UNIVERSITY OF MINDANAO TAGUM BRANCH

**BACHELOR OF SCIENCE IN INFORMATION TECHNOLOGY**

**Department of Arts and Science Education**

Visayan Village, Tagum City, Philippines

**Course Requirements**

**In**

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**CAPSTONE PROJECT 1 (IT22/L)**

**Automated Baggage Locker System: Access for secure item storage**

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**INTRODUCTION:**

The Automated Baggage Locker System represents a significant advancement in secure item storage technology, designed to meet the growing demand for efficient and reliable storage solutions in public and private settings. This innovative system addresses the need for secure, temporary storage of personal belongings by offering individual lockers equipped with advanced security features and user-friendly access controls.

In today’s dynamic environment, such as airports, gyms and shopping malls, and public venues, individuals often require temporary storage solutions for their belongings. The automated Baggage Locker System provides a seamless experience: user can securely store items in designated lockers and retrieve them at their convenience using a unique access code entered via a numeric keypad.

This project aims to demonstrate the feasibility and practically of an automated storage solution that enhances convenience, security and operational efficiency. By integrating modern technology with robust security protocols, the system ensures that stored items remain safe while offering users a straightforward and efficient method to access their belongings.

**PROBLEM STATEMENT:**

In bustling environments such as shopping malls, individuals often face challenges related to the temporary storage of personal belongings. The current baggage counter system may suffer from inefficiencies and security concerns, including long wait times, and potential risks of theft or loss. These issues undermine user convenience and satisfaction, impacting the overall shopping experience negatively.

SPECIFIC ISSUES INCLUDE:

1. **Long wait Times:** Customers frequently encounter delays when retrieving stored items due to manual processes and limited staff availability.
2. **Limited Accessibility:** Operational hours and availability constraints of traditional baggage counter services may not align with customer needs, leading to inconvenience during peak shopping times or extended visits.
3. **Security concern:** There is a risk of theft or loss of stored items due to insufficient monitoring and security measures in place.
4. **Operational Inefficiencies:** Manual handling of storage and retrieval processes can result in errors, misplaced items, and inefficient use of space and resources.
5. **Customer Experience Impact:** Poor service experience at baggage counters can negatively influence overall perceptions of shopping malls and discourage repeat visits.

**OBJECTIVES:**

1. **Enhance Customer Convenience:**

* Provide a convenient and user-friendly solution for temporary storage of personal belongings within shopping malls
* Minimize wait times by automating the storage and retrieval process, allowing users to quickly access their items as needed.

1. **Improve Operational Efficiency:**

* Streamline the management of baggage storage operations by automating processes such as item check-in, and access code generation.
* Optimize resource utilization and reduce dependency on staff for managing storage and retrieval tasks.

1. **Ensure Security and safety:**

* Enhance security measures to safeguard stored items against theft, loss or damage.

1. **Enhance Customer experience:**

* Enhance the shopping experience by reducing the burden of carrying personal belongings throughout the mall, promoting comfort and ease of movement.