A COMMUNITY - SECURITY TECHNOLOGY PLATFORM WITH RESPONDER COORDINATION TO REALIZE COMMUNITY PROTECTION AS A UTILITY

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By

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ABSTRACT

This thesis presents a unique Community Security Technology (ComSecuTech) platform, currently deployed in Malaysia, which is first of its kind in ASEAN, that delivers a business model based on “community protection as a utility”. Traditional manpower security faces limitations in addressing evolving threats. ComSecuTech platform designed to complement manpower, integrating advanced technology for comprehensive, efficient, and collaborative community protection. There are four aspects of this technology: digital platform level, operational process level, business model, and ecosystem level, to be discussed. Under the business model “as a utility”, it focuses on features such as “always on 24/7”, “available on demand” and “accessible anywhere”. In operational process level, this model has created the role of “E-responder”, which provides services such as on-demand patrol to both residential and industrial premises to deter loitering, stop attempted break-in, and respond to CCTV alert, etc. In the ecosystem level, the platform provides a horizontal integration with the existing security companies in a zone-based concept Vertically, it also provides API integration to other industries such as properties management, insurance, law enforcement and civil defense. All of the above are supported by a digital platform (CODE7 central control monitoring platform), as an automated central coordinator among the stakeholders, which include customers, responders, security companies, and the verticals. The design of the platform also includes the revenue module, payment systems module, automate security workflow and mobile app UI for the stakeholders.

For future research, the project will have future vertical integration to other industries such as insurance and smart city. Create more security roles besides responders, and do data analytics for better crime prevention.

Keywords: Community Security Technology, ComSecuTech, E-Responder, Community Protection as a Utility.

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DECLARATION

I hereby declare that the dissertation is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UTAR or other institutions.

Name _____LIANG YIT WEN_____

Date _____19 Feb 2024_____

SUBMISSION SHEET

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It is hereby certified that _____LIANG YIT WEN_____ (ID No:___17ACM06843___) has completed this thesis/dissertation entitled "__A COMMUNITY - SECURITY TECHNOLOGY PLATFORM WITH RESPONDER COORDINATION TO REALIZE COMMUNITY PROTECTION AS A UTILITY___" under the supervision of ___Dr. Choo Peng Yin___ from department of ___Digital Economy Technology___, Faculty of ___Information and Communication Technology___, and___Dr. Liew Soung Yue___ from department of ___ Computer and Communication Technology___, Faculty of ___Information and Communication Technology___.

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APPROVAL SHEET

This dissertation/thesis entitled "**A COMMUNITY - SECURITY TECHNOLOGY PLATFORM WITH RESPONDER COORDINATION TO REALIZE COMMUNITY PROTECTION AS A UTILITY**" was prepared by LIANG YIT WEN and submitted as partial fulfillment of the requirements for the degree of Master of Science (Computer Science) at Universiti Tunku Abdul Rahman.

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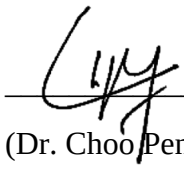

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LIST OF ABBREVIATIONS

ANGKASA	Angkatan Koperasi Kebangsaan Malaysia
API	Application Programming Interface
ASEAN	Association of Southeast Asian
CMS	Central Monitoring System
ComSecuTech	Community Security Technology
CS	Community Security
CCTV	Closed-circuit television
CODE7	CODE7 Tech Sdn. Bhd. (1284545-P)
ICSS	Intelligent Community Security System
IoT	Internet of Things
IT	Information Technology
KDN	Ministry of Home Affairs Malaysia
KPI	Key Performance Indicators
MOSTI	Ministry of Science, Technology and innovation Malaysia
KPKT	Kementerian Perumahan dan Kerajaan Tempatan Malaysia
PDRM	Police Diraja Malaysia
MINDEF	Ministry of Defence Malaysia
JHEV	Veteran Affairs Department Malaysia
PERHEBAT	Perbadanan Hal Ehwal Bekas Angkatan Tentera
PDPA	Personal Data Protection Act
PIKM	Persatuan Industry Keselamatan Malaysia
RA	Jawatankuasa Penduduk
RT	Rukun Tetangga
RTP	Respond to protection
RELA	Jabatan Sukarelawan Malaysia
RCEP	Regional Comprehensive Economic Partnership
SOP	Standard Operating Procedures

SSL	Secure Sockets Layer
UNDP	United Nations Development Programme

1.0 INTRODUCTION

This chapter will provide background information that explains the research topic. The objectives of this study to introduce a commercial community-security technology platform with responder coordination and realize community protection as a Utility. Additionally, this chapter provided a summary of the plan, including the study's scope, objectives, research questions, and hypotheses, as well as the importance of the study's research and its conceptual and operational definitions.

1.1 Thesis Background

The importance of security and safety in society is crucial. Under a calm and secure atmosphere, social and economic growth can emerge gradually. What aspects of social and economic growth might security help to improve? Enhancing each citizen's welfare is the goal of social development. If a safe shelter is provided for family to live, parents are able to take care on children's physical and mentally development, thus a good community relationship can be built.

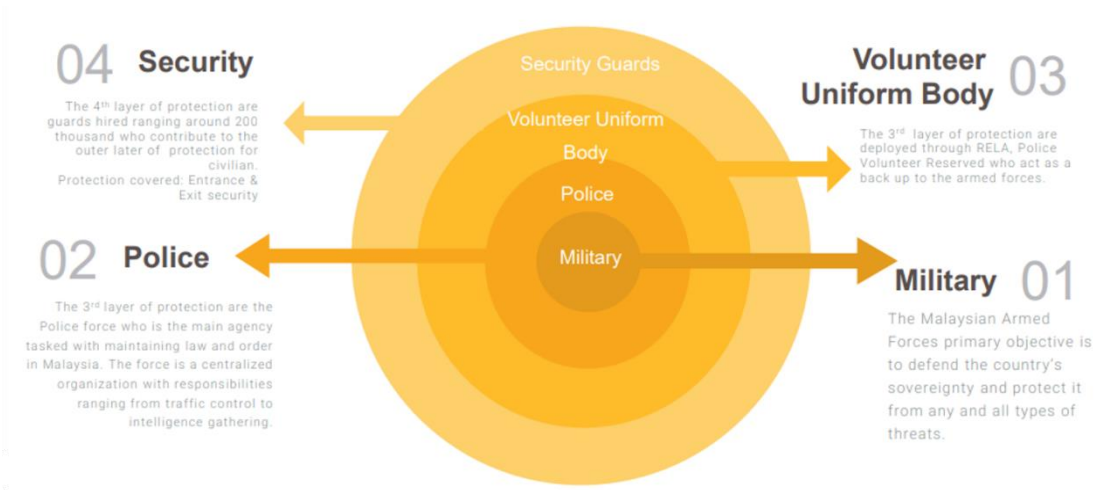


Figure 1.1: Country Layer Protection

The country layer protection in Malaysia (Figure 1.1) include military, police, volunteer uniform body, and security guards which every role of the country layer protection has their own responsibility. Military is the first layer of protection and it was minority in Malaysia. The primary objective is to defend the country's sovereignty and protect it from any and all types of threats. Police is the second layer of protection who is the main in charge of preserving peace and order in Malaysia. The force is a centralized organization with responsibilities ranging from traffic control to intelligence gathering. then third layer comes to Volunteer Uniform Body, its deployed through Jabatan Sukarelawan Malaysia (RELA), Police Volunteer Reserved who act as a back up to the armed forces. lasty, Security guards will be the fourth layer of protection. Security guards is the group which are the most closed to our community society that hire ranging around two hundred thousand personnel who contribute to the outer layer of protection for civilian. Their objective is on monitoring entrance and exit security of an area.

After knowing the importance of security and how security industry gives impact to our country, it is necessary for us to pay more attention on security industry. However, wide range of efforts and sectors are needed to be involved in order to build up a highly secure environment.

There is a trend among global communities that demand a higher competency and professionalism among private security guards [16]. Similarly, in Malaysia, there is an urgent need to upskill and upgrade the current private security guard industries that heavily rely on foreign labor [11]. Besides, the lack of standard and the outmoded practices among the existing private security guard companies have put further hurdles to this urgently required upgrade.

To address the above issues, this paper presents a new form of "community security" with a unique business model that includes the support and coordination of IT platform. This new community security model not only catered for gated communities, but also to the general housing areas, with improved competency and professionalism among security guards.

In this new community security model, which is first of its kind among ASEAN countries (if not among RCEP countries), advocates the following:

i) A new business model with "community protection as a utility", that provides utility featured services (like water and electricity) with affordable price to the general housing community.
ii) A new role "responder" as a new form of private security guard which has an upgraded responsibility compared to the existing security guard that covers a greater patrolling area.
iii) A new ecosystem system level with horizontal integration with existing security guard companies
iv) Better real time customer experience via the usage of Apps with smartphones.
v) Better service coordination among responders via the usage of Apps
vi) Better data collection and data analytics in the central control station for future security prediction.
vii) A leverage platform for future services such as elderly care, and disaster warning (eg: poisonous gas leakage, and flood situation)

In order to support the above, a new system or platform has to be developed that encompasses new operational processes that include the Internet of Things (IoT) and cloud technology have the features of a sharing economy [9]. Code 7 is the commercial platform initiative that implements the above model.

With the platforms, the new responders are required to create reports, verify patrol points, view site information, and capture evidence and others in real-time. Security provider and subscriber users are connected 24/7 via IoT and auto monitoring by ComSecuTech Platform.

With this new technology, customers or users will have a better community security experience with real-time solutions to their security safety needs. This includes ensuring that they can see the status of their sites at any time of day, know that a security guard is onsite at the necessary time and performing their scheduled duties, and also finding out about major issues in real-time.

The subsequent sections of this paper describe on the “realization” of such a ComSecuTech platform and the subsequent market acceptance, introduce community protection as a “utility”. Also, to allow security industry player to embark ComSecuTech platform uniting to enhance security standards to next level taking everyone’s safety as priority. In conclusion, this paper will answer aspects as in community acceptance by paying for service thru platform and mobile APP. How platform be approved and supported by industry stakeholder and ComSecuTech platform deliverable of community protection as a utility by public community.

1.2 Problem Statement

Community security is a fundamental need and ensuring the safety of individuals and their assets is crucial for their well-being. Traditionally, community security is provided by local police forces.

As society continues to evolve, the need for community security has become more apparent than ever before. In an age safety and security aspect, it's not surprising that individuals are turning towards private security measures for their protection. The demand for highly professional security services that can be delivered promptly is on the rise. This is leading to the growth of privatized community security, such as security guards for gated communities and condos.

Gated and guarded communities have become increasingly popular in recent years, especially in urban areas. These communities offer a sense of exclusivity and security to their

residents.[10] However, with the prevention rise of crime rates, these communities are no longer able to rely solely on the police for protection. Absence of technological tools hampers the ability to track criminal trends, hindering proactive measures to prevent crime. Even by supporting security technology, is limited to recording and tracing images or scenes after a crime has been committed, lacking real-time monitoring and proactive crime prevention capabilities.

Privatized community security is the lack of documented standards among these companies. This absence of standard practices and guidelines means that there is a significant variance in the quality of services provided by each individual company, making the development of standard operating procedures (SOPs) challenging.

Without proper standards in place, there is a risk that community security services may be inconsistent and different from one company to the next. This inconsistency can lead to confusion and misunderstandings among the community members, who may have different expectations of what the security services should be delivering. It can also lead to security lapses and vulnerabilities that could be exploited by criminals or other malicious actors.

To address this issue, it is essential to establish standardized guidelines and practices for privatized community security companies via technology platform which recognized and supported by security industry associate even government. This could involve the creation of an industry-wide standard or certification process that ensures all companies meet specific requirements regarding the level of training, expertise, and equipment required to provide quality security services. It would help ensure that all companies are providing consistent and reliable services, leading to increased trust and confidence among community members with the enforce procedure within the digital platform.

Despite the widespread installation of security technology gadgets such as CCTV cameras in society or private premises, their effectiveness is limited by the absence of robust community engagement. While these technological tools provide surveillance capabilities, their impact is amplified when complemented by active involvement from community members. Without platforms that enable the integration of technology with community security initiatives, efforts to prevent crime face significant challenges. Such platforms not only facilitate communication and collaboration among residents but also empower them to take proactive measures in ensuring their own safety. Therefore, the synergy between technology-enabled security measures and e-responder engagement is essential for maximizing the effectiveness of crime prevention efforts.

Besides, traditional approach to community protection, which often relies solely on government-funded initiatives and sporadic involvement from residents. This model is inherently limited by budget constraints, bureaucratic processes, and the inability to tailor security measures to the specific needs of each community. As a result, many neighbourhoods remain vulnerable to various forms of crime despite the presence of basic security infrastructure.

Introducing community protection as a utility enable to addresses these shortcomings by shifting the paradigm towards a more proactive and collaborative approach. By treating security as a utility service, similar to water or electricity, communities can access sharing resources and support on a consistent basis. This subscription-based model allows for the implementation of comprehensive security solutions tailored to the respective zone down to each neighborhood, including advanced technology integration, regular patrols, and community engagement initiatives.

Furthermore, by involving residents in the funding and management of community protection services through subscription fees, a sense of ownership and accountability is instilled within

the community. This fosters greater cooperation and participation in crime prevention efforts, ultimately leading to safer and more resilient community society.

By introducing community protection as a utility subscription addresses the inadequacies of traditional approaches to security, providing a sustainable and inclusive technology framework for enhancing safety and well-being at the community level.

As conclusion, existing security technology is unable to adequately support the current high-complexity operational processes and workflow without enhancements to community security technology platforms. The limitations of the current system hinder efficient handling of intricate tasks and workflows inherent in modern security operations. Without united into these platforms, there's a significant risk of inefficiency, errors, and gaps in security protocols.

Realizing community security technology platforms is crucial to enable smoother coordination, streamline processes, and ensure seamless integration of CODE7 workflows, thereby enhancing overall operational effectiveness and response capabilities.

1.3 Thesis Summary

This thesis described the commercial project of CODE7 Tech Sdn Bhd, which is the first Community Security Technology (ComSecuTech) Platform of its kind. This platform is to make professional community security assistance and protection services more accessible to everyone via technology, and to improve the safety levels of the communities, not only in Malaysia but also in the world.

The inspiration and business model, as well as the technology platform that supports the model and business frameworks, will be depicted in this paper. The deployment of the 1st phase in PJ zones (PJZ1, PJZ2, PJZ3, PJZ4) would be the result of pilot run projects.

Contribution and impact of this project to our community society will be highlighted at the below section.

1.4 Thesis Scope

Code 7 is a commercial project that drives the originality of the new form of security business model bind with comSecuTech to protect community society. Thesis scope will focus on the "realization" of such a community security and the subsequent market acceptance, as a "utility" product.

Notes: All the technology framework, business model and IP are trade secret and fully copyright to CODE7 (CODE 7 Tech Sdn. Bhd. 1284545-P).

1.5 Thesis Objective

I) To provide a technology platform on top of traditional security services

II) To introduce community protection as a utility.

III) To allow security industry player to embark on community security technology platform uniting to enhance security standards to next level taking everyone's safety as PRIOPRITY.

1.6 Thesis Research Questions

In order to achieve the objectives, this paper will answer some of the questions below:

1. What is the methodology to implement community security technology platform to improve traditional security services?
2. What is the methodology to introduce community protection as a utility via technology platform?
3. How to united security standard into community security technology platform?

2.0 LITERATURE REVIEW

The theories and definitions linked to this topic are fully explained in this chapter. In addition, the study's discussion of community security in general, regionally, information technology (IT) and internet of things (IoT) issues, security as a utility, IT as a utility, and utility service in computer science language is covered in the chapter that follows.

2.1 Definition of Community Security

Community Security is a process focused on promoting a community driven approach to understanding and providing security. Community Safety or Community Security (CS), according to the United Nations Development Programme (UNDP), is a concept that aims to operationalize human security, human development, and state-building concepts at the local level [3]. Group and personal security are both included in the modern definition of community security. The strategy emphasises creating "free from fear" environments for communities and the people who live in them. However, a more inclusive definition for today would also involve taking action to ensure "freedom from want" on a wider range of social issues.

Based on [6], The primary purpose of community security is to ensure the overall safety, protection, and prevention of crimes within a community. It encompasses various services aimed at maintaining the well-being of community members. As a result, it becomes crucial to increase awareness and understanding of community security, including the roles and terminology used by its participants.

In Malaysia, community security commonly identified as gated and guarded communities [10][11]. Their job scope restrictions on security guards' responsibilities, round-the-clock patrol services, central monitoring systems, and closed-circuit television (CCTV) cameras. These measures are put in place to enhance the security and safety of the community.

2.2 IT in Community Security

Community security involves the implementation of concepts related to human security, human development, and state building at the local level. It is an approach that focuses on ensuring the well-being and safety of individuals within a community. IT in Community Security is to improve the community protection and safety, but also increase the prevention on crime. There are some examples of the IT in Community Security.

Firstly, implementation of community on designed and realized based digital video network security monitoring system. Cameras, including regular cameras and video cameras, are utilized as collection points, where they capture visual data and transmit it to servers or network cameras. The signals are transmitted to Ethernet using a switch and then stored in the background database through another switch [13].

Based on ZigBee Technology definition of Community security and protection system, it should capable to monitor various components, such as the gas leak alarm, emergency button, infrared detection system, and entrance guard management system [7]. It also incorporates the design of hardware circuits and software to ensure the system functions effectively.

Based on e-JIKEI project, the establishment of a global community security infrastructure, which necessitates the use of home computers connected to the internet [14]. These computers enable individuals to monitor the area in and around their homes using affordable gadgets or cameras as visual aids, while their personal computers serve as the central processing unit. Additionally, internal communication within the system is facilitated by the users themselves, who bear the expenses involved.

2.3 Community Security to IoT

The integration of the Internet of Things (IoT) in Community Security Management enables the identification and connectivity of physical objects across the globe, forming a cohesive

system.[15] One prominent application of IoT in this field is the Intelligent Community Security System (ICSS). The ICSS aims to prevent unauthorized access, automate property management, provide real-time alarms, and expedite accident response, among other functions [1].

2.4 Security as a Utility

According to an article from CSO Online, "Security-as-a-Utility" is a novel approach to securing enterprises. In order to outline the key features of this model, CSO Online has identified five essential characteristics [5]. Firstly, the security service must always be available and online, utilizing cloud-based infrastructure. This ensures continuous protection without interruptions or downtime. Secondly, the service should be available on-demand, allowing users to access and utilize as much or as little security resources as needed. It eliminates the need to worry about sourcing additional resources and provides flexibility in resource allocation. Thirdly, accessibility is crucial. Unlike traditional appliance-based security products, which are limited to the enterprise perimeter, a security-as-a-utility solution should be accessible from anywhere. It transcends geographical boundaries and extends security coverage beyond the confines of the enterprise. The fourth characteristic is the ability to work with existing technologies. Just as it is impractical to purchase multiple types of electricity to power household appliances, a security-as-a-utility solution should seamlessly integrate with the existing endpoint gadgets and technologies, maximizing the value of previous investments. Lastly, a memory function is vital. By evaluating past security incidents and threats, organizations can better prepare for future attacks. Multi-stage attacks often develop over extended periods, and having a memory of past events enables proactive measures and enhances overall security posture.

By embodying these five characteristics, a security-as-a-utility approach provides enterprises with a comprehensive and flexible security solution. It ensures constant protection, allows for

scalability, transcends traditional boundaries, leverages existing technologies, and learns from past experiences to improve future resilience against threats.

2.5 IT-as-a-Utility

The concept of IT-as-a-utility revolves around the idea that service costs are calculated based on usage and demand [8]. Consumers are charged a metered fee that corresponds to their individual consumption levels. Instead of businesses and consumers independently creating and maintaining their IT services, utility services provide access to resources that they may not necessarily own [12]. The advent of the cloud has significantly expanded the availability of IT services, seemingly providing an infinite supply.

In addition to cost considerations, public or platform utilities must adhere to specific standards and service levels to guarantee uninterrupted service. This ensures that businesses and consumers can rely on the utility services to meet their IT needs consistently. By adopting IT-as-a-utility, organizations can leverage shared resources and benefit from the expertise and infrastructure provided by utility service providers, allowing them to focus on their core business activities without the burden of independently managing their IT infrastructure.

2.6 Computer Science - Utilities Services

Caesar Wu, Rajkumar Buyya also agreed that utility services must be available at the reasonable rate without discrimination [3]. Service has to be essential to people's daily life, maintain competitive market environment for the benefits of society. Utility service must be fairly distributed to consumer [12].

2.7 Literature Review Summary

The concept of Community Security Technology as a utility is considered a part of the emerging digital economy that is currently undergoing ongoing research. While there is limited research available at present, it has been observed that Community Security in Technology

predominantly focuses on the design of hardware systems, such as cameras, sensors, or IoT devices. However, when it comes to security as a utility service, it is important to incorporate elements such as cloud-based infrastructure, on-demand availability, and universal accessibility.

To effectively commercialize Community Security Technology as a utility service, it is suggested to adopt a monthly payment or subscription model, similar to general utility bills, through an online or platform-based system. The aim is to provide the service to the public in a commercialized manner, resembling the concept of community policing to some extent. Responders, who form the majority of the manpower in this context, often come from the social community, including veterans and individuals with a strong sense of patriotism.

However, there is a notable lack of information regarding the process of deploying manpower after a real incident occurs. This aspect needs further exploration and clarification to ensure the effective utilization of responders and their timely deployment in response to incidents. By addressing this aspect, Community Security Technology can further enhance its utility service and provide more comprehensive and efficient support to the public.

3.0 METHODOLOGY

This chapter delves into the design plan for the security business model and platform frameworks with the aim of achieving the study objectives. The methodology employed in this chapter offers comprehensive insights into the planned study. Subsequent sections will explore the research design, workflow of the IT platform operations, business procedures, key stakeholders in the security domain, design of user experience flows, and the concept of the ecosystem. By delving into these areas, a thorough understanding of the study's design and framework will be provided.

3.1 Design Plan for Business Model & Platform

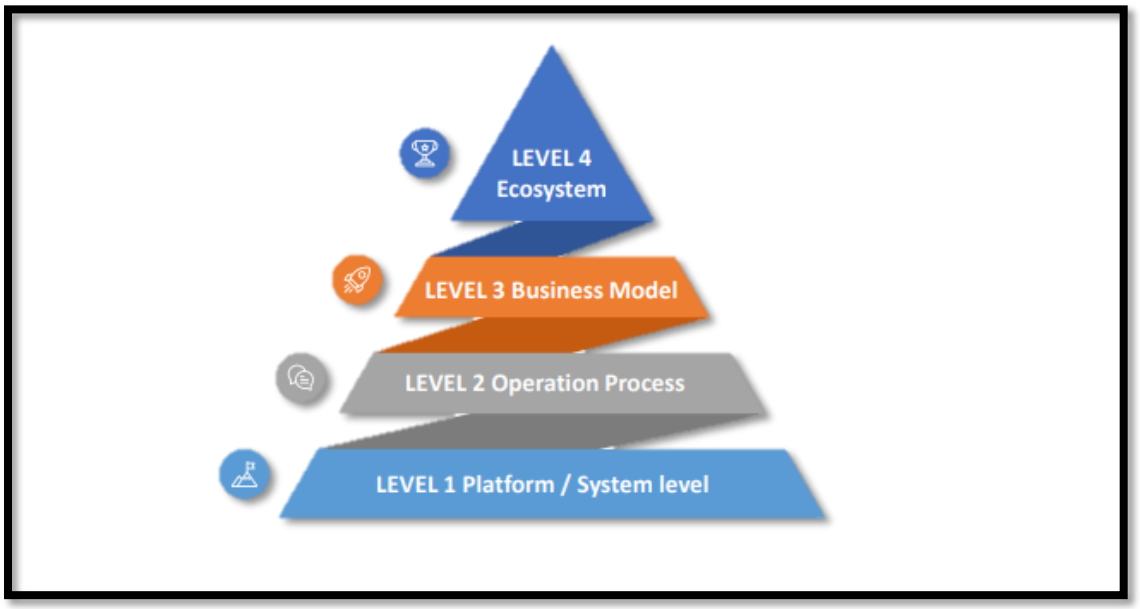


Figure: 3.1 Design of the whole system

To release community protection as a utility, a comprehensive design strategy for the ComSecuTech platform and commercial model is required as one of the Methodologies (Figure 3.1). This study technique was created to give a deep level of the IT platform operation workflow, business process, and community security key stakeholder, user experience of the ComSecuTech flow design, and ecosystem idea.

3.2 Platform / System Level

Every system platform has their unique system design, including ComSecuTech from CODE7. The platform or system level refers to the operational activities carried out by an operating system or another control module. The system level for ComSecuTech encompasses various aspects, including the design of the system platform processes, the user experience flow of the frontend mobile app, the management process of the backend central monitoring system, the geolocation zone management, and the information system. These components work together to ensure the smooth operation and functionality of ComSecuTech, providing a comprehensive and integrated solution for community security management.

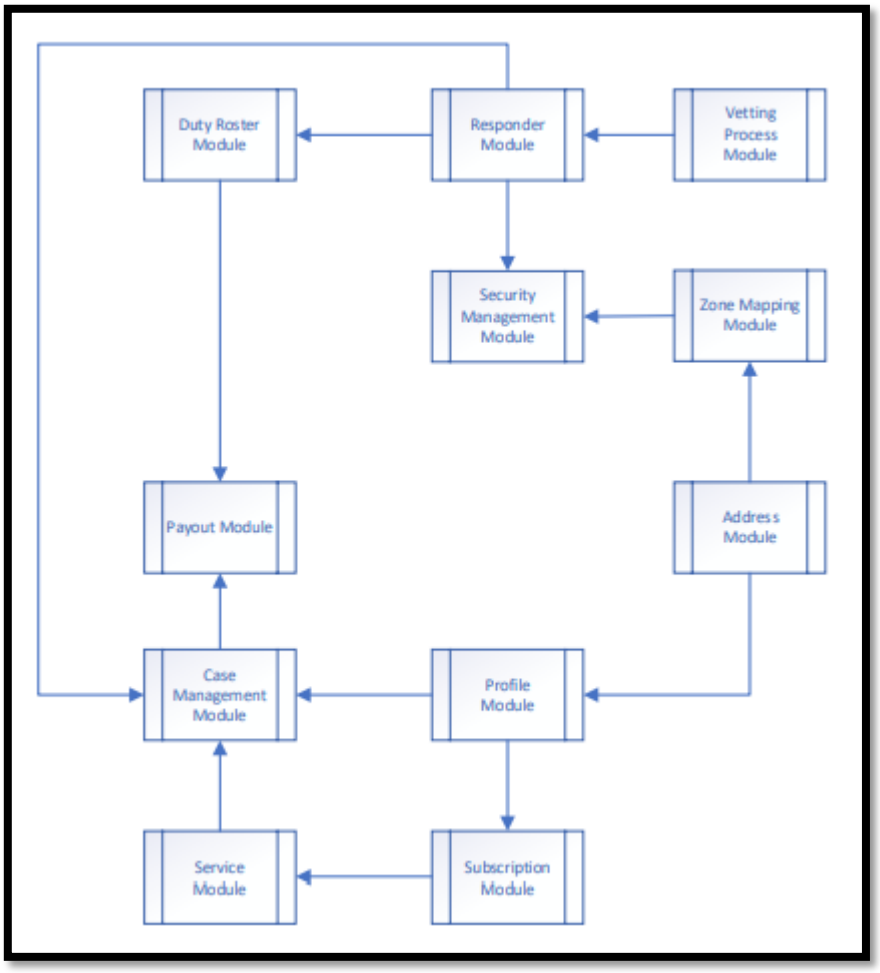


Figure: 3.2 Community Security Technology Platform design

The modules under ComSecuTech platform design include Vetting Process module, Responder module, Duty Roster module, Security Management module, Zone Mapping module, Payout module, Address module, Case Management module, Profile module, Service module, and Subscription module (Figure 3.2). API technology is used to perform the connection between modules.

Profile Module

Profile module enables users to register and provide their minimum personal information through the app. The module ensures that user data is protected under privacy regulations such as the Personal Data Protection Act (PDPA) and employs robust cybersecurity measures to safeguard sensitive information. The purpose of collecting user profiles is to furnish effective on-ground services whenever emergencies occur.

The collected user profiles serve as a crucial resource during emergency situations. When an emergency occurs, responders can quickly access communicate with user with the incident location to obtain relevant information. It makes sure communication between users and responders during emergencies are efficient.

Responder Module

Responder module is a component of a system or platform designed to collect and manage personal information pertaining to responders. This module serves as a centralized database or repository where various details about the responders are stored and organized.

The primary function of the Responder module is to gather and maintain comprehensive information about each responder. It may also include functionality to manage and document the responders' work history within the system. This could involve recording their assignments, projects they have worked on, tasks performed, and the duration of their engagements [16].

Such information allows for a comprehensive overview of each responder's experience and can assist in making informed decisions about their suitability for specific roles or assignments.

Responder module also serves as a vital component within a system, providing a centralized platform to collect, organize, and manage personal information about responders. It enables efficient management of their qualifications, work history, ultimately facilitating effective decision-making processes and enhancing the overall responsiveness and efficiency of the organization or system.

Vetting Process Module

The Vetting Process module holds significant importance in verifying the individual background and appropriateness of responders for a specific role or position. It utilizes the KDN portal integration, which is a system or platform used to access and manage information related to individuals' records, such as criminal history and drug test results.

The primary objective of the Vetting Process module is to verify that each candidate responder meets specific criteria, namely being drug-free and having a clean criminal record. This process is important for various reasons, including ensuring the safety and security of individuals involved in a project or responding to emergencies.

When a candidate applies to become a responder, their information is submitted to the Vetting Process module. The module then initiates the integration with the KDN portal, which is a central database containing records of individuals' criminal history and drug test results. The module retrieves the relevant information about the candidate from the KDN portal to assess their qualifications.

The drug-free verification aspect involves checking if the candidate has undergone drug testing and whether the results indicate the absence of any illegal substances in their system. This step

is crucial, especially for responders who may be working in sensitive or high-risk environments where drug use can jeopardize the safety of others.

The integration of the Vetting Process module with the KDN portal allows for efficient and accurate verification of candidates' qualifications. It reduces the manual effort involved in conducting background checks and ensures that the information obtained is reliable and up to date. This integration streamlines the vetting process, enabling organizations to make informed decisions about selecting suitable and trustworthy responders.

Duty Roster Module:

Duty Roster module has a specific function in controlling and monitoring the responders' working hours. Its main duty is to keep track record of the clock-in and clock-out times for each responder before and after their shifts. The module is designed to facilitate efficient scheduling and ensure proper coverage for designated time slots.

There are slots on the duty roster, and each slot usually corresponds to a set amount of time, in this example four hours. These slots provide a standard of procedure and task assigning shifts to responders. By using this module, administrators or supervisors can easily assign responders to specific slots based on their availability, skills, or other relevant factors between backend system and responder’s mobile app.

When a responder starts their shift, they clock in using the Duty Roster module by mobile app. This action records the exact time they begin their assigned slot. Similarly, when their shift ends, they clock out, and the module captures the clock-out time. These clock-in and clock-out records provide accurate data on the actual hours worked or standby mode by each responder, ensuring accountability and facilitating payroll calculations or other forms of compensation.

By having a standardized slot duration, Duty Roster module enables efficient scheduling and allocation of resources. It allows for optimal utilization of responders' availability and skills,

ensuring that shifts are adequately staffed and operational needs are met to each zone. The module also helps in identifying any gaps or overlaps in zone coverage, enabling administrators to make necessary adjustments to the duty roster to maintain a balanced and effective workforce. Module also offer features to manage shift swaps or replacements. If a responder is unable to fulfill their assigned slot, system can facilitate the process of finding a suitable replacement by displaying available responders who can fill the gap automatically. This functionality ensures that shifts are properly covered and minimizes disruptions to the overall operational workflow.

Zone Module

Zone Mapping Module designed to enable security provider firms to deploy and manage their services within specific zones. Primary function is to create geographical zone area and assign to different security providers, ensuring that each zone is adequately serviced by single security provider. Defining boundaries of each zone mapping takes into consideration various factors such as area population density, terrain, police stations and hospitals, local council jurisdictions area coverage, road junctions, traffic routing time duration, safety risk index, and more.

Geographical zones are created based on a comprehensive analysis of the aforementioned factors to ensure that each zone is effectively served in terms of sharing economy for end users and gig economy for responders. The goal is to optimize response times, resource allocation, and overall service quality within each zone.

Zone with higher population density may require more security coverage due to increased risks and demands. By taking population density into account, its required allocate security providers accordingly to ensure sufficient coverage and timely responses within each zone.

Different terrains may present unique security challenges, such as remote or hard-to-reach locations, rugged terrains, or areas prone to natural disasters. By mapping zones based on

terrain characteristics, system allows security providers to identify their services and response strategies to address specific challenges within their zone.

Essential jurisdictions facilities like police stations, fire station and hospitals are taken into account during zone mapping to ensure quick access to emergency services and facilitate coordination between different agencies in critical situations. The location of local councils or administrative bodies is also considered to align with jurisdictional boundaries and ensure effective collaboration.

Traffic route time duration and road junctions determining the efficiency of responder reach to the incident scene. It considers travel time between different areas within a zone, taking into account road conditions, traffic patterns, and potential bottlenecks at road junctions. System module used to help optimize the allocation of responders and ensures that they can reach their designated zones within acceptable time frames.

This approach ensures that each zone receives adequate coverage and allows for effective resource allocation and response planning. It promotes the sharing economy for end users by providing comprehensive security services tailored to the specific needs of each zone.

Security Management Module

Security management module is an essential part of a system created to manage security providers to dedicated zone. It provides function for managing and coordinating the activities of every security provider firms within a specific zone. The module serves multiple features, including responder assignment and allocation, emergency case scenario monitoring, responder resource management, and acting as a secondary monitoring system.

This module security provider's administrator or supervisor to designate and assign responders within their security provider firm.

Security management module allows system to auto make informed decisions when allocating resources during emergency situations or daily operations. Module ensures that the right responders with the appropriate skills and expertise are deployed to address specific security requirements.

Central Monitoring System (CMS) act as secondary level of function to enables real-time monitoring and tracking of incidents or emergencies within the dedicated zone. Administrators or supervisors can receive alerts and notifications regarding critical situations, allowing them to initiate necessary response if there are no respond by on duty responder within couple of minutes. This feature enhances the overall security and safety of the area by enabling quick and efficient incident management.

Address Management Module

Address management module allows users to identify which zone their address falls under and determine the corresponding security provider coverage. It enables users to associate their addresses with specific zones and security providers to ensure efficient service delivery and response management.

Users provides their address details into the system, and module will auto analyzes then determine the corresponding zone. The module considers factors such as geographical location, administrative boundaries, and predefined zone mapping criteria to accurately assign the address to a specific zone. This ensures that the user's address is properly aligned with the designated zone for security service provision.

User allows to tag multiple house members to a particular address. This functionality enables users to associate family members or residents living at the same address, ensuring that all individuals residing there receive the appropriate security coverage. By associating multiple

house members with an address, the system can effectively manage and coordinate security measures to address the needs of all occupants. Apart from that, system also supports the subscription of multiple addresses for each user. Users can subscribe to security services for multiple addresses with difference zone that they own or have a stake in, such as primary residence, vacation homes, or business locations. This flexibility allows users to extend security coverage to various properties they have an interest in, ensuring comprehensive protection across different zones.

This feature establishes a many-to-many relationship between the Zone module and the User Profile module. This means that multiple users can be associated with a particular zone, and each user can have subscriptions for multiple addresses across different zones. This interaction ensures that the system accommodates the complex relationships between users, addresses, and zones, providing a versatile and scalable solution for managing security services.

Case Management Module:

Case Management module enables users to trigger security and safety cases and facilitates the efficient response of on-duty responders. It provides a facility for users to report incidents or emergencies and ensures that the nearest available responders are promptly notified and dispatched to the scene.

When user encounters a security or safety concern, they can initiate a case through the Case Management module. User provides a basic detail which is nature of the incident, then system able to identify specific location, description, and any relevant information for further processing.

Upon receiving a case, the module determines the nearest on-duty responders who are best equipped to address the specific type of incident reported. The module uses location tracking

and proximity algorithms to identify the responders in close vicinity to the incident location. It then notifies these responders via their dedicated responder app, alerting them to the case and providing relevant details.

Throughout the entire process, module will track and records each step and timeframe involved in the case management workflow. It captures the time of case initiation, notification to responders, their acknowledgement and acceptance of the case, estimated time of arrival at the scene, and subsequent updates. This data is recorded and stored within the platform for analysis.

Those recorded data used for generating reports and conducting post-incident analysis. It enables administrators to review the response timeline, actions taken, and outcomes for each case. This analysis helps identify patterns, trends, and areas where further training or adjustments may be needed to optimize response procedures.

Pay-out Management Module

By handling the processing of payroll for all responders, this module to ensure that responders receive proper compensation for their work based on the information and data provided by the Duty Roster and Case Management modules.

Pay-out module takes these inputs from the Duty Roster and Case Management modules and processes them to generate accurate payroll for the responders. It calculates the total hours worked by each responder, taking into account any overtime or special considerations based on the duty roster information. The module also considers the types and complexities of the cases responded to by each responder, which may have different remuneration rates associated with them.

Once the necessary calculations are made by system, payroll will be generated to each responder with every interval time, detailing the specific amount to be paid based on the determined rates and hours worked. This information is typically provided in a structured format in digital document and app form, for easy review and distribution.

Module have to ensure accuracy and compliance with relevant regulations or labor laws. It may incorporate features such as tax calculations, deduction management, and benefits administration, depending on the specific requirements of the organization and local regulations. These additional functionalities contribute to streamlining the payroll process and ensuring that responders receive the appropriate compensation while adhering to legal obligations.

Services Management Module

Services Management module used to manage various services into platform by inputting attribute properties. It provides platform to offer and coordinate different types of actions and support to specific security concerns. Each service is designed with its own system process to ensure service consistent and efficient support.

Service module maintains a list of services that are available for users to request or subscribe to. These services are designed to cater to different security scenarios and provide appropriate actions and support. Some fundamental services included in the module are:

- **Loitering:** This service addresses situations where individuals loiter surrounding property premise for an extended period, raising security concerns. Trained responders are dispatched to assess the situation, deter potential threats, and ensure the safety of the community.

- **Attempted Break-in:** When there is an attempted break-in or suspicious activity related to unauthorized entry, this service comes into play. Responders are deployed to investigate the situation, secure the premises, and take necessary actions to prevent or mitigate any potential security breaches.
- **Security Support:** This service offers general security support and assistance to the community. It may include providing guidance on security measures, conducting security assessments, and offering recommendations to enhance overall safety.
- **Stranger Approach:** In situations where individuals experience suspicious approaches or encounters with strangers, this service aims to address potential threats and ensure the safety of the individuals involved. Responders are dispatched to assess the situation, intervene if necessary, and provide support to the affected individuals.
- **CCTV Alert:** This service utilizes surveillance technology to detect and alert responders of any suspicious activities captured by CCTV cameras. Responders can then investigate the situation, take appropriate actions, and provide necessary support.

Subscription Module

Through the Subscription module, users can access a range of subscription options offered by the platform. These subscriptions may include various service packages, levels of coverage, or duration-based plans. Users can select the subscription that best suits their needs and preferences.

When users choose for a subscription plan, they have the flexibility to choose their preferred payment method, including credit cards, debit cards, digital wallets, even from redemption point wallets. The Subscription module then processes the payment and confirms the successful subscription.

The integration with an e-commerce payment gateway streamlines the subscription process. It allows users to securely make payments for their subscriptions directly through the app. The payment gateway provides a secure and encrypted environment for financial transactions, ensuring the protection of sensitive payment information. this is enhancing the platform's revenue management and financial tracking. It automates payment processing, reduces manual efforts, and ensures accurate recording of subscription payments and renewals. This streamlines administrative tasks and allows for efficient financial reporting and reconciliation.

The module also manages subscription renewals to ensure uninterrupted access to services like utility bill. It provides timely reminders to subscribers about upcoming subscription expirations, giving them the option to renew their subscription before it lapses. Users can easily review and manage their subscription status through the app, making it convenient to track and extend their subscription period.

To handling the payment aspect, the Subscription module maintains a record of subscribers and their subscription details. This information allows the platform to track user preferences, analyze subscription trends, and provide personalized recommendations or offers based on user behaviour.

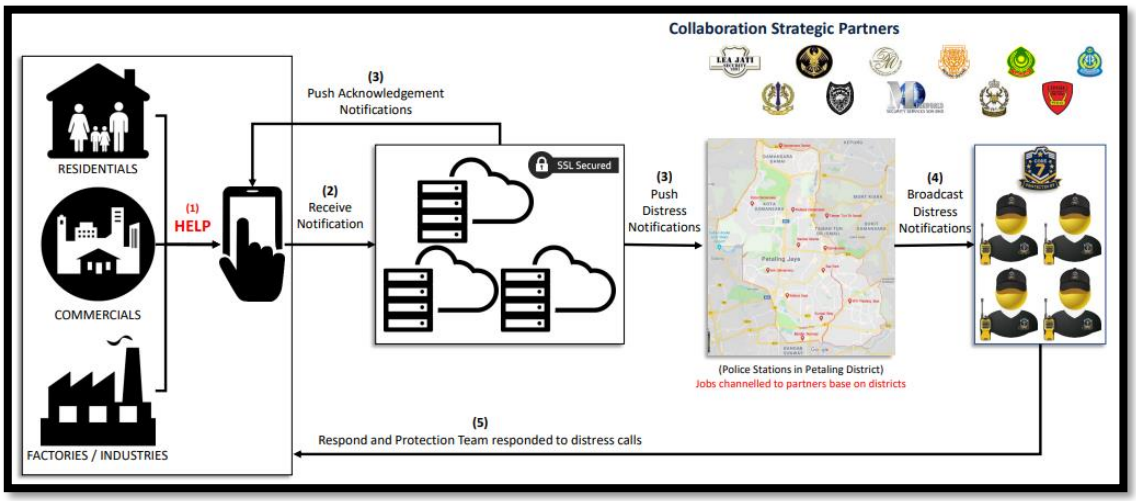


Figure 3.3 Platform Process Design

With the platform process design flow (Figure 3.3), Code7 Protection App caters to three types of end-user roles: residential, commercial, and industrial/factory. Requesting services is a simple and streamlined process, requiring users to perform a single action - a “Swipe”.

Once the swipe action is performed, the instruction is securely transmitted to the cloud using SSL encryption. The cloud is connected to the platform's API, which sends the data to the platform for processing. The platform then proceeds to locate the specific address of the requester within the designated zone. Based on the zone, the appropriate security company responsible for that area is assigned. Each security company maintains its own list of registered responders, which is accessed by the platform.

The platform filters the list of responders to identify those who are currently on duty and active. By considering the requester's address, the app determines the responder who is both active and in close proximity to the requester's location. The platform promptly sends a distress notification to the nearby responder, facilitating quick communication and assistance within seconds.

Upon accepting the message request from the requester, the responder triggers an acknowledgement notification through Responder App. The responder then contacts the requester to confirm detail information about the current situation before proceeding to the requester's address.

All the processes within the platform are automated, leveraging technology to ensure efficiency. The platform diligently records data in the database, including the start and end datetime of responders' tasks.

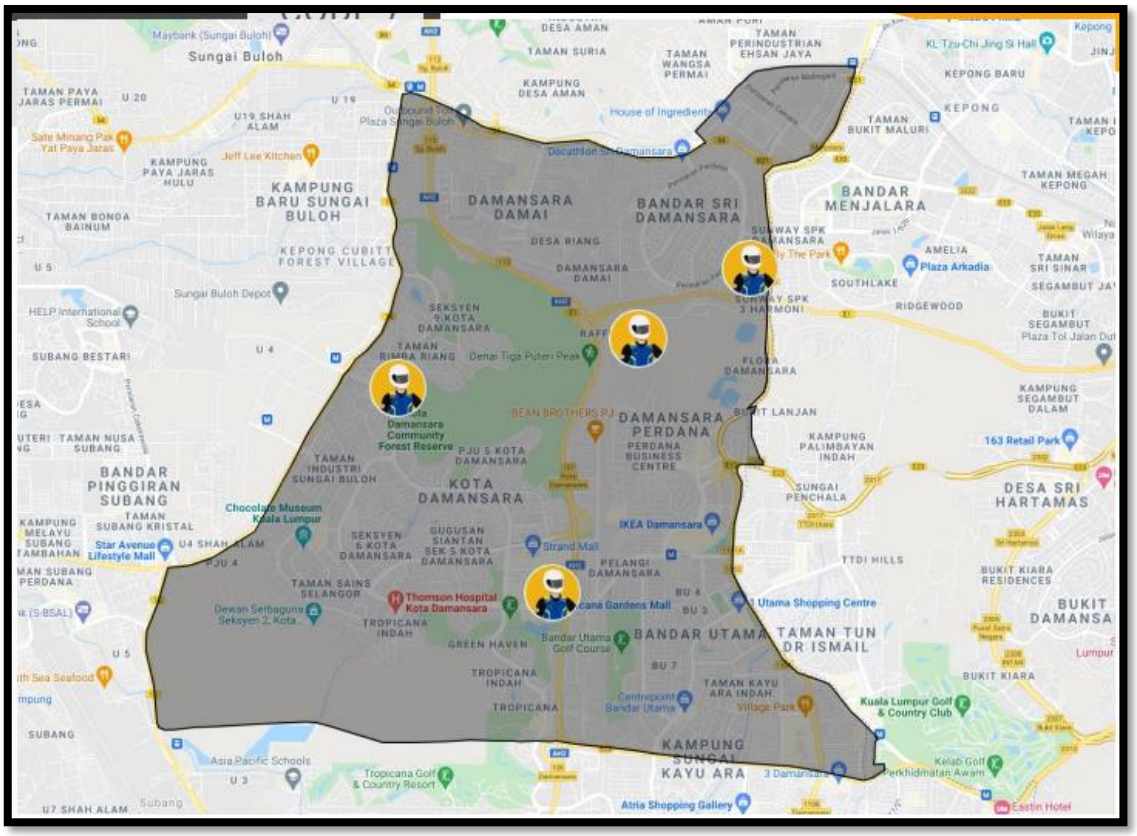


Figure 3.4 Zone Map PJ Zone 1

Based on the Zone Map PJ Zone 1 (Figure 3.4), it showed multiple responders was standby on the PJ Zone 1.

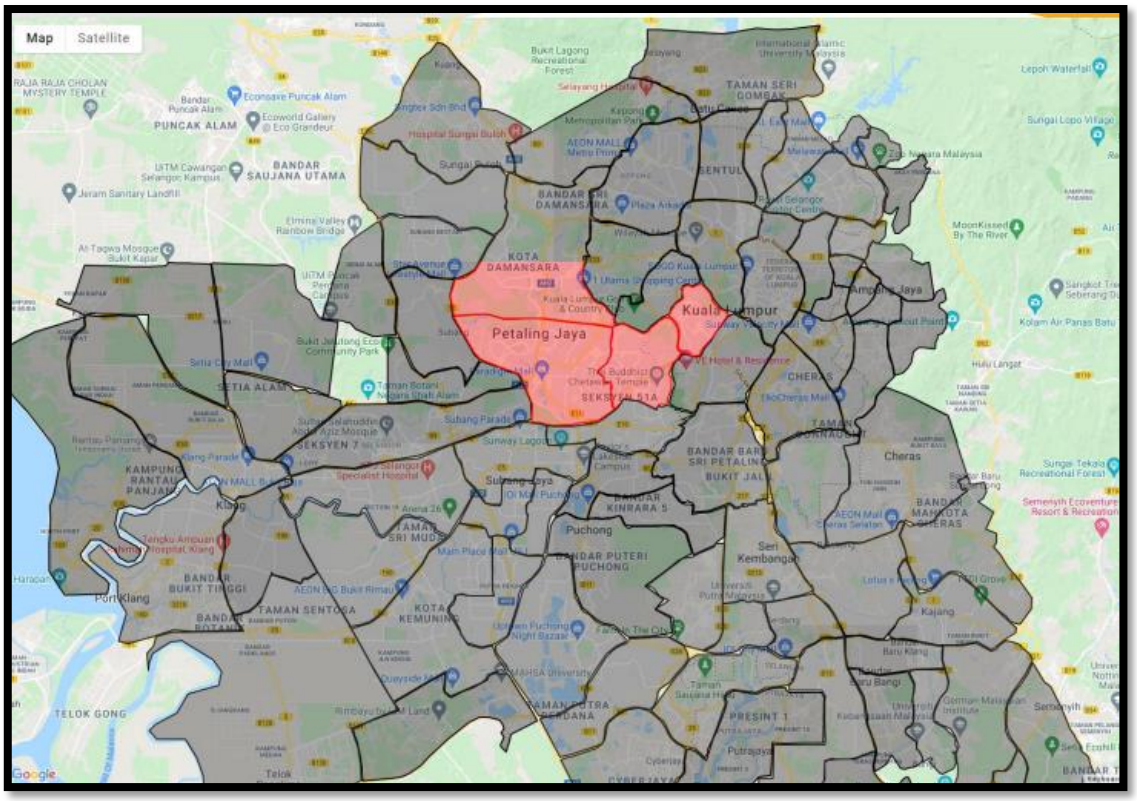


Figure 3.5 Zones Map Klang Valley

Based on the Zones Map Klang Valley (Figure 3.5), Klang Valley had partition into multiple zones. Each zone was partition based on the geographical, density, itinerary, population, infrastructure, and urban city.

Figure 3.6 Zones Map Nationwide (Urban City)

Based on the Zones Map Nationwide - Urban City (Figure 3.6), it showed multiple zones or area are urban city in Malaysia.

3.3 Operation Level

At the operational level, ComSecuTech focuses on several key functions to ensure the effective delivery of its security services:

1. **Monitoring Suspicious Activity Incidents:** through the ComSecuTech Platform to monitor and identify suspicious activity incidents. This allows responder to have prompt response and preventive measure to ensure the safety of end-user.
2. **Crime identification and Prevention:** ComSecuTech platform leverages data analytics and crime pattern analysis to identify potential crime hotspots and trends. This information is shared with security providers and law enforcement agencies to implement proactive measures, such as increased patrols, targeted surveillance, and community engagement, to deter criminal activities and maintain a secure environment.
3. **Coordinating Responder Teams:** The responder team can be efficiently assigned and managed by the security provider company according to the unique needs of each zone. This coordination ensures that responders are strategically deployed, maximizing their coverage and response time to address security incidents effectively.
4. **Automated Duty Roster Approval:** Platform streamlines the duty roster approval process by automating it based on responder contribution ratings. Responders' performance and contributions, such as response time, customer satisfaction ratings, and incident handling efficiency, are recorded and assessed. ComSecuTech platform then uses this data to automatically approve duty rosters, ensuring that the most reliable and efficient responders are assigned to shifts, enhancing overall service quality.
5. **Standardizing Security Career Paths:** platform establishes clear guidelines and criteria for skill development, training, certifications, and promotions. This helps to enhance the professionalism of the security industry and provide opportunities for career growth and personal development for responders.

Each responder has a different rank which include:

- Delta II
- Delta I
- Charlie II
- Charlie I
- Bravo II
- Bravo I
- Alpha

The ranking is designed by security key players for operating to use the in platform.

Rank	Delta II	Delta I	Charlie II	Charlie I	Bravo II	Bravo I	Alpha
Promotion stage period (based on highest KPI)	Minimum of 12 months engagement.			Minimum of accumulate 24 months engagement	Minimum of accumulate 36 months engagement	Minimum of accumulate 48 months engagement	Minimum of accumulate 60 months engagement
Internally rating	> 50% KPI	> 60% KPI	> 60% KPI	> 70% KPI	> 80% KPI	> 90% KPI	> 90% KPI
Externally rating	> 3 stars	> 4 stars	> 4 stars	5 stars	5 stars	5 stars	5 stars

Figure 3.7 Responder Promotion Criteria

Within the ComSecuTech platform, responders are categorized into different ranks (Figure 3.7), starting from Delta II, Delta I, Charlie II, Charlie I, Bravo II, Bravo I, and ultimately reaching the highest rank, Alpha. These ranks have been carefully designed and established by key players in the security industry for use within the platform which referring to Figure 3.2.1.

To progress to a higher rank, responders are required to fulfil specific working hours for each rank. The platform automatically calculates and tracks these working hours, ensuring accurate tracking of responders' time spent on duty. The calculation process is controlled by a scoring system within the database, utilizing a computation algorithm to determine the fulfilment of working hour requirements.

In addition to meeting the working hour criteria, responders also need to qualify for rank upgrades through various assessments. These assessments include physical fitness tests, competency tests, and interviews, which may involve oral tests or work-based exams. The

purpose of these assessments is to ensure about the responders' capabilities and qualifications, which is then collected and recorded into the platform. This information is vital for proper decision-making processes and ensuring that responders are equipped with the necessary skills and competencies for their respective ranks.

The data collected from the assessments and the fulfilment of working hour requirements are used for data analysis within the platform. This analysis helps in evaluating the performance and capabilities of responders, aiding in decision-making processes related to rank upgrades, assignment of responsibilities, and resource allocation. The data-driven approach ensures that decisions are made based on objective criteria and contributes to maintaining a high level of professionalism and competency within the responder team.

Each rank within the hierarchy brings different payroll ratings and types of benefits. As responders progress to higher ranks, they can expect increased remuneration and additional benefits commensurate with their rank. These differentiated compensation and benefits packages serve as incentives for responders to strive for career advancement and excel in their roles within the security management platform.

Rank \ Rewards	Delta II	Delta I	Charlie II	Charlie I	Bravo II	Bravo I	Alpha
RM/hour	4.50	5.50	6.50	8.00	8.80	9.50	10.00
PA Insurance	Qualify	Qualify	Qualify	Qualify	Qualify	Qualify	Qualify
Personal tax assistance	Qualify	Qualify	Qualify	Qualify	Qualify	Qualify	Qualify
Monthly Top Responsive				RM100.00			
Telco Claim	Nil	30.00	30.00	50.00	60.00	60.00	60.00
Vehicle Loan @ 1% per annum	Nil	Nil	Nil	< 3,000	< 5,000	< 7,000	< 10,000
Service & Tire Claim	Nil	Nil	Nil	50.00	80.00	100.00	100.00
Send e-Voucher	Nil	Nil	Nil	Qualify	Qualify	Qualify	Qualify
Vehicle Insurance Rebate	Nil	Nil	Nil	Qualify	Qualify	Qualify	Qualify
Code7 e-Credit Emp. Education scheme / annum	300	500	800	1,000	1,500	2,000	3,000
Meal claim	Nil	Nil	Nil	Nil	30.00	30.00	30.00
Monthly Patrol Remittance	Nil	Nil	Nil	Nil	80.00	100.00	120.00

Figure 3.8 Responder Promotion Benefits

CODE 7 providing attractive benefits to its responders based on their rankings (Figure 3.8). These benefits are specifically designed to incentivize responders to join CODE 7 and engage in second employment opportunities.

As responders progress through different rankings within the platform, their benefits automatically undergo revision to reflect their upgraded status. This ensures that responders are appropriately rewarded and recognized for their dedication and skill development. The revision of benefits is carried out seamlessly by the system, eliminating any bias or subjectivity in the process.

By having all benefits pre-set in the system, CODE 7 establishes a level playing field for all responders. The platform operates in a fair, public, and impartial manner, where the data recorded and calculated by the system serves as the basis for determining the benefits. This

approach ensures consistency and transparency in the distribution of benefits across all responders, reinforcing trust and fairness within ComSecuTech platform.

The benefits offered to responders serve as a strong incentive for them to actively participate in CODE 7 and pursue second employment opportunities. These benefits may include financial rewards, insurance coverage, flexible working hours, training and development programs, and other perks that enhance the overall work experience and support their personal and professional growth.

Figure 3.9 CODE 7 Award Ceremony

CODE7 recognizes and celebrates the exceptional performance and dedication of its responders by organizing an annual award ceremony (Figure 3.9). This special event serves as a platform to honor and motivate responders who have demonstrated outstanding responsiveness and excellence in their respective rankings.

The award ceremony is designed to acknowledge responders who have excelled in their roles and have been promoted to higher ranks based on their exceptional performance. It serves as a prestigious occasion where top performers are recognized and celebrated among their peers, creating a sense of achievement and pride within the responder community.

During the award ceremony, CODE7 presents accolades and certificates of recognition to the responders who have achieved top responsiveness within each ranking. This acknowledgment

not only boosts the morale and motivation of the awarded responders but also inspires others to strive for excellence in their work.

The award ceremony provides an opportunity for CODE7 to publicly appreciate and express gratitude for the dedication, professionalism, and exemplary service demonstrated by the responders. It showcases the organization's commitment to fostering a culture of excellence and recognizes the valuable contributions made by responders to the overall success of the platform.

Besides that, this ceremony serves as a motivational platform, not only for the awardees but for all responders, encouraging them to strive for excellence in their roles and aspire to be recognized for their exceptional performance. It reinforces a culture of continuous improvement, professional growth, and dedication to providing high-quality service to CODE7's users.

3.4 Business Model

At the business model level, ComSecuTech platform aims to establish community protection as a utility, providing essential security services to individuals and businesses. To achieve this, several aspects need to be considered during the design and commercialization of the business model, including the revenue model and the *Community Protection as a Utility* subscription model.

The revenue model of platform revolves around generating income through the provision of security services. This may involve various revenue streams, such as subscription fees, service fees, or commission-based arrangements with security providers. The revenue model is designed to ensure the financial sustainability of the platform while providing affordable and accessible security solutions to users.

Figure 3.10 Business to Consumer Subscription Service

Code 7 had provided all-day services such as loitering, attempted break-in, stranger approach, security support and cctv alert. Besides, on demand services include scheduled patrol and home protection (Figure 3.10).

Community Protection as a Utility subscription model is a key component of CODE 7's business model. It involves offering subscription plans to individual users (residents, businesses, and industries) who wish to avail themselves of the platform's security services. The subscription model allows users to access a range of security services, benefits, and on-demand services. This model provides a recurring revenue stream for CODE 7 while ensuring that users receive continuous and reliable security services.

Community Protection as a Utility subscription model is designed to offer community protection as a utility model, it revolves around the concept of providing essential security services to communities in a manner similar to other public utilities like water, electricity, or telecommunications. This model aims to ensure the safety and well-being of individuals, businesses, and organizations within a community by offering comprehensive security solutions.

In this business model, community security is treated as a fundamental service that is accessible to all members of the community. The focus is on creating a secure environment where residents and businesses can thrive without worrying about their safety and protection.

This model consists of:

1. **Always On:** security services are available 24/7 protection to subscriber. By leveraging technology and a dedicated app, individuals can access security services whenever they need them.
2. **Mobile App:** allows subscriber to easily request security services, report incidents, and receive real-time updates. The app serves as a central hub for accessing and managing security-related activities.
3. **On-Demand Availability**: Subscriber can request security services on-demand, allowing them to request security support as they arise. This flexibility ensures that individuals can obtain the necessary assistance and support whenever required.
4. **Accessibility Anywhere:** security services are accessible from anywhere. Subscriber can remote request assistance regardless of their location, providing a sense of safety and security wherever they go.
5. **Usage Records and Analytics**: maintains a comprehensive database that records the usage of security services, capturing data on incidents, response times, and outcomes. This data serves as a valuable resource for future analytics, enabling the identification of patterns, trends, and areas for improvement.
6. **Utility Payment Scheme**: adopts a payment scheme similar to utility services like electricity and water. Subscriber pay for security services based on their usage, promoting a fair and equitable approach to cost allocation.

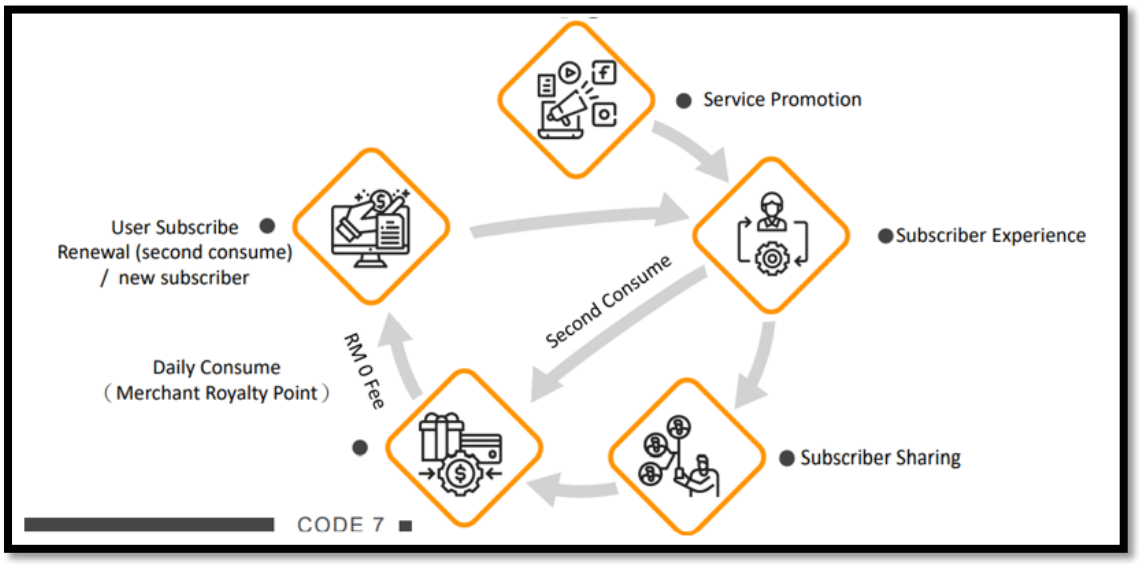


Figure 3.11 Utility Subscription Life Cycle

The utility subscription life cycle of CODE7 (Figure 3.11) designed to follows a seamless process that begins with users subscribing to services through CODE7 protection app. Once subscribed, they can enjoy a comprehensive subscriber experience. As they engage with the app and benefit from the services, users are encouraged to share their positive experiences with others, thus spreading awareness and generating new subscribers.

As the subscriber continues choosing to renew their subscription package to maintain CODE7 services. Subscriber has benefits to earn merchant royalty points when they regularly consume services without incurring any additional fees. This incentivizes users to make use of the app on a daily basis, earning points that can be redeemed for various benefits and rewards. Concurrently, if new users are registering and subscribing to experience the CODE7 services under referral program. The subscriber will be rewarded with more royalty point. By offering this added value, CODE7 aims to enhance user loyalty and encourage ongoing usage.

This ongoing cycle of new registrations and renewals drives the growth of the subscriber base, expanding the reach and impact of the Code 7 platform.

Figure 3.12 Market Proposition/ Analysis

Market propositions within the ComSecuTech ecosystem are categorized into four distinct categories, each offering unique value propositions (Figure 3.12) to its users. These categories include Inter-ecosystem, premium pricing, intra-system, and economical pricing.

ComSecuTech positions itself under the economical pricing and inter-ecosystem categories, providing cost-effective solutions that cater to a wide range of users. By adopting an economical pricing strategy, it aims to make its services accessible and affordable to a larger audience, ensuring that users can benefit from the platform's security offerings without significant financial constraints.

Furthermore, as an inter-ecosystem player, ComSecuTech establishes connections and partnerships with various stakeholders and entities within the broader ecosystem. This allows for seamless integration and collaboration with other systems, services, and industries, creating a mutually beneficial network where users can leverage multiple resources and enjoy an enhanced user experience.

By combining the advantages of economical pricing and inter-ecosystem positioning. It offers competitive pricing structures that appeal to cost-conscious users while fostering collaboration and synergy with other ecosystem players. This positioning allows platform to provide comprehensive and accessible security solutions while leveraging the strengths of its strategic partnerships.

ComSecuTech Platform Role

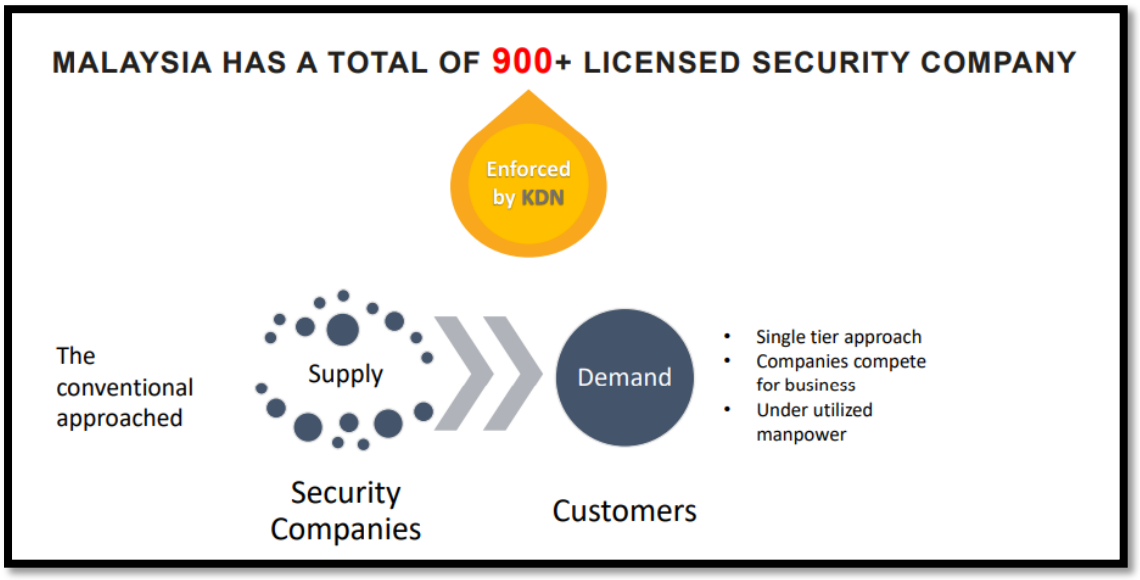


Figure 3.13 How's Conventional Security Industry Model Works

In Malaysia, the security industry is regulated by the Ministry of Home Affairs (KDN), and there are over nine hundred licensed security companies registered in the country. Traditionally, these security companies have relied on a conventional approach (Figure 3.13) to acquire business, where they independently seek out customers and fulfill their demands.

This conventional approach can be described as a single-tier demand-supply model, where security companies actively compete with each other to secure contracts and clients. Companies are responsible for generating their own demand and engaging with potential customers to secure business opportunities. However, this approach has its limitations, as it can result in underutilization of manpower and resources within the industry.

Under the traditional model, security companies may not fully optimize their workforce as they are solely dependent on their individual efforts to attract and secure customers. This can lead to inefficiencies and difficulties in matching the available manpower with the actual demand for security services. Additionally, companies may face challenges in reaching a wider customer base and tapping into new markets due to the lack of a coordinated approach.

To address these limitations and enhance the efficiency of the industry, new approaches and ComSecuTech platforms have emerged (Figure 3.14). These platforms provide a centralized ecosystem where security companies can collaborate, share resources, and leverage technology to streamline operations and improve service delivery. By pooling resources and adopting a more collaborative approach, security companies can optimize manpower utilization, enhance customer reach, and improve overall industry performance.

By shifting from the conventional demand-supply model to a more collaborative and coordinated approach, the security industry in Malaysia has the potential to overcome existing limitations and improve its effectiveness. Platforms like CODE7 play a role in facilitating this transition by providing a centralized marketplace that connects security companies with customers, promotes collaboration, and optimizes resource allocation.

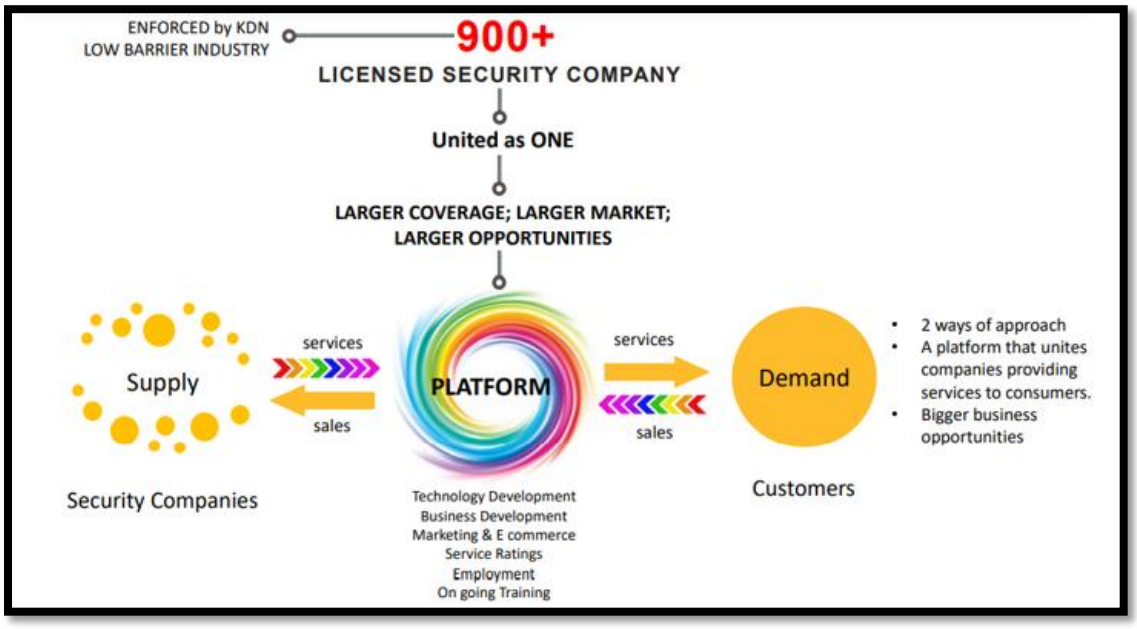


Figure 3.14 New Approach of ComSecuTech Platform

Figure 3.15 Business Stakeholder Role

Business stakeholders (Figure 3.15) include responder, licensed security companies, community security technology platform and end consumer. Every stakeholder has their own role.

Responders play a man-power resource role in the platform. They are trained professionals who are standby to respond promptly when users request services such as addressing issues related to loitering, attempted break-ins, CCTV alerts, elderly support, and stranger approaches. Responders are at the forefront of ensuring the safety and security of the community by providing on-ground assistance and support. Response team also has to attend courses for certification and apply teamwork and discipline when they are on duty. They have new career opportunities, enjoy being respected by the community, acquiring new skills, attractive wages, flexible working hours, smart uniforms, and get paid weekly.

Licensed security companies have the responsibility of managing and overseeing the operations of the responders. They monitor the performance and conduct background vetting checks to ensure that every responder has the necessary qualifications and holds a individual background crime-free. These companies also handle the management of the promotion strategy, duty roster, ensuring that there is adequate coverage and coordination among the responders.

The community security technology platform, ComSecuTech serves as a centralized platform that brings together and unifies the licensed security companies. The platform facilitates recruitment management, enabling standardized procedures for onboarding responders. It also implements promotion strategies to enhance market opportunities and expand the reach of community security services.

End consumers are the ones who subscribe to the Code7 protection services. They benefit from 24/7 responsive services, additional security support, and the utilization of loyalty points for subscriptions. End consumers play an active role in ensuring their own safety and security by subscribing to the services provided by the community security ecosystem.

3.5 Ecosystem

The integration and connectivity of the community security technology platform with various industries bring numerous benefits and opportunities to the security industry. One of the significant e-commerce advantages is the integration with finance payment gateways, which enables seamless and secure payment transactions for subscription fees and other related services. This integration enhances convenience for end consumers, allowing them to choose their preferred payment methods such as credit cards, debit cards, or digital wallets. Moreover, it streamlines the billing process for community security services, ensuring efficient and accurate payment management.

The integration with insurance platforms also presents opportunities for collaboration between community security services and insurance providers. By exploring potential partnerships, specialized insurance products can be developed to address the unique needs of community security. These insurance offerings can provide additional protection and coverage for end consumers and also responder on duty safety coverage, instilling a greater sense of security and peace of mind.

The integration with the Telco industry, incorporating components such as 5G technology and NB-IoT, brings immense value to the community security ecosystem. It enables the seamless implementation of mobile and communication services, establishing efficient channels for communication between responders, security companies, and end consumers. This integration plays a crucial role in enabling prompt and effective coordination during emergency situations, ensuring that critical information is relayed swiftly. Consequently, it enhances overall response times and significantly improves the effectiveness of security operations. By leveraging the capabilities of 5G technology and NB-IoT, the community security ecosystem becomes equipped with advanced communication infrastructure, enabling real-time data transmission, seamless connectivity, and reliable communication networks. This integration fosters a highly responsive and interconnected security network, allowing stakeholders to efficiently collaborate, share information, and coordinate actions. It empowers responders with immediate access to critical information, enhances situational awareness, and enables swift decision-making, ultimately enhancing the overall effectiveness of community security efforts. The integration of Telco services, along with cutting-edge technologies like 5G and NB-IoT, propels the community security ecosystem forward, enabling it to leverage the full potential of mobile and communication advancements for the benefit of responders, security companies, and end consumers alike.

Integration with country law enforcement platforms further strengthens the collaboration between community security services and law enforcement agencies. By sharing relevant information and data, both parties can work together to enhance crime prevention efforts. The integration facilitates a more comprehensive and holistic approach to public safety, leveraging the strengths and resources of both community security services and law enforcement agencies.

Integrating with local councils allows for closer coordination in terms of urban planning and security measures. This partnership enables the sharing of information on community infrastructure, zoning regulations, and other relevant data that can influence the design and implementation of community security services. By working together, the platform can align its efforts with the local council's initiatives, ensuring a more cohesive and integrated approach to community security.

By integrating with Fire & Rescue Department brings added expertise in emergency response and disaster management. The platform able to provide first hand critical information such as fire incident reports, evacuation plans, and emergency contact details to fire department as second tier respond team. This integration allows for a seamless exchange of data between community security services and fire stations, ensuring prompt and effective responses in case of fire-related incidents. The platform can also leverage fire station resources, such as fire hydrant locations and fire safety guidelines, to enhance community security measures.

Similar like rescue department, integrating with medical healthcare institutes enables the platform to establish a strong connection with healthcare professionals and resources. This partnership enhances the platform's ability to respond to medical emergencies and provide timely assistance to individuals in need as secondary backup team. By providing patient's emergency healthcare condition, environment situation, and real-time health monitoring care with IoT equipment, community security services can better address medical emergencies and ensure the well-being of community members. Integration with medical healthcare institutes also facilitates the sharing or act as first aid responder support of medical expertise, such as first aid protocols and training programs, to enhance the overall capabilities of responders in handling medical situations.

Collaboration with training academies is crucial to ensure that responders receive adequate and up-to-date training. By integrating with training academies, the community security platform can contribute to the standardization of training programs and certifications for responders.

This ensures that responders are equipped with the necessary skills and knowledge to perform their duties effectively and professionally.

Integration with security marketplaces and job assignment matching platforms creates opportunities for human resource and business growth within the security industry. By connecting with these platforms, the community security technology platform can efficiently match the demand for security service with the available responders and security companies. This streamlines the process of job assignments, optimizes resource allocation, and contributes to the growth and development of the security industry.

Lastly, the integration of the community security technology platform with various industries opens up possibilities for big data analytics and security prediction. By analyzing large volumes of data collected from the platform, patterns and trends can be identified. This data-driven approach enables proactive crime prevention measures and the development of predictive security models. By leveraging the power of data analytics, the community security technology platform can continuously improve its effectiveness in enhancing community safety and security.

In the ecosystem level, integration and connectivity of the community security technology platform with various industries bring significant benefits and opportunities to the security industry. From streamlined payment processes to enhanced collaboration with insurance providers, law enforcement agencies, and training academies, these integrations strengthen the overall ecosystem of community security. Additionally, the integration opens up avenues for employment and business growth, while also enabling data-driven insights for proactive crime prevention. The community security technology platform, through its industry integrations, plays a pivotal role in advancing the capabilities and effectiveness of the security industry as a whole.

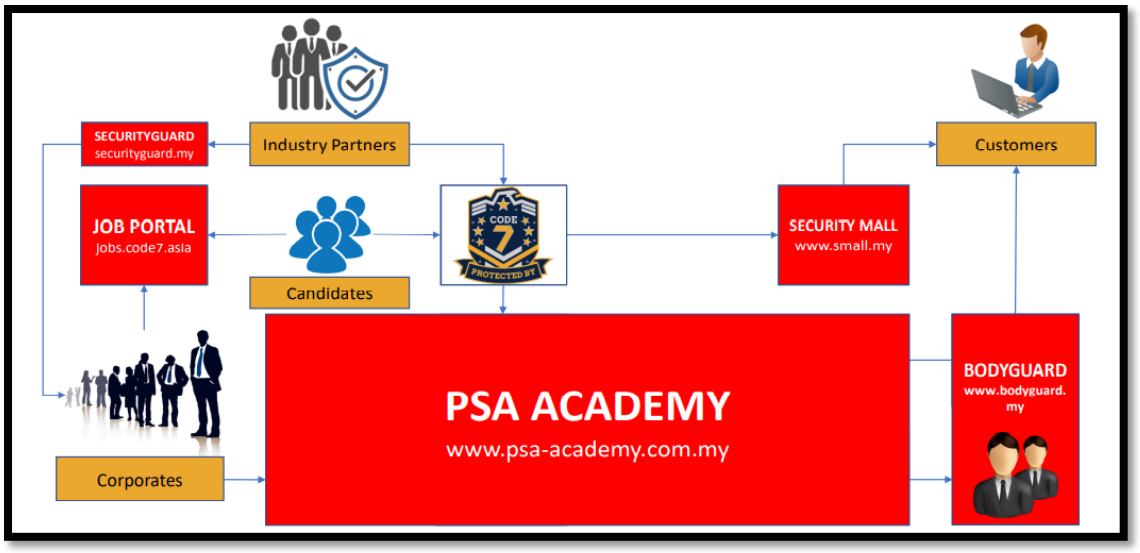


Figure 3.16 Vertical Integration

The ComSecuTech platform is not only an individual platform. It is platform expansion ready in future with other platforms by using API technology such as E-commerce platform, job portal platform, security guard platform and bodyguard platform (Figure 3.16).

4.0 DEVELOPMENT AND IMPLEMENTATION

4.1 UI Flow Demo Platform

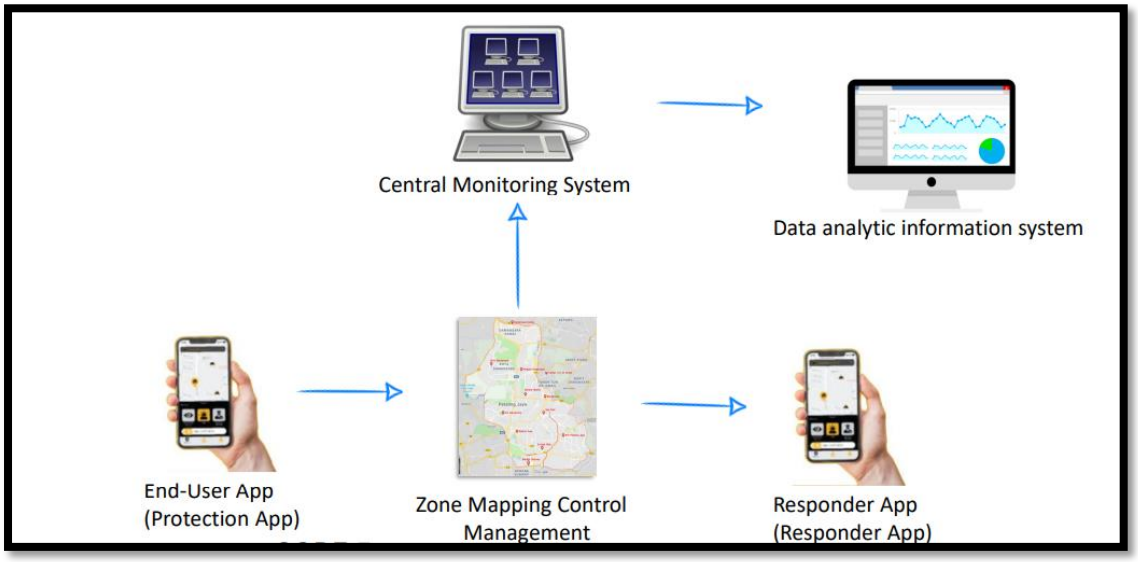


Figure 4.1 Technology Platform Element

The technology platform of ComSecuTech consist of several essential elements (Figure 4.1) to ensure seamless and effective community security services. One of these key elements is the end-user app, which serves as a “CODE7 Protection app” for individuals seeking security and assistance. This user-friendly app provides a range of features and functionalities to enhance the safety and peace of mind of its users.

Through the protection app, user can access various security services and request assistance when needed. This includes features such as emergency response, suspicious activities, requesting patrols, and accessing real-time monitoring of their designated zones. The app serves as a convenient and 24/7 accessible tool for users to engage with the community security ecosystem and receive timely support.

Additionally, the technology platform includes “central monitoring system” that acts as the nerve center of the entire operation. This system receives notifications and data from the end-user app, allowing for swift and coordinated responses to security incidents or requests for assistance. The central monitoring system is equipped with advanced analytics capabilities to process incoming data, identify patterns or anomalies, and initiate appropriate actions.

"CODE7 Responder app" is another integral component of the technology platform. This app is designed specifically for responders, who are individuals dedicated to ensuring the safety and well-being of the community. When a request or notification is received through the end-user protection app, the responder app delivers the information to the assigned responders, enabling them to promptly assess the situation and take necessary actions. The app provides responders with critical information, such as the location of the incident, relevant user details, and any additional instructions or guidelines. It incorporates additional functionalities to streamline the management of human resources. For instance, it features a duty roster function that enables efficient allocation of responders for various shifts and duties. This ensures that there is adequate coverage and that responders are assigned according to the specific needs of each situation and zone. Additionally, the app includes clock-in and clock-out capabilities, enabling responders to accurately record their working hours and shifts. This feature assists in maintaining proper records and ensuring compliance with scheduling and employment regulations.

To ensure efficient and effective management of the community security services, the technology platform incorporates zone mapping control management. This feature allows for the mapping and organization of different zones within the community, enabling effective allocation of resources and responder deployment. By categorizing and managing zones, the platform ensures that requests for assistance are directed to the appropriate responders who are responsible for that specific area. This zoning system enhances the speed and accuracy of response, ensuring that resources are deployed optimally and the right personnel are dispatched to handle each situation.

After collecting data from the central monitoring system, the platform utilizes advanced analytics and algorithms to derive meaningful insights and patterns from the gathered information.

The data analytic information system processes and analyzes various types of data, including real-time incident reports, sensor data, user feedback, and historical records. By leveraging the power of big data analytics, the platform can identify trends, anomalies, and potential security threats within specific zones.

The system examines the data to identify recurring patterns of criminal activity, vulnerable areas, or security gaps. This information allows for the formulation of targeted strategies and proactive measures to improve safety and security. For example, if a particular zone

consistently experiences a high number of incidents during specific times of the day, the platform can recommend increased patrols or enhanced security measures during those periods.

By understanding the unique characteristics and challenges of each zone, the ComSecuTech platform can provide zone-specific recommendations and interventions. These recommendations may include suggestions for the deployment of additional resources, such as increased responder presence or enhanced surveillance systems, in areas with a higher safety risk.

Furthermore, the data analytic information system enables continuous monitoring and evaluation of the effectiveness of implemented security measures. It tracks key performance indicators and safety metrics to assess the impact of interventions and identify areas for further improvement.

The insights derived from the data analytics system also contribute to the overall decision-making process within the ComSecuTech platform. They inform strategic planning, resource allocation, and the development of preventive measures to mitigate potential risks.

4.2 UI Flow of Consumer Protection App

Figure 4.2 CODE7 Protection App- Address Screen

Code 7 Protection app features a user-friendly interface designed to provide essential information at a glance (Figure 4.2). At the top of the screen, the app displays the user's household address, ensuring they have immediate visibility of their whereabouts.

To represent the default address set within the app, a house icon is prominently displayed. This familiar symbol serves as a visual representation of the user's registered or designated address, making it easy for them to identify their home location within the app.

The presence of active responders in the vicinity is denoted by a bike icon. This icon indicates that there are responders available and ready to provide assistance at any time, 24 hours a day. Users can rely on this visual cue to quickly identify the availability of responders in their area, giving them peace of mind and confidence in the app's capabilities.

Furthermore, the app includes a display of the total number of responders in the surrounding zone. This information is conveniently located at the top of the menu bar, allowing users to easily access and reference it whenever needed. By providing the total responder count, the app offers users a sense of the response capacity in their vicinity, helping them understand the level of support available within their community.

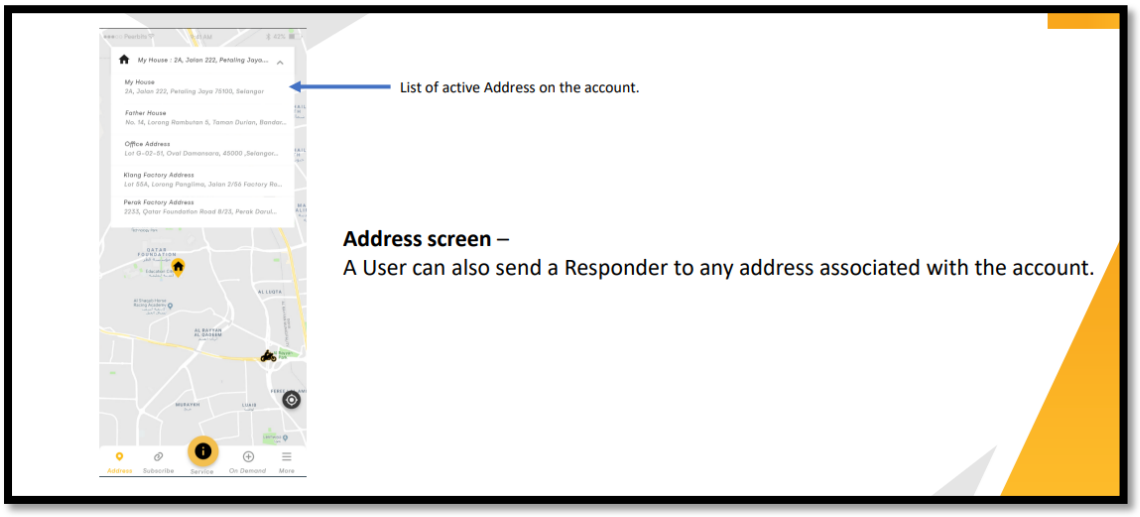


Figure 4.3 CODE7 Protection App-Address Screen 2

users able to request responder to any registered address associated with their account. To initiate this action, users can select a list of their active registered addresses within the app (Figure 4.3).

Upon selecting the desired address from the list, users can indicate their request for a responder to be dispatched to that specific address. This feature allows users to quickly and easily request assistance or support at a chosen address, even if it is different from their default or current location.

By providing users with the ability to send a responder to any associated address, the app ensures minimum communication and responsiveness in addressing security or safety concerns. Whether it's a family member's home, a workplace, or any other registered address, users have the option to access the protection services and assistance they need wherever it may be required.

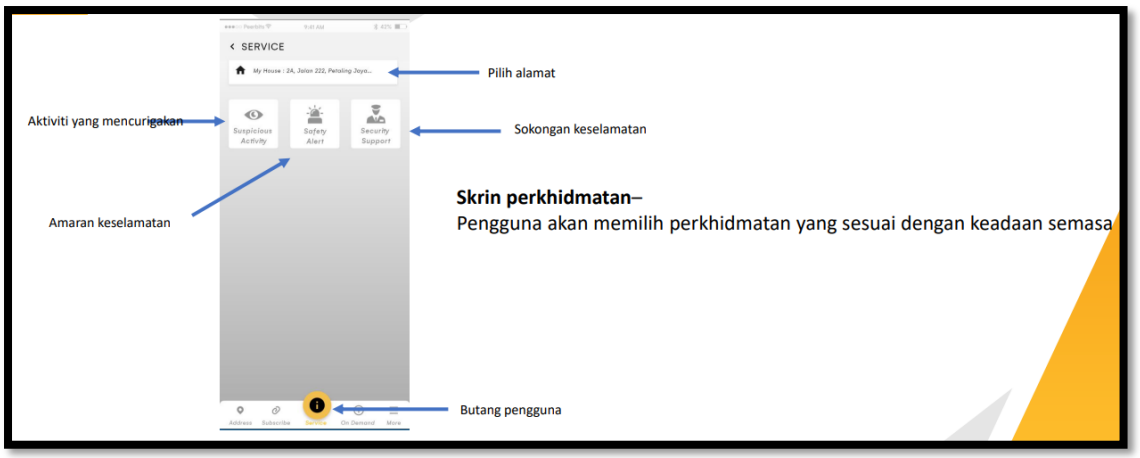


Figure 4.4 CODE7 Protection App -Service Screen

users can access various services by selecting the "Service" option located in the center of the bottom menu bar (Figure 4.4). Upon tapping on this option, the app will display a service screen featuring several service categories that cater to different security needs and situations.

Some of the services that may be listed include stealing activities, safety warnings, security support, and more. These categories allow users to choose the service that is most relevant and suitable for their current situation.

App provides users with the flexibility to select a different active address if needed. This can be done by utilizing the active address drop-down list, which allows users to easily switch to

another registered address associated with their account. By offering this functionality, users can ensure that the selected service is applicable to the specific location where they require assistance or attention.

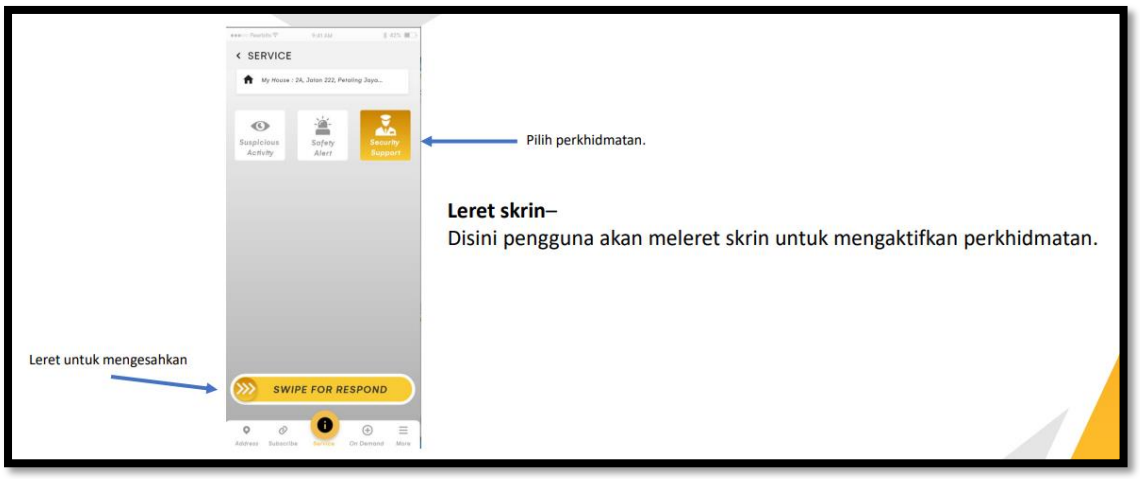


Figure 4.5 CODE7 Protection App -Service Screen 2

Once the user has selected a service that is appropriate for their current situation from the app (Figure 4.5), they can proceed to send a request by performing a swipe action on the screen.

By swiping to respond, the user initiates the request for assistance or support related to the selected service. This gesture serves as a signal to the system, indicating the user's need for immediate attention or action. The swipe action acts as a quick and intuitive way for users to communicate their urgency and trigger the response process.

Upon receiving the swipe request, the app's backend system immediately processes the information and identifies the relevant responders or resources that need to be engaged. This ensures that the user's request is promptly addressed and that the appropriate measures are taken to resolve the situation.

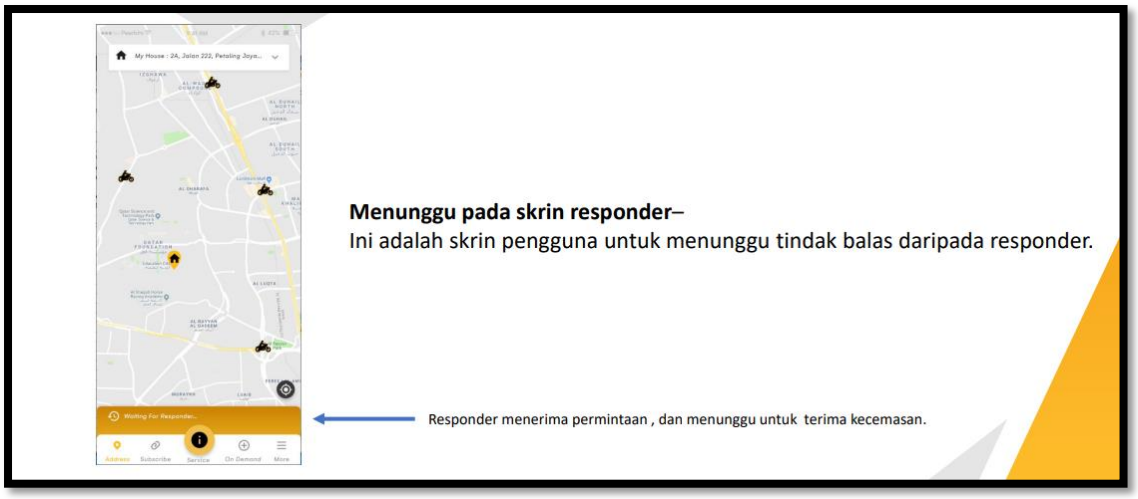


Figure 4.6 CODE7 Protection App -Address Screen 3

After sending a request to the responder through the CODE7 Protection app (Figure 4.6), user will direct to address screen where they can monitor the status of their request. At the top of the menu bar, a message will be displayed indicating that the user is waiting for the responder to accept the request.

This message serves as a visual confirmation to the user that their request has been received and is being processed by the system. It informs them that the app is actively seeking a responder to address their situation. By prominently displaying this message at the top of the menu bar, the app ensures that the user is kept informed and reassured during the waiting period.

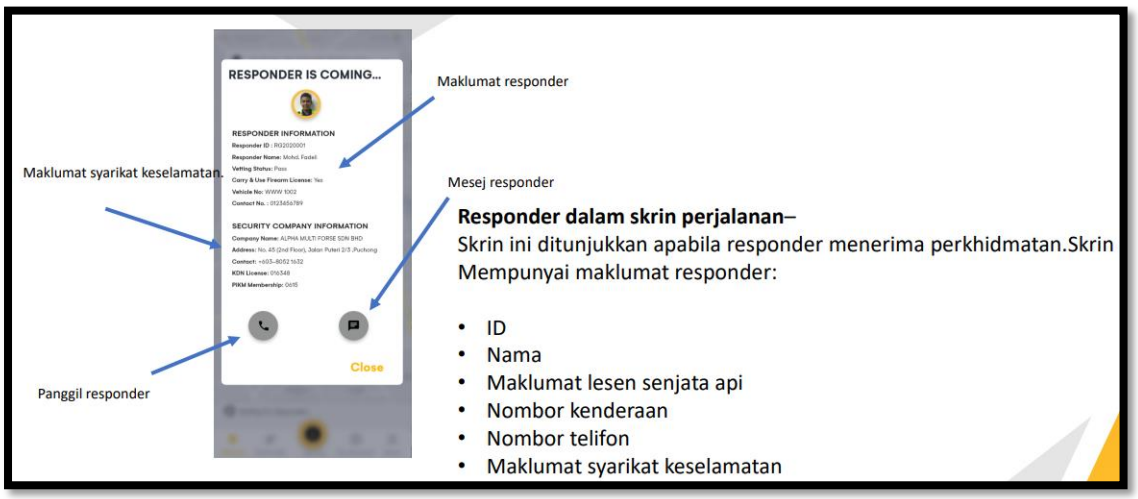


Figure 4.7 CODE7 Protection App – Responder Popup

Once the responder accepts the user's request on the app (Figure 4.7), it will display detailed information about the assigned responder. This information is crucial for establishing a sense

of trust and familiarity between the user and the responder. The displayed information includes the responder's ID, name, firearms license information (if applicable), vehicle number, telephone number, and the name of the security company they are affiliated with.

To facilitate communication with the responder, the app provides two options: calling and messaging. Users can initiate a phone call with the responder by tapping the phone icon associated with their contact information. This allows for direct and immediate communication in case of any updates or additional instructions.

Alternatively, users can choose to send a message to the responder by tapping the message icon. This feature provides a convenient and asynchronous means of communication, allowing users to convey specific details or ask questions without the need for a phone call.

By providing the responder's comprehensive information and offering communication options, the Code 7 Protection app ensures that users have direct access to the assigned responder and can engage with them in a manner that best suits their needs. This functionality enhances the overall user experience and promotes effective communication between the user and the responder for a seamless and efficient response to the requested service.

Figure 4.8 CODE7 Protection App -Address Screen 4

Once the responder has accepted the request, they will proceed to navigate to the user's location (Figure 4.8). Throughout the process, the user will have real-time visibility of the responder's location through the Protection app. This ensures that the user is constantly informed about the responder's whereabouts and can track their progress towards the designated location.

The app displays the responder's current location on a map, providing a visual representation of their movement. This feature enables the user to have peace of mind, knowing that help is on the way and being able to anticipate the responder's estimated time of arrival.

To the real-time location display, the app continues to show the relevant information of the responder, such as their ID, name, contact details, and security company information. This information remains accessible to the user throughout the entire process, ensuring transparency and enabling easy communication if needed.

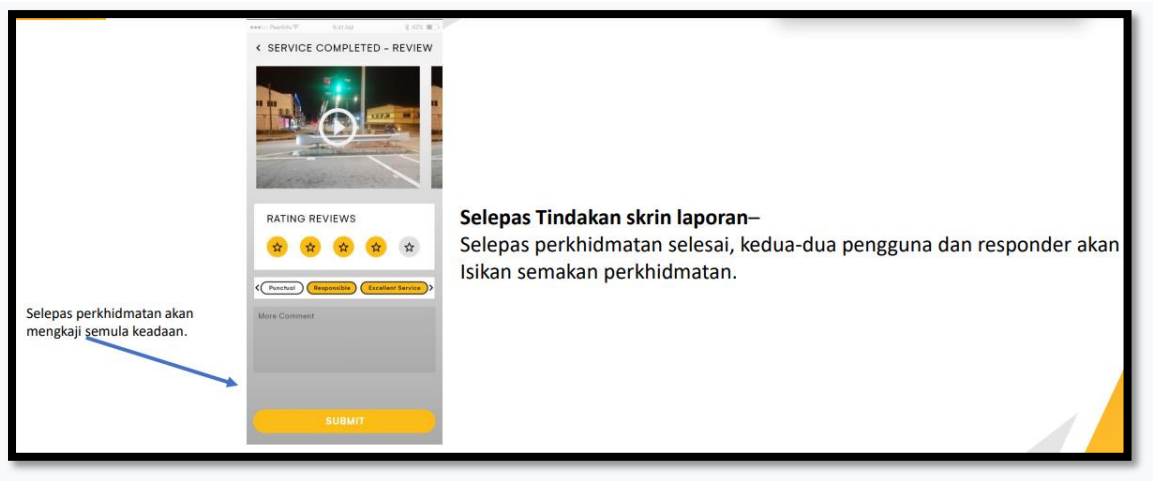


Figure 4.9 CODE7 Protection App – Review Screen

Once the service has been completed, both the user and the responder will have the opportunity to provide feedback through the service review feature in the Code 7 Protection app also responder app (Figure 4.9). This feature allows them to share their experiences and rate the overall quality of the service.

User can access the service review section within the app, where they can provide feedback on various aspects of their interaction with the responder and the overall service provided. They can rate the responder's professionalism, timeliness, and effectiveness in addressing their specific needs. The user may also have the option to leave additional comments or suggestions for improvement.

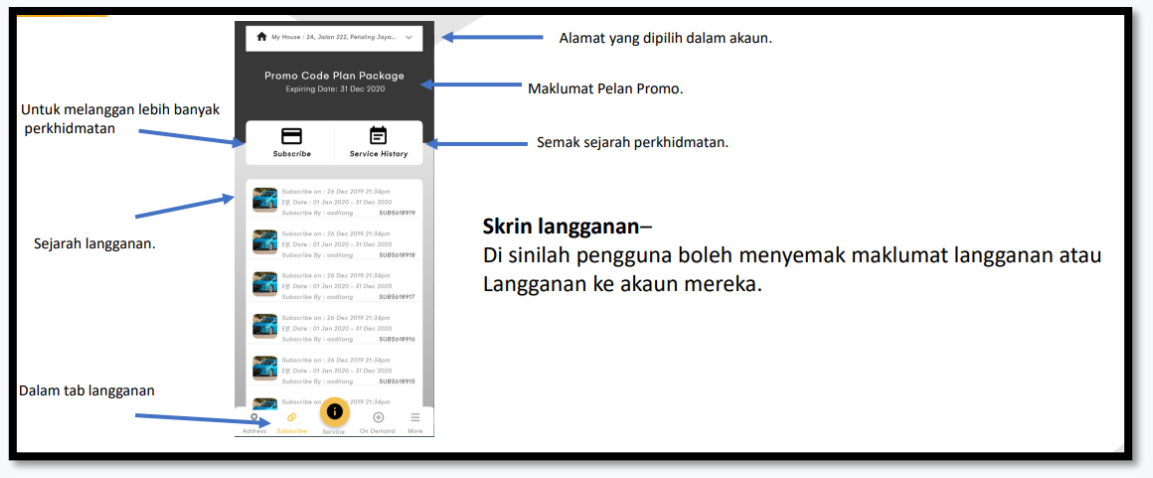


Figure 4.10 CODE7 Protection App -Subscription screen

This is where users can check subscription information or subscribe to their account (Figure 4.10). The information include subscription history, address which selected, promo plan information, and for user to subscribe for more service.

Users can review their past subscription transactions, including the dates, duration, and specific services subscribed to. This allows users to keep track of their subscription history and have a clear overview of the services they have utilized.

Users can view and manage the address linked to their subscription. This feature enables users to update or modify their active address, ensuring that the correct location is associated with their account for efficient service delivery.

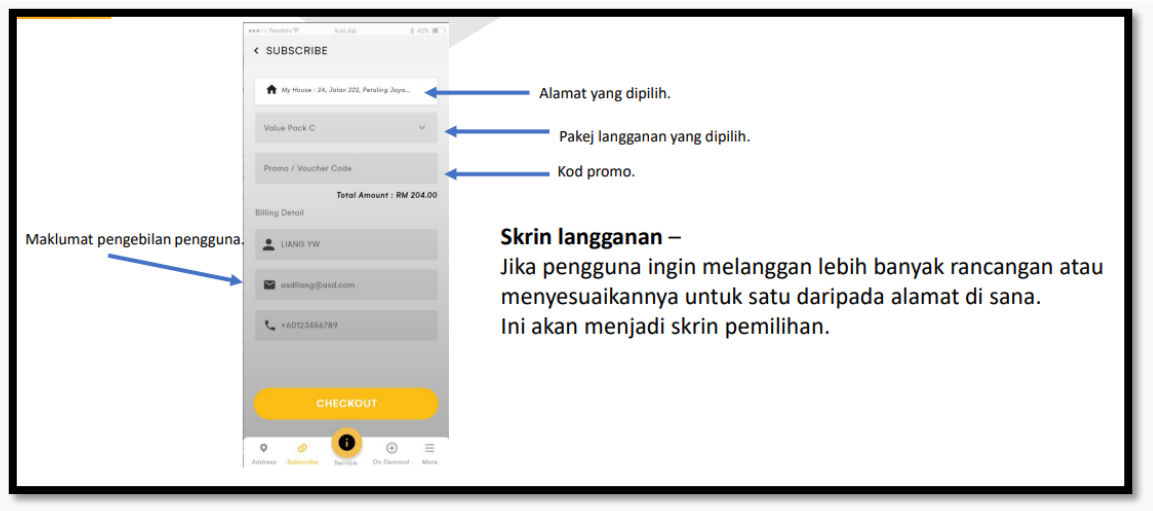


Figure 4.11 CODE7 Protection App -Subscription screen 2

Upon accessing the selection screen, users are presented with various options and controls to customize their subscription (Figure 4.11). They can browse through a list of available shows or services and choose the ones they are interested in. The screen may display relevant

information about each show, such as a brief description, pricing details, and any special offers or promotions.

For users who have multiple addresses associated with their account, the selection screen allows them to specify which address they want to make changes to. They can select the desired address from a dropdown list or through an interactive map interface.

Once the user has made their selections, they can proceed to adjust their subscription by adding or removing shows, modifying the duration of the subscription, or exploring different pricing options. The screen provides intuitive controls, such as checkboxes, sliders, or dropdown menus, to facilitate these actions.

Selection screen will display the user's current subscription information, including the shows they are already subscribed to and the associated costs. This helps users make informed decisions when considering additional subscriptions or modifications.

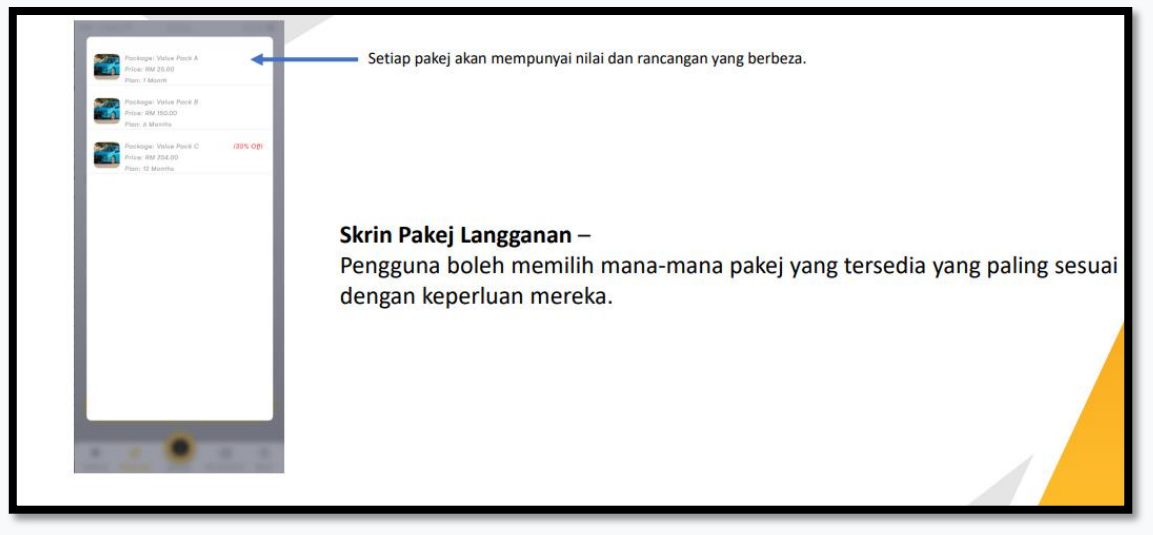


Figure 4.12 CODE7 Protection App -Subscription screen 3

Upon accessing the package selection screen, users are presented with a list of available options (Figure 4.12). These packages may vary in terms of features, coverage, duration, and pricing. The screen provides clear and concise descriptions of each package, outlining the benefits and services included.

Users can carefully evaluate their specific requirements and compare the features offered by each package. This allows them to make an informed decision based on their desired level of security and budget considerations.

To select a package, users can simply tap or click on the package they wish to subscribe to. The app may provide additional details about the package, such as any special promotions or discounts associated with it.

After making their selection, users may be prompted to confirm their choice before proceeding with the subscription process. This ensures that users have the opportunity to review their selection and make any necessary adjustments before finalizing their subscription.

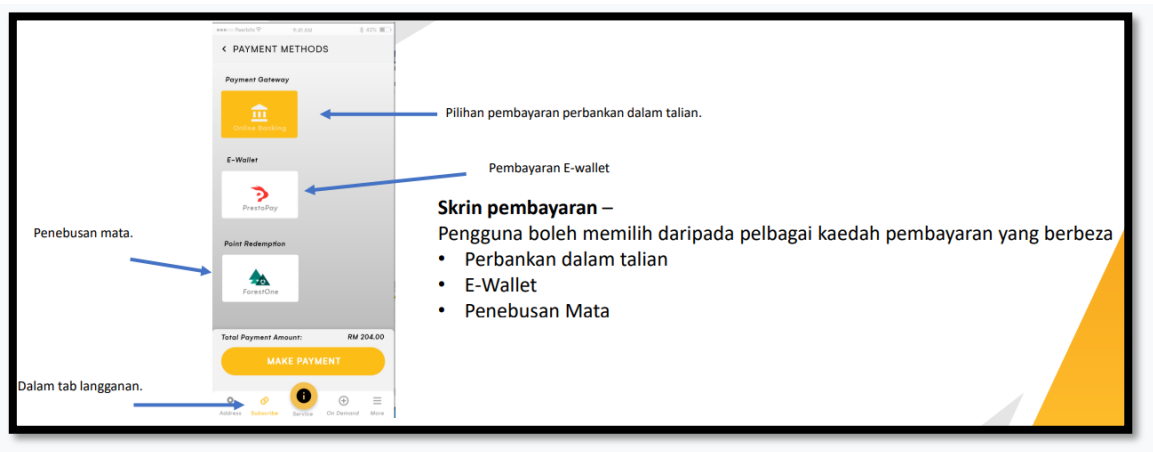


Figure 4.13 CODE7 Protection App -Subscription screen 4

Users have the freedom to choose from various payment options based on their preferences and convenience.

One of the available payment methods is online banking, which allows users to make direct payments from their bank accounts (Figure 4.13). This method ensures a secure and efficient transaction process, as users can authorize the payment directly through their banking app or website.

Another popular payment option is the "buy-now-pay-later" service, which enables users to subscribe to a package and defer the payment to a later date. This option provides flexibility for users who may prefer to manage their payments over a period of time.

The app also supports e-wallet payments, allowing users to link their preferred digital wallet services to make instant and hassle-free transactions. This method offers convenience and speed, as users can securely complete the payment with just a few taps on their mobile devices.

Additionally, users may have the option to utilize redemption points to pay for their subscription. These points could be earned through loyalty programs or special promotions, providing users with the opportunity to redeem their points towards their subscription fees.

The selection screen within the app will display the available payment methods, along with relevant details and instructions for each option. Users can choose the method that best suits their preferences and complete the payment process accordingly.

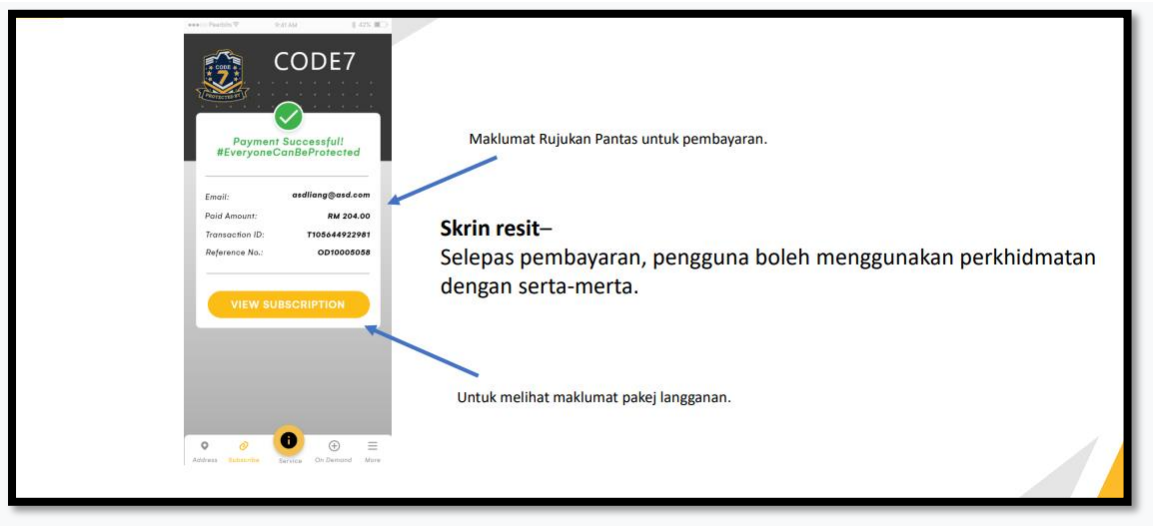


Figure 4.14 CODE7 protection app-Receipt screen

After doing the payment, user will receive a receipt with full information (Figure 4.14). Besides, user can enjoy CODE7 ‘s service immediately.

Figure 4.15 CODE7 protection app-Receipt screen 2

If users want to see information about their purchase, they can click on Any service history report and view information (Figure 4.15).

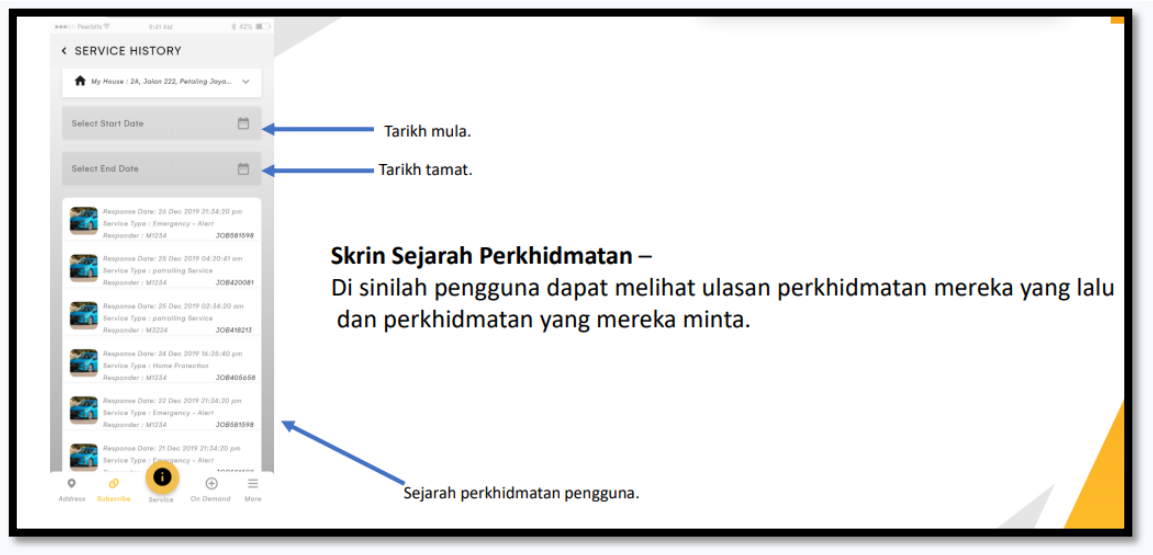


Figure 4.16 CODE7 Protection App -Service History Screen

Users have access to their service history and reviews (Figure 4.16), providing them with valuable insights and a record of their past interactions with the platform. It offers a convenient way for users to reflect on their previous experiences and review the services they have requested.

When users navigate to this section, they will be presented with a chronological list of their past service requests. Each request will display relevant details such as the date, time, and type

of service requested. Users can easily scroll through the list to find specific requests they want to review.

For each service request, users will also have the option to view and submit a review. By selecting a particular service, users can see the details of that specific request, including the responder assigned, the location, and any additional notes or instructions provided. Users can then provide their feedback, ratings, and comments based on their experience with the service.

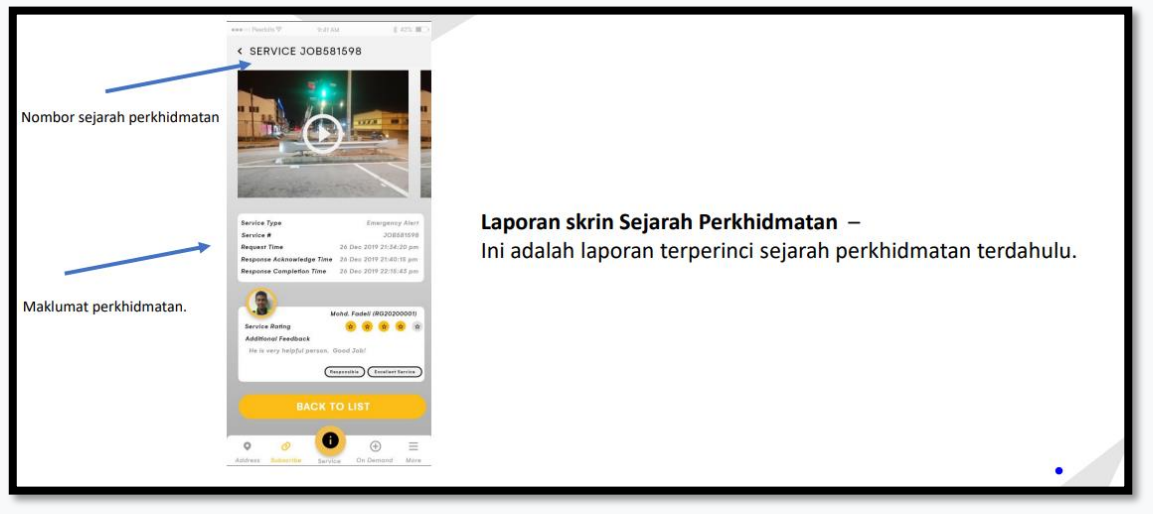


Figure 4.17 CODE7 Protection App -Service History screen report

This is a detailed report of previous service history which includes history number and service information (Figure 4.17).

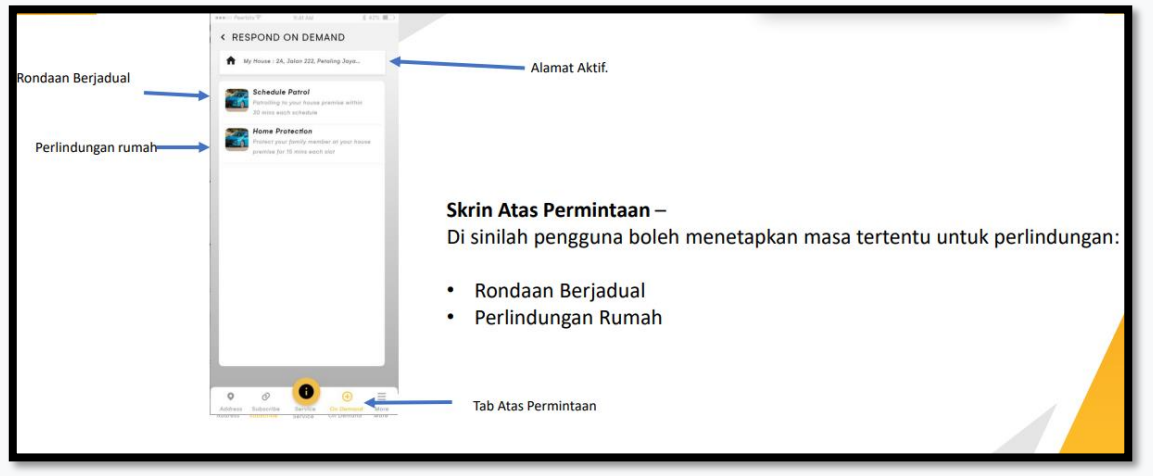


Figure 4.18 CODE7 Protection App -On Demand Screen

This is where users can set a specific time for protection of scheduled patrols and home protection with an active address (Figure 4.18).

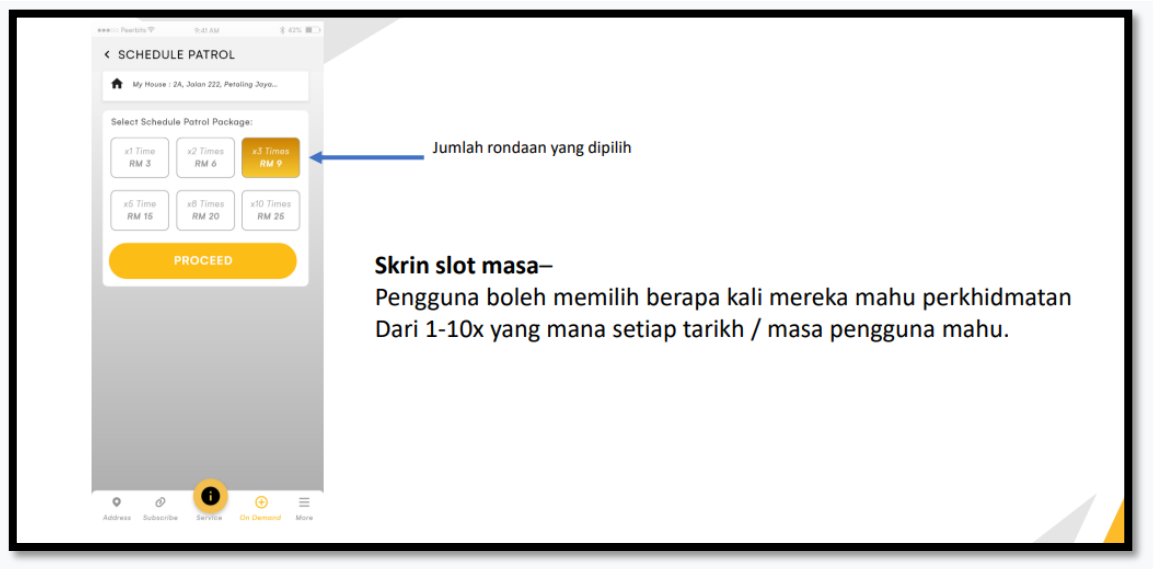


Figure 4.19 CODE7 Protection App -Time slot screen

Users can choose how many times they want the service from 1-10x whichever date / time the user wants (Figure 4.19).

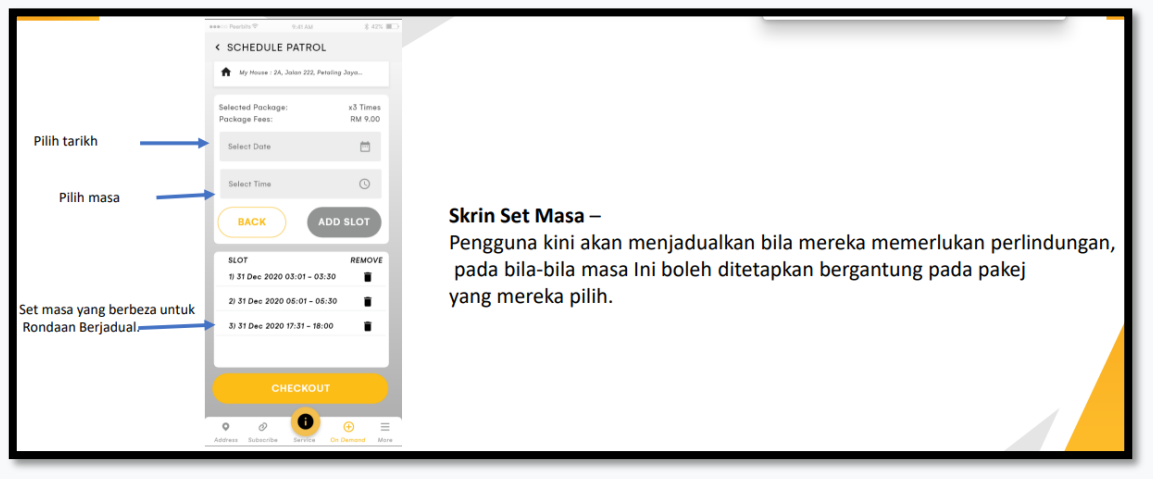


Figure 4.20 CODE7 Protection App -Time Set Screen

Users will now schedule when they need protection, at any time. This can be set depending on the package which they choose (Figure 4.20).

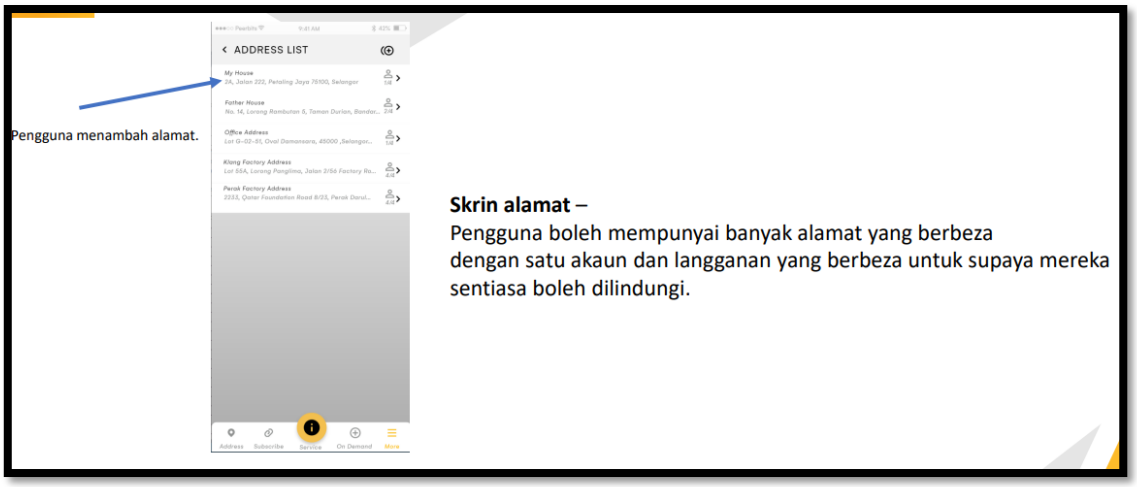


Figure 4.21 CODE7 Protection App -Address Screen 5

Users can have many different addresses with one account and different subscriptions to order them can always be covered (Figure 4.21).

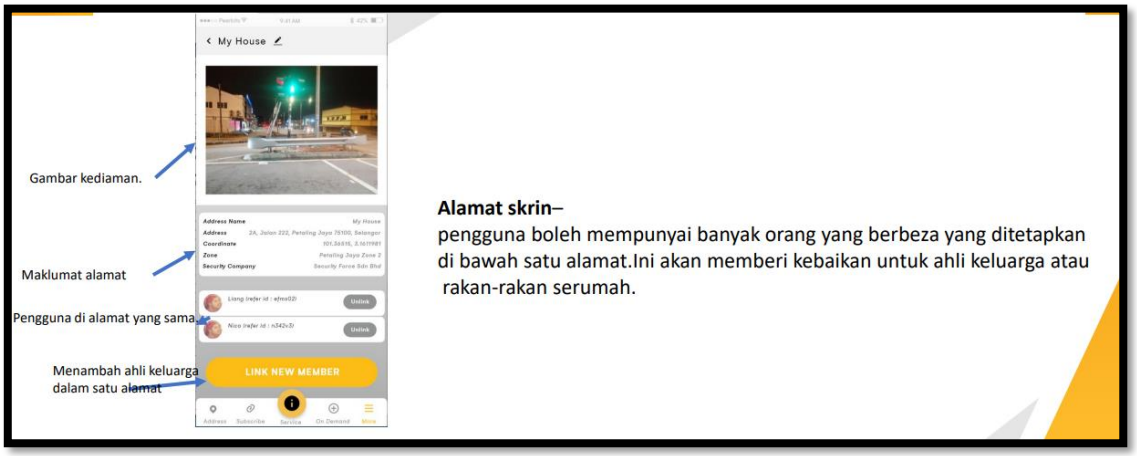


Figure 4.22 CODE7 Protection App -Screen Address

protection app offers a convenient feature that allows users to assign and manage multiple people under one address (Figure 4.22).

By assigning multiple individuals to a shared address, such as family members or housemates, the app enables collaborative security management and ensures that everyone living at the address can benefit from the services and features provided. Each assigned individual will have their own user profile within the app, allowing them to access and utilize the security features based on their specific needs and preferences.

4.3 UI Flow of Responder App

Figure 4.23 CODE7 Responder App - Dashboard Screen

The main screen of the responder app serves as a on-duty master app for responders to efficiently navigate and provide assistance to customers. It displays essential information about the responder, enabling them to effectively carry out their tasks and responsibilities. Here is an overview of the information typically displayed on the responder app's main screen (Figure 4.23):

- Photo: A profile picture or photo of the responder is shown, allowing for easy identification and personalization.
- ID: The unique identification number or code assigned to the responder is displayed, providing a means of individual identification and tracking.
- Name: The responder's name is shown, ensuring clear identification and fostering a sense of familiarity and trust between the responder and customers.
- Rank: The rank or position of the responder within the security organization or system is indicated, highlighting their level of expertise and authority.
- Task Status: This section provides an overview of the responder's current tasks or assignments, indicating whether they are available, on a mission, or completing a task.
- Additional Information: Relevant details about the responder may be displayed, such as contact information, certifications, qualifications, or specializations. This information helps customers and fellow responders understand the responder's capabilities and areas of expertise.

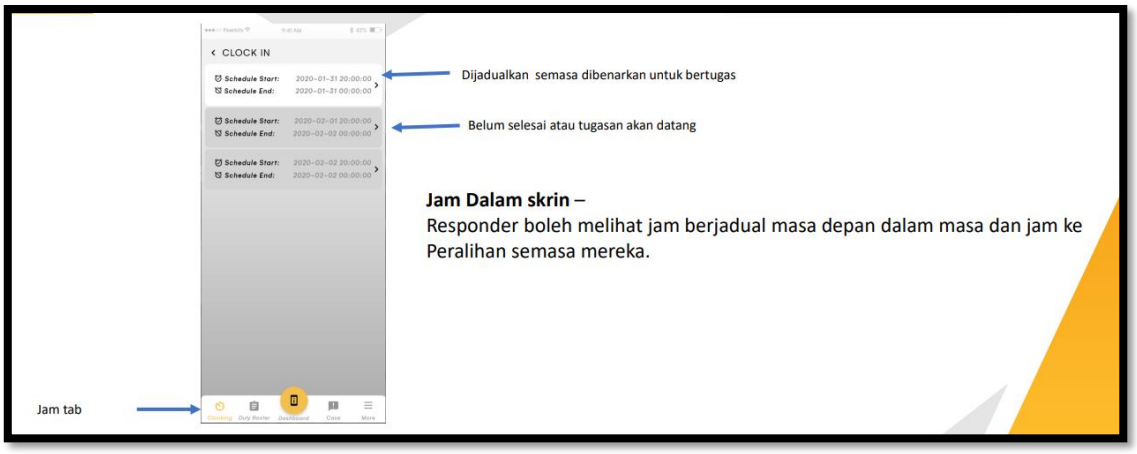


Figure 4.24 CODE7 Responder App -Clock in Screen

Responder can conveniently view their future scheduled hours and the remaining time until their next transition on the main screen of the responder app. This feature helps respondents effectively manage their time and stay informed about their upcoming shifts. The app displays a clear and organized schedule, indicating the date, time, and duration of each scheduled shift (Figure 4.24) . Additionally, it provides real-time updates on the hours remaining until the next transition or shift change, allowing respondents to plan their activities accordingly. By having access to this information at their fingertips, responder can stay prepared and ensure smooth transitions between tasks or shifts, optimizing their productivity and responsiveness.

Figure 4.25 CODE7 Responder App -Duty Time Screen

Responder are provided with clear indicators regarding their shift status. They can easily determine whether they can clock in for a particular shift, whether the shift is pending approval, or if it has been rejected. These indicators help Responder stay informed about the status of their assigned tasks and shifts (Figure 4.25).

If a shift is available for clocking in, the app will display a "Clock In" button, allowing the Responder to confirm their availability and start their assigned task. If the shift is pending approval, the app will show a status message indicating that the shift is awaiting approval from the relevant authority. This informs the respondent that their participation in the task is pending confirmation.

In the event that a shift is rejected, the app will provide a clear notification stating that the shift has been declined or rejected. This ensures that respondents are aware of any changes in their assigned tasks and can take appropriate action, such as contacting the relevant authority or seeking alternative assignments.

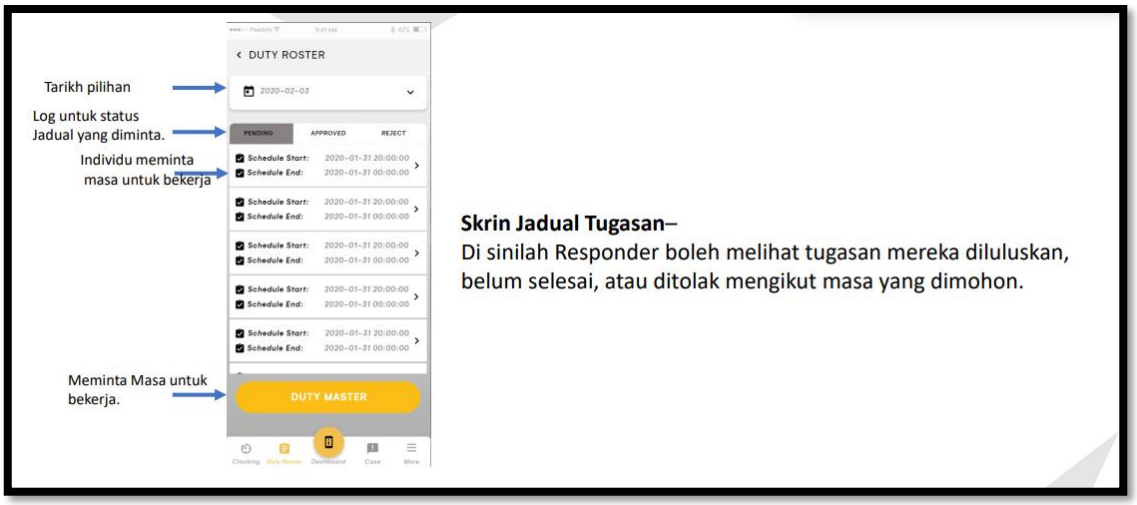


Figure 4.26 CODE7 Responder App -Task Schedule Screen

This is where responders can see their assignments approved, pending, or rejected according to the time requested (Figure 4.26).

Figure 4.27 CODE7 Responder App -Master Duty Screen

This is where responders will request the schedule they want. They just need to select the data and open slots, then click submit (Figure 4.27).

Figure 4.28 CODE7 Responder App -On the On Duty Screen

This is where the Respondent can see the number of respondents on duty (Figure 4.28).

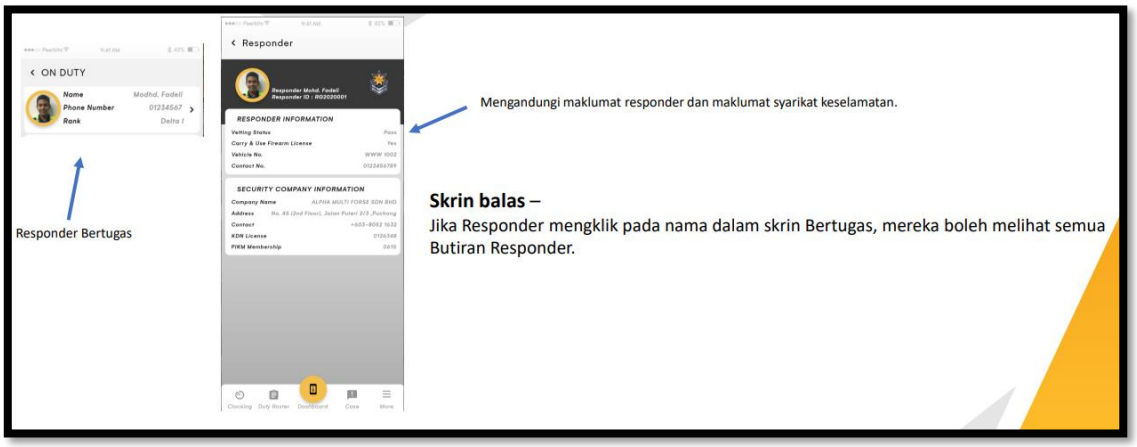


Figure 4.29 CODE7 Responder App -Response Screen

If the responder clicks on the name in the Duty screen (Figure 4.29), they can see all responder details including security company information, responder status, etc.

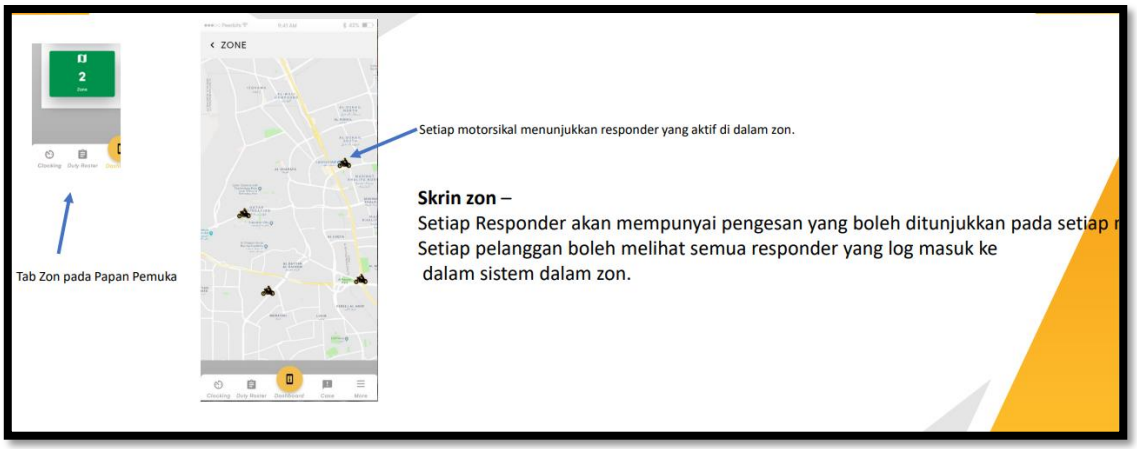


Figure 4.30 CODE7 Responder App -Zone Screen

Each Responder will have a detector that can be shown at all times. Each customer can see all responders logged in to the system in the zone (Figure 4.30).

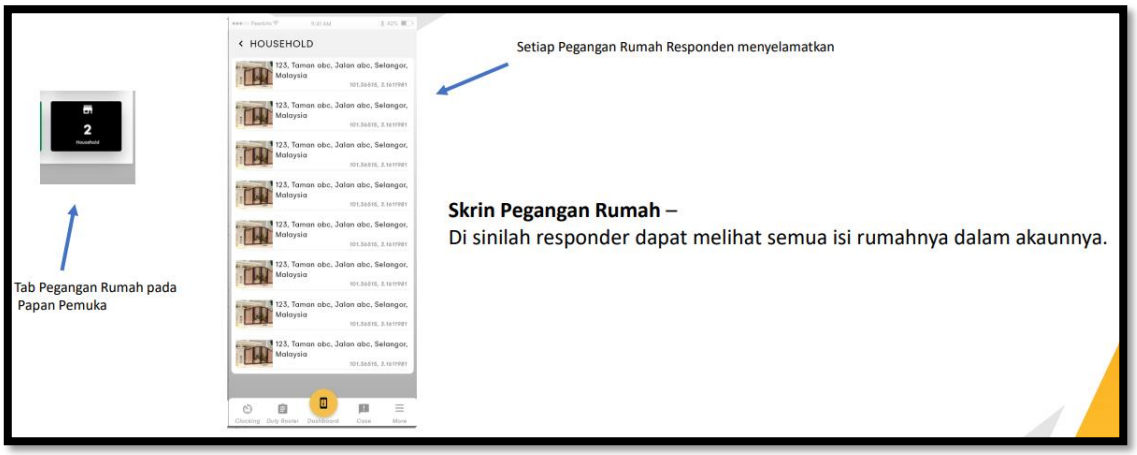


Figure 4.31 CODE7 Responder App -Home Holding Screen

This is where the responder can see all of his households in his account (Figure 4.31).

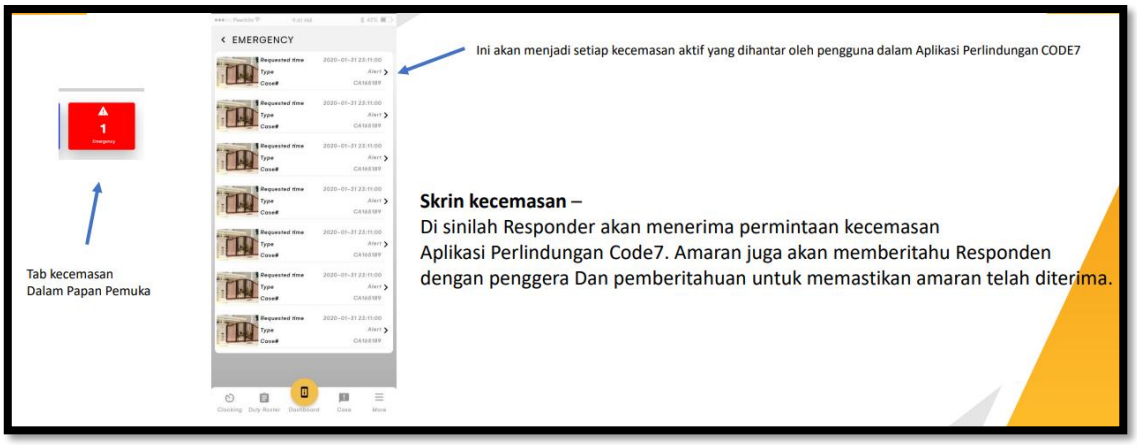


Figure 4.32 CODE7 Responder App -Emergency Screen

This is where the Responder will receive an emergency request Application Protection Code7. The warning will also notify the Respondent with alarms And notifications to ensure alerts have been received (Figure 4.32).

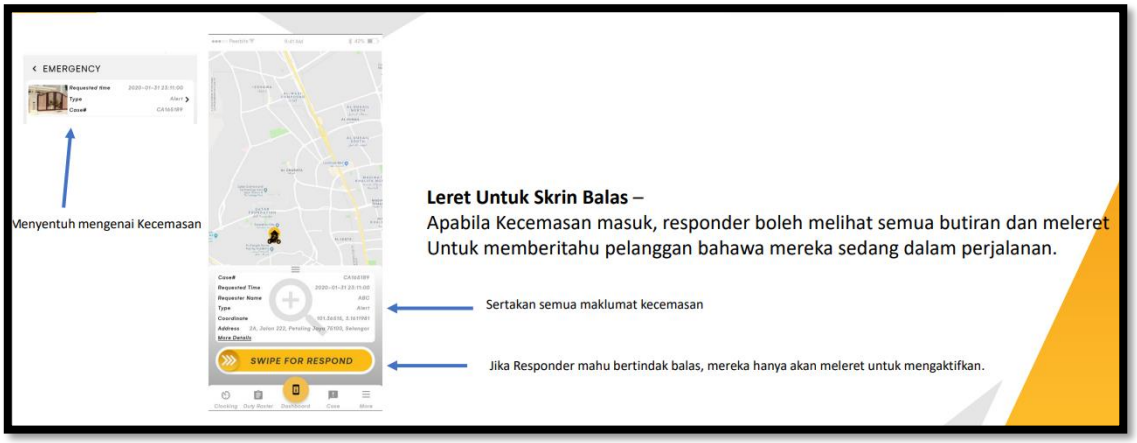


Figure 4.33 CODE7 Responder App -Swipe To Reply Screen

When an Emergency enters, the responder can see all the details and swipe to tell customers that they are on their way (Figure 4.33).

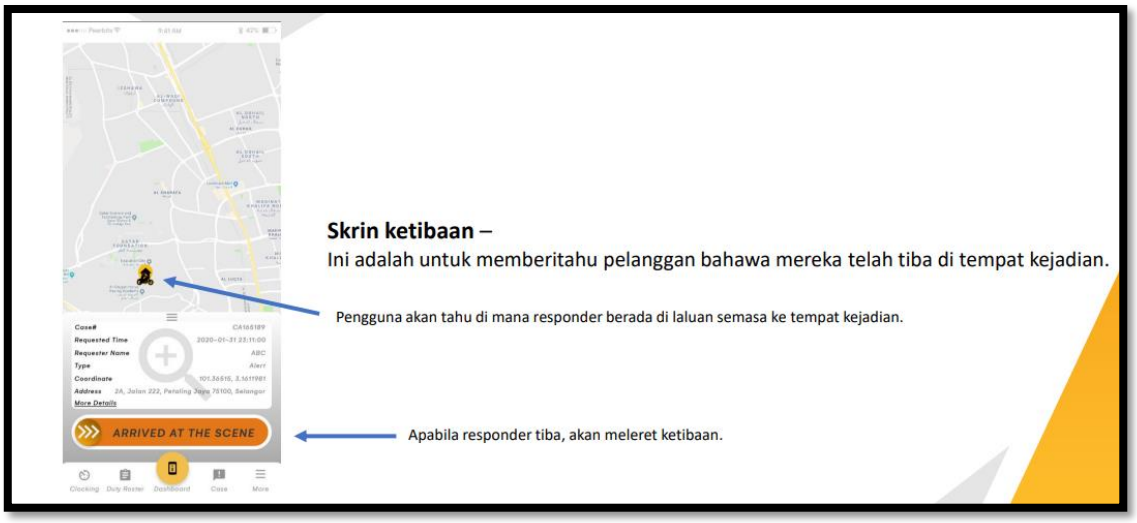


Figure 4.34 CODE7 Responder App -Arrival Screen

This is to inform customers that they have arrived at the scene (Figure 4.34).

Figure 4.35 CODE7 Responder App -Close Case Screen

When Responders have finished assessing the situation, they will indicate by swiping close to the case (Figure 4.35).

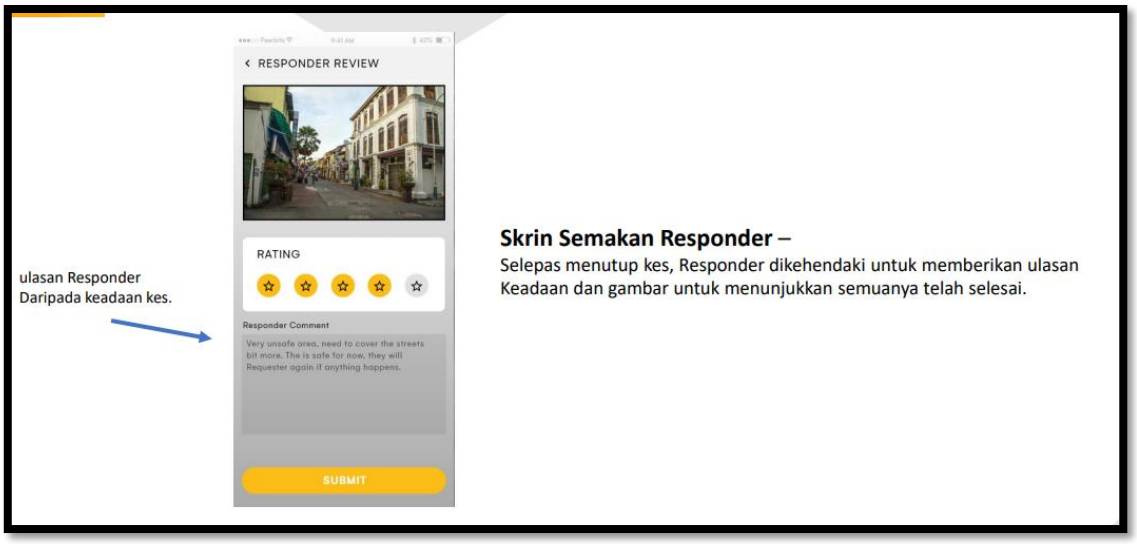


Figure 4.36 CODE7 Responder App -Responder Review Screen

Upon completing a task or closing a case, Responders can input their comments, describing the specific conditions they encountered during the task (Figure 4.36). This allows them to provide relevant information, observations, or any additional details that may be important for future reference or analysis.

Responder can also attach pictures as visual evidence of the completed work. These images can include before-and-after support, documenting the state of the situation before the Responder's intervention and showcasing the improvements or resolutions achieved. Visual documentation not only provides a clearer understanding of the task's completion but also serves as proof of the Responder's efforts and the effectiveness of the service provided.

The comments and pictures contribute to knowledge sharing within the responder community. By sharing their experiences, challenges, and successful outcomes, Responders can learn from one another and improve their skills and approaches in handling similar situations in the future.

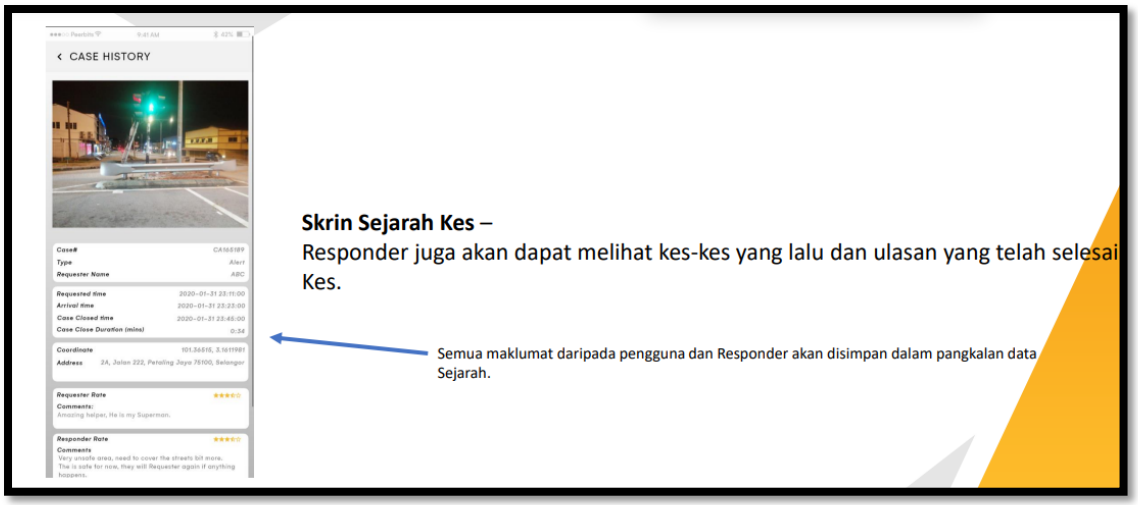


Figure 4.37 CODE7 Responder App -Case History Screen

Responders have the ability to access and review past cases and associated reviews (Figure 4.37). This feature provides valuable insights and a historical record of their previous assignments, allowing them to reflect on their performance, learn from their experiences, and make necessary improvements in their service delivery.

By accessing past cases, Responders can view the details and specifics of each assignment, including the nature of the task, the location, the time and date of the service, and any additional information provided by the user or dispatcher. This comprehensive overview helps Responders gain a better understanding of the context and background of the cases they have handled.

Accessing past cases and reviews offers several benefits to the Responders. It allows them to track their progress and growth over time, identify patterns or recurring issues, and take necessary steps to address any areas of concern. Additionally, it provides an opportunity for recognition and validation of their hard work and dedication, as positive reviews serve as a testament to their exceptional service.

4.4 UI of Central Monitoring System

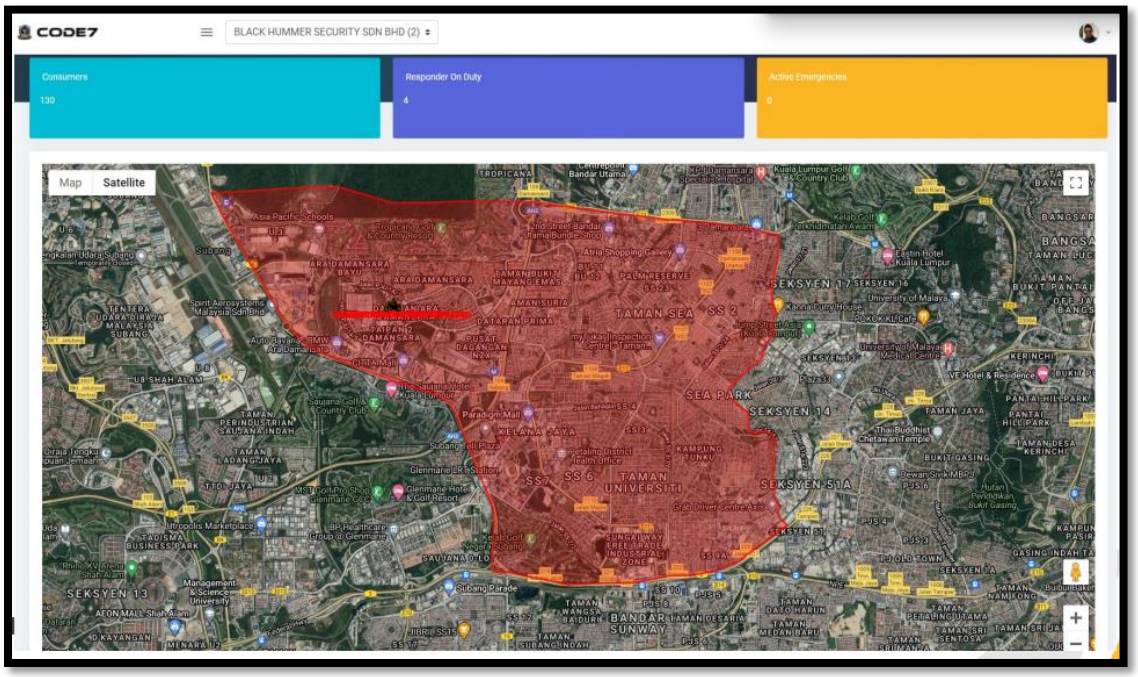


Figure 4.38 CODE7 Central Monitoring System (CMS)

Within the central monitoring system of CODE7 (Figure 4.38), a comprehensive overview of the system's current status and activity is provided. This includes the display of important information such as the total number of consumers utilizing the system, the number of responders currently on duty, and the count of active emergencies that require attention.

The central monitoring system acts as a centralized hub where data from various sources is collected, analyzed, and displayed in a meaningful way. By having real-time visibility into the number of consumers, responders, and active emergencies, security companies can efficiently manage their operations and resources.

The display within the central monitoring system is designed to provide a quick snapshot of the overall system performance. The total number of consumers represents the user base of the Code7 platform, indicating the scale and reach of the service. This information helps security companies gauge the level of demand for their services and plan their resources accordingly.

Furthermore, the number of responders on duty is prominently displayed, enabling security companies to ensure sufficient staffing levels to address emergencies and provide timely assistance to users. This real-time information allows for effective resource allocation and

coordination among responders, ensuring that there are enough personnel available to handle incoming requests.

In addition, the central monitoring system highlights the count of active emergencies. This critical information indicates the number of ongoing incidents that require immediate attention. By closely monitoring this metric, security companies can quickly identify and prioritize emergency situations, dispatching the nearest and most appropriate responders to resolve the issues effectively.

The display of these statistics is tailored to each selected security company, providing them with relevant and customized information specific to their operations. This ensures that security companies have access to the necessary data to make informed decisions and take appropriate actions in managing the community security services.

By offering this comprehensive overview within the central monitoring system, Code7 empowers security companies to have a clear understanding of the system's current status, allowing them to efficiently and effectively respond to emergencies, allocate resources, and provide a high level of service to their consumers.

4.5 UI of data Analytic Information System

Figure 4.39 CODE7 Data Analytic Information System.

CODE7 utilizes data analysis information system (Figure 4.39) to gain valuable security safety insights and make informed decisions based on the collected data. This system allows for comprehensive analysis and interpretation of the data generated by the community security technology platform.

Data analysis information system provides a range of tools and functionalities to explore and examine the data. Through various data analysis techniques, such as statistical analysis, data mining, and visualization, the administrator can uncover patterns, trends, and correlations within the data.

By analyzing the data, platform's admin can gain a deeper understanding of the overall performance and effectiveness of the community security services. They can identify areas of improvement, evaluate the success of implemented strategies, and make data-driven decisions to enhance the system's functionality and efficiency.

It's also enabled the administrator to generate reports and visualizations that effectively communicate the findings and insights derived from the data analysis. These reports can be

used to inform stakeholders, security companies, and responders about the system's performance, emerging trends, and potential areas of concern.

Platform admin can utilize the data analysis information system to monitor key performance indicators (KPIs) and safety indexes for each zone within the community. This allows for the evaluation of the security measures and the identification of zones that may require additional attention or resources.

Data analysis information system also plays a crucial role in predictive analytics. By utilizing historical data and employing advanced analytics techniques, the administrator can develop models and algorithms to predict future security trends, anticipate potential risks, and proactively implement preventive measures.

4.6 UI of Zone Mapping Management System

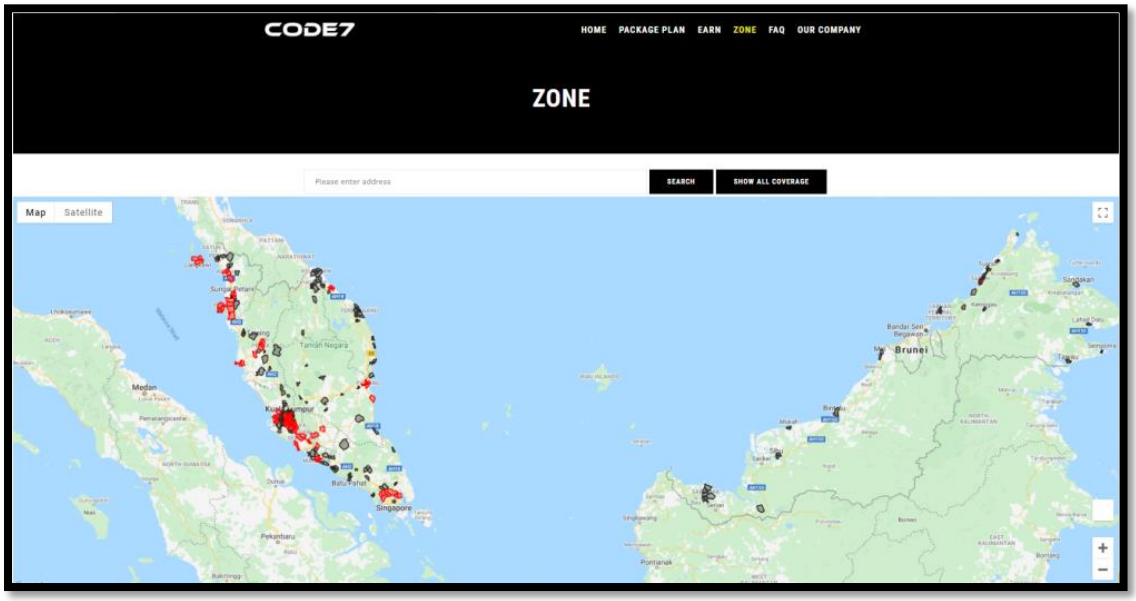


Figure 4.40 CODE7 Zone Mapping Management System.

This is the zone mapping in Malaysia (Figure 4.40) which is highlighted.

Zone Mapping Management System in CODE7 incorporates several key features to effectively manage and monitor security zones within the community. These features include:

1. **Zone Creation:** The system allows administrators to create and define security zones based on geographical areas or specific criteria. This feature enables precise mapping

of different zones within the community, such as residential areas, commercial districts, or public spaces.

2. **Zone Configuration:** Administrators can configure various parameters and settings for each security zone. This includes setting up zone-specific rules, access controls, and security protocols to ensure appropriate monitoring and response measures are in place.
3. **Zone Mapping:** The system provides a visual representation of the security zones on a map interface. This feature allows administrators to map out the boundaries and boundaries of each zone accurately. It helps in identifying the coverage area and facilitates efficient allocation of resources.
4. **Real-time Monitoring:** The Zone Mapping Management System offers real-time monitoring capabilities for each security zone. Administrators can track and monitor activities, events, and incidents occurring within the zones in real-time. This enables proactive surveillance and timely response to security threats or emergencies.
5. **Alarm Integration:** The system integrates with various alarm systems, such as intrusion detection sensors or surveillance cameras, within each security zone. This feature enables automatic detection of security breaches or anomalies, triggering immediate alerts and notifications to the appropriate responders.
6. **Incident Tracking:** The system allows administrators to track and manage incidents reported within each security zone. Administrators can assign incidents to specific responders, track the progress of resolution, and maintain a comprehensive incident log for future reference and analysis.

5.0 DEPLOYMENT (REALIZATION) PROCESS

The deployment process of the Community Security Technology platform involves the realization and implementation of the system across various stakeholders and entities. This comprehensive deployment spans multiple aspects, including technology integration, community society engagement, security company involvement, responder participation, collaboration with the Malaysia Ministry, and expansion into the commercial market.

First deployment to technology entails the seamless integration of the platform's components, such as the hardware system, software applications, and data analytics infrastructure. This ensures the smooth functioning and interoperability of the technology platform, enabling efficient communication, data processing, and real-time monitoring.

Deployment to community society focuses on engaging and educating the community about the benefits and functionalities of the Community Security Technology. This involves conducting awareness campaigns, organizing community forums, and fostering partnerships with local community organizations. By actively involving the community, the deployment process promotes a sense of ownership and collective responsibility for community security.

In parallel, the deployment to security companies involves establishing partnerships and collaborations with established security service providers. This integration allows for the utilization of existing security resources and expertise, enabling a seamless transition and enhanced security capabilities within the community.

Responder deployment involves recruiting and training individuals dedicated to ensuring the safety and well-being of the community. The deployment process ensures that responders are equipped with the necessary skills, knowledge, and resources to effectively respond to emergencies and provide timely assistance.

The deployment process also encompasses collaboration with the Malaysia Ministry, where the Community Security Technology platform aligns with the ministry's security initiatives and regulations. This collaboration ensures compliance with legal frameworks, promotes information sharing, and facilitates coordination with law enforcement agencies.

Lastly, the most importance of deployment to the commercial market, where the Community Security Technology platform becomes available to a broader audience. By introducing subscription plans and tailored service offerings, the platform aims to cater to the diverse needs of commercial entities, such as businesses, institutions, and residential complexes, further enhancing the overall security landscape.

Through a systematic and comprehensive deployment process, the Community Security Technology platform aims to revolutionize community security, foster collaboration among stakeholders, and enhance the safety and well-being of individuals and communities.

5.1 Deployment to Technology

Technology development of ComSecuTech platform is a crucial aspect that shapes the future of the system. With careful consideration of various factors, the development process aims to ensure flexibility, scalability, and security for a seamless user experience.

One of the key factors in the technology development of ComSecuTech platform is the adoption of a cloud-based infrastructure. By leveraging cloud computing, the system can provide real-time monitoring and instant access to data from anywhere at any time [2]. This enables users, responders, and administrators to stay connected and informed, enhancing the overall efficiency and effectiveness of the platform.

Cybersecurity is another paramount consideration in the technology development. As the system deals with a vast amount of sensitive data, robust security measures are implemented

to protect against potential cyber threats. Data encryption, secure authentication mechanisms, and regular security audits are among the practices employed to ensure the confidentiality, integrity, and availability of the data.

Keeping up with the latest programming technologies is also essential for the scalability and future expansion. By adopting modern and widely used programming languages, frameworks, and tools, the system can easily integrate new features, accommodate increasing user demands, and adapt to evolving technology trends. This allows for efficient development, maintenance, and scalability of the platform over time.

API (Application Programming Interface) technology plays a vital role in the technology development of ComSecuTech. APIs serve as the bridge that enables seamless communication and integration with other applications and systems. By leveraging APIs, ComSecuTech platform can connect with various third-party services, expand its functionality, and participate in the broader IT ecosystem. This opens up opportunities for collaborations, integrations, and the creation of an API economy.

In line with the growing concerns surrounding personal data protection, ComSecuTech platform places significant emphasis on complying with relevant regulations and best practices. Adhering to PDPA or similar guidelines ensures that user data is handled in a responsible and lawful manner. The platform undergoes rigorous evaluations by trusted parties to ensure compliance with privacy and data protection standards, earning the trust of end-users and stakeholders.

Mobile app serves as a convenient and accessible interface for users to interact with the ComSecuTech platform, access services, and stay connected to community security.

Mobile app deployment follows a comprehensive approach to ensure a seamless user experience across different devices and operating systems. It is designed to be compatible with major mobile platforms such as iOS and Android, catering to a wide range of users and devices. This enables users to download and install the app from respective app stores, making it easily accessible and familiar to smartphone users.

Development of the mobile app focuses on creating an intuitive and user-friendly interface. The user experience is carefully crafted to provide a seamless flow, ensuring that users can navigate through the app effortlessly and access the desired functionalities with ease. The design elements, including layout, colours, and icons, are optimized for mobile screens, enhancing readability and usability.

One of the key features of the mobile app deployment is real-time notifications. Users receive instant alerts, updates, and notifications regarding their subscribed services, emergency situations, or any relevant information from the community security ecosystem. These notifications ensure that users are promptly informed and can take necessary actions as needed.

Mobile app also leverages the capabilities of mobile devices to enhance user experience and functionality. Features such as GPS integration enable accurate location tracking and mapping, allowing users to report incidents or request assistance with precise location information. Camera integration allows users to capture and upload images or videos as evidence or supporting information for their service requests.

To ensure data security and privacy, the mobile app incorporates encryption protocols and secure communication channels. User authentication mechanisms, such as passwords or biometric authentication, add an extra layer of security to protect user accounts and sensitive information. Compliance with relevant data protection regulations ensures that user data is handled in a secure and responsible manner. Mobile app deployment includes continuous

updates and improvements to enhance performance, address any bugs or issues, and introduce new features based on user feedback and evolving needs. Regular app updates ensure that users have access to the latest functionalities and improvements, providing an optimal user experience.

F7 Security Architecture deploymeng (Figure 5.1) is driven by the principles of flexibility, scalability, and security. By embracing cloud-based infrastructure, prioritizing cybersecurity, utilizing the latest programming technologies, leveraging APIs, and complying with personal data protection standards, Code7 strives to deliver a robust and user-centric platform. The careful consideration of these factors enables Code7 to adapt to changing needs, provide seamless integration, and ensure the privacy and security of user data.

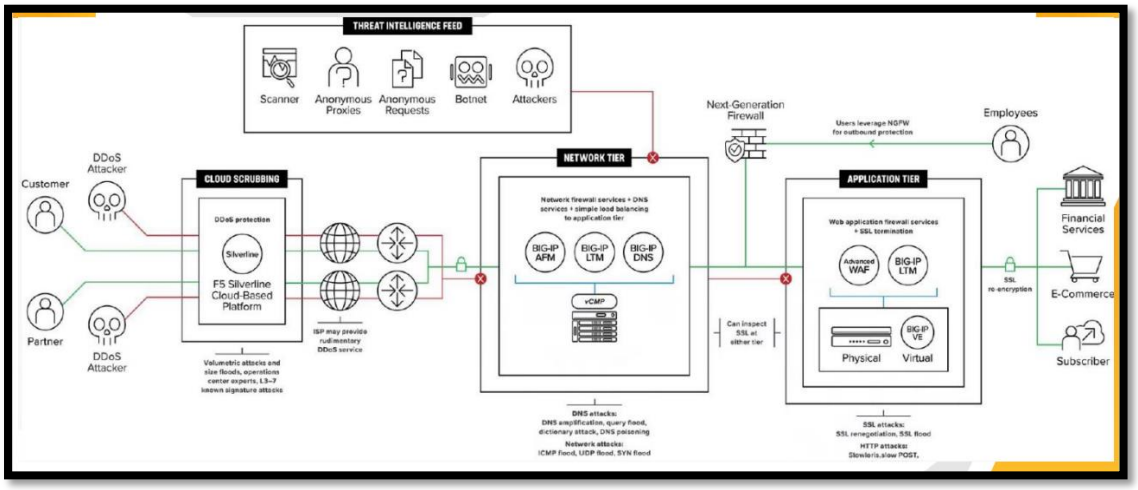


Figure 5.1 F7 Security Architecture Cloud Diagram

5.2 Deployment to Community Society

CODE7 is providing security and safety awareness to the community society. To achieve this, it is crucial to maximize the deployment of CODE7 and ensure that every single household is protected. In order to effectively reach and engage with the community, collaboration and communication with local community organizations such as Rukun Tetangga (RT) and Jawatankuasa Penduduk (RA) play a vital role.

First step in the deployment process is to establish a strong partnership with RT and RA. These community organizations have a deep understanding of the local community dynamics and can act as valuable intermediaries between CODE7 and the households. By collaborating with RT and RA, CODE7 can leverage their existing networks and channels to effectively communicate the benefits and functionalities of the Community Security Technology platform.

To ensure successful deployment, CODE7 will conduct dedicated sessions and workshops with RT and RA members to provide a comprehensive explanation of the platform. These sessions will focus on demonstrating how the technology works and how it can enhance the security and safety of each household. CODE7 will highlight features such as real-time monitoring, emergency response capabilities, and communication channels between households and responders.

CODE7 is emphasizing the importance of community involvement and active participation in the deployment process. By encouraging households to join the platform and take advantage of its features, CODE7 aims to create a sense of collective responsibility for community security. This can lead to increased vigilance, prompt reporting of incidents, and a stronger community bond.

Through effective collaboration and communication with RT and RA, CODE7 can successfully deploy its Community Security Technology platform to protect every single household. By

providing security and safety awareness to the community society, CODE7 aims to create a safer and more secure environment for all residents.

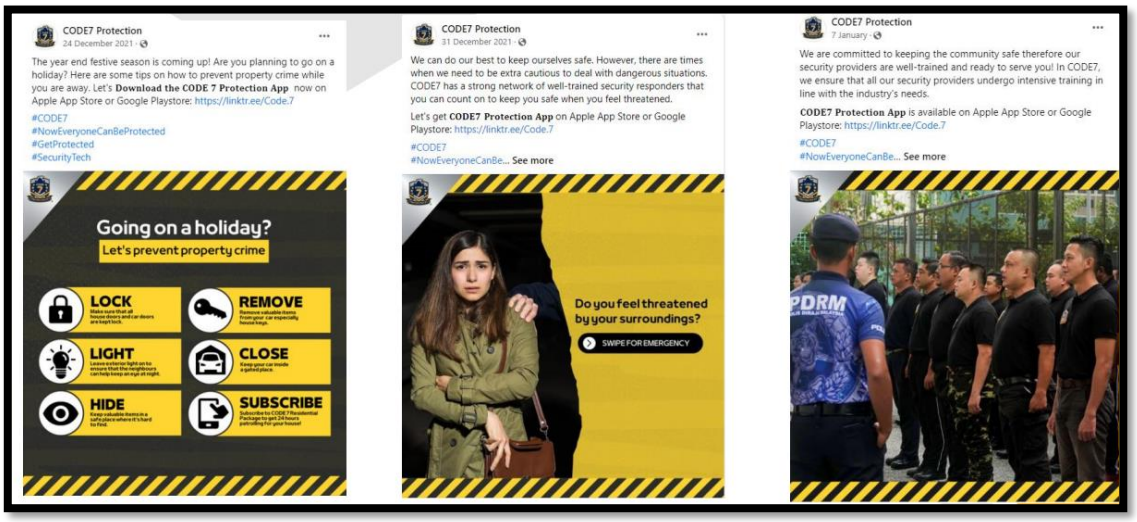


Figure 5.2 Sample of Deployment to Community Society

CODE7 have implemented their deployment to community society through social media (Figure 5.2) such as Facebook with the link: [CODE7 Protection - Home | Facebook]

Figure 5.3 Sample of Deployment to Community Society

Code 7 had participated in an event by setting up booths to introduce to the public how Code7 can help to protect them (Figure 5.3). All the information can be find in the link: [CODE7 Protection - Home | Facebook]

5.3 Deployment to Security Company

Deployment of CODE7 to security companies brings several benefits and opportunities to these partners. Firstly, it introduces a new revenue stream for security companies by offering them the opportunity to be part of the Community Security Technology platform. By becoming a partner, security companies can expand their service offerings and tap into a new market segment, generating additional revenue and business opportunities.

Security companies allows for the establishment of security industry standards. CODE7 can collaborate with security companies to define and implement industry best practices, ensuring a consistent and high-quality service delivery across the platform. This standardization enhances the professionalism and reputation of the security industry as a whole, instilling trust and confidence in the community and other stakeholders.

Furthermore, this deployment able to maximizes resources for security companies. By integrating with the platform, security companies gain access to a centralized system that streamlines operations, automates processes, and improves efficiency. This optimization of resources allows security companies to better allocate their manpower, equipment, and assets, resulting in cost savings and improved service delivery.

Lastly, its enables security companies to embark on a digital transformation journey. By embracing the platform, security companies can leverage technology to enhance their operations, improve customer experiences, and increase their competitiveness in the market. The platform provides security companies with the opportunity to invest in digital conversion, unlocking new business potentials and staying ahead in the digital era.

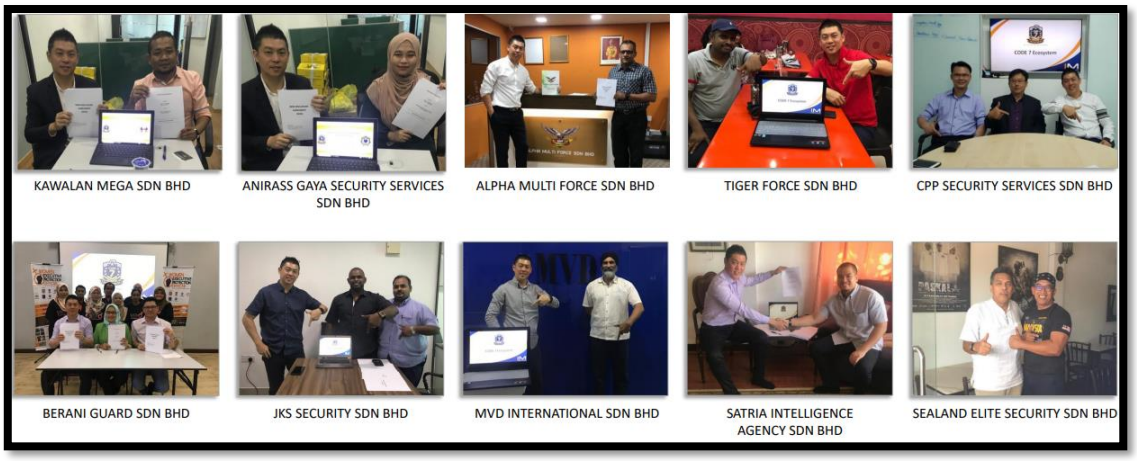


Figure 5.4 Sample of Deployment to Security Companies 1

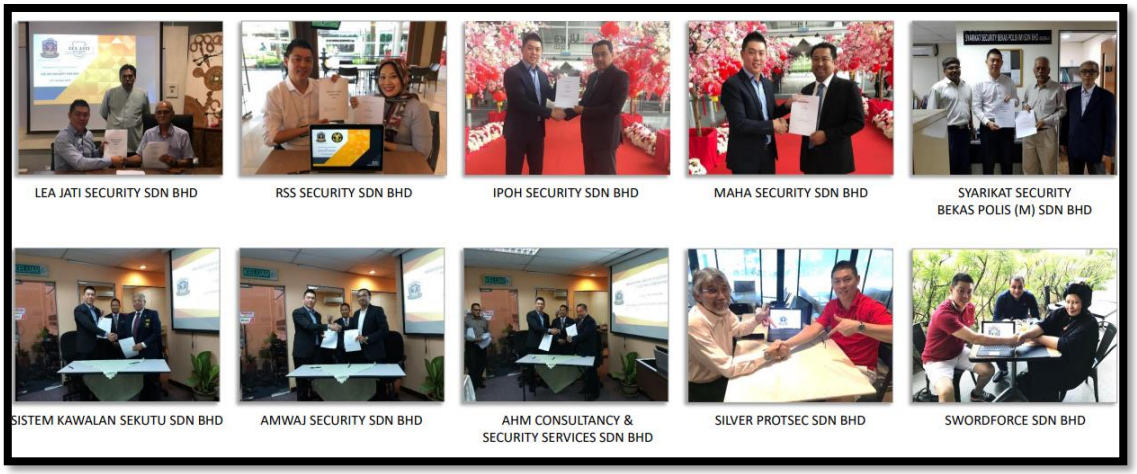


Figure 5.5 Sample of Deployment to Security Companies 2

Based on the figure 5.4 and 5.5, these were the security companies which had corporate with Code7 by signing the MoU document.

Figure 5.6 Deployment to Security Companies 3

Figure 5.7 Deployment to Security Companies 4

Figure 5.8 Sample of Deployment to Security Companies 5

Based on the figure 5.6, 5.7 and 5.8, there was the photo which had THEBASE security company had corporate with Code7.

5.4 Deployment to Responder

Deployment of responders in the CODE7 system involves several key initiatives to ensure their effective recruitment, training, and provision of necessary equipment. To begin with, recruitment tours are conducted in all states of Malaysia to attract potential responders who are dedicated to ensuring community safety. These recruitment tours serve as an opportunity to reach out to individuals who possess the required skills, qualifications, and a strong sense of responsibility towards community security.

Once selected, responders undergo comprehensive training to equip them with the necessary knowledge and skills to handle various security situations. Upon completion of the training program, responders are awarded the prestigious CODE7 Certificate of Achievement,

recognizing their commitment and expertise in community security. This certificate serves as a testament to their professional competence and further motivates them to perform their duties with dedication and excellence.

In addition to training, deployment of responders includes the provision of a full set of equipment required for their on-duty responsibilities. These equipment sets are carefully curated to meet the specific needs of responders, ensuring they have the necessary tools to effectively carry out their tasks. By providing responders with the right equipment, CODE7 ensures that they are well-prepared and equipped to handle any emergency or security situation that may arise.

Overall, deployment process involves a comprehensive approach that includes recruitment tours, training programs, and the provision of necessary equipment. By implementing these initiatives, CODE7 aims to build a highly capable and professional responder workforce that can effectively contribute to community security efforts across Malaysia.

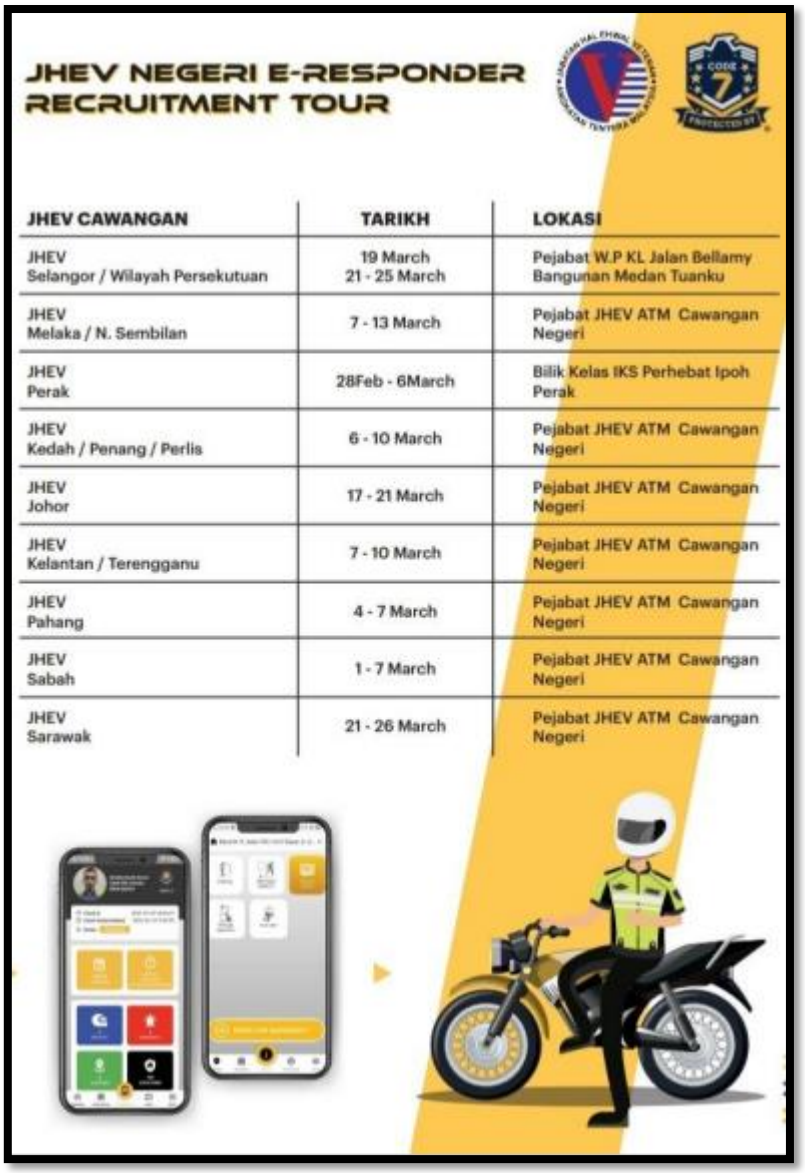


Figure 5.9 Sample of Deployment to Responder

CODE7 had conducted recruitment tours in all states of Malaysia to hire responder (Figure 5.9).

Figure 5.10 Sample of Deployment to Responder 2

Issued CODE7 certificate of achievement for responder who graduated 5 days training (Figure 5.10).

Figure 5.11 Sample of Deployment to Responder 3

Responder will be provided with the Code7 shirt. It was used when they were on duty (Figure 5.11).

Figure 5.12 Sample of Deployment to Responder ID Card

Responder will be provided with the Code7 identity card (Figure 5.12).

Figure 5.13 Deployment to Responder Training

Responder will be provided with a training section (Figure 5.13).

5.5 Deployment to Malaysia Ministry

Deployment to Malaysia Ministry serves multiple important purposes that contribute to the overall vision of the platform. Aims to introduce the patriotism initiative of CODE7 to the country, emphasizing the commitment of Malaysians in safeguarding their own communities. By highlighting the fact that CODE7 was developed by Malaysians, the platform showcases the collective efforts of fellow citizens in creating a technology-driven solution for community security.

Malaysia Ministry serves as an opportunity to raise awareness about CODE7 and its significance in safeguarding the nation. By demonstrating its effectiveness and potential impact, the platform seeks government endorsement and support for its community security technology services. This endorsement not only adds credibility to CODE7 but also validates its role in enhancing public safety and security.

Malaysia Ministry also ensures that CODE7 complies with all applicable laws and regulations, particularly those related to law enforcement. This includes aligning the technology and services with existing country laws to ensure seamless integration and collaboration with law enforcement agencies. By working closely with the Ministry, CODE7 aims to address any legal considerations and ensure that it operates within the boundaries of the law, providing a reliable and trusted platform for community security.

By establishing a strong partnership with the Ministry, CODE7 aims to enhance its credibility, effectiveness, and acceptance as a trusted solution for community security in Malaysia.

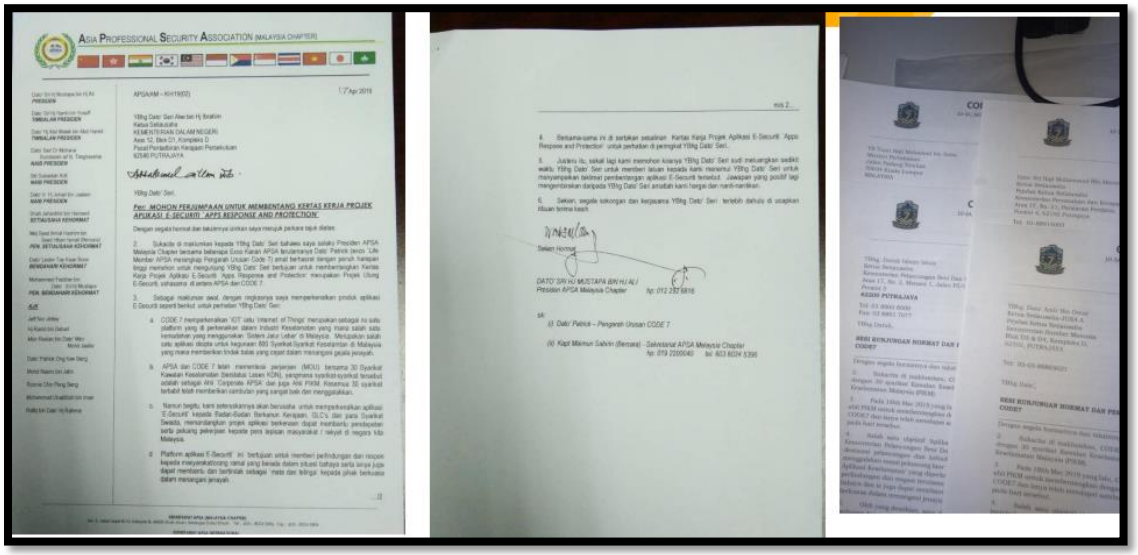


Figure 5.14 Presentation Letter to Associate and Ministry

CODE7 has got the permission to do the presentation to associate ministry Malaysia (Figure 5.14).

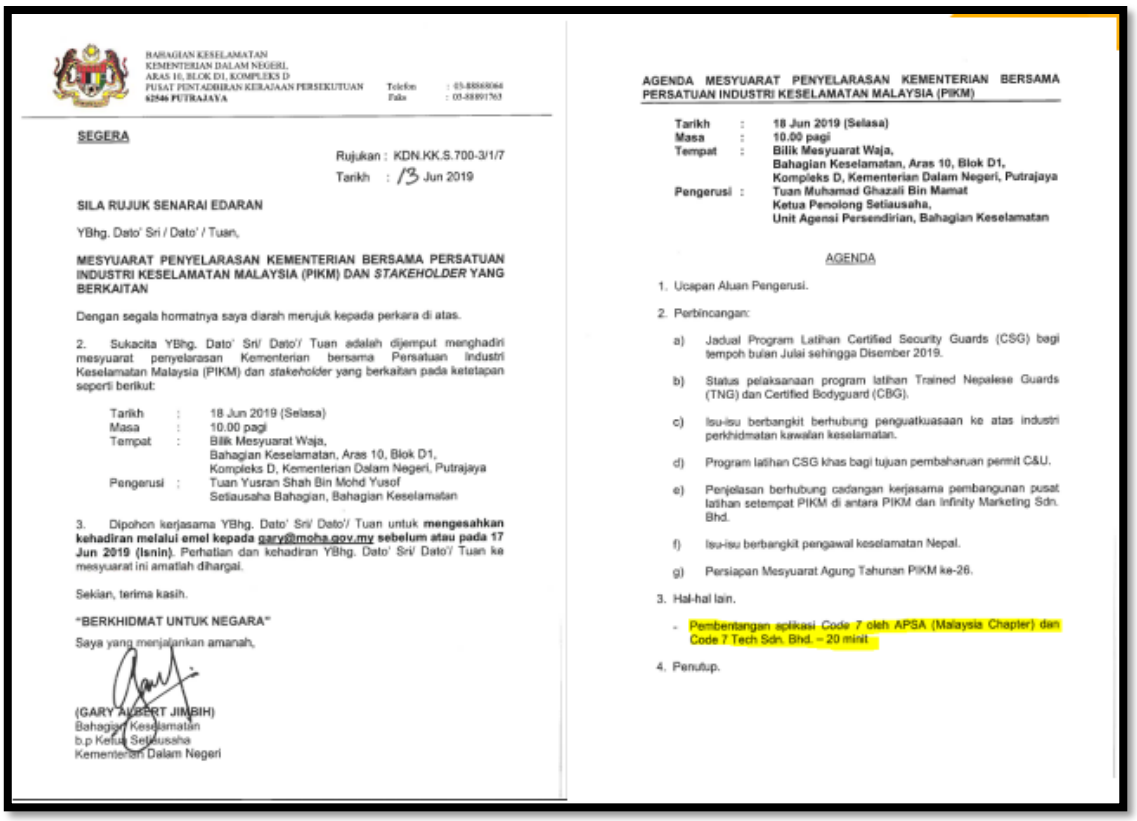


Figure 5.15 Kementerian Dalam negeri

CODE7 had received the invitation to do the presentation to PIKM and stakeholder (Figure 5.15).

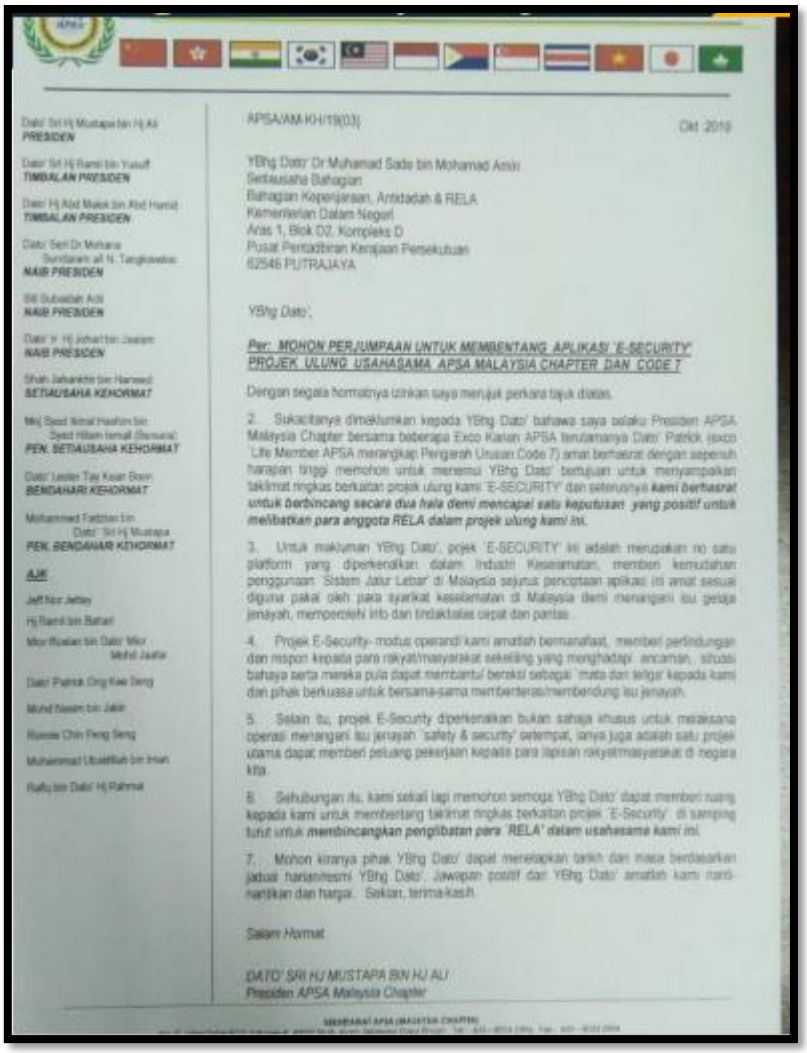
Figure 5.16 CODE7 introduction to KDN KSU

CODE7 introduction to KDN KSU which is YBHG.DATO SRI Alwi bin HJ. Ibrahim (Figure 5.16).

Figure 5.17 Briefing CODE7 uniform to KDN Timbalan Menteri

Figure 5.18 Jabatan Pelancongan Negeri Melaka

The cooperation between CODE7 and Jabatan Pelancongan Negeri Melaka has been implement for increase the security safety of tourism in Melaka (Figure 5.18).



APSA/AM-KH/19(03) Okt 2019

YBhg Dato' Dr Muhamad Sade bin Mohamad Amin
Setiausaha Bahagian
Bahagian Kepenjaraan, Antidadah & RELA
Kementerian Dalam Negeri
Aras 1, Blok D2, Kompleks D
Pusat Pentadbiran Kerajaan Persekutuan
62546 PUTRAJAYA

YBhg Dato',

Per: MOHON PERJUMPAAN UNTUK MEMBENTANG APLIKASI 'E-SECURITY' PROJEK ULUNG USAHASAMA APSA MALAYSIA CHAPTER DAN CODE 7

Dengan segala hormatnya izinkan saya merujuk perkara tajuk diatas.

2. Sukacitanya dimaklumkan kepada YBhg Dato' bahawa saya selaku Presiden APSA Malaysia Chapter bersama beberapa Exco Kanan APSA terutamanya Dato' Patrick (exco Life Member APSA merangkap Pengarah Urusan Code 7) amat berhasrat dengan seperuh harapan tinggi memohon untuk menemui YBhg Dato' bertujuan untuk menyampaikan taklimat ringkas berkaitan projek ulung kami 'E-SECURITY' dan seterusnya ***kami berhasrat untuk berbincang secara dua hala demi mencapai satu keputusan yang positif untuk melibatkan para anggota RELA dalam projek ulung kami ini.***

3. Untuk makluman YBhg Dato', pojek 'E-SECURITY' ini adalah merupakan no satu platform yang diperkenalkan dalam Industri Keselamatan, memberi kemudahan penggunaan 'Sistem Jalur Lebar' di Malaysia sejurus penciptaan aplikasi ini amat sesuai digunai pakai oleh para syarikat keselamatan di Malaysia demi menangani isu gejala jenayah, memperolehi info dan tindaktalas cepat dan pantas.

4. Projek E-Security- modus operandi kami amatlah bermanafaat, memberi perlindungan dan respon kepada para rakyat/masyarakat sekeliling yang menghadapi ancaman, situasi bahaya serta mereka pula dapat membantu/ berskoi sebagai 'mata dan telga' kepada kami dan pihak berkuasa untuk bersama-sama memberterasi/memberdung isu jenayah.

5. Selain itu, projek E-Security diperkenalkan bukan sahaja khusus untuk melaksana operasi menangani isu jenayah 'safety & security' setempat, ianya juga adalah satu projek utama dapat memberi peluang pekerjaan kepada para lapisan rakyat/masyarakat di negara kita.

6. Sehubungan itu, kami sekali lagi memohon semoga YBhg Dato' dapat memberi ruang kepada kami untuk membentang taklimat ringkas berkaitan projek 'E-Security' di samping turut untuk ***membincangkan penglibatan para 'RELA' dalam usahasama kami ini.***

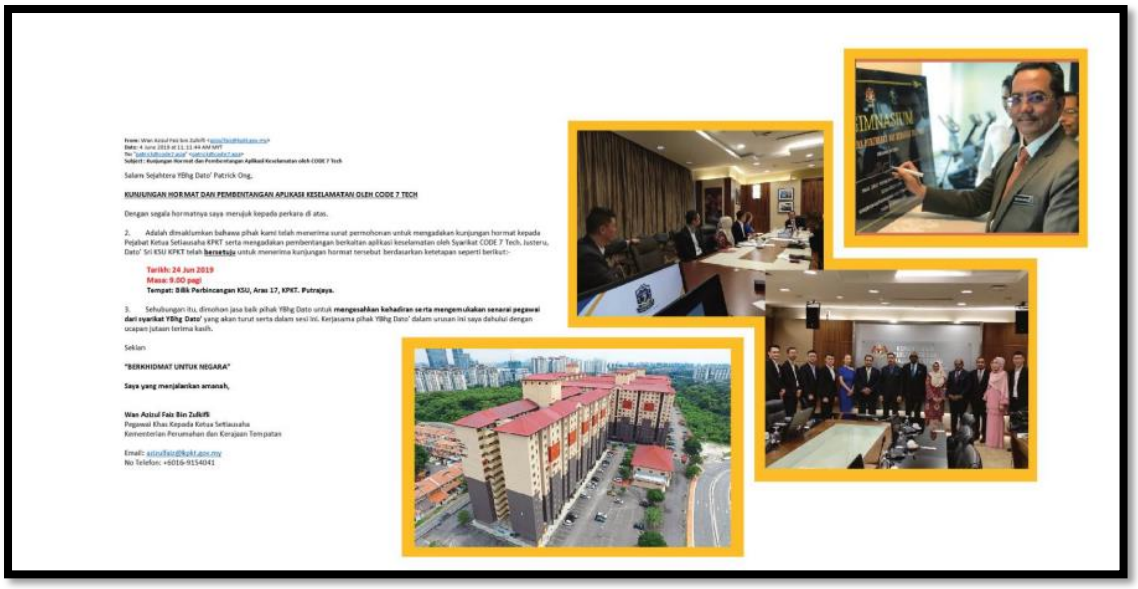
7. Mohon kiranya pihak YBhg Dato' dapat menetapkan tarikh dan masa berdasarkan jadual harian/resmi YBhg Dato'. Jawapan positif dari YBhg Dato' amatlah kami nanti-nantikan dan harga. Sekian, terima-kasih.

Salam Hormat

DATO' SRI HJ MUSTAPA BIN HJ ALI
Presiden APSA Malaysia Chapter

Figure 5.19 Request Letter to SUK KDN - Prison, Anti -Drug and RELA Division

CODE7 had requested to meet with SUK KDN for extend the Code7 app to cooperate with Prison, Anti -Drug and RELA (Figure 5.19).



Salam Sejahtera YBhg Dato' Patrick Ong,

KUNJUNGAN HORMAT DAN PEMBENTANGAN APLIKASI KESELAMATAN OLEH CODE 7 TECH

Dengan segala hormatnya saya merujuk kepada perkara di atas.

2. Adalah dimaklumkan bahawa pihak kami telah menerima surat permohonan untuk mengadakan kunjungan hormat kepada Pejabat Ketua Setiausaha KPKT serta mengadakan pembentangan berkaitan aplikasi keselamatan oleh Syarikat CODE 7 Tech. Justeru, Dato' Sri KSU KPKT telah **bersetuju** untuk menerima kunjungan hormat tersebut berdasarkan ketetapan seperti berikut:-

Tarikh: 24 Jun 2019
Masa: 9.00 pagi
Tempat: Bilik Perbincangan KSU, Aras 17, KPKT. Putrajaya.

3. Sehubungan itu, dimohon jasa baik pihak YBhg Dato untuk **mengesahkan kehadiran serta mengemukakan senarai pegawai dari syarikat YBhg Dato'** yang akan turut serta dalam sesi ini. Kerjasama pihak YBhg Dato' dalam urusan ini saya dahului dengan ucapan jutaan terima kasih.

Sekian

"BERKHIDMAT UNTUK NEGARA"

Saya yang menjalankan amanah,

Wan Asizul Faiz Bin Zulkifli
Pegawai Khas Kepada Ketua Setiausaha
Kementerian Perumahan dan Kerajaan Tempatan

Email: asizul[redacted]
No Telefon: +6016-9154041

Figure 5.20 Presentation to Housing and Local Department (KPKT)

Presentation to the Housing and Local Department (KPKT) was conducted (Figure 5.20).

Figure 5.21 KPKT KSU – Dato Sri Haji Mohammad Bin Mentek

Figure 5.22 KPKT - National Community Policy, Smart City

Presentation about CODE7 to KPKT - National Community Policy, Smart City's representative which is Datuk Dr. Mary Wong Lai Lin (Figure 5.21 & Figure 5.22).

Figure 5.23 Presentation on National Science and Technology Innovation Department (MOSTI)

Figure 5.24 PERHEBAT – chairman dato Sri Abdul Aziz

Presentation on the PERBADANAN HAL EHWAL BEKAS ANGKATAN TENTERA (PERHEBAT) to chairman dato Sri Abdul Aziz was conducted (Figure 5.24).

Figure 5.25 SHARING SESSION AT PERHEBAT

CODE7 has implemented a sharing session with all the army at PERHEBAT (Figure 5.25).

Figure 5.26 Sharing Session At JHEV

CODE7 has implemented a sharing session with all the army at JHEV (Figure 5.26).

Figure 5.27 ANGKASA Sharing Session

CODE7 has implemented a sharing session with all the DATO' DR.ABDUL FATTAH ABDULLAH at ANGKASA (Figure 5.27). They agree that Code 7 as good services to angkasa members.

5.6 Deployment to Commercial Market

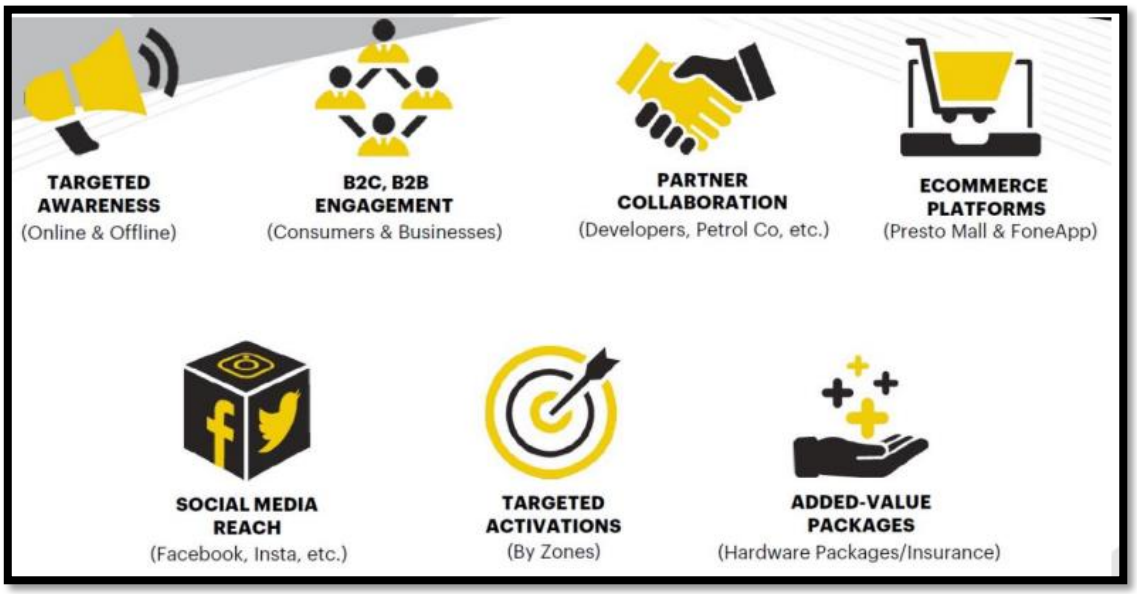


Figure 5.28 Deployment to Commercial Market

The deployment to the commercial market includes target awareness, B2C and B2B engagement, partner collaboration, ecommerce platforms, social media reach, targeted activations, and added-value packages (Figure 5.28).

6.0 RESULT, IMPACT AND CONTRIBUTION

As a result, the security industry stakeholder and public are accepting community security technology concepts. The platform had gained strong support from various parties such as security companies, government, law enforcement, responder, end-customer, and business partner.

Security companies had participated in the platform and were assigned a dedicated territory zone as their security protection coverage area. The future trend and security industry should move into the community security technology era which was agreed by the government. Law enforcement is welcome that commercial corporations are willing to take part to protect our citizens together by using technology.

Besides, responder willing to take part aggressively so that they can grow their career in the security industry, especially those veterans who foster the spirit of patriotism with the slogan ‘serviceNeverEnd’. Our end-consumer is willing to subscribe to the platform for as low as 56 cents per day with the slogan ‘everyoneCanBeProtected’. Business partners willing to participate in platform campaigns and form business collaboration to connect into the ecosystem.

The platform had performed its function and mission with several real cases. Firstly, the case happened in the StarVendor event on 22 - 24 april 2022. Every person who wants to participate in the event needs to download and register the Code7 protection app before entry. Code 7 platform has received a distress notification from a requestor who is a little girl with 10 to 12 years old. The requestor had faced an issue in which she was lost with her parents during the event. After that, she uses the platform to get help from the responder to find her parents. Therefore, it can be proved that the platform is easy to use and have a zero-learning curve.

Figure 6.1 Ambulance Case

This is a real case that happened in PJ Zone 2 exemplifies the effectiveness and positive impact of the service using by ComSecuTech Platform. a requestor who faced a medical emergency and was unable to move due to heart problems was able to seek immediate help through CODE7 (Figure 6.1).

Using the CODE7 protection app, the requestor initiated a trigger by performing a “swipe” action, signalling the need for assistance. The platform immediate identified the nearest responder available in the vicinity of the requestor's address, ensuring a prompt response to the emergency situation.

Upon arrival, the responder assessed the requestor's condition and recognized the severity of the situation. Understanding the urgency, the responder promptly contacted the ambulance services to provide further medical assistance. It is noteworthy that the responder's quick thinking and decisive action were crucial in ensuring the requestor received timely medical attention.

In this particular case, the responder's role extended beyond just facilitating communication with the ambulance services. Due to a shortage of manpower at the time, the responder actively

assisted the medical staff in safely moving the requestor to the ambulance. This display of initiative and teamwork highlights the dedication and commitment of the responder in providing comprehensive support to the requestor.

The positive outcome of this case can be attributed to the quality and attitude of the responder involved. The responder's prompt response, professionalism, and willingness to go above and beyond in assisting the requestor contributed to a successful resolution of the emergency situation.

This real case serves as a testament to the effectiveness of the ComSecuTech services provided by CODE7 and highlights the importance of having well-trained and dedicated responders who prioritize the well-being and safety of the community members they serve.

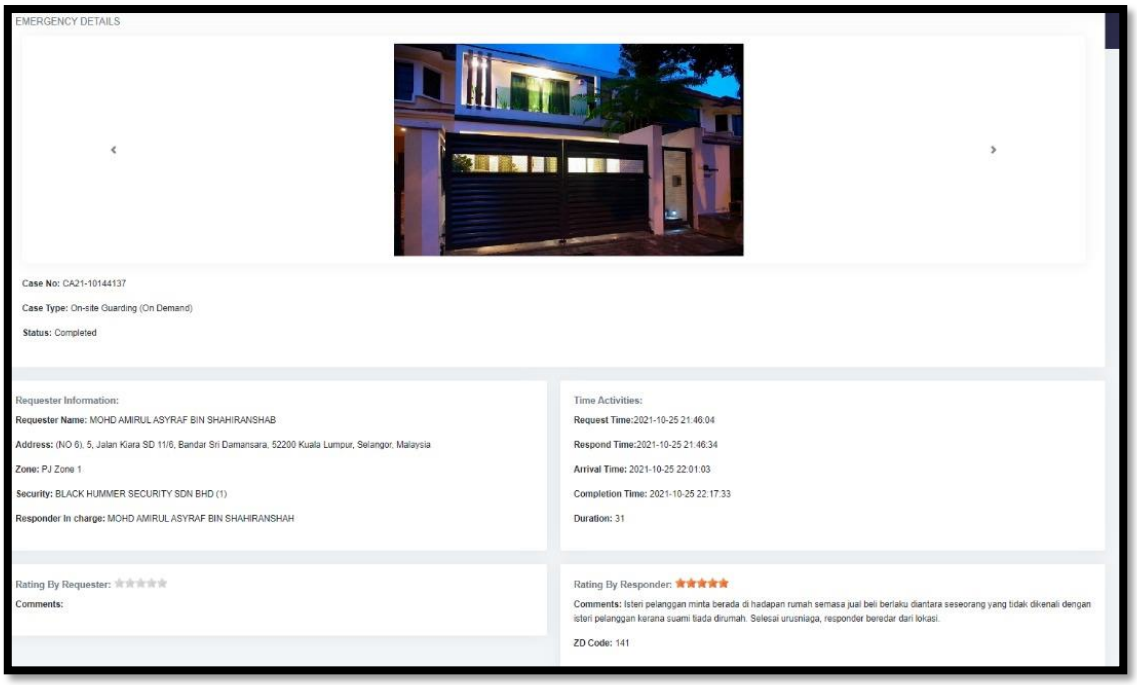


Figure 6.2 Case Feedback

The case based on figure 6.2 case feedback is about the requestor request responder to stay at the front of the house while there have people who were strangers come to visit the house due to her husband not being around at that moment. This case happened at PJ zone 1. The requestor has trust on the platform and responder.

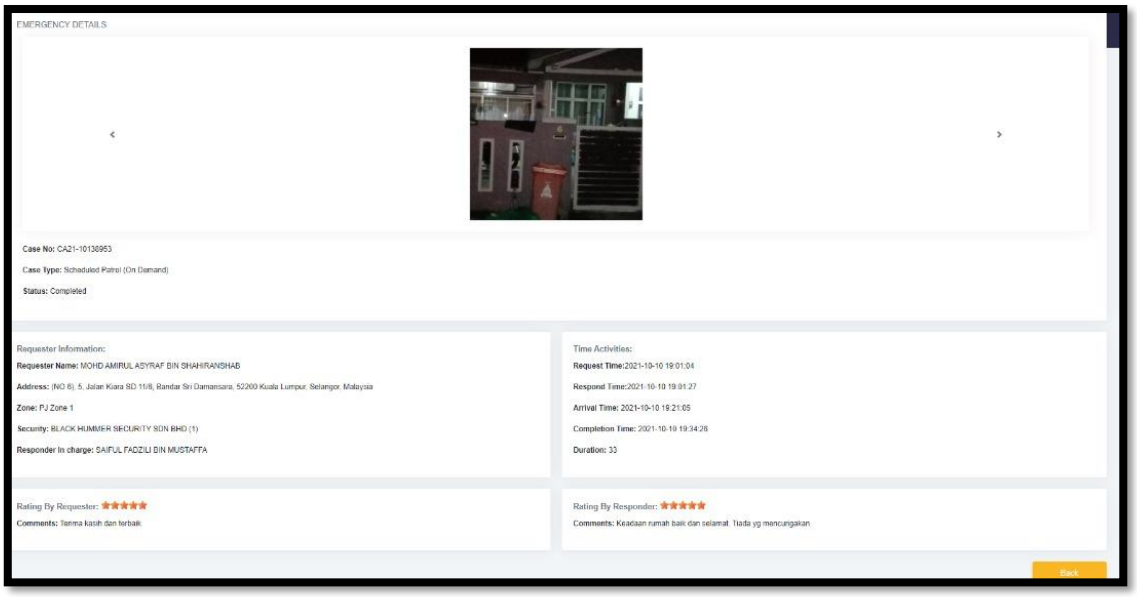


Figure 6.3 Case Feedback 2

Requestor have requested responder to conduct the scheduled patrol service when the requestor is not around at the specific date in PJ zone 1. Responder have completed their task with their responsibility and get feedback with full start ranking (Figure 6.3).

Data Statistic

Table 6.1 – Subscriber Statistic

Month	Number of Subscriber
January	651
February	1627
March	3854
April	2382
May	4289
June	5044

There will be concerns about whether the community will accept and pay for a service like ComSecuTech App. As evidenced by the 18,000 public community subscribers who already pay for security and safety services through the CODE7 protection app, it demonstrates that there is a demand and willingness to invest in such services. The increasing number of

subscribers from 651 in January to 5,044 in June further signifies the growing acceptance and popularity of the service.

Pay as utility bill model adopted by ComSecuTech App aligns with existing consumer behaviours and expectations. Paying for security and safety services as part of the utility bill becomes a normalized practice, making it easier for users to integrate the payment into their regular expenses.

Table 6.2 Subscriber Comment Rating Statistic

Ranting	# Subscriber	Comments from Subscriber
5 stars	733 (83.3%)	• Responded professionally and timely • Well done mr Raj . U did a fantastic job . Thanks for the visit . I feel so safe with code7
4 stars	43 (4.9%)	• SOP dipatuhi. Laporan tanpa gambar. Sepatutnya responder menyuraikan individu yg dilaporkan. • Good response!
3 stars	28 (3.2%)	• Failed to call me before coming over
2 stars	17 (1.9%)	• shown respond time but no picture
1 star	59 (6.7%)	• can't find service in my area zone :(

According to the data collected, an overwhelming majority of ComSecuTech customers, specifically 83%, expressed their satisfaction and happiness with the ComSecuTech platform app. This high satisfaction rate indicates that the platform is meeting the expectations and needs of the customers, effectively contributing to community security.

Table 6.3 – Comment and Action From Government Parties

Government	Feedback
Jabatan Pelancongan Negeri Melaka	Cooperate with CODE7 to increase the security of tourism in Melaka.
KPKT KSU	Support CODE7 and have cooperation with CODE7
PDRM	Support CODE7 on the event.
PERHEBAT	Cooperate with CODE7 and have sharing session at PERHEBAT.
JHEV	CODE7 Official launching to JHEV
ANGKASA	Agreed code7 as good services to ANGKASA member.

Table above presents comments from government parties who attended the presentation of the ComSecuTech Platform. These comments reflect the positive reception and recognition of the platform's capabilities and contributions. The feedback from government parties is valuable as it signifies the endorsement and support from authoritative entities, further validating the effectiveness and impact of the technology.

The community was concerned that established security businesses (industry players) would adopt such a methodology and platform. More than 40 licenced security businesses signed MoUs as ComSecuTech Platform partners, and 330 zones have established in Malaysia to serve the communal society.

High satisfaction rate among customers and positive comments from government parties provide concrete evidence that the ComSecuTech platform app is successfully enhancing community security. The technology's ability to meet customer expectations and gain recognition from government entities highlights its value and significance in addressing security concerns and improving overall safety.

Contribution

Veteran ATM disaran sertai ekonomi gig

By Ernalisa Othman - 23 May 2022

Ikhmal Hisham bersama 704 veteran ATM telah dianugerahkan Pingat Jasa Malaysia sebagai pengiktirafan kepada anggota dan bekas anggota ATM di Johor Bahru, Johor.

JOHOR BAHRU – Seramai 3,780 veteran Angkatan Tentera Malaysia (ATM) telah memanfaatkan peluang meningkatkan sosio ekonomi dengan menyertai kerjaya ekonomi gig.

Timbalan Menteri Pertahanan, Datuk Seri Ikhmal Hisham Abdul Aziz berkata, perkhidmatan berasaskan keselamatan yang ditawarkan menerusi Code 7 Tech Sdn Bhd

Artikel Popular

Utama

Sudah ada hak bunuh buaya tapi kenapa tak buat –...

27 May 2022

Kewujudan buaya yang terlalu banyak di Sarawak hingga menyebabkan kejadian serangan ke atas manusia menjadi terlalu kerap membimbangkan

Trend solat dengan kipas, orang ramai diminta buat laporan

28 May 2022

Kakitangan MBSA ditemukan lemas ketika selam skuba di Pulau Tenggol

28 May 2022

Bekas diplomat terlibat kes

Figure 6.4 News – Veteran ATM disaran sertai ekonomi gig

There were around four thousand veterans taking advantage of opportunities to improve socio-economics by participating in gig economics careers (Figure 6.4). Besides, security -based services offered through Code 7 Tech Sdn Bhd (Code 7) are commensurate with the expertise and skills possessed by ATM veterans (Figure 6.5).

Figure 6.5 News from Kementerian Pertahanan Malaysia

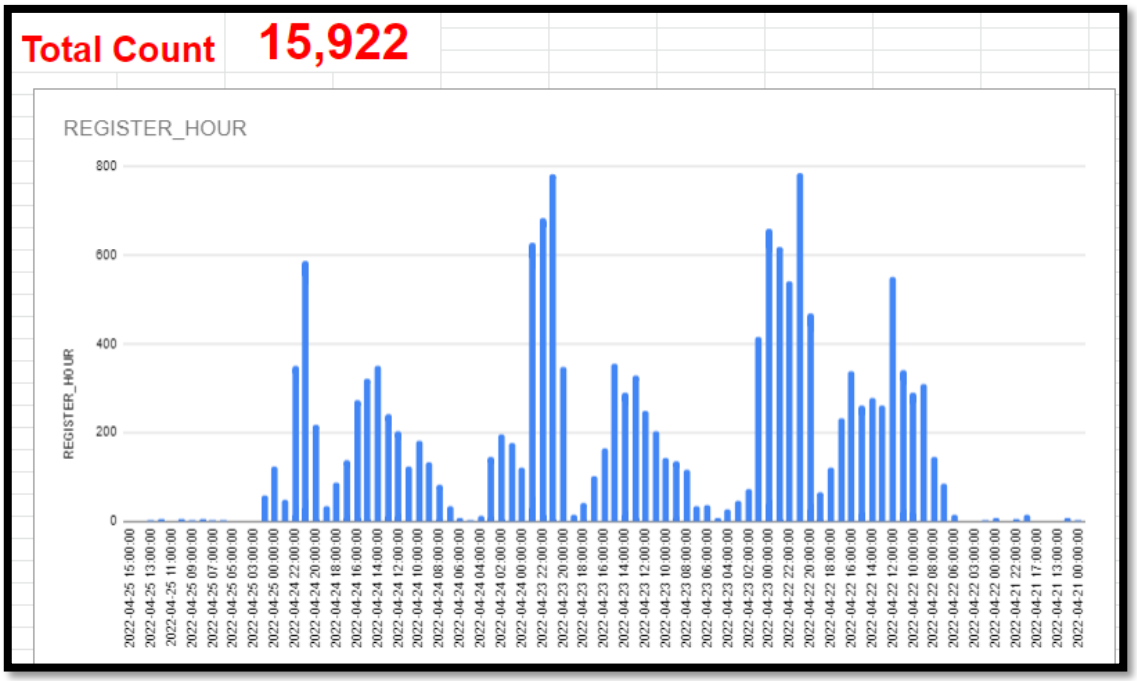


Figure 6.6 Record of registration during StarVendor event

A StarVendor event was conducted on 22 - 24 april 2022 in PWTC KL. It was a seventy-two hours running event. Around sixteen thousand people had downloaded and registered during the event. The maximum number to download and register in an hour was around eight hundred people. The number of people to download and register was recorded in each hour and it was shown in Figure 6.6.

Code 7 has brought several impacts and contributions to society. Code 7 has got three rounds of funding and awards. Besides, the platform has been presented to Venture Capital around the world. Therefore, Code 7 has signed MoU with other countries.

Figure 6.7 Merdeka SME Award 2021

Code 7 has received the SME Transformational Award on Merdeka SME Award 2021 (Figure 6.7).

Figure 6.8 Presentation to China through Big Orange Media

Code 7 has implemented a sharing session about the concept of the Code7 to China through Big Orange media which organize by Mr. Wang Wei and Mr. Allen (Figure 6.8).

Figure 6.9 MoU with Taiwan (Code7 World)

CODE7 has cooperated with a security company in Taiwan by signing MoU (Figure 6.9).

Figure 6.10 CODE7 1st zone launching -PJ zone tengah

Code7 has launched the platform to PJ Zones and other Urban cities with 98 Zones activated. Create job opportunities for Veterans via JHEV in a big economy after Code7 launched (Figure 6.10). Therefore, it is less dependent on foreign workers and encourages the involvement of ex-policemen & ex-military personnel.

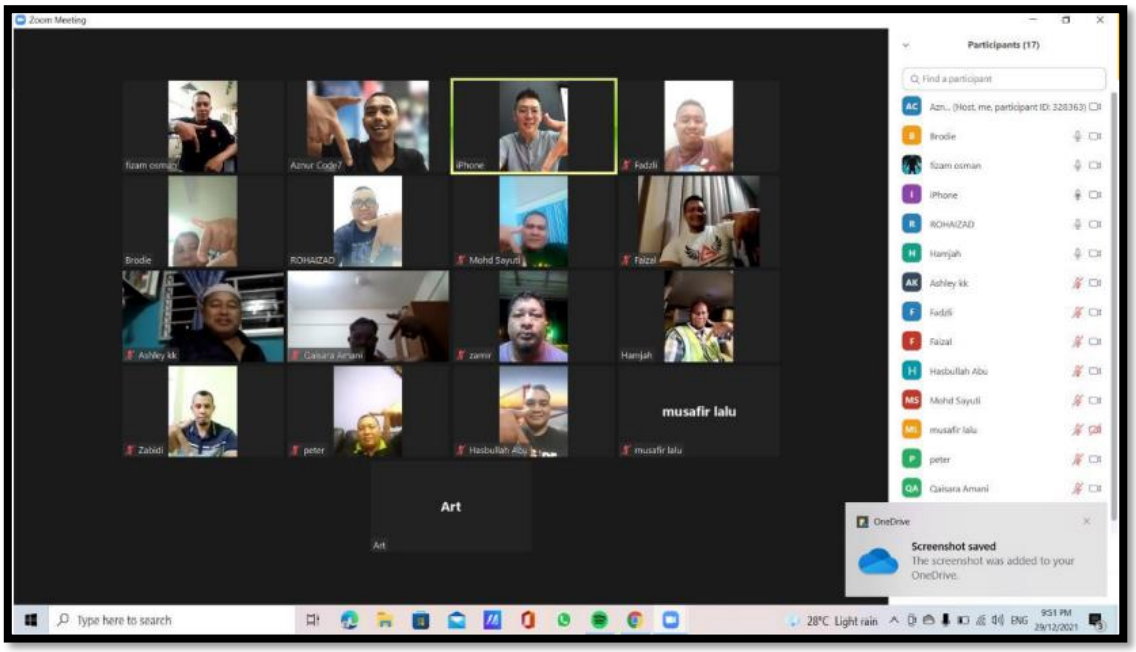


Figure 6.11 CODE7 has a zoom meeting session with Veterans on 29/12/2021.

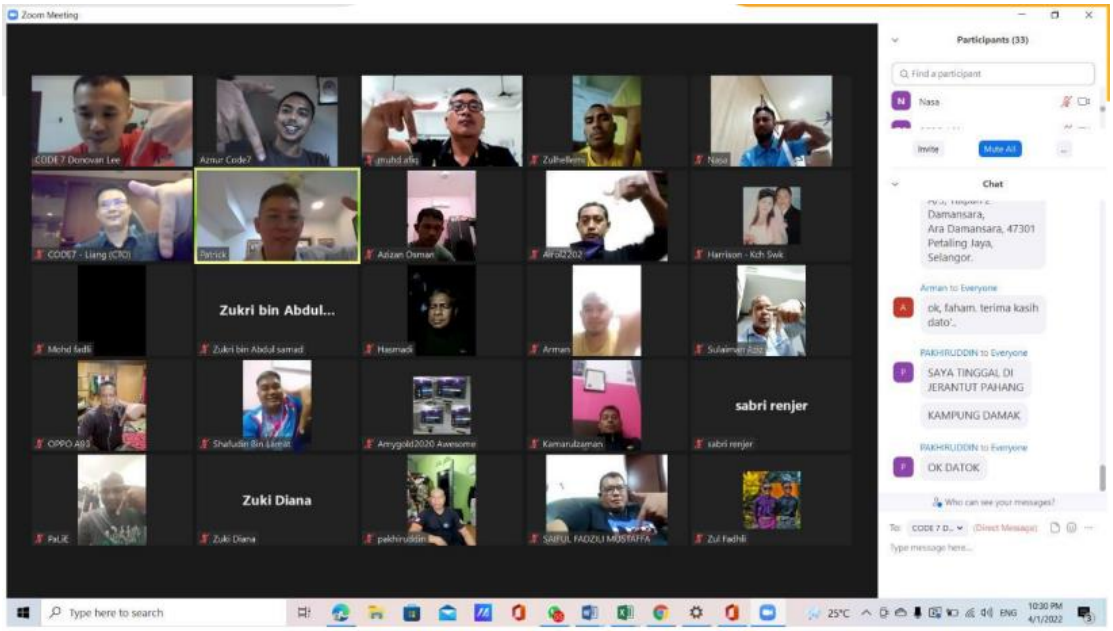


Figure 6.12 Veteran Zoom Session

Code7 has a zoom meeting session with Veterans on 04/01/2022 (Figure 6.12).

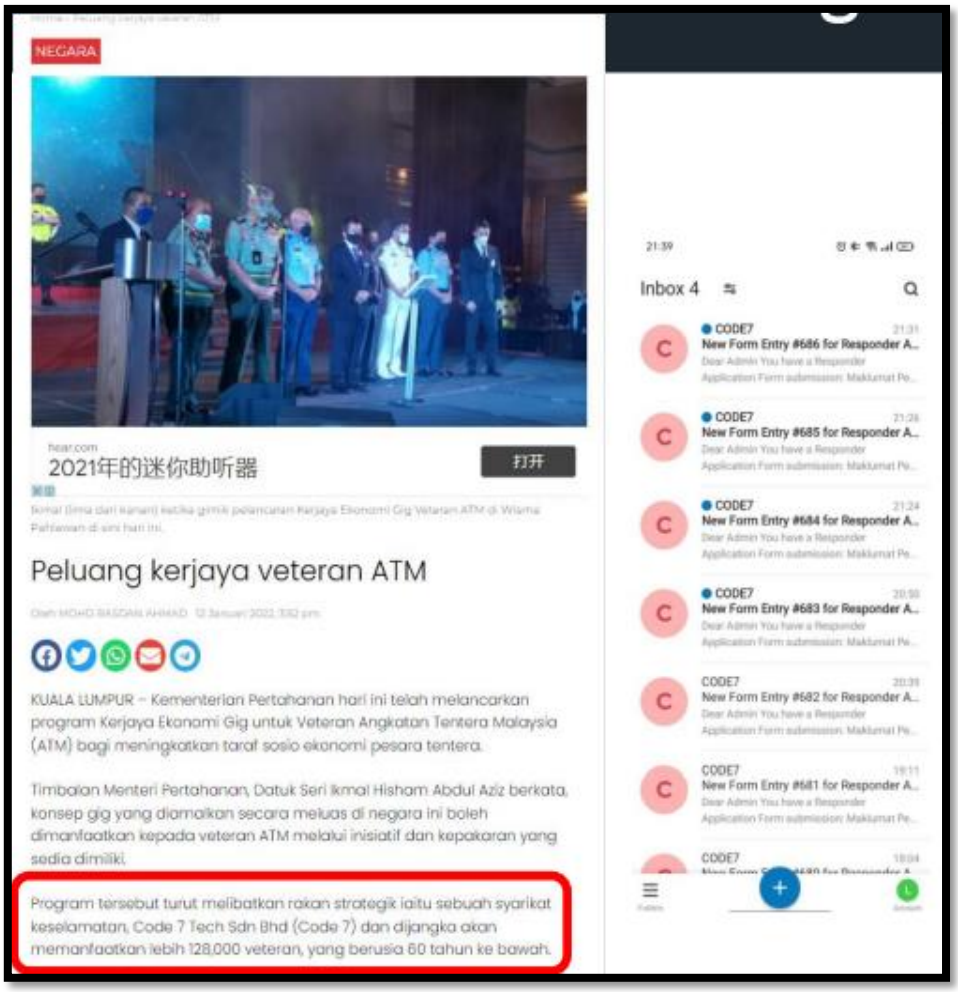


Figure 6.13 Code7 Official Launching to JHEV 1

Code7 Official launching to JHEV and taking advantage of more than 128,000 veterans who are under 60 years old (Figure 6.13).

Figure 6.14 Code7 Official Launching to JHEV 2

A group photo which includes representative from Code 7,JHEV,government and army (Figure 6.14).

Figure 6.15 Code7 Official Launching to JHEV 3

All the representatives from Code 7,JHEV,government and army were inside the VIP room (Figure 6.15).

Figure 6.16 Code7 Official Launching to JHEV 4

Introducing Code7 ‘s app to YB TIM. MENTERI PERTAHANAN Year 2022.

Table 6.4 - Evaluation Among Stakeholder after 6 months

Stakeholder	**Objective**	**Action**	**Result**
Technology	To ensure platform involve criteria: • data analytic (crime prediction) • accessible anywhere 24/7 • man power management • man power auto deployment	• Develop and deploy into digital platform in cloud based • Transform conventional security business into digital economy	• Compliance personal data protection act (PDPA) • Online subscribe (as a utility) • Software as a services • Digitalize security industry into ComSecuTech • Implemented IoT technology and API economy (ecosystem) • Manage coordinated responder deployment automatically
Community Society	• able to responder 24/7 • accessible anywhere • get respect to security personnel • giving security and safety awareness • to protect the household members (#EveryoneCanBeProtected)	• Collaborate and communicate with,Joint Management Body (JMB), Rukun Tetangga (RT) and Jawatankuasa Penduduk (RA) • Do promotion to the society • Paid by Merchant Royalty Point	• Household happy with the services through ComSecuTech platform • Willing to pre-book on demand services such as patrol schedule and home protection • Subscriber confident with responder and platform efficiency (star ranking) • paid with zero fee for security protection
Security Stakeholder	• Introduce New revenue stream • Setup security industry standard together • Maximize Resources to security company • Embarked on platform maximizes investment in digital conversion for businesses.	• Introduce New revenue stream • Setup security industry standard together • Maximize Resources to security company • Embarked on platform maximizes investment in digital conversion for businesses.	• More than 40 Licensed security company signed MoU to ComSecuTech platform. • security company willing to participate and commit zones to protect community society. • standardized security SOP • manage to bring new digital business to industry
Responder (independent service contractor-GIG)	• earn extra income • career growth • foster spirit of patriotism • self manage time shift	• provide training • provide brand new security identity • provide a recognition platform	• receive wages by weekly • promote new responder ranking based on individual commitment(delta, charlie, bravo and alpha) • customer rating on service via app • provide reward to responder via tech

			• get respect from community society
Government	• Take initiative to bring security industry to digitalise level as patriotism • To get government endorsement and blessing	• to meet and present ComSecuTech concept to country ministries and law enforcement department	• sharing session to introduce to government ministry • Cooperate and endorsed with multiple parties / government sector • KDN KSU, KPKT KSU, PERHEBAT, ANGKASA, Jambatan Pelancongan Negeri Melaka, JHEV, MOSTI, KPKT- Dasar Komuniti Negara, Smart City

Table 6.5 – Comparison between Security Technology vs Community Security Technology (ComSecureTech)

Aspect	Traditional Security Technology	ComSecuTech
Scope Coverage [21]	focuses on protecting specific locations or assets, such as buildings or facilities.	Offers broader coverage, extending protection to neighbourhoods or communities, including residential areas, public spaces, and communal facilities.
Level of Integration [22]	Typically operates in silos, with separate systems for surveillance, access control, and alarm monitoring.	Integrates various security functionalities into a centralized platform, enabling seamless responder coordination and communication among different platform module.
Focus on Proactivity [18]	Mainly reactive, responding to security incidents after they occur through alarms or notifications.	Emphasizes proactive measures such as data analytics, community engagement, and real-time monitoring to prevent security breaches before they happen.
Scale and Scalability [19]	Suited for individual installations or small-scale deployments, with limited scalability.	Designed to accommodate large-scale implementations across zones or communities, with scalable architecture to adapt to evolving needs.
Community Engagement [24]	Typically lacks features for engaging with community members or incorporating their input into security processes.	Facilitates community involvement through features like CODE7 Protection & Responder apps, incident request, and communication platforms, fostering a collaborative approach to security.
Data Utilization [23]	Collects data primarily for post-incident analysis or forensic purposes, with limited real-time analytics capabilities.	Utilizes advanced analytics and analyze real-time data streams, enabling predictive modeling, threat detection, and risk assessment.
Manpower Efficiency [17]	May require significant manpower for monitoring and response, leading to higher operational costs.	Enhances responder efficiency through automation, intelligent decision-making, and optimized allocation of security resources.
Affordability [20]	Can be costly to implement and maintain, posing financial barriers for smaller communities or low-income areas.	Strives to offer affordable security solutions through subscription-based models or government subsidies, making it accessible to a wider range of communities.
Connectivity [23]	Operates as standalone systems, with limited interoperability between different devices or platforms.	Embraces interoperability standards and protocols, facilitating seamless integration with existing infrastructure and third-party systems, such as emergency services and law enforcement agencies.
Empowerment [25]	Relies on professional security personnel for operation and management.	Empowers community members to actively participate in security efforts through user-friendly interfaces, and access to relevant information and man-power resources.

7.0 CONCLUSION AND FUTURE AND CONTRIBUTION

In conclusion, business model of ComSecuTech (CODE7) has proven to be successful in the commercialization of community security technology. The acceptance and adoption of the platform by security industry stakeholders and the public demonstrate the viability and relevance of the community security technology concept. The participation of security companies in the platform, with each assigned a dedicated territory zone, ensures comprehensive security protection coverage across different areas.

Support and agreement from the government regarding the community security technology platform have been crucial in its success. The recognition and endorsement from government entities provide credibility and confidence in the platform's capabilities, contributing to its wider acceptance and adoption.

Moreover, success of the platform has not been limited to the domestic market. ComSecuTech platform have attracted the attention of foreign countries, leading to opportunities for technology transfer collaborations. Exporting the platform to countries such as Taiwan, USA, and Ukraine open doors for further expansion and international partnerships, showcasing the scalability and global potential of the community security technology concept.

Looking ahead, future research and development efforts will focus on enhancing the security services offered by the platform. This includes designing and implementing additional features that allow for more comprehensive data collection and analytics. By leveraging data analytics, the platform can move beyond reactive measures and delve into proactive crime prediction, further enhancing its effectiveness in preventing and mitigating security risks.

APPENDICES

APPENDIX A: Credential & Related

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