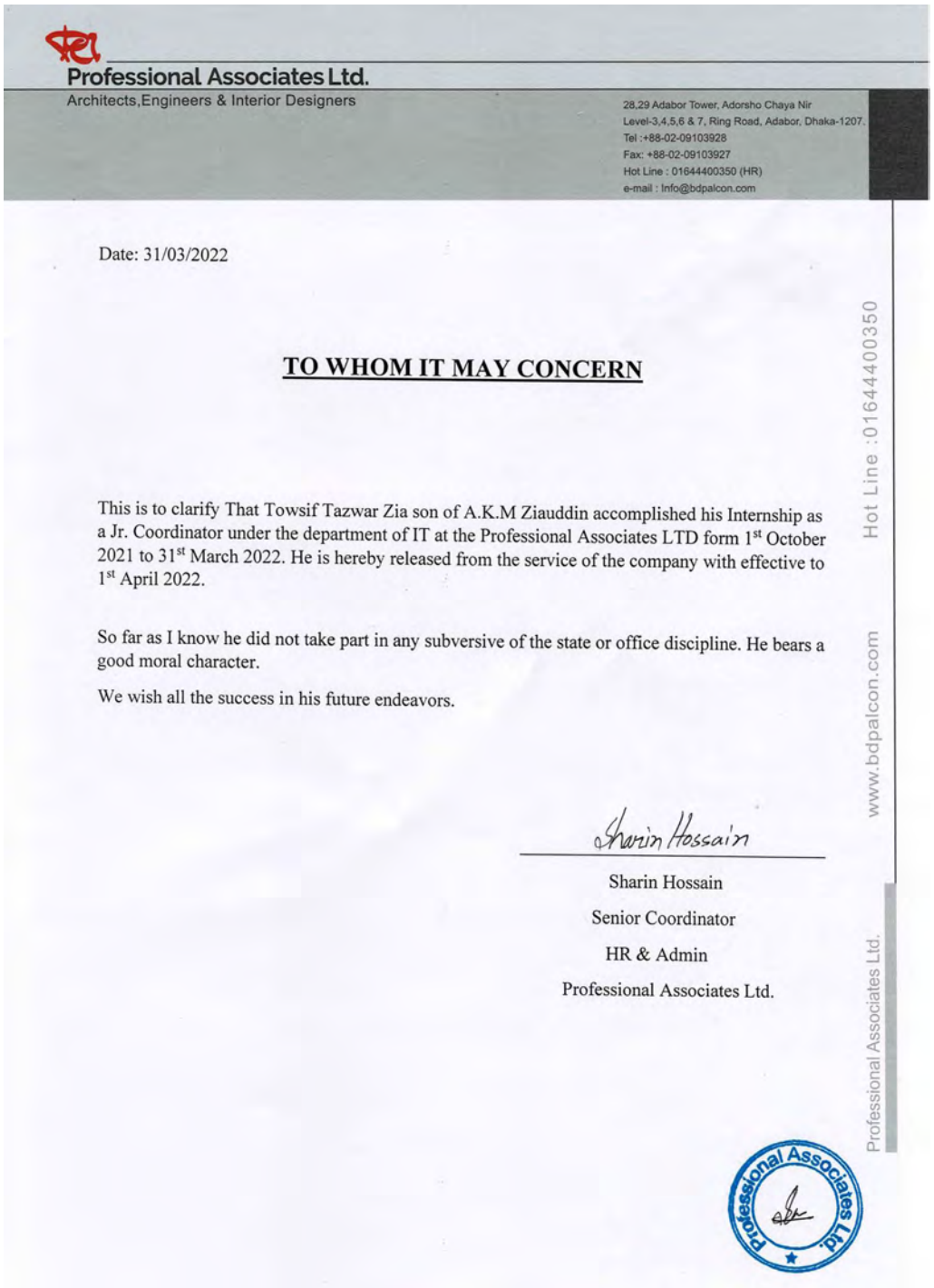
Chapter 6

Conclusion

My internship experience was very worthy for me. It helped me a lot to gather so many ideas and experiences through the working challenges we faced during the project. Gaining knowledge in the classroom cannot help a person in exploring different career paths that an internship can because it gives us that chance to use our skills in the workforce to gain new knowledge and experiences. It taught me how to deal with the client's requirements, what they want, and how to satisfy them. Moreover, this internship helped to gain professional feedback, and also, I learned my skills from my team leader and my mentors. This was a very helpful experience for me which will help me in building my career in the future.

I have started my internship on the 1st October 2021 and it will end on 31st March 2022. It is a 6-month long internship. I have covered 2 months and described all as it is a part of my prethesis-1. Then, for my prethesis-2, I had much more experience in these two months and I got to work with the professional and understood how working under pressure will affect me. I made some changes to the web application as I was the project analyst and it increase my experience of doing these kinds of things. With the completion of this report, I have acquired knowledge many different skills in my tenure of this internship. These skills will help me tackle problematic situation that I may face at the time of my corporate life. I was able to make a good relationship with the professionals working on these projects. Therefore, in my pre-thesis I have submitted a more elaborated version where I got some new experience.

Internship Completion Certificate



Professional Associates Ltd.
Architects,Engineers & Interior Designers

28,29 Adabor Tower, Adorsho Chaya Nir
Level-3,4,5,6 & 7, Ring Road, Adabor, Dhaka-1207.
Tel :+88-02-09103928
Fax: +88-02-09103927
Hot Line : 01644400350 (HR)
e-mail : Info@bdpalcon.com

Date: 31/03/2022

TO WHOM IT MAY CONCERN

This is to clarify That Towsif Tazwar Zia son of A.K.M Ziauddin accomplished his Internship as a Jr. Coordinator under the department of IT at the Professional Associates LTD form 1st October 2021 to 31st March 2022. He is hereby released from the service of the company with effective to 1st April 2022.

So far as I know he did not take part in any subversive of the state or office discipline. He bears a good moral character.

We wish all the success in his future endeavors.

Sharin Hossain

Sharin Hossain
Senior Coordinator
HR & Admin
Professional Associates Ltd.

Professional Associates Ltd.

Hot Line :01644400350
www.bdpalcon.com
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