

Internship as a Young Professional under the
Business Analyst Team of Orange Business Development Ltd.

by

Md. Galib Abrar Talukder
17101118

A report submitted to the Department of Computer Science and Engineering
in partial fulfillment of the requirements for the degree of
B.Sc. in Computer Science and Engineering

Department of Computer Science and Engineering
Brac University
September 2022

© 2022. Brac University
All rights reserved.

Declaration

It is hereby declared that

1. The report submitted is my 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:



Md. Galib Abrar Talukder
17101118

Approval

The report titled “Internship as a Young Professional under the Business Analyst Team of Orange Business Development Ltd.” submitted by

1. Md. Galib Abrar Talukder(17101118)

Of Summer, 2021 has been accepted as satisfactory in partial fulfillment of the requirement for the degree of B.Sc. in Computer Science and Engineering on September 20, 2022.

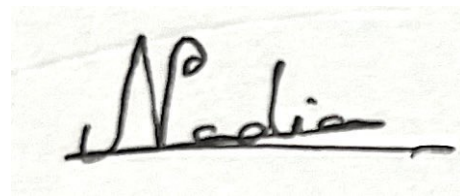
Examining Committee:

Industrial Supervisor:



Mahamudul Hasan Plabon
Project Manager, Operations
Orange Business Development Ltd.

Academic Supervisor:



Nadia Rubaiyat
Lecturer
Department of Computer Science and Engineering
Brac University

Head of Department:
(Chair)

Sadia Hamid Kazi, PhD
Chairperson and Associate Professor
Department of Computer Science and Engineering
Brac University

Ethics Statement

Hereby, I, Md. Galib Abrar Talukder consciously assure that for the report titled "Internship as a Young Professional under the Business Analyst Team of Orange Business Development Ltd." the following is fulfilled:

1. This material is the author's own original work, which has not been previously published, not currently being considered for publication elsewhere and the paper reflects the author's own research and analysis in a truthful and complete manner.
2. All sources used are properly disclosed (correct citation). Literally copying of text has been indicated as such by using quotation marks and giving proper reference.
3. The author has been personally and actively involved in substantial work leading to the paper, and will take public responsibility for its content.

Violations of the ethical statement standards may have serious consequences. I agree with the above statements and declare that this submission follows the policies of Brac University's graduation fulfilling document.

Acknowledgement

In the name of Allah, the most gracious, the most merciful

First of all, all praises be to Allah as He blessed me with the will to work hard for this report and stay strong amidst all obstacles, difficulties, and mistakes throughout this process. I believe that every problem sent to us has a solution, we just have to work our way through it. He guides and motivates us through this journey to find our answers as He is the most benevolent and omnipotent.

Secondly, I would like to thank my parents for all their support during this period. They motivated and cheered for me thoroughly. They were beside me at every moment pushing me forward in this endeavor even when they were miles away from me.

Thirdly, I would thank both my academic and industrial supervisors for their immense guidance. Without them showing me the way at every step, it would have been very easy to be lost in the vicinity. I am blessed with their constant supervision and they made my tasks and obligations way simpler. I am also very thankful to my department for believing in my capability to perform well as an intern in a corporate environment.

And finally thanks to the Orange Business Development Ltd. team for guiding me and assisting me throughout the past few months. It has been an absolute pleasure working with them and getting to know so many supportive personalities in such a short but very insightful journey.

Abstract

In the ever-growing industry of Information Technology, the requirement of Young Professionals are in more need than ever. The youth who are stepping into corporate industries can easily adapt to several sectors of a company through such positions. The duties and responsibilities of this position can be spontaneously selected according to each employee's topic of dominance. Being an intern Young Professional has allowed me to work with multiple teams and learn how each of them functions together to form a complete ecosystem. It has allowed me to explore tasks that might be more suitable for me as an individual. Working with the business team showed me how we handle the client's thoughts in priority and fulfill the requirements accordingly. Having the opportunity to visit clients and collect relevant information with the team introduced me to the overall processes that keep the flow running inside every massive project. Experiencing firsthand user acceptance testing taught me how much effort the quality assurance team puts into every single detail of a module. I was able to learn and understand the skeleton behind such big infrastructures that contain countless hours and lines of code by the development team. Every notable experience throughout the whole internship period working as a Young Professional has also psychologically set me up for my future endeavors in the IT industry.

Keywords: Young Professional; Business Team; Projects; User Acceptance Testing; Quality Assurance; Development Team

Table of Contents

Declaration	i
Approval	ii
Ethics Statement	iii
Acknowledgment	iv
Abstract	v
Table of Contents	vi
List of Figures	viii
Nomenclature	ix
1 Introduction	1
1.1 About Internship	1
1.2 About this Report	2
1.3 Objective	2
1.3.1 Aim	2
1.3.2 Specific Goals	2
1.4 Methodology	3
1.4.1 Primary Data	3
1.4.2 Secondary Data	3
2 Company Profile	4
2.1 Overview	4
2.2 Vision and Mission	4
2.3 Company’s Skill Matrix	5
2.4 Services	5
2.5 Products	6
2.6 E-Governance Solutions	6
2.7 Clients	7
2.8 Achievements	7
2.9 Operation Locations	7

3	Training Phase	8
3.1	Overview	8
3.2	Familiarizing with the Workplace	8
3.3	Introduction to MyGov	9
3.4	Joining Team MyGov	10
3.5	Training Server	10
3.6	Online Application Management	11
3.7	Process of Application Analysis	11
	3.7.1 Analysis	12
	3.7.2 Digitization	12
	3.7.3 Validation	13
	3.7.4 Integration	13
3.8	Payment System and Integration	13
3.9	Integration with 333 and UDC	14
3.10	User Acceptance Testing (UAT)	15
	3.10.1 UAT for Muktopaath	15
	3.10.2 UAT for MedQuicker App	17
3.11	Development Team	18
3.12	Guidance from Development Team	18
3.13	Apartment Management System (AMS)	18
4	Opportunities	20
4.1	Overview of the E-Governance System	20
4.2	Approaching Government Offices	20
4.3	Workshops and Analyzing Client Requirements	20
4.4	Working at A2i (Access to Information)	21
5	Conclusion	22
	Bibliography	23

List of Figures

2.1	Services offered by OrangeBD	5
2.2	Projects of OrangeBD	6
3.1	Honorable Prime Minister Sheikh Hasina in the Inauguration Ceremony of MyGov Mobile App	9
3.2	MyGov Training Server Dashboard	10
3.3	An application provided by Bangladesh Meteorological Department from a user's point of view	11
3.4	A fully developed application form from a user's perspective	12
3.5	Payment Method Validation for Individual Applications	14
3.6	Home page of Muktopaath	15
3.7	UAT Listing of Muktopaath	16
3.8	User Interface (UI) of MedQuicker	17
3.9	Dashboard for Golden Tower Building	19
4.1	A2i Logo	21

Nomenclature

The next list describes several symbols & abbreviation that will be later used within the body of the document

a2i Access to Information

AMS Apartment Management System

BASIS Bangladesh Association of Software and Information Services

BCSAA Bangladesh Civil Service Administration Academy

CMS Content Management Software

G2B Government to Business

G2C Government to Citizen

G2G Government to Government

ICT Information Communication Technology

MoD Ministry of Defense

MoI Ministry of Information

MoPA Ministry of Public Administration

OCSAR Office of Career Services and Alumni Relations

OGD Open Government Data

PHP Hypertext Preprocessor

RDCD Rural Development and Cooperation Division

UAT User Acceptance Testing

UDC Union Digital Center

UI/UX User Interface/User Experience

UNDP United Nations Development Programme

Chapter 1

Introduction

1.1 About Internship

An internship is an opportunity for students to take a peek into the market and workplace environment. It provides students with knowledge from experienced employees and established companies about the needs and deeds of their field of work. Usually, the internship is related to the student's field of study and even provides an excellent scope to connect to people. This allows the student to differentiate actual workplace demands against the academics they have been accustomed to over the years. For many, this is eye-opening knowledge toward career development. Students can further focus on specific fields of interest whilst increasing the value of their resumes. Industrial works are often knowledgeable in developing individual portfolios. Through this process, the companies are benefitted as well. They get to cultivate and assist new manpower in the direction that would help their career, as well as fulfill the company's needs. It is an excellent way to dig out talented individuals who probably would shine more in a specific position than they would have in academics. Furthermore, this helps the companies to know an intern and their work ethics better for possible future allocations.

Brac University primarily allows students to either complete graduation through a thesis on a particular topic or an internship. The institute even assists candidates with the potential to place an internship in a reputed company. Brac University has a separate office section working with the students named the Office of Career Services and Alumni Relations (OCSAR). Students can choose their specialization for their internship as long as it is within their field of study. Eligibility for partaking in an internship includes 72 completed credits and an internship period of 6 months.

I opted for an internship in a reputed IT company named Orange Business Development Ltd (OrangeBD). OrangeBD works on various government projects and offers various services for clients in over 3 countries. They are also known for their news portal services. According to me, working in such a place would provide me with crucial knowledge about my field of study and assist in visualizing further career development paths.

1.2 About this Report

The internship report is a mandatory submission requirement for completing graduation at Brac University. This report reflects my experiences whilst working with OrangeBD. It cannot fully elaborate on the hospitality and guidance I have received in the workplace, but it will help summarize the people and the hard work of the employees. The report further includes my hunt for knowledge and experience while working with the team during my 6 months internship in the company.

1.3 Objective

The objective of the report is to allow readers to find the following details of the internship :

1.3.1 Aim

The main aim of the report is to present information about the company background providing the internship opportunity and then it will present my perspective on the office and its works. It will also reflect on my learnings during the period and detailed explanation of my accomplished tasks with the team.

1.3.2 Specific Goals

Specific goals of this report can be summarized as follows :

- Portray the company and its portfolio with credibility
- Detailing the work environment
- The products and projects the company is working with
- The services the company is providing
- My participation in the relevant field of work
- Experience in working with different teams
- Opportunities that were provided to me

1.4 Methodology

The data and information collected to present the report are based on my own experience. However, some data are collected from various sources to support the report's portrayal. A few of the information is also collected from official websites.

It can be categorized into two kinds of data –

1.4.1 Primary Data

- Individual hands-on experience from work
- Output from team discussions and meetings
- Seminars and briefings

1.4.2 Secondary Data

- OrangeBD official website
- Documents collected from completed projects
- Web

Chapter 2

Company Profile

2.1 Overview

Starting its journey in 2005[1], Orange Business Development (OrangeBD) is a Bangladesh-based technology solution provider. It is one of the largest e-Governance, e-Learning system, Mobile application, web application, and online newspaper solutions companies in Bangladesh.[5]It undertakes small website projects to large-scale enterprise solutions. The company is also working with Bangladesh Government on various ICT projects to contribute to the formation of digital Bangladesh.

OrangeBD is located in Baridhara DOHS and holds a team made up of 150+ people with 100+ hardened software development professionals. The environment is very work-friendly and experienced and talented individuals are very easy to approach in need.

2.2 Vision and Mission

OrangeBD has the vision to reach the top position in the software industry most innovatively.[1] It also focuses on making a healthy environment within the organization by developing the most effective interpersonal relationship.

The company has the following missions in mind :

- Provide the best business solutions for respective enterprises in terms of innovation, time, cost, and technology with the stringent expertise of their top professionals
- Achieve the client's maximum satisfaction by providing 24*7 hours of incessant support with identical passion, integrity, and dedication indiscriminately
- Transform the imaginations of the clients into reality in the world of the web through uniqueness along with continuous research and development
- Achieve the most elevated capacity of organizational citizenship approaches to execute their vision

2.3 Company's Skill Matrix

The company has a wide reach of knowledge and expertise since it has to work on various kinds of projects. As for programming languages; PHP, Java, C sharp, Python, Kotlin, and Dart are used. CakePHP, Laravel, Codeigniter, Phalcon, .Net, Node js, Vue js, and Nuxt js are used as frameworks. Usual database and CMS platforms are used accordingly. For the mobile platform, android, iOS, and cross-platform applications are developed. [1] Experts in each of these sectors are at the company's disposal when required.

2.4 Services

Services offered by OrangeBD for its clients range widely across multiple aspects. Clients from various industries are enabled to utilize the potential of the company's talents. Software and web development services are available for the clients along with framework deployment while keeping up with recent technological trends. The company also offers Content Management Software (CMS) for clients. For business-based clients, the company offers e-Commerce website development or improvement. [12] Besides these services, additional support for mobile applications or mobile web extensions is provided. The basic requirements of graphics and user interface and experience (UI/UX) are also met by some of the most experienced employees.

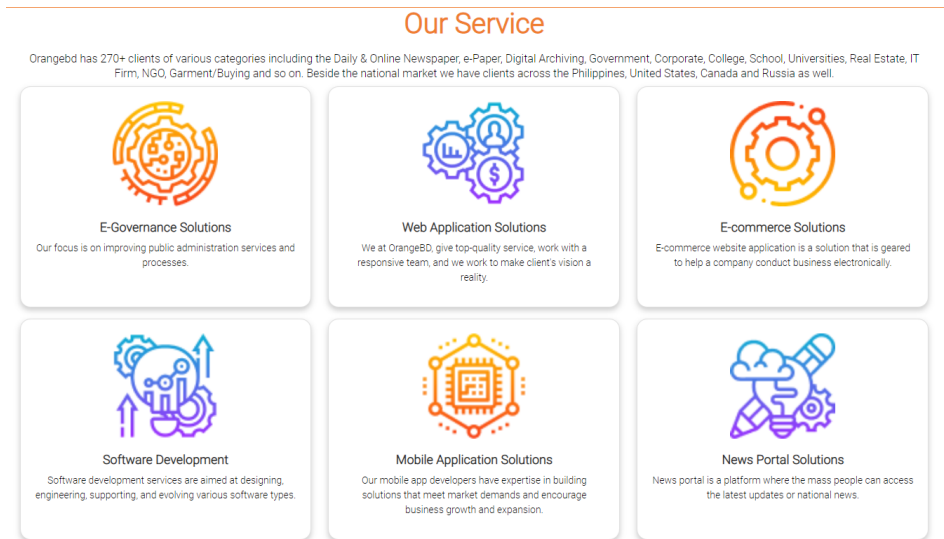


Figure 2.1: Services offered by OrangeBD

2.5 Products

Whilst OrangeBD has several services for clients and projects, the company also focuses on its products. The initial phase of the current MyGov website was known as Eksheba which was a product of OrangeBD. [10] Furthermore, the company has invested time and resources in establishing governance platforms namely UpSheba (for sub-districts) and PauraSheba (for municipalities). In-house initiatives also include smaller and new ventures like Apartment Management System (AMS).[10]

Some of the current ongoing projects are highlighted in the official website -

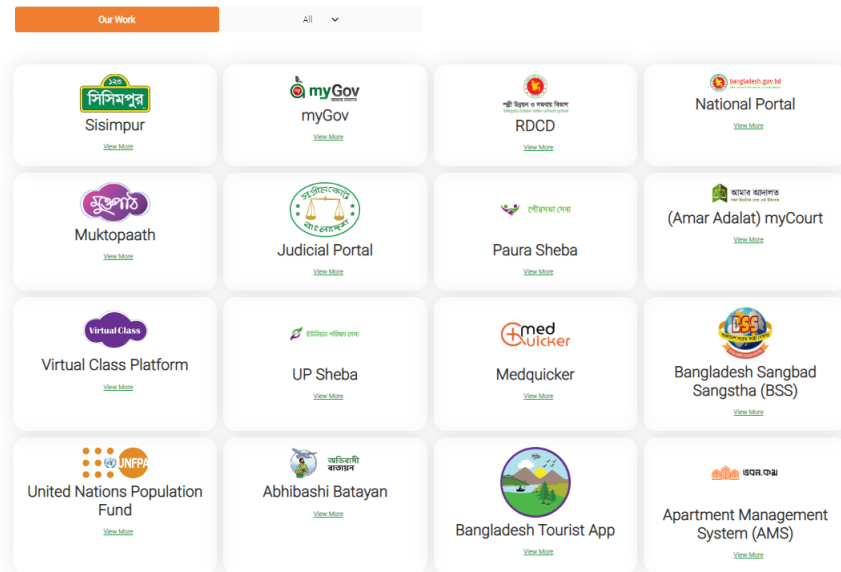


Figure 2.2: Projects of OrangeBD

2.6 E-Governance Solutions

As Bangladesh is progressing into the era of digital Bangladesh every single day, the government has stepped up and funded various e-Governance solutions that can ease up daily administrative struggles for citizens and government personnel of the country. Massive government projects like National Portal, ekSheba (presently under the government funding as MyGov), Open Government Data Portal (OGD), and Rural Development and Cooperation Division (RDCD) are noteworthy. Online educational platforms like Muktopaath [10] and its virtual class platform are also the contributions of OrangeBD.

2.7 Clients

As various services are offered by the company, clients differ from various industries as well. A few noteworthy clients of OrangeBD are A2i, UNDP, Bangladesh Police, Bangladesh Department of Labor, Ministry of Law Justice and Parliamentary Affairs, Supreme Court of Bangladesh, Sesame workshop, RTV, NTV, Daily Ittefaq, Daily Jugantor, and others. [1]

2.8 Achievements

OrangeBD has received two national ICT awards by BASIS as follows:

- BASIS National ICT Award for Project MyGov (1st Runner up, 2019)[3]
- BASIS National ICT Award for Project UP Sheba (Winner, 2020)[4]

2.9 Operation Locations

OrangeBD runs its operations primarily at Baridhara DOHS in Bangladesh. However, the clients range from multiple countries such as the Philippines, United States, Canada, and Russia.

Chapter 3

Training Phase

3.1 Overview

Experiencing working in a professional workplace for the first time is an interesting episode for any new intern. The same applied to me as I started getting familiarized with the industry and its needs while being a part of it. Having such work experience is a big plus nowadays in almost any major company since this proves the factor that the intern has already gone through strict time schedules and deadlines alongside the team play and problem-solving experiences. Such interns are more desirable in the industry than plain candidates with only sound theoretical knowledge.

I joined Orange Business Development as a Young Professional intern under the business analyst team. I was under supervision of Mr. Plabon, the project manager of the operations department. The development team also had supervision over my progress in learning the development aspects. At first, I was skeptical about my ability to contribute but my supervisor appropriately allocated me to the MyGov team. Understanding how a company can utilize manpower has been very informative in the industry. This allows people to truly understand which field of work suits them the best and meanwhile develop interpersonal relationships that empower a team play attitude. However, since I've been allocated to a government project, I have been asked to keep confidentiality on certain details or images in this internship report.

3.2 Familiarizing with the Workplace

The workplace is divided into multiple floors. While the development team has its zone, the business, operations, and administrations have their own space. Since I was allocated to the MyGov team, I had to work closely with a group of talented individuals who are on the same project. My supervisor introduced me to the team and taught me what traditions the company follows to maintain a good bonding. The fact was also established that the company has a different behavioral pattern than other companies. Being lenient and easy-going on multiple policies allows the employees to maintain a calm and composed mentality for free thought process and brainstorming output.

3.3 Introduction to MyGov

MyGov is an online governance project by the Government of Bangladesh that acts as an application portal for various government services for G2B, G2G, and G2C services.[8] Initially, this project was implemented and developed by OrangeBD alongside A2i by the name of EkSheba. Post-development support was also provided by OrangeBD for the project.

MyGov has integration with government service holder service Doptor and e-Nothi, which allows service holders to access various applications that are not available to every citizen. MyGov intends to simplify the hectic processes of offices that provide licenses, registrations, public services, etc. by taking them online. This reduces the massive amount of paperwork that was required to mere required attachments only. A national identity card registration defines a citizen's available application bucket unless they are businessmen with trade licenses or appropriate documents. As a future insight, soon citizens can apply for a driving license and complete a lot of paperwork just through MyGov, saving a lot of waiting time on BRTA.

OrangeBD also supports queries from users who are experiencing issues or are new to the platform through customer service and immediate solutions. The website has already launched hundreds of applications from various government infrastructures. The mobile app for MyGov was inaugurated by honorable Prime Minister Sheikh Hasina.[9] Following Figure 3.1 is from the Inauguration Ceremony for the mobile app.



Figure 3.1: Honorable Prime Minister Sheikh Hasina in the Inauguration Ceremony of MyGov Mobile App

3.4 Joining Team MyGov

My supervisor introduced me to the MyGov project and its functionalities. The team eventually took over and guided me through various working processes of the website and the app. This included meeting with the development team as they cruise through their endless tasks of overseeing the proper functioning of MyGov.

MyGov functions in a few different domains. The usual admin domains are prevalent. Meanwhile, there is a separate clone server that represents the training server for the main server. The training server[13] is used to initially train new learners and also to initially document a required application in its early stage. There are around 28 subdomains of the website. Each of the subdomains functions as different administrative tools, admin mail management systems, or measurement metrics for the admins.

3.5 Training Server

The training server is the first server I was introduced to and provided official credentials for. The server holds rough data and applications initially gathered. These are kept for further reviewing, which will finally be able to make it to the main server after several filtering processes. The training server is accountable for roughly 80% of the whole process until an application finally crosses over.

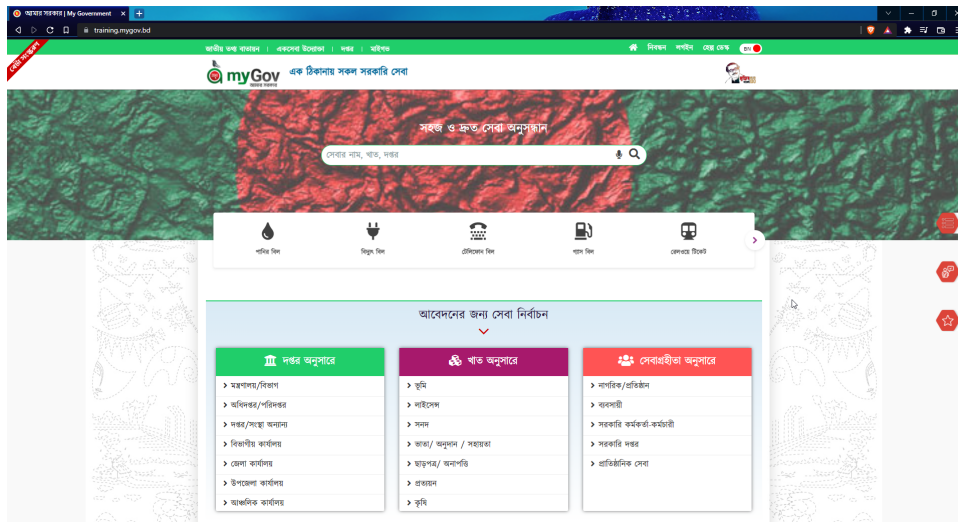


Figure 3.2: MyGov Training Server Dashboard

3.6 Online Application Management

The MyGov servers hold thousands of applications. Contents of applications depend on the individual departments of government it is constructed for. A custom dashboard is available for the admins to manipulate and manage applications. The application intends to replace any physical paper usage and thus incorporates photo input, signature input, NID integration, basic information, and attachments (ranging from medical certificates to alcohol import licenses, and precursor chemical production licenses). Figure 3.3 below is a user’s viewpoint of an application before they apply for it, which showcases most requirements and expected delivery periods.



Figure 3.3: An application provided by Bangladesh Meteorological Department from a user’s point of view

3.7 Process of Application Analysis

Before a specific application is eligible to be included in MyGov, there are a few requirements to fulfill. The first question to the government officials is often if these applications are shiftable to full online platforms. The business analyst team then sits with government officials from each of the offices and their sections in separate workshops. An example of an office would be the climate section of the Bangladesh Meteorological Department. A service they provide would be the on-demand seismic data for a specific client or business as portrayed in Figure 3.3.

The expected output of the 3-day-long workshop is to list possible MyGov eligible applications and their requirements, receiving desk, form pre-payment (if required), expected delivery timeline, etc. Finally, the marketing team will sit with the client to analyze the specific application’s priority level, applicants per year, beneficiary, yearly promotional budget, etc.

However, this is not the only 3-day-long workshop. This is an overview of one of the 4 workshops that are arranged for data analysis of each government office. Below are some validation steps that are arranged serially. Providing screenshots of the following steps would violate confidentiality as previously mentioned.

3.7.1 Analysis

The analysis is the process through which the initial eligibility of an application is checked. For example, out of 95 live applications from an office, around 75 can be digitized. Only these 75 will move on to the next stage of digitization when enough data is analyzed. Two government representatives have to sit with data analysts to complete proper analysis. During the COVID-19 pandemic, the workshops were arranged via zoom.

After being an observer for two such workshops, I had the privilege to sit with two officials from the Bangladesh Meteorological Department belonging to the Ministry of Defense (MoD) and two other respected officials from the Bangladesh Civil Service Administration Academy (BCSAA) of the Ministry of Public Administration (MoPA). This eventually helped me learn data analysis and ask proper questions to bring out the client’s requirements. The officials often encouraged us by appreciating the work our sector is putting towards digitizing Bangladesh.

3.7.2 Digitization

During the digitization phase, the data which was previously analyzed are the main sources of information. The digitization phase includes the task of entering relevant data into the training server and developing an appropriate form using the form builder application. The officials are merely present during these workshops only to overlook the proper establishment of the end product. This is the phase that expresses to the government officials what the future of administration works might look like. The following figure is what a fully developed form would look like to the users –

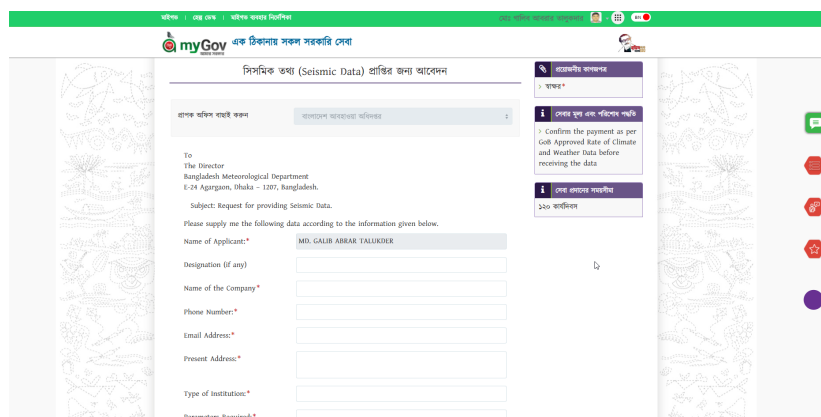


Figure 3.4: A fully developed application form from a user’s perspective

3.7.3 Validation

As the name suggests, this phase focuses on validating the already inputted data on the training server. During this phase, the final check-up iteration is done to avoid any kind of mistakes. Meetings are set up with multiple business analysts either over online platforms, or physical office visits. The officials are asked to review any last-minute changes possible to the newly made digital versions of the pre-existing analog applications and their requirements. Although in case of further changes in the applications, the offices can contact certain focal persons inside their ministry to edit and restructure these applications. This workshop also confirms the possibility of other integrations to be done with pre-existing systems of the respective department.

3.7.4 Integration

Due to the call for digitization of Bangladesh, a lot of the government offices already shifted to their online platform for application management or other factors.[11] This resulted in each office having their own website or platform to ease the access of applications for citizens or business. However, as MyGov brings all of the offices together, this workshop is to integrate such pre-existing platforms with the current MyGov platform. Integration officers are also responsible for integrating application platforms that include a lot of the data the form builder uses. For example, integration with the government database "e-Nothi" means most data about the specific office will be integrated from e-Nothi into MyGov for a smooth transition of applications and auto fill-up boxes.

3.8 Payment System and Integration

Various applications require the applicants to submit a form fill-up fee. In some offices, this has turned invalid since forms are no longer in physical shape. However, some applications still require payment. This is integrated into the application by attaching challan code. Some other payment methods in simpler cases for citizens include bank payment, mobile banking payment, etc. Integration officers are again responsible for these integrations to be smoothly implemented into the applications of MyGov platform.

Payment systems include the auto-payment option in case of previously used payment methods. The team is also working on a separate payment method for applications made on the server to avoid complexities for users. Below is an overview of the admin panel which is used to determine payment systems for each of the unique applications (if necessary) –

The screenshot shows the 'Create Service' page in an admin dashboard. The page is titled 'Create Service' and has a breadcrumb 'Service / Create Service'. It features a navigation menu on the left with options like Dashboard, Service Management, Service Setting, User, Calendar Setting, Feedback, Report, Transaction Report, and Licence System. The main content area is divided into several sections: 'Create new service' with tabs for Service, Information, Payment, Integration, and Preview; a section for 'This service has payment issue.' with a checked checkbox; an 'Auto Payment' section with a checked checkbox; a 'Payment With' section with radio buttons for eChallan, ekPay, and Sonali Pay; an 'eChallan' section with input fields for Challan Code, Purpose of fee, and Amount to pay, along with a checkbox for 'Check it if the amount (to be pay) is not fixed.'; and an 'Account payment' section with a checkbox for 'Please check if the service has own office payment.' The page ends with 'Previous' and 'Next' buttons.

Figure 3.5: Payment Method Validation for Individual Applications

The above figure also portrays a classical point of view for an admin handling data for the server. The whole module is part of the admin dashboard panel of the MyGov team.

3.9 Integration with 333 and UDC

There are separate teams that validate an application whether it is eligible for 333 and UDC or not. 333 is the online government calling service, where you can apply for certain applications that are simple enough to be completed just over a phone call. Union Digital Centers (UDC) are certain offices in remote areas of Bangladesh where access to the internet or devices is unexpected. It is to bring ease of service for every citizen of the country. Specific applications are eligible to be handed over to UDC in need.

3.10 User Acceptance Testing (UAT)

User Acceptance Testing (UAT) is a testing method for end-users to provide feedback on the functionalities of a website or app. This brings out real-life scenarios that would pop up if the website or app were to go live. This is done before public release to prevent information leaks or accidental misplacement of data or basic loss of data. I was presented with such an opportunity on two occasions. Due to having a keen eye for details, I have always liked how UAT works. I performed UAT on the following website and app respectively.

3.10.1 UAT for Muktopaath

Muktopaath is an educational platform that boasts its virtual classes platform. However while in its early stage of development, I had an opportunity to partake in UAT for the website.

My UAT is based on a regular user’s perspective. Checking different modules including the homepage for possible bugs or non-functionalities was successful. Most prevalent issues included a malfunctioning login page, as it requires to re-login every time the page is refreshed. Furthermore, registration did not require e-mail verification. Other modules included “My Account” with several account details and “Classroom” for the actual contents. Features and sub-features contained some minor irregularities that were pointed out. UAT based on an admin’s perspective included some administrative errors as well. After the proper listing of the experienced, the reports were sent back to the development team to handle. Figure 3.6 below portrays the default home page view of the website

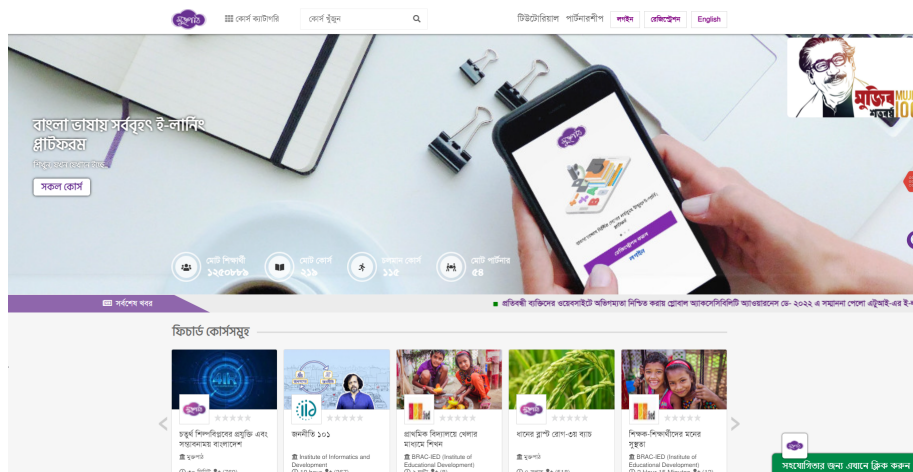


Figure 3.6: Home page of Muktopaath

After a product is launched in the market with adequate quality assurance checkup, there still can be flaws in the product which can be observed when an user manually uses the product.

An UAT tester has to check module by module, every single button and if they are serving their purpose properly. I also had to note down any kind of abnormalities that usually wouldn't be existing in a complete product. It was also my task to entry all the boxes just like an user would, to make sure the fields are properly receiving all the data. A sample of my work on the website of Muktopaath is portrayed below. This screenshot was taken as an example during the early phase when not every module was implemented, Muktopaath has come a long way since then.

Module	Feature	Sub-Feature	Function	Sub-Function	Problem	Status		
Homepage	Login				Reloading forces login again	UNDONE		
	Logout				Login page malfunctions.	UNDONE		
	Registration				Needs to logout twice	UNDONE		
	Dashboard				No Email Verification	UNDONE		
Profile	Personal Info		Full name					
			Your name in English					
			NID number					
			Date of birth					
			Select gender					
			Education Level					
			Exam/Degree Title					
			Division			Field Doesn't Work	UNDONE	
			District			Field Doesn't Work	UNDONE	
			Upazila/Thana			Field Doesn't Work	UNDONE	
	Other Info		Social Links					
			Select Type Website					
			Add More					
			About You			The field is interlinked with another field. Repeats Texts	UNDONE	
			Work Experience		Job title			
					Company name			
					Start date		The field is interlinked with another field. Repeats Texts	UNDONE
					End date		The field is interlinked with another field. Repeats Texts	UNDONE
			Education		Write Description		The field is interlinked with another field. Repeats Texts	UNDONE
					Institute Name			
				Degree/Exam name				
				Field of study				
				Cgpa/Result				
				Start year				
		Licence or certification		End year				
				Licence or certification name				
				Licence or certification				
				Issue date				
		References				The field is interlinked with another field. Repeats Texts	UNDONE	
		Update						

Figure 3.7: UAT Listing of Muktopaath

3.10.2 UAT for MedQuicker App

MedQuicker App is an app that allows users to quickly order medical equipment and medicines to get fast delivery. The availability of medications is maximum to allow users to find the correct medicine. However, like every upcoming app, the app featured a few minor bugs. Figure 3.7 here is an overview of the user interface of MedQuicker.

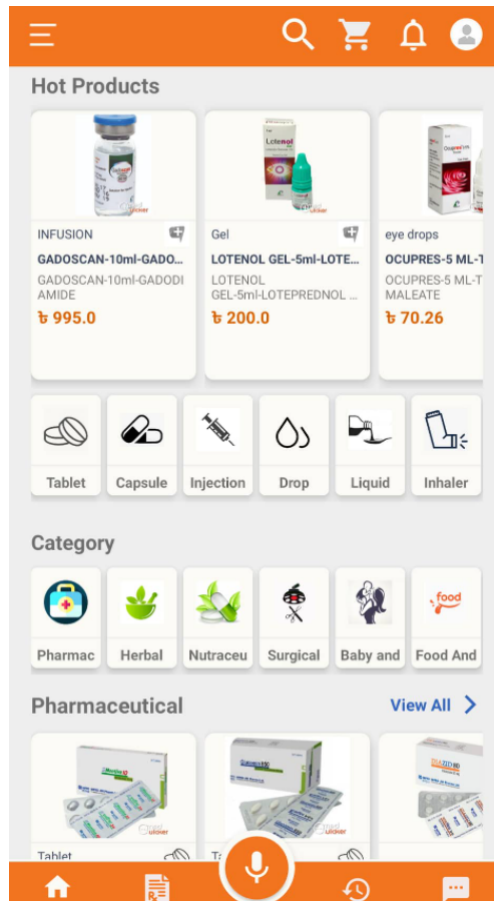


Figure 3.8: User Interface (UI) of MedQuicker

My UAT report included test cases at first glance, without creating an account, whilst creating an account, and the in-app experience. The search option was not properly optimized, causing the user to browse through hundreds of companies to get the correct one. App browsing transition speed was also limited due to the animations. Other cases were minor bugs and had easy solutions.

3.11 Development Team

The development team of the company is based on web developers, quality assurance engineers, integration officers, devOps engineers, and android/iOS developers who work together to achieve weekly milestones. These weekly milestones are set by sprints organized every week portraying targets and goals for the week. Extensive use of GitHub and productivity tool like ClickUp assists their day-to-day functions. I have had the opportunity to meet and observe complex coding efficiency amongst thousands of lines of code, boasting years of experience.

3.12 Guidance from Development Team

The development team assisted me in learning PHP with the Laravel framework as they assigned mini-tasks to achieve per day. Since the pre-established government projects are not accessible to a young professional, I was made to closely observe the growth of the in-house project of Apartment Management System (AMS) which worked with Python 3.0. Both teams assisted me in gaining sound knowledge of the new language over my primary language Java. My supervisor and seniors from the development team were patient with me whilst giving me sufficient time to cope.

3.13 Apartment Management System (AMS)

The target of the Apartment Management System (AMS) is an online system to assist users to manage activities related to the maintenance and operations of residential or commercial buildings. The web-based service intends to bring the management to the palm of a hand for the users. It is alternatively titled “Bhobon”. Like typical classification criteria, the system has super admin and client admin functionalities. On the other hand, there are three kinds of users viz. Resident, Management Committee, and Employees. I’ve personally worked with the team to bring out various features from the multi-layered dashboard. It is responsible for client lists and their details, overall statistics of the system, and support requests. The simultaneous use of frontend and backend technologies to bring out the final look of the dashboard was worth the effort the team put into it.

A glimpse of the dashboard for an apartment named “Golden Tower” is seen in the below figure -

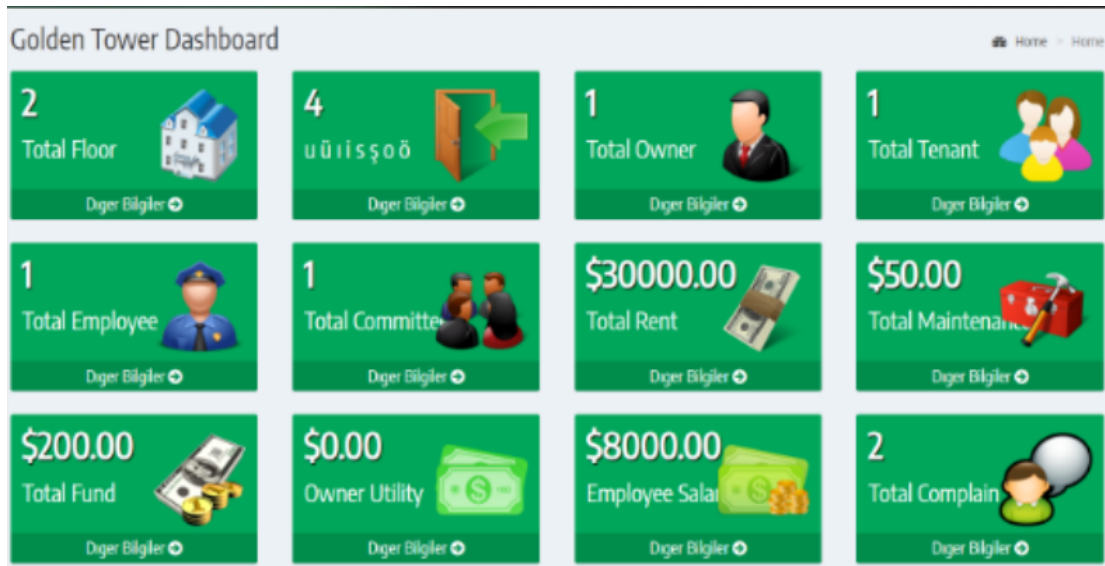


Figure 3.9: Dashboard for Golden Tower Building

Chapter 4

Opportunities

4.1 Overview of the E-Governance System

The vision of “Digital Bangladesh” by the government of Bangladesh is leading to multiple business and employment opportunities. It is creating the next-generation administrative system for the country keeping less paperwork for the backbone of the country. Ease of access to information and citizen services are being ensured through this e-Governance system.

Being a part of developing one aspect of this massive vision has been a privilege for me. A few lines of codes will remain inside the system for the next few decades to come until technology advances further. Participating in these projects also allowed me to take a peek into the administrative culture among government offices and employees. Introducing the previous generation to this technological advancement is nothing less than bragging rights for any individual.

4.2 Approaching Government Offices

I have had opportunities to approach government officers in zoom meetings as well as on-site workplaces. With senior business analysts guiding me, I have had the opportunity to visit two ministries of Bangladesh. We analyzed data from the Ministry of Information (MoI)[6] and Ministry of Posts, Telecommunication, [7] and Information Technology for their respective services provided to the MyGov platform.

4.3 Workshops and Analyzing Client Requirements

Amidst many other clients, for me, the most noteworthy were the ministries I could attend the workshop with (online/offline). Officers and often programmers would represent their offices and portray services offered by them to the government employees, businesses, or citizens. Following the citizen charter of their own office, they would consider what services to be offered through the MyGov platform.

4.4 Working at A2i (Access to Information)

As a Young Professional intern, I was presented with an opportunity to attend to work for a week in the Access to Information (A2i) division[2] of the ICT Ministry situated in the ICT tower in Agargaon of Dhaka. The office is directly monitored by the Prime Minister's office.

We were a team of 3 who represented our company to meet the needs of a major ongoing deadline. Tasks during the period included finalizing various applications and in some cases restructuring the application forms. The experience while working there was unique to me as I met people from various cultures and ideologies. The constant progress in work chasing deadlines would still not dull out the healthy and friendly working environment there. I got to work with talented and experienced individuals towards the same goal whilst they considered me an equal. Observing the core of ICT developments in Bangladesh in such a spirit has been very enlightening for me.



Figure 4.1: A2i Logo

Chapter 5

Conclusion

In the first 2 months of my internship at OrangeBD, I've had the opportunity to learn a lot and experience a variety of work-related factors. It is crucial to keep proper planning and schedule your next day according to assigned tasks and their priorities. Deadlines are always to be completed as soon as possible to reduce barriers to other tasks. The necessity of attention to detail is very important to get the client's end satisfaction. Understanding their office culture and their usual trends helps to give them a custom output as required. None of the tasks can be manually handled by one person even after being in a higher position, making teamwork one of the basic needs for most tasks.

The workplace was lenient to me considering it is my first two months and I learned a lot of the pre-existing things. However, as my supervisor mentioned the work gets more hectic and time-consuming as one starts understanding and undertaking proper tasks under the project. This enabled me to understand the necessity of time management and punctuality during office work hours.

After the initial experience, I have had multiple opportunities and was exposed to new work environments in the past 4 months. This showed me how vast the industry can expand. It also made me understand the industry is in constant need of talents who can take over specific projects or be of assistance for the seniors. And internship opportunities like this provides the companies the scope to scoop out the best employment opportunities. As technology and demand for the establishment of more online platforms increase, the IT industry will favor the employment rate of the students and unemployed of this country.

I started this internship on the 1st of July, 2021 and it ended after 6 months on 31st December. Covered in the above report are my six months of workplace experience as an intern Young Professional with the business analyst team of Orange Business Development Limited (OrangeBD)[5].

Bibliography

- [1] “About us, We transform your idea into solution.” (), [Online]. Available: <https://www.orangebd.com/about-us> (visited on 10/21/2021).
- [2] “Aspire to innovate, Government of bangladesh.” (), [Online]. Available: <https://a2i.gov.bd/> (visited on 11/03/2021).
- [3] “Basis, National ict awards winners 2019.” (), [Online]. Available: <https://bnia.basis.org.bd/win/winner-2019> (visited on 10/23/2021).
- [4] “Basis, National ict awards winners 2020.” (), [Online]. Available: <https://bnia.basis.org.bd/win/winner-2020> (visited on 10/22/2021).
- [5] “Home page, Understandig virtualization.” (), [Online]. Available: <https://orangebd.com/> (visited on 10/21/2021).
- [6] “Ministry of information, Government of bangladesh.” (), [Online]. Available: <http://www.moi.gov.bd/> (visited on 11/01/2021).
- [7] “Ministry of posts and telecommunication, Government of bangladesh.” (), [Online]. Available: <http://www.ptd.gov.bd/> (visited on 11/01/2021).
- [8] “Mygov, Mygov government portal.” (), [Online]. Available: <https://www.mygov.bd/> (visited on 10/25/2021).
- [9] “Mygov mobile app, Prime minister launches ‘my gov app.’” (), [Online]. Available: <https://www.daily-sun.com/printversion/details/452724/Prime-Minister-launches-%5C%E2%5C%80%5C%98My-Gov-App%5C%E2%5C%80%5C%99> (visited on 10/25/2021).
- [10] “Products, Our projects.” (), [Online]. Available: <https://orangebd.com/our-project> (visited on 10/22/2021).
- [11] L. Rahman. “Digital bangladesh: Dreams and reality, The daily star.” (), [Online]. Available: <https://www.thedailystar.net/supplements/24th-anniversary-the-daily-star-part-1/digital-bangladesh-dreams-and-reality-73118> (visited on 10/30/2021).
- [12] “Services, Orangebd services.” (), [Online]. Available: <https://orangebd.com/service> (visited on 10/21/2021).
- [13] “Training mygov, Mygov government portal training server.” (), [Online]. Available: <https://www.training.mygov.bd/> (visited on 10/27/2021).