DATABASE (SECD2523)
SECTION 08
GROUP DEFENDER

PHASE 2

Student's Name	1. NURSYAFRINA BINTI AHMAD (A19EC0139)
	2. ONG YIN REN (A19EC0204)
	3. KOH XIN YI (A19EC0064)
	4. NUR HIDAYAH BINTI HAMRI (B19EC0046)
Lecturer's Name	SHARIN HAZLIN BINTI HUSPI
Submission Date	13th December 2020

1.0 User's Requirement Specification

1.1 Data Requirement

Based on the interview with the shop owner, the data requirements are determined as below:

Entity	Data to be stored	Requirements of Data
Customer	1. Username 2. User ID 3. Password 4. Phone number 5. Shipping address	
Document	1. Document ID 2. Document name 3. Price 4. Stock quantity 5. Type of document 6. Characteristic of document	[3] Price shown should be included with tax GST. No further add on after that. [6] Characteristic document such as pages, color, set
Order	1. Order number 2. Order time 3. Order status 4. Quantity 5. Subtotal 6. Shipping Fee 7. Grand price 8. Delivery Time 9. Delivery ID	[1] Order number should be automatically generated by system. [5] Subtotal = (price*quantity) whereas the price refers to the Document entity [7] Grand price = subtotal + delivery fee [8] Delivery time is the time which the product id delivered [9] Delivery ID should be automatically generated by system.

Runner	1. Runner name 2. Runner ID 3. Runner's phone number 4. Runner payment 5. Order picked up 6. Order delivered	[2] Every Runner have their own and different ID [3] Runner payment follow how many trips they make to deliver document
Payment	1. Transaction number 2. Payment method 3. Payment time 4. Total payment	[3] Payment time is the time which the order delivered
Notification	1. Notification number 2. Notification contains 3. Notification time 4. Target notification	[2] Notification is the type of message sent to the customer.
Admin	1. Admin name 2. Admin ID 3. Admin's phone number 4. Username 5. Password	[2] Admin has his/her own ID

1.2 Transaction Requirements

The transaction requirement are identified based on four type of transaction (Data entry, Data update, Data deletion, Data queries)

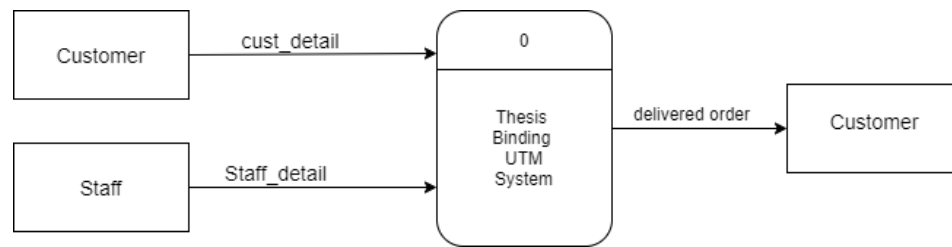| Entity	Data	Data Entry	Data Update	Data Deletion	Data Queries
Customer	Username User ID Password Phone number Shipping address	Sign up by customer	Update profile info by customer	Delete account by customer	Query on customer data by admin
Document	Document ID Document name Price Stock quantity Type of document Characteristic of document	Enter document information by customer/student	Update document information by customer/student	Delete document information by customer/ student	Search for document by customer, student, admin
Order	Order number Order time Order status Quantity Subtotal Shipping Fee Grand price Delivery time Delivery ID	Confirm order information by customer/student	Update order status by admin	Cancel order by admin	Query on order by admin
Runner	Runner name Runner ID Runner's phone number Runner payment Order picked up Order delivered	Enter order ID by admin	Update order pickup and delivered by admin	Delete order status by admin	Query on runner by admin
Payment	Transaction number Payment method Payment time Total payment	Enter bank, transaction number & payment date by customer/student	Confirm payment by admin	Delete payment by admin	Query payment by admin

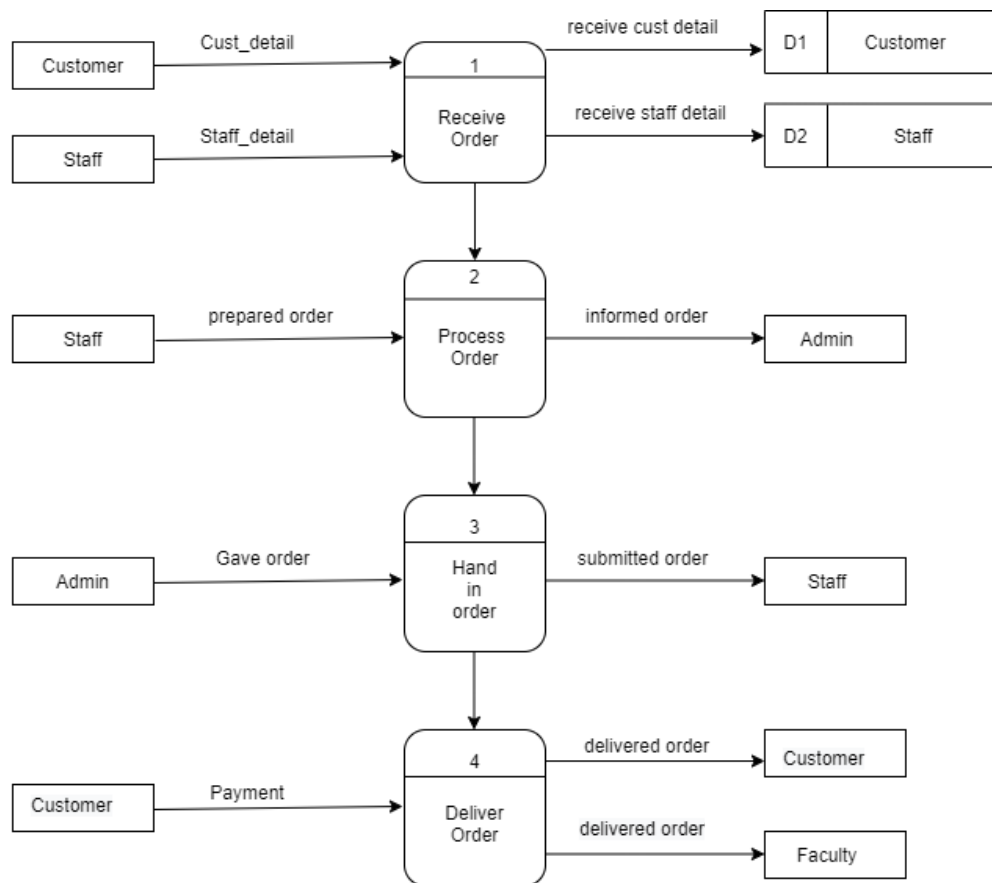| Notification	Notification number Notification contains Notification time Target notification	Enter notification order status by admin	Update the notification status order by admin	Delete the notification status order by admin	
Admin	Admin name Admin ID Admin's phone number Username Password	Enter order ID to runner. Enter notification order status to the customer.	Update order, payment and notification by admin	Delete document, order, payment and notification	Query on admin by admin

1.3 Cross-Reference Analysis

The table below shows cross-references of the admin, customer and runner user views with the main types of data used by each user view.

	Admin	**Customer**	**Runner**
Customer	X	X	
Document	X	X	
Order	X	X	X
Runner	X		X
Payment	X	X	
Notification	X	X	
Admin	X		

2.0 Context Diagram

3.0 O Diagram

Cust_detail

Customer detail consist of name,matric number,telephone number,faculty,residence college and softcopy work

Staff_detail

Staff detail consist of name and telephone number

4.0 Summary

Based on research, we find that the majority of customers of thesis binding shops are students. Even though so far the shop does not face any problem but they still think their system is not efficient. We can see from the problem statement that we are listed.

Based on the 33 respondent from the questionnaire, the current system in first part, 100% of the respondent would prefer to use the printing and thesis service online if it exist because it is convenient as it can make their work easy and also no need to be afraid when their printer is no ink.Furthermore, it is easy to access and can save their time as it gives easy service online rather than going to shop physically. Besides, according to the platform that more prefer to use,mobile application is more attractive than the website as 54.5% of the respondents are more partial toward mobile application and 45.5% of the respondents more partial toward the website. For the current system available in UTM, 45.5% of the respondents feel "GOOD" as the range for their likely, 33.3% of the respondents feel "NOT SO MUCH" as the range for their likely, 21.2% of the respondent feel "NOT SO MUCH" as the range for their likely and none of them does not like this current printing service. For the service in the printing shop, 66.7% of the respondents selected SOMETIMES that they will spend to use, 18.2% of the respondents selected RARELY that they will spend their time and 15.2% of the respondents selected FREQUENTLY on their time to use this service in the shop. Currently, 72.7% of the respondents find it easy to place orders via Whatsapp and 27.3% of the respondents find that placing orders via Whatsapp mode is not easy. It is because they need to wait too long, which may lead to miscommunication and they might not know how to use it as they didnt use it before.

For the second part which concerns the approach to the application, 87.9% of the respondents think it is better for a printing shop to provide an application and 12.1% of the respondents think it is not a need for providing an application.From the 87.9% respondents, we may can conclude that providing an application are convenient and efficiency, easy for everyone to use and can save time as they no need to go fo the printing shop. However, from the 12.1% respondents, providing an application is inconvenient and they think it is better to use the web.Next, 100% of the respondents think it is important to know the process of their document in the application, provide multiple payment methods such as cash on delivery, via transfer or scan QR code in the application and they think it is a must for students and need to have it in the

application.Furthermore, 97% of the respondents agree that it is important for them to view their document history in the application, feel this app will make their work easy thereby can save their time and will bring up their interest in using the printing shop application after answer all the questions in our google form. However, 3% of the respondents do not agree with that.

According to the respondents that suggest in order to improve our application service or interface, they wish to have free of charge in the service, may provide the delivery service as well, can provide a feedback in a specific column in order to give a better improvement on our printing service, can make the interface of the online application more user-friendly and the most important is easy to use.

So, we came out with the solution which is an online system that allows customers to send documents via online. Their details and documents will be saved in a database which is more safe and more efficient when the shop wants to find it later.

Appendix

Interview Output

Interviewer:	Good evening, Pn Alia. I am Koh Xin Yi, a second-year student from the Faculty of Engineering. My friends, Nur Hidayah, NurSyafrina, Ong Yin Ren and I currently carry out a project of course SAD and Database. We need to analyze problems of a system and design solutions to improve the current system. We decided to choose your Thesis Binding UTM shop as our case study. So, I am now representing my group members to have an interview with you. Are you free to answer some questions for me now?
Interviewee:	Good evening, Xin Yi. Yes, sure.
Interviewer:	Thank you for spending your time to answer my questions. Without wasting your time, let's start the interview. The first question, **do you face any problem with your current system?**

Interviewee:	No problem so far, everything is in good condition. Even if there is a problem that happened, it is not a big deal.
Interviewer:	**Have your sales increased in the past few years?**
Interviewee:	Yes, my sales increased in the last few years.
Interviewer:	**Which group of people are your majority customers?**
Interviewee:	My customers are mostly students from university.
Interviewer:	I see. **Do you think your current system is efficient and safe?**
Interviewee:	I think my system is not efficient enough and safe yet. However, I will find a more proper and safe system. I hope there is a proper system for me.
Interviewer:	If we propose a new online system for you, **what feature do you wish to have in the new online system?**
Interviewee:	I hope there is a system where the students can place their order through the system and complete the payment together. Our behalf can clearly understand the customers' request, and no problem exists until the order is completed.
Interviewer:	**How did you think a new online system helps to reduce your cost?**
Interviewee:	If I have that system, I think the working procedure will be smoother and more efficient. I believe it can ease my working burden.
Interviewer:	Alright. Now I get your thoughts. It has come to the end of this interview. Once again, I would like to say thank you for allowing us to carry this interview with you. Thank you for your precious time.
Interviewee:	Alright. You are most welcome.

Meeting Logs Phase 2

Date: 7 December 2020

Attendance:

Team-mate name	Signatures
1. NURSYAFRINA BINTI AHMAD	
2. ONG YIN REN	
3. KOH XIN YI	
4. NUR HIDAYAH BINTI HAMRI	

Discussion Results/Findings:

We divided the tasks into 2 which are Hidayah and Xin Yi handle questionnaires and Syafrina and Yin Ren handle DFD diagrams. We use google form as a platform to ask opinion from the target user which is a student from any college in UTM. We also decide to have an interview with the owner of the shop. For the report we also divided by two groups which are Yin Ren and Syafrina do part data requirement and Hidayah, Xin Yi do part of transaction requirement for to be system.

Contribution/Ideas:

Team-mate name	Contribution/Ideas
1)NURSYAFRINA BINTI AHMAD	-Propose rough idea for DFD Diagram.
2)ONG YIN REN	-Give some idea to improve context and O diagram.
3)KOH XIN YI	-Propose some question. -Identify whether to use funnel, pyramid or diamond based on the question.
4)NUR HIDAYAH BINTI HAMRI	-Propose some question -Make google form to blast the question.