SWE40001 Software Engineering Project A

Semester 1, 2024

Learning Summary Report

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Student ID: 101231186

Team #: Group 10

Project Name: Customer Relationship Management (CRM) – Sales Management

1. Introduction

The purpose of this report is to clearly communicate my individual outcomes for the unit SWE40001 Software Engineering Project A unit. This report has been structured to include self-assessment details to support the grade outcome I believe I have attained, a summary list of specific major supporting evidence including an analysis of my activities, a detailed presentation of the alignment between the evidence details with the learning outcomes, and a personal reflection on the overall learning and outcomes.

2. Self-Assessment

Under the leadership of Jonathan and with Felix as our client, our team is collectively aiming for the higher distinction (HD) grade possible in our project endeavours. Currently, we are developing two distinct applications: one for customer use and the other specifically designed for salesman. We have decided to begin with the salesman app to streamline our efforts.

In our collaborative efforts, we have all been responsible for documenting our group's meeting minutes; we take turns at each meeting. This task ensures that all discussions, decisions, and action items are accurately recorded, providing a valuable reference point for our team's progress and facilitating effective communication.

Aligned with my goal of achieving excellence, I actively contributed towards developing project plan documentation. I completed the task with a collaborative approach. Each member's task was divided equally, and I ensured that our project roadmap was comprehensive, well-structured, and reflective of the collective expertise within our group.

For the Software Requirements Specification (SRS) document, I was responsible for drafting the product perspective, enumerating features, and outlining system functionalities and use cases. While I initiated this effort, Armaan later contributed to refining and augmenting my Use-case diagram, ensuring that the SRS document was comprehensive, accurate, and aligned with our client's expectations.

In the design phase, my primary focus was creating the Entity-Relationship Diagram (ERD) and developing the accompanying data dictionary. These artifacts serve as foundational elements in the design of our application's data model, ensuring data integrity, consistency, and efficiency throughout the development process.

Additionally, I played a pivotal role in crafting the Figma wireframes and prototypes, particularly for the data analytics component of the salesman app. These visual representations gave our client a concrete preview of the application's interface and functionality, facilitating informed discussions and decision-making. Client feedback prompted iterative refinements to ensure that the final product aligns seamlessly with their needs and preferences.

Currently, our team is actively engaged in the development of the salesman app using the Flutter framework. We are committed to incorporating client feedback iteratively, adapting our approach and modifying it to meet evolving requirements and preferences.

Upon completing the sprint 1 data analytics page and graph successfully, I received a commendation from Jonathan for my adherence to the prototype and proactive approach to task completion. His positive feedback validated our team's collective efforts and affirmed that I am on the right track towards achieving our project objectives. Moving forward, I remain committed to maintaining this momentum and further contributing to the success of our project.

Grade Target: I am Aiming to achieve HD grade.

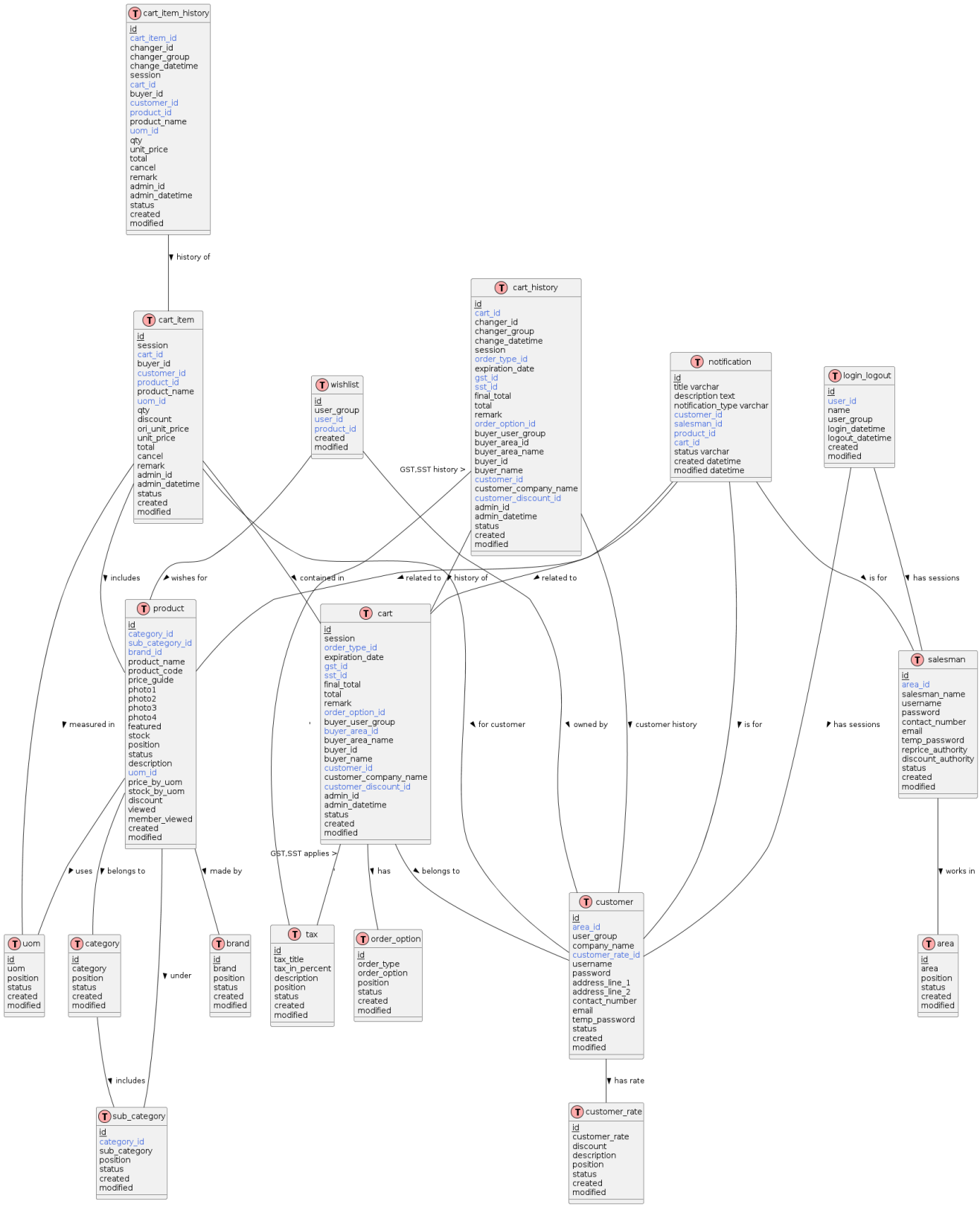
3. List of Contributions

Activity	Contribution	Time Spent	Details
Group Meeting	25%	1-2 Hours weekly	Our team calls for a weekly group meeting to discuss our ongoing sprint and project plan. During these sessions, we ensure everyone is up to speed and on the same page regarding project progress and goals. We take turns recording meeting minutes to document our discussions and decisions. Out of the ten meetings we have had, I have been responsible for capturing the key points in two of them.
Client Meeting	25%	3 meetings (9-10 Hours)	We have had three crucial meetings with our client throughout our project. We delved into the project's specifics during our initial meeting and clarified the client's requirements. Subsequently, we met at the Sarawak Club to discuss the project's scope and objectives in greater detail. Our final meeting centred around presenting our Wireframe and Prototype to the client and Supervisor. This session involved addressing the Supervisor and client's feedback, making necessary revisions, and incorporating AI-related elements aligned with my expertise per the client's request.
Project Plan	25%	6 Hours	The creation of our project plan was a collaborative effort among team members. My responsibilities included outlining the

			Evaluation Plan, Constraints, and Assumptions and defining the project's scope. I ensured my tasks were completed on time and remained open-minded to feedback and adjustments during subsequent progress checks.
SRS Document	25%	5 Hours	Assigned to detail product and system features, I meticulously crafted a comprehensive SRS document. Additionally, I created Use-case, which Armaan later refined and modified to align with the evolving project requirements.
Design Document	25%	4 Hours	I created an Entity Relationship Diagram (ERD) and a User dictionary to craft the Design Document for the Salesman app. Moreover, I was pivotal in designing wireframes and prototypes for the data analytics component, ensuring a user-friendly and intuitive interface.
Daily Progress Meeting	25%	1 Hour (Daily)	Each day, as part of our sprint methodology, we conduct a Daily Progress Meeting to update our tasks, discuss any challenges encountered, and collectively strategize solutions. This regular communication fosters cohesion within the team and ensures that everyone remains focused on achieving our project objectives.
Entity Relationship Diagram (ERD) and Data Dictionary	100%	4 Hours	The ERD and Data Dictionary creation was a meticulous process that demanded attention to detail and collaboration with team members. Despite encountering challenges such as redundant data and complex table connections, I navigated through these obstacles. I successfully developed a comprehensive data structure that served as a foundational element for our project.
Wireframe	25%	1 Hour	I created wireframe for Data Analytics for the mobile app of salesman. Wireframe was easy as I had to draw boxes and had experience doing it.
Prototype	20%	4 Hours	Creating prototypes using Figma presented a learning curve, as it was my first experience with the platform. However,

			through perseverance and a willingness to explore new techniques, I overcame initial challenges and successfully produced a prototype for the app's data analytics feature. Subsequent iterations and revisions were made in response to team feedback, ensuring alignment with project objectives and user expectations.
Salesman Development Application (Data Analytics Graph and Report pages)	25%	3 Hours (Daily)	As part of the development team, I dedicated significant daily hours to working on the data analytics component of the salesman app using Flutter. This involved the creation of various graphical representations such as Sales Reports, Order Status, Top Customer, and Top Selling Product graphs. Additionally, I contributed to developing corresponding pages to display relevant data, ensuring that the app met the client's requirements and provided valuable insights to end-users.

ERD Diagram: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buyer_user_group
buyer_area_id
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buyer_id
buyer_name
customer_id
customer_company_name
customer_discount_id
admin_id
admin_datetime
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description text
notification_type varchar
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salesman_id
product_id
cart_id
status varchar
created datetime
modified datetime
login_logout
id
user_id
name
user_group
login_datetime
logout_datetime
created
modified
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category_id
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product_code
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photo2
photo3
photo4
featured
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status
description
uom_id
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total
remark
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buyer_area_name
buyer_id
buyer_name
customer_id
customer_company_name
customer_discount_id
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status
created
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id
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username
password
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email
temp_password
reprice_authority
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status
created
modified
measured in
for customer
owned by
customer history
is for
has sessions
GST,SST applies >
uses
belongs to
made by
has
belongs to
works in
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id
uom
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category
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category
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modified
brand
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brand
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modified
customer_rate
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customer_rate
discount
description
position
status
created
modified

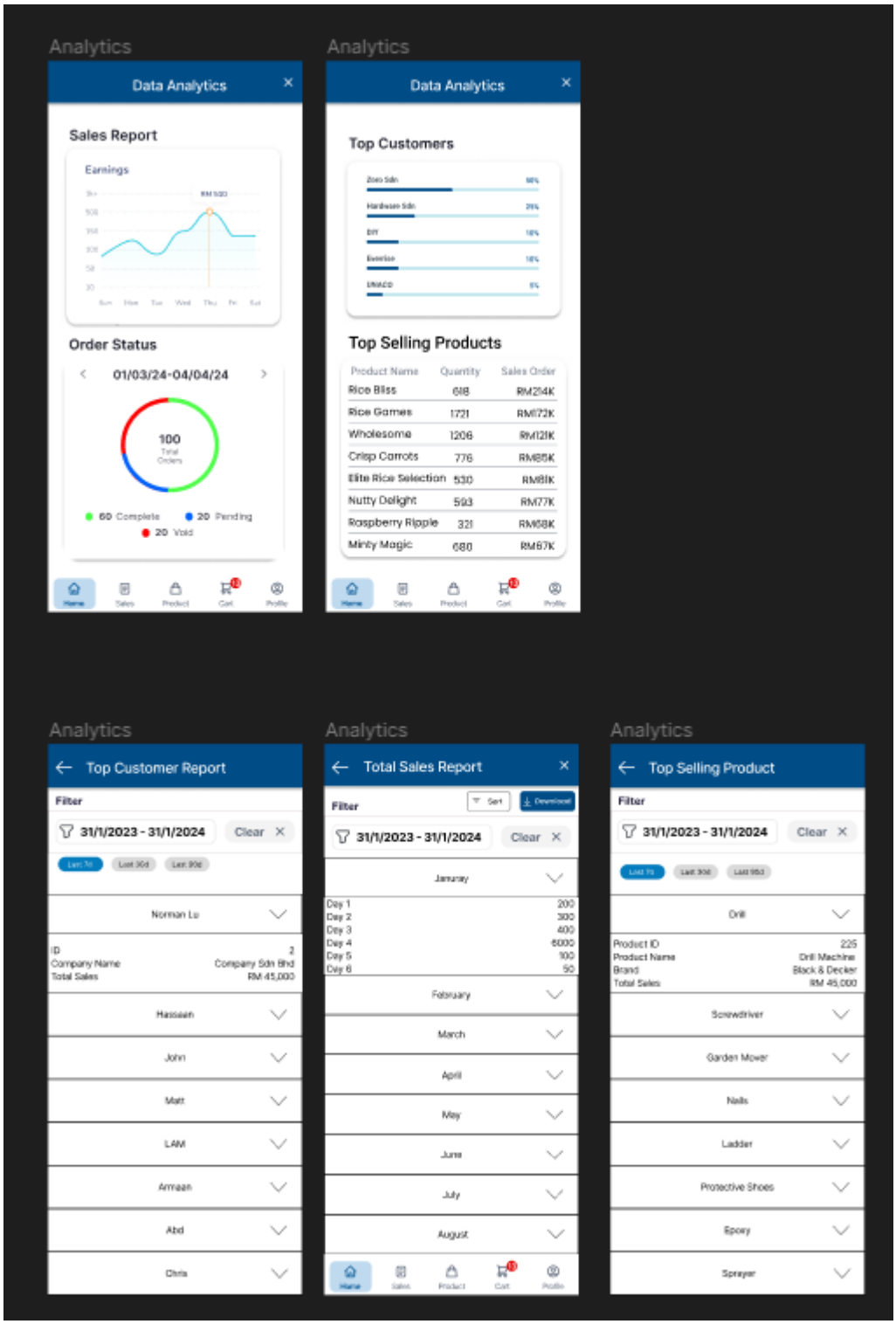
4. Learning Outcome Assessment

a. Product

[P] "Contributed adequately to the product. Overall, the team must have produced at least a semi-functional product that meets part of the client requirements."

[C] "Contributed strongly and consistently to the product over the duration of the project. Overall, the team must have produced a solid functional product that meets significant client requirements, using good design standards and practices."

[D] "Contributed significantly, consistently and of a high standard, to the product over the duration of the project."


Analytics
Data Analytics
Sales Report
Earnings
Order Status
01/03/24-04/04/24
100
Total Orders
60 Complete
20 Pending
20 Void
Analytics
Data Analytics
Top Customers
Top Selling Products
Product Name
Quantity
Sales Order
Rice Bliss 618 RM254K
Rice Games 1721 RM172K
Wholesome 1206 RM121K
Crisp Carrots 776 RM85K
Elite Rice Selection 530 RM81K
Nutty Delight 593 RM77K
Raspberry Ripple 321 RM58K
Minty Magic 680 RM67K
Analytics
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Clear
Norman Lu
Company Name
Total Sales
Company Sdn Bhd
RM 45,000
Hassaan
John
Matt
LAM
Armaan
Abd
Chris
Analytics
Total Sales Report
Filter
31/1/2023 - 31/1/2024
Clear
January
Day 1 200
Day 2 300
Day 3 400
Day 4 6000
Day 5 100
Day 6 50
February
March
April
May
June
July
August
Analytics
Top Selling Product
Filter
31/1/2023 - 31/1/2024
Clear
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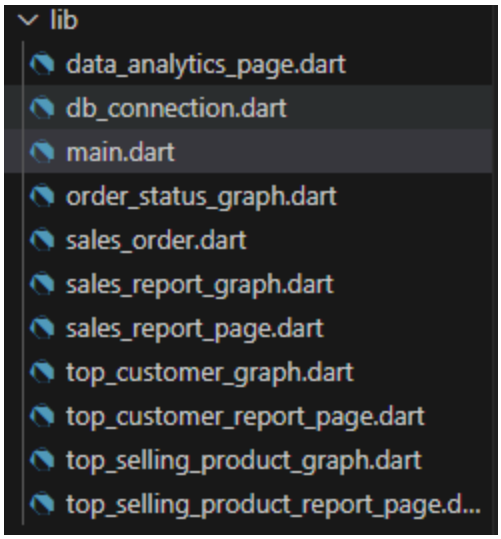
Screwdriver
Garden Mower
Nails
Ladder
Protective Shoes
Epoxy
Sprayer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Data Analytics
Sales Report
Weekly
1752
1460
1168
876
584
292
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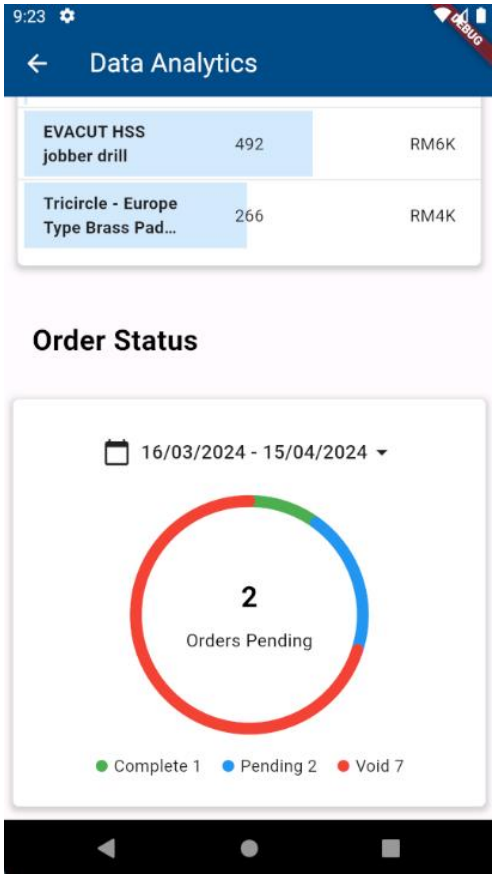
Tue
Wed
Thu
Fri
Sat
Sun
Mon
Top Customers
Resources Machinery Sdn Bhd
RM 51,444
customerA
RM 4,584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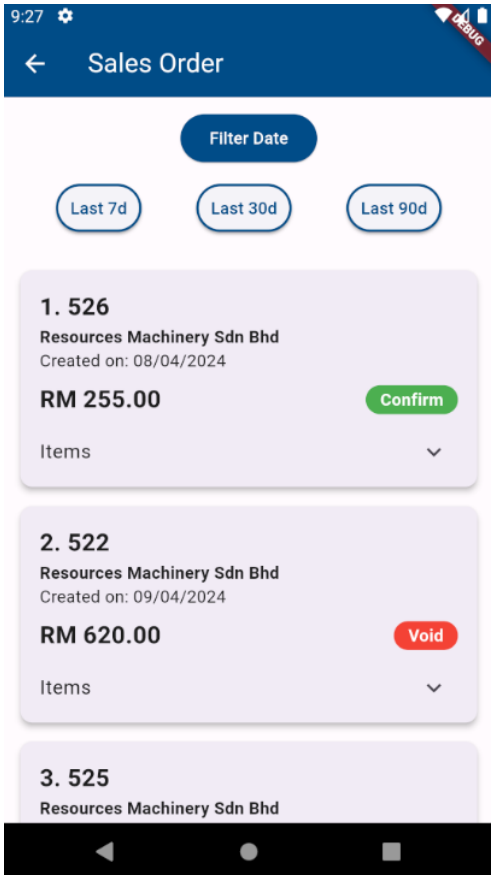
Data Analytics
EVACUT HSS jobber drill
492
RM6K
Tricircle - Europe Type Brass Pad...
266
RM4K
Order Status
16/03/2024 - 15/04/2024
2
Orders Pending
Complete 1
Pending 2
Void 7


9:27
Sales Order
Filter Date
Last 7d
Last 30d
Last 90d
1. 526
Resources Machinery Sdn Bhd
Created on: 08/04/2024
RM 255.00
Confirm
Items
2. 522
Resources Machinery Sdn Bhd
Created on: 09/04/2024
RM 620.00
Void
Items
3. 525
Resources Machinery Sdn Bhd

Contribution	Description	Estimated % of the total product	Which client requirements does each address?
Wireframe	Wireframes created using Figma based on client requirements.	25%	Salesman Mobile Application
Prototype	Prototype created using Figma based on client requirements.	25%	Salesman Mobile Application
Entity Relationship Diagram (ERD)	Created using Plantuml	25%	Salesman Mobile Application and Customer Mobile Application
Coding	Created Pages and graphs for Top Customer, Total Income, Top selling Product and Order status using Flutter.	25%	Salesman Mobile Application

Contribution	Which software design does each address?	Estimated % completion against the design	Period of activity
Wireframe	Wireframes primarily address UI design principles.	100%	16th March- 17th March
Prototype	Prototypes also pertain to UI design principles, offering a more interactive representation.	100%	17th March- 22nd March
Entity Relationship Diagram (ERD)	Database Design - ERDs are central to database design principles, illustrating the structure and relationships within the database.	100%	Last week of March 2024(Had to update it few times)
Coding	Coding relates to the implementation phase of software development, where design principles are translated into functional software components.	95%	1st April- 14th April

Contribution beyond what is assigned	What phases of the SDLC where you involved in?	Describe the effect on /output of the software if the component is replaced with a stub?
Working on Sales Order page	Coding	As we had a few tasks left for Sprint 1 on the Trello board, we encountered challenges as we were working with Flutter for the first time and lacked a database and API, which hindered the progress of everyone's work. Despite this, I managed to complete my assigned task on time, and to make up for lost time, I volunteered to take on an additional Flutter page.

b. Process

[P] "Demonstrated ability to follow (mostly) the process documented by the team."
[C] "Demonstrated ability to accurately follow the process documented by the team."
[D] "Demonstrated contribution to the definition and ongoing improvement of good process used by the team."

Demonstration	Description	Estimated % of the total assignment	Which section of SQAP does each address?
Group and Client Meeting	Having group and Client meetings with Quest Marketing was essential to the project to make sure our progress and future plans aligned with the client's requirements as well as get any feedback to further improve the application	20%	- ISO 9000 3 Engagement of People - ISO 9000 4 Process Approach - ISO 9000 6 Evidence based decision making
Wireframe and Prototype	Task was divided and each individual had to research on existing app and pick best features from it to create Wireframe and Prototype.	10%	- ISO 9000 4 Process Approach
Entity Relationship Diagram (ERD)	ERD is really important as it is the backbone of your project like ow many tables and how they are linked with each other.	20%	- ISO 9000 4 Process Approach
Learning Flutter	We assigned first 2 weeks for everyone to learn flutter, so when working on the project we don't face difficulty and can do each thing easily.	50%	- ISO 9000 1 Customer Focus - ISO 9000 4 Process Approach - ISO 9000 6 Evidence based decision making

Demonstration	deadline as set in meeting	Date started	Date Completed
Wireframe and ERD	25th March 2024	16th March 2024	25th March 2024
Learning Flutter	1st April 2024	20th March 2024	1st April 2024

Section(s) in SQAP documenting the process improvement against the SQAP version submitted in Week 4 of Semester 1	Date included (if documented)	Problems addressed by the improvement
ISO 9000 1 Process Approach ISO 9000 2 Leadership ISO 9000 3 Engagement of People ISO 9000 6 Evidence-based decision making	18th March 2024	Modules were arranged based on their reliability and importance, resulting in enhanced overall team performance. Each member was assigned independent modules to initiate their work. This approach facilitated the making of informed decisions due to the autonomy of the modules.
ISO 9000 1 Process Approach ISO 9000 3 Engagement of People	10th April 2024	Maintaining quality was paramount, achieved through rigorous user testing and bug fixing in accordance with standard principles. Additionally, integrating feedback into the project ensured continuous improvement and adherence to user expectations.

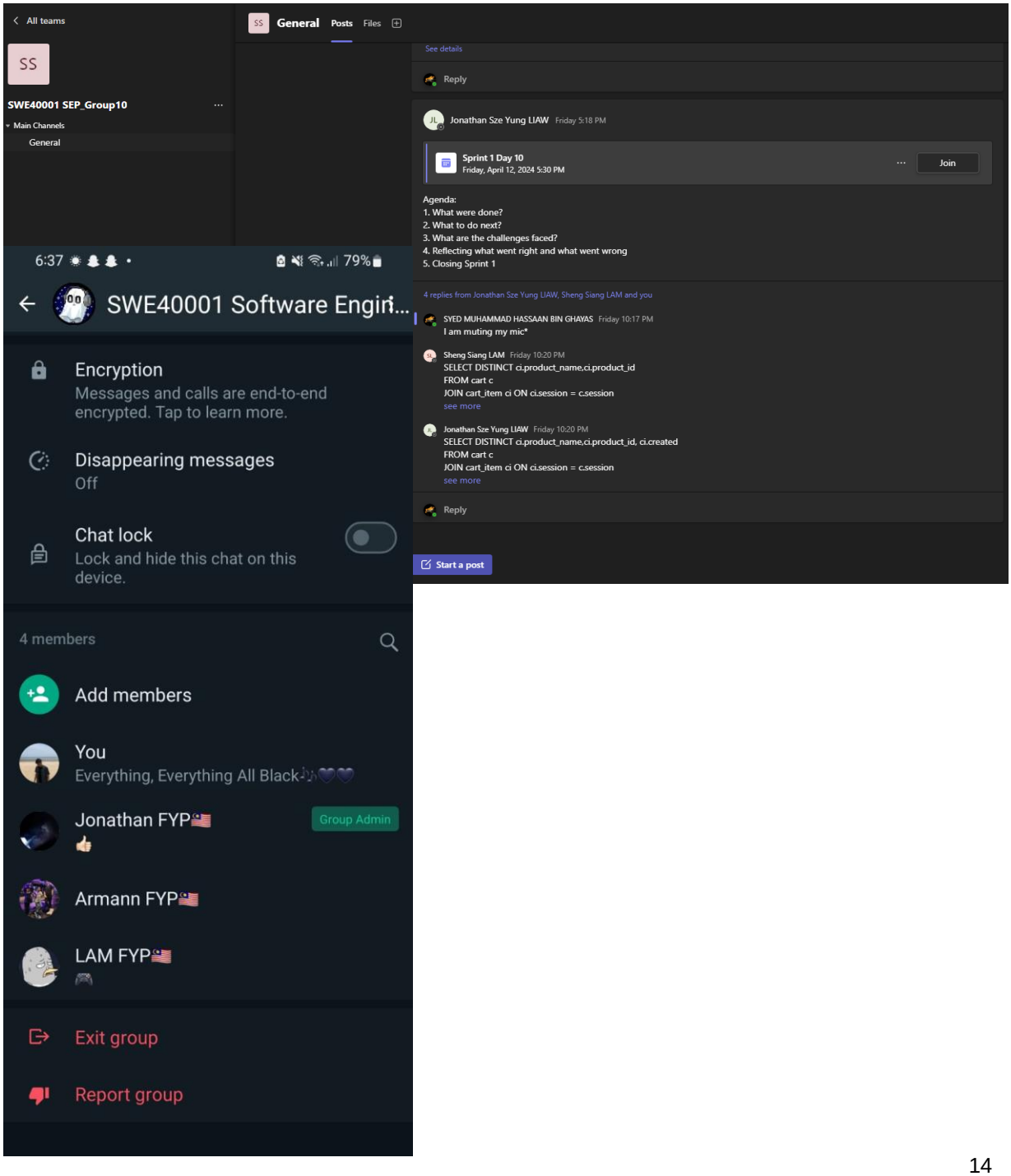
c. Involvement

[P] "Acceptable level of attendance and engagement with respect to both internal (team) and external (client) related activities."

[C] "An active level of engagement (internal and external), including organisation and leadership responsibilities."

[D] "An active level of contribution across multiple areas or responsibilities of the project, including significant input to important decisions (documented)."

[HD] "Active leadership/ownership of key responsibilities resulting in high quality outcomes for the project. Key indicators of this would include personal contribution across multiple areas of the project, as well as providing support and leadership to members of the team."



Activities	Description	Type (Internal/External)	What is your role in the activity?
Client meetings	Jonathan always take lead on client meeting and we all used to give our output if required	Internal/External	Member
Group meetings	Group meeting was carried out by leader, and we all take turn recording meeting minutes. Ms teams and Whatsapp was used as medium of communication.	Internal	Member
AI Research	Researching how to implement AI features	Internal	Lead/Contributor
Data Engineer	Researching the database.	Internal	Developer

Activities	Role (Chair/Lead/Contributor)	Type (Internal/External)	What was your contribution?
Client meetings	Contributor	Internal/External	Listen to client requirement and give my output on how it can be improved.
Group meetings	Contributor	Internal	Making sure that my work was of the best quality and give suggestion to leader and other members.
AI Research	Lead/Contributor	Internal	Research on extra features related to AI that can be implemented in CRM
Data Engineer	Lead/Contributor	Internal	Created ERD and had detailed Data dictionary that help other members when working on query.

Total and summarise your involvement in the table below.

Total number of presentation feedback provided	2
Total number of activities	4
Total number of internal and external related activities	4
Percentage of contribution	25%

Areas of involvement	Activities (from above) associated with the area
Meetings	Client meetings, Group meetings
Presentations	Presenting work done to clients and lecturer
Research	Researching on AI implementation

5. Reflection

The most important things I leant:

Throughout this unit, I not only gained knowledge about specific topics but also learned valuable general skills. Key learning points include understanding the importance of effective communication within a team, the significance of thorough documentation in project management, and the iterative nature of software development. Additionally, I learned the importance of adaptability and resilience when facing challenges and the value of seeking and incorporating feedback for continuous improvement.

The things that helped me most were:

Working closely with my team members allowed me to leverage collective expertise and tackle complex tasks more effectively. Engaging in practical tasks such as wireframing, prototyping, and coding using tools like Figma, MySQL Workbench, and Flutter provided valuable hands-on experience and solidified my understanding of key concepts. Receiving feedback from both peers and instructors helped me identify areas for improvement and refine my work to meet project requirements and objectives.

I found the following topics particularly challenging:

While I encountered challenges throughout the unit, I found certain topics more challenging than others. For example, working with database design principles and understanding complex entity relationships in ERD creation posed significant challenges. However, through perseverance and seeking additional resources, I overcame these difficulties.

I found the following topics particularly interesting:

Topics related to user interface design, such as wireframing and prototyping, were particularly fascinating. Exploring different design concepts and creating intuitive user experiences sparked my interest and creativity.

I feel I learnt these topics, concepts, and/or tools really well:

I am confident in my understanding and application of tools such as Figma for UI/UX design, MySQL Workbench for database management, and Flutter for mobile app development. Engaging in hands-on projects and seeking additional practice opportunities helped solidify my proficiency in these areas.

I still need to work on the following areas:

While I have progressed in various aspects of software engineering, I recognize the need for ongoing improvement, particularly in database optimization and advanced programming techniques. Moving forward, I plan to dedicate time to further develop my skills in these areas through self-study and practical projects.

My progress in this unit was …:

Overall, my progress in this unit was above average. I actively engaged in project activities, contributed effectively to team efforts, and demonstrated proficiency in key tools and concepts. While there were challenges, I approached them with a positive attitude and a willingness to learn and improve.

This unit will help me in the future:

The skills and knowledge gained in this unit will undoubtedly benefit me in my future studies and career. Understanding project management principles, software development methodologies, and tools used in the industry will enable me to contribute effectively to future projects and pursue career opportunities in software engineering and related fields.

If I did this unit again I would do the following things differently:

If allowed to redo this unit, I would enhance my time management skills to ensure more efficient project execution. Additionally, I actively seek out additional learning resources and engage in more practical exercises to deepen my understanding of complex topics.

Other…:

Overall, this unit provided a valuable learning experience that has equipped me with practical skills and knowledge applicable to real-world software engineering projects. The lessons learned and experiences gained will serve as a solid foundation for my future endeavours in the field.

6. Conclusion

In conclusion, my performance merits a High Distinction grade in this unit. I have showcased excellent teamwork, ensuring timely project delivery to the group leader and client. This experience has enriched my academic journey and prepared me for success in the tech industry. I have sharpened my communication skills and am adept at communicating technical concepts to experts and stakeholders. Moreover, I have gained valuable experience in project management, which will prove valuable in my future career. Overall, this unit has equipped me with essential skills and knowledge, and I am eager to apply them in my future endeavours.