POLITEKNIK

SULTAN SALAHUDDIN ABDUL AZIZ SHAH

DESIGNING A SMART TRAVEL LUGGAGE

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JABATAN KEJURUTERAAN ELEKTRIK

NOVEMBER 2021

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NURFATIEHA BINTI MOHD SABRI	08DJK19F2004

This report submitted to the Electrical Engineering Department in fulfillment of the requirement for a Diploma in Electrical Engineering

JABATAN KEJURUTERAAN ELEKTRIK

NOVEMBER 2021

CONFIRMATION OF THE PROJECT

The project report titled "Design a SMART TRAVEL LUGGAGE" has been submitted, reviewed and verified as a fulfills the conditions and requirements of the Project Writing as stipulated

Checked by:

Supervisor's name : **MR. IDRIS B. KAMARUDDIN**

Supervisor's signature:

Date :

Verified by:

Project Coordinator name :

Signature of Coordinator :

Date :

"I acknowledge this work is my own work except the excerpts I have already explained to our source"

1. Signature : 

Name : **NURFATIEHA BINTI MOHD SABRI**

Registration Number : **08DJK19F2004**

Date : **30/6/2022**

DECLARATION OF ORIGINALITY AND OWNERSHIP

TITLE : DESIGNING A SMART TRAVEL LUGGAGE

SESSION: SESI 1 2021/2022

1. I, **1. NURFATIEHA BINTI MOHD SABRI (08DJK19F2004)**

   is a final year student of **Diploma in Electrical Engineering, Department of Electrical, Politeknik Sultan Salahuddin Abdul Aziz Shah**, which is located at **Persiaran Usahawan, 40150 Shah Alam, Selangor**. (Hereinafter referred to as 'the Polytechnic').

2. I acknowledge that 'The Project above' and the intellectual property therein is the result of our original creation /creations without taking or impersonating any intellectual property from the other parties.

3. I agree to release the 'Project' intellectual property to 'The Polytechnics' to meet the requirements for awarding the **Diploma in Electrical Engineering** to me.

Made and in truth that is recognized by;

a) **NURFATIEHA BINTI MOHD SABRI**) .
(Identification card No: - 011022140674)) .....
) **NURFATIEHA**

In front of me, **MR. IDRIS B. KAMARUDDIN**) .....
(750108086073)) **IDRIS B.**
As a project supervisor, on the date: **KAMARUDDIN**

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ABSTRACT

The purpose of this project, we present a smart bag design that gives safety to women and to all guy. The smart bag consists of a GSM module, Arduino board and different actuators. Meanwhile a message is sent automatically to a registered number mentioning the location and situation. The luggage tracking system is designed to track the luggage and bags which gets lost or theft from public and other areas. As people travel, there is always a risk of theft of the luggage and bags which is where the proposed system comes into account. The luggage tracking system works on an alarm basis where an alarm is set up with the Arduino UNO board and a GPS module. Also, the alarm is turned on as soon as the bag is theft and goes outside a particular range. Furthermore, a map is created through which we can track the location of the bag as it moves, as the markers are dropped which in a way gives us the location of the bag as it moves away from the owner. In this, the IoT components are being used like Arduino Board and a GPS Module in order to track the bag and a frontend or mobile application is created in order to monitor.

The conclusions in this project have a positive impact for the future such as helping all ages provide effective facilities in the event of theft. For example, knowing the location of a bag in case of theft or loss.

KEY WORDS: Fingerprint, GSM, GPS

ABSTRAK

Tujuan projek ini, kami mempersembahkan reka bentuk beg pintar yang memberikan keselamatan kepada wanita dan semua lelaki. Beg pintar terdiri daripada modul GSM, papan Arduino dan penggerak yang berbeza. Sementara itu mesej dihantar secara automatik ke nombor berdaftar yang menyebut lokasi dan situasi. Sistem pengesanan bagasi direka untuk mengesan bagasi dan beg yang hilang atau dicuri dari kawasan awam dan lain-lain. Semasa orang ramai melakukan perjalanan, sentiasa ada risiko kecurian bagasi dan beg yang mana sistem yang dicadangkan diambil kira. Sistem pengesanan bagasi berfungsi berdasarkan penggera di mana penggera disediakan dengan papan Arduino UNO dan modul GPS. Selain itu, penggera dihidupkan sebaik sahaja beg itu dicuri dan keluar dari julat tertentu. Tambahan pula, peta dicipta di mana kita boleh menjejaki lokasi beg semasa ia bergerak, kerana penanda dijatuhkan yang memberikan kita lokasi beg apabila ia bergerak menjauhi pemiliknya. Dalam hal ini, komponen IoT sedang digunakan seperti Papan Arduino dan Modul GPS untuk menjejak beg dan aplikasi frontend atau mudah alih dicipta untuk memantau.

Kesimpulan dalam projek ini memberi impak positif untuk masa hadapan seperti membantu semua peringkat umur menyediakan kemudahan yang berkesan sekiranya berlaku kecurian. Contohnya, mengetahui lokasi beg sekiranya berlaku kecurian atau kehilangan.

KATA KUNCI: Cap Jari, GSM, GPS

TABLE OF CONTENTS

CHAPTER 1

INTRODUCTION

1.1 Introduction

Secured Bag Luggage is such that the device is lightweight with the latest technology and advanced security systems made for human travel where people lose their belongings in public areas like airports, train stations. Therefore, it is very important to track luggage in case of loss and theft. The android software provides the position of the luggage location. It also has a Fingerprint Sensor to keep their important things safe and secure and if anyone accesses the fingerprint other than you, it will send a message to your mobile phone. In addition to storing invalid and valid location details in the cloud.

1.2 Background Research

The Proposed System consists of an Arduino UNO as a microcontroller which controls all input and output devices. This project uses a fingerprint to keep the luggage secure. It is more secure than other biometrics. It comes with GSM which helps us to triangulate its location when GPS is failed to retrieve the data and it is one-way communication and it doesn't require third-party software. The System works with a Fingerprint Scanner which helps to unlock the luggage using registered Fingerprint. If any unauthorized person accesses the luggage, it gives an alarm sound and it sends its location to the mobile phone via SMS. The RFID tag is also used in this project to provide a unique ID to the luggage. The unique id gets stored in the cloud. In addition to it the system also comes with an IoT cloud where it stores the location details of the luggage when an unauthorized person accesses the luggage or in case of loss or theft.

1.3 Problem Statement

Many public transport passengers often worry about traveling bags when going for a walk because the bags they carry are often stolen and the manga key needs to be placed in the bag so that the items carried are not lost.

1.4 Research Objectives

Traveling has become one of the most important aspects of human life. In general, travel bags or luggage transport systems used by the general public are very conventional, requiring human effort with safety. Currently, the expansion of electronics reduces the impact on physical work and the relationship between machines and humans that makes work smarter. Advances in electronic systems can be extended to design safer and more secure baggage transport systems that will reduce human effort and guarantee hands-free travel to people. The Automatic Baggage carrier system we recommend is basically like an electronic port that follows the operator wherever he goes. It is a hand -free load propulsion system that maintains a safe distance behind the user. The privacy of a luggage bag can be guaranteed by the identity of the owner. System location can be tracked using GPS and GSM. The wireless watch is operated as a control element. Travelers will wear watches to instruct the baggage system to follow them.

1.5 Scope of Research

To produce a product that can facilitate everyone regardless of age and group. But I prefer this product than old people or people who don't have a good memory like old people who always have a hard time remembering things. Because this product only uses fingerprints to open the luggage bag. Therefore, we do not have to bother to prepare everyone who wants to use it because these fingerprints are already available on their bodies.

1.6 Project Significance

This project was done alone. Bags have always been an integral part of travel life whether travel bags or plastic bags or even leather bags each bag has its own importance and carries different functions and uses. Dragging goods to all places has been done since the heyday. Thinking of luggage that delivers its weight, tracking its location, that follows the user automatically or manually, with a touch of technology now into old luggage, it can show its true potential l. This has motivated this project over the years so that it is easy to use and can be operated by Smartphones. Bags have always been an important part of travel life be it travel bags or plastic bags or even luggage beg. Each bag has its own importance and performs different functions and uses. Drag items all over the place has been done since its heyday. Think of the luggage that tracks its location, that follows users automatically or manually, with a touch of technology now to old luggage, it may be true potential. This has prompted us to do research over the years to make it user friendly, environmentally friendly and possible operated by Smartphone. This paper, outlines the development and innovation of 3-in-1 luggage carriers. IA highlights GPS (Global Positioning System) trackers, Automatic drives and manual drives. Based on our study, we have developed and designed freight carriers to be reliable while transporting or at any time where we are use cargo carriers and also help them green. GPS devices are used to track the carrier of goods. It can to follow the owner and ease of interaction. Automatic drive and manual drive options are provided so that the user can select there is one choice depending on the situation. For example, in the event of a situation where there may be heavy traffic and therefore there are many obstacles, the user can drive the carrier manually.

1.7 Chapter Summary

In this first chapter, I have described about the background research of the original idea for the beginning of this project. Then, I have identified the problems that are happening nowadays. In addition, I have demonstrated the objectives in this project and I have removed the scope the study I obtained from the objective study. Finally, I came up with an important project.