SAFETY PARCEL BOX

NAME	MATRIC NUMBER
NUR SYAKINAH BINTI SHAHAR	08DPM22F1019
TENGKU DANIA BUSYRA BINTI TENGKU NADZION	08DPM22F1179
NURIN AFRINA QAIDAH BINTI MOHD RIZAL	08DPM22F1212

DIPLOMA IN BUSINESS STUDIES

SESSION 1 2024/2025

POLITEKNIK SULTAN SALAHUDDIN ABDUL AZIZ SHAH

PRODUCT:
SAFETY PARCEL BOX

NAME	MATRIC NUMBER
NUR SYAKINAH BINTI SHAHAR	08DPM22F1019
TENGKU DANIA BUSYRA BINTI TENGKU NADZION	08DPM22F1179
NURIN AFRINA QAIDAH BINTI MOHD RIZAL	08DPM22F1212

A Project report submitted in partial fulfilment of the requirement for the award of Diploma in Business Studies

COMMERCE DEPARTMENT

SESSION 1 2024/2025

DECLARATION OF ORIGINALITY

TITLE: SAFETY PARCEL BOX

SESSION: 1 2024/2025

1. We, 1**. Nur Syakinah Binti Shahar (08DPM22F1019)**

   2.Tengku Dania Busyra Binti Tengku Nadzion (08DPM22F1179)

   3. Nurin Afrina Qaidah Binti Mohd Rizal (08DPM22F1212)

   are the final year of Diploma in Business Studies, Commerce Department, Polytechnic Sultan Salahuddin Abdul Aziz Shah located at Persiaran Usahawan 40150, Shah Alam, Selangor.

2. We verify that this project and intellectual properties are our original work without any plagiarism from any other sources.

3. We agree to release the projects intellectual properties to the above said polytechnic in order to fulfil the requirement of being awarded a Diploma in Business Studies.

Prepared by:

a. NUR SYAKINAH BINTI SHAHAR (.....)

Identity Card : 041209-10-0178

b. TENGKU DANIA BUSYRA BINTI TENGKU NADZION (.....)

Identity Card : 040111-01-0794

c. NURIN AFRINA QAIDAH BINTI MOHD RIZAL (.....)

Identity Card : 040326-10-0690

At Polytechnic Sultan Salahuddin Abdul Aziz Shah

In the presence of,

PUAN SHAREH @ SHAREAHA

Identity card No :

As the project supervisor

(.....)

PUAN SHAREH @ SHAREAHA BINTI DIN

LETTER OF AUTHORIZATION

We declare that the work in this final year project paper was carried out in accordance with the regulation of Polytechnic. It is original and is the result of our own work, unless otherwise indicated or acknowledged as referenced work. This thesis has not been submitted to any other academic institution or non-academic institution for any diploma or qualification.

We, hereby, acknowledge that we have been supplied with the Academic Rules and Regulations for Undergraduate, Polytechnic, regulating the conduct of my study and research.

1. Signature:

Name : NUR SYAKINAH BINTI SHAHAR

Registration Number : 08DPM22F1019

Date :

2. Signature:

Name : TENGKU DANIA BUSYRA BINTI TENGKU NADZION

Registration Number : 08DPM22F1179

Date :

3. Signature :

Name : NURIN AFRINA QAIDAH BINTI MOHD RIZAL

Registration Number : 08DPM22F1212

Date :

ACKNOWLEDGEMENT

We say a thousand thanks to our god who helped provide smoothness in completing this project well and successfully. This project is the result of hard sweat with a group of friends who are not lack at providing a good cooperation every time. Not forgetting also that we are thankful & grateful for all the help & support from our supervisor Puan Shareh @ Shareaha Binti Din who never tired of guiding us in completing this project.

I would like to say a big thank you again to Puan Shareh @ Shareaha Binti Din for helping us to solve our problems that we initially thought were difficult to do. With the guidance of our supervisor Puan Shareh @ Shareaha Binti Din we were finally able to finish this project successfully and managed to face various difficulties and obstacles well.

Not forgetting, we are very grateful & appreciate the services of those who are involved directly or indirectly in implementing this project. Support from classmates & also family members are very encouraging, it also helped us to build and strengthen our spirit in completing this project.

ABSTRACT

Home deliveries are currently on the rise as a result of e-commerce's growing popularity, which highlights the importance for effective and safe package management systems. The design and development of an innovative solution intended to protect packages from theft, weather damage, and outsiders is presented in this study. It is called the Safety Parcel Box.

The Safety Parcel Box combines advanced safety features which enable for real-time monitoring and user notifications, which include smart locks, surveillance cameras, and mobile app connectivity. The box is made of sturdy materials and is made to withstand weather conditions without sacrificing its user-friendliness for couriers or recipients. By addressing the ongoing problems of package theft and delivery errors, this solution seeks for better parcel security, streamline delivery processes, and offer consumers with peace of mind.

In Chapter 1, we introduce our Safety Parcel Box through the e-commerce sector. Moreover, in order to decrease delivery-related problem such as packages loss, theft or damages are to use our product because we offer a safe and secure location to receive a parcel. Likewise, our product also includes a mini-CCTV and smart padlock to make it more safer and ease of use for our users. They can monitor easily the parcel that arrive when they are not nearby in the area.

For our project Safety Parcel Box, we decide to use Design Thinking method that include empathy, define, ideate, prototype, and test. By using this method, we can see the progress of our project on how to prevent parcel from loss, theft, and damages. In addition, we also make a questionnaire on Google Form to know how and what people think about our project Safety Parcel Box.

In chapter 3, based on our questionnaire that we spread among the student we gather all the response and feedback. Also, determined to try implementing in real-life use. In this case, to make sure that our product will be fully functional features.

TABLE OF CONTENT

CHAPTER 1 : INTRODUCTION

1.1 INTRODUCTION

In this quickly developing digital age, people are increasingly choosing to make purchases through the e-commerce sector. But delivery-related problems like package loss and theft are become more and more worrying. In order to address this issue, the Safety Parcel Box was created especially to give customers a safe and secure location to receive their parcels without having to worry about damage or loss. In addition to being useful, this gadget is revolutionary in that it makes sure goods are delivered safely even while the user is away from home.

1.2 BACKGROUND OF PROJECT

The Safety Parcel Box project began as one of our groups initiatives to address the increasingly pressing issue of package delivery safety. In a world that is increasingly reliant on online delivery of goods, recipients often face the risk of their packages being lost or stolen if no one is home at the time of delivery. Based on this issue, our team has designed and developed a secure, lockable, and weatherproof box that allows couriers to drop off packages without having to meet the recipient face-to-face.

1.3 PROBLEM STATEMENT

Today's world of growing package delivery and online purchasing makes unattended packages left at doorsteps more susceptible to loss, theft, or damage. Secure options for receiving and keeping deliveries are lacking in traditional residential mailboxes and porches, especially while the beneficiaries are away from home. This makes it necessary to find a safe, dependable, and user-friendly system that guards against bad weather, guarantees the security of delivered packages, and makes it simple for the couriers and homeowners to access.

Our aim is to develop a safety package box that solves these problems by providing a safe, weatherproof, and easily accessible way to store parcels. In order to enhance convenience, security, and peace of mind for customers, the box should have features like access control, real-time notifications, and communication with several delivery services.

1.4 OBJECTIVE

Our aim is to develop a Safety Parcel Box that providing a safe, weatherproof, and easily accessible way to store parcels. In order to enhance convenience, security, and peace of mind for customers, the box should have features like access control and real-time monitoring.

i. To develop a secure and weatherproof parcel box that ensures safe storage for delivered parcels, reducing the risk of theft or damage.

ii. To create a user-friendly system that alerts customers upon parcel delivery, offering convenience and peace of mind.

iii. To make the product affordable and accessible to homeowners, particularly in urban areas where parcel delivery is frequent.

1.5PROJECT QUESTION

Four project question are posed to aid the researcher in achieving the project objectives. The project questions are as follow:

Question 1: Do you think safety parcel box would help you to prevent your parcel from being stolen?

Question 2: What type of locking mechanism would you provide the best security and ease of use?

Question 3: Do you think this product will help you a lot in the future?

1.6 SCOPE OF PROJECT

The goal of our project Safety Parcel Box is to produce products that can increase safety for our parcel from a bad weather like rain that can make the packages damaged. Likewise, it is ease of use using the smart padlock that only the owner can unlock the parcel box. This will also decrease the percentage of parcel theft. The mini-CCTV will help to monitor if the owner is not in the street or in the area around the house. The owner will receive a notification if the item has been delivered correctly and safely. Indirectly this product can reduce the occurrence of parcel theft or unwanted damage.

1.7 SIGNIFICANT OF PROJECT

The significance of a safety parcel box project lies in addressing key concerns related to parcel theft, convenience, and security in residential and commercial settings.

Here are the significant of our project:

- Integration with smart technology - Modern safety parcel boxes can incorporate smart technology, such as electronic locks, tracking systems, and mobile notifications. This integration can offer real-time updates and remote access, adding an extra layer of convenience and security.
- Enhance customer experience - For e-commerce businesses and their customers, offering a reliable and secure delivery option can improve overall satisfaction and loyalty. This can be a competitive advantage in a crowded market.
- Reduction in delivery issues - With a safety parcel box, issues like missed deliveries, redelivery fees, or packages left in unsafe places are minimized. This can lead to increased customer satisfaction and reduced operational costs for delivery services.

1.7.1 SWOT ANALYSIS

STRENGHTS	**WEAKNESS**
Convenience and efficiency: • 24/7 access: allows for parcel to be delivered and picked up at any time. • Ease of use: user-friendly design for both customers and delivery personnel.	High initial costs: • Development and production: high costs associated with designed and manufacturing advanced safety features. • Maintenance and updates: requires ongoing technical support and updates to maintain security and functionality.
OPPORTUNITIES	**THREATS**
Sustainability trends: • Eco-friendly solution: incorporate sustainable materials and practices to appeal to environmentally conscious consumers. Expansion potential: • Global market: explore opportunities in international markets where parcel theft and delivery issues are prevalent.	Competitive market: • Existing Solutions: Competition from other parcel delivery solutions and traditional methods. Economic conditions: • Market Conditions: Economic downturns may affect consumer spending and investment in new technologies.

1.8 OPERATION DEFINITION

We named this project Safety Parcel Box because since people nowadays are more likely like to purchase or buy through online. Online shopping also saves more time than go to the mall. As our product name, this Safety Parcel Box will improve the safety of our customer parcel from theft and bad weather. In addition, our group also put smart padlock to make sure that only the owner of the Safety Parcel Box can open and take the parcel out. Our product also includes a mini-CCTV that already came with the Safety Parcel Box this will increase the safety for our customer parcel. This will help to track whether the

courier delivered the parcel or not to from phone to prevent the customer from lost their parcel.

1.9 SUMMARY

In conclusion, at the end of this chapter we were expected to deliver a Safety Parcel Box at the lowest cost and to make sure it is affordable. Moreover, we need to unsure that the project we make have made our customer feels safety and ease to use.

CHAPTER 2 : LITERATURE REVIEW

2.1 INTRODUCTION

In this chapter we focus on the literature review that the materials to the or project objectives. Likewise, it discusses about the factors that influence consumer purchase intention. Our group choose Design Thinking method towards our project Safety Parcel Box.

2.2 DESIGN THINKING

Design thinking is a continuous, human-centered approach to problem-solving that places an intense focus on analysing user demands, coming up with original solutions, and testing concepts in practical settings. It's frequently applied in domains such as corporate strategy, service design, and product development to provide ground-breaking solutions that genuinely connect with customers.

1) EMPHATY

One of the most significant components of design thinking is empathy, which refers to the ability to understand and share the feelings and perspectives of others. By creating a close interaction with users, this allows designers and problem solvers ensure that their solutions are meaningful and valuable. During this phase, we need to spend time observing and engaging with real users such as interview to see how they interact with an existing product, also we need to generally paying attention to facial expression and body language.

2) DEFINE

The second step is define which are based on use needs and insights this will help frame the problem clearly and guides the ideation phase toward meaningful solutions. In this phase we need to gather all the finding from the first phase which are empathy and start piecing them together. The end of this phase, we will see a clear problem statement to guide throughout the design process. This will form a basis of our ideas and potential solutions.

3) IDEATE

In the third phase, we need to explore as many creative solutions as possible without judgement and filtering. In this phase we need to encourage thinking outside the box and levering diverse perspectives to uncover innovative approaches. Our group need to hold ideation sessions to generate as many ideas as possible regardless of whether or not they're feasible. Throughout this phase, we will continuously refer back to your problem statement. As you prepare to move on to the next phase, it will narrow it down to a few ideas which we will turn into our prototypes to be tested a real user.

4) PROTOTYPE

The fourth phase of the design thinking process, during which concepts are translated into concrete, verifiable models. Prototyping aims to see how possible solutions might function in real life, providing an opportunity for testing, feedback and adjustment before being completely implemented. Depending on the stage of development, a prototype can be anything from a simple model or sketching to a finished product with fully functional features.

5) TEST

The fifth phase of the design thinking process, during which you check your prototypes through user feedback. Determining how well your solution satisfies the demands of the user, pinpointing areas for improvement, and iterating your prototype in response to user feedback are the goals. Before implementing the solution in its final form, testing helps guarantee that it is both desirable and effective.

2.3 SUMMARY

This chapter provides an explanation of the progress of our project Safety Parcel Box. Many case studies discuss about how to prevent parcel from damages and stolen. Aa a result, in chapter 3 there will be an explanation of the project methodology that is how the project is organized.

CHAPTER 3 : METHODOLOGY

3.1 INTRODUCTION

The purpose of methodology is to establish an underlying paradigm that supports the chosen research. As we gather the data from interviews, questionnaire, observations, and others from our participants.

3.2 PROJECT DESIGN

Safety Parcel Box has determined that adopting the Design Thinking Method as a framework in the design and development of the product is the most effective method to proceed.

3.2.1 FLOW CHART DESIGN

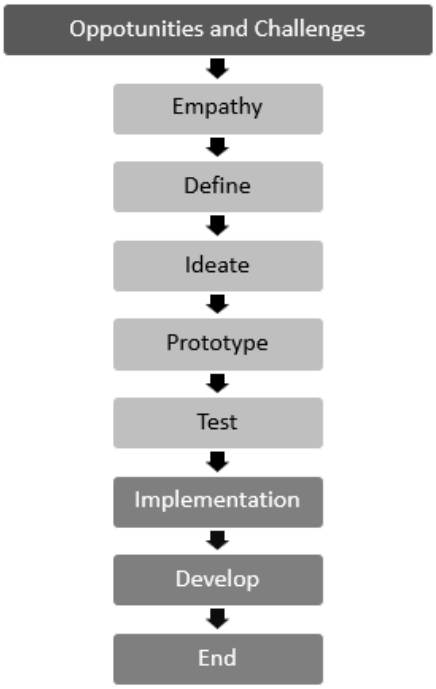


Figure 3.2.1 Design flow chart

3.3 METHOD/ PROCUDURE/ PROJECT PRODUCTION TECHNIQUE

Design thinking method

Design thinking is a non-linear, continuous method that encourages user and designer work together. It gives creative solutions life by patterning their thoughts, emotions, and actions after actual users. The five main phases of this human-centered design approach are empathy, define, ideate, prototype, and test.

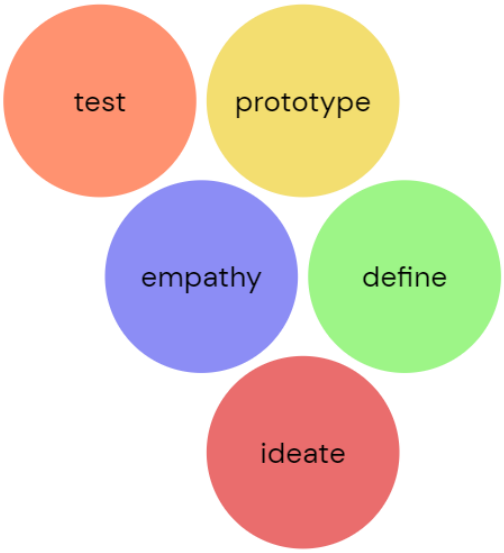


Figure 3.3 design thinking method

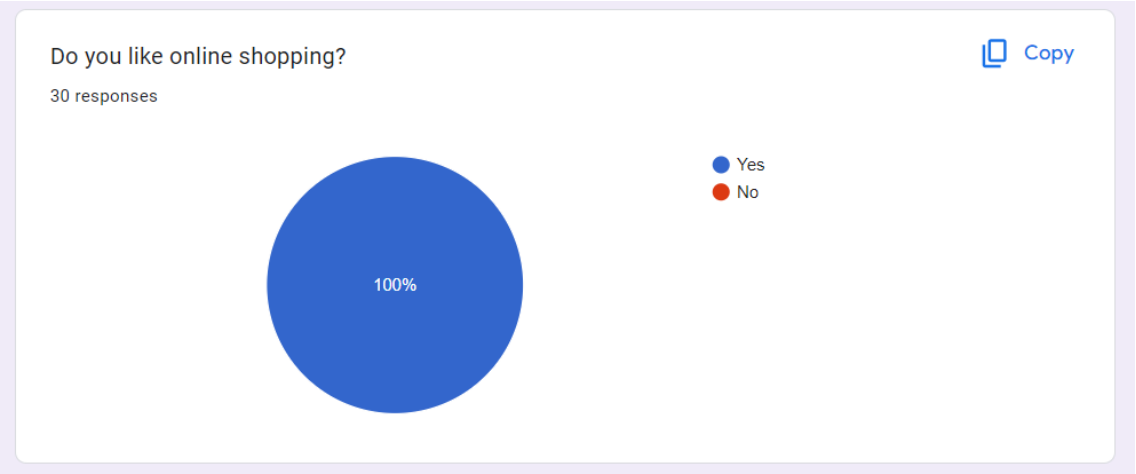
3.3.1 EMPATHY

This phase is done by interviewing and questionnaire by spread out the question among Polytechnic Sultan Salahuddin Abdul Aziz Shah (PSA) students. By the questionnaire that were collected we found that most of student like to buy things from online such as from TikTok, Shopee, Lazada, and others.

Interviews:

Figure 3.3.1 Empathy map

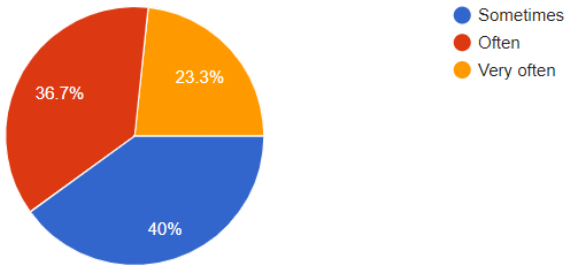
Questionnaire question using google form:



How often you buy from online platforms?

Copy

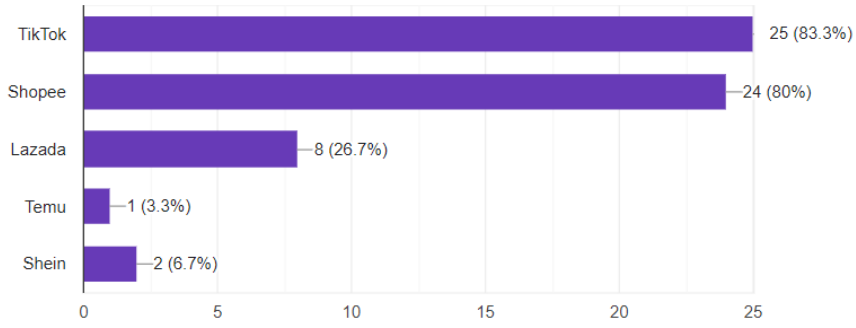
30 responses



What apps do you like to order from?

Copy

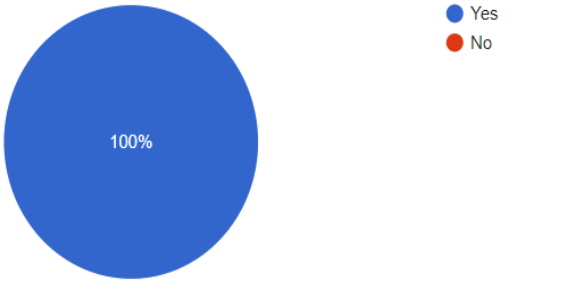
30 responses



Do you think safety parcel box would help you to prevent your parcel from being stolen?

Copy

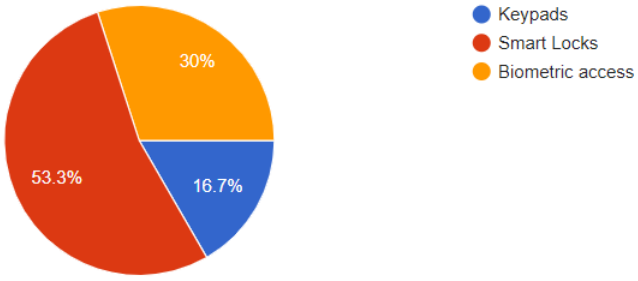
30 responses



If yes, what type of locking mechanism would provide the best security and ease of use?

Copy

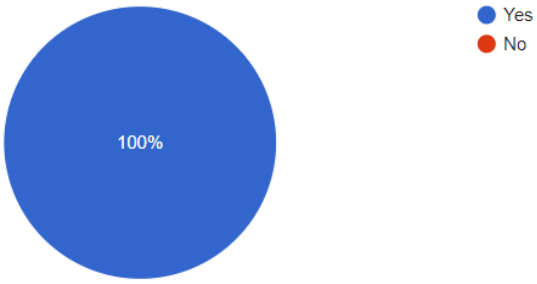
30 responses



Do you think this product will help you a lot in the future?

Copy

30 responses



3.3.2 DEFINE

In this phase, we gather all the answer for our questionnaire and start to piecing them out together. Our group, find out that most of our responses choose smart locks with 53.3% and second biometric access with 30% as a locking mechanism for the best security and ease of use. Moreover, most of our responses choose our Safety Parcel Box will help a lot in the future. As for the last question in the google form we spread among the student we also ask about what to improve in our product, some of the respondent answer to make the box a bit bigger and sync the product with a smart app for more easy access.

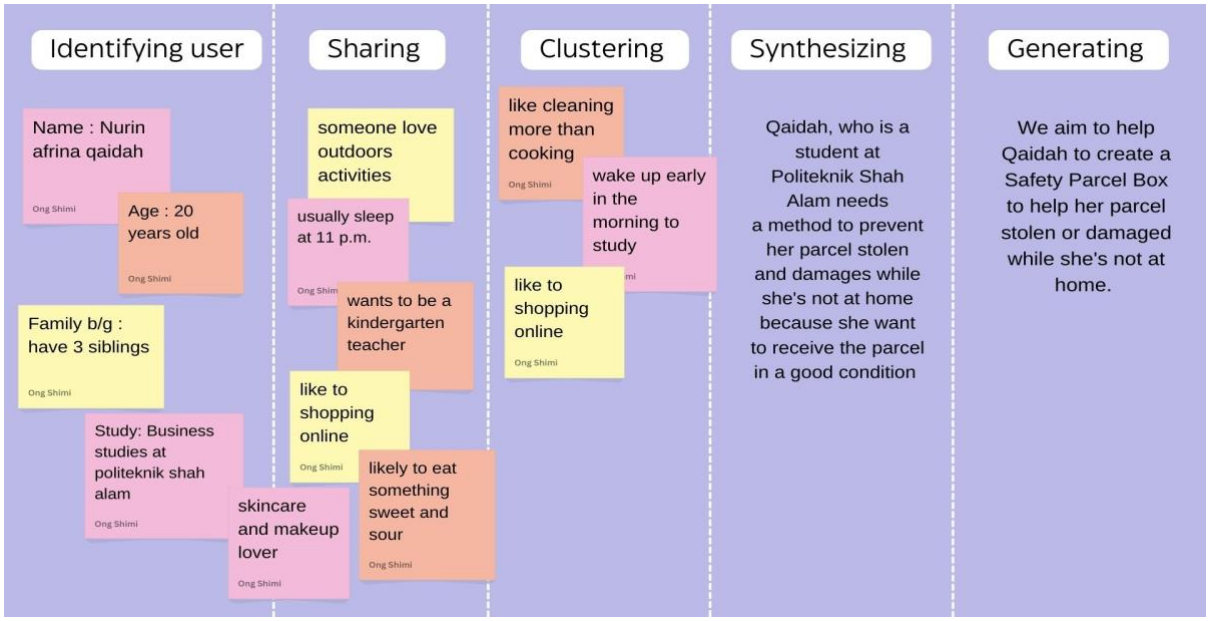


Figure 3.3.2 Define

3.3.3 IDEATE

In the third phase, we have explored many creative solutions as possible and encourage thinking outside the box. We also refer to the problem statement and define stage. Moreover, we would like to put a mini-CCTV that will sync our product with a smart app. This will help easier for them to monitor.

3.3.4 PROTOTYPE

For this fourth phase, we make a prototype to see how possible solutions might functions in real life, opportunity for testing, feedback and adjustment before being completely implemented. First, we try to do a simple sketch to see if the idea can really implement in real life and its to make sure that the product will be fully functional features.

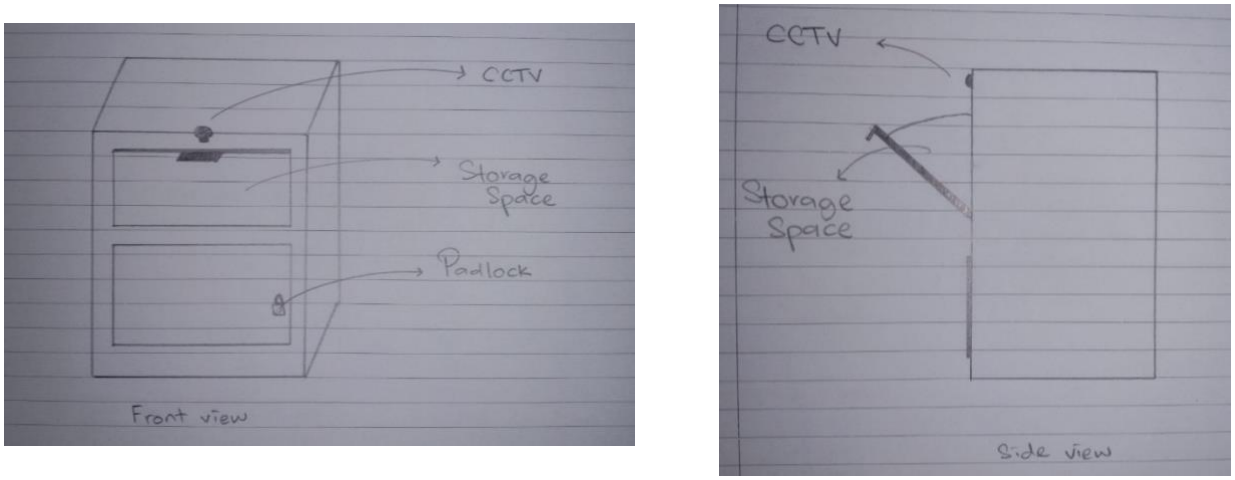


Figure 3.3.4 Prototype

3.3.5 TEST

The fifth phase of design thinking method which is our group check the prototypes trough feedback. Moreover, we also need to determining how well our solutions satisfies the demands of the user, improvement, and iterating our prototype. Before we implementing the solutions in this final form of design thinking method, testing the product helps to guarantee that it is both desirable and effective.

3.4 MATERIALS AND EQUIMENTS

MELAMINE BOARD

Melamine board is a highly practical and adaptable material often favored in various construction, interior design, and manufacturing applications. Made from melamine resin—a durable type of thermosetting plastic—melamine board offers a unique combination of strength, resistance, and aesthetic appeal. Its structure typically includes three layers: two smooth, durable outer layers that provide a polished finish and protection, and a central ribbed or fluted layer, which reinforces the board's structural integrity. This core gives melamine board a similar appearance and functionality to traditional corrugated cardboard, but with enhanced durability.

One of the main advantages of melamine board over traditional cardboard or wood-based materials is its water and moisture resistance. The melamine resin creates a non-porous surface that does not absorb water, making it an ideal choice for areas with high humidity or frequent exposure to moisture.

Additionally, melamine boards are known for their ease of maintenance and cleaning. The smooth surface resists staining, scratches, and chemicals, allowing it to maintain its appearance over time with minimal effort. These characteristics, combined with its lightweight yet durable nature, make melamine board a versatile material where both functionality and aesthetic appeal are required.

MINI CCTV

The mini-CCTV is a compact, discreet security camera, ideally suited for applications where space is limited or the camera needs to be hidden for aesthetic or safety reasons. Unlike traditional, bulkier CCTV cameras, these miniaturized versions offer a sleek and subtle way to monitor areas effectively without drawing attention. Due to their compact size, mini-CCTV cameras are particularly valuable in environments where hidden surveillance is required, such as in package security systems, where they can be embedded seamlessly within a parcel box or other small enclosures.

In the context of a Safety Parcel Box, the mini-CCTV serves as a vital component in deterring theft and documenting deliveries. Positioned strategically inside or around the box, it allows users to monitor package deliveries and any potential interference with the parcel, providing peace of mind for recipients who are concerned about package theft, tampering, or damage. The camera's small size allows it to be placed without impacting the appearance of the parcel box, while still delivering high-quality video and sometimes even audio, depending on the model.

These features enhance the functionality of the Safety Parcel Box by allowing real-time monitoring, even in low-light conditions, and alerting the user to any unexpected activity. This integration of mini-CCTV cameras into safety parcel boxes supports both preventive and reactive security measures, making it an effective tool for ensuring the secure delivery and storage of packages.

SMART PADLOCK

The smart padlock is an innovative security solution designed to offer keyless access, enhanced safety, and convenient control through modern technology. Unlike traditional padlocks that rely on physical keys or simple combinations, smart padlocks incorporate digital features like biometric authentication capabilities. This allows users to unlock them using fingerprint scans making them versatile and secure.

The keyless feature eliminates the need to manage physical keys, which can be lost or duplicated, and instead allows secure access through registered devices or personal codes. This is particularly useful for delivery personnel and recipients, who can gain access to the parcel box using a fingerprint identification.

Additionally, many smart padlocks are designed with durable, weather-resistant materials, ensuring they are suitable for outdoor use and can withstand exposure to the elements. This makes them ideal for use in parcel boxes that are stored outdoors, as they can resist tampering, corrosion, and extreme weather conditions. By integrating a smart padlock into the safety parcel box, users gain not only robust security but also convenient, flexible control over parcel access, making it a valuable component in protecting deliveries.

3.5 METHOD OF COLLECTION DATA

The actual data for this study was collected from Polytechnic Sultan Salahuddin Adbul Aziz Shah (PSA). The data we been collected are using a questionnaire technique given to respondents. The questionnaire is made in the form of google for. Here is the link of our questionnaire that we spread among the student.

https://forms.gle/v1Rn2rqQp4mVy6Tz8

The number of respondents is 30 people. With that we produce our products based on the data that we collect.

3.6 SUMMARY

The implementation method of the Safety Parcel Box project is to use the Design Thinking method which is more accurate to achieve our objectives. Moreover, the materials that we use is also very important to make sure the product is durable. Our respondents also can affect the production of our Safety Parcel Box project.

CHAPTER 4 : FINDINGS AND DISCUSSION

4.1 INTRODUCTION

This chapter will discuss the analysis of data that has been carried out for this project. The layout of this chapter id divided into several subtopics that illustrates on the method of analysis for this project. This section will explain the details results from the testing and survey that has been conducted.

4.2 SAMPLES AND PROFILES

Samples and profiles known as the respondent's demographic profile that contain information about the respondent. The questions given are those about age, gender, department and employment status. The demographic samples of respondents are important because they provide information about the respondent behaviour. Also, this section is need to assess how representative the sample is of the wider population.

Respondent's demographic		**Frequency**	**Percentage %**
Age	18-25	30	100%
	26-30	0	0
	31-35	0	0
Gender	Male	2	6.7%
	Female	28	93.3%
Employment status	Full-time	0	0
	Part-time	0	0
	Student	30	100%
	Self-employment	0	0
Department	JPG	24	80%
	JKA	1	3.3%
	JKE	2	6.7%
	JKM	3	10%

Table 4.1 profile of respondents

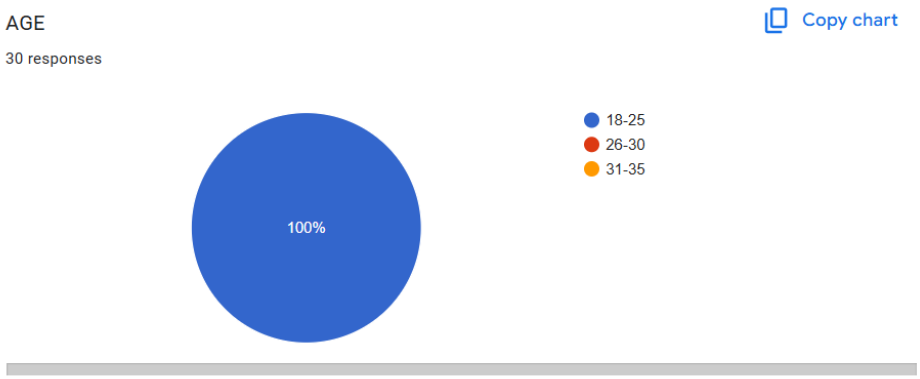
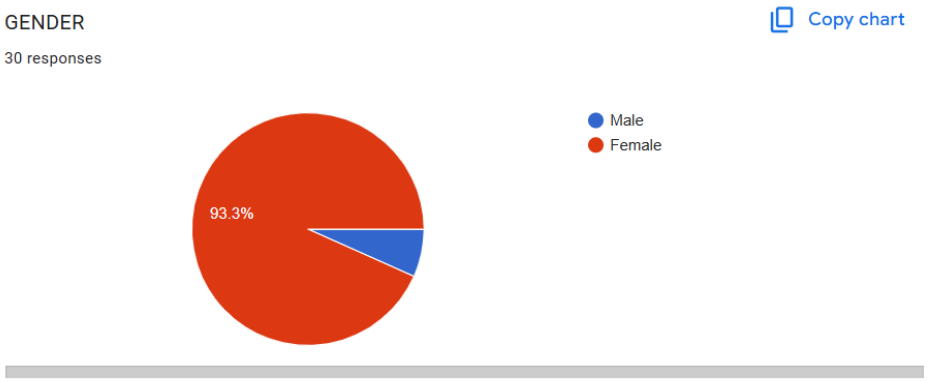
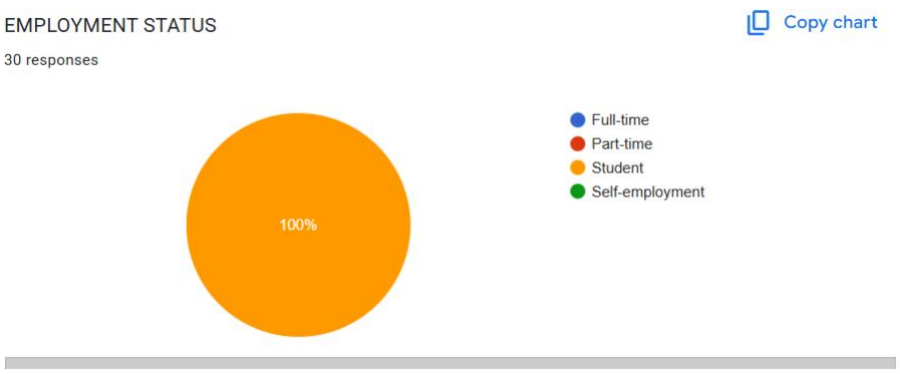


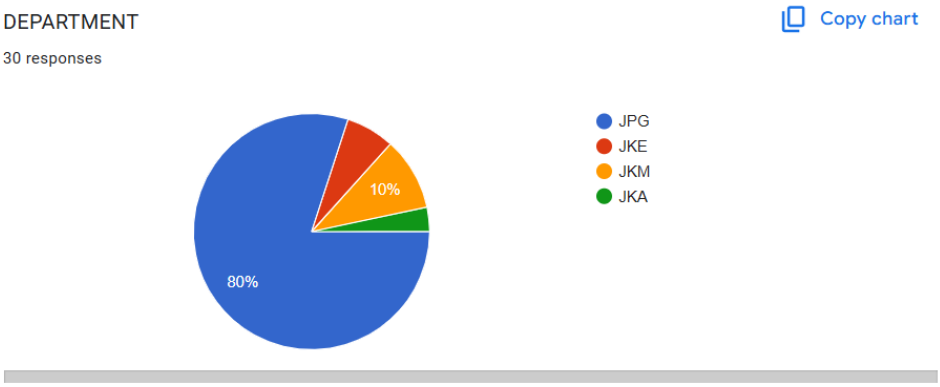
Table 4.1 shows the profile of respondents for the questionnaire. According to age, the number of respondents is 30 people with (100%) age 18 to 25.



Next, according to gender the number of respondents is having a gap with 28 (98.3%) female respondents and 2 (6.7%) male respondents. The total respondents are 30 people.



Next, according to employment status the number of respondents is 30 people with (100%).



According to department, the higher respondents are JPG with total of number 24 (80%) respondents and following by JKM with total of number 3 (10%), JKE with total of number 2 (6.7%) and JKA with total of number 1 (3.3%). Total of respondents are 30 people.

4.2.1 TESTING

The prototype testing phase for the Safety Parcel Box application was conducted to assess the usability, functionality, and overall user experience. The primary goals were to gather user feedback and identify potential improvements before moving into the final development/implement phase. Users feedback was categorized using feedback grid as shown below

4.2.2 SURVEY ANALYSIS

The Safety Parcel Box survey analysis approach involves data collection and cleaning, segmentation of responses based on demographics, and primary analysis covering usage frequency, security perception, feature satisfaction, and user concerns. Descriptive analysis calculates the proportion of users who feel safe or need additional security, followed by crosstab analysis to see patterns based on demographics, and sentiment analysis on open responses. Key findings include concerns about theft, interest in additional features such as biometric locks and notifications, and a summary of satisfaction. Recommendations include improving security, user education, and accessibility for a better experience.

4.2.2.1 PUBLIC RESPONSE TOWARD SYSTEM

A total of 30 students in Polytechnic Sultan Salahuddin Abdul Aziz Shah (PSA) have conducted this study.

Questionnaire	Poor 1	Slightly Satisfied 2	Neutral 3	Satisfied 4	Very Satisfied 5
How well does the locking mechanism meet your security expectations?	0	0	8	14	10
How effective the safety parcel box at protecting parcels from weather conditions?	0	0	0	16	14
How user-friendly do you find the overall operation of the safety parcel box?	0	0	2	15	13
How satisfied are you with the material quality of the safety parcel box?	0	0	4	11	15
How easy to maintain and clean the safety parcel box?	0	0	5	12	13
How likely are you recommend this safety parcel box to others?	0	0	5	10	15
How well does the safety parcel box meet your expectations overall?	0	0	5	13	12

Table 4.2.2.1 respondents' perspective by scale of Safety Parcel Box

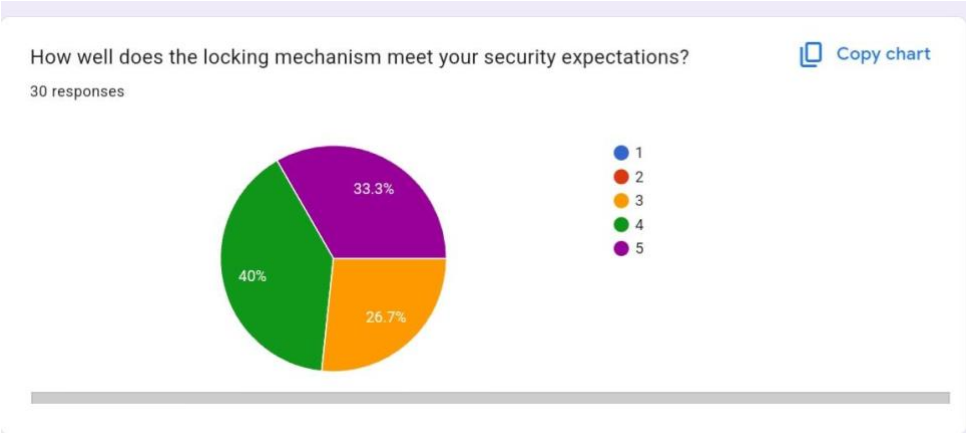
4.3 RELIABILITY ANALYSIS

Descriptive Statistics

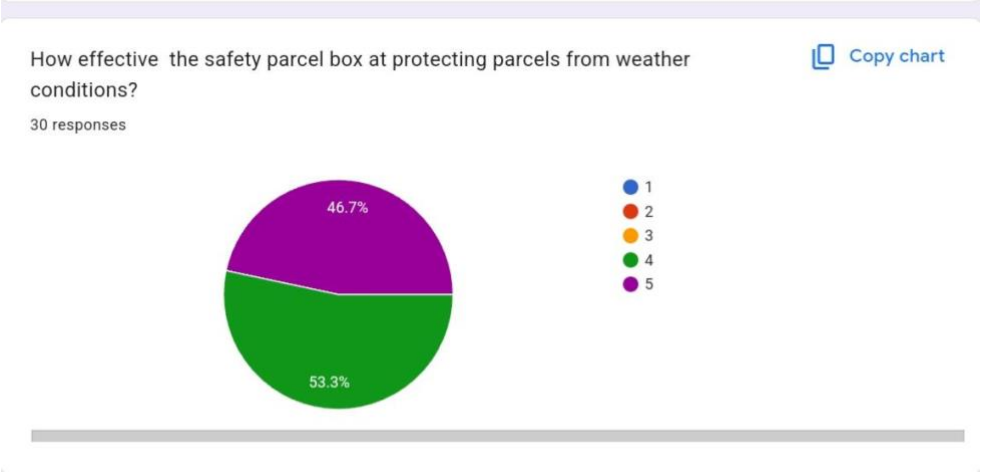
	N	Minimum	Maximum	Mean	Std. Deviation
How well does the locking mechanism meet your security expectation?	30	3	5	4.07	.785
How effective the safety parcel box at protecting parcels from weather conditions?	30	4	5	4.47	.507
How user-friendly do you find the overall operation of the safety parcel box?	30	3	5	4.37	.615
How satisfied are you with the material quality of the safety parcel box?	30	3	5	4.37	.718
How easy is it to maintain and clean the safety parcel box?	30	3	5	4.27	.740
How likely are you recommend this safety parcel box to others?	30	3	5	4.33	.758
How well does the safety parcel box meet your expectations overall?	30	3	5	4.23	.728
Valid N (listwise)	30				

4.3.2 SURVEY ANALYSIS

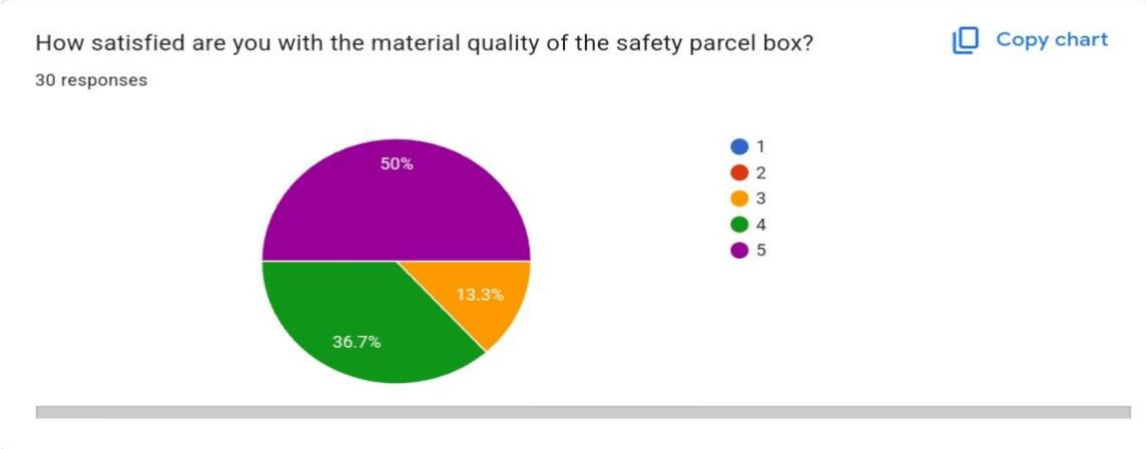
Researcher need to use a questionnaire form. Once the researcher knows what the analysis demands, a questionnaire is an efficient method of collecting data. The questionnaire can be used for research involving the public, and the number of respondents can allow current data. The respondents were asked to rate their level of agreement on a scale.



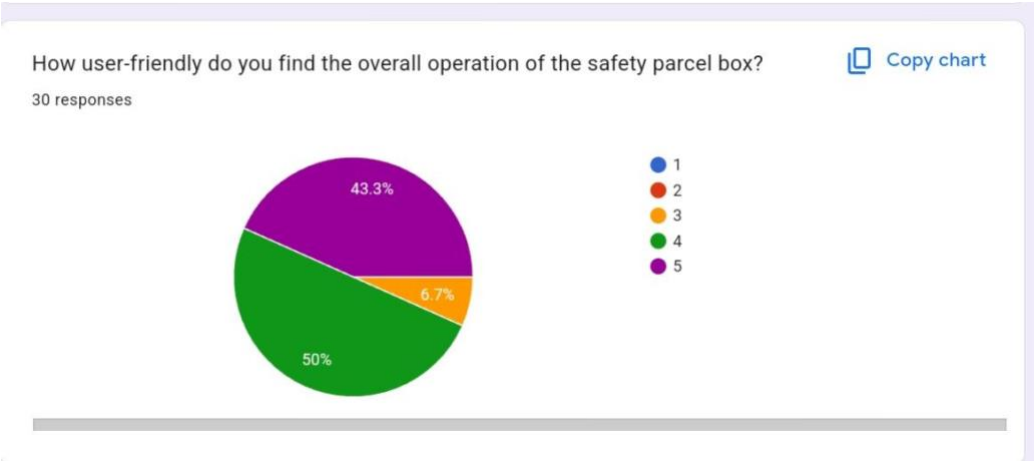
The first question is how well does the locking mechanism meet your security expectations about 40% of respondents with 12 people who vote for satisfied and following by 33.3% with 10 people who vote for very satisfied and the lowest with 26.7% with 8 people who vote for neutral. Total of respondents are 30 people.



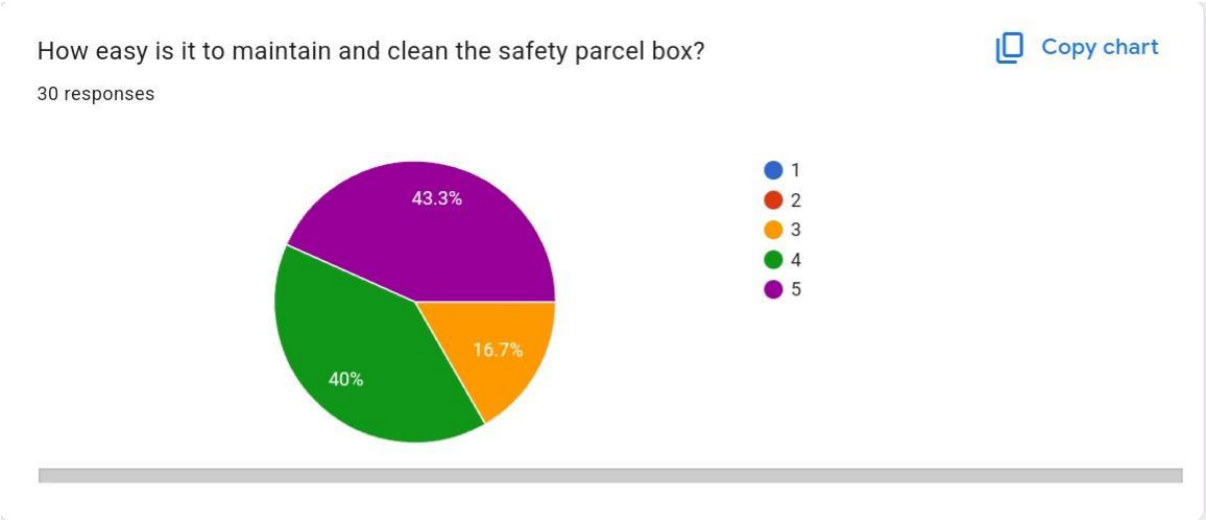
The second question is how effective the Safety Parcel Box at protecting parcel from weather conditions , about 53.3% with 16 people of respondent who vote for satisfied and about 46.7% with 14 people of respondent who vote for very satisfied. Total of respondent are 30 people.



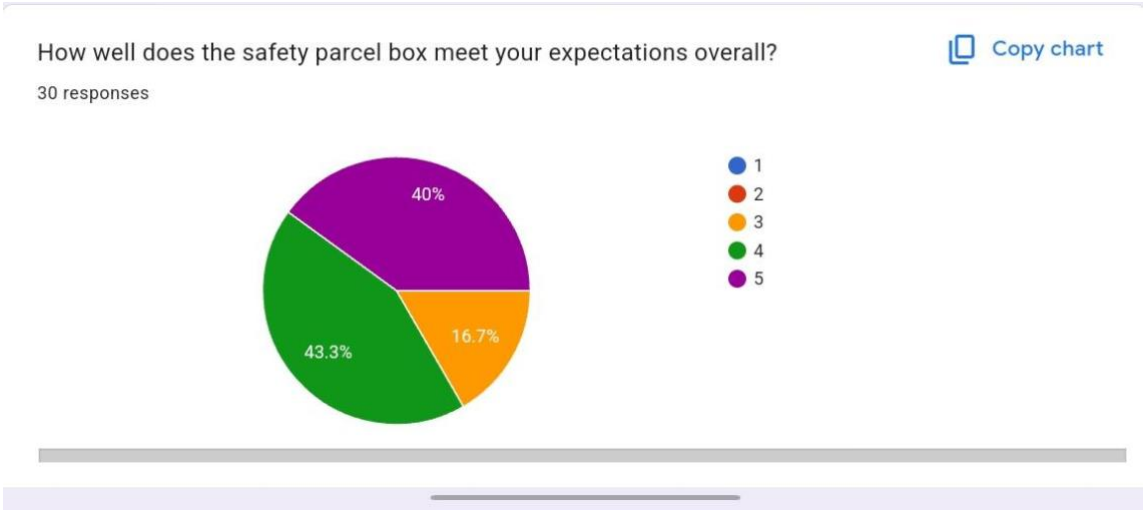
The third question is how sarisfied are you with the material quality of the Safety Parcel Box , with the most vote 50% with 15 people who vote for very satisfied and the second most vote about 36.7% with 11 people who vote for satisfied and following by people who vote for neutral about 13.3% with 4 people of respondent. Total of respondents are 30 people.



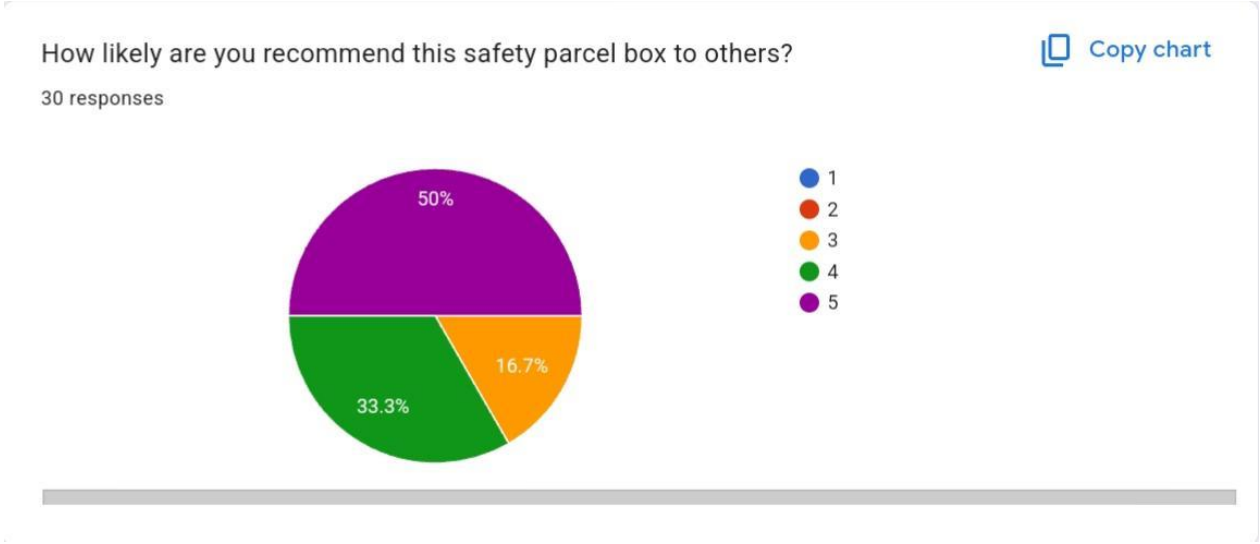
Next, how user-friendly do you find the overall operational of Safety Parcel Box with the most vote for satisfied about 50% with 15 people of respondent following by people of respondent who vote for very satisfied about 43.3% with 13 people and the least vote about 6.7% with 2 people of respondent who vote for neutral. The total of respondents are 30 people.



Next, how ease is it to maintain and clean the Safety Parcel Box with the most voted very satisfied 43.3% with 13 people of respondent following with satisfied 40% with 12 people of respondent and 16.7% with 5 people of respondent who vote for neutral. Total of respondent 30 people.



Next question is how well does the Safety Parcel Box meet your expectations overall with the most vote 43.3% with 13 people of respondent who vote for satisfied and following with 40% with 12 people who vote for very satisfied and about 16.7% with 5 people of respondent who vote for neutral. Total of respondents 30 people.



The last question is how Lively are you recommend this Safety Parcel Box to others with the most vote 50% with 15 people of respondent who vote for very satisfied following with 33.3% with 10 people who vote for satisfied and about 16.7% with 5 people who voted for neutral. Total respondents 30 people.

4.4 DISCUSSION

In this section, it will be discussed how the respondents gave answers to the questions asked in the questionnaire. The data collection process involves various types of questions that aim to obtain views, opinions, and information on the topic under study. The responses received provide an overview of the respondent's attitude and perception towards the issue being asked.

Although most respondents gave clear and accurate answers, there were some challenges in the data collection process. Some respondents had difficulty understanding some of the questions, especially those related to more technical terminology or more abstract concepts. To overcome this, the researcher provides additional explanations in some parts of the questionnaire to ensure that each respondent can understand the questions better.

Overall, the respondents gave a good response to this questionnaire, with most of them showing a willingness to answer the questions honestly and thoroughly. Although there are some shortcomings in the form of incomplete or irrelevant answers, the data collected still provide a clear picture of the respondents' views and attitudes towards the topic being studied. This process helps in achieving the objectives of the study and provides data that can be further analysed to draw meaningful conclusions.

Overall, the majority of respondents gave a positive response to the price of the product, with most of them thinking that the price offered was reasonable and worthwhile. They feel that the product provides good value for the money spent, especially in terms of quality and benefits received. Although there are a few respondents who feel the price is a bit high, they are still willing to buy the product if it provides value that matches what they expect.

These results show that, overall, the price of the product plays an important role in the purchase decision, but the quality and added value received by consumers also influence their perception of value for money. Therefore, companies or product manufacturers need to ensure that the price offered is in line with the quality and benefits received by customers to ensure high customer satisfaction.

CHAPTER 5 : CONCLUSION AND RECOMMENDATION

5.1 INTRODUCTION

In this topic, we will brief about the conclusion, recommendation, and limitation of the project. This is to ensure that the Safety Parcel Box that we produced can reach the objectives and purposes set up. We will cover all the limitation we face during the project and conclude the recommendation to make further improvement in the future.

5.2 CONCLUSION

At the conclusion of this final-year project, titled Safety Parcel Box, we successfully achieved all the objectives set at the beginning of the project. This innovative product addresses key challenges faced by parcel recipients, particularly in terms of security and convenience. The Safety Parcel Box incorporates modern technologies such as a CCTV system and a smart padlock to enhance safety and ensure secure parcel delivery. The design and functionality of the box, which allows parcels to be deposited in the upper compartment and retrieved from the lower compartment, have been well-received by respondents during the evaluation phase.

Throughout the project, we encountered several challenges but overcame them through effective teamwork, problem-solving, and communication among team members. These efforts ensured the smooth development and completion of the Safety Parcel Box. The product not only simplifies the parcel delivery process but also enhances user confidence by addressing concerns about theft and parcel misplacement. This project serves as a practical solution for modern parcel management and contributes to a safer and more efficient delivery system.

Furthermore, the research and user feedback collected during the project were instrumental in refining the design and features of the Safety Parcel Box. These insights allowed us to develop a product that meets user needs effectively while aligning with the current demand for secure parcel delivery systems.

5.3 RECOMMENDATION

Based on the experience gained during the development of the Safety Parcel Box, we recommend several improvements and considerations for future projects in this field. One of the main challenges faced was the limitation of financial and technological resources, particularly in integrating advanced features such as smart sensors and real-time monitoring systems. To overcome such constraints, future projects should allocate more time for development and seek additional funding or collaborations to enhance technological capabilities.

We also recommend that future teams develop a strong foundational knowledge of hardware integration and software development to improve the product's overall functionality and efficiency. Emphasis should be placed on planning, testing, and refining both the design and the technical aspects of the product to ensure seamless usability.

Additionally, further studies could explore additional features such as mobile app integration for remote monitoring, notification systems, or advanced locking mechanisms to enhance user convenience and security. These enhancements would increase the value and appeal of the Safety Parcel Box, making it a more competitive product in the market.

In conclusion, future developers in this domain are encouraged to prioritize resource planning, user-centric design, and technological advancement to create even more robust and efficient solutions for parcel security and delivery management.

5.4 LIMITATIONS OF THE STUDY

Benefits and drawbacks are inevitable in the development of successful products; consequently, certain limitations occurred during the manufacturing process of our product, the Safety Parcel Box. These limitations may impact its functionality and application, as outlined below:

1. Integration of Advanced Features

One major limitation of the project was the inability to incorporate more advanced features such as real-time monitoring, GPS tracking, or smartphone app integration due to resource constraints. While the Safety Parcel Box successfully incorporates basic security features like a CCTV system and smart padlock, the lack of these additional features may limit its appeal to users seeking more high-tech solutions. To address this limitation, future developments could

include collaborations with tech developers and additional funding to enhance the box's capabilities.

2. Cost of Manufacturing and Materials

The cost of manufacturing the Safety Parcel Box posed a significant challenge. High-quality materials were required to ensure durability and security, which increased production costs. As a result, producing the product at a competitive price for the mass market proved difficult. This limitation highlights the need for exploring cost-effective materials or bulk manufacturing options in the future to reduce overall expenses.

3. User Accessibility and Market Reach

Currently, the Safety Parcel Box is designed to meet the needs of individual users. However, its accessibility and market reach are limited. For example, it has not yet been tailored for large-scale deployment, such as in apartment complexes or community hubs. Addressing this limitation would involve designing scalable solutions and forming partnerships with courier companies or property management services to widen its adoption.

4. Limited Prototyping and Testing

Due to time constraints, the project faced limitations in terms of prototyping and rigorous testing under various conditions. Although the product has been tested for basic functionality, its performance under extreme weather conditions or potential tampering has not been thoroughly evaluated. This limitation emphasizes the importance of conducting comprehensive tests and refining the design based on real-world feedback in future iterations.

5. Financial and Resource Constraints

Developing the Safety Parcel Box was hindered by financial and resource limitations. These constraints affected the ability to integrate advanced technologies and develop multiple prototypes for testing. The project relied heavily on existing resources, which restricted the scope of features and enhancements that could be included. Securing additional funding or grants in the future would be crucial to overcoming this challenge and achieving the product's full potential.

These limitations highlight the challenges faced during the development of the Safety Parcel Box. Addressing these areas in future iterations will ensure that the product meets user expectations and evolves into a more comprehensive solution for parcel management and security.

5.5 SUMMARY

In summary, during the research process for our final year project, we identified key challenges and provided innovative solutions. Our efforts resulted in the development of Safety Parcel Box, a secure delivery solution designed to protect parcels from issues such as damage caused by weather conditions, like rain, and the risk of parcel theft.

The Safety Parcel Box addresses these problems effectively, ensuring that parcels are delivered and stored safely, even when recipients are not at home. Feedback from respondents has been highly positive, highlighting the practicality and reliability of the product.

Looking ahead, this solution has the potential to revolutionize parcel delivery security, offering users peace of mind with a robust and weather-resistant system. With future enhancements, the Safety Parcel Box could include additional smart features, such as real-time notifications and integration with delivery services, to provide an even more seamless and user-friendly experience.

REFERENCES

1. https://www.instagram.com/reel/C_7vudqSUTl/?igsh=MTlqbXpuemNqemNyMQ==
2. https://youtu.be/GsTXza6VJDI?feature=shared
3. https://majoriti.com.my/netzkorner/2024/03/25/video-kes-parcel-selalu-hilang-abang-kurier-bongkar-perangai-sebenar-039budak-flat039
4. https://www.fortunebusinessinsights.com/information-and-technology-industry

APPENDICES

APPENDIX A : GANTT CHART PROPOSAL

Assignment	week 1	week 2	week 3	week 4	week 5	week 6	week 7	week 8
Create a group and meet supervisor								
Meeting with supervisor about FYP								
Discussion about our FYP								
Decide topic for our FYP								
Finish on proposal								
Present proposal to our lecturer								
Make a correction for our group FYP								
Send the report proposal to supervisor								