



## CHAPTER I

### INTRODUCTION

#### 1.1 Introduction

This section is the introduction of a report for the development of a primary school student smart card payment system. It will provide a general overview of the entire system and discuss its Project Background, Problem Identification, Objectives of the Project, Significance of the Project, Scope of the Project, along with the Assumptions and Limitations. The available information regarding the system will be stated in the background section of the report.

#### 1.2 Project Background

In today's modern era technology has become an inseparable need of human life, both adults and children. The benefits are also felt in the financial sector. Now is not the time to bother carrying cash anymore. The community has also been introduced to a cashless society or known as the Non-Cash Movement (Katon, F., & Yuniati, U., 2020). Cashless (Non-Cash) is a form of value exchange transaction that does not use physical money as a means of payment. Cashless systems use terms such as “balance” or “e-wallet” to describe the amount of money exchanged in electronic form. The use of the cashless system has increased in society which provides several benefits for both actors and the state. For individuals, cashless is very convenient and practical. In addition, the cashless system can also help to view the history of transactions made. This can benefit people to manage budgets.

Therefore, innovations from these technologies must also be taught to early childhood. The hope is that the children can get used to using the non-cash payment system. The cash payment system makes parents more extra in monitoring their child's daily expenses at school. With cashless transactions, parents can monitor by only displaying transaction history.

For now, the cashless payment method can be done via e-wallet, maybe this is less effective or inefficient. Primary schools in Malaysia do not allow students to



bring cell phones. For such cases, a smart card payment system is more appropriate. A smart card is a card designed to embed a chip in it, so that it can store information electronically. The 'smart' abilities will be seen when using this card in special tools. Like for example a tap machine or vending machine. Students only need to bring a smart card to buy goods in the canteen. Assisted by the role of parents who can top up the credit on the smart card.

This project proposes an application to carry out non-cash movements by utilizing a mobile-based smart card payment system with an RFID smart card as a companion. Radio frequency identification (RFID) is a generic term used to describe a system that transmits the identity (in the form of a unique serial number) of an object or person wirelessly, using radio waves (Santoso, S., & Nurmalina, R., 2017). By using this system, parents will easily monitor their child's expenses at school.

### **1.3 Problem Identification**

The problem identification that can be highlighted throughout this research are:

1. The current reliance on cash transactions within the primary school creates inconveniences and inefficiencies. Students need to carry cash for purchases, which can be lost, stolen, or misplaced. Handling cash also slows down transactions and creates challenges in making exact change. They also do not know how to use cash yet to do purchases.
2. The current system lacks a mechanism for parents to effectively monitor their child's buying patterns at the school canteen. Parents are still confused about determining a fixed budget for their children because they do not know what their children spend at school. Provision of pocket money is usually done regularly, namely weekly, monthly, or annually. In fact, most children are unable to be responsible for their money. As a result, most of them become out of control and become extravagant individuals. It was identified that this was dominated by a lack of ability in managing pocket money (Vhalery, Aimon, & Yulhendri, 2018; Vhalery, Leksono, & Moh. Irvan, 2018). Parents also difficult



to monitor the types of foods or things bought by their kid. This is the first time that children have the opportunity to choose their own food to consume (Pramita, 2007).

Therefore, a smart card payment system for primary school students was created with an RFID smart card as a companion that can help solve all the problems above.

#### **1.4 Objectives**

The objectives of this study is to develop a smart card payment system for primary school students that will be efficient, convenient, and secure. The specific objectives of the study are:

1. To eliminating the need for cash transactions, students can make purchases for meals or other items quickly and easily using their smart cards.
2. To provide information in order that allows parents to monitor their child bought pattern at school canteen.

#### **1.5 Significant Of The Project**

The proposal for implementing a primary school student smart card payment system, based on the mentioned objectives, carries the following significant benefits:

1. **Cashless Transactions:** By eliminating the need for cash transactions, the smart card payment system brings the convenience of quick and easy purchases for meals or other items within the school. Students can simply use their smart cards to make transactions, eliminating the hassle of handling cash and making exact change. This not only streamlines the purchasing process but also promotes a cashless environment, reducing the risk of loss or theft.
2. **Transparent Purchasing Patterns:** The smart card payment system provides valuable information that allows parents to monitor their child's buying patterns at the school canteen. With access to transaction data and purchase history, parents can gain insights into their child's food choices, frequency of



purchases, and overall spending habits. This transparency enables parents to guide their children towards healthier eating habits and make informed decisions regarding their nutrition.

## **1.6 Scope Of The Project**

Scope of work is a list of tasks that must be completed in order for the project to be completed within the specified limits. The scope of work is important to ensure that the project is on track to meet its objectives. The goal of this project is to build a system that can help realize a cashless payment method with a smart card system for primary school students.

### **1.6.1 System's Scope**

- System will assign based on certain criteria's the users, who are either admin, cashier, or parents.
- System provides the tools and interface to accommodate users navigating through the system.
- System will record the transaction activities.

### **1.6.2 User's Scope**

#### **1. Students**

- Students can use smart cards to buy items in the canteen.
- Students will provide input on the expenses with smart card.

#### **2. Parents**

- Parents can register so they can log in to the system.
- Parents can check history transaction.
- Parents can check daily expenses.
- Parents can top up credit into the smart card.

#### **3. Cashier**

- Cashier will input the products bought by student.

#### **4. Admin**



- Admin can upload the products they sell to the list product.
- Admin can view list of top up transaction by parents.
- Admin can update the credit balance in the payment card.

## **1.7 Assumptions and Limitations**

### **1.7.1 Assumptions**

1. The smart card system is very versatile. Can be used by primary school students to buy anything in the canteen and everything can be done easily.
2. This smart card system helps parents monitor daily expenses and the type of foods and things their kid bought at primary school.
3. All users (students, parents, cashier, admin) can be helped by the cashless payment system, thereby minimizing unwanted cases when carrying cash.

### **1.7.2 Limitations**

1. This smart card can only be used in the primary school canteen.
2. Only parents can top up credit into the smart card.