

# SECJ 2203 SOFTWARE ENGINEERING

## SELF REFLECTION VIDEO: LEADERSHIP

Student Name : ABDURRAFIQ BIN ZAKARIA

Matric No. : A24CS0031

Section :02

Team ID & name: Team 5 (Tech TiTan)

# INTRODUCTION: WHO AM I?



**Name:** Abdurrafiq Bin Zakaria

**Matric Number:** A24CS0031

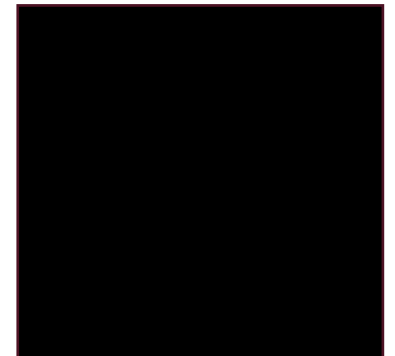
**Role:** Project Manager

**Team:** Tech TiTan

**Course:** Software Engineering

**Section:** 02

**Lecturer:** Muhammad Alif  
Ridzuan



# PROJECT OVERVIEW

## QMS-Flow - Integrated Quality Management System for Avialite Sdn. Bhd.

Client:



**AVIALITE SDN. BHD**

21 Jalan PBS 14/3, Taman  
Perindustrian Bukit Serdang,  
43300, Seri Kembangan,  
Selangor, Malaysia.

[www.avialite.com](http://www.avialite.com)

**Context:** The company adheres to strictly regulated manufacturing standards but relied on manual, fragmented processes.

**Compliance Risk:** Manual tracking of CAPA (Corrective Action) and Training records led to missing audit evidence.

**SOP Control:** High risk of engineers using outdated Standard Operating Procedures (SOPs) due to poor version control.

**System Type:** A centralized, web-based Integrated Quality Management System.

### Core Capabilities:

- 1. Closed-Loop Compliance:** Unifies Document Control, Audit Management, and CAPA into a single workflow.
- 2. Real-Time Traceability:** Links every "Non-Conformance" report directly to Equipment, Training, and Risk records.

### Key Stakeholders:

1. Manager
2. Engineers
3. Auditors
4. Admins

### Target Users:

1. Top Management
2. QA Engineers
3. Internal Auditors

# TECHNICAL CONTRIBUTION: ARCHITECTURE & IMPLEMENTATION

## Agile Architecture (The "Brain")

**Focus:** How I engineered the project roadmap

- **Strategic Launch Phase:** Designed a **6-Sprint Roadmap**, prioritizing foundational modules (Document Control) to support dependent features (Training & Audits).

- **Constraint Engineering:** Defined **ISO 9001 Design Constraints** (Page 75), enforcing **Role-Based Access Control (RBAC)** and **AES-256 Encryption** for data security.

## Full-Stack Development (The "Hands")

**Focus:** The specific complex modules I coded.

- **Sprint 3 (Training Module):** Developed logic to track employee competency expiry dates (Critical for ISO Compliance).

- **Sprint 6 (KPI Dashboard):** Built the **Real-Time Executive Dashboard**, integrating data from Audit and CAPA modules into live charts.



# EVIDENCES: STRATEGIC PLANNER (PRODUCT)

Sprint	User Story	Team Member Assigned
<b>Sprint #1</b>  UC01 (Register Document), UC02 (Approve Document) & UC09 (Manage Change)  [Document Control Change Management Module]	As an engineer, I want to upload documents with version control so that SOPs are traceable.	Rasyid, Afiq Shahir
	As a manager, I want to approve and reject documents so that only valid SOPs are published.	
	As a manager, I want to manage change requests so that updates are controlled and documented.	
<b>Sprint #2</b>  UC03 (Schedule Audit), UC04 (Record Audit Findings)  [Audit Management Module]	As an auditor, I want to schedule internal and external audits so that compliance checks are planned and resources are allocated.	Afiq Irfan, Hazim
	As an auditor, I want to record audit findings and non-conformances so that CAPAs can be officially initiated.	
<b>Sprint #3</b>  UC06 (Manage Competency & Training) and UC07 (Manage Equipment & Inventory)  [Training & Equipment Management Module]	As a manager, I want to assign training to employees so that competency gaps are addressed.	Rafiq, Hazim
	As an engineer, I want to manage equipment calibration schedules so that compliance is maintained.	

	As an admin, I want to manage training records so that employee competencies are documented and updated.	
<b>Sprint #4</b>  UC10 (Provide System Support) and UC11 (Maintain System Logs)  [Admin & System Support Module]	As an admin, I want to monitor CAPA progress so that corrective actions are completed and traceable.	Rasyid, Afiq Shahir
	As an admin, I want to maintain system logs so that activities are traceable and audit-ready.	
<b>Sprint #5</b>  UC12 (Manage Risks) & UC13 (Manage Incident & Feedback)  [Risk & Incident Management Module]	As an engineer, I want to log incidents so that corrective actions are traceable.	Afiq Irfan, Afiq Shahir
	As a manager, I want to assess risks so that mitigation plans can be implemented.	
<b>Sprint #6</b>  UC05 (Initiate CAPA) & UC08 (Monitor KPIs)  [Initiate CAPA & KPI Monitoring Module]	As an Engineer, I want to initiate CAPA linked to complaints so that corrective actions are properly tracked.	Rasyid, Rafiq
	As a manager, I want to generate KPI reports so that I can evaluate departmental performance.	

# EVIDENCES: TECHNICAL LEAD (PRODUCT)

## 2.6 Design Constraints

This section outlines the limitations and standards that strictly govern the design and development of QMS-Flow.

### 2.6.1 Regulatory and Compliance Constraints

- ISO Compliance:
  - The system workflow must strictly adhere to ISO 9001:2015 clauses regarding "Documented Information" (Clause 7.5) and "Performance Evaluation" (Clause 9).
- Auditability:
  - The system architecture must prevent the deletion of any finalized audit records or approved CAPA reports to satisfy external regulatory audits.

### 2.6.2 Hardware and Software Constraints

- Browser Compatibility:
  - The web interface must be fully functional on the latest stable versions of Google Chrome and Microsoft Edge, as these are the standard browsers used at Avialite Sdn. Bhd.
- Legacy Integration:
  - The system must be able to export reports in .CSV and .PDF formats to ensure compatibility with legacy reporting tools used by upper management.
- Hosting:
  - The system must be deployable on the existing Avialite on-premise Windows Server environment (or specified Cloud Provider) with limited internet bandwidth for external access.

### 2.6.3 User Interface Constraints

- Mobile Accessibility:

- The "Approve Document" and "Record Audit Findings" modules must be responsive and usable on tablet devices (iPad/Android) to facilitate on-site factory audits.
- Language:
  - The user interface must be provided in English, as it is the operational language of Avialite Sdn. Bhd



## LEAD THE FORMATING

I give a full concentration to my team members of using the right format before submitting to e-learning to ensure the document looks professional and obey the document formatting standard.



## GUIDE WITH VISUAL

I also guide my team members using visual presentative to make them easy to understand their task and how to use the template that I made.



## LEAD THE PROGRESS

I have been reminded all my team members to do their tasks.



## TEMPLATING

I also lead the members by doing the template first before the task begin. This is for consistence formatting presentative.

# EVIDENCES: MAKING TEMPLATE & GUIDES

AfiqSyahir T UTM  
we tolong hanta balik pembetulan yang afiq tulis haritu 8:36 PM

SystemDocumentationTemplate-SRS-SDD-STD AGILE.docx  
DOCX • 1 MB  
8:35 PM ✓

Forwarded

SE project 2\_251209\_093306.pdf  
2 pages • PDF • 293 kb  
8:39 PM ✓

1/3/2026

SystemDocumentation-SRS-SDD-STD AGILE (Tech TiTan).pdf  
PDF • 18 MB  
9:34 PM ✓

nak submit dah kalau okay 9:36 PM ✓

@all 9:36 PM ✓

1/12/2026

Data akses  
Diagram layered  
Sequence diagram 2:23 PM ✓

https://docs.google.com/spreadsheets/d/1MrGVXUwDTkw48D1aBmw6Y0IS9wCwDBW7hEMc7i6M/edit?gid=0#gid=0

Software Engineering 02 Acer Surah As-Sajdah ... Typeform - Share How tides work - S... Uni Burger Sri Putai cengal Elearning24251 MyUTM Portal

SoftwareEngineering

File Edit View Insert Format Data Tools Extensions Help Gemini

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Test Case ID BU\_001 Test Case Description Test the Login Functionality in Banking Created By Mark Reviewed By Bilal Version 2.1

QA Tester's Log Review comments from Bilal incorporate in version 2.1

Tester's Name Mark Date Tested 1-Jan-2017 Test Case (Pass/Fail/Not) Pass

SR Prerequisites: SR Test Data

SR	Prerequisites:	SR	Test Data
1	Access to Chrome Browser	1	Access to Chrome Browser
2		2	
3		3	
4		4	

Test Scenario Verify on entering valid user and password, the customer can login

SR	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1	Navigate to <a href="http://demo.sura99.com">http://demo.sura99.com</a>	Site should open	As Expected	Pass
2	Enter Username & Password	Credential can be entered	As Expected	Pass
3	Click Submit	Customer is logged in	As Expected	Pass

8.1.1 TC001\_01: Test <Open New File (SD001-NF)>

Test Case ID TC001\_01 Test Case Description Test Open New File Screens (Normal Flow) Created By (Chuan Li) Reviewed By (Mawati)

QA Tester's Log

Tester's Name State Tested Test Case (Pass/Fail/Not)

SR Prerequisites: SR Test Data Requirement

SR	Prerequisites:	SR	Test Data Requirement
1	Classification code of the new file has already been entered to the registry clerk.	1	Classification Code of new file.
2	The Registry Clerk has already input into the system.	2	File Code of new file.
3	The Registry Clerk clicked on the "Open New File" button from the main menu.	3	Details information of new file (e.g. Title, Serial Number, etc.)
4		4	
5		5	

Test Conditions

Step #	Step Details	Expected Results	Actual Results	Pass / Fail / Not executed / Suspended
1	The Registry Clerk enters the classification Code.	Classification Code found		
2	Registry Clerk enters the file code of the new file.	File Code validated as entered. Accurate enter the information.		
3	Registry Clerk enters the new file information.	All Basic Field Information can be filled in.		
4	The Registry Clerk clicks submit.	The submit button can be clicked.		
5	The system creates the new data into the database.	Display "New File Entered Successfully"		

ni kosong kan 8:14 PM ✓

AfiqIrfan P UTM  
Nk buat dlm sheet yg sama ke? Ke just copy pastu buat sendiri ii?  
copy buat kat tab lain 10:57 PM ✓

10:57 PM



# REFLECTION VIDEO AND CONCLUSION

To lead the development of QMS-Flow effectively, I honed two essential skills: **Strategic Agile Planning** and **Compliance Engineering**. As the Project Manager, I architected the **6-Sprint Launch Phase**, where I critically analyzed dependencies to sequence foundational modules, like Document Control in Sprint 1, before advanced features like the KPI Dashboard in Sprint 6, preventing development bottlenecks. Simultaneously, I applied requirements engineering to define strict **Design Constraints**, translating the client's ISO 9001:2015 standards into technical realities such as Role-Based Access Control and AES-256 encryption, ensuring the final system was both secure and audit-ready.

# THANK YOU



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