SECD 2523 - Database

PROJECT PHASE 3

PROJECT NAME: INTERN DOCTOR

LECTURER: DR. NOOR HIDAYAH ZAKARIA

SECTION: 01

GROUP 5

GROUP MEMBERS:

NO	NAME	MATRIC NO
1.	GUI YU XUAN	A20EC0039
2.	PHANG CHENG YI	A20EC0131
3.	FELICIA CHIN HUI FEN	A20EC0037
4.	GOH YITIAN	A20EC0038

1. INTRODUCTION

The internship website is a platform for college students to find the workplace to gain experience. The internship is important for college students to apply the knowledge from the class to a real working environment. This is a chance for college students to develop their professional skills and strengthen their personalities. There are a few internship websites on the Internet for college students to look for a position such as LinkedIn and Intersheep.com. The reason why internship websites are becoming more and more popular is because of the development of networks around the world. Companies can easily promote the positions they are looking for through the website while college students can easily find the positions they want through the promotion of the company. The main reason is that the company can view the resume of college students from the internship website to determine whether the interviewee is the person they want. This results in saving time for the company and interviewee.

Universiti Teknologi Malaysia has developed an Industrial Training System for college students to apply for internships. With this system, the administrators are able to ensure all the college students have applied for an internship program. College students are also able to search for the company through the list of companies in the system.

2.   OVERVIEW OF THE PROJECT

Nowadays, students have more convenient ways to apply for their internship through an online platform provided by the university. The functionality of an industrial training system is critical in helping students, administrators and companies to manage the process of internship of students holistically.

Our proposed system is to improve the current industrial training system by adding several features. Firstly, both company and administrator may observe the status of students mutually to make sure their internships are progressing well in respective companies. This mutual interaction enables companies to obtain the resume of students conveniently during the application period and filtration of students' applications can be done easily to make sure there is no overlapping employment at the same time. Moreover, administrators are able to filter out the unreputable and untrusty companies from the application list by verifying the background of the company before approving the registration of the company into the system in order to ensure students apply for legitimate companies. This system also makes the communication between administrators and students become easier.

Besides, progress bars of approval and reminder functions are also added to ease student preparation. The students can easily visualize the approval of their application and always check for their readiness in preparing the important documents such as approval letter. The reminder will remind students about the important dates such as the due date of application for companies.

In addition, one of the new features which is the company advertisement interface in this proposed system enables the companies to promote themselves and let the students have further understanding about the company before applying. Meanwhile, the chances for students to get offered will increase. Students are also able to check the employment history of companies.

In conclusion, the Intern Doctor system provides an excellent platform for users such as administrators, supervisors, students and companies to communicate between each other effectively. The new and advanced functionality in the system will enhance the user experience and increase their satisfaction when using this system. The profits gained from the advertisement fee will also help in reducing the maintenance cost. Undeniably, our system will definitely bring a lot of benefits to every user.
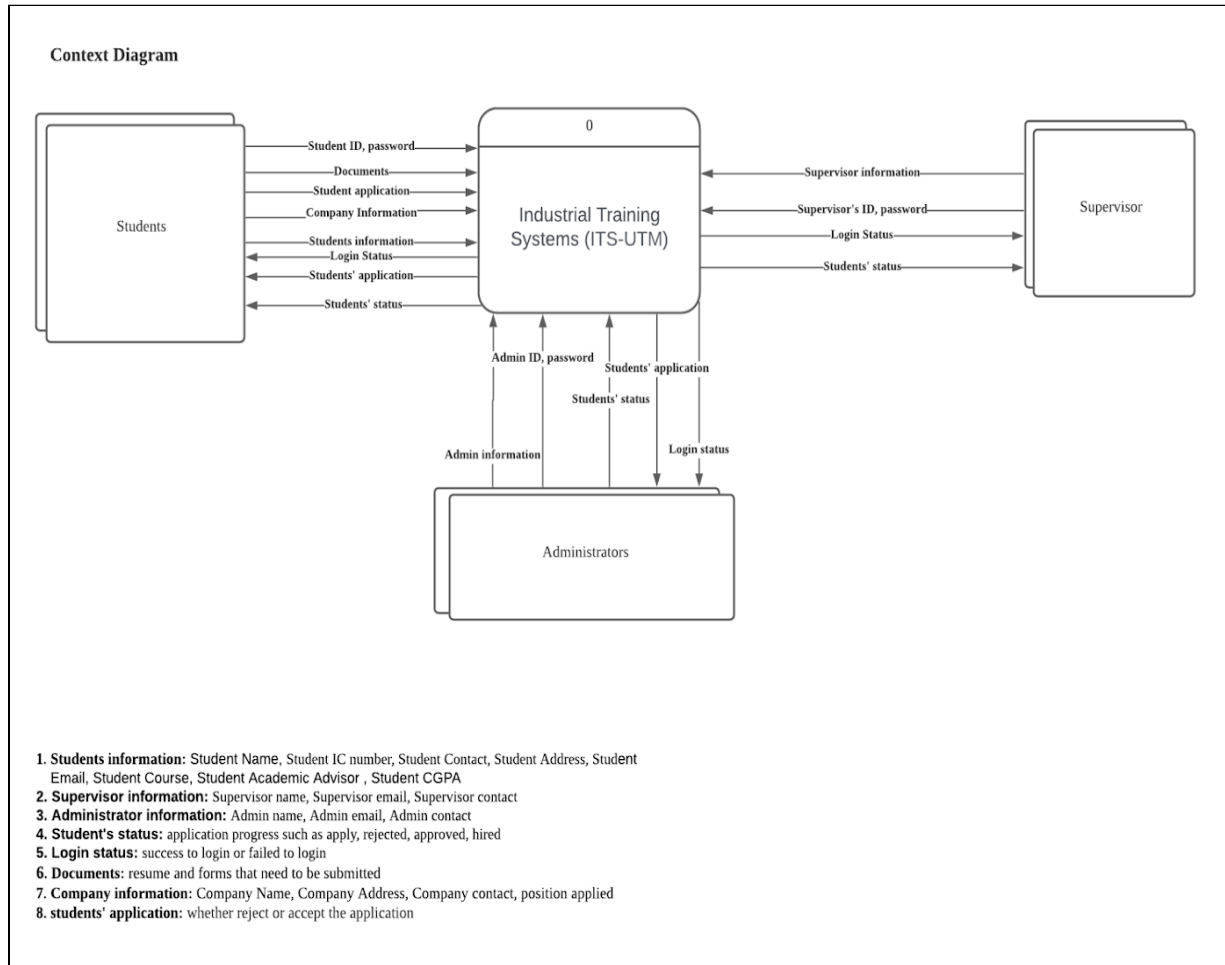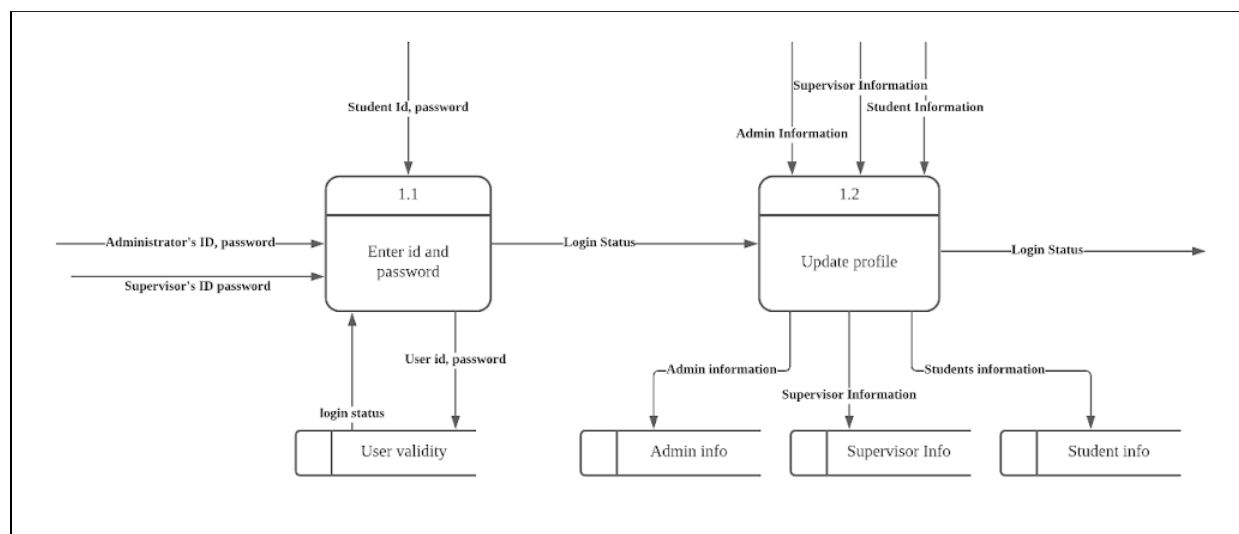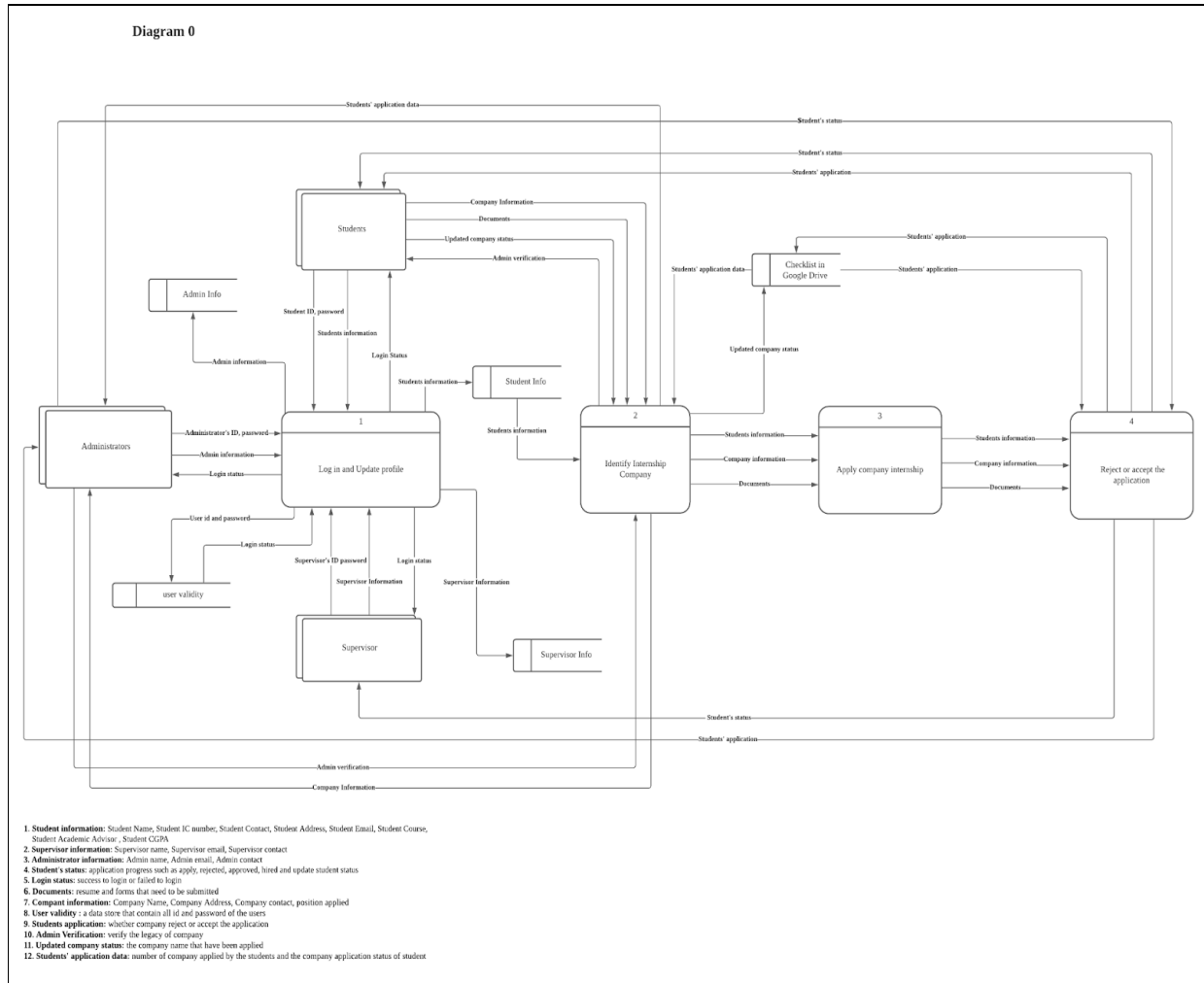
3. LOGICAL DFD AS-IS SYSTEM

Context Diagram

Students
- Student ID, password →
- Documents →
- Student application →
- Company Information →
- Students information →
- ← Login Status
- ← Students' application
- ← Students' status

Industrial Training Systems (ITS-UTM) — 0

Supervisor
- ← Supervisor information
- ← Supervisor's ID, password
- Login Status →
- Students' status →

Administrators
- Admin ID, password
- Students' application
- Students' status
- Admin information
- Login status

1. **Students information:** Student Name, Student IC number, Student Contact, Student Address, Student Email, Student Course, Student Academic Advisor , Student CGPA
2. **Supervisor information:** Supervisor name, Supervisor email, Supervisor contact
3. **Administrator information:** Admin name, Admin email, Admin contact
4. **Student's status:** application progress such as apply, rejected, approved, hired
5. **Login status:** success to login or failed to login
6. **Documents:** resume and forms that need to be submitted
7. **Company information:** Company Name, Company Address, Company contact, position applied
8. **students' application:** whether reject or accept the application

Figure 1: Context Diagram of current system

Diagram 0

1. **Student information:** Student Name, Student IC number, Student Contact, Student Address, Student Email, Student Course, Student Academic Advisor , Student CGPA
2. **Supervisor information:** Supervisor name, Supervisor email, Supervisor contact
3. **Administrator information:** Admin name, Admin email, Admin contact
4. **Student's status:** application progress such as apply, rejected, approved, hired and update student status
5. **Login status:** success to login or failed to login
6. **Documents:** resume and forms that need to be submitted
7. **Compant information:** Company Name, Company Address, Company contact, position applied
8. **User validity :** a data store that contain all id and password of the users
9. **Students application:** whether company reject or accept the application
10. **Admin Verification:** verify the legacy of company
11. **Updated company status:** the company name that have been applied
12. **Students' application data:** number of company applied by the students and the company application status of student

Figure 2: Diagram 0 of current system

Figure 3: Child diagram for process 1

Figure 4: Child diagram for process 2

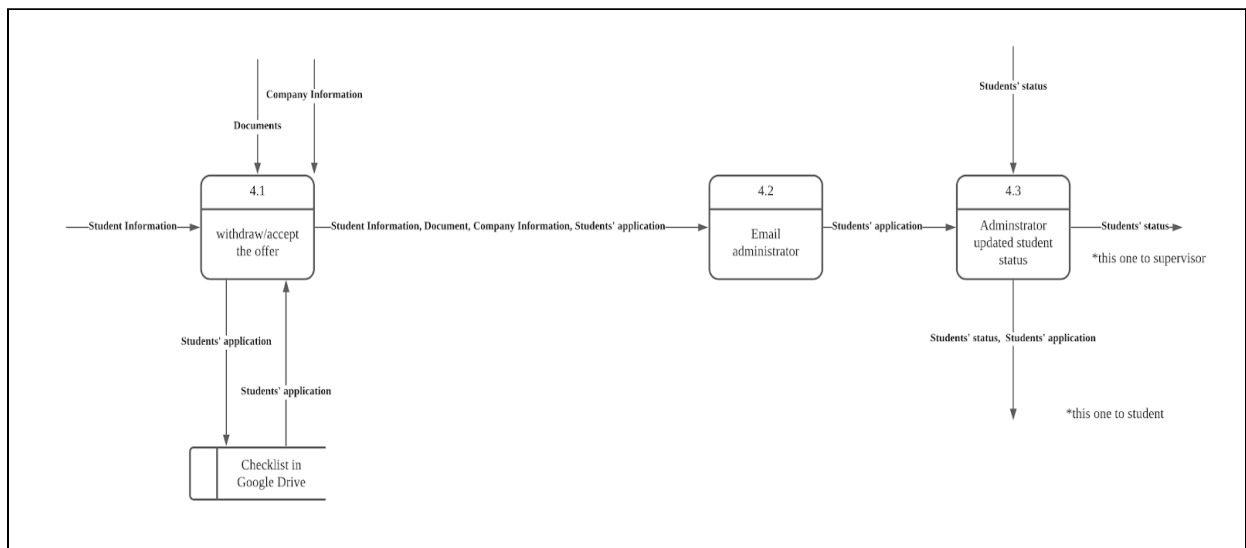*Figure 5: Child diagram for process 3*

Figure 6: Child diagram for process 4

4. DATA AND TRANSACTION REQUIREMENT

4.1. CURRENT BUSINESS RULE

Third year UTM students must undergo industrial training. After completing their final year project 1 and owning at least 90 credits, students will be enrolled in the UTM Industrial Training System. After students have access to the Industrial Training System, students need to update their personal information such as name, matric ID, IC number, email, address, phone number and more. Students also need to update their own IC size photo for others to recognize. After filling the personal details, then students need to upload the resume.

After updating all the personal details and uploading the important files, students have to identify the internship company. First, students have to search for the company they wish to apply to. After choosing the suitable internship company, students need to fill in the BLI-1C form and attach the organization's profile. Students can choose a maximum of three internship companies. BLI-IC form is the details of the company that students need to fill in. Students send an email to the administrator after filling in the BLI-1C form. Then, the supervisor will determine whether the request of the students will be approved or rejected. Students have to update the checklist file in Google Drive for the administrator to know which companies have been applied by students and which companies have been rejected by students.

Then, students need to obtain a verification letter from the administrator. Sending the email that contains a filled verification letter, BLI2A form and student's resume to the internship company and administrator. If the students get the offer letter from the company, students must upload the proof of application in Google Drive. If the application had been rejected by the applied company, students need to obtain the evidence of rejection from the applied company, and upload the proof and update the checklist in Google Drive. Then, students must notify the administrator so that the supervisor can change the student's status. Now, students need to search for a new company and repeat the above process. If students wish to reject the application that has

been made, students have to email the administrator by providing the reason for the withdrawal. Students can withdraw the application after getting the permission of the administrator.

After finishing the above process, students can prepare themselves for the internship in the applied company.
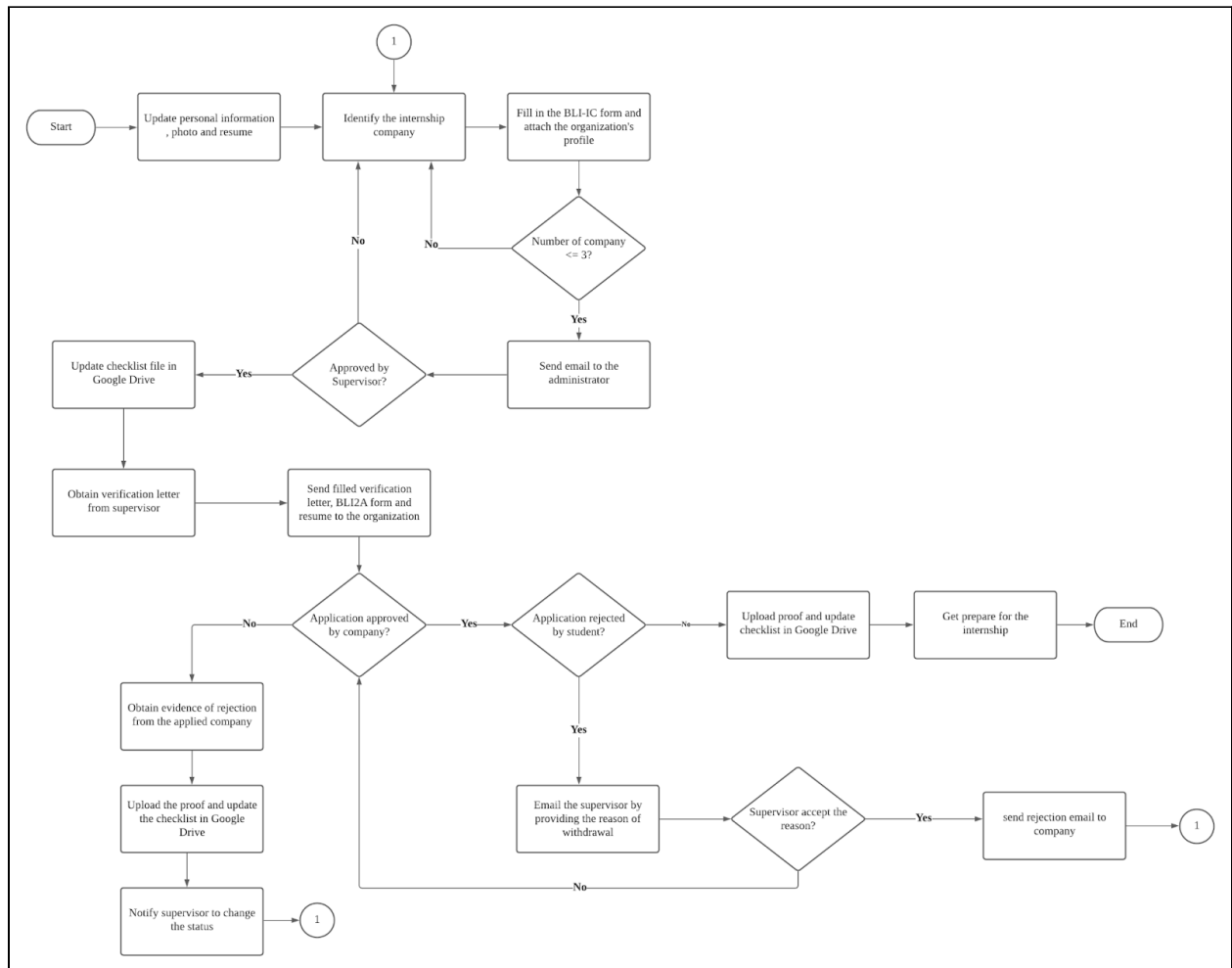

Figure 7:Current Workflow

4.2. CURRENT DATA AND TRANSACTION

4.2.1. DATA REQUIREMENT

ENTITY	DATA TO BE STORED	REQUIREMENTS OF DATA
Student	1. Student Name 2. Student ID 3. Student MatricNo 4. Student Email 5. Student Level 6. Student Register Date 7. Student Status 8. Student Gender 9. Student Home Number 10. Student Mobile Number 11. Student Permanent Address 12. Student Current Address 13. Student password 14. Student login status	[2]Students' matric numbers specially identify each other when applying for an internship.
Administrator	1. Administrator name 2. Administrator ID 3. Administrator IC 4. Administrator Gender 5. Administrator address 6. Administrator email 7. Administrator Faculty 8. Administrator Department 9. Administrator Mobile Number 10. Administrator Office Number 11. Administrator Home Number	Administrators need to enter their [2]ID number and [12]password to log in to the system to track and update students' internship progress.

	12. Administrator password	
Supervisor	1. Supervisor name 2. Supervisor ID 3. Supervisor password 4. Supervisor email 5. Supervisor contact	Supervisors need to log in by [2]ID number and [3]password.
Document	1. BLI-1C form 2. Verification letter 3. BLI2A form 4. Resume	[1]Students fill in company information for verifying the legacy of company [2]Verification letter from the supervisors to allow the students to be hired by the company. [3]Students pass the form to the company to fill in the application progress of students. [4]Students submit resumes to apply to the company.
Google Drive	1. Checklist 2. Proof	[1]Students update the application progress of the company [2]Students update the proof according to the application status

4.2.2.   TRANSACTION REQUIREMENT

Entity	Data	Data Entry	Data Update	Data Deletion	Data Query
Student	Student Name	Sign in by studentsS	Update info by students	Delete student information by administrator	Query on students data by supervisor/ administrator
	MatricNo				
	IC Number				
	Student Password				
	Student Email				
	Student AA/ supervisor				
	Student Course				
	Student Gender				
	Student Home Number				
	Student Mobile Number				
	Student Permanent Address				
	Student Current Address				
	Student Programme				
	Student Programme Session				

	Student CGPA				
	Student login status				
Administrator	Administrator name	Sign in information by administrator	Update info by administrator	Delete information by administrator	Query on administrator data by students/ supervisor
	Administrator ID				
	Administrator password				
	Administrator IC				
	Administrator Gender				
	Administrator address				
	Administrator email				
	Administrator Faculty				
	Administrator Department				
	Administrator Mobile Number				
	Administrator Office Number				
	Administrator Home Number				
Supervisor	Supervisor Name	Sign in information by supervisor	Update info by supervisor	Delete information by administrator	Query on supervisor data when need system maintenance
	Supervisor ID				
	Supervisor Password				
	Supervisor email				
	Supervisor contact				

Documentation template	BLI-1C form	Download by students	Update by students		Query on the information in the form by administrator and students
	Verification letter	Upload by administrator	Update by administrator		Query on the information in the letter by administrator and students
	BLI2A form	Download by students	Update by students		Query on the information in the form by administrator and students
	Resume	Write by students	Update by students	Delete by students	Query on the information in the resume by students
Google Drive	Checklist	Upload by students	Update by students	Delete by students	Query on the checklists by administrator and students
	Proof	Upload by students	Update by students	Delete by students	Query on the proof of student's application

5. DATABASE CONCEPTUAL DESIGN

5.1. UPDATED BUSINESS RULE

Third year UTM students must undergo industrial training. After completing their final year project 1 and owning at least 90 credits, students will be enrolled in the Intern Doctor. After students have access to the Intern Doctor, students need to update their personal information such as name, matric ID, IC number, email, address, phone number and the list goes on. Students also need to upload their own passport size photo for others to recognize. After filling the personal details, students need to download the resume file template given in the system and fill in the details. .

After updating all the personal details and completing the resume file, students have to identify the internship company. First, students have to search for the company they wish to apply to in the system. Students can choose a maximum of three internship companies. After students have searched for their internship companies, students can upload their resume to the company. The system will automatically change the student status to "applied" after students upload their resume file.

Companies can check how many students have applied to the internship program. After the company views the resume file uploaded by students, the company can determine whether to reject or have an interview session with students. If the company wishes to interview students, the company can change the progress of the student as an "interview". Then, the system will send a notification to students to notify them of the details of the interview. After having an interview session with students, if the company wishes to hire students, the company can change the student progress as "hired". Then, the system will automatically change the student status in the supervisor view also. Furthermore, the system will notify students they have been hired by the company. However, if the company wishes to reject students, the company can change the

student progress as "reject". The system will notify students that they have been rejected and change the student status automatically in the supervisor view.

For students who have been hired by the company, they need to download the verification letter given in the system and send it to the company. Then, the company also needs to upload the BLI-2A form into the system. This form will be stored in the data store in the system so that supervisors can view the form. However, if a student wishes to reject the offer, the student must inform the supervisor. After getting permission from the supervisor, students can send the rejection letter to the company. If a company accepts the rejection, the company will change the student's progress as "reject". Then, the system will notify students they have been rejected and change the student status in the supervisor view also.

Students who have been rejected can search for a new internship company while students who have been accepted can prepare themselves for the internship in the applied company. Besides, the system will notify the students who haven't made any application before two weeks of the application due date.
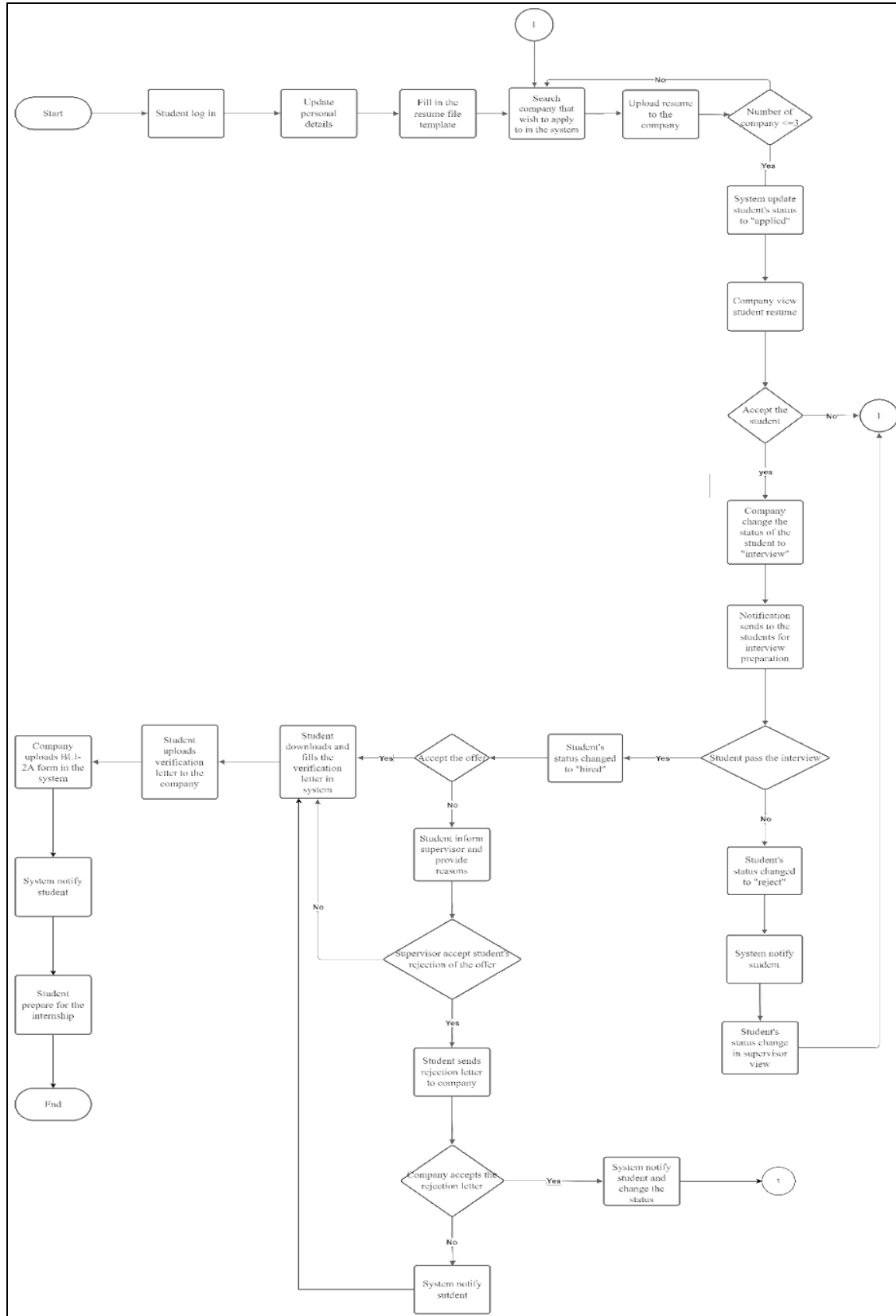
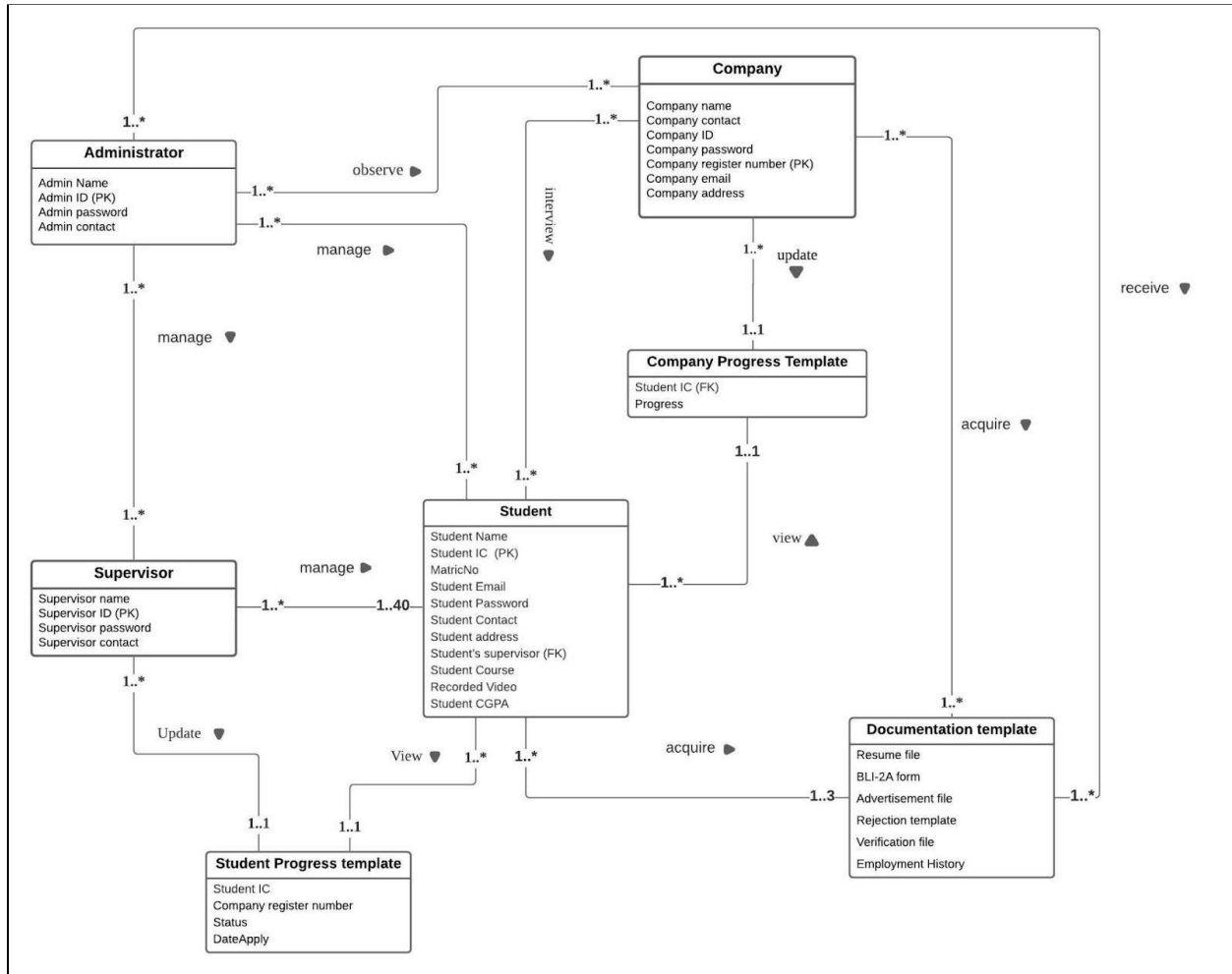*Figure 8:Updated Workflow*

5.2.   CONCEPTUAL ERD
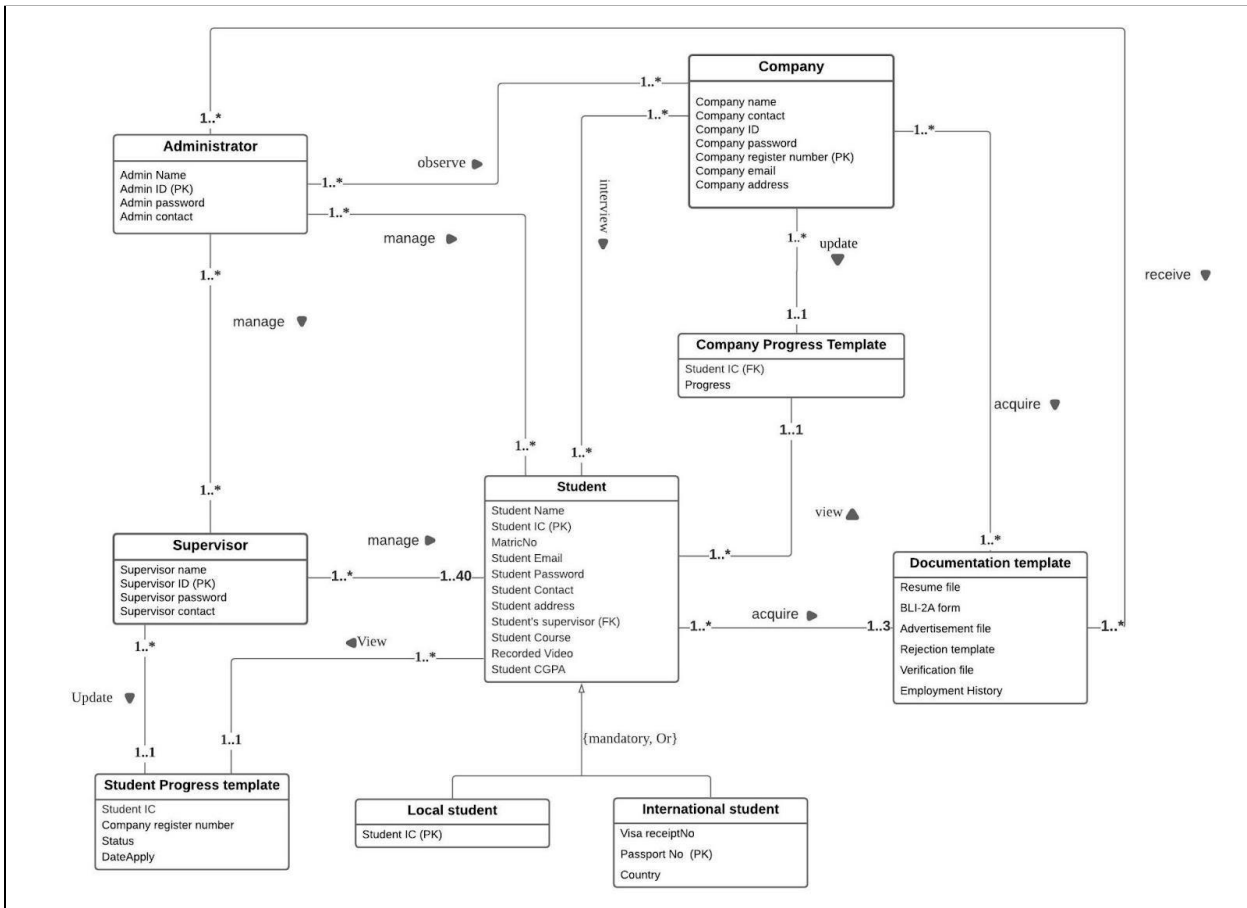

Figure 9: conceptual ERD

6.   ENHANCED ERD

Figure 10: Enhanced ERD

7. DATA DICTIONARY

Entity	Attribute	Description	Data Type & Length	NULL	Example
Student	Student Name	Name of student	VARCHAR2 (100)	No	Ainin
	Student IC	Unique IC number of the student (Primary Key)	VARCHAR2 (15)	No	000113042222
	MatricNo	Unique number code of the student	VARCHAR2 (20)	No	A20EC0001
	Student Email	Email of the student	VARCHAR2 (50)	No	aaa@gmail.com
	Student Password	Unique password of the student	VARCHAR2 (30)	No	asio78-1
	Student Contact	Phone number of the student	VARCHAR2 (12)	No	01111111111
	Student address	Home address of the student	VARCHAR2 (200)	No	1, Jalan UTM, 87090 Johor
	Student's supervisor	ID of supervisor of the student (Foreign Key refers from Supervisor)	VARCHAR2 (5)	No	A001
	Student Course	Course of the student	VARCHAR2 (50)	No	Bachelor degree of bioinformatics
	Recorded Video	Video CV URL link	VARCHAR2 (200)	Yes	https://example video/1111.mp4
	Student CGPA	CGPA of the	NUMBER	No	3.45

		student	(4)		
Supervisor	Supervisor name	Name of supervisor	VARCHAR2 (100)	No	Dr.Aiman
	Supervisor ID	Unique number code of the supervisor (Primary Key)	VARCHAR2 (5)	No	A001
	Supervisor password	Unique password of the supervisor	VARCHAR2 (30)	No	89&*qw
	Supervisor contact	Contact number of the supervisor	VARCHAR2 (12)	No	01122222222
Administrator	Admin Name	Name of administrator	VARCHAR2 (100)	No	Shamsudin
	Admin ID	Unique number code of the administrator (Primary Key)	VARCHAR2 (5)	No	Z001
	Admin password	Unique password of the administrator	VARCHAR2 (30)	No	99oooop
	Admin contact	Contact number of the administrator	VARCHAR2 (12)	No	01133333333
Company	Company name	Name of the company	VARCHAR2 (100)	No	Apple Inc.
	Company contact	Contact number of the company	VARCHAR2 (12)	No	032223333
	Company ID	Unique ID for company to log in system	VARCHAR2 (5)	No	C001
	Company password	Unique password of the company	VARCHAR2 (30)	No	88&**rr@3

	Company registration number	Unique code number of the company (Primary Key)	VARCHAR2 (12)	No	202201224R
	Company email	Email of the company	VARCHAR2 (12)	No	abc@gmail.com
	Company address	Address of the company	VARCHAR (200)	No	19, Jln Mutiara, Mount Austin, Johor
Documentation template	Resume file	Resume file for student to download	BLOB	No	Resume file
	BLI-2A form	BLI-2A form for student or company to download	BLOB	No	BLI-2A form
	Advertisement file	A file for the company to apply for a promotion position.	BLOB	No	Advertisement file
	Rejection template	A file for students to download if they want to reject a company	BLOB	No	Rejection file
	Verification file	Uploaded by supervisor to student so that student allow to be hired by company	BLOB	No	Verification file
	Employment History	Student can comment their experience when they intern in the company	BLOB	Yes	I don't like the environment here.

Student Progress template	Student IC	Unique IC number of the student (Foreign Key refer to student)	VARCHAR2 (15)	No	000113042222
	Company register number	Unique code number of the company (Foreign Key refer to company)	VARCHAR2 (12)	No	202201224R
	Status	Application status of the students	VARCHAR2 (12)	No	Applied
	DateApply	Application date of the students	TIMESTAMP	No	2022-01-02 10:00:01
Company Progress Template	Student IC	Unique IC number of the student (Foreign Key refer to student)	VARCHAR2 (15)	No	000113042222
	Progress	Company monitor the progress of the student	VARCHAR2 (12)	No	Interviewed

8. SUMMARY

Our proposed internship management system, Intern Doctor has improved some functions of the currently used system from manual to automatic in the new system. This improvement is important to ease the students for finding a company for internship. In addition, the automatic system can reduce the data redundancy and is easier to manage.

One of the functions that changed from manual to automatic in the new system is when the students apply for an internship with the company. In the current system, students need to find the company by themselves, verify it, and then send the resume to the company by email and wait for the reply. After that, they need to upload the proof of application to Google Drive for the administrator to check. However, in our new Intern Doctor system, the students can directly find the company in the system. If they want to apply, they can simply download the resume template in the system and upload their completely filled resume to the company. The status of application of the student will be shown whether it is "applied", "interview" or "reject". This eases the administrator as well as supervisor to track their students' progress.

Besides, one important difference of our newly proposed system is that we included the company as a user in our system. Companies can register themselves in our system and they will get a unique ID for login to the system. In this way, the companies are more convenient to manage the student application and make their decision to interview or hire students for internship as they can see the students' resume and information directly if the students applied for their company. The company can choose to interview the students by changing the progress status in the system. After the interview, the company can choose to "hired" or "reject" the students by changing the progress button. The system will send the notification to the students whenever the status is changed so that the students can know their status as soon as possible. Moreover, the company can put their advertisement in our system to promote themselves by paying some advertisement fees. Thus, University Technology Malaysia (UTM) can make use of these advertisement fees to reduce the cost for the system maintenance.

Moreover, there are documentation file templates for students to download if needed. Furthermore, our new system also enables the students to drop comments based on their experience in the company in employment history. If the students are not satisfied with the company they work for, such as the company exploiting the staff, they can put their comment there so the other students can see and be aware.

In conclusion, we have improved some currently used functions in the system by transforming it from manual to automatic. We are also adding some new features in our system for a better experience for the users.