Software Engineer Intern at Annanovas IT LTD

Supervised by

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Associate Professor & Head

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Submitted by

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This Internship report has been submitted in fulfillment of the requirements for the Degree of Bachelor of Science in Software Engineering.

Fall-2022

APPROVAL

This Internship report, submitted by Sakifur Rahman, ID: 191-35-2749 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 B.Sc. in Software Engineering and approved as to its style and contents.

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DECLARATION

I hereby declare that I have taken this internship under the supervision of **Dr. Imran Mahmud,** Associate Professor & Head, Department of Software Engineering, Daffodil International University. I also declare that neither this information nor any part of this has been submitted elsewhere for award of any degree.

Sakifur Rahman
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Acknowledgments

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EXECUTIVE SUMMARY

I choose internship program to motivate myself and prepare myself for the industry. I started my internship program at Banglalink Digital Communications through AnnaNovas IT LTD. This internship report is aimed to increase and use the knowledge of Software Quality Assurance (SQA) & maintenance acquired during my internship period. I chose an internship and my designation is to be a Software Quality Assurance (SQA) engineer and the responsibility is to testing and finding bugs in the mobile and web applications.

CHAPTER 1

INTRODUCTION

Introduction

I learned about the actual workplace through my internship, which is much more unique than my classroom work. I'm excited to work in the division where I may study how a business industry creates software applications for varied functional needs. Software Quality Assurance (SQA) engineer, Banglalink Digital Communications is where I work. My job is to create web apps, but any software that I create must also be bug-free, up to quality standards, and most importantly, satisfy the client's requirements. I went to the project discussion meeting, where my duties on the project were laid out. The intern's duties at Banglalink as an intern included covering the exam as required and delegated. For this, it was necessary to have knowledge of the many stages of the SDLC, as well as expertise in test concepts, testing kinds including black box and white box testing, bug hunting, error reporting, and the use of automation tools and SQL, among other things. These encounters broaden my knowledge, boost my self-assurance, and equip me for the upcoming task. Throughout my internship, I ran into a lot of issues. My teammates support me in resolving both technical and non-technical challenges. I go to a few customer meetings where I get fresh project needs. My diverse experiences—including group projects and teamwork—help me succeed in my role. I can also sense what it's like to work in the corporate world. The ability to broaden my knowledge and identify my strengths and shortcomings throughout the internship time would be beneficial for my future profession. Being a student at Daffodil International University's Software Engineering department makes me really proud. because I was able to complete an internship as part of my bachelor's degree at my institution. I'm also appreciative to AnnaNovas IT LTD for giving me the chance to work with the Banglalink development team, adding me to their IT developer team, and allowing me to put my skills and expertise from the classroom to use on actual projects.

1.1 Background

I have joined Banglalink Digital Communications through AnnaNovas IT LTD on 1st September 2022. I joined the company as a Software Quality Assurance (SQA) engineer. First I trained for about 1 month. Then they defined me as a member. Our team is responsible for developing new versions of MyBL apps and Banglalink Corporate Website and supporting existing applications. I had the chance to work with cutting-edge equipment and learn about the creation and growth of master-detail databases. I mainly use Jira, Apache Jmeter, Postman, Swagger, Figma, Jenkins, and GitLab. Additionally, it offers a chance to learn about quality assurance, which is employed to guarantee software quality and enhance performance to ensure it is bug-free.

1.2 Motivation

My objective is to get familiar with the real-life business environment, and the internship program allows me the chance to expand my abilities and gain experience via industrial work on sophisticated manufacturing. My internship gives me the opportunity to work with an organization and to establish a connection with them. I will be able to increase my knowledge and experience through this participation. I am able to learn a variety of technology, both new and ancient. I always aspire to be a really beneficial addition for a wound business. And I'm committed to provide my finest service for this. I am able to gain the necessary expertise about the software business through this internship program.

1.3 Objectives

The internship is a bridge between college and the working world. Students must critically assess any gaps in the system throughout their internship term and work to address them. The following are the main goals of this internship program:

To improve impersonal interactions and professional connections in workplace situations.

To satisfy the internship requirement for PU.

To understand the value and effect of labor.

To gain valuable career and experience.

To build skills and research potential career paths.

1.4 Scope

The goal is to prepare me as a Software Quality Assurance (SQA) engineer. And I am doing my activities as an intern to be a junior SQA engineer. I am also getting and learning the official responsibility to maintain the time and deliver my activities in due time. It helps me to Improve my communication and data exchange.

- Know the business pattern & develop the software.
- Learn how to maintain and follow the official rules.
- Learn how an SQA engineer reduces company costs by performing static testing.
- Time management skills.
- Work experience in group.
- Time commitment while doing any work.

1.5 Internship Offer Letter

ANNANOVAS IT LTD
www.annanovas.com

Landmark Ring Tower, 32-35, Flat #6/A,
Probal Housing, Ring Road, Mohammadpur,
Dhaka-1207, Bangladesh.
880-9666-911-314
info@annanovas.com

Date- 30-08-2022

AN-BL-INT-Eng.-22/05

Sakifur Rahman
sakifur.rahman.swe@gmail.com
Contact: +88 01970741571

Dear Sakifur,

In reference to your application we would like to congratulate you on being selected for internship with **Annanovas IT Ltd** based at Land Mark Ring Tower, Mohammadpur, Dhaka. Your tenure of internship is scheduled to start effective **from 1-Sep-2022** for a period of 3 months.

You should report for the said assignment at the office of Annanovas IT Ltd. or any of its customer premises (at **Banglalink Digital Communications Ltd**).

During your Learning /internship period, you will be paid a fixed amount of BDT **10000 (Ten Thousand Taka Only)**.

Again, congratulations and we look forward to working with you.

Yours sincerely,

Md. Tanvir Karim Khan
Director, Business Operation, Annanovas IT Ltd.
+8801711507892 || tanvir@annanovas.com

HR Forms & Format – Internship Offer-Batch-9 || Confidential   1

CHAPTER 2

COMPANY OVERVIEW

2.1 About Resource provider company

AnnaNovas IT LTD is a resource provider company. They have some local clients in Bangladesh and some abroad. As a vendor, they send their resource to their client side. Like I'm an employee of AnnaNovas IT LTD and I'm working for Banglalink.

2.1.1 About AnnaNovas IT LTD

For businesses or individuals interested in outsourcing, AnnaNovas is a reputable iOS application, Android application, and web development firm that offers iOS & Android apps, as well as web development solutions. It has been in business since 2010, and it is the industry leader in providing small to large businesses with dynamic, clever, and professional iOS & Android applications and Web-based solutions. Provide full white-labeled solutions for outsourcing, and definitely carry out the development and programming duties in a transparent manner.

Some IT services of AnnaNovas IT team:
- Prothom Alo
- Banglalink (MyBL App & Web)
- Toffee (Mobile App & Web)

Fig 2.1.1: AnnaNovas Clients

2.1.2 Mission & Vision

The major goal is to assist company owners in establishing their internet presence without having to deal with the overwhelming obstacles presented by technology. The minimal amount of customer effort is necessary, in AnnaNovas' opinion, to enhance the value of the services offered. To continue to be the top provider of software solutions while protecting the interests of clients, shareholders, and staff. gaining a particular competency in project management and process development. The vision of a corporation is truly its ultimate aim, one that it strives obstinately to realize whether it is practical or not. The goal of AnnaNovas is to maximize service while decreasing credit in order to deliver better services with lower credit. Additionally, it aspires to become the region's premier software company.

2.1.3 Location

Head Office:

Landmark Ring Tower,

32-35, Flat #6/A, Probal Housing, Ring Road, Mohammadpur, Dhaka 1207, Bangladesh.

Contacts:

Phone: 09666-911314

Email: info@annanovas.com

2.2 About Work Station company

My work station company name is Banglalink Digital Communications. It is a telecommunication company. They have no software engineers of their own. They hire software engineers from vendors (Brain Station 23 / AnnaNovas IT LTD). As I do their work for AnnaNovas Company.

2.2.1 Banglalink Digital Communications

Launched in February 2005 with the straightforward purpose of "Bringing Mobile Telephony to The Masses," Banglalink transformed the status of mobile phones from a luxury to a necessity. By providing clients with reasonable alternatives across a wide variety of market sectors, it has introduced mobile phones to the general population of Bangladesh. Although Banglalink has been around for ten years, its first foundation was built in 1989. Sheba Telecom (Pvt.) Ltd. was given permission to operate in rural areas (Upazillas) in 1989. They expanded their business by obtaining their GSM license in 1996, and in the fall of 1997, they introduced cellular service under the name SHEBA as a joint venture between Bangladeshi Integrated Services Ltd. and Malaysian Techno Resources Industries. For USD 60 million, Telecom Ventures Ltd. acquired 100% of Sheba Telecom in September 2004. On February 10, 2005, Banglalink was introduced as the new name. Telecom Ventures Ltd. (formerly Orascom Telecom Ventures Limited) of Malta, a 100% owned subsidiary of Global Telecom Holding, is the sole owner of Banglalink Digital Communication Limited (formerly Orascom Telecom Bangladesh Limited). Vimplecom holds 51.92% of Global Telecom Holding as a result of a commercial merger between Wind Telecom S.P.A. and Vimplecom Ltd. in April 2011. One of the biggest integrated limited companies, VimpelCom offers communications services in many places, including Bangladesh, Algeria, Pakistan, Burundi, Zimbabwe, Kazakhstan, Uzbekistan, Laos, Algeria, Italy, Canada, Ukraine, Russia, Italy, Kazakhstan, Uzbekistan, and Laos. Amsterdam is where it's headquartered. Banglalink's growth over the previous years was fueled by cutting-edge goods and services that catered to various market segments, aggressive network quality improvements, committed customer service, building a vast distribution network throughout the nation, and building a strong

brand that endeared customers to Banglalink. By December 2005, it had one million subscribers, and by October 2006, it had three million. With more than 7.1 million users, Banglalink passed Aktel (now Robi) to become Bangladesh's second-largest operator in less than two years, or by December 2007. According to data on its website, as of December 2014, Banglalink has 30.9 million customers, or 25.47% of the market.

2.2.2 Location

Head Office:
Tigers' Den,
House 4 (SW), Bir Uttam Mir Shawkat Sharak Gulshan 1, Dhaka 1212, Bangladesh.

Contacts:
Phone: +8801911304121
Email: info@banglalink.net

2.2.3 Management

Banglalink has a good management system. Every single operations are done with the discussion, and everyone's opinions get a value in the decision. Handling and support for the clients are very good. Customer's service providers are sincerely concern about it. Higher authority also friendly with the employees and everyone has a good communication in the office.
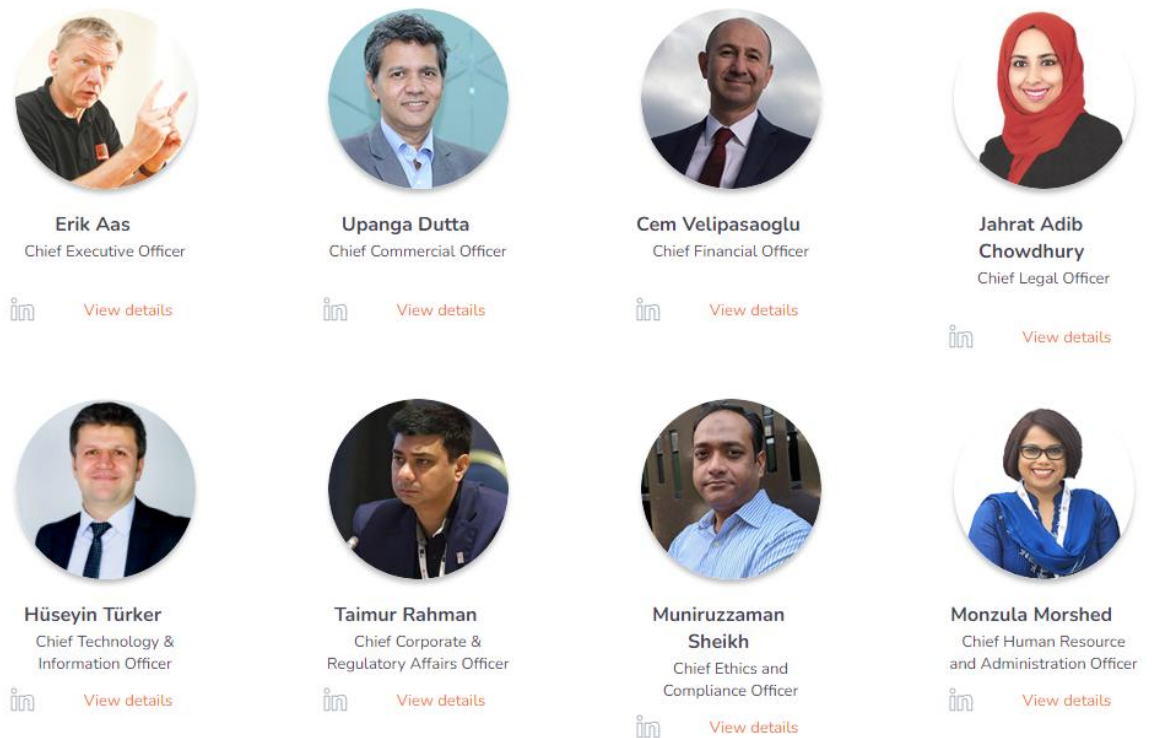
Fig 2.2.3: Management Of Banglalink Digital

2.3 Quality Management Framework (QMF)

Banglalink Quality Management focuses on the following process areas:

- Requirement Development

- Technical Solution

- Product Integration4. Verification

- Verification

- Validation

- Organizational Process Focus

- Organizational Process Definition

- Organizational Training

- Integrated Project Management

- Risk Management

- Decision Analysis and Resolution

2.4 Software Products of Banglalink Digital

Software Products Services:

- ❖ MyBL App (Android & ios)

- ❖ Toffee Online TV (Web, Android & ios)

- ❖ Banglalink.net (Corporate Web Site)

- ❖ Daktarbhai (App)

- ❖ Najat (App)

- ❖ Banglalink app lite

- ❖ Banglalink ERP

- ❖ Banglalink Admin CMS

- ❖ Private Office Software

- ❖ Vibe App

2.5 Summary

With experience and knowledge, Banglalink Digital can assist web businesses in reaching clients online. And it also cares about the employees and their comfort. Internal working environment with everyone is friendly and cooperative.

CHAPTER 3

COMPANY CULTURE AND CARRYING OUT

Core Values is it wants to build a family, not just a team. Core Values as a team leader serves those he leads by removing obstacles and enabling his direct reports to succeed. Team members work together and gossip together because the bonds go beyond the typical co-worker relationship.

3.1 Web Development Team I Work With
- Requirement analysis for new Corporate website
- Review my approach of workflow by my supervisor
- Works as directed by senior
- I'm also working with the design team to gather knowledge about basic knowledge about UI,UX design
- telecom domain knowledge
- Hunting bug
- Finding Issue with API checking
- Post Jira bug and assign a developer to fix it.
- Deploy new changes into https://staging.banglalink.net/en server with DevOps team

3.2 Working Environment & Protocols

Banglalink's work environment is excellent and offers many benefits. We got tea and coffee break in working hours, and each month we are given a total of 8 days off, including 2 weekly holidays. Every employees and intern also have to maintain the time properly and follow the rules strictly.

3.2.1 Rules & Regulations of Banglalink

- Must have to present in Office time from (10AM to 7PM)
- Anyone who fails to come to the office on time should inform the Project Manager.
- Must have to be cooperative with team members
- Senior members must have to cooperate with juniors
- Daily update standup meeting must be uploaded to project manager or line manager.
- If any are blocked, you must be raised
- No one is allowed to disobey the company regulations
- The project's source code cannot be shared with outsiders
- Have to attend the meeting while discussing new projects.

3.2.2 Facilities

- All members and seniors are supportive if anyone stuck in a bug.
- Directly work in production server & Test server
- Yearly 18 paid leaves
- In-house medical facilities
- Excellent working environment
- Free lunch facilities
- Provide unlimited tea/coffee
- Also have permission if anyone wants to work from home
- Provide snacks and drinks

3.3 Internee Life Cycle

As an intern I have to follow some flaws and have to go through some rules and policies to start a first chapter in career. Every internee join the office and work for 3 months with the team. The best performers got the opportunity to work permanently with the team.

3.3.1 Recruiting Policies

I first sent my resume to Banglalink Digital through AnnaNovas IT LTD. Following a positive interview, they decided to hire me as an SQA intern for their Web Team. The HR department posts other permanent positions, after which they hire people for their organization.

3.3.2 Getting Started

On September 1st, 2022, I began my internship at Banglalink Digital. After an interview, the authority allows me for the internship.

CHAPTER 4
ABOUT MY INTERNSHIP & EXPERIENCE

4.1 Introduction

The majority of the intern's first day at the internship was successful thanks to learning the fundamentals and necessary information about QA. Throughout the internship, the intern took very thorough notes every day regarding what he learned and the duties he had to do. Daily reporting is not feasible since he cannot divulge these responsibilities because they are generally project-related. The intern's internship began on September 1, 2022. He arrived at 10:00 am as promised in a letter to me. He was given a brief tour of the business and showed the location of where he would be working. There were just a few other interns present, so I shook hands with each one of them before waiting for the supervisor to arrive. The supervisor arrived a little while later, and we had a 5-minute orientation. Then he started to illustrate fundamental ideas by defining QA as his initial query. Then, up until 1 PM, he began imparting theoretical information about QA. There was a lunch break from 1 to 1:30. It resumed once again after lunch until 5 PM. Over the course of the next seven days, several subjects, including the SDLC and a basic explanation of SQ, were covered. Over the course of these 7 days, the intern received thorough theoretical instruction in a timely manner.

4.2: Brief Introduction of QA

The purpose of quality assurance, sometimes referred to as QA testing, is to make sure that a company is offering its clients the finest available goods or services. The goal of QA is to make processes better so that customers receive high-quality products. An company must make sure that its procedures meet the quality requirements established for software products. The PDCA cycle or Deming cycle is a recognized cycle in quality assurance. The phases of this cycle are:

- Plan
- Do
- Check
- Act

Fig 4.2: PDCA cycle

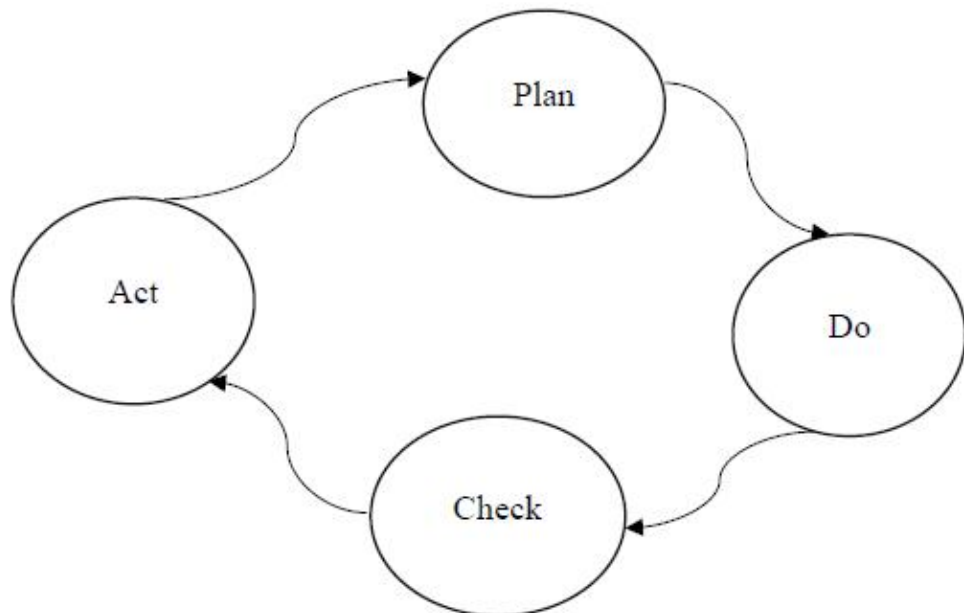These above steps are repeated to ensure that processes followed in the organization are evaluated and improved on a periodic basis. Let's look into the above steps in detail:

- Plan - To create a high-quality finished product, an organization should plan, set process-related objectives, and identify the procedures needed.
- Do - Process development, testing, and "doing" improvements to the processes.

- Check - Process monitoring, modification, and verification that it satisfies predefined goals.
- Act - Implement actions that are necessary to achieve improvements in the processes.

A company has to utilize quality assurance to make sure that the product is created and put into use using the right processes. This lessens issues and mistakes in the finished result.

4.3 Testing Methods

4.3.1 Static Testing

Verification is another name for it in software testing. Verification is a static process for examining files and papers. Verification is the procedure to make sure that we are creating the product correctly, that is, to make sure that we are producing the product in accordance with the specifications that we have.
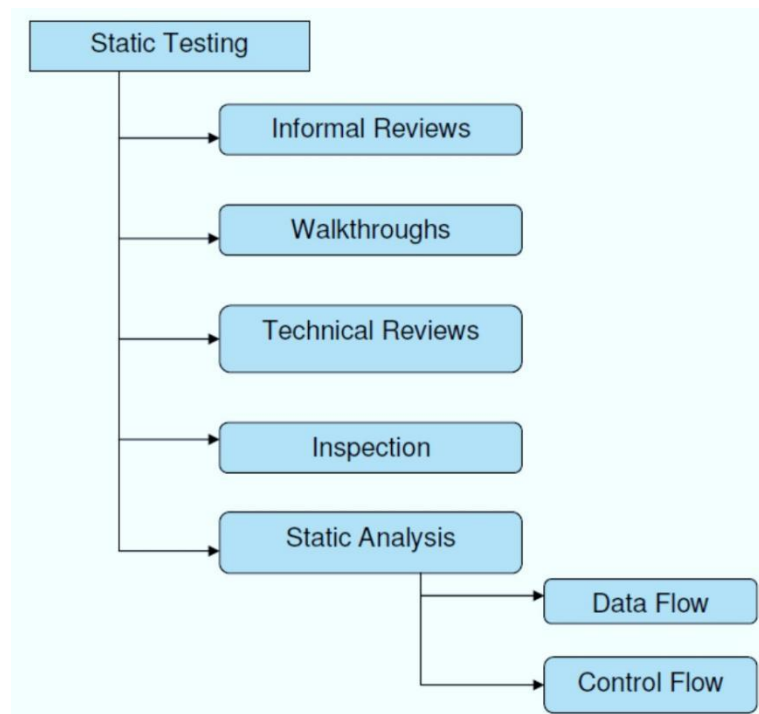

Fig 4.3.1: Static Testing

4.3.2 Dynamic Testing

It is sometimes referred to as software testing validation. A dynamic process of testing the actual product is called validation. The process of validating whether the product we are developing is correct or not is what determines if we are producing the proper product.

4.4 Testing Types

4.4.1 Black-Box Testing

Black-box testing, commonly referred to as behavioral testing, is a software testing technique in which the tester is unaware of the internal structure, design, or implementation of the thing being evaluated. These tests may be functional or non-functional, however functional testing is more common. The reason for the method's name is because the software application appears to the tester to be a black box, with no windows. The following categories are targeted by this strategy for error detection:

- Missing or incorrect functionalities.
- Interface errors.
- Errors in external database access or data structures.
- Errors in performance or behavior.
- Initialization and termination errors.

4.4.2 White-Box Testing

A software testing technique called white box testing, also referred to as clear box testing, open box testing, glass box testing, transparent box testing, code-based testing, or structural testing, involves the tester being aware of the internal structure, design, and implementation of the thing being tested. The tester selects inputs to test various code routes and decides on the necessary outputs. Knowledge of implementation and programming is crucial. White box testing examines a system's inner workings, going

beyond the user interface. This approach is so named because, in the tester's eyes, the software looks like a white, translucent box that allows for unobstructed vision within.

4.5 Manual Testing

The technique of manually testing software to detect flaws is called manual testing. To guarantee that all the features function as specified in the requirement document, the tester should consider the viewpoint of end users. Without utilizing any automation tools, testers carry out the test cases and create the reports manually in this method.

Here, test cases for manual testing were created using Microsoft Excel. Writing test cases in Excel offered me the opportunity to create a logical table for calculations and test whether or not different outcomes were computed based on input and were presenting the right result. I discussed the following issues in general for writing manual test cases.

- Test case ID
- Test title
- Test conditions
- Pre summary
- Test Priority
- Test data
- Test steps
- Expected Result

4.6 Automated Testing

The process of testing software with an automated tool in order to detect bugs is known as automation testing. In this procedure, testers use automation technologies to run the test scripts and provide the test results automatically. Selenium and QTP/UFT are two well-known automation testing solutions for functional testing. The primary advantage of automated software testing is that it streamlines as much human work as feasible. For instance, if unit testing uses a significant amount of a QA team's resources, this procedure should be considered as a potential candidate for automation. Automated testing tools perform tests, present findings, and compare them to test runs from the past. Tests that are automated can run periodically throughout the day. The

continuous testing and software development methodologies are compatible with this strategy.

4.6.1 Benefits of automated testing

- Cost Effective
- Run test Quickly and Effectively
- Technically Beneficial
- Reports Clarity

I had the chance to learn about various automated testing technologies during my internship, which I've listed below:

4.6.2 Jira

Jira is a very well-liked application that QA teams use to keep track of work, new feature requests, and problem reports. Its adaptability makes it suitable for a wide range of software development project management use cases. Jira is excellent for organizing teams to work on big volume backlogs and for keeping everyone focused on the important tasks. Jira is most frequently used by software testing teams to track issues and new features.

Jira may also be used as a test case management tool, however this requires a lot of labor-intensive customizations because Jira was not created with this purpose in mind. Due to this, an increasing number of customers are deciding to combine Jira with an effective application for managing test cases, such as TestLodge. They have access to the dual resources thanks to the integration, which enables them to complete the testing process much more quickly than they could have done with only Jira. Some specific features of Jira that are useful for Test Case Management:

- Link to bugs and requirements
- Multiple affects/fix for versions
- Custom issue types such as test case and user story
- Automatic and manual issue assignment
- Subtasks for manual testing
- Reporting
- Integrates with source code repository
- Issue comments and attachments

Bugs used to be found after executing test cases that had been developed in Excel. These defects were noted by creating tokens in Jira, which were then used to allocate them to the developers for Jira-based resolution. Even though contacting or personally approaching a developer to discuss a defect might be helpful, with such a huge team, it can impede productivity and slow down work. In order to lessen this, Jira, a project management tool that can be used through a browser, tracks bugs status. A developer may use Jira to add a new record for each problem and provide comprehensive details to replicate the issue. Additionally, relationships and priority for addressing defects can be assigned to them. Either a bug is open, fixed but has to be validated, repaired in the subsequent version, or closed. They are reported in a variety of filterable categories. The filter categories in Jira were as follows:

- Bugs
- Resolved (bugs supposedly fixed, require validation before closing)
- Fixed in next release (not fixed in current version but in next version of editor)
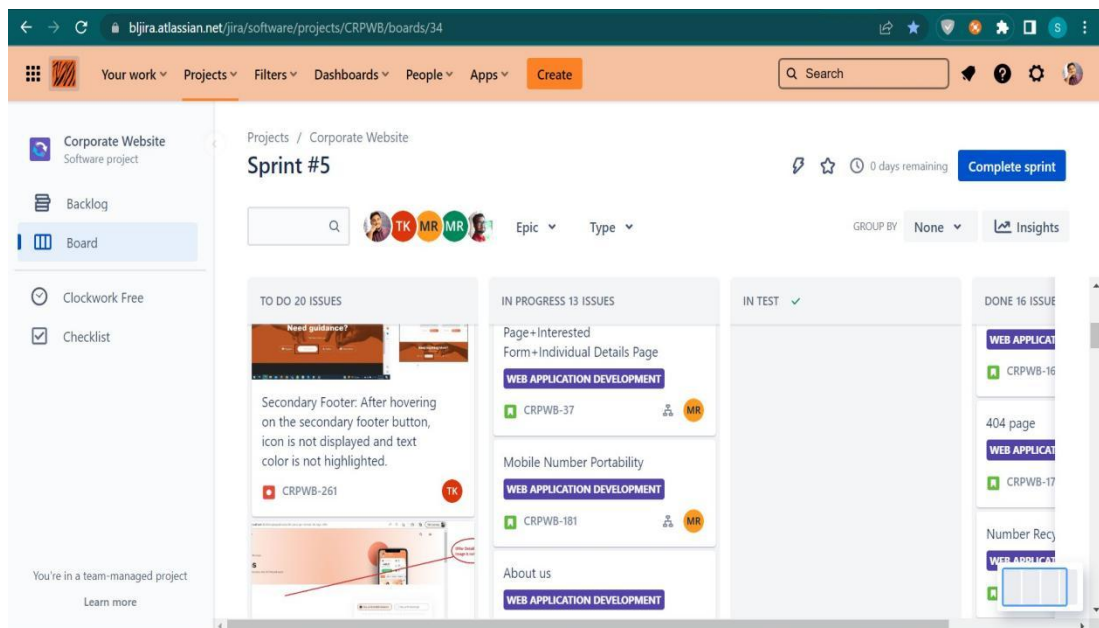

Fig 4.6.2: Sprint Board

It is essential to first understand the bug life cycle before utilizing Jira to submit issues. The process of opening a ticket, allocating it to a developer, correcting the problem, and then closing the ticket is known as the bug life cycle.

The following figure shows the bug life cycle step by step
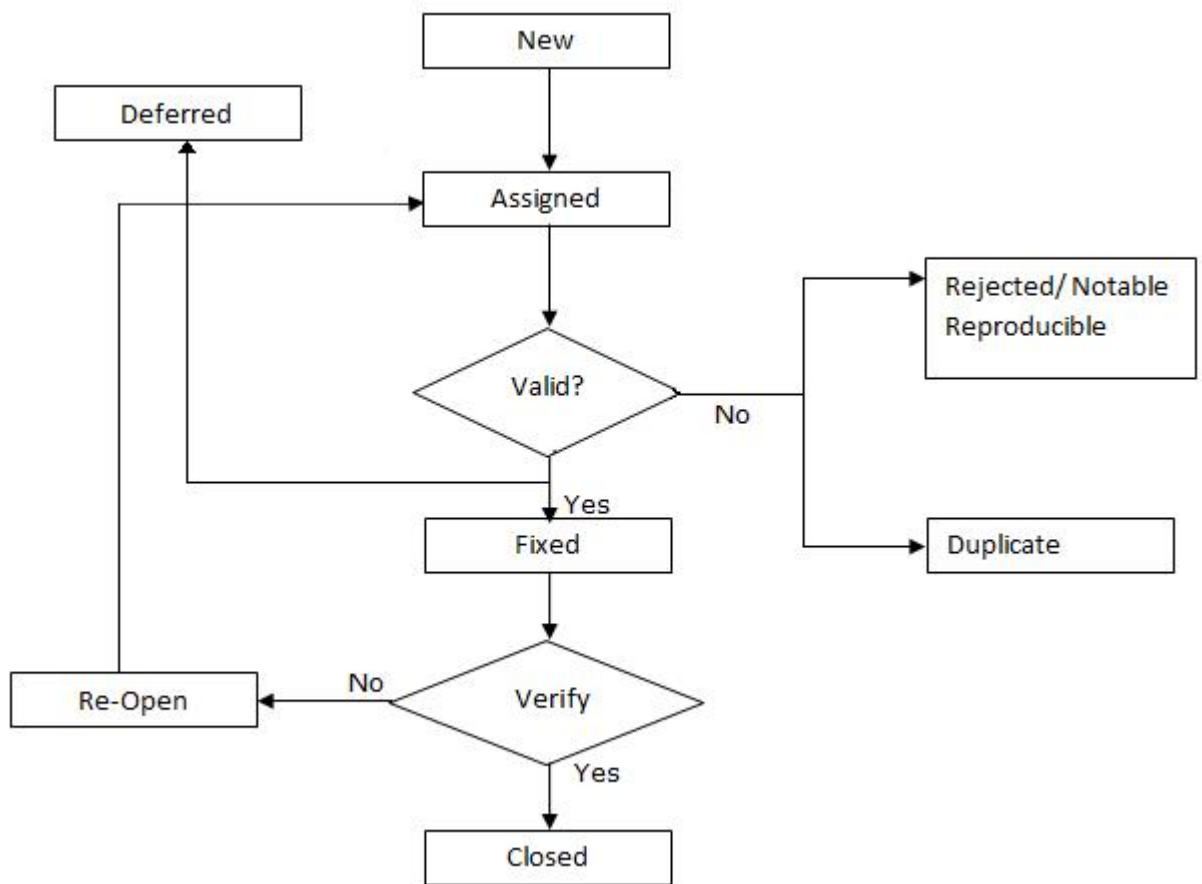
Fig 4.6.2: Bug Life Cycle

4.6.3 JMeter

Stefano Mazzocchi of the Apache Software Foundation created the Apache JMeterTM, a piece of open-source software written entirely in Java that is used to load test applications and track performance. JMeter is a tool for measuring and analyzing the performance of various services, including online applications. Performance testing involves putting a web application through its paces under high user traffic and demand. JMeter was first created to test FTP or Web applications. It is now utilized for functional testing, database server testing, etc.

Advantages of JMeter

- Licensed as open source: JMeter is completely free, and developers are permitted to utilize the source code for development.

- Friendly GUI: JMeter has a very user-friendly interface that is quick to learn.

- JMeter is a 100% pure Java desktop program that works on any platform. In order to operate on several platforms.

- Full foundation for multithreading. Different functions can be sampled concurrently and simultaneously by independent thread groups using JMeter.

- Test results can be shown in a variety of ways, such as a chart, table, tree, or log file.

- Simple installation: To start JMeter, simply copy and execute the *.bat file. Installation is unnecessary.

- Highly extensible: You are allowed to create your own tests. You may expand your testing using the visualization plugins that JMeter also offers.

- Multiple testing methodologies: JMeter supports a variety of testing methodologies, including functional, load, and distributed testing.

- Simulation: JMeter may generate a significant load for the web application under test by simulating several concurrent users.

4.6.4 Unified Functional Testing (UFT)

An automated functional testing tool called UFT/QTP assists testers in running automated tests to find any faults, flaws, or gaps that deviate from the application being tested's intended outcomes. Mercury Interactive created it, and HP eventually bought it. Quick Test Professional is known by its full name, and UFT stands for Unified Functional Testing. The best testing tool is UFT/QTP for the reasons listed below.

- It is an icon-based solution for automating an application's regression and functional testing.

- Micro Focus QTP may be used by both technical and non-technical testers.

- It provides both features- Record as well as Playback

- Both desktop and web-based apps may be tested.

- It allows Business Process Testing (BPT).

- Based on the VB script programming language, QTP Testing.

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- Micro Focus's UFT uses VBScript to automate applications.
- The broadest range of software development environments, including SAP, Oracle, etc., are supported.
- QTP tool helps the testers to perform an automated functional testing uninterrupted.

Some advantages of QTP Automation

- It supports record and playback
- It allows testers refer to the screen object attributes when recording scripts on an active screen.
- It has a great system or procedure for identifying objects.
- It supports a variety of add-ins, including Web Forms, Oracle, Java,.NET, and others.
- Through an active screen, you may improve the current tests even without the AUT.
- It supports well-known automation frameworks, including data-driven testing, modular testing, and keyword testing.
- It comes with an inbuilt IDE.
- It is simple to manage several suite kinds including Smoke, Regression, and Sanity.
- It works with XML. Through QTP, test reporting is possible for analytical purposes.

4.7 Testing webpage and website through Selenium

A free (open source) automated testing toolkit for web applications across several platforms and browsers is called Selenium. The sole difference between it and QTP/UFT is that Selenium specializes on automating web-based applications. Selenium testing is the term used to describe testing carried out using the Selenium tool.

Selenium is more widely used than QTP/UFT since it is open source software and platform neutral. It is also simpler to utilize when compared to QP/UFT. Selenium was formerly a Firefox extension before maturing into the web-based application testing tool it is today. Selenium consists mostly of 4 parts. Those are

- Integrated Development Environment for Selenium
- Selenium Remote Control
- WebDriver
- Selenium Grid

Similar to QTP/UFT, Selenium has record and play buttons, however it does not handle complicated locators like XPath and link names. As a result, Selenium Remote Control and WebDriver were combined to become Selenium 2, which was eventually enhanced to become Selenium 3.

Using Selenium, testers may write test codes for each component, such as a dropdown menu, button, or text field, and conduct thorough testing to identify bugs. It makes advantage of several features, including find. Select an element. Use this element to locate and choose the precise component to test.

4.8 Keeping bug status and reporting through Jira

Bugs used to be found after executing test cases that had been developed in Excel. These defects were noted by making tokens in Jira, which were then used to allocate them to the developers for Jira-based resolution. Even though contacting or personally approaching a developer to discuss a defect might be helpful, with such a huge team, it can impede productivity and slow down work. In order to lessen this, Jira, a project management tool that can be used through a browser, tracks bugs status.

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In Jira the filter categories were as following:

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2. Resolved (bugs supposedly fixed, require validation before closing)

3. Fix in next release (not fixed in current version but in next version of editor)

It is essential to first understand the bug life cycle before utilizing Jira to submit issues. The process of opening a ticket, allocating it to a developer, correcting the problem, and then closing the ticket is known as the bug life cycle.

CHAPTER 5:
CONCLUSION AND LESSON LEARNT

5.1 Conclusion

The time I spent interning at Banglalink Digital was really fruitful and beneficial. The responsibilities and actions involved in an actual job are very different from those in an academic degree. In college, we study the value of quality and some of the basic characteristics and advantages of excellent software, but during an internship, we learn a lot more than just the fundamentals. Alongside with manual test case writing, various automation tools usage and how to approach and report issue in reality is taught.

Finally, the internship provided a good opportunity to learn about a professional sector. The intern gained a great deal of knowledge from that experience, which really aided his growth. This internship demonstrated one thing: college courses need to be changed because they are so out of current and out of style. If given the chance, the intern would dearly love to work as a QA specialist for Banglalink Digital in the near future in order to repay how it aided in the internship.

5.2 Lesson Learnt

Working at Banglalink Digital provides the internee with the following aspects:
- Group work experience
- Develop the management, entrepreneurial, and interpersonal abilities that are essential for the professional and career growth of every worker.
- Importance of time and punctuality.
- Time management skills.
- Time commitment while doing any work

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