

**LUGGAGE RECORD SYSTEM**  
**(LRS)**

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## ABSTRAK

Perkhidmatan penyimpanan barang adalah suatu kemudahan yang disediakan oleh syarikat penyimpanan di stesen bus. Tujuan utama perkhidmatan ini adalah untuk menyediakan loker untuk sesiapa yang ingin menyimpan barang, atau sebarang barang yang sesuai yang boleh disimpan sementara waktu. Perkhidmatan ini telah menjadi satu kepentingan kepada pengguna bagi memastikan barangan mereka lebih selamat. Oleh kerana bilangan pengguna dan barangan yang disimpan oleh perkhidmatan ini semakin meningkat, sebuah system diperlukan bagi menguruskan perkhidmatan ini. Oleh sebab itu Luggage Record System telah dibangunkan bagi membatu pengurusan perkhidmatan dan mengkomputerkan segala urusan kerja agar lebih teratur dan efektif. Dalam membangunkan perkhidmatan ini, kaedah Rational Unified Process telah digunakan. Sistem ini telah dibangunkan dengan menggunakan perisian Microsoft Visual Basic untuk menghasilkan "interface", bahasa pengaturcaraan dan perisian Microsoft Office Access sebagai struktur penyimpanan data. Perisian Pembaca kad pintar digunakan dalam system ini untuk memastikan data yang diperlukan dapat diperolehi.

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## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Introduction**

In the technology age, storing information becomes one of the required methods in organization as the tool to provide complete analysis, details for particular activity or events. Having the database is the essential key for managing information, even in small or large industrial organization.

Bus station luggage service provider is using manual method for conducting the business; do not have any secure element to protect this service from damage – missing information (What happen if user lost their receipt?).It also not registers any information about the user commodity, the quantity stored commodity (What happen if the commodity is missing?). The service provider also needs to check the locker status manually, and also need to register the user information manually. The manual method used may increase the time taken to complete all the process (Register user, checking the available locker, check in & check out process – not computerized).According to this situation, the development of Luggage Record System (LRS) can solve the manual process problem. It can increases the efficiency of the previous method by computerizes the manual system and with other extra feature that automatically can revolutionize the current system.



This system consist two users which are admin and staff. The staff is also the main user for the system which staff can insert, delete, update, search, print out receipt and calculate several operations. For the admin user, they can do all the operation that staff can do and also calculate the total income that company achieve and view, edit the staff information. LRS is implemented using Smartcard Identification Reader (MyKad). The technology can improved the efficiencies of the locker services procedure, storing luggage process, returning process, and generating report. Moreover Malaysian government has announced to optimize the usage of MyKad toward its unique ID that represent a registered citizen in Malaysia.

## **1.2 Problem Statement**

The previous locker management method is not computerized, by giving user a beg number without any detail required. If customer lost their locker number then there is no backup in previous system, the current system does not have any secure implementation in order to control this situation. If one hundred people have used this service per day and if one the users lost the locker number, the service provider could not remember this person without any particular user information (locker no) that user lost. This has shown us that the current method needs to be improved in term of saving user information.

The information that gathered during the registration is the solution to this problem. Moreover customer commodity is not very secure because previous system did not save any customer commodity information, do not have other document as a customer proof when something is happen on their stuff. The details that consist commodity specification such as type, quantity is important in order locate and recognize the commodity if customer locker number is missing.

The structure of the previous method makes the service provider is unable to save user details, delete user details, update user details, and arrange user stuff according to specific criteria because the current method not using exact storing information software or method to conduct the user stuff (commodity) details and

other. They also take time to search on locker availability which is can waste the time, and cannot view the transaction information or staff details

The security concern such as boom, drug and illegal object in the bag, luggage, unrecognized or unknown owner of the luggage has become a part of the issue when the problem occur. The development of LRS using MyKad technology may increase the system ability to find the information about user, to check the locker availability. User registration will be lot faster when using the smart card identification reader, just swap the MyKad card into the reader and all the data is stored in the database. The usage of MyKad also has increase the security concern toward the illegal object in the luggage.

### **1.3 Objective**

Luggage Record System had several goals to be achieved. The objectives of the research are to:

- i. To develop a computerize Luggage Record System (LRS).

### **1.4 Scope**

The scopes that have been identified for this project are:

**USER:**

- i. Administrator of luggage service provider.
- ii. Staff of luggage service provider.

**SYSTEM:**

- i. LRS is standalone application use to help luggage owner at bus station.
- ii. Can add new customer, delete customer, update customer, check locker availability, calculate and print several operation (report, receipt etc).
- iii. Will have secure structure in order to protect any transaction information stored in this system (user name, password etc).
- iv. The service provider (Admin) can search and view selected staff information.
- v. The system will have backup such as customer identification (customer ID) detail as a new method rather than previous system.
- vi. The systems also have a form as a receipt for customer proof; moreover owner can save, add, update and delete customer detail, calculate several operations, print receipt or print any particular document in the system.

**ENVIROMENT:**

- i. Is developed in Windows XP environment

**DATA:**

- i. The system is developing based on the data collected from Fajar Sdn.Bhd at terminal Makmur Bus Station Kuantan Pahang.

## **1.5 Thesis organization**

This thesis consists of six (6) chapters. Chapter 1 will discuss on introduction to system or research, Chapter 2 will discuss on literature review, Chapter 3 will discuss about methodology, Chapter 4 will discuss on the implementation, Chapter 5 will discuss on the result and discussion and Chapter 6 will describe about the conclusion of this thesis .The list of chapter same as below:

- i. Chapter 1 ( INTRODUCTION)
- ii. Chapter 2 (LITERATURE REVIEW)
- iii. Chapter 3. (METHODOLOGY)
- iv. Chapter 4 (IMPLEMENTATION)
- v. Chapter 5 (RESULT AND DISCUSSION)
- vi. Chapter 6 (CONCLUSION)

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter will describe the manual process used in the existing process, methodology will be applied and the example of the current process and procedures which have been used that related to the Luggage Record System, the study has been made at luggage service provider at bus station.

Locker service (luggage service) is the place used to storing commodity service to the user (For example bus station user, airport, Large Shopping Mall, Government agencies, Tourism Agencies). The existing company that offer luggage services still using manual process to record customer information, staff detail, and to calculate staff salary. The objective of Luggage Record System is to help the current system in managing the information, by computerized the certain process that are done manually in existing system, information in the recent system and the provide better database structure. The current locker management method is less efficient, the system did not save any information regarding to the transaction between the service provide and the user (luggage customer). After the user check in then the user will be given locker no, if the locker is missing from user then it will be a lot of problems. Moreover the service provider also not classifies the user commodity details such as type and other.

The classification will intend better result in managing the locker information. The current process is to give a bag number without any detail required; this can decrease the authentication manner in storing customer information. If customer lost their locker number then there is no backup in previous system, the current system does not have any secure implementation in order to control this situation. If one hundred people have used this service per day and if one the users lost the locker number, the service provider could not remember this person without any particular user information (locker no) that user lost. This has shown us that the current method needs to be improved in term of saving user information.

## **2.2 The Case Study**

Three (3) researches that have been done to complete this project. The researchers are:

- i. Previous System ( Kuantan Terminal Bus Station Luggage service)
- ii. Compusafe Electronic Locker System
- iii. Electronic locker management (Nedap-affero)

### **2.2.1 Previous system**

The current system is using manual method to manage the luggage service, where the system did not store information of the company(profit), the details about staff, the luggage customer details(the item that store in the locker or the price).

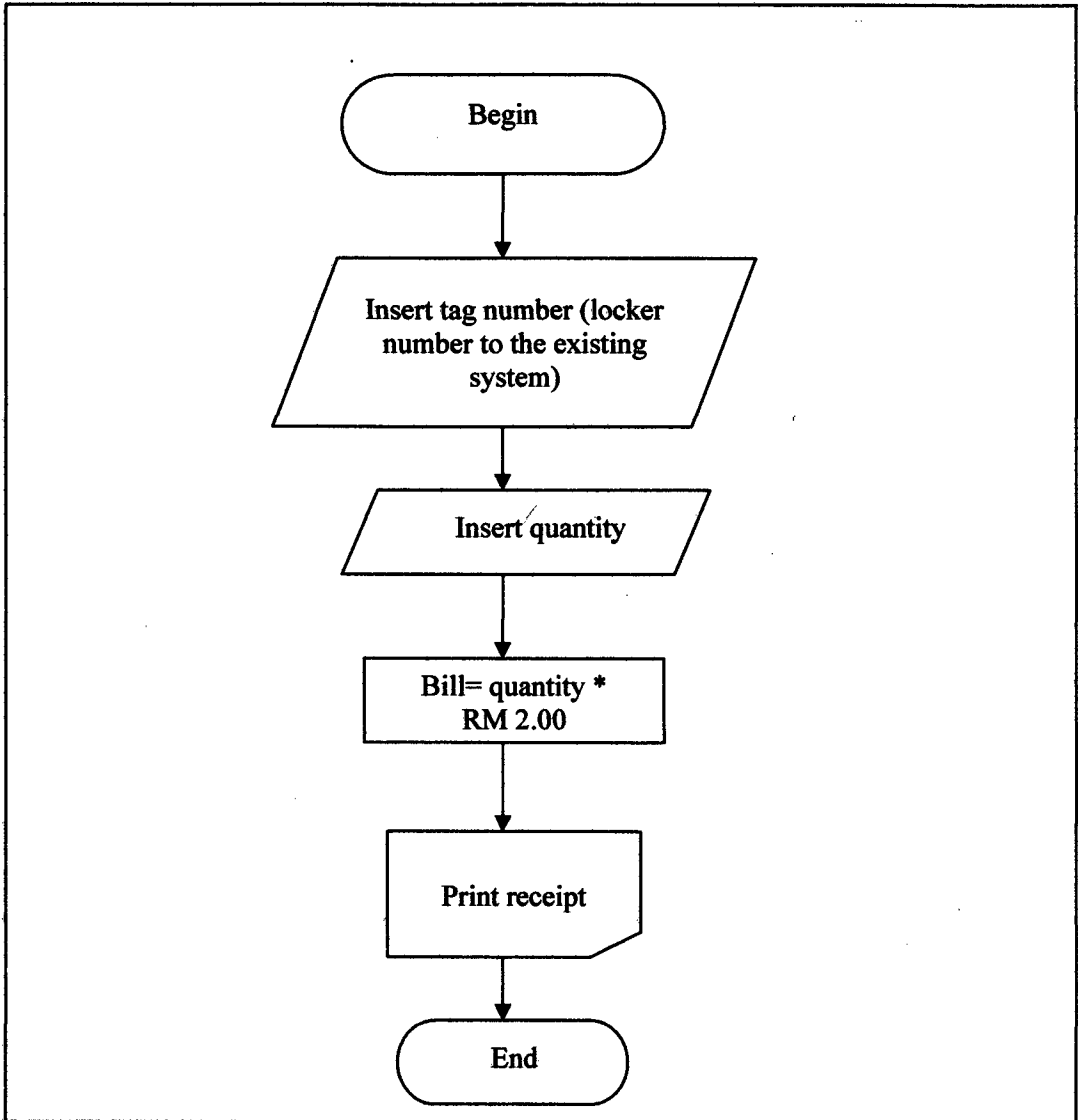
The existing company that provides this service had a problem when their customer lost the locker card number. This situation creates a lot of trouble to the company such as security problem, the thief (pretend to be someone that lost the card number), the indemnity to those that lost their stuff or item. This can cause the company decrease of profit. The situation happens when the company did not use the correct method in managing the customer info.

This main situation also shown the benefits of storing information, this means certain information should be collected in term of security and customer commodity authentication. Currently in the existing system, firstly the luggage service provider staff will find the locker number (tag number) manually and key in the tag number to the existing application. Second, the staff will enter the customer commodity quantity to the application manually and then the customer needs to pay (RM 2.00 per commodity quantity – refer to Figure 2.1).

Finally, customer will be given printed receipt (contains locker number) and when the customer wants to take the commodity back, the staff will find the commodity manually and return the requested commodity (item or stuff). If the customer did not take the stored commodity by 8.00 am until 12.00 am, the customer needs to pay for the second time. The process of the existing system shown the weakness of the existing system which is in term of storing customer information, the details about the commodity and so many thing have done manually ( Refer to Figure 2.2).

It may seem to be a small problem in short period of time but for a long term it may cause a big problem. The existing process does not have update, save, modify function, or function to store the customer information or customer commodity details. In also does not provide the search function for searching certain information.

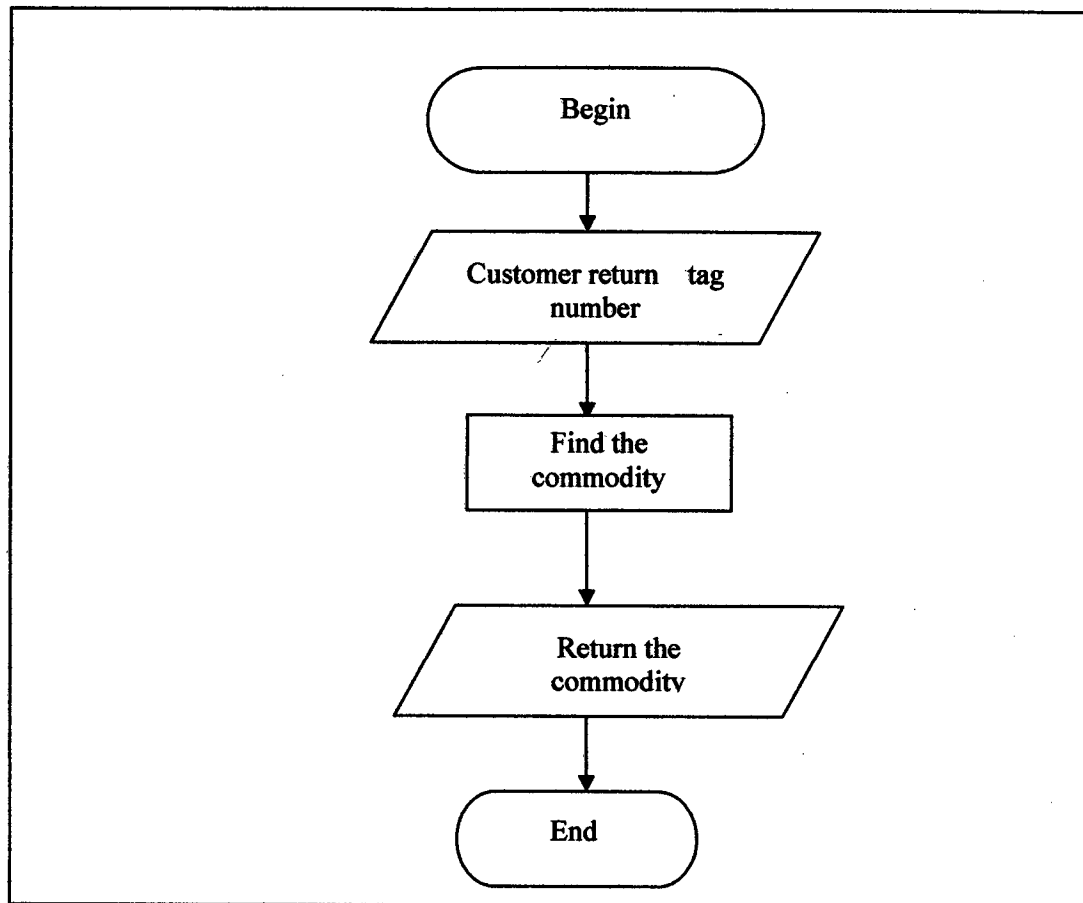
As the conclusion the existing system or processes that have been used by the company is mutually not efficient. The existing process create many problem to the company itself and to the customer in the future, this shown that the Bus station Luggage Keeping System Using MyCard Reader needs to be develop as the solution to the current problems. Figure 2.1 is the flow chart of the existing system. First the user needs to insert the locker number and then insert quantity. Before printing the receipt the quantity need to multiply with Rm 2.00 and end process.



**Figure 2.1:** Flow cart of the process  
(When customer wants to store the commodity at luggage service provider)



The Figure 2.2 is the flow control of the commodity returning. First customer needs to return the receipt, and then staff will find the commodity and return the commodity.



**Figure 2.2:** Flow cart of the process  
(When customer wants to get back the commodity at luggage service provider)

## **2.2.2 Existing System**

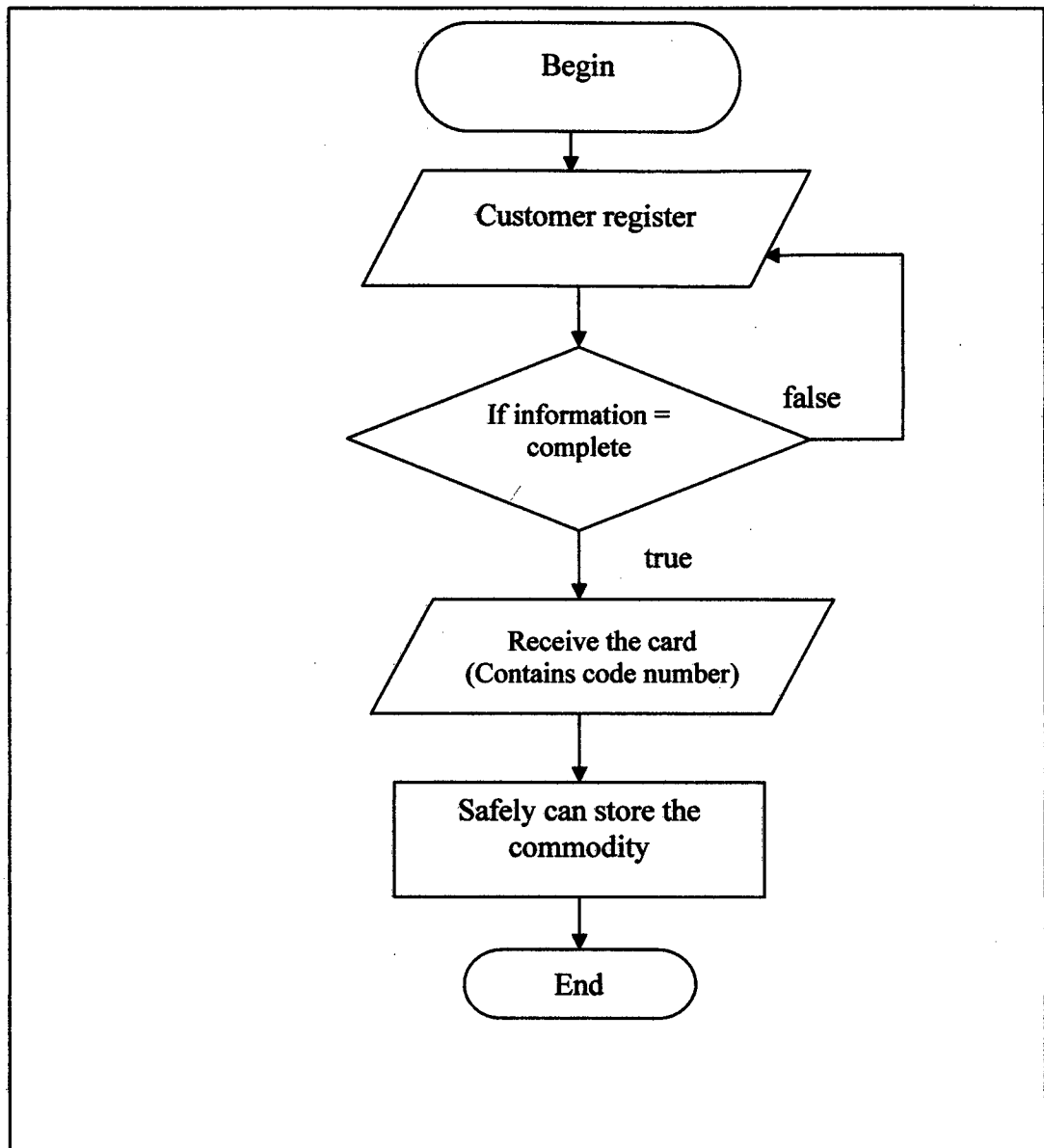
### **2.2.2.1 COMPUSAFE**

COMPUSAFE (Electronic locker system-Australia) is an example of locker system that requires customer information and save the data into a specific program. This system help the service provider to solve routine problem like customer lost their locker number, and the system help provider in managing the information about the customer or the commodity effectively. In term of to calculate the payment when the customer use the service, and certain operation. No need to calculate manually. (Refer Figure 2.5)

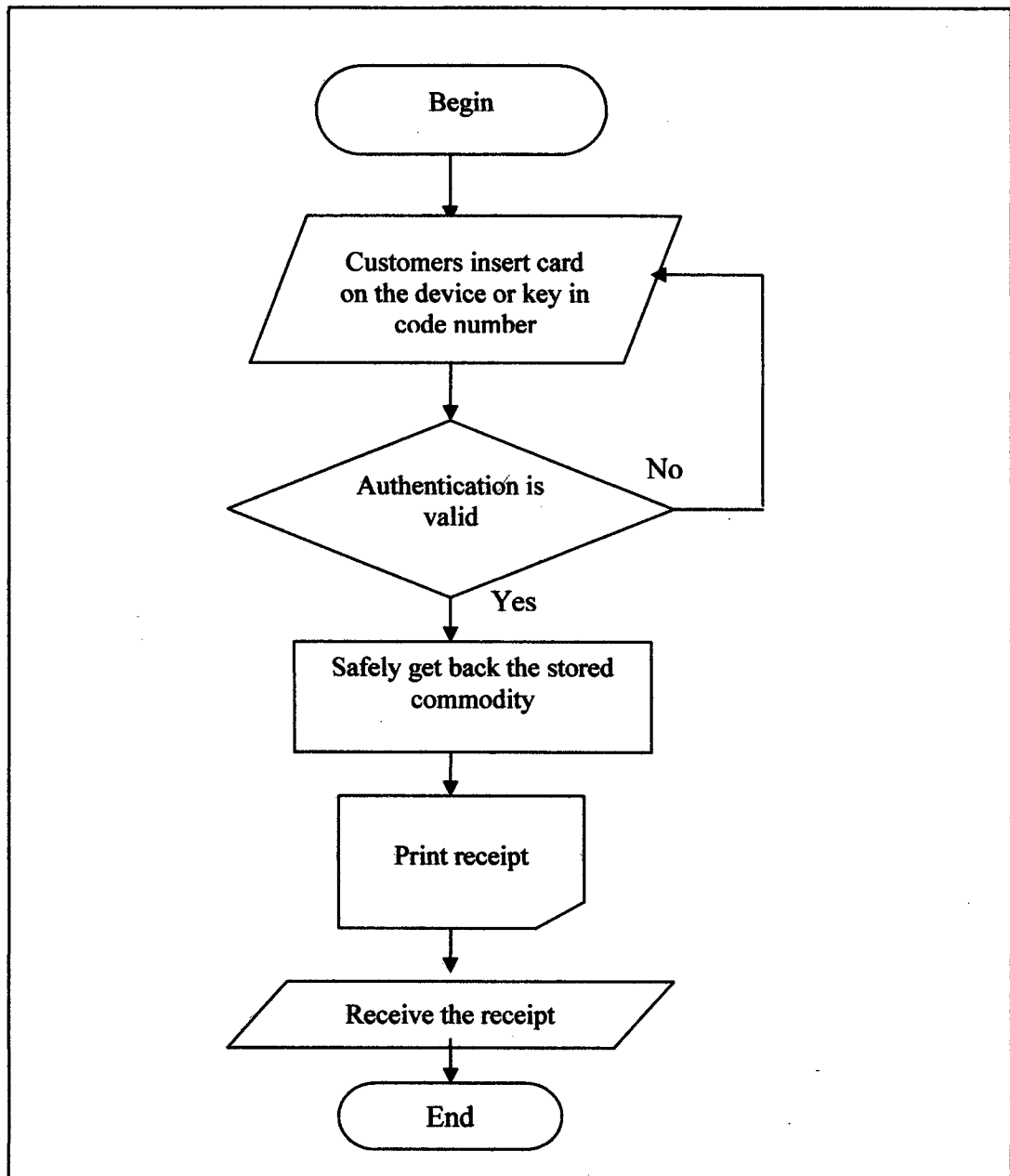
The security requirement that the system have is by using password when the staff or admin wants to log in to the system, the system divided by 2 accounts. The first account is for staff account and second is for administrator account. To access the administrator account it will require correct password, the system provide function to calculate the company profit, rented locker, staff salary. The details about the customer that use the locker also stored in capable database.

In the staff account they cannot access the administrator account. The staff accounts have been set up with limitation to use the certain function. Firstly customer need to register to use the locker system, all the required information and details regarding to the customer are been stored in database. The customer needs to pay according to duration of time and date and customer will get card that contains code number.

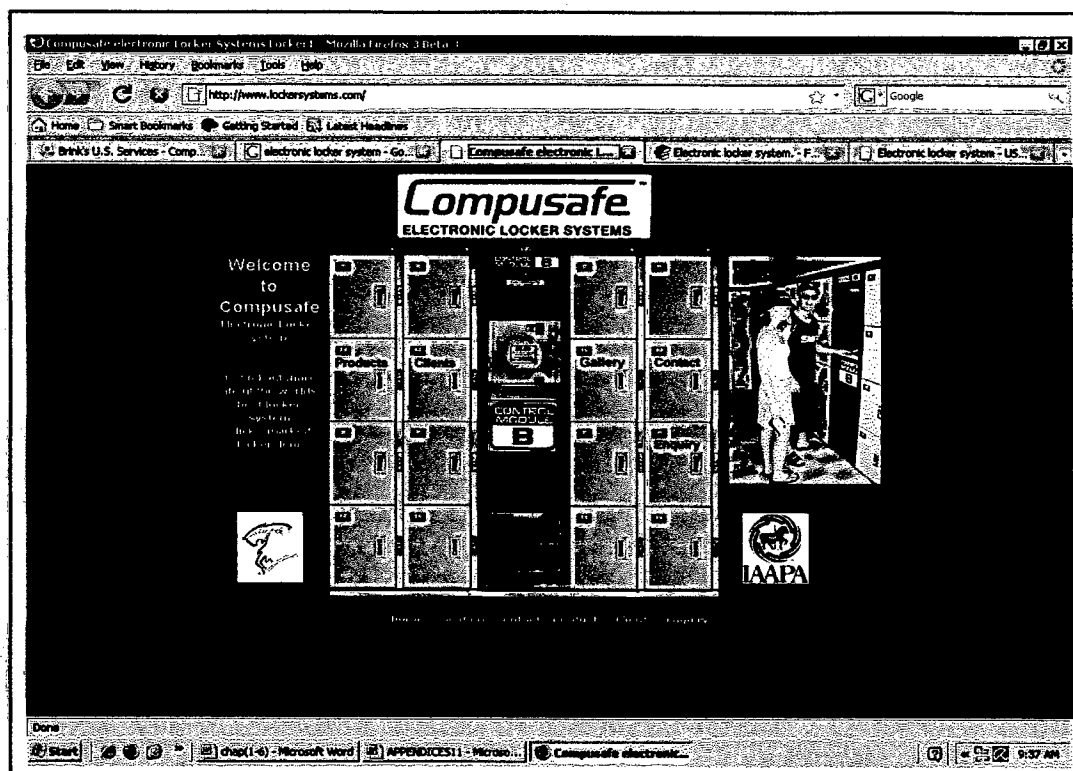
When the customer wants to get back the commodity or item that stored in the locker, the customer only need to key in the code number to the system that provide by service provider. Otherwise the customer can insert the card to the device that provided, and then the customer will automatically receive the stored commodity. If the customer lost the card, then the customer can key in ID number to get back the stored items (Refer to Figure 2.3 and Figure 2.4).



**Figure 2.3:** The Flow Chart of Customer registration



**Figure 2.4:** The flow chart when customers get back the commodity

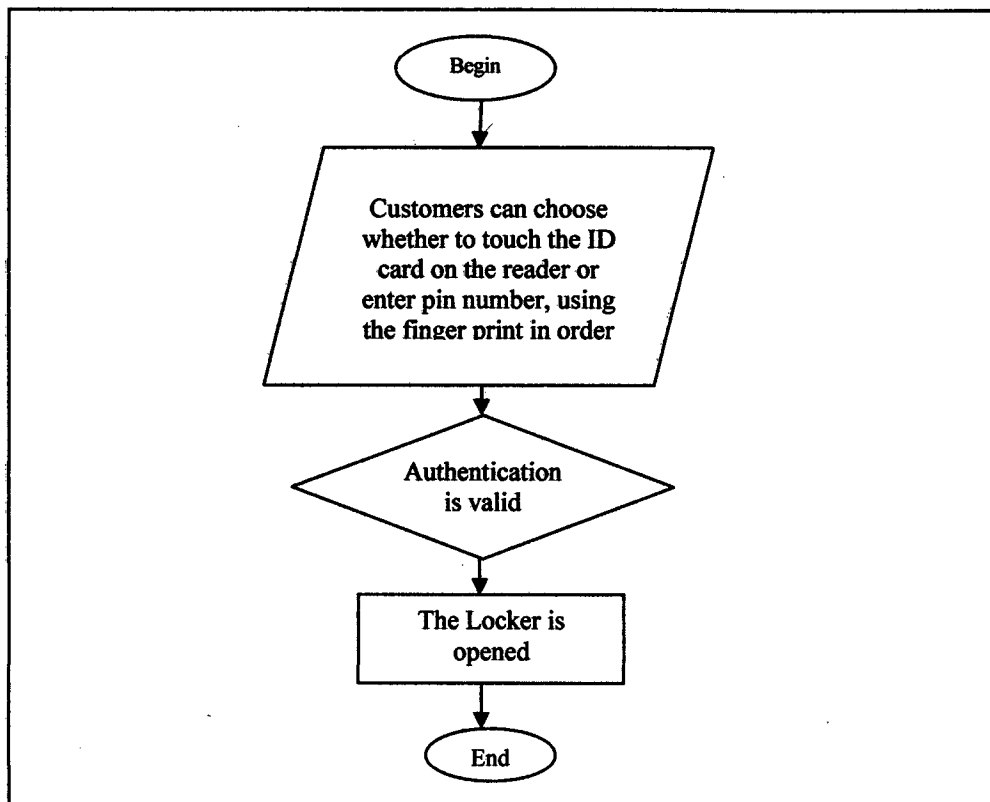


**Figure 2.5: Compusafe system**

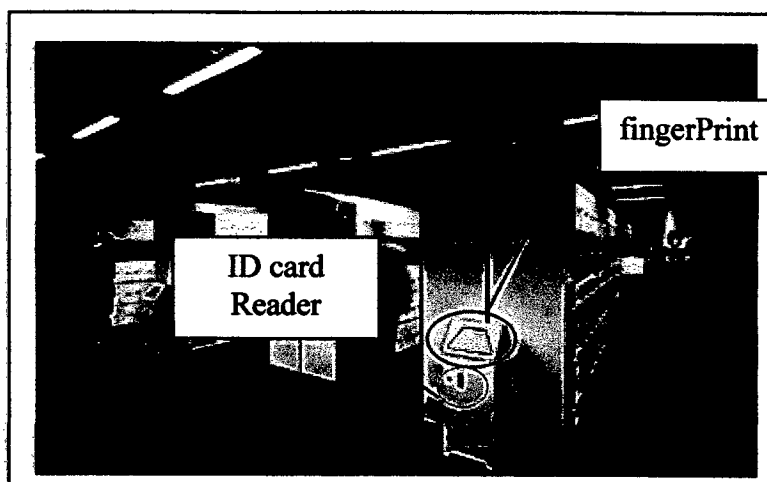
### **2.2.2.2 Electronic locker System(ELS)**

Electronic locker System is a locker system for school locker. The Locker system also has been used at swimming pool locker, Spa/beauty Centre, libraries and pharmacy locker. The Nedap Company has come out with the idea of computerizing locker management, using chip technology to increase the efficiency of the locker management. Nedap is dedicated to creating valuable solutions for education. Nedap Education provides systems and/or services in the field of computerization, business processes and handling of information within the field of education. They use a multifunctional student card, which is compatible with lockers equipped with Nedap LoXS. Each locker has a chip reader installed in its lock, which enables students to open and close their lockers by simply holding the student card close to the door. Also, you can opt to open lockers with pin code or fingerprint. Nedap LoXS is not only safe and user friendly, but also enables school management to issue lockers on a daily or yearly basis.(Refer the Figure 2.6 for the flow of locked and unlocked the locker system)

Locker allocation on a daily basis enables great space savings as fewer lockers are required; you only need lockers for those users that require a locker at the same time. Lockers can be managed via the network from any place using your web browser. This enables you to see who is using which locker at what time and therefore significantly reduces misuse and people breaking into lockers. The system can be linked to general student databases; therefore it is not necessary to manually import student data. (Refer to Figure 2.7 for the locker system implementation)



**Figure 2.6:** The process of using the locker



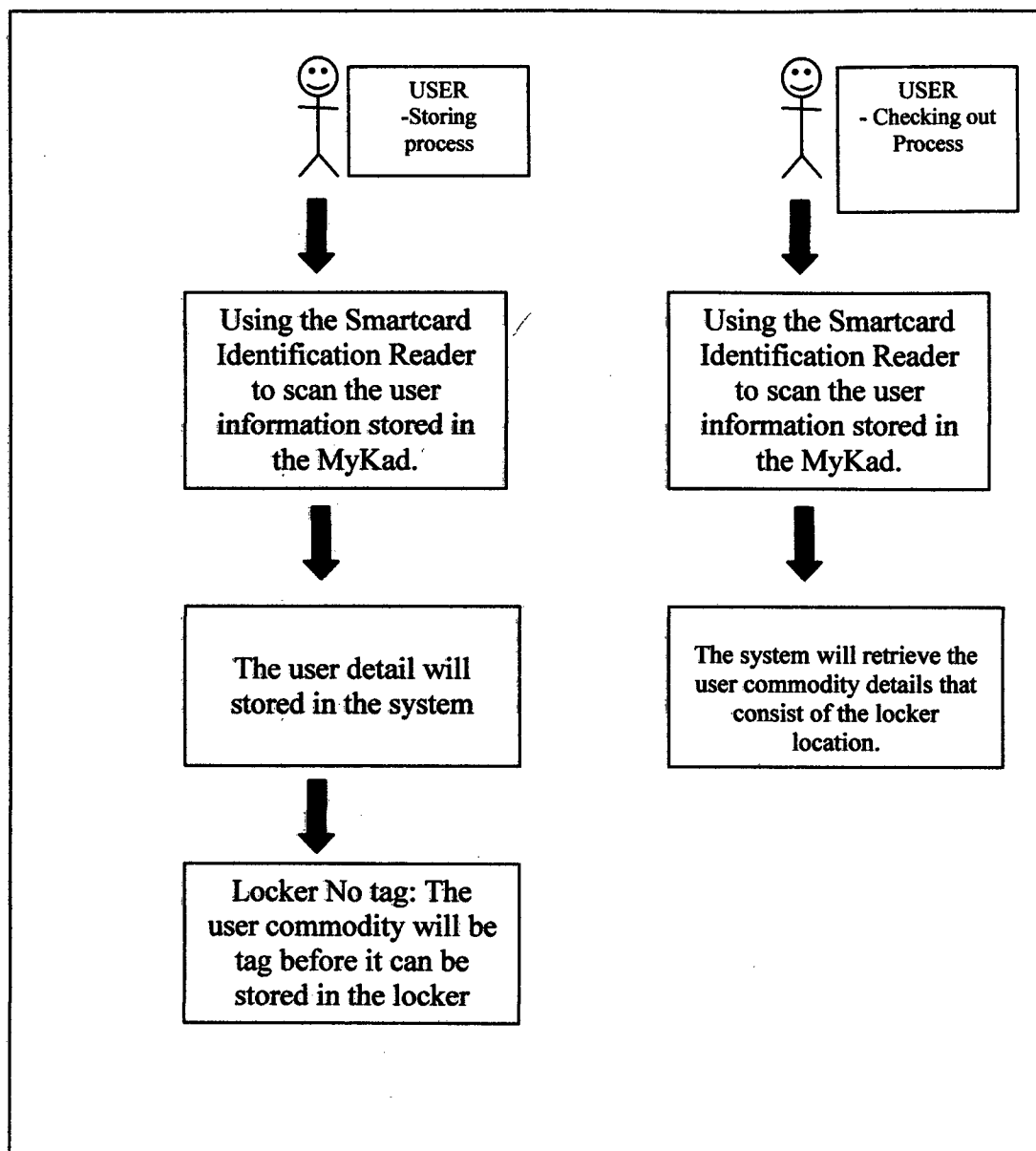
**Figure 2.7: The Electronic Locker**

### **2.3 Proposed prototype for Luggage Record System**

Luggage Record System is a standalone system. It is developed in windows environment. Luggage Keeping System offer the solution that will encourage the management of the locker services provide at the bus station to be organize and systematic.

Luggage Record System (LRS) provided with search engine for the admin or staff regarding to the locker information, staff details, customer information, and commodity details. The admin or staff can view the locker information, the commodity details and the locker that have been used. Besides that, LRS also developed with better database to gather and store the staff information, the locker information, the commodity information and several basic functions such as add new customer, delete existing entry, and update. The addition function like storing information in particular database will be the solution to the current system. The lack of integrity in the previous system will be cover within the new system that will be developed. User registration will be lot faster when using the smart card identification reader, just swap the ID card to the smartcard reader and all the data is stored in the database.

In addition, Bus Station Luggage Keeping System will be developed by using Microsoft Visual Basic 6.0 as the platform for the interface and several coding, Microsoft Office Access as the database supported application to store information.



**Figure 2.8:** Flow of the system