Basavarajeswari group of institutions

Ballari Institute of Technology & Management

AUTONOMOUS INSTITUTE UNDER VISVESVARAYA TECHNOLOGICAL UNIVERSITY JNANASANGAMA,

BELAGAVI 590018

INTERNSHIP

Report On

ATHLETIC EQUIPMENT INVENTORY

Submitted in partial fulfillment of the requirements for the award of degree of

Bachelor of Engineering

In

ELECTRONICS AND COMMUNICATION ENGINEERING

Submitted by

JAYASHREE KUPPASAGOUDAR

3BR22EC062

Internship Carried Out

By

EZ TRAININGS & TECHNOLOGIES PVT.LTD

HYDERABAD

Internal Guide

Mr. ULAGANATHAN.J

Assistant Professor ,ECE

Mr. AMBRAYYA

Assistant Professor ,ECE

External Guide

Ms. MOHINI BANSAL

Technical Trainer

BALLARI INSTITUTE OF TECHNOLOGY & MANAGEMENT

NACC Accredited Institution*

(RecognizedbyGovt.ofKarnataka,approvedbyAICTE,NewDelhi&AffiliatedtoVisvesvarayaTechnologicalUniversity,Belagavi)

"JnanaGangotri"Campus,No.873/2,Ballari-HospetRoad,Allipur,Ballar1-583104(Karnataka)(India)Ph:08392–237100/237190,Fax:08392–237197

2024-2025

BASAVARAJESWARI GROUP OF INSTITUTIONS

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DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

CERTIFICATE

This is to certify that the Internship entitled **"ATHLETIC EQUIPMENT INVENTORY"** has been successfully completed by **JAYASHREE KUPPASAGOUDAR** bearing USN **3BR22EC062** a bonafide student of Ballari Institute of Technology and Management, Ballari. For the partial fulfillment of the requirements for the **Bachelor's Degree in Electronics and Communication Engineering** of the VISVESVARAYA TECHNOLOGICAL UNIVERSITY, Belagavi during the academic year 2024-2025.

Signature of Internship Co-ordinators

Mr. ULAGANATHAN.J
Assistant Professor ,ECE

Mr. AMBRAYYA
Assistant Professor ,ECE

Ms. MOHINI BANSAL
Technical Trainer

Signature of HOD

Dr. K M SADYOJATHA
Professor & HOD(ECE)

DECLARATION

I, **JAYASHREE KUPPASAGOUDAR ,** third year student of Electronics and Communication Engineering, Ballari Institute of Technology, Ballari, declare that Internship entitled "ATHLETIC EQUIPMENT INVENTORY" is a part of Internship Training successfully carried out by **EZ TECHNOLOGIES & TRAININGS PVT.LTD, Hyderabad** at "**BITM, BALLARI".** This report is submitted in partial fulfillment of the requirements for the award of the degree, Bachelor of Engineering in Electronics And Communication Engineering of the Visvesvaraya Technological University, Belagavi.

Date : **Signature of the Student**
Place :

ACKNOWLEDGEMENT

The satisfactions that a company the successful completion of my internship on " Athletic Equipment Inventory " would be incomplete without the mention of people who made it possible, whose noble gesture, affection, guidance ,encouragement and support crowned my efforts with success. It is my privilege to express my gratitude and respect to all those who inspired me in the completion of my internship.

I am grateful to my respective coordinators "**Mr. ULAGANATHAN J(Asst.prof,ECE) and Mr. AMBRAYYA (Asst.prof,ECE)**" for their noble gesture ,support co-ordination and valuable suggestions given to me in the completion of Internship.

I also thank **Dr. K M Sadyojatha,** HOD , Department of **Electronics and Communication Engineering** for extending all his valuable support and encouragement.

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Company Name : EZ Trainings and Technologies Pvt. Ltd.

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Autonomous Institute under VTU - Belagavi
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BALLARI - 583 104 (Karnataka)
Ph: 08392-237167/237153 Fax: 237197, e-mail: bitmbly@gmail.com
Website: www.bitm.edu.in

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ABSTRACT

The Athletic Equipment Inventory System is a Python-based management application designed to streamline the tracking, maintenance, and accessibility of athletic equipment using SQLite3 as the database. This system caters to both managers and users, providing role-based access to functionalities. Managers can add, update, view, and delete equipment records, ensuring the database remains accurate and up-to-date. Users, on the other hand, can browse available equipment and access detailed information, including usage instructions, recommended workout routines, and benefits, to optimize their training.

The system is implemented using Python and SQLite3, featuring a menu-driven console interface that enhances usability.
The inventory database is initialized with predefined sports and fitness equipment, preventing redundancy and ensuring data integrity.
Equipment records include ID, name, category, quantity, price, and additional details such as recommended usage and benefits.

Key features of this project include:

Role-Based Access – Separate menus for managers and users.
CRUD Operations – Managers can create, read, update, and delete equipment records.
Preloaded Inventory – Ensures database is populated with essential equipment.
Error Handling – Prevents invalid data entry and enhances system reliability.
User-Friendly Interface – Simplified navigation for efficient inventory management.
By automating equipment tracking and providing structured information, this system improves operational efficiency, minimizes manual errors, and ensures that sports facilities, gyms, and training centers have an organized and well-maintained inventory. The project is scalable and adaptable, making it a valuable tool for sports organizations, fitness centers, and institutions managing athletic resources.

INTRODUCTION OF THE PROJECT

Sports and fitness centers require efficient inventory management to keep track of athletic equipment, ensuring availability, proper maintenance, and optimal utilization. Traditional inventory management methods, such as manual record-keeping and spreadsheets, are prone to errors, inefficiencies, and difficulties in updating information in real-time. To address these challenges, this project introduces the Athletic Equipment Inventory System, a Python-based application using SQLite3 for database management.

This system is designed to provide role-based access, distinguishing between managers and users:

- Managers have full control over the inventory, allowing them to add, update, view, and delete equipment records.
- Users can access detailed information about available equipment, including usage instructions, recommended exercise routines, and benefits to help them make informed decisions for their workouts.
- The project integrates CRUD (Create, Read, Update, Delete) operations, ensuring an organized and structured approach to inventory handling. Additionally, it features a preloaded inventory with essential sports and gym
- Streamline inventory management for athletic centers, gyms, and sports clubs. Ensure accurate tracking of equipment availability and condition.
- Improve accessibility by providing structured information to users. Reduce manual errors and enhance data integrity through a database-driven approach.

With its scalable and adaptable structure, the Athletic Equipment Inventory System offers a practical solution for organizations managing sports resources, ensuring that athletes and fitness enthusiasts have access to well-maintained and organized equipment.

The need for an inventory management system arises due to several challenges, including the lack of real-time updates, human errors in record-keeping, time-consuming manual tracking, and difficulties in accessing equipment details. This system effectively overcomes these limitations by providing an automated, user-friendly interface that enhances accessibility and minimizes errors.

The Athletic Equipment Inventory System includes several key features, such as a preloaded equipment list, database-driven inventory management, error handling for data validation, and a console-based menu-driven interface for easy navigation. The project aims to develop an efficient, scalable, and automated system that not only simplifies inventory tracking but also enhances the user experience by providing comprehensive equipment usage details.

Designed for sports academies, fitness clubs, educational institutions, and even home gyms, this system can be further expanded to include advanced functionalities such as equipment reservations, maintenance alerts, and usage history logs. By ensuring proper tracking, accessibility, and organization of sports and gym equipment, this project contributes to the efficient management of athletic resources, promotes safe and effective workouts, and enhances overall fitness experiences.

MODULE DESCRIPTION

The **Athletic Equipment Inventory System** is designed to efficiently manage sports and fitness equipment in gyms, sports academies, and fitness centers. Below is a structured breakdown of the modules and their functionalities:

1. Database Management Module

- **__init__**: Initializes the SQLite3 database and creates an equipment table if it does not already exist.
- **create_table**: Ensures the database structure is set up to store equipment details such as ID, name, category, quantity, and price.
- **fetch_data**: Retrieves equipment records from the database for display and updates.

2. Equipment Class

- **__init__**: Initializes an equipment item with attributes like name, category, quantity, and price.
- **display_details**: Displays essential details of the equipment, including its name, category, available quantity, and price.

3. Inventory Management Module (CRUD Operations)

- **add_equipment**: Allows managers to add new equipment to the inventory.
- **remove_equipment**: Removes an existing equipment item from the inventory.
- **update_equipment**: Modifies the details of an equipment item, such as quantity and price.
- **view_equipment**: Displays the entire list of available equipment with relevant details.

4. Equipment Details Module

- **view_equipment_details**: Allows users to select an equipment item and view additional details such as **usage instructions, recommended sets/reps, and benefits**.

5. User Authentication Module

- **role_selection**: Differentiates between **Manager** and **User** roles and grants access accordingly.
- **manager_login**: Ensures restricted access to inventory modification features by requiring a password for the manager.

6. Input Validation and Error Handling Module

- **validate_input**: Ensures correct data types are entered for fields like quantity and price to prevent system crashes.
- **check_equipment_exists**: Checks whether an equipment ID exists in the database before performing updates or deletions.

7. User Interface Module (Menu-Driven System)

- **main_menu**: Provides a structured menu for users to navigate through different functionalities of the system.
- **manager_menu**: Grants managers access to add, remove, update, and view equipment.
- **user_menu**: Allows users to browse available equipment and view detailed information.

8. Exit and Cleanup Module

- **exit_program**: Ensures proper closure of the SQLite3 database connection when the program terminates, preventing data loss.

ALGORITHM

1. System Initialization

- The program connects to an SQLite database (athletic_inventory.db).
- A table equipment is created if it doesn't already exist. This table stores details like name, category, quantity, price, usage instructions, recommended sets/reps, and benefits.
- The Tkinter GUI framework is initialized, and the application window is set up.

2. Main Screen - User Selection

- The main screen displays three options:
    1. Manager Login – Restricted access for modifying inventory.
    2. User View – Allows users to browse available equipment.
    3. Exit – Closes the application.

3. User Inventory Management

- If a user chooses to view inventory:
    - The system fetches all equipment records from the database.
    - The Tkinter Treeview table displays the records.
    - Clicking on an item shows detailed usage instructions, recommended sets/reps, and benefits.
- This provides users with an easy way to explore the inventory.

4. Manager Authentication & Dashboard

- The Manager login requires the correct password (admin123).
- If authenticated, the manager can:
    - Add Equipment – Insert a new item into the inventory.
    - View Equipment – Check current stock.
    - Update Equipment – Modify existing records.
    - Delete Equipment – Remove an item permanently.
- A logout button returns to the main screen.

5. CRUD Operations on Equipment (Manager Functionalities)

◈ **Add Equipment:**

- The system collects input fields for equipment details and inserts them into the database.
- If successful, a message confirms the addition.

◈ **View Equipment:**

- Opens a window displaying all inventory data in tabular form.

◈ **Update Equipment:**

- The manager enters an equipment ID, modifies details, and updates the database.

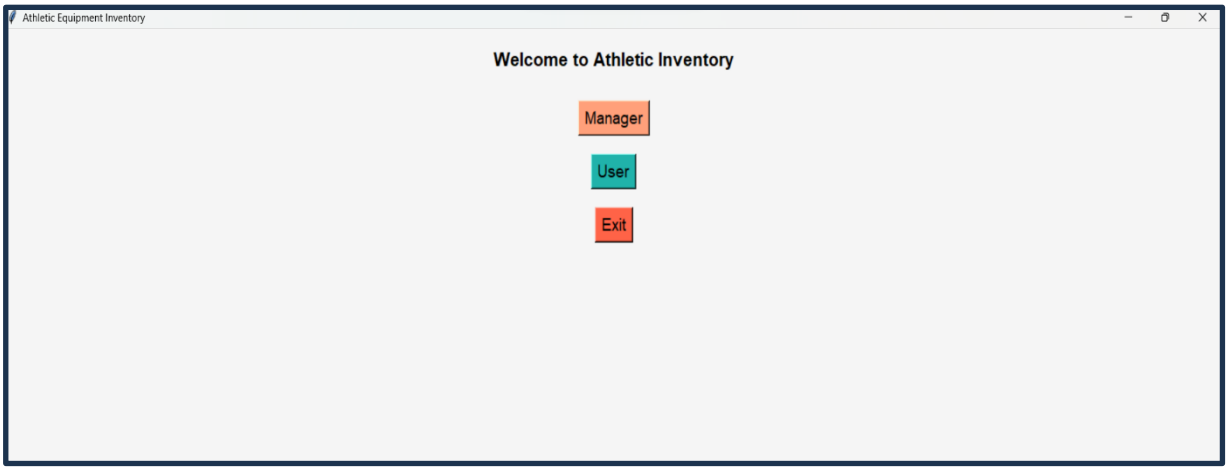
◈ **Delete Equipment:**

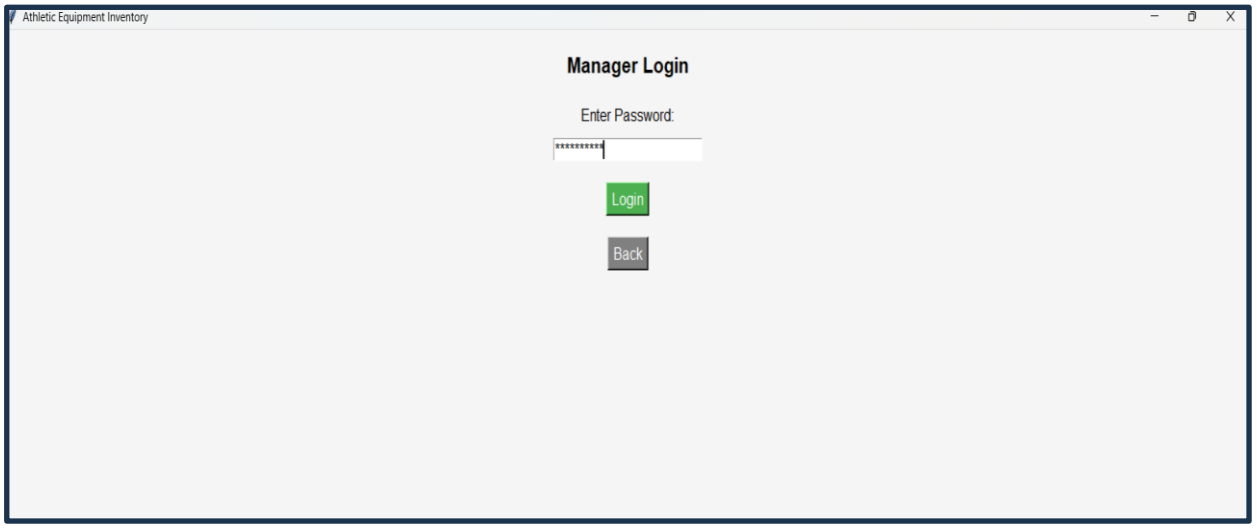
- The manager enters the equipment ID and deletes it from the database.

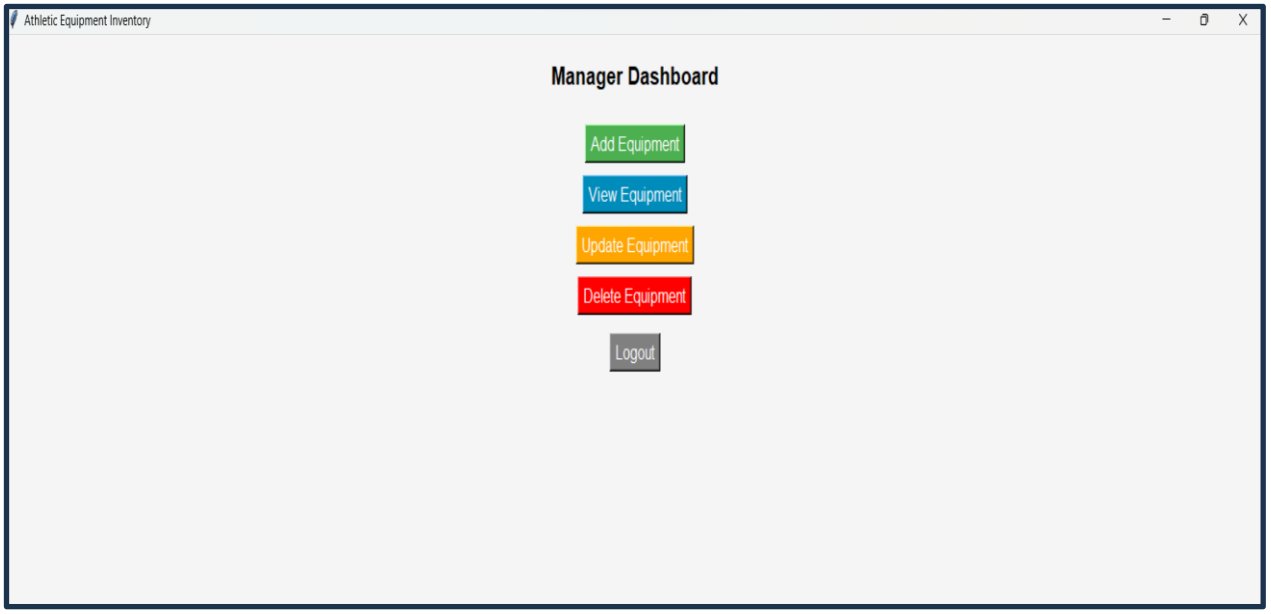
6. Application Execution

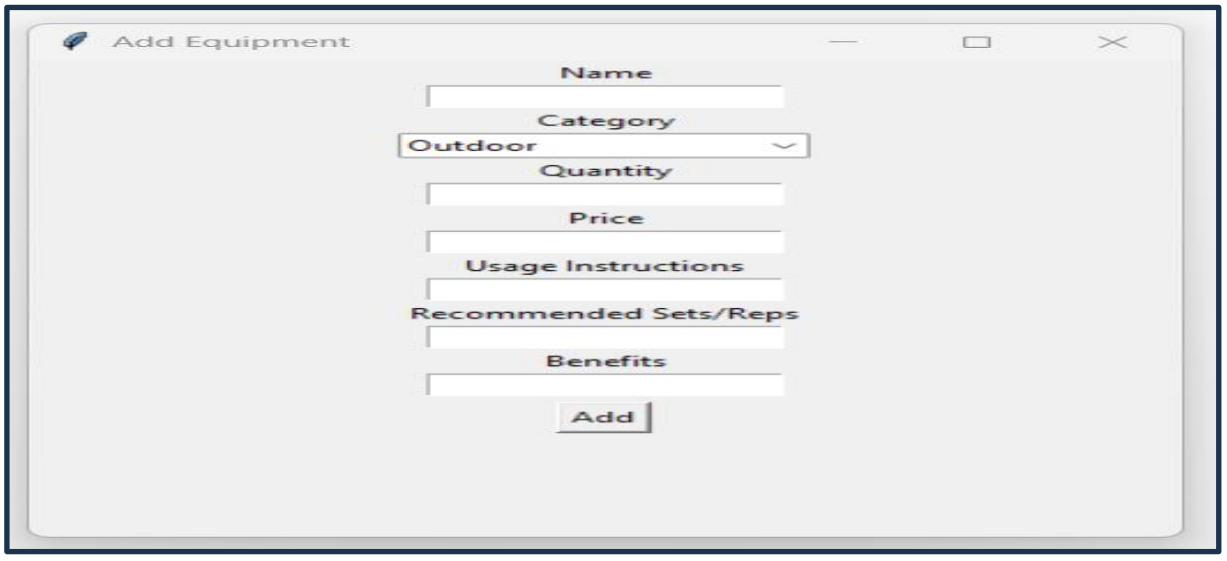
- The Tkinter main loop (root.mainloop()) ensures the interface remains responsive.
- Users can interact with the GUI to manage or explore the athletic equipment inventory.

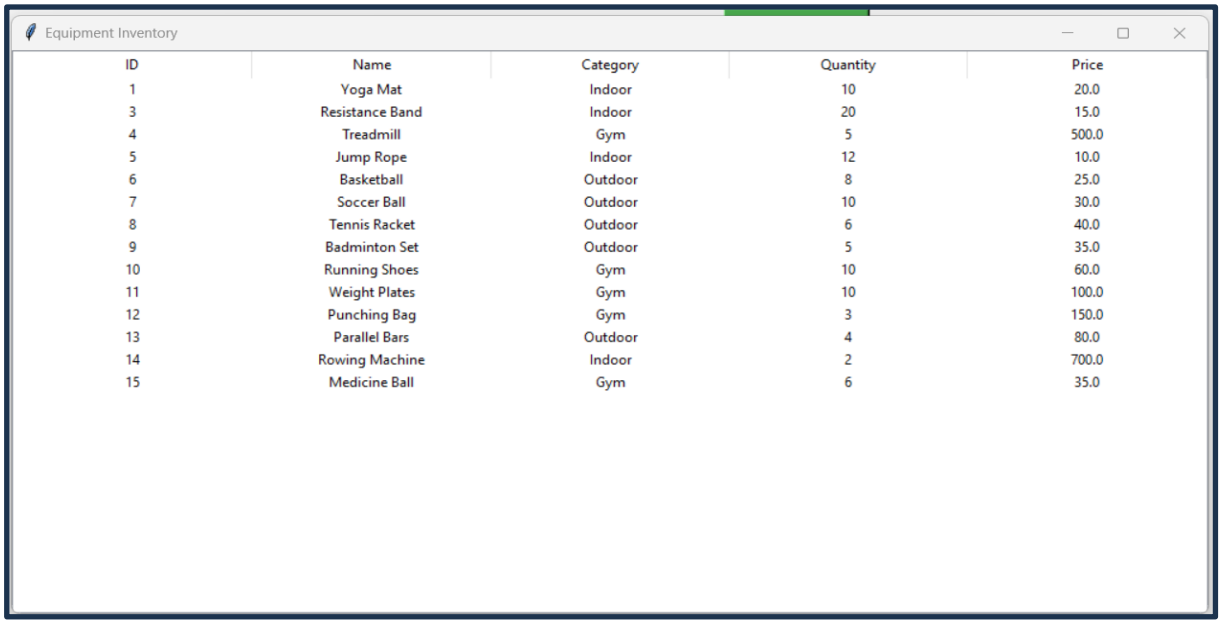
OUTPUT


Athletic Equipment Inventory
Welcome to Athletic Inventory
Manager
User
Exit

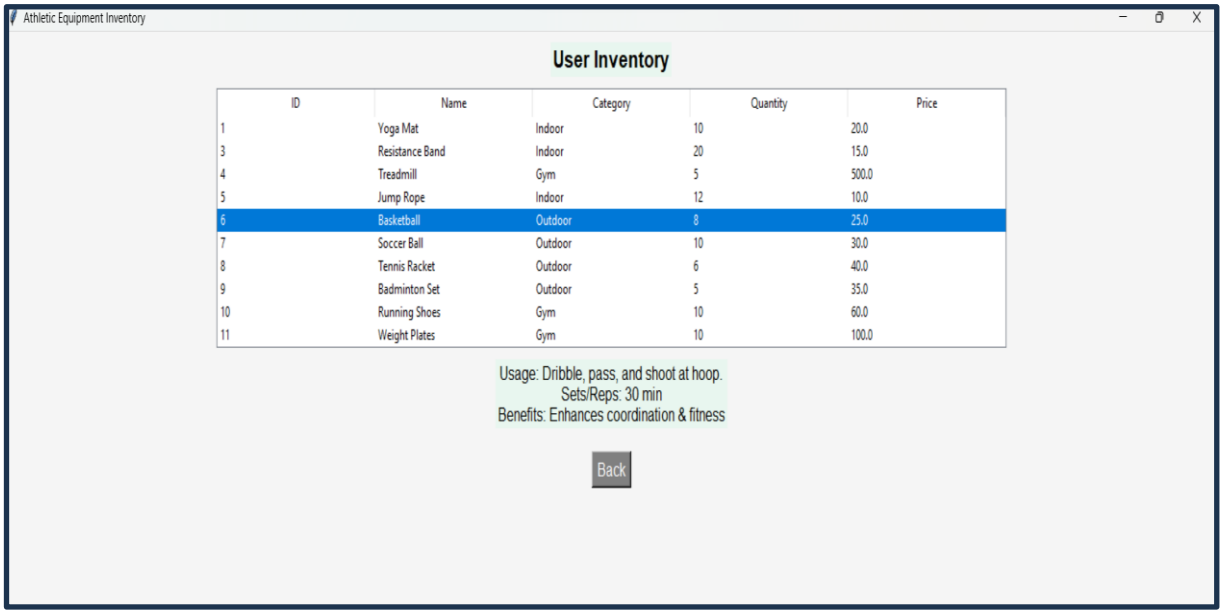

Athletic Equipment Inventory
Manager Login
Enter Password:
Login
Back


Athletic Equipment Inventory
Manager Dashboard
Add Equipment
View Equipment
Update Equipment
Delete Equipment
Logout





ID	Name	Category	Quantity	Price
1	Yoga Mat	Indoor	10	20.0
3	Resistance Band	Indoor	20	15.0
4	Treadmill	Gym	5	500.0
5	Jump Rope	Indoor	12	10.0
6	Basketball	Outdoor	8	25.0
7	Soccer Ball	Outdoor	10	30.0
8	Tennis Racket	Outdoor	6	40.0
9	Badminton Set	Outdoor	5	35.0
10	Running Shoes	Gym	10	60.0
11	Weight Plates	Gym	10	100.0
12	Punching Bag	Gym	3	150.0
13	Parallel Bars	Outdoor	4	80.0
14	Rowing Machine	Indoor	2	700.0
15	Medicine Ball	Gym	6	35.0



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8	Tennis Racket	Outdoor	6	40.0
9	Badminton Set	Outdoor	5	35.0
10	Running Shoes	Gym	10	60.0
11	Weight Plates	Gym	10	100.0

CONCLUSION

The Athletic Equipment Inventory Management System successfully streamlines the process of managing and tracking athletic equipment for both users and managers. Using Python, Tkinter for GUI, and SQLite for database management, the project ensures efficient inventory handling with a user-friendly interface.

For users, the system provides an easy way to browse available equipment, along with important details like usage instructions, recommended sets/reps, and benefits.

For managers, the system offers secure access to inventory operations, including adding, updating, viewing, and deleting equipment. The password-protected login ensures that only authorized personnel can modify data, enhancing security.

The project follows a structured and modular approach, making it scalable and maintainable. Additional features like report generation, search functionality, and a web-based version can be incorporated to enhance usability.

Overall, this project serves as an effective solution for managing athletic equipment in gyms, sports centers, and training facilities, providing a smooth and efficient inventory management experience.

REFERENCE

- **GeeksforGeeks - Tkinter Guide**
- **Real Python - SQLite & Python**