FACULTY OF INFORMATION & COMMUNICATION TECHNOLOGY

SEMESTER SESSION 2021/2022

BITI3533 ARTIFICIAL INTELLIGENCE PROJECT MANAGEMENT

COMPANY NAME : SUNSHINE AI TECH SDN BHD

PROJECT TITLE : AI DETECTING SECURITY INTRUSION

FINAL REPORT

TEAM MEMBERS :

NAME	MATRIC NO
ANIS AMIERA BINTI ZAMRIN HASBULLAH	B031910491
FAIRUZ DIANA BINTI HAMZAH	B031910307
NORSAZA AMALIA BINTI MOHD SAIFUL ABIDIN	B031910482

LECTURER NAME : PROF.TS.DR.GOH ONG SING

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1.1 Project Summary

a) Customer

Ever Technologies

b) Project Name

AI Detecting Security Intrusion

c) Team Members

- Anis Amiera Binti Zamrin Hasbullah (Project Manager)
- Fairuz Diana Binti Hamzah (Programmer)
- Norsaza Amalia Binti Mohd Saiful Abidin (System Designer)

d) Objective

- Provides a prompt notice for the response force to a sensor.
- Require a high level of security to ensure safe and trusted communication of information.
- To reduce risk, identify error, optimize network use, provide insight into threat levels, and change user behavior.

2.0 Planning of Project

2.1 Project Management Life-Cycle

a) WBS

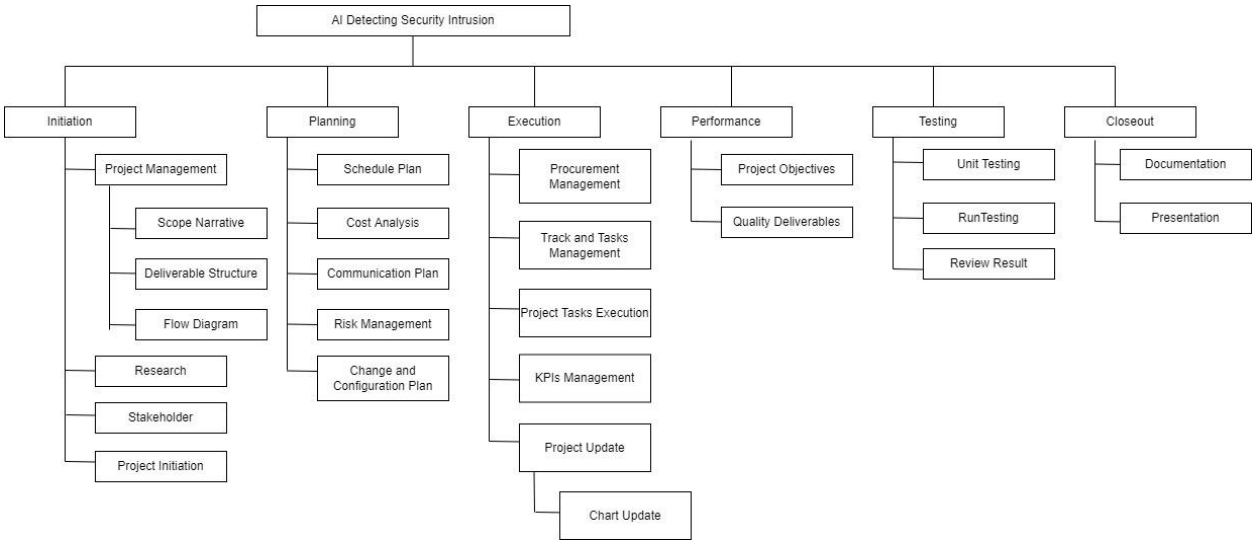
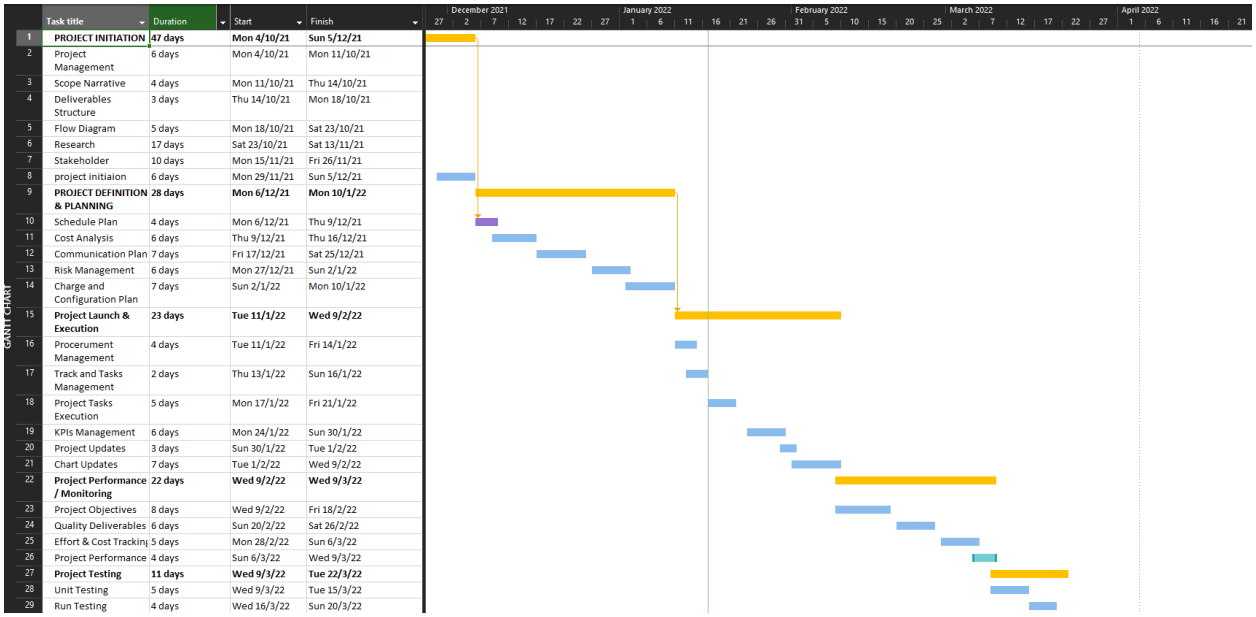
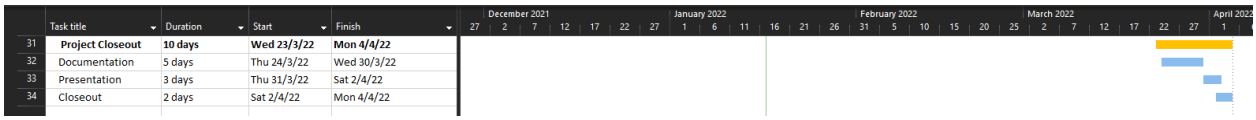


Figure 2.1 (a) WBS

b) Gantt Chart



	Task title	Duration	Start	Finish
1	**PROJECT INITIATION**	**47 days**	**Mon 4/10/21**	**Sun 5/12/21**
2	Project Management	6 days	Mon 4/10/21	Mon 11/10/21
3	Scope Narrative	4 days	Mon 11/10/21	Thu 14/10/21
4	Deliverables Structure	3 days	Thu 14/10/21	Mon 18/10/21
5	Flow Diagram	5 days	Mon 18/10/21	Sat 23/10/21
6	Research	17 days	Sat 23/10/21	Sat 13/11/21
7	Stakeholder	10 days	Mon 15/11/21	Fri 26/11/21
8	project initiaion	6 days	Mon 29/11/21	Sun 5/12/21
9	**PROJECT DEFINITION & PLANNING**	**28 days**	**Mon 6/12/21**	**Mon 10/1/22**
10	Schedule Plan	4 days	Mon 6/12/21	Thu 9/12/21
11	Cost Analysis	6 days	Thu 9/12/21	Thu 16/12/21
12	Communication Plan	7 days	Fri 17/12/21	Sat 25/12/21
13	Risk Management	6 days	Mon 27/12/21	Sun 2/1/22
14	Charge and Configuration Plan	7 days	Sun 2/1/22	Mon 10/1/22
15	**Project Launch & Execution**	**23 days**	**Tue 11/1/22**	**Wed 9/2/22**
16	Procerument Management	4 days	Tue 11/1/22	Fri 14/1/22
17	Track and Tasks Management	2 days	Thu 13/1/22	Sun 16/1/22
18	Project Tasks Execution	5 days	Mon 17/1/22	Fri 21/1/22
19	KPIs Management	6 days	Mon 24/1/22	Sun 30/1/22
20	Project Updates	3 days	Sun 30/1/22	Tue 1/2/22
21	Chart Updates	7 days	Tue 1/2/22	Wed 9/2/22
22	**Project Performance / Monitoring**	**22 days**	**Wed 9/2/22**	**Wed 9/3/22**
23	Project Objectives	8 days	Wed 9/2/22	Fri 18/2/22
24	Quality Deliverables	6 days	Sun 20/2/22	Sat 26/2/22
25	Effort & Cost Tracking	5 days	Mon 28/2/22	Sun 6/3/22
26	Project Performance	4 days	Sun 6/3/22	Wed 9/3/22
27	**Project Testing**	**11 days**	**Wed 9/3/22**	**Tue 22/3/22**
28	Unit Testing	5 days	Wed 9/3/22	Tue 15/3/22
29	Run Testing	4 days	Wed 16/3/22	Sun 20/3/22



	Task title	Duration	Start	Finish
31	**Project Closeout**	**10 days**	**Wed 23/3/22**	**Mon 4/4/22**
32	Documentation	5 days	Thu 24/3/22	Wed 30/3/22
33	Presentation	3 days	Thu 31/3/22	Sat 2/4/22
34	Closeout	2 days	Sat 2/4/22	Mon 4/4/22

Figure 2.1 (b) Gantt Chart

2.2 Risk Identification Chart

Table 2.2 Risk Identification

Measure of Success	Expectations	Guidelines
Time	Need to be delivered on time.	Stakeholders need to be alert if any changes of timeline.
Cost	Rate cost management as one of their highest priorities on a project, so evaluating how the project is performing financially is crucial.	Needs to be limited, if additional financial is needed the project manager must inform the sponsor.
Quality	Review can evaluate whether what you are doing meets the standards set out in your quality plans.	Standards of the quality have to be followed.

2.3 Responsibility Assignment Matrices (RAM)

2.3.1 Responsibility Assignment Matrices (RAM) Table

Resource Responsibility P - Primary Responsibility A - Approval Authority S - Supporting Responsibility (Contributor or Reviewer) I - Information Only *(Select from drop down list)*	Project Manager	System Designer	Programmer
Primary Planning			
Develop WBS	P	I	I
Stakeholder	P	P	S
Schedule Plan	P	S	S
Risk Management	A	S	P
Change and Configuration Plan	A	S	P
Launch and Execution			
Procurement Management	A	P	S
Manage Changes	A	S	P
Project Updates	P	S	P
Track and Tasks Management	P	S	S
Execute Project Tasks	A	P	P
Project Performance/ Monitoring			
Project Objectives	P	S	S
Quality Deliverables	A	S	P
Project Performance	P	S	P
Prepare Test Sites			
Installation	S	S	P
Configuration	S	I	P
Project Testing			
Unit Testing	P	S	P
Run Testing	A	S	P
Revie Testing	A	S	P
Project Closeout			
Documentation	A	P	S
Closeout	P	S	S

Figure 2.3.1 RAM Table

2.3.2 Roles and Responsibility

a) Project Manager

Project managers are responsible for planning, organizing, and directing the completion of specific projects for an organization while ensuring these projects are on time, on budget, and within scope. By overseeing complex projects from inception to completion, project managers have the potential to shape an organization's trajectory, helping to reduce costs, maximize company efficiencies, and increase revenue.The exact duties of a project manager will depend on their company, organization, and the types of projects that a Project Manager is tasked with overseeing. But across the board, all project managers share responsibilities across what's commonly referred to as the "project life cycle," which consists of five phases (or processes).

- Initiating
- Planning
- Executing
- Monitoring and Controlling
- Closing

b) System Designer

System Designer will assist in establishing the development of the project. They will assemble the suite of technical resources that requires, and identify any custom software that needs. System Designers take on a role similar to a computer hardware engineer, yet their role can also be strong on creativity and problem-solving duties. They may be required to track character progression from concept to implementation, defining crafting elements, skill trees and level tables. The responsibilities may include assembling all software and hardware required, Produce prototypes, oversee testing and implement changes and create customized software.

c) Programmer

Generally responsible for the development, design and implementation of new or modified software products or ongoing business projects. A Computer Programmer, or Systems Programmer, writes code to help software applications operate more efficiently. Their duties include designing and updating software solutions, writing and updating source-code and managing various operating systems. A programmer also may specialize in one or more computing fields, like database, security or software/firmware/mobile/Web development. These individuals are instrumental to the development of computer technology and the field of computing.After completing a program design, a programmer converts the design into a series of codes or instructions that the computer can run and execute, making use of a specific programming language and required platforms.

2.4 Project Planning Summary

2.4.1 Modules/Components

Table 2.4.1 Module and Components for project

Item	Justification
Camera Sensor	Intrusion detection monitors an area by detecting and surveying movement to capture events.
Motion Detector	Detect moving objects, specifically people. Perform well indoors/outdoors depending on type.
Key Pads	The main customer interface for arming/disarming the intrusion system.
Support Services	Provided to or on behalf of a person in the areas of personal care and assistance and property maintenance.
Internet services	To do some research papers on this project.

2.4.2 Budget

PROJECT TITLE	AI Detecting Security Intrusion								
PROJECT MANAGER	ANIS AMIERA BINTI ZAMRIN HASBULLAH								
GROUP NAME	FAIRUZ DIANA BINTI HAMZAH , NORSAZA AMALIA BINTI MOHD SAIFUL ABIDIN								
COMPANY NAME	SUNSHINE AI TECH SDN.BHD.								
DATE	1/11/2021								
Caculate Net Present Value (NPV)									
		2020	2021	2022	2023	2024	2025	2026	2027
		Actuals	*Plan*	*Plan*	*Plan*	*Plan*	*Plan*	*Plan*	*Plan*
Cash Flows	total	$ (1,000,000)	$172,000	$223,600	$234,780	$269,997	$313,197	$353,912	$2,406,999
Discounted Rate (Risk)	10.0%								
NPV (Manual)	$ 2,331,378		$ 156,364	$ 184,793	$ 176,394	$ 184,412	$ 194,470	$ 199,774	$ 1,235,171
NPV (Formula)	$ 2,331,378								
The higher the NPV, the better means the return from a project exceeds the cost of capital	$ 1,331,378								
	57%								

Figure 2.4.2 Budget for Project

3.0 Implementing the Project Plan

3.1 Tasks and Estimated Costs

a) Acquisition

			OVERALL PROJECT	GRANT REQUEST	MATCH			
			Budget must account for all costs to complete the project	Enter only the amount of the grant request	The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.			
			Amount	Funding amount	Match in PRISM	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Property Costs								
Item	Qty	Rate						
Laptop	3	$ 4,500.00	$ 13,500.00	$ 13,500	$ -	$ -		
Sensor	2	$ 1,100.00	$ 2,200.00	$ 2,200	$ -	$ -		
Camera	2	$ 2,850.00	$ 5,700.00	$ 5,700	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		STotal	$ 21,400	$ 21,400	$ -	$ -		
Incidental Costs								
Item	Qty	Rate						
Transportation	25	$ 170.00	$ 4,250	$ 4,250	$ -	$ -		
Food	330	$ 12.00	$ 3,960	$ 3,960	$ -	$ -		
Travel	30	$ 300.00	$ 9,000	$ 9,000	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
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		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		STotal	$ 17,210	$ 17,210.00	$ -	$ -		
Administrative Costs								
Item	Qty	Rate						
Project Manager	1	$ 4,500.00	$ 4,500	$ 4,500	$ -	$ -		
Project Coordinator	1	$ 5,500.00	$ 5,500	$ 5,500	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		$ -	$ -	$ -	$ -	$ -		
		STotal	$ 10,000	$ 10,000	$ -	$ -		
Indirect Costs								
Description	Approved Rate	Total Project Base						
Indirect Costs	0.000%	$ -	$ -	$ -	$ -	$ -		
Indirect Costs	0.000%	$ -	$ -	$ -	$ -	$ -		
		STotal	$ -	$ -	$ -	$ -		
			GTOTAL	$ 48,610	$ -	$ -		
				PRISM Project Total	$ 48,61			
				RCO Percentage	Match Percentage			
				$ 1	0			

Administrative Budget Check	
A&E maximum allowed in PRISM	[illegible]
A&E validation	[illegible]

Figure 3.1 (a) Budget for Acquisition

b) Design Projects

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteers, etc)	Match Type (federal, state, local)
Design Costs									
Category	Task Description	Qty	Rate						
Data collection	*Collect dataset*	**10.00**	$ -	$ -	$ -	$ -	$ -		
Conceptual design	*Design process*	7.00	$ 1,500.00	$ 10,500	$ 10,500	$ -	$ -		
Preliminary design	*Details of design*	5.00	$ 3,800.00	$ 19,000	$ 19,000	$ -	$ -		
Final design	*On final phase*	1.00	$ 5,200.00	$ 5,200	$ 5,200	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
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			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			STotal	$ 34,700	$ 34,700	$ -	$ -		
Indirect Costs									
	Description	Approved Rate	Total Project Base						
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
			STotal	$ -	$ -	$ -	$ -		
			GTOTAL	**$ 34,700**	**$ 34,700**	**$ -**	**$ -**		
					PRISM Project Total	$ 34,700			
					RCO Percentage	**Match Percentage**			
					1	**0.00%**			

Figure 3.1 (b) Budget for Design Project

c) Restoration

				OVERALL PROJECT	GRANT REQUEST	MATCH			
				Budget must account for all costs to complete the project	*Enter only the amount of the grant request*	*The Grant Request and Match should equal the total project cost and Budget Check cell should be 0. Sponsors must account for all sources and types of match need to complete the project.*			
				Amount	Amount	Match in PRISM	Funding not reported in PRISM	Source (Grant, Cash, Materials, Labor, Volunteer, etc)	Match Type (federal, state, local)
Construction									
Category (choose one)	**Task Description**	**Qty**	**Rate**						
Construction supervision	*Ensure that project is completed on time*	5.00	4,800.00	24,000	24,000	$ -	$ -		
Construction labor	*Programming and designing*	3.00	3,500.00	10,500	10,500	$ -	$ -		
Equipment and equipment use	*Equipment that use in this project*	3.00	2,550.00	7,650	7,650	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
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			$ -	$ -	$ -	$ -	$ -		
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			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			Stotal	42,150	42,150	$ -	$ -		
Administrative, Architechtural & Engineering									
Category	**Task Description**	**Qty**	**Rate**						
Other	*Installation service*	7.00	3,950.00	27,650.00	$ -	$ -	$ -		
Other	*Testing and configuration*	7.00	2,200.00	15,400.00	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			$ -	$ -	$ -	$ -	$ -		
			Stotal	43,050	$ -	$ -	$ -		
Indirect Costs									
	Description	**Approved Rate**	**Total Project Base**						
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
	Indirect	0.000%	$ -	$ -	$ -	$ -	$ -		
			Stotal	$ -	$ -	$ -	$ -		
A&E Budget Check									
A&E maximum allowed in	$ 12,645.0			GTOTAL	85,200	42,150	$ -	$ -	
A&E validation	12,645					PRISM Project	$ 42,15		
						RCO Percentage	**Match Percentage**		
						100.00%	**0.00%**		

Figure 3.1 (c) Budget for Restoration

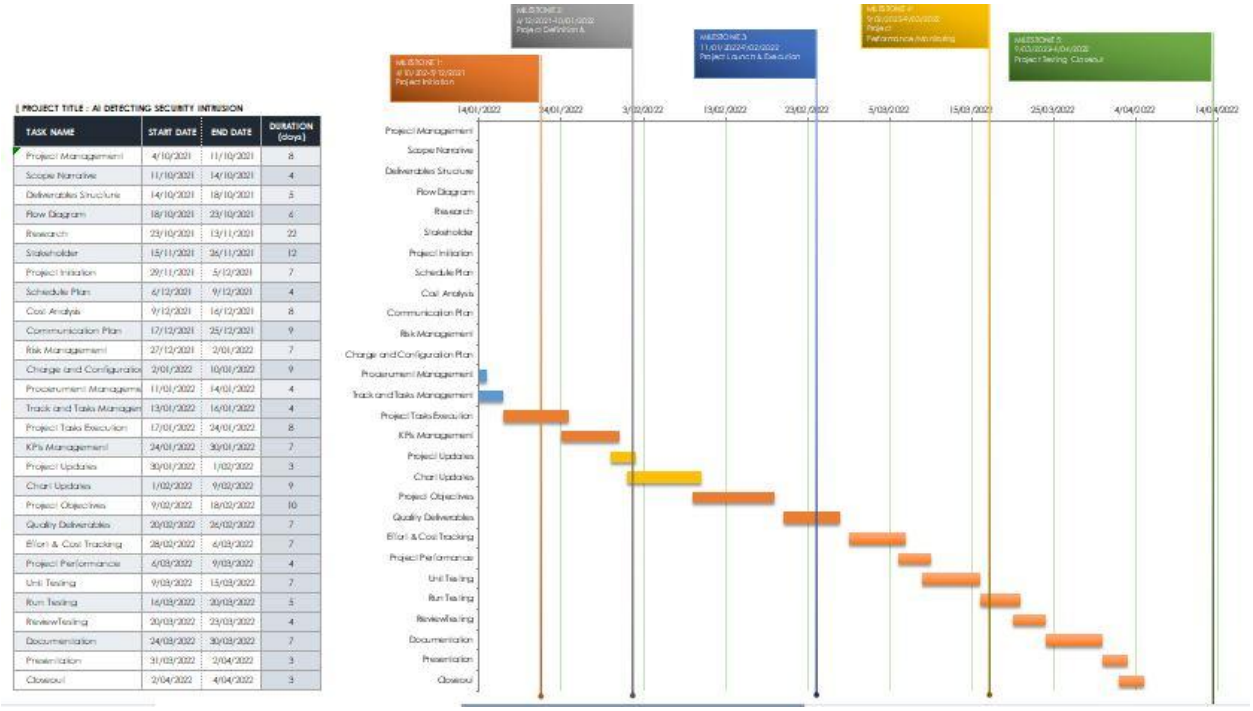
d) Cumulative Totals

	OVERALL PROJECT Cost	GRANT REQUEST Amount	PRISM MATCH Amount	MATCH NOT IN PRISM Amount	Budget Check
Sheet #1 Acquisition					
Property Costs	$ 21,400	$ 21,400	$ -	$ -	0
Incidental Costs	$ 17,210	$ 17,210	$ -	$ -	0
Administrative Costs	$ 10,000	$ 10,000	$ -	$ -	0
Indirect Costs	$ -	$ -	$ -	$ -	
STotal	$ 48,610	$ 48,610	$ -	$ -	0
Sheet #2 Design					
Design Costs	$ 34,700	$ 34,700	$ -	$ -	
Indirect Costs	$ -	$ -	$ -	$ -	
STotal	$ 34,700	$ 34,700	$ -	$ -	0
Sheet #3 Restoration					
Construction Costs	$ 42,150	$ 42,150	$ -	$ -	0
AA&E	$ 43,050	$ -	$ -	$ -	43,050
Indirect Costs	$ -	$ -	$ -	$ -	
STotal	$ 85,200	$ 42,150	$ -	$ -	43,050
GTOTAL	**$ 168,510**	**$ 125,460**	$ -	$ -	43,050

Total PRISM Project Budget	$ 125,460

Figure 3.1 (d) Budget for Cumulative Total

3.2 Milestone Time Management



[PROJECT TITLE : AI DETECTING SECURITY INTRUSION

TASK NAME	START DATE	END DATE	DURATION (days)
Project Management	4/10/2021	11/10/2021	8
Scope Narrative	11/10/2021	14/10/2021	4
Deliverables Structure	14/10/2021	18/10/2021	5
Flow Diagram	18/10/2021	23/10/2021	6
Research	23/10/2021	13/11/2021	22
Stakeholder	15/11/2021	26/11/2021	12
Project Initiation	29/11/2021	5/12/2021	7
Schedule Plan	6/12/2021	9/12/2021	4
Cost Analysis	9/12/2021	16/12/2021	8
Communication Plan	17/12/2021	25/12/2021	9
Risk Management	27/12/2021	2/01/2022	7
Change and Configuration	2/01/2022	10/01/2022	9
Procurement Managem	11/01/2022	14/01/2022	4
Track and Tasks Managem	13/01/2022	16/01/2022	4
Project Tasks Execution	17/01/2022	24/01/2022	8
KPIs Management	24/01/2022	30/01/2022	7
Project Updates	30/01/2022	1/02/2022	3
Chart Updates	1/02/2022	9/02/2022	9
Project Objectives	9/02/2022	18/02/2022	10
Quality Deliverables	20/02/2022	26/02/2022	7
Effort & Cost Tracking	28/02/2022	6/03/2022	7
Project Performance	6/03/2022	9/03/2022	4
Unit Testing	9/03/2022	15/03/2022	7
Run Testing	16/03/2022	20/03/2022	5
ReviewTesting	20/03/2022	23/03/2022	4
Documentation	24/03/2022	30/03/2022	7
Presentation	31/03/2022	2/04/2022	3
Closeout	2/04/2022	4/04/2022	3

Figure 3.2 Milestone Time management

4.0 Executing the Project

4.1 Design/Diagrams

a) Flow Chart

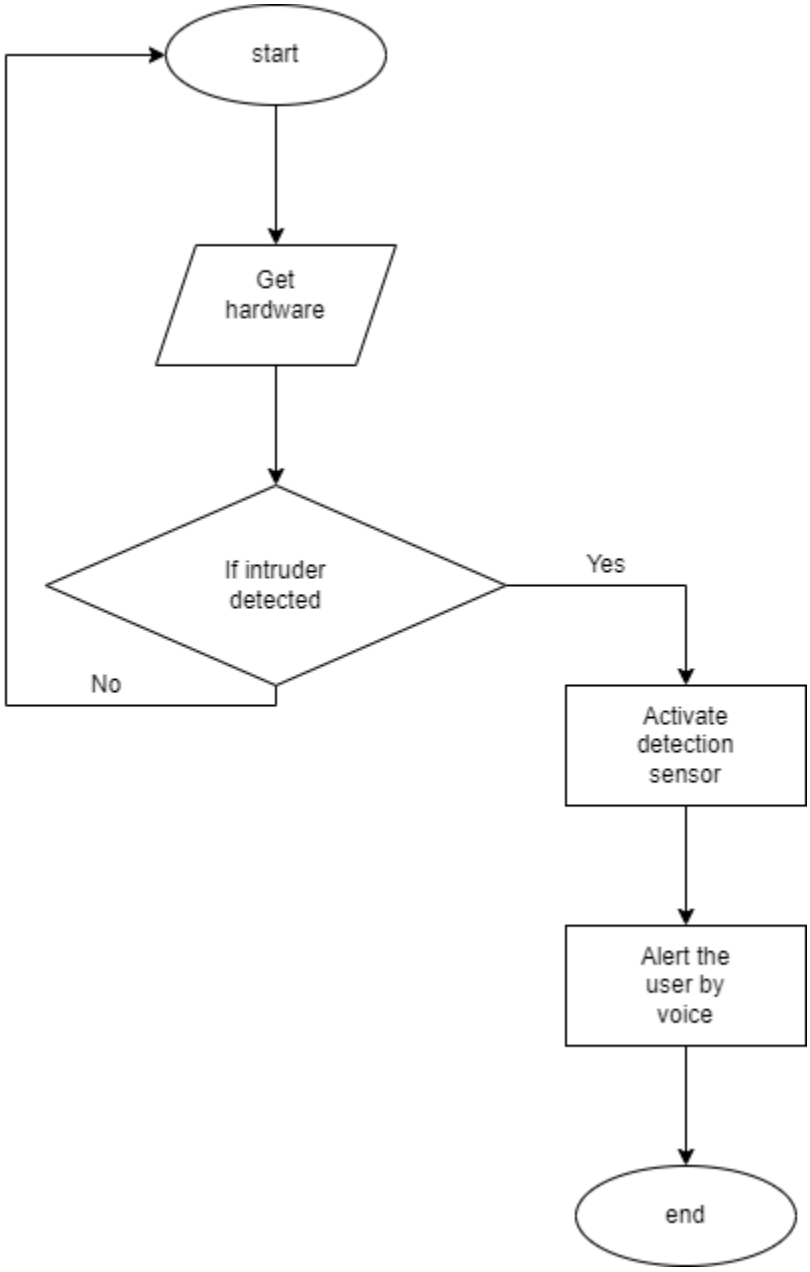


Figure 4.1 (a) Flowchart

b) AI Detecting Security Intrusion Algorithms

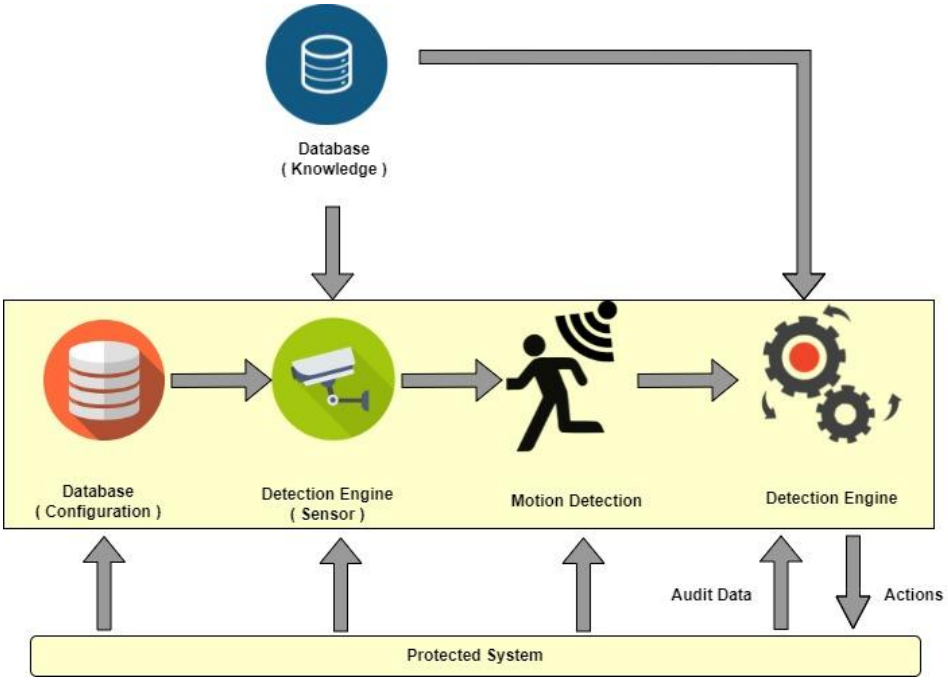


Figure 4.1 (b) AI Detecting Security Intrusion Algorithms

4.2 Coding

```
import cv2
import pyttsx3
import threading
import datetime
import time

# This funtion plays the audio message
def thread_voice_alert(engine):
    engine.say("intruder Detected")
    engine.runAndWait()

baseline_image=None
status_list=[None,None]
video=cv2.VideoCapture(0)

#Setting parameters for voice
engine = pyttsx3.init()
voices = engine.getProperty('voices')
engine.setProperty('voice', voices[1].id)
engine.setProperty('rate', 150)
engine.say("intruder Detected")
```

Figure 4.2 (c) coding

4.3 Output

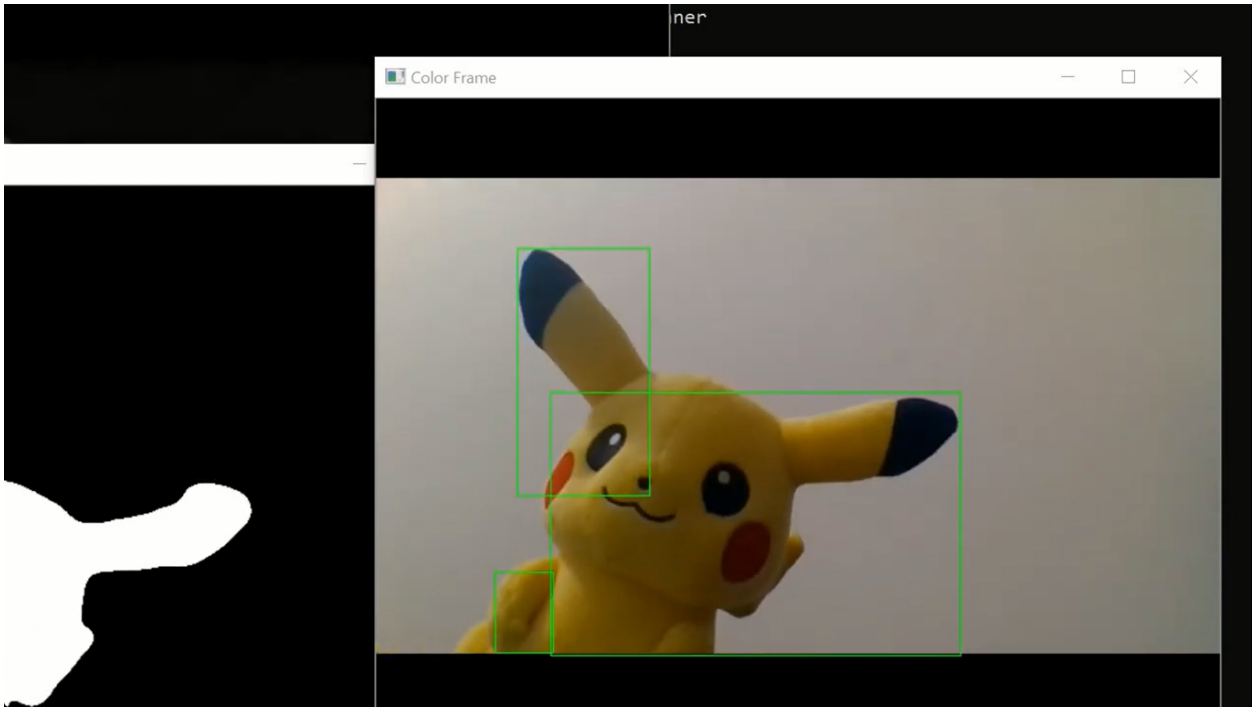


Figure 4.3 Output

The figure above shows the output from our source code. If an intruder is detected it will activate the detection sensor. The sensor will detect the intruder and alert the user by voice “intruder alert”.

5.0 Completing the Project

5.1 Acceptance/Project Completion Form Sign-Off

Customer Acceptance/Project Completion Form
10 January, 2022

Project Name : AI Detecting Security Intrusion

Project Manager : Anis Amiera Binti Zamrin Hasbullah

I (We), the undersigned , acknowledge and accept delivery of the work completed for this project on behalf of our organization. My (Our) signature's attest to my (our) agreement this the project has been completed. No further work should be done on this project.

Name	Title	Signature	Date
Fairuz Diana Binti Hamzah	Programmer	Fairuz Diana	10 January 2022
Norsaza Amalia Binti Mohd Saiful Abidin	System Designer	Amasaza	10 January 2022

1. Was this project completed to your justification? Yes / No

   Yes.

2. Please provide the main reason for satisfaction or dissatisfaction with this project.

   The main satisfaction for completing this project is the quality management plan deliverables are exceptionally strong. Moreover, the project plan for updated based on the feedback received from the team leader and develop for training plan this The project is interesting.

3. Please provide suggestion on how our organization be improve t the project delivery capability in the future.

   For my suggestions, to improve the project delivery capability in the future is to communicate more effectively, more efficiently with your work and get the fast movements in your work. Focus on the integration of projects within the organization to have better integration and strategic alignment.

5.2 Lessons Learned Document

Lesson-Learned Report
January 10, 2022

Project Name : AI Detecting Security Intrusion
Project Sponsor : Wafi Ismail
Project Manager : Anis Amiera Binti Zamrin Hasbullah
Project Dates : 4/10/2021 - 14/1/2021
Final Report : RM125,460

1. **Did the project meet scope,time and cost goals?**
   Yes. This project has met the scope, time and goals as planned but we still need more people to take the train in this course so that there will be more people with expertise on this course. To meet these goals we need around RM 20,000 more to achieve it.

2. **What was the success criteria listed in the project in the scope statement?**
   This project will be successful if we can train at least 300 people in one year. The cost of the project will be reduced after one and half years after the project is successful and completed.

3. **Reflect on whether or not you met the project success criteria.**
   The project has good team support which can deliver high quality of work. As a project manager, I need to have a particular set of skills to conduct the team. The skills will include both soft and hard skills. The project team member needs to give full commitment to help the project achieve the goals. Then we need more new trainers to meet project success criteria.

4. **What were the main lessons your team learned from this project?**
   The main lesson that we learned from this project is that having good communication is the key success of the project. We had WBS for each of the members with stakeholders which is very important. It is so important for a project manager to manage her/his teams to achieve the goal of the project and we have a very good project manager that can lead us very well. Sunshine Ai Tech Sdn Bhd is a company that is moving forward to Web-based training, so the strong communication is needed and very crucial.

6.0 Project Presentation

YouTube Link: https://www.youtube.com/watch?v=ZBbddkhdsxw