



اَبُو سَيِّدِي تَيْكُونُو لَو كِي مَبَارَا
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MARA

BRIEFKASTEN (SMART MAILBOX)

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1.0 EXECUTIVE SUMMARY

As we know, mails or bills are important in human life. All company and industry in this world still using mails as their communication in their business. But in our project, we are focusing on the people who live in the apartment or the high rise building. In this regard, mostly all apartments in Malaysia locate their residences mailbox at the bottom floor of the apartment. So, if the residence wants to check their bills or mails, they have to go the bottom floor to check in their mailbox. If the mails or the bill doesn't show up yet, the time and also the energy of the person have been wasted. So we design the program called BRIEFKASTEN that can solve that problem. So with this innovative program, their burden rate will decrease and will also save their time. We are targeting the average market size per month to be RM 1,329,453 in a month. While, we can achieve total market size RM 79,767,200 in a year if we approximately sell our product worth RM400 (1 unit) to 199,418 potential customer in that first year

However, there are applications as competitive applications which are Ucella and Receva. Plus, these applications are have been operating for a long time before the release of Briefkasten. We estimated that the total sales will be increased 0.5 % within the three years. However, the total sales that estimated above can be changed either decreased or increased since the market sales can be affected by the others factors such as population shift, socioeconomic trends and market growth.

2.0 PRODUCT OR SERVICE DESCRIPTION

A good product needs to fulfil two basic characteristics. The first is fulfilling basic performance, perceived quality, capacity, and appearance. The second is aesthetics design that will attract customers. First characteristic is described as physical factor, while the second is mental factor. Appearance of the product could be identified from the design itself. Design, in general, is the form, model, shape or pattern that can figure a construction, planning and contains purposes. Factors that involve psychological part are how attractive and comfortable that products, our company could interpret this information into appropriate design to develop our new innovation products. Thus, improving and innovation of the product will increase the success rate.

The project name of our smart mailbox project is Briefkasten. From the current design, we try to design a more convenient and smart mailbox as stated in picture. This device use IR(infrared) Obstacle Avoidance sensor and ultrasonic sensor as the input. First of all, IR sensor will placed near the electric and water meter. Buzzer will be ringing and LED light up when the sensor detect the worker that going to send the bills. At the inside of the mail box, there is another IR sensor that detects the mail or bills. But if the mails are at inside the mail box, the buzzer will stop and the LED will continue light up. If the IR sensor detect object it also will make the system to send the notification to the user through phone that is connected to the device via Bluetooth. This will alert the user in the house. If the mail or the bills is still at the box, the notification at user's phone will always appear. When the user decide to pick up the bills in the mailbox, the ultrasonic sensor which is placed at the mailbox will triggered and make the servo motor rotates 90° which will automatically open the door of the mailbox. This will ease the user to pick up the bills.

APPLICATION OF PRODUCT

This product used to ease the people who live at the high rise building who have problem to always check their mails or bills at their mailbox have arrive already or not. Besides, it also helps them to prevent them from get time wasting in their daily life.

UNIQUE FEATURES

This product is a combination of a low cost components and sensors so that all of the consumer can afford to have their own smart mailbox. This is compare to other product such as uCella and also Receva that are more expensive than our product. Briefkasten is about RM400 per unit but uCella is about RM1500.

PRESENT STATE OF DEVELOPMENT OF THE PRODUCT

Product like “Briefkasten” is relatively new in Malaysia and it is an idea of a smarter mailbox style that can help people to not waste their time for always check for their mails or bills. Therefore, we are confident that this product will reach high demand in the market. Our company will firstly produce this product in a small quantity for early commercialized as a market trial. If the market demand is high, thus our company will produce the product in larger quantity to meet the market demand.

3.0 TECHNOLOGY DESCRIPTION

This Briefkasten is applicable for the Android and iOS systems until the available latest version. The latest version of Android system is 10.0, while iOS 13 for iOS system. In term of network coverage and speed, this application can be used by smartphones at least compactable with 3G technology in order to avoid network disruption.

The key components of this product technology are the sensor mechanism, the material of the product and the smartphone apps. The sensor mechanism uses the same technology as the PIR sensor which is detecting the movement of object. It uses electrically devices to convert electrical energy to signal energy in the battery. The material used is a much cheaper and quality component. Next, the apps have a user-friendly user interface so that people can easily understand its usage with a minimal tutorial. The research and development needed are the research to make sure the smart mail box is protected from bad weather and does not causes explosion; a lot of tests are needed to make sure it is safe to use. Other than that, the designs are needed to change to make sure the letters or packages safe from damage.