



Daffodil
International
University

INTERNSHIP REPORT

Software Quality Assurance Engineer (SQA) at Olivine Limited

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The internship report has been submitted in fulfillment of the conditions for
the degree of Bachelor of Science in Software Engineering

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Approval

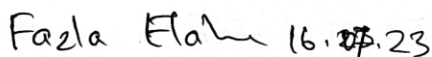
This thesis titled on “**Internship in Software Quality Assurance and Testing**”, submitted by **Khandaker Toufiqur Rahman (ID: 192-35-2865)** to the Department of Software Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Science in Software Engineering and approval as to its style and contents.

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Declaration

I, khandaker Toufiqur Rahman, bearing the student ID number 192-35-2865, currently enrolled as a student at Daffodil International University, thus sincerely certify that my internship as an SQA Engineer at Olivine Limited. Was a success. Under the experienced supervision of Tapushe Rabaya Toma an esteemed faculty member of the Department of Software Engineering.

The primary objective of this internship was to complete the practicum requirements, which are an essential part of my Bachelor's degree program in Software Engineering. I wish to emphasize that this report is entirely original and has never been previously prepared, arranged or submitted by anyone else for any other intention, be it recognition, remuneration, or presentation, apart from myself.

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Acknowledgement

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Chapter 1

Introduction

1.1 Overview

I had the opportunity of interning at Olivine Limited as part of my undergraduate studies in software engineering at the Daffodil international university. At Olivine Limited I served as an SQA engineer intern. These internships hold an important relevance to students, academic and future career goals, as they provide valuable experience and knowledge about the software industry. Due to my fascination with software testing, I took the chance to intern at Olivine Limited, which serves as the main objective of the present report.

1.2 Rational

Internships play an important role in the development of workplace confidence, professionalism, work-life balance, critical thinking, and work in a collaborating environment, all of which are important to success and are also key outcomes of internships. The student of the undergraduate program can also earn essential experience and knowledge, which has numerous benefits. Students participating in internships get the chance to learn and gain experience that eases the transition from the academic world to the working world. The internship gave me the chance to use my hypothetical information directly in real-world projects and gain experience. Which allowed me to examine fresh viewpoints and develop a better understanding of the ideas I cultured in the classroom.

1.3 Background

Software testing involves the validation and verification of system Objectives and behaviors to ensure the level of accuracy. It also provides companies with an objective and unbiased understanding of the software, which enables them to comprehend the risks affiliated with software implementation.

Software Quality Assurance (SQA) includes a series of actions aimed at ensuring the quality of software by following a set of steps and processes. Its primary objective is to ensure that the software produced meets the quality requirements and standards. SQA is a continuous process integrated into the Software Development Life Cycle (SDLC) to ensure that the developed software achieves the targeted quality standards.

SQA steps are applied across different software development models. And are widely used in almost all types of software development. SQA combines and applies different software testing strategies to evaluate the program. Instead of checking for quality after the software is completely built, SQA focuses on assessing throughout the entire

development process for ensuring quality standards. It ensures that the software development procedure progresses to the next stage only when the existing phase passes the required quality criteria. SQA typically depends on one or more industry standards that fluctuate the development of software quality guidelines and methods.

It consists of the following actions:

- implementation and Definition of processes
- Auditing
- Training

Processes could be categorized as follows:

- Software Development Methodology
- Projects Management
- Management of Configuration
- Development and Management of Requirements
- Estimate
- Designing Software
- Testing

Following the definition and implementation of processes, Quality Assurance has the following tasks:

- Identify any weaknesses or shortcomings of the processes
- Address and revise these weaknesses to consistently improve the process.

1.4 Scope of the study

This internship report focuses on Olivine Limited SQA Team as its primary subject. It also provides a partial overview of the entire Software Testing Process. The report holds importance's for organizations involved in testing as its assistances in understanding different features of SQA, including work force requirements, necessary technologies, and more.

Component of Software Quality Assurance System

An SQA system primarily consists of various components, encompassing various aspects of Software Quality Assurance. These gears can be categorized into these following sections:

Components of Pre-Project

This assures that project promises have been properly demarcated, considering the required resources, timeline, budget, as well as the development and software quality tactics.

Project life-cycle activities assessment Component:

The project lifecycle consists of two main stages: the development process and the implementation life cycle.

The development process stage is responsible for identifying design and programming errors. It comprises three categories: evaluations, expert opinions, and software testing. These elements within the development process stage play a crucial role in detecting faults and ensuring software quality.

During the implementation life cycle phase, various SQA components are utilized, including specialized maintenance components and development life cycle parts. These components primarily focus on improving maintenance duties and enhancing the overall functionality of the software.

Infrastructure error prevention and improvement components:

The primary objective of these gears, utilized through the organization based on the accumulated SQA expertise, is to minimize the occurrence of errors and reduce their frequency.

Software Quality management components:

This group of elements has various purposes, such as overseeing maintenance and growth initiatives and executing initial managerial measures that primarily prevent or minimize the negative impacts of time and budgetary setbacks.

Organizing for SQA – the Humans components:

The SQA organization foundation comprises managers, employees involved in testing, the SQA unit, and other individuals invested in software quality, such as SQA trustees, SQA commission members, and SQA forum participants. Their primary duties encompass initiating and facilitating the implementation of SQA elements, Identifying deviations from SQA processes and methodologies, and providing recommendations for enhancement.

1.5 The main objective of this report

The primary objective of this report is to complete the requirements of the B.Sc. program and to show the learnings and disclosure that has been accomplished throughout the internship under the company.

The other essential goals are as follows –

- To apply the SQA methodologies in Software Development Life Cycle (SDLC).
- Apply the STLC techniques in software testing.
- To implement E2E Manual Testing for Project.

1.6 Summary of report

Chapter 1 is all about what is SQA and the reports context along with study scope. The foremost objective of the internship and what is accomplished in both report and internship is conversed here.

In chapter 2 it provides an introduction and overview of Olivine Limited. Which includes topics like job profile and responsibilities. Moving on to chapter 3, here the focus is on the working culture and the activities of the company along with the guidelines and regulations.

In the next chapter, that is chapter 4 its primary focus is the works I have done at Olivine limited including some snap shorts.

Moving forward to chapter 5, the chapter discusses project performance and its results which includes a comprehensive discussion.

And in chapter 6 the primary focus was to provide the outcomes of the internship what experiences I have acquired during the internship. There is a comprehensive discussion of the quired knowledge and learnings.

And in chapter 7 the conclusion of the report is written which includes a summary of the key points and bibliography of the sources and references throughout the document.

Chapter 2

Organization Overview

As a software development firm, we offer a wide range of software solutions. Here, we work on web-based application, mobile application, software testing and serves clients in the country and overseas. In Bangladesh Olivine Limited is a well-known Software company. They use a variety Of SDLC models to create software for their clients.

2.1 Company Profile

In Bangladesh, Olivine Limited is a notable Software firm. They are a group of software solution and service company who excel in 'Customer Needs Assessment' and strive to meet those needs. Olivine limited began its journey with a goal to prove extremely high-level software solutions. The main office is located at B/159, road-23, Mohakhali D.O.H.S, Dhaka. The company offers both product and service-based solutions. Some of its products are very renowned in the local market. The company also works as contractual contractors for different companies.

2.2 Olivine Limited Hierarchy

Olivine Limited has a many of departments. The departments are –

- i. Department of Service & Customer:** A customer service demonstrative engages in communication with the company's clientele with the objective of providing them with relevant information and queries about to the company products and services. They also handle consumer concerns. Traditionally, customer services agents acquire the necessary information by talking over the telephone.
- ii. Accounts Department:** The accounting department provides the company with optimized and comprehensive financial accounting assistance. They handle the payable and receivables, they also manage payrolls, inventories and other financial aspects.
- iii. Software solutions & Engineering Department:** In this department the Software Engineers, SQA, Solution Engineers work closely work with the B.A teams to produce high quality software.
- iv. HR Department:** The department of Human Resources offers various services. The manage the employees within the company. This service includes hiring, providing with various letters, such as appointment letters. The department is responsible for managing employees' requirements, such as salary increments, accepting leaves.
- v. Marketing & Strategic solutions Department:** The department works on promoting the company in to the market and bring new clients. And promoting the company in the market to attract new clients.

2.3 Services of Olivine Limited

Olivine Limited offers different IT and Software solutions. A brief description of them are given below.

Web Solution:

Olivine Limited Offers unique web development solution to enterprise in the local and overseas. Our team is dedicated to deliver sophisticated, and premium website that aligns with one's desired vision and business objectives.

Mobile App Solution:

Olivine Limited offers sophisticated and premium app solution as per one's vision. Olivine Limited provides app for both android and iso operating systems. Many of the app are very popular in play store and app store.

Enterprise Solution:

Olivine limited is well known for providing sophisticate, premium, and customizable ERP Software solutions for different business. The solutions are enabled with state of art premium services so that it can integrate perfectly with ones business operations.

E-commerce Solution:

The e-commerce is a ever changing field and to keep up with the industry Olivine limited is ones best choice. The company has delivered various e-commerce solution for its clients over the years.

UI/UX Solution:

UI/UX design is the first step towards the creation of a software solution. Now a days it is not only limited by the basic visual presentation. it plays a vital role in user inter face experience. The main goal is to develop intuitive and seamless user experience by creating unique UI/UX designs.

API Integration:

The API integration works as a bridge between all of your application and systems by enabling them communicate. Olivine limited has a specialized third- part API integration service to provide its clients with the best service possible. The primary goal is to enable smooth interaction between client's apps and systems to fulfil their business objectives.

Software Development:

Olivine limited is a well-known software solution company in the country for software solution. We create state of art software for our clients, enabling them to keep us with the digitalization of their business. The company uses latest technologies to provide the clients with the best software.

SQA:

In order to ensure a smooth software experience, we do end to end testing. Our team of SQA engineers is dedicated to improve the overall quality of the product you use. By Applying different software testing methodologies, we make sure that the quality of the produced software meets the quality standards.

2.4 The Vision

We at olivine limited always provide our clients with unique digital services, which are specially designed to help them excel in both local and global markets. Our advancement is driven by innovation, taking on challenges and creating digital solution for business today. We always make follow the ethical principles.

2.5 The Mission

We know that in today's world software is a necessary not a luxury. In order to crack the global market software paly a huge role. And we want to the ones who enables our clients locally and globally to achieve that goal and leave appositive legacy in the software industry.

2.6 Values

At Olivine Limited, we use our experience, Skilled professionals and excellent support services to deliver best scalable software solution to our clients. Our biggest priority is ensuring our clients with the best software solution for their business. We always make sure our clients get the best service possible.

2.7 Specialties Of Olivine Limited

- There will be no compromise, when it comes to delivering high-quality software.
- They provide a dedicated support engineer to the customer on demand.
- The service is always at its best depending on the Current trends.
- Work life Balance for the employees.
- Giving proper Opportunities for good growth.

2.8 Contact Details

Company name: Olivine Limited

Website: <https://www.olivinelimited.com/>

Address: House-310 Rd 21, Mohakhali D.O.H.S, Dhaka 1206.

2.9 Mentor Details

Name: Md. Golam Fayaz (Associate Business Analyst)

Email: arik@olivineltd.com

Chapter 3

Company Culture & Activity

3.1 Activities

At Olivine Limited the interns are treated as an important part of the team. The interns here get the opportunity to work in the real business, where they can learn and gain experience about the professional world. I used to be a SQA intern at Olivine Limited, there I worked with the development team and the Business Analyst team.

3.2 Organization Wide

Software development management is a disciplined, structured and methodological approach that includes different tasks of management such as monitoring, controlling, planning, measuring, reporting. Its goal is to make sure that the development of the software and its preservation is done in a systematic and structured manner. To establish a clear objective, track progress, effective resource coordination, reporting transparently and implementing control this management framework plays a vital role. Which accelerates the successful execution of the software development projects.

We all know that the software engineering management is done as like as any other projects but it has its own complexities as well like the following:

- Often the clients don't consider the complexity of a software. While it comes to making changes, they don't think about the changes.
- The ever-changing requirements of the clients the software development is done in an iterative loop.
- There are many other challenges in software engineering like keeping the balance between discipline and making innovation.

3.3 Working Environment & Protocols

All employees are required to follow the protocols and guidelines. These rules and guidelines are set by Olivine Limited.

3.3.1 Rules & Regulations

- The work time for every employee starts at 8am to 5 pm.
- The employees should always use company provided email to exchange information.
- The decisions always need to be approved by the management.

- The employees must maintain the secrecy of the confidential information of the company.
- The employees must attend the meetings and social gatherings.
- The every day activities need to be reported to the supervisor.

3.3.2 Facilities

- The employees are provided with high-speed connection.
- We were provided with us with high configuration laptop.
- We were invited to many office parties and gatherings.

3.4 Comparative Breakdown of Office Culture

Olivine Limited fosters a conducive working environment, where teams contain of both new arrival and experienced professionals. This procedure offers newcomers with the chance to obtain valuable experience and learn straight from their more skilled colleagues while on the profession.

3.4.1 Mixing Up with Office Culture

The company culture at Olivine Limited is well- recognized and understood by all employees of the organization, and everyone happily up holds it. I am also very happy to work here and is very satisfied with the office culture.

3.4.2 Entertainment & Refreshments

At olivine limited all employees have the liberty to work at their own pace without any pressure. Plenty time is fixed for breaks and refreshment to make sure every one can work in comfort. There are different entertainment options in the office like table tennis and chess. Often the employees are found playing and engaging in conversation within the office premises.

3.5 Internship Life Cycle

The interns are required to work as an intern for four months in the company. Often the interns with outstanding performance are offered permanent employment within the company. Like other companies Olivine Limited as so follows some guidelines and policies in place for intern recruitment.

3.5.1 Getting Started

I joined Olivine Limited on 8TH January 2023. I faced a intense interview with Olivine Limited, before joining the company. There I was asked different questions on Software Life cycle, SQA, Software testing etc. The also took interest in my hobbies and likings too. They also asked about my goals and purpose of choosing the field of SQA.

3.5.2 Getting Started

During the “Job Utshod” I dropped my CV on the booth of Olivine Limited. After a week I was mail from the company for my HR interview. After the interview I received my offer letter a week from that. After joining the company, I had took training from my mentor and after that I was assigned to do some tasks.

3.6 Professional Environment

As mentioned before, the working atmosphere of Olivine Limited is highly praiseworthy, Offering a extensive range of facilities for its employees. Besides, it is the employees themselves who contribute to generating a positive and friendly environment in the company. I personally found it unproblematic to adapt to the company environment, And all my colleagues have been very friendly during my time there.

3.7 Personal Expectations

I had some personal goals and outlooks that I desired to accomplish from the internship.

- I wanted to learn to work at company and get the opening to grow hands on skill of software development life cycle.
- I wanted to increase knowledge of SQA in real life.
- Getting the gest of working in a multinational company.
- Learning to communicate in the working environment.
- Creating a identity in the industry.

3.8 First Day at Office

I was feeling very nervous on my first day of the internship. I was very concern about the approach of the company officials and how I will fit in the company culture, work environment and regulations. However, the whole thing turned out to be very good after a shaky start. I arrived at 8 am, as I was instructed. The employees at the office were very welcoming. The HR took me to my desk and asked to make my self comfortable. And with in 30 minutes, I was introduced with my mentor, then he introduced me to my team. The HR provided me with a company email and was given access to the company laptop. I was also given a handbook and a brief instruction about the guidelines and regulations of the company.

The CEO of the company came in later that day and greeted me and few new interns personally. We discussed about our educational background and how I am fitting in. And how I am coping up with my responsibilities. In general, my first day was very promising.

Chapter 4

Existing System of Olivine Limited and My Responsibility

4.1 Existing System of Olivine Limited for SQA and Testing

Some of the Testing method that Olivine Limited are as follow

- Unit Testing
- System Testing
- UAT
- Integration Testing
- Performance Testing with J meter.

Olivine Limited follows Agile Methodology for their Software Development. Let's start with a brief of that, "Agile Methodology" is referred to the practice of iterative approach for project management and software development. Its different then the waterfall model, in agile it has more adoptability and improvement can be done continuously.

The simplest approach to create a software solution for a company is to use the agile methodology in software development. Because of its flexible approach and adaptability, it is easier and efficient. And there are numerous other benefits of using this process for development.

And to keep the track of the works olivine Limited has their own Activity management system. That the employees use.

- Olivine Management.

4.2 SQA in Software Development at Olivine Limited

The method of ensuring software quality is known as Software Quality Assurance. To make sure that the projects processes, standards and procedures are suitable and applied in a correct pattern, it is used.

Software Quality Assurance (SQA) is a iterative process that runs alongside software development. Its goal is to enhance that software development process by preventing issues from becoming notable problems. SQA is an it concurrent activity that is implemented throughout the entire software development lifecycle.

At Olivine Limited, the SQA team collaborated with development team and sometimes engages directly with clients to ensure that the produced software solution is of high quality.

4.3 My SQA projects at Olivine Limited

At Olivine Limited I worked in several projects. I have done UAT, Manual testing, Bug reporting and documentation during my job in at the company. My primary goal was to make sure that the produced software were up to the mark. The things I did during my work at the olivine Limited are-

- Make sure that the software quality matches the requirements.
- Do frequent Testing of the software.
- Write UAT for different modules.
- Write test cases for to make sure that the testing procedures are well maintained.

Some of the Snap short of that are given below:

Project Name: Protoyon.gov.bd (website version 2.0.0)

UAT Protoyon UDC

Scenario (A):Launch Protoyon.gov.bd				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1	The web application launches successfully	The home page is displayed	As Expected as per acceptance criteria.	Passed
Scenario (A):UDC Register to protoyon.gov.bd portal.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Register a new account	Registration with NID/BRN and Mobile number shall be successful with a success confirmation message.	As Expected Registration with NID/BRN and Mobile number is successful with a success confirmation message.	Passed
2.	Provide wrong information to register	Access shall be denied	As Expected, access denied	Passed
Scenario (B): The UDC log in to protoyon.gov.bd System				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1	Login with valid credential	The dash board for a UDC will be shown.	As Expected as per acceptance criteria the dash board was displayed.	Passed
2	Login with invalid credential	The dash board will not be shown.	As Expected as per acceptance criteria, the log in was denied.	Passed
Scenario (C): All Activities of UDC, After Log in the protoyon.gov.bd, UDC portal.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	After Log in the dash board is displayed.	The dashboard is Displayed with – <ul style="list-style-type: none"> • Your Points • Registered Users • All application • Application services • Side Bar 	As Expected as per acceptance criteria the dashboard was displayed with its elements.	Passed

Fig 4.3.1: UAT of UDC Module

2.	Search application	The searched application shown successfully.	As <u>Expected</u> The searched Application is displayed.	Passed
3.	Click on "Profile Management" to view profile	The <u>page</u> is displayed with following – <ul style="list-style-type: none"> • Address of work • National ID Photo • Change Profile • Change Password 	As <u>Expected</u> The profile page is displayed successfully with all the attributes.	Passed
4.	Click on <u>Change Profile</u> to edit the profile.	profile edit page will be displayed with- <ul style="list-style-type: none"> • Necessary fields • Change Button 	As <u>Expected</u> the page is displayed successfully.	Passed
5.	Click on <u>change button</u> to change the edited information's.	The profile information is changed in the profile management page.	As <u>Expected</u> is edited successfully in the backend database and displayed Successfully.	Passed
6.	Click on "change password" to change the password.	The change password page is displayed with- <ul style="list-style-type: none"> • Necessary fields • Change Button 	As <u>Expected</u> the Fields are displayed with button successfully.	Passed

Fig 4.3.2: UAT of UDC Module

The above snapshot shows the UAT report for the UDC module that I worked in. The UAT report displays the modules features and their pass-fail status. While doing this report I was introduced with the format of UAT report. And my supervisor assisted me throughout the report. I learned a lot about writing UAT report.

Project Name: Prottoyon.gov.bd (website version 2.0.0)

1. Test Cases

Prottoyon Ward Secretary

Test Case ID	Secretary_PR_001		
Test Case Description	Secretary account Prottoyon		
Created By	Golam Fayaz	Date	1-Dec-2022
Version	2.0	Reviewed By	Pomerul Islam

Phone number	Password
01811111111	123456

Scenario (A): Launch prottoyon.gov.bd. App.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Click on App icon to navigate to the App homepage.	The home page will be displayed With following options- <ul style="list-style-type: none"> • Citizen Log in • Administrative Log in • Mobile Number field and password field • Forgotten password option • Log in Button. 	As Expected, home is displayed will all the elements.	Passed

Scenario (B): The Secretary login to prottoyon.gov.bd App				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Login with valid phone number & password.	The dash board for the account will be shown.	As Expected as per acceptance criteria the dash board was displayed.	Passed
2.	Login with invalid phone number & password.	“Login information invalid” message will be shown.	As Expected as per acceptance criteria, “Login information invalid” message is showed.	Passed

Fig 4.3.3: UAT of Ward Secretary Module

3.	Forget Password	Account type and Mobile number field should be Displayed and get OTP	As Expected after select account type and number the OTP is sent.	Passed
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Scenario (C): All activities of Union Secretary after login to prottoyon.gov.bd. App.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Log in navigates to dash board	The Dashboard will be displayed with following- <ul style="list-style-type: none"> • Profile Image • Side bar • Recent • Approved application • Under consideration • Re-submit • Unapproved application 	As Expected, dashboard displayed successfully.	Passed
2.	Click on Side bar to view feature's	The side bar will slide from the left side with the following – <ul style="list-style-type: none"> • Profile pic • Name • Designation • Mobile number • Dashboard • Profile management • Citizen user • Recent application • Approved Application 	As Expected, The side bar slide successfully with all the components displaying properly.	Passed

Fig 4.3.4: UAT of Ward Secretary Module

The above snapshot shows the UAT report for the Ward Secretary module that I worked in. The UAT report displays the modules features and their pass-fail status. While doing this report I was introduced with the format of UAT report. And my supervisor assisted me throughout the report. I learned a lot about writing UAT report.

Project Name: Prottoyon.gov.bd (APP version 1.0.0)

Test Scenario Id: TS01_Chairman login to Prottoyon APP		Test Case Description		Chairman Log in to Prottoyon administrative user log			
Created By		Touhour	Reviewed By	Golam Fayaz	Prottoyon APP	Version 1.0.0	
Tester's Name		Touhour	Date Tested	April 20, 2023	Test Case (Pass/Fail/Not Executed)		Passed 2/4
Test Case Id	Test Scenario	Test Case Title	Steps/Actions	Test Data	Expected Result	Actual Result	Status
testCase_01	The union chairman will log in to the administrative user app	The chairman log in his profile with valid credential	1. The chairman will click on the logo of the app. 2. The user will enter his valid credential and log in to the system. 3. The user will be logged into the system.	Phone Number ,password	The user is logged in to the system.	As Expected	Pass
testCase_02	The union chairman will not be able to log in to the system will wrong credentials	The chairman can not log in his profile with invalid credentials	1.The chairman will click on the logo of the app. 2. The user will enter his invalid credential and log in to the system. 3. The user will be logged into the system.	Phone Number ,password	The user will not be able to log in to the system.	the user was logged in to the system	Failed
testCase_03	The chairman will not be able to log in to the system	The chairman can not log in to his account with Bangla credentials.	1.The chairman will click on the logo of the app. 2. The user will enter his invalid credential and log in to the system. 3. The user will be logged into the system.	Phone Number ,password	The user will not be able to log into the system	the user was logged in to the system	Failed
testCase_04	The citizen will not be able to log in to the administrative module of the app	The citizen will not be able to log in the system with his credentials	1.The chairman will click on the logo of the app. 2. The user will enter his invalid credential and log in to the system. 3. The user will be logged into the system.	Phone Number ,password	The citizen will not be able to log in to the system	As Expected	Pass

Fig 4.3.5: Prottoyon APP log in Test Case

The above test case is the log in module for the prottoyon APP administrative user. The test case was done under the supervision of my supervisor. While performing manual testing for the app my primary goal was to write as many as positive and negative test case for the log in of the administrative user. The Bugs were reported to the developer team in the above format. The bugs were fixed later by the developer Team.

Project Name: Prottoyon.gov.bd (Website)

Prottoyon payment for Grameenphone prottoyon service

Test Case ID	Making payment with Grameenphone Balance 001		
Test Case Description	Making payment using Grameenphone Balance.		
Created By	Golam Fayaz	Date	17/07/2022
Version	2.0	Reviewed By	Pomerul Islam

Phone number	Password
01611111111	123456

Scenario (A): Search Prottoyon.gov.bd from a browser				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Navigate to the website's homepage.	The home page shall be displayed	As Expected home page shown	Passed

Scenario (B): Login to prottoyon.gov.bd with Grameenphone mobile number.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Login with valid Grameenphone mobile number & password.	The dash board for a Citizen account will be shown.	As Expected home page shown	Passed
2.	Login with invalid phone number & password.	"Login information invalid" message will be shown.	As Expected as per acceptance criteria, "Login information invalid" message is showed.	Passed

Scenario (C): Applying for prottoyon service by paying by Grameenphone Balance.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Click on "citizen certificate" option	On click to the certificate option the system will redirect to the application process page and a modal will pop-up named "update your information with "change" and "everything is ok" button.	As Expected, the system is re-directed to the page with the modal and its elements.	Passed

Fig 4.3.6 UAT for Grameenphone payment gateway Integration Testing

Protoyon payment for Grameenphone protoyon service

2.	Click on “Everything is Ok” to advance to the next page	On click to “everything is ok button” only the application process for citizen service page will be displayed with next button and two options for <u>payment</u> (mobile balance and Online getaway)	As Expected, the application process for citizen service page is displayed	Passed
3.	Click on “Mobile Balance” from payment methods to make payment	The option will be selected.	The option selected successfully.	Passed
4.	Click on “Next” button to advance to the next step of the process	A modal will be displayed with change and payoff button.	The modal was successfully displayed.	Passed
5.	Click on payoff button to make the payment.	The system will redirect to the Grameenphone billing page With a pay now button and a OTP will be send to the mobile <u>number</u> .	The page was displayed successfully and the OTP was sent to the mobile <u>number</u> .	Passed
6.	Click on the pay now button, on entering the OTP to make the payment.	The payment was done and the money was deducted from the balance and the status of the application should be displayed shown.	As <u>Expected</u> the payment was done and the status of the application is displayed paid.	Passed

Fig 4.3.7 UAT for Grameenphone payment gateway Integration Testing

Here is the UAT of Integration testing of Grameenphone payment gateway API with protoyon for service payment. The testing was done to make sure the user can make service payment for Grameenphone Balance.

Project Name: Prottoyon.gov.bd (Website)

Scenario (C)				
Application process after login to Prottoyon via CDAP citizen Access.				
Step #	Test Case	Acceptance Criteria	Actual Results	Pass/Fail
1.	Applying for Nationality Certificate from prottoyon after login via CDAP access.	the update your information modal will be displayed with “everything is ok” and “change if necessary” Button.	As <u>expected</u> the modal is displayed successfully.	Passed
2.	Click on “Everything is Ok” to advance to the next page	On click to “everything is ok button” only the application process for citizen service page will be displayed with next button.	As Expected, the application process for citizen service page is displayed	Passed
3.	Click on the “next button” on the application process for citizen service page to go to the next phase.	The account details modal will pop-up with – <ul style="list-style-type: none"> • The list of charge as per service • The language of the certificate • Payment method option drop down • Current attestation point balance • Pay off and change button 	As Expected, the modal is displayed in the screen.	Passed
4.	Make payment by clicking on the “Pay of” button to complete the application.	The application is done successfully and the application is listed in the all-application list.	As Expected, the application is listed and displayed with application status.	Passed

Fig 4.3.8 UAT for CDAP Citizen Access Integration Testing

Here is the UAT of Integration testing of CDAP API with prottoyon for service. The testing was done to make sure the user can make application after accessing with CDAP in Prottoyon.

Other Projects:

Apart from the above projects I have also done beta testing of games like

- Primary Aid
- Bangla Baburchi
- Card Legion

I have done documentation for different projects. Made activity diagram, Wire farming etc. for projects like

- Olivine Abroad
- LSG

Chapter 5

Constraints/Challenges

5.0 Constraints/Challenges

I am extremely appreciative for the internship opportunity at Olivine Limited, Which has provided me with irreplaceable real-world work experience and deep understandings into the workings of a multinational organization. This internship has proven to be an extremely fascinating and a journey to remember. However, it is important to accept that the certain concerns and topics have risen and been suitably recognized throughout the duration of the internship.

5.1 Identified/Observed in the organization

Due to the nature of the information being classified and confidential, gathering data was the primary constraints of the study. Due to privacy policy of the company, Olivine Limited restricted the release of the resources associated to the report. Because of that, the task of gathering legitimate data was very challenging for me.

5.2 Academic Preparation

With out any questions the academic knowledge proved to be advantageous in understanding the operations and IT designs. Nevertheless, the task is was assigned to required deeper understandings of the advance knowledge of software testing.

5.3 Personal and Professional Skills

Technical Skills:

Internship played a vital role to increase my understanding of Software Quality Assurance. I was able to implement testing techniques effectively, due to the chance of working in real life projects. And this hands-on exposure helped me gain real life practical experience. It also enhanced my understanding the insights of how the SQA functions at a corporate level.

While my time at Olivine limited, I had used many Digital tools among those I had to use MS Excel more than anything. Because of that I had learned many things like sorting, usage of pivot table etc.

I had also learned the basic knowledge of client side and server-side testing using different SQA principles. I also learned real-life experience of using boundary value analysis for test data.

Analytical Skills:

The internship at Olivine Limited gave a huge opportunity to improve my analytical skills. I have developed the ability to analyze complex circumstances with the help of sound reasoning. I believe that my hands-on experience has contributed greatly to my growth in this area.

Interpersonal Skills:

Due to my opportunity to work in an office environment which is mostly formal, my communication skills had improved. The frequent encounters with different team members of different team. During that time that time I learned more about the formal etiquette and syntax of conversations.

Chapter 6

Acquired Knowledge

6.1 Acquired Knowledge

I found myself in an unfamiliar environment, when I first started my internship at Olivine Limited. Nevertheless, my eagerness to learn always drove me forward. As a novice, I had uncertainties about integrating the SQA principals in to the SDLC. However, as the time passed, I progressively adapted more self-assured. As a result, the processes of adjusting the daily routine were very challenging and stressful. Nevertheless, I was able to keep myself together through the difficulties and challenges of the corporate world.

6.2 Significances to Organization

The primary objective of my internship was to find if there was any questionable data and perform bug checks to confirm the integrity of the system. I also tried to come up with different solutions to enhance the quality of the existing system, It was not always easy to come up with faster solutions all the time.

6.3 Implications to University's Internship Program

I express my sincere appreciation to the FSIT for granting the students the opportunity to gain experience in the real-life industry by including the credit of Internship as a part of the curriculum of the graduate program. This allowed me to enhance my experience in the industry. I am also grateful to the office of placement, for arranging such a big and well conducted fair like the job utshob. Which actually helped me to look for the best fit for me.

6.4 Effects on Personal/Professional Skills

This internship gave me, my initial exposure of the professional world, that allowed me to enhance my professional and personal skills. This involvement has instilled in me a desire for nonstop learning. I am also thankful to my colleagues for this. The whole team has been very supportive of and cooperative, they have always taken the time to explain the entire software quality assurance (SQA) process and assisting me whenever I came across challenges during the work. As a novice to the organization, I learned lessons in professionalism, work ethics, punctuality, respectfully greeting senior members and directing myself perfectly in every situation.

Ability to Learn

During my internship I went under a notable transformation, I discovered the skill to quickly grip and excel in my work. The collaborative environment proved to be efficient

in hastening my learning procedure, mainly when it came to understanding and directing complicated networks.

Dependability

The term 'dependability' carries weighty importance. It has been observed that number of companies are uncertain to take in their interns in crucial task. They see involvement of interns as risky and time-consuming because they are generally short-term placements lasting three to six months before moving on. However, the manager at my company was very impressed with me and my co-workers. As a result, we were entrusted with numerous ongoing projects. Which examples as substantial indication of my reliability, loyalty and dependability.

Initiative

Initiative is an essential quality for any employee. Within an organization, everyone works in a collaborative environment in various groups, individuals assigned with different responsibilities. Unfortunately, very few of them highlights the fulfillment of commitments. However, at Olivine Limited, I had the opportunity of being a member of a professional group of individuals. Whenever I worked on a task, I dedicated myself to accomplishing the best imaginable result. I believe that this practical attitude will endure to benefit me in the future, giving me the opportunity to grow and success in the long run.

Quality of Work

The products of the company hinge its reputation, which is actually dependent on the quality of the product and the performance of its employees. Because of that for any project prioritizing quality is paramount. Moreover, in terms of quality of the involved employees' skills and quality, no compromises can be done. During my working period in different projects, I always aimed to deliver highest level of quality. We always adhered to practice of standard documentation, followed standardized coding approaches. For the successful completion of the project, I always maintained a deadline and did planning according to it. Throughout my service at Olivine Limited, I tried my best to make sure the quality of my job was at its highest.

Decision making

The critical skill of making decisions is not easy to achieve. It cannot be achieved overnight. It increases gradually as one gain experience, The quality of making decision increases. The skills is a great trade when it comes making decisions properly which is fit for the situation. The skill will help the company to keep its commitments to its clients. During my internship I tried my best to improve my decision-making skills.

Relations with Others

While my time in the company I learned to develop a relation between the different hierarchy of company. I learned how to do networking with in the company environment and develop communication. Which is a very important skill to increase.

Maturity-poise

In the initial stage, I was modest with my self- assurance, but in a matter of time it grown into a great sense of confidence. Getting involved in real-time work on a substantial project permitted me to grow maturity, self-assurance and composure. This knowledge also provided valuable lessons in handling large-scale projects, in a timely manner. Over time my supervisor felt confidence in me and assigned me to different projects. As a result now I fell more confidence and composure.

Chapter 7

Conclusion Statement

7.1 Summary

Olivine Limited is a company specializing in software systems. They outlive in serving their clients succeed by profoundly understanding their demands. By collaborating with their clients, Olivine limited offers complete, smooth, fast, cost-efficient and scalable services that gives them the opportunity to compete in the field. I had the chance to work at Olivine Limited, there I was the part of the team. The results of this job enhanced my understanding of software quality assurance and emphasized the role of testing in Olivine Limited. This report has not only prepared me with valuable visions for upcoming events. At the conclusion, in evaluation to other organizations in the industry, I found Olivine to be a modern company with all the equipment's.

7.2 Recommendations for Future Strategic Actions

Internship gives the students the opportunity to have hands-on experience in the real life. The opportunity benefits the students because they can apply their studies in the real-life.

7.2.1 University

Internship gives professionals with an opportunity to get real-life experience in an industry. The opportunity gives the individuals to discover their interest in a particular career path, make professional networks and also earn academic credits for their university. Being a DIU student, I am very happy to have the internship course as an important part of the academic curriculum. I am very obliged to the department for giving me the opportunity to gain this valuable experience. With out any doubt the experience has played a major role in improving my understanding of the SQA industry.

7.2.2 Professional

Internship plays a vital role in getting a student the first test of the corporate world and get ready for the future. Most of the students don't know how the industry works and what are the basic etiquettes, ethics and manner to move in the industry. Most of them also don't know that what organizational hierarchy is, and how it works. The opportunity trains a student for the future challenges. Most interns face commonly known problems like time management, parallel working, during their internship period. However, it is very important for the interns to extract valuable knowledge and lessons for future, regardless of the difficulties.

APPENDICES

APPENDICES A: Letter of Completion of the Internship



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Date: May 10, 2023

TO WHOM IT MAY CONCERN

This is to certify that **Khandaker Toufiqur Rahman** worked in this company as an **Intern (Software Quality Assurance And Testing)** from **08 January, 2023 to May 08, 2023**. His duties of employment at Olivine Limited included understanding and doing manual testing, user acceptance testing, test reports, bug reports, documentation and collaborating with developers.

As a responsible person of this company, he was very sincere, honest, hardworking and dedicated person. He was always loyal to the management and worked towards achieving management objectives.

I wish him all the success in life.

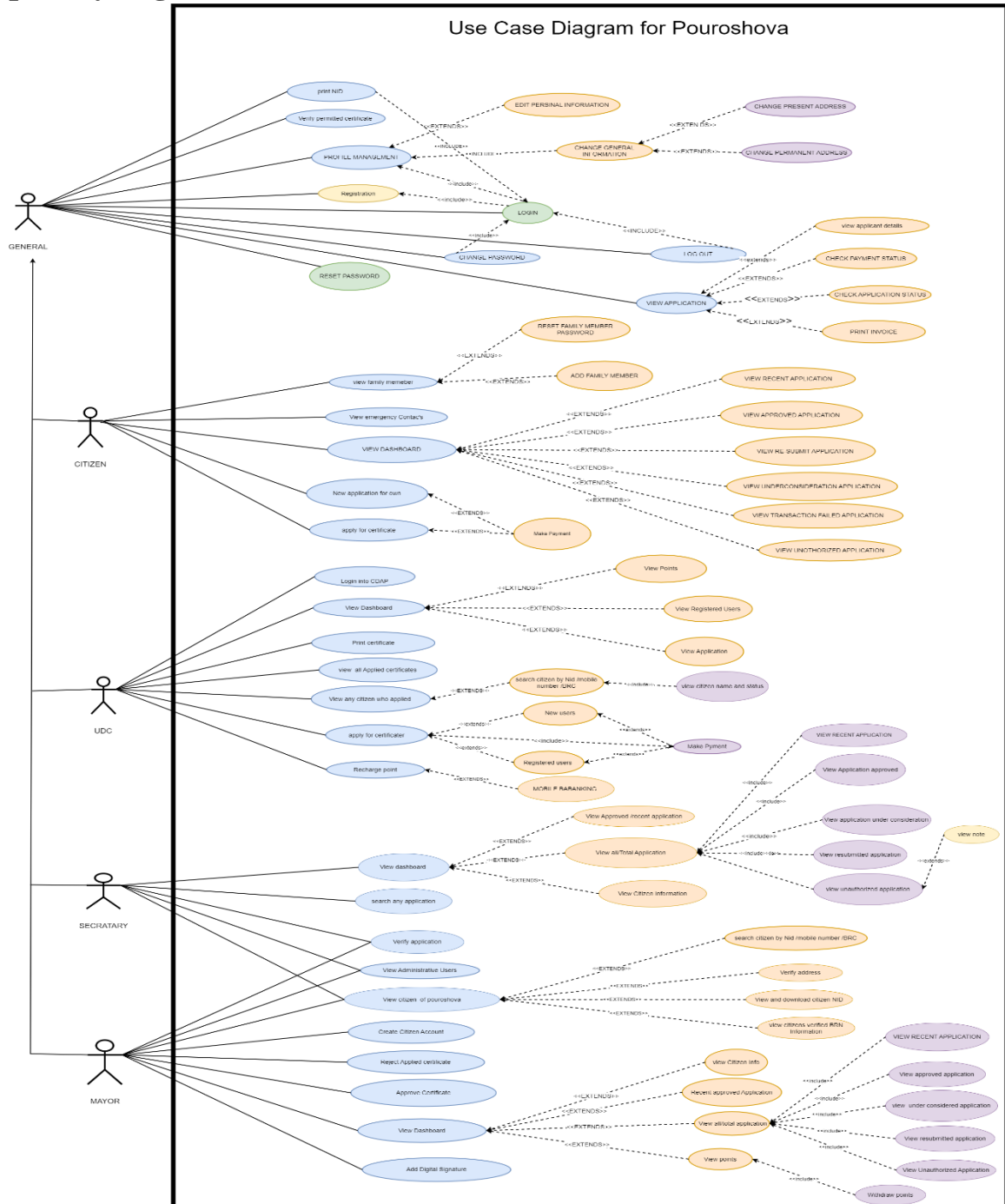
Thanking You

Arik
10.05.2023

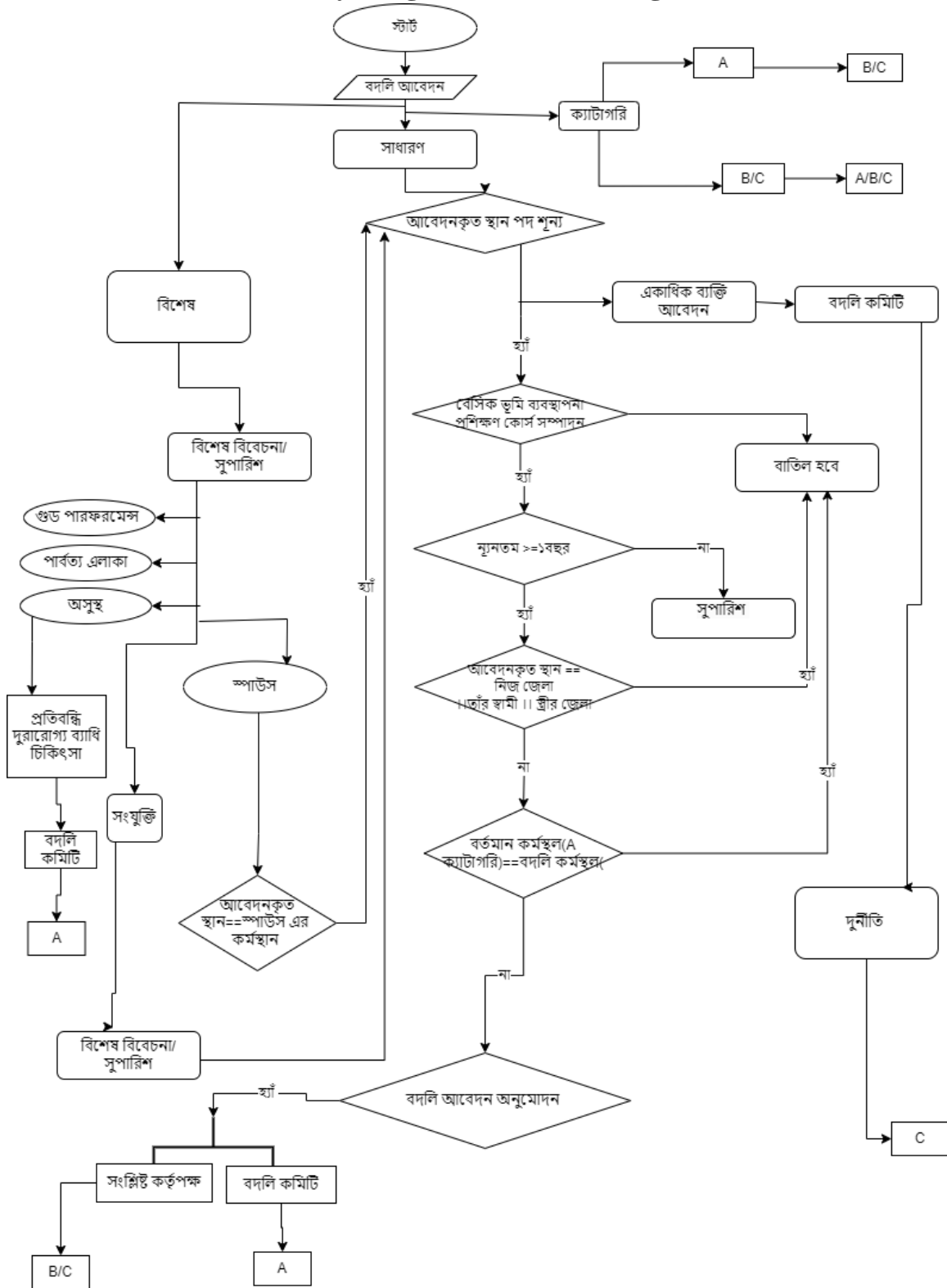
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APPENDICES B: Use case diagram of the Pouroshova in prottoyon.gov.bd.



APPENDICES C: Activity Diagram for evaluating Ac land in Lams.



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