

## Junior SQA at Creative Soft Technology Limited

### SUPERVISED 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.

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## **Declaration**

I am Khandaker Mohammad Reham, ID: 183-35-2597, student of Daffodil International University.

I am declaring that I have complete the internship in Creative Soft Technology LTD under the supervision of Dr. Imran Mahmud, Associate Professor and Head Department of software Engineering.

I am also declaring that this report has not been made or submitted for any other purpose, presentation by any other except me. This is also declared that there is no plagiarism or materials used in this report from various sources.

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### APPROVAL

This thesis titled on "Internship on SQA at Creative Soft Technology Ltd", submitted by Khandakar Mohammad Reham (ID: 183-35-2597) 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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## Acknowledgment

In the name of ALLAH who is the most graceful.

I would like to thank my supervisor Dr. Imran Mahmud, Professor and Head of the Software Engineering. I am grateful for her expert and valuable guidance.

I would like to express Dr. Imran Mahmud, Professor and Head of the Software Engineering Department for his encouragement.

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Finally, I would thank my parents who motivate me all the time who I am today.

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## Chapter 1

### Introduction

#### 1.1 Introduction

As a part of the internship of the Undergraduate program of Bachelor of Science in Software Engineering at Daffodil International University, Linterned at Creative Soft Technology Limited in Software Quality Assurance & Testing Department.

I had an interest in Software Quality Assurance & Testing and the opportunity to work at Creative Soft Technology Limited, this report is based on this experience.

#### 1.2 Rational

Internship helps to develop skills and work to gain confidence, problem-solving, professional and more communicable which guide to success.

### 1.3 Background

This report of the internship conducted in Creative Soft Technology Limited. I selected Creative Soft Technology Limited a leading software development company renowned for its emphasis on quality assurance. The duration of the internship was 4 month during which I was assigned to the SQA team, working closely with experienced professionals in the field. During the internship I was exposed to various aspects of SQA Including test planning, writing test case, functional testing, bug tracking, reporting, device responsive issue test, gain knowledge about automated testing frameworks. I gained hands-on experience with industry—standard SQA tools and methodologies, such as test management system. The internship also provided me with the opportunity to work on real world software projects. I collaborated with the development team to understand the software requirements, analyze design and validate the implementation. Through this practical experience, I learned the importance of early involvement in the software development life cycle and the impact of SQA on the overall project success.

### 1.4 Scope of the Study

This report gives challenges that I faced in my workflow. It also provides an idea about how I adapt to the professional environment.

The environment of the communication is impressive and well inspired. The report is based on software quality assurance & testing. This is important Development related organizations to understand how to test a software and testing software in different tools, website .such as writing test case on excel shit, Github , SNGate ,Multiple device testing ,Intellij IDEA. It also describes how to testing a software basic to advanced steps to become a better software tester. I manage to learn to test planning, writing test case ,checksoftware function, software modules checking, using software for UI testing , software bug tracking, device responsive issue test , usings Intellij Idea for automated testing. I gather many knowledge about SQA when I worked with my SQA team.

### 1.5 The Main objective of this Report

The main goals of this report are to full fill the requirements of the Bachelor of Science program and present the knowledge and information that has been achieved during the internship period under the organization

The other important goals are as follows

To apply to test and develop as much as possible and communicate with the mentor.

To generate an idea and focus on the idea to software testing and give output to the mentor.

Testing software and updating the testing report.

Find bugs and submit reports to the development team.

### 1.6 Summary of Report

In the summary of the report, the mentor chose some workflow and give a short amount of time to gain confidence and implement the solution with the individual. There will be a performance phase for developing as much as possible with the required time and destination.

## Chapter 2

## **Organization Overview**

Creative Soft Technology is a Leading Global IT provider. It was started to provide software solutions, website development, Digital Marketing and consulting services. They also provide IT solutions and services to National Government, Local Government, and Private Agencies. Creative Soft Technology provides many services such as software development, web application, mobile application, creative design, digital marketing, networking solution, QA& testing, maintenance & support.

## 2.1 Company Profile

Creative Soft Technology was started its journey on January 2015, Creative Soft Technology becomes a leading IT provider. Creative Soft Technology was created to provide software solutions, website development, digital marketing and consulting services to small, medium, large and blue chip companies. Creative Soft Technology also provides IT solutions and services to the National Government, Local Government, and Private Agencies. It has more than 20+customers and partners and more than 50 successful projects by the end of 2022. In the past few years, Creative Soft Technology achieved tremendous success in major projects, all thanks to the dedicated employees and personals in charge.

## 2.2 Service Areas

## **Software Development**

CST software solution
MIS application service

## Web Application

Build high performance website Cloud services modern web

## **Mobile Application**

Develop high performance Mobile apps

## **Creative design**

Website design

Wireframes

Mock ups

## **Digital Marketing**

## **Networking Solution**

Network problem solution

## **QA & Testing**

Software Testing

**Manual Testing** 

**Automation Testing** 

## Maintenance & support

**Project Monitoring** 

Project Maintain

### 2.3 Vision, Mission and Values

## Vision

Satisfying clients in need and gaining their trust of them is the biggest achievement of the company.

#### Mission

Mission is to give their best regardless of how much profit or reputation the agency is earning from the working projects.

#### **Values**

The values are trust, assurance, quality and responsibility.

#### 2.4 Declaration

We, Creative Soft Technology Limited, hereby declare that all the information provided in this document is correct and authentic. We hereby state and certify that there are no existing orders of any judicial court that prevent either a person or firm or employees the company from entering into and/or signing a contract with any private and public organizations of the country

### 2.5 Major Clients

- ANSAR-VDP
- Bangladesh Krishi Bank
- Asia Youth Conclave
- United Nations Development (UNDP)
- Sastho.bd
- The World Bank
- Bangladesh Govt Parliament
- A2i
- Konnect. CHT
- Hotel sea cox

### **CHAPTER 3**

#### ACTIVITY

Creative Soft Technology treats me as a significant figure as well as a good amount of working environment. Interns get the opportunity to explore their knowledge by gaining and working with the team individually. I used to work as an Intern with the SQA Team of Creative Soft Technology.

#### 3.1 Work Load

There is a category based on knowledge, and each intern gets divided individually to perform for being professional and gaining their knowledge. As an intern in SQA department my first and foremost responsibility was to ensure the quality and reliability of the software being developed.

My task was to analysis the test plan, writing test case, functional testing, using software to UI testing, checking modules, finding bug, report bug list to the developer team to fix the bug, after developer fixing bug again I retest all bug, device responsive issue test, cross device testing. SQA team leader showed us automated testing using Intellij Idea software. I was gain a good knowledge about automated testing.

Each week I had a discussion with the mentor 2-3 times when I find any problem after testing our company running working projects. I also show topic when I find a new solution and make the execution.

## Chapter 4

## Road to Software Quality Assurance & Testing

After finishing my one month training session on the company I was started company new projects with SQA team. I worked on two projects first one is Konnect.CHT and another one is Win agro limited. I was writing the test case of Konnect. CHT teacher & students portal sign up pages and sign in .I was checked Konnect. CHT website modules .I was check three modules School corner, Teacher list, idea box . After checking I was reported by supervisor about the modules bug. I also worked company on another project that is win agro limited. In this project I was checked this website device responsive issue .I checked this website overall 20+ android & ios devices for check the responsive of issue .Our SQA team leader senior SQA engineer she was tested this website in automated . After watched her worked I gained a better knowledge about automated testing.

### 4.1 Test case Development

As a junior SQA my first challenge was test case development. I was participated company Konnect. CHT projects. I was wrote konnect. CHT teacher & Students portal sign up and sign in pages test cases.



Figure 1.1: Project Konnect.CHT



Figure 1.2: Teacher portal Registrations Sign -up

Sign-up functionality for Teacher Portal Test cases.

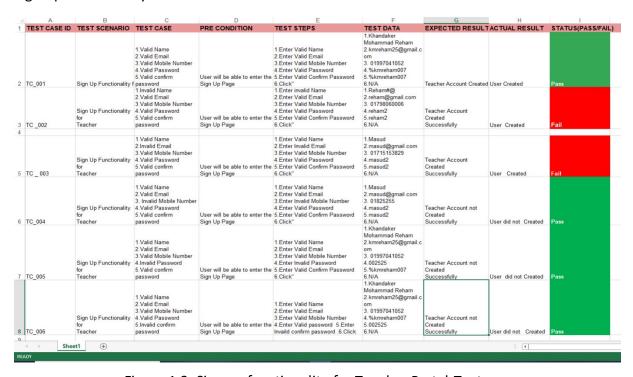


Figure 1.3: Sign up functionality for Teacher Portal Test cases.



Figure 1.4: Student portal Registration Sign -up

Sign-up functionality for Student portal Test cases.



Figure 1.5: Sign-up functionality for Student portal Test cases.



Figure 2.1: Teacher portal Sign -in

Sign in functionality for Teacher portal Test cases.



Figure 2.2: Sign in functionality for Teacher portal Test cases.

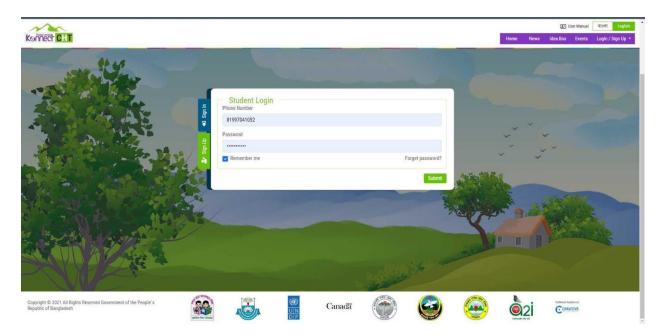


Figure 2.3: Student portal Sign -in

Sign-in functionality for Student portal Test cases.

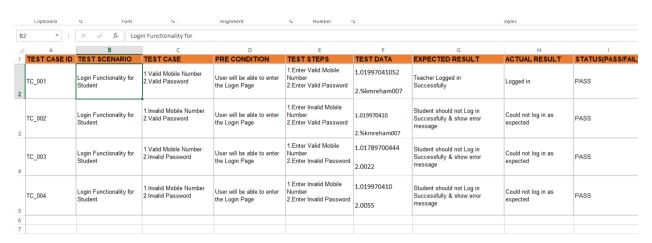


Figure 2.4: Sign-in functionality for Student portal Test cases.

### 4.2 Functional modules check

I was also checked the company konnect.cht website project function and modules bug. My supervisor given the team member individuals task .My task was checked the three modules of this website teacher ,students, school corner and Idea box .i checked all this three modules and find some bugs from this four modules .After finding bug I report this to my supervisor & SQA team leader.



Figure 2.5: Konnect.CHT Module

## 4.3 Finding Bug Issue

Konnect.CHT Project modules checking bug report.

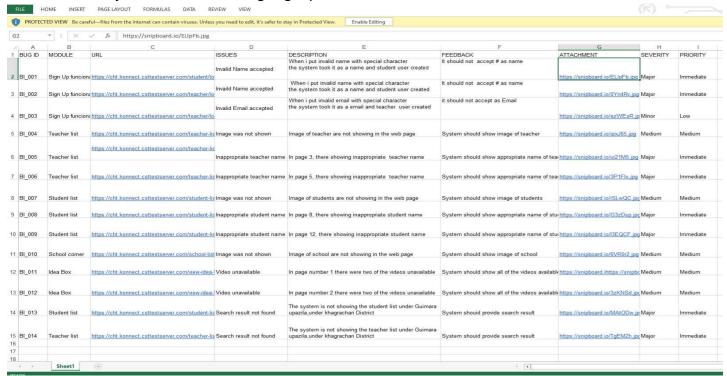


Figure 3.1: Konnect.CHT website modules checking bug report.

## **4.5 Device Responsive Issue Test**

I was participated the company another project. The project website was Win Agro Limited. In this projects SQA team supervisor gave us task to checked the responsive issue of this win agro limited website in multiple mobile devices. Related mobile device android & ios. I was running this win agro limited website url more than 20+ mobile devices. After finished my task I submitted my report document to our supervisor.



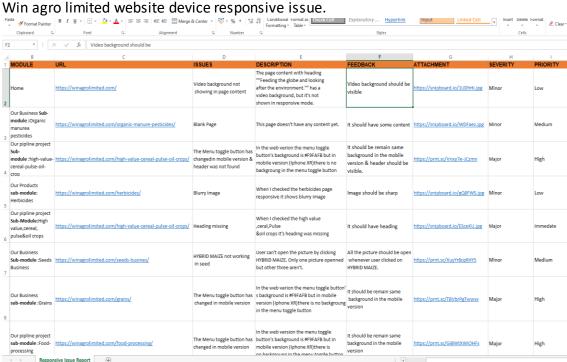


Figure 3.2: 4.5 Win agro limited website device responsive issue.

## 4.6 Project Test Strategy

This project test strategy is based on win agro limited website project .After completed manual and automated testing supervisor told us to created this win agro website project test strategy. I was created this website project test strategy.

## Win Agro Limited

## **Test strategy**

WIN AGRO LIMITED is a Private Limited Company, formed in the year 2014. By the hearty effort of a group of remarkably experienced enthusiastic Agro Entrepreneurs emerged a conglomerate named WIN AGRO LIMITED. It is projected to be around forty percent of Agro Cereal, Vegetable, Pulse, Oil crops are smashed every year due to infestation of insects and pathogens and its production hampered by the shortage of major, macro & micro plant nutrients.

Date	version	Author	Description
11.04.2023	1.0	KM REHAM	Test scheduling &
			overview
13.04.2023	1.1	KM REHAM	Test case & bug
			report
14.04.2023	1.2	KM REHAM	Performance
			testing
16.04.2023	1.3	KM REHAM	Re-test &
			Automation

#### 1. SCOPE

The purpose of this document is to visualize the project objectives as a whole. We will estimate the strategy and time required to test the software. This will explain who manages what and when how much work has to be done during this testing period. The documentation is based on "WIN AGRO LIMITED-COMPANY". So, our primary stakeholders are a wide number of people. So, this document gives an overview of the testing and development phase of this.

The document will be reviewed by the business team, developers, project manager along with testing teams. After all the pros and cons the QA lead, Developer's lead and Project manager will approve this document.

First of all, the business analyst will communicate with the customer. The customer's can be non-technical so that the BA (business analyst) will sort the client's requirements in a technical way. BA can create a software requirement specification (SRS) for making easier to the tester and developer team. Then the developer will create the whole scenario according to the requirements by writing code and execution. The tester team will perform manual and automation testing to check the validation. Creating test cases and plan according the requirements. After development period ends, tester team will be searching bugs and reporting to the developers. When all the testing process will be done then the project will hand over to the clients by project manager and team.

Here the test overview updated at the 10th April. Two days later, the test cases and the bug report created. In this project performance or Load testing done by checking responsive at the version 1.2 in 14th April. Finally, checked the development by automation testing with selenium web driver and regression testing.

#### 2. TEST APPROACH

## 2.1 Process of testing

First, we perform manual testing in this project. We created test cases and bug report. Then we have done performance testing between web and mobile version by responsive. Identified several UI error and there were some number of issues as well. We were reported directly to the developer unit to fix the issues as soon as possible.

## 2.2 Testing level

**Unit testing** was not tested by us. Unit Testing will be done by the developer and will be approved by the development team leader. We are not the developer and also not get the access of source code. For this reason, we are not test the Unit Testing.

**SYSTEM/INTEGRATION** Testing will be performed by the test manager and development team leader with assistance from the individual developers as required. We are not in the development team and also not get the access of source code. So, we are not testing the SYSTEM/INTEGRATION Testing

**Acceptance testing** involves the testers, QA team, and end-users who for testing the system to make sure it operates as expected and all their defined requirements. Acceptance testing is black box testing. As a QA team we can only test Acceptance testing. The testing will test all the feature are working or not, the interface is user-friendly or not etc.

### 2.3. ROLES & RESPONSIBILITIES

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

Work breakdown structure (WBS) attached with this test strategy document. There clearly shown how many employers worked together to complete this project. From the junior test engineer to senior everyone did their hard work and all of them were determined. With Their excellence our project completed in due time.

Junior test engineers worked in the media and promotions field. There are almost Five junior tester worked in this project. But most of the tester came from mid-level QA engineer. They were assigned to do the most of the works. The senior QA engineer improve career, communication and Login functionality.

Α		В	С	D	E	F	G	Н
	W	orŀ	k Breakdo	own Structure				WIN AGRO LIMITED
					_			
			Project Start	Mon, Apr 10, 2023				
	Le	vel	WBS	Task Description	Assigned To	Start	End	Notes
	1	·	#VALUE!	Home-Landing Page	Mid-level Test Engineer	4/10/2023	4/10/2023	no bug
	2	+	#VALUE!	Company Overview	Mid-level Test Engineer	4/10/2023	4/10/2023	Bug Detected
ı	2	-	#VALUE!	Leadership And Hierarchy	Mid-level Test Engineer	4/10/2023	4/10/2023	Bug Detected
	3	-	#VALUE!	Agro chemical	Mid-level Test Engineer	4/10/2023	4/10/2023	no bug
	3	-	#VALUE!	Agro Machineries & equipment	Mid-level Test Engineer	4/11/2023	4/11/2023	Bug Detected
ı	4	*	#VALUE!	Organic Manure & Pesticides	Mid-level Test Engineer	4/11/2023	4/11/2023	Bug Detected
	4	-	#VALUE!	Packaging	Mid-level Test Engineer	4/12/2023	4/12/2023	no bug
	4	-	#VALUE!	Pipeline Project	Mid-level Test Engineer	4/12/2023	4/12/2023	Bug Detected
	2	-	#VALUE!	Products	Mid-level Test Engineer	4/12/2023	4/12/2023	Bug Detected
ı	1	-	#VALUE!	MORE	Sr. Test Engineer	4/13/2023	4/13/2023	no bug
	2	-	#VALUE!	Career	Sr. Test Engineer	4/14/2023	4/14/2023	Bug Detected
	3	*	#VALUE!	Communication	Sr. Test Engineer	4/14/2023	4/14/2023	no bug
ı	3	*	#VALUE!	Login	Sr. Test Engineer	4/14/2023	4/14/2023	no bug
	1	-	#VALUE!	Phase 3	Junior test Engineer	4/15/2023	4/15/2023	no bug
ı	2	*	#VALUE!	Gallary	Junior test Engineer	4/15/2023	4/15/2023	Bug Detected
	3	-	#VALUE!	Event & press	Junior test Engineer	4/15/2023	4/15/2023	Bug Detected
	4	*	#VALUE!	Social Media	Junior test Engineer	4/16/2023	4/16/2023	Bug Detected
ı	2	-	#VALUE!	Advertisement	Junior test Engineer	4/16/2023	4/16/2023	no bug
		*	#VALUE!					
		*	#VALUE!					
J			#\/ATTIF1					

Figure 3.3: Work breakdown structure for Win Agro Limited project.

## 2.4. TYPES OF TESTING

**Load Testing**: Load testing examines how the system behaves during normal and high loads and determines if a system, piece of software, or computing device can handle high loads given a high demand of end-users. This tool is typically applied when a software development project nears completion.

**Security testing**: Security testing is a process intended to reveal flaws in the security mechanisms of an information system that protect data and maintain functionality as intended.

**Performance testing**: Performance testing is the practice of evaluating how a system performs in terms of responsiveness and stability under a particular workload. Performance tests are typically executed to examine speed, robustness, reliability, and application size.

In our project we have a done a performance testing. Where we check the win-agro web page in mobile version and web version. This responsive gave us some issues but almost all issues were involved with UI. So, it's helped us to improve on that occasion.

#### 2.5. TESTING TOOL

Basically, we did both automation and manual testing in this project. For automation we were using selenium web driver. By using automation tools, we got precise issues which was not identified at manual test. In our manual test we created test scheduling, test plan, test cases and bug report.

### 2.6 REGRESSION TESTING & testing sign off

The tester team performed manual and automation testing to check the validation. Creating test cases and plan according the requirements. After development period ends, tester team were searching bugs and reporting to the developers. Then developer fix the issues and deliver it to the tester team again. The tester team perform regression testing on that time. When all the testing process will be done then the project will hand over to the clients by project manager and team.

## Chapter 5

## Challenges

Working on Creative Soft Technologies helps me for better professional experience and set up an experienced career. This helps me to gain confidence and better approaches.

### 5.1 Academic Preparation

The academic theoretical knowledge helps me to get into the development and quick solving situation.

#### 5.2 Identified

The major study was to follow the right step and develop and solve a quick problem in the term. To gain and gather development architecture program which can build being professional.

#### 5.3 Personal Skills

The internship program gain me from being a beginner to an advanced in software quality assurance development. I was not too much familiar with the terms of these new technologies, But this program help me to prepare and handle concepts and build the real-life. The internship program also helps me to learn and build new projects with technologies. I started with manual testing and end with automation testing.

## **Analytical Skills:**

Analytical skills help me to solve quick solutions and approach for next challenges. My analytical skills more improve during the internship and gain knowledge.

## **Interpersonal Skills:**

My communication skills are well balanced as 1 got the chance to work with people from different professions. I learned to communicate with many other employee such as wed developer, project manager and other departments.

## Chapter 6

## **Acquired Knowledge**

After starting my internship at Creative Soft Technologies, I was new to the environment. But I was so focused and maintain that I establish to work with the supervisor. Some few days I was struggling, but with the help of my supervisor, I overcome the environment.

## 6.1 Implications to University's Internship Program

I would like to express my gratitude to the Faculty of Science and Information Technology to keep an internship in the curriculum of the graduation program and give me a scope of tasting the flavor of Software oriented tasks and my interest. I also thank all the Faculty of Science and Information Technology and Office of placement and Alumni, DIU to arrange an opportunity for choosing interest and completing an internship there.

#### 6.2 Effects on Personal Skills

My first professional life through internship has benefited me a lot. When I started to learn Software Quality Assurance & testing, it was too hard for me. I spend more hours but could not find the proper way. But when I started work with the mentor, things get clear to me and I was faith in me, all of them are corporative and problem-solving employees. The workflow was impressive so that I was very active well managed.

#### 6.3 Ability to learn

Computer made me a very professional employee cause of its attraction. Changes can make humans ordinary. I am optimistic about my ability to learn computer software and it becomes my passion.

## 6.4 Dependability

When I start learning and working with them, they started believing me, and day by day the supervisor pleased my work. So he give me some small projects and also do some individual project SQA related. For all these, I started making my ideas and giving feedback to my mentor which helps me to gain my development SQA sector. I also hope that this dependable will result in a long-term connection between Creative Soft Technology and DIU.

#### **6.5** Initiative

When I faced any problem, I tried to solve it myself and if I do not solve it, the supervisor helps me a lot of it and also give me a correct way whom it can done in a short period. I hope that this sort of help can gain my knowledge.

### 6.6 Judgment

It cannot describe within a day or a month. The quality and focus can make the predict how it can be built up. As I was making and testing some projects, I tried my best to develop my skills on judgment.

## Chapter 7

## **Concluding Statements**

### 7.1 Summary

Creative Soft Technology is one of the most software development companies. They ensure that their customer is satisfied and they provide world class services. I have worked with Software Quality Assurance & Testing department at Creative Soft Technology.

### 7.2 Recommendations for Future Strategic Actions

This experience gains me a career practically as a Software Tester which can be valuable in future jobs as a recommendation.

#### 7.3 Organization

Before going to Creative soft Technology, I did not know how to communicate professionally and cannot manage the workflow. But the supervisor of the organization helped me a lot and I overcome it. Therefore, everyone is well good to be an employee of Creative Soft Technology.

### 7.4 University

An internship helps a student being professionals. It can push a student's career to create a roadmap of how his/her career. I would like to convey my thanks to the Institute of Information Technology for providing me with an opportunity to prepare myself for the professional field. I now look forward to facing the upcoming challenges of the world.

#### 7.5 Professional

Internships are very useful to interns themselves as a professional way to make their knowledge more sustainable and more working field employee. Some particular challenges can make their work consistently and through being professional. In this world of today where competition is going more and more for professionals, I think it can help the student a sea of information. The SQA engineer must understand the best practices for established and I learned how to work with experts in different fields of computing.

## 7.6 References

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https://drive.google.com/drive/folders/1ez11xnEdybjqBckickwjy4PoAzY\_6ji\_