UNIVERSITY OF DAR ES SALAAM

COLLEGE OF INFORMATION AND COMMUNICATION TECHNOLOGIES

***DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION*.**

PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835.

COMPANY/INSTITUTION: IMPERIAL INNOVATION.

WEEK NO 01	**FROM 31-07-2023 TO 04-08-2023 (date)**

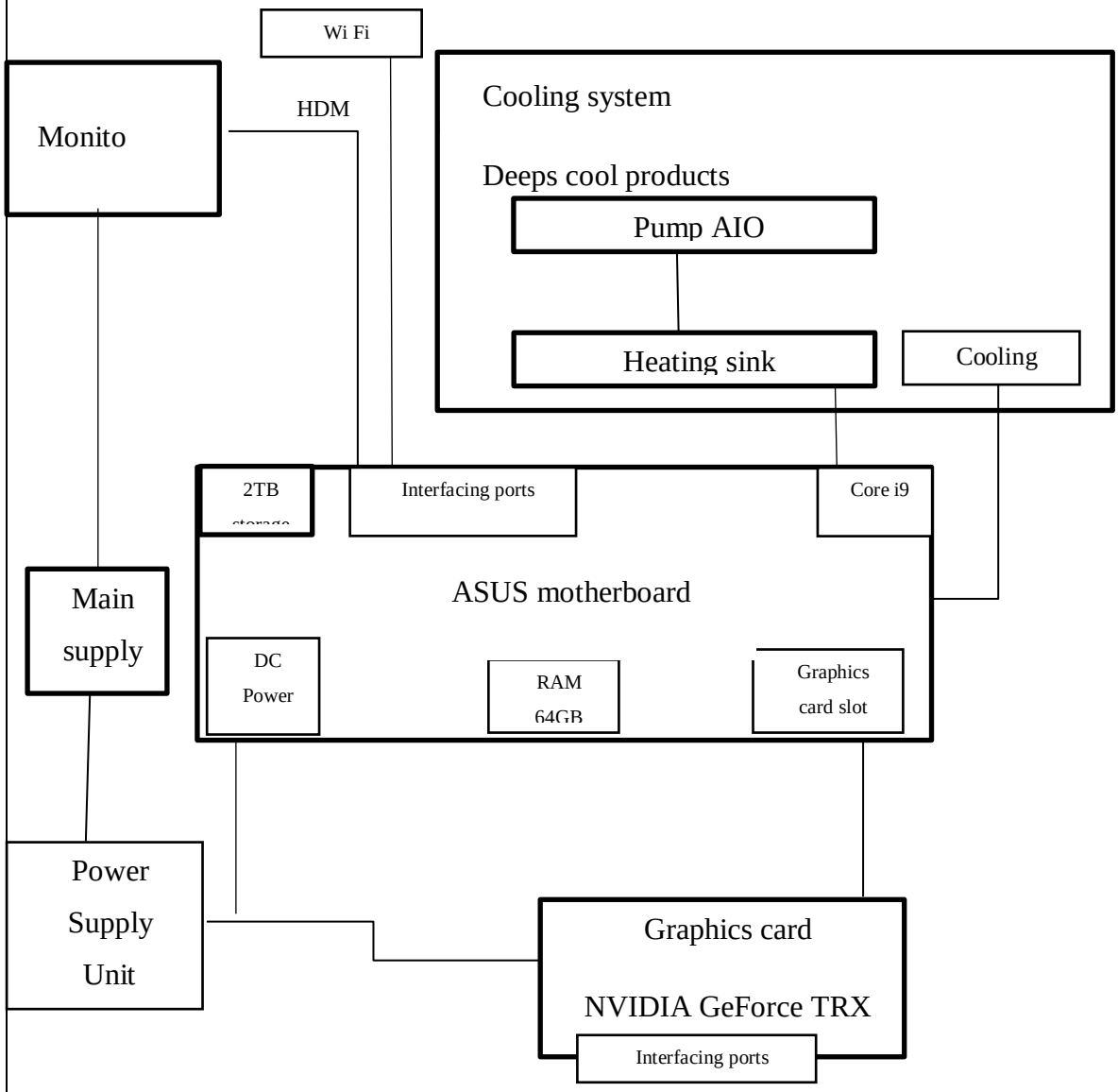
DAY /DATE`	ACTIVITY
Monday	Assembly of super computer, motherboard ASUS (processor core i9
	RAM64GB, Secondary storage 2 TB). computer case, cooling pump,
	And fans products of deeps cool. Graphics card product of NVIDIA
31-07-2023	
Tuesday	Testing the supercomputer working and troubleshooting any error.
	Installing the operating system windows 10 pro.
	Searching for ideas for projects we will do at Imperial innovation
01-08-2023	
Wednesday	Assigned the project of a system to monitor a miner, started working
	On the system requirements and design of the system.
02-08-2023	
Thursday	Introduced to Arduino programming. The system for monitoring a
	Miner project divided into four sub system where by each subsystem
	Assigned to two students
03-08-2023	
Friday	Designing the subsystem to monitor light and temperature around the
	Miner, choosing the sensors, microcontroller and interfacing method.
	Prepared ppt presentation on subsystem design.
04-08-2023	

Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
Parts assembled are ASUS motherboard, cooling system	Power supply tester
Which includes cooling pump and fans and graphics card	Screw drivers
	plier
STEPS	Cable tiers
1. Using the screw driver opened the computer case.	Processor pastes
2. Inserted the ASUS mother board into the case.	Bootable flash
3. Installed the power supply unit PSU.	Manual guide
4. Connected the motherboard with PSU.	
5. Connected the cooling pump to motherboard.	
6. Connected cooling fans to motherboard and case.	
7. Installed the graphics card GeForce TRX.	
8. Supplying power and troubleshooting errors.	
9. Cable dressing and labelling.	
10. Interfacing the computer with monitor using HDMI	
11. Installing OS windows 10	
RESULTS	
The computer was successfully assembled	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job

BLOCK DIAGRAM OF A SUPERCOMPUTER ASSEMBLY



Drawn by: MARTIN MALIUS	**Date: 05-08-2023**	**Checked by: ROBERT ASSEY**	**Date:**

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PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

WEEK NO 02	**FROM 07-08-2023 TO 11-08-2023 (date)**

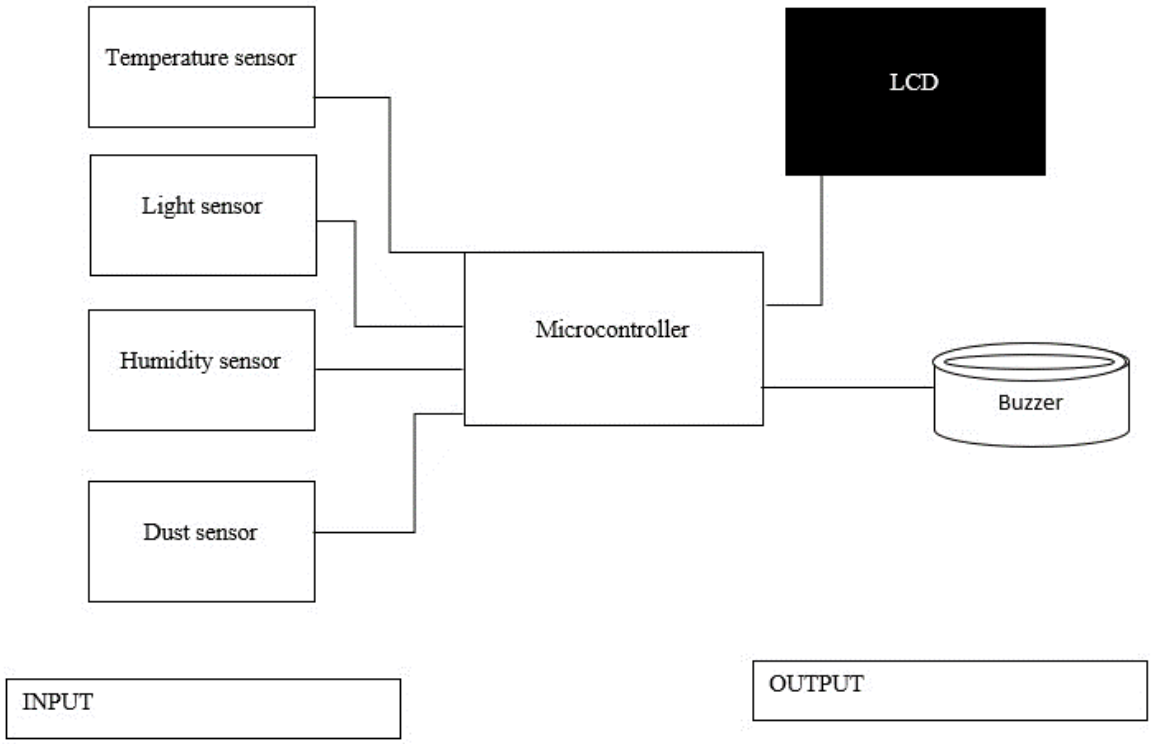
DAY /DATE`	ACTIVITY
Monday	Given microcontroller, sensor, breadboard and tools to implement
	Prototype of the subsystem (monitoring light and temperature around
07-08-2023	Miner)
Tuesday	Public holiday (8/8 Farmers' holiday)
08-08-2023.	
Wednesday	Working on the prototype of the subsystem (monitoring light,
	Temperature, humidity and dust around miner) designing using
	proteus and simulation
09-08-2023	
Thursday	Implementing the circuit using breadboard and microcontroller
	Present on Arduino nano
10-08-2023	
Friday	Finishing and testing working of the subsystem
	(Monitoring light, Temperature, humidity and dust around miner)
11-08-2023	

Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
Monitoring light, temperature and humidity around	Breadboard
The miner.	Microcontroller
STEPS	DS18B20 sensor
1. Writing codes using Arduino IDE.	LRD sensor
2. Connected sensors on the board.	LED
3. Connected sensor to the microcontroller using	Jumper wires
jumper wires.	Buzzer
4. Connected LED on the board.	Resistors
5. Connected the LED (output) to microcontroller	
6. Powered the Arduino board using USB	
7. Uploaded the codes into the microcontroller.	
8. Testing the working of the subsystem	
9. Observing changes on the serial monitor.	
RESULT	
The subsystem worked successfully	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job

A SUBSYSTEM TO MONITOR TEMPERATURE, HUMIDITY, LIGHT AND DUST AROUND MINER



Drawn by: MARTIN MALIUS	**Date: 12-08-2023**	**Checked by: ROBER ASSEY**	**Date:**

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DEPARTMENT OF ELECTRONICS SND TELECOMMUNICATION

PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

WEEK NO 03	**FROM 14-08-2023 TO 18-08-2023 (date)**

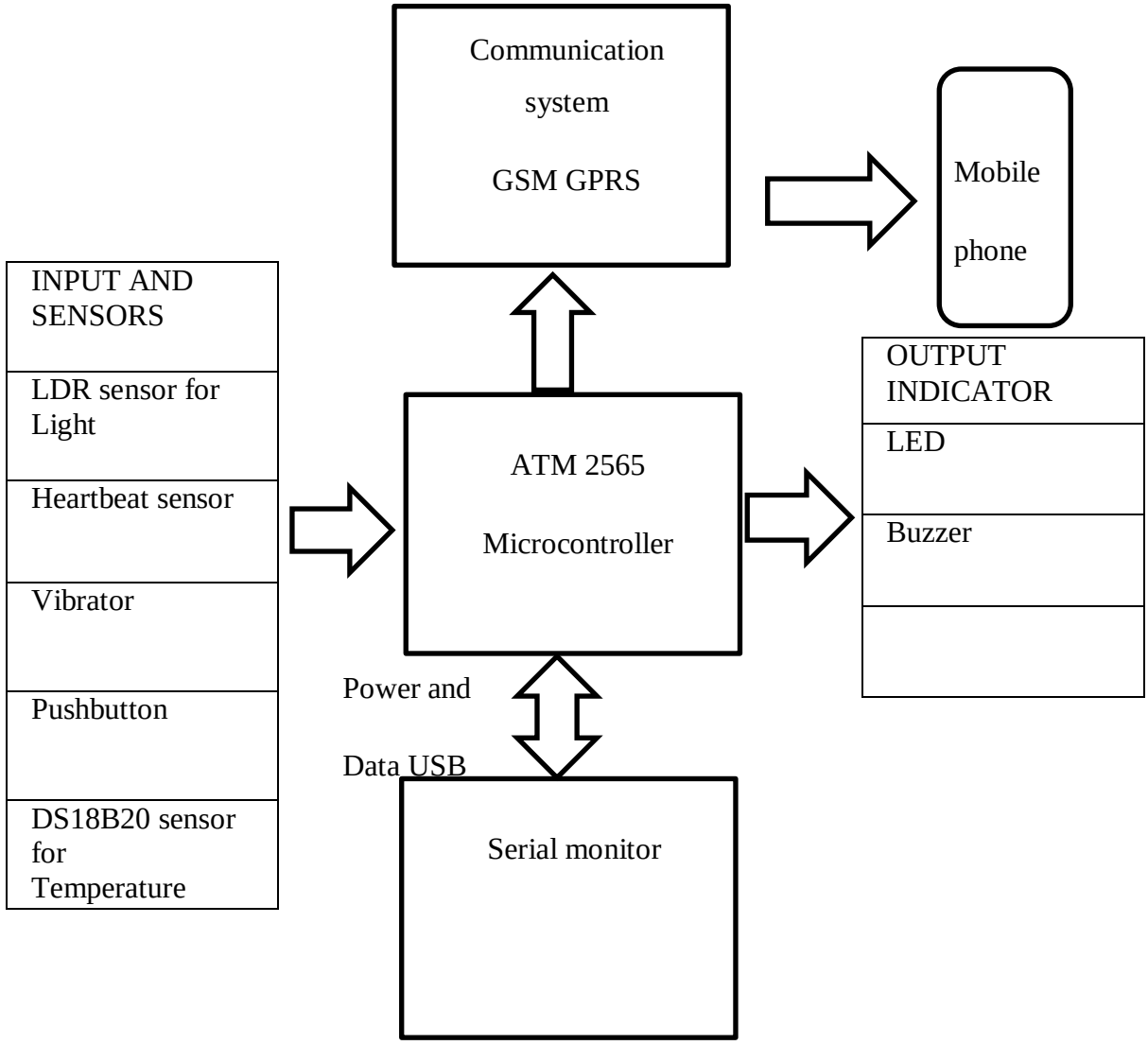
DAY /DATE`	**ACTIVITY**
Monday	Integrating all subsystem on a single board Arduino mega
	ATM2565 microcontroller
14-08-2023	
Tuesday	Integrating testing, updating codes and troubleshooting the system
15-08-2023.	
Wednesday	Integrating testing, updating codes and troubleshooting the system
16-08-2023	
Thursday	Installing a smart water meter and testing the integration with the
	Mobile app
17-08-2023	
Friday	Assigned the task to design mobile app for communication
	Purpose and graphical interface of the system
18-08-2023	

Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
Integration of the system to monitor a miner	Microcontroller ATM2565
	Jumper wires
STEPS	LDR sensor
1. Selecting mega Arduino board	DS18B20 sensor
2. Integrating the first subsystem monitoring the	Heartbeat sensor
Health of the miner (body temperature and heartbeat)	Push button
3. Integrating the second subsystem monitoring the	LED
Environment around the miner (light temperature and	GPRS module
Humidity)	Resistors
4. Integrating the third subsystem Alert system of	Vibrator
The miner vibrator and push button used as input.	
5. Integrating with the fourth system communication	
system	
6. Updating the codes and troubleshooting	
RESULT	
The system was integrated successfully	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job

A SYSTEM TO MONITOR HEALTH & ENVIRONMENT AROUND MINER



Drawn by: MARTIN MALIUS	**Date: /08/2023**	**Checked by: ROBERT ASSEY**	**Date:**

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PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

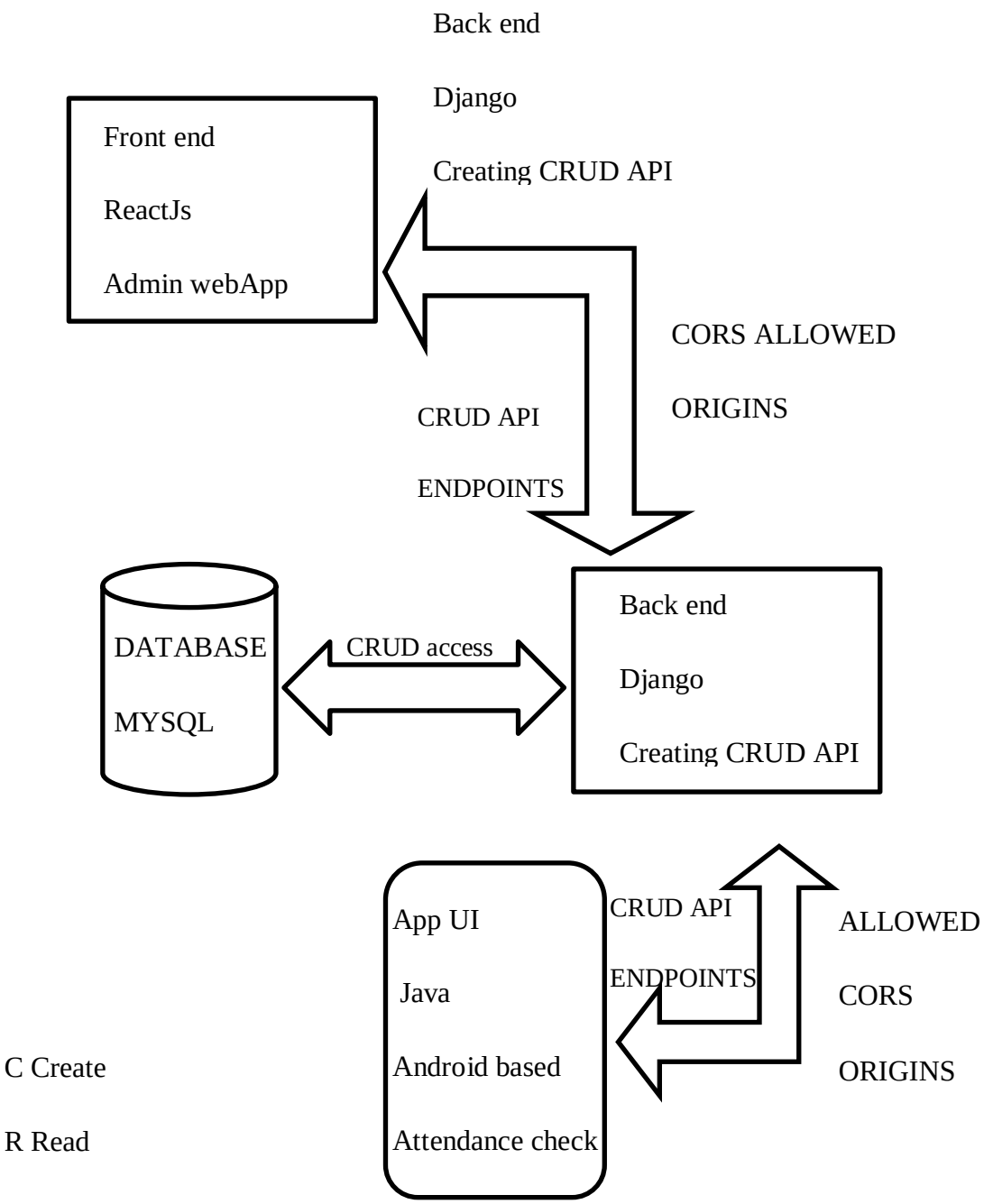
WEEK NO 04	**FROM 21-08-2023 TO 25-08-2023 (date)**

DAY /DATE`	**ACTIVITY**
Monday	Continue working on the miner monitoring project in terms of
	Design the user interface and integration approach
21-08-2023	
Tuesday	Presentation of the project to Capital Television innovation
	Programme. Assigned a new project biometric attendance system.
22-08-2023	
Wednesday	Starting a new project of Biometric attendance system
	-Generating project requirements.
23-08-2023	
Thursday	Dividing task and researching on how to implement the project.
24-08-2023	
Friday	Designing the database tables
25-08-2023	

Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
STEPS	a. Computer
1. Generating ideas about the project	b. Phone
2. Discussing the requirements	c. Tablet
3. Designing the UX and UI	
4. Selecting technologies to use	Software
5. Database proposed MySQL	a. Visual Studio Code
6. Backend proposed Django(python)	b. Android studio
7. Frontend proposed Reactsjs	
8. Mobile app proposed Java	
RESULT	
Project setup was successfully	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job



Drawn by: MARTIN MALIUS	**Date:25-08-2023**	**Checked by: ROBERT ASSEY**	**Date:**

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DEPARTMENT OF ELECTRONICS SND TELECOMMUNICATION

PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

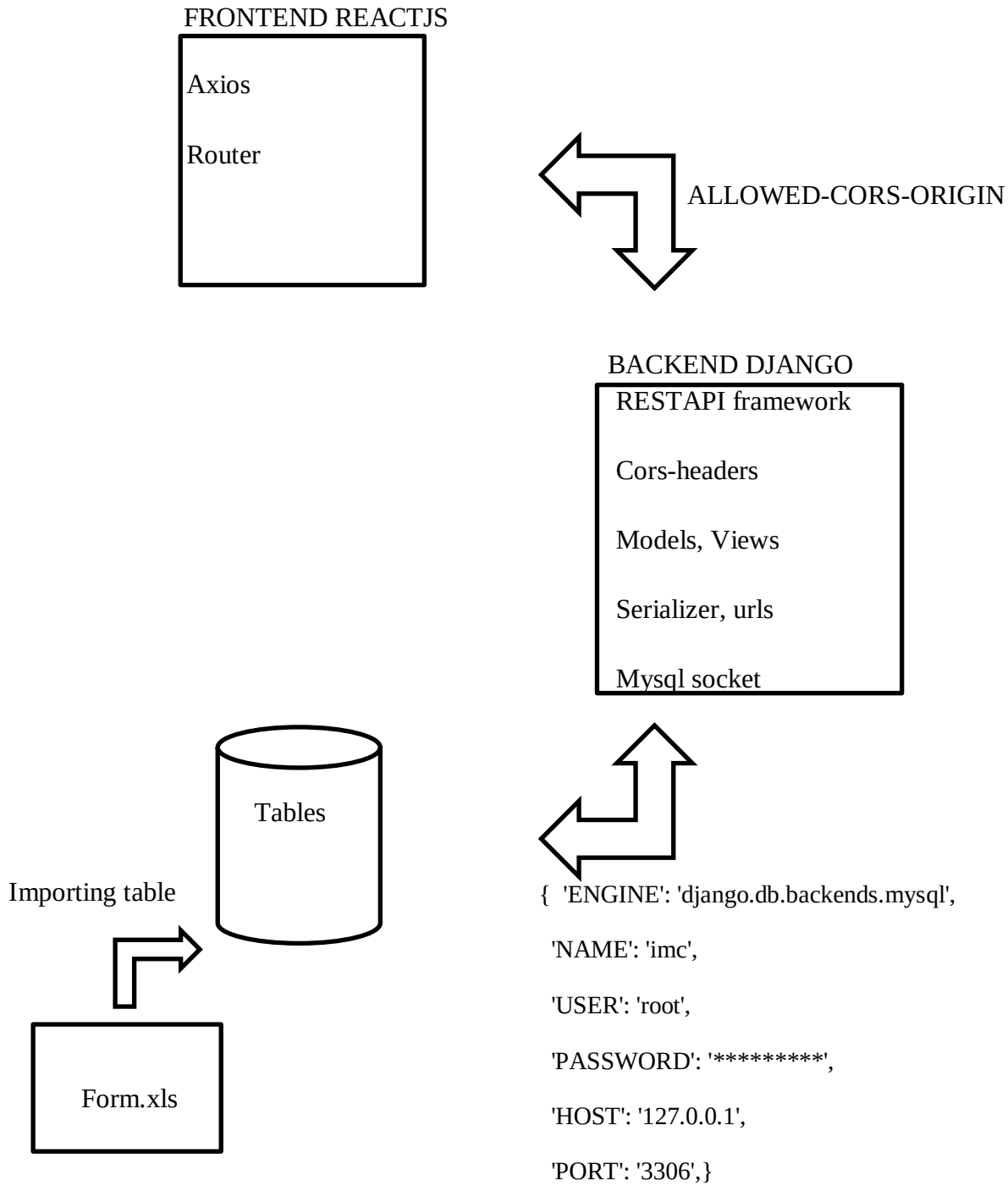
WEEK NO 05	**FROM 28-08-2023 TO 01-09-2023 (date)**

DAY /DATE`	**ACTIVITY**
Monday	Delivering and testing interactive monitors, desktops and printers
28-08-2023	
Tuesday	First demonstration of the biometric attendance system
29-08-2023	
Wednesday	Continue with Biometric attendance system (Admin web app,
	Backend and database.
30-08-2023	
Thursday	Continue with Biometric attendance system (Admin web app,
	Backend and database.
31-08-2023	
Friday	Continue with Biometric attendance system (Admin web app,
	Backend and database.
01-09-2023	

Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
STEPS	
SETTING UP REACTS JS APP (FRONTEND)	Computer
-create folder location to create app	
-open terminal on the location directory	
-run command >>npx create-react-app bas-app	Sofware
-install router >>npm install react-router-dom	Visual studio codes
-installing css framework >>npm install bootstrap	
SETTING UP BACKEND DJANGO AND MYSQL	
-create folder location to create project	
-open terminal on the location directory	
-create virtual environment >> python -m venv bas_env	
-activate virtual environment>> bas_env\scripts\activate	
- starting a project >>python-admin startproject bascore .	
-starting a app>>python manage.py startapp basapp	
-Start a database create a new connection in a workbench	
-connect database to Django to MySQL	
-Edit and create all necessary files ie serializer.py	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job



Drawn by: MARTIN MALIUS	**Date:02-09-2023**	**Checked by: ROBERT ASSEY**	**Date:**

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PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

WEEK NO 06	**FROM 04-09-2023 TO 04-09-2023 (date)**

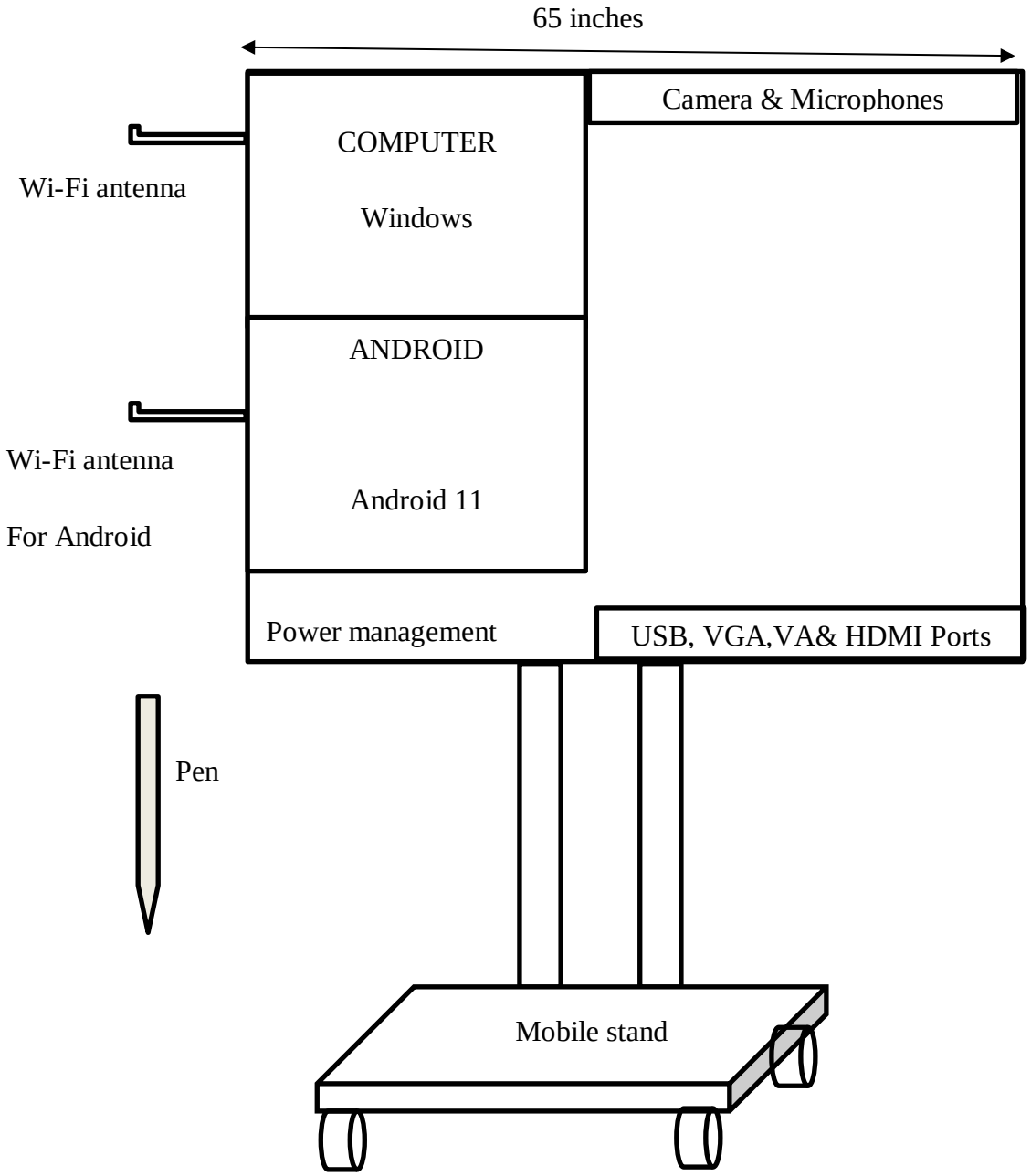
DAY /DATE`	**ACTIVITY**
Monday	
	Assessment by college supervisor
04-09-2023	
Tuesday	
	Interactive TV/PC screen inspection at the Tanzania High court
05-09-2023	
Wednesday	
	Day two interactive TV/PC screen inspection at the Tanzania High
06-09-2023	
Thursday	
	Day three interactive TV/PC screen inspection at the Tanzania High
07-09-2023	
Friday	
	Day four interactive TV/PC screen inspection at the Tanzania High
08-09-2023	

Details of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
STEPS	Screw driver
1. Checking the boxing seal	HDMI cable
2. Unboxing the TV/PC box	Knife
3. Checking all components	Soltape
4. Installing the mobile stand	
5. Assembling the screen	
6. Installing Wi-Fi antenna	
7. Testing all functionality	
8. Disassembling the screen	
9. Boxing the screen	
10. Installing the stand	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job

MONITORS TO BE USED IN PRISONS AND COURTS FOR VIRTUAL COURT HEARING



Drawn by: MARTIN	**Date: 08/09/2023**	**Checked by: ROBERT ASSEY**	**Date: /09/2023**

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PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

WEEK NO 07	**FROM 11-09-2023 TO 15-9-2023 (date)**

DAY /DATE`	**ACTIVITY**
Monday	
	Continue working with bas project handling data (image capturing)
11-09-2023	
Tuesday	
	Presenting the project progress of biometric attendance system BAS
12-09-2023	
Wednesday	Maintaining the music system devices
13-09-2023	
Thursday	Maintenance of vending machines
14-09-2023	
Friday	Fixing bugs on BAS system
15-09-2023	

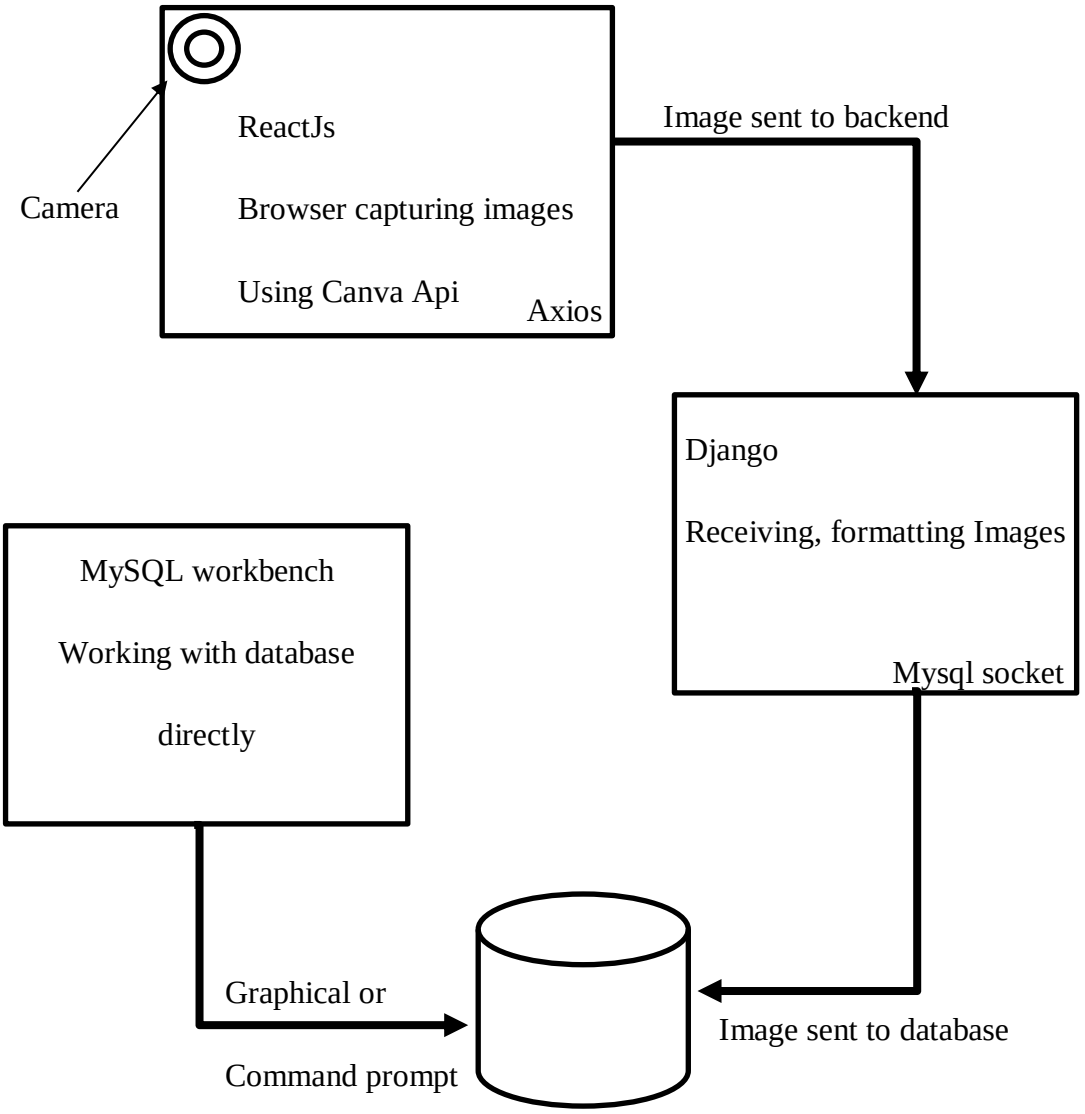
Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
STEPS	Computer
1. Install mySQL socket in the project backend	Built in camera
2. Install axios in the project frontend	
3. Create a model.py	software
4. Create a serializer.py	Visual studio code
5. Create a view.py	
6. Create a url.py	
7. Create migrations	
8. Migrate changes	
9. Link the api end point to front end	
10. Add frontend host address to allowed cors origns	

Comments from Industrial Supervisor	

Name: ROBERT ASSSEY	Signature……..

Detailed Diagram of the Main Job

CAPTURING IMAGES AND STORING THEM IN DATABASE



Drawn by: MARTIN MALIUS	Date: 15-09-2023	Checked by: ROBERT ASSEY	Date:

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PRACTICAL TRAINING LOG – BOOK

STUDENTS NAME: MARTIN MALIUS REG. NO 2020-04-05835

COMPANY/INSTITUTION: IMPERIAL INNOVATION

WEEK NO 08	**FROM 18-09-2023 TO 22-9-2023 (date)**

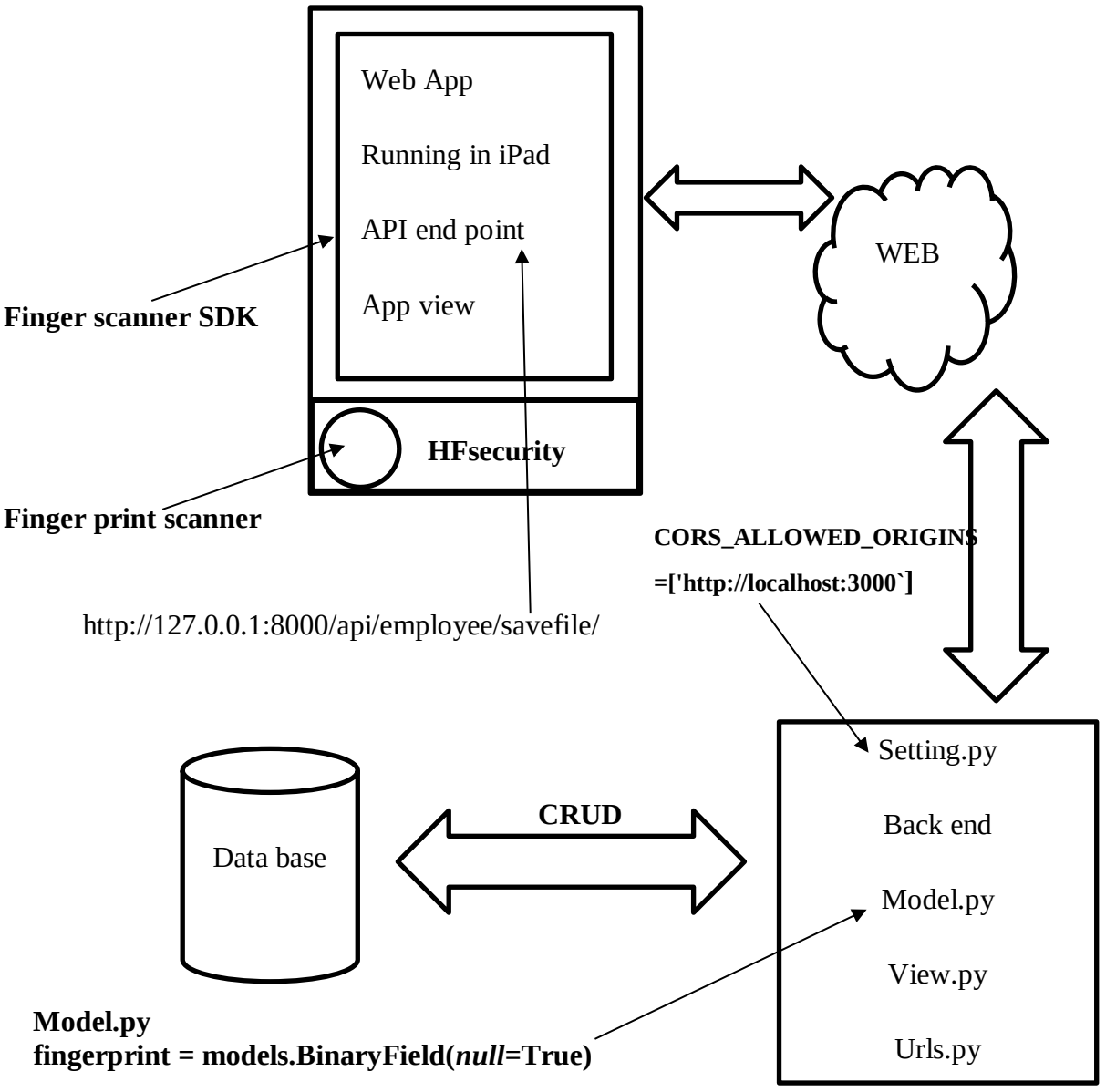
DAY /DATE`	**ACTIVITY**
Monday	
	Recording video about our experience at Imperial innovation
18-09-2023	On uwezeshaji program
Tuesday	Working on BAS Biometric Attendance System Finger print capturing
19-09-2023	
Wednesday	
	Working on BAS Biometric Attendance System Finger print capturing
20-09-2023	
Thursday	
	Fixing bugs on frontend and backend of BAS project
21-09-2023	
Friday	Fixing bugs on frontend and backend of BAS project
22-09-2023	

Details Of the Main Job of the Week	
Operation:	**Machinery/ Tools Used**
i. Install dependencies for encrypting fingerprints	Computer
ii. Create model.py	
iii. Create view.py	software
iv. Create urls.py	Visual studio code
v. test API end point for fingerprint	Mysql workbench
vi. Create front end file.jsx	
vii. Install axios	
viii. Create mobile app	
ix. Add fingerprint scanner SDK	
x. Create app view for webapp	
xi. Test compatibility	
RESULT	
Finger scanning was not successfully	

Comments from Industrial Supervisor		
Name: ROBERT ASSEY		**Signature……..**

Detailed Diagram of the Main Job

CAPTURING AND STORING/REQUESTING FINGER PRINTS



Drawn by: MARTIN MALIUS	**Date:19-09-2023**	**Checked by: ROBERT ASSEY**	**Date:**