COLLEGE OF COMPUTER AND INFORMATION SCIENCE

Academic Year 2024 – 2025

PRACTICUM FINAL REPORT

Cliff Marvic Martinez COLIGADO

Submitted to the Faculty of Mapúa Malayan Colleges Laguna

In Partial Fulfillment of the Requirements for the Degree of

Bachelor of Science in Computer Science

Overview of Practicum Engagement

Company Background

Figure 1. TDK Philippines Corporation Logo

The student interned at TDK Philippines Corporation (TPC), a Japanese-owned electronics manufacturing company. It was established in May 1996 and is a subsidiary of TDK Corporation of Japan. Located at 119 East Science Ave., Laguna Technopark, Biñan, Laguna, Philippines, the company specializes in the production and export of high-precision electronic components, including inductors, camera module assemblies (CMAs), voice coil holders (VCHs), and optical image stabilizers (OIS). TPC is a key player in the electronics manufacturing industry and operates at the forefront of technological innovation.

Nature of Assignments or Tasks Given

During the internship, the student was assigned to the Information System Department (ISD), which oversees Information Technology operations, system development, and technical support within the company. As part of the onboarding process, the student attended a multi-day orientation program designed to introduce organizational policies, familiarize interns with the company environment, and outline expectations. Following orientation, the student was endorsed

to the infrastructure section under ISD, which manages the company's technological assets and systems infrastructure.

Upon endorsement, the student had an initial discussion with the supervising personnel regarding practicum goals and competencies. After a review of technical skills and past experiences, the student was assigned to develop a customized Inventory System for managing hardware and software assets under the group's responsibility. The department previously relied on manually updated spreadsheet files to track asset allocation across various employees and departments, which posed limitations in terms of efficiency, traceability, and long-term maintainability. To address this, the student designed and developed a web-based inventory solution capable of performing full Create, Read, Update, and Delete (CRUD) operations. Additional core features included data import and export capabilities, account-based web access, and system-generated audit logs to support traceability. The system aimed to streamline the management of company-owned devices and applications and provide a structured platform for asset monitoring.

The student utilized a modern technology stack to deliver the project. The frontend was developed using HTML and CSS, with Bootstrap 5 integrated to ensure responsiveness and cross-device compatibility. On the backend, ASP.NET Core MVC 8.0 was used to manage application logic, routing, and controller-based operations. For data persistence, MySQL was implemented to store inventory records and system logs. Development and testing activities were carried out using professional tools aligned with industry standards, with an emphasis on scalability, data integrity, and user experience. Throughout the deployment period, the student demonstrated consistent initiative in translating requirements into working solutions while adhering to software

development best practices. Emphasis was placed on producing clear and organized documentation to accompany the system.

Total Hours Rendered

The student successfully completed a total of 324 hours during the practicum. As detailed in Table 1.0, 20 hours were dedicated to company orientation, where the student was introduced to the organization's background, operational policies, and available facilities. A total of 40 hours was allocated for hosting and testing the web application within a private intranet environment, specifically to evaluate multi-user functionality and system performance. The majority of the practicum, amounting to 244 hours, was spent on the development phase, where the student focused on designing, building, and refining the web application to meet project specifications.

Table 1.0
Summary of Hours Rendered

Task	Hour Count		
	Development	**Documentation**	**Total**
Company Orientation	-	20	20
Prototype GUI	-	8	8
Meetings	-	12	12
ISD Inventory System Web Application	220	24	244
Hosting	36	4	40
Total	**256**	**68**	**324**

Presentation of Output

Prototype and Diagrams

During the first week of the internship, the student was assigned to develop a prototype graphical user interface (GUI) for the planned web-based inventory system. This initial task served as a structural guide for the development process and provided a visual format to be followed during system implementation. The prototype was also utilized to present the student's conceptual design and feature proposals to the supervising personnel, facilitating discussion and feedback regarding the system's functionality, usability, and overall feasibility.

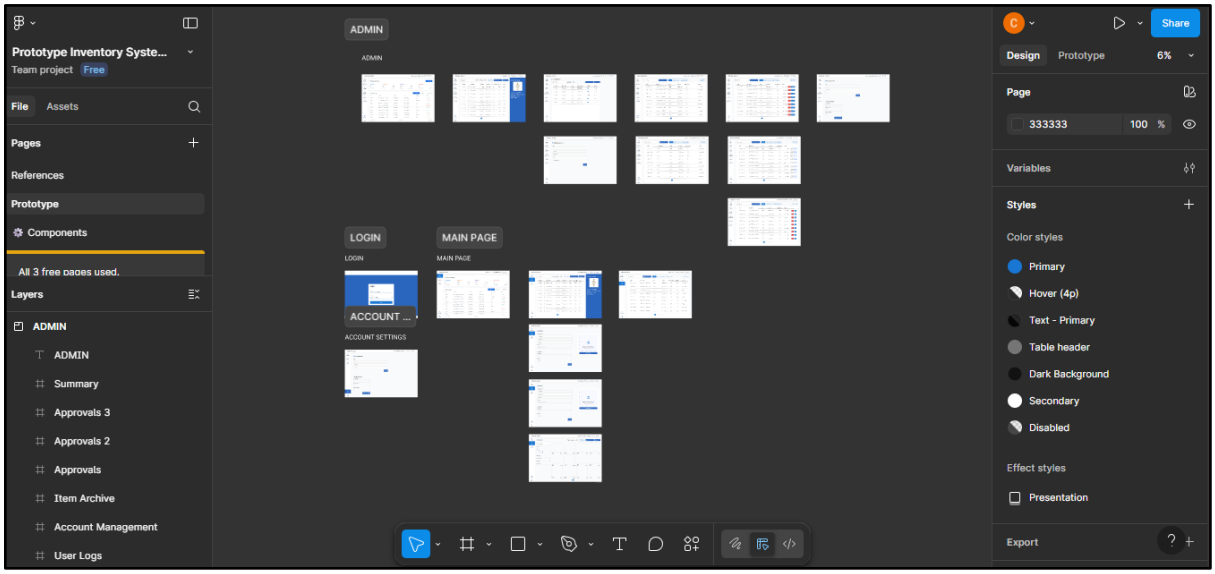

Figure 2. Figma Prototype Project Space

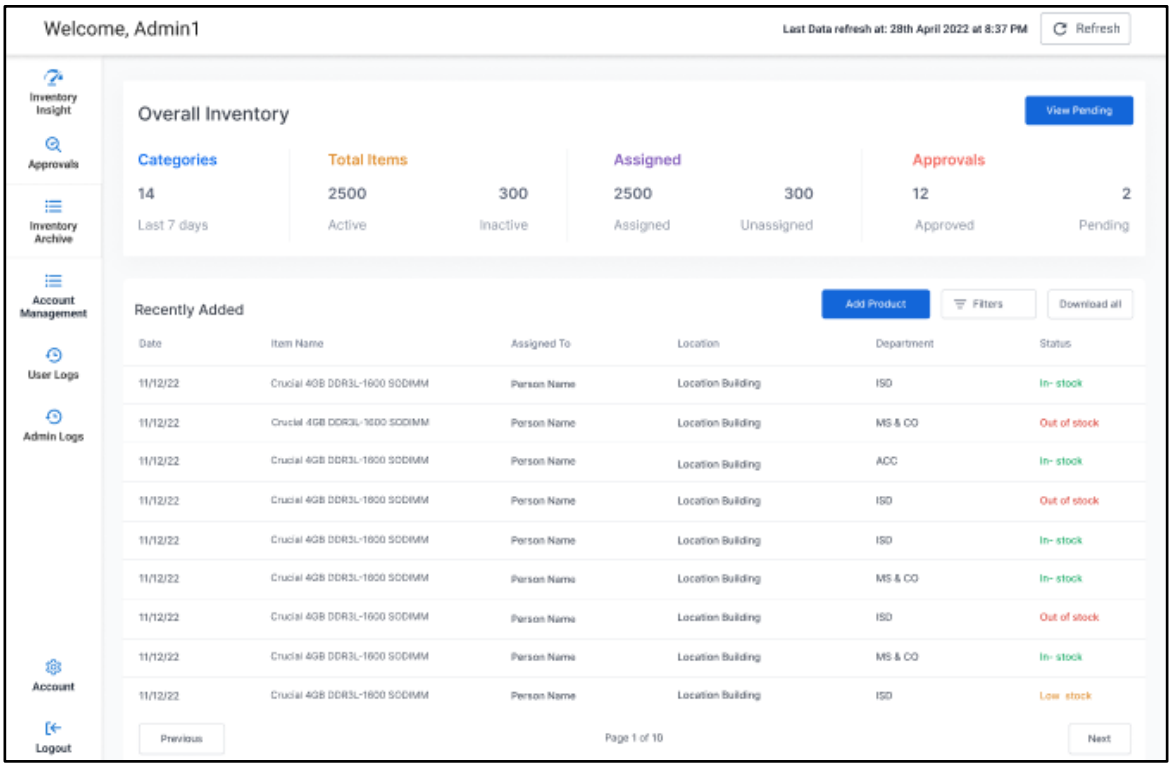

Figure 3. Sample Page Prototype

Alongside the development of the prototype user interface, the student was assigned the task of designing an entity relationship diagram (ERD) that would accurately reflect the core functionalities and expected output of the system. This ERD (fig. 4) served as the foundational reference for structuring the application's database schema and mapping the relationships between key data entities. The initial design was reviewed and approved, and it continued to evolve throughout the development process to align with functional enhancements and system requirements. Presented below is the finalized ERD that represents the current data architecture of the web application.

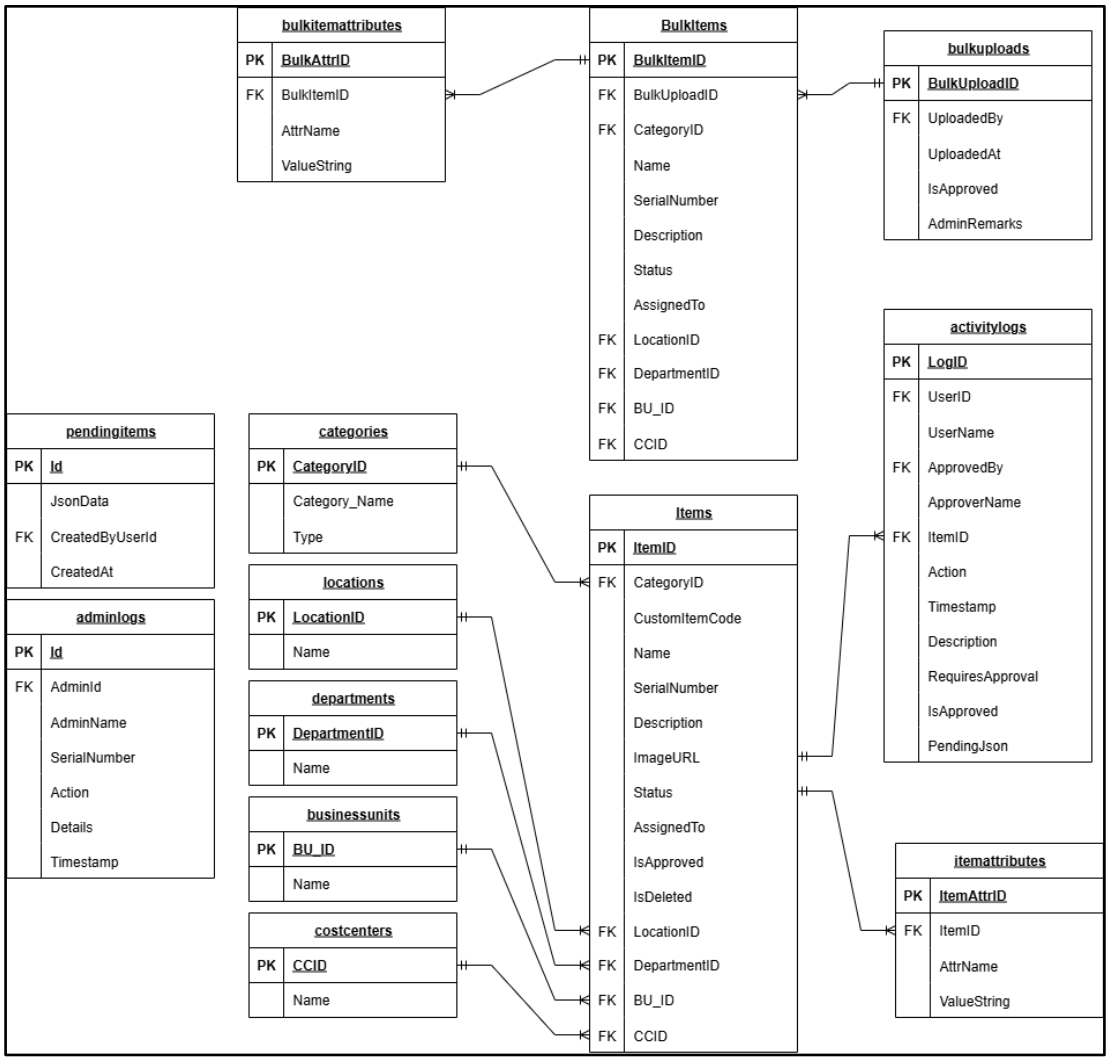

Figure 4. Inventory System Entity Relationship Diagram

Table 2.0
Database Table Names and Descriptions

Table Name	Description
Items	Main table containing all relevant item information.
itemattributes	Stores attributes of all items. (e.g. Laptop (HDD, RAM, CPU))
activitylogs	Tracks all user actions towards items.
categories	Stores all existing item categories. (Hardware, Software, Accessories)
locations	Stores locations in the company.

Table 2.0 (cont'd)
Database Table Names and Descriptions

Departments	Stores departments in the company.
businessunits	Stores business units in the company.
costcenters	Stores cost centers in the company.
BulkItems	Temporarily contains all item information of incoming imported items.
bulkitemattributes	Stores attributes of items in BulkItems.
bulkuploads	Tracks all bulk imports.
pendingitems	Temporarily contains item information of recently created items.
adminlogs	Tracks all admin actions.

In addition to preparing the prototype design, the student was tasked with creating a sitemap as part of the early documentation phase. This exercise served both as a practical opportunity to gain experience in organizing system architecture and as a visual reference for outlining all pages included in the web application. The sitemap was designed to represent the overall structure of the system, highlighting the hierarchical arrangement of modules and their navigational flow.

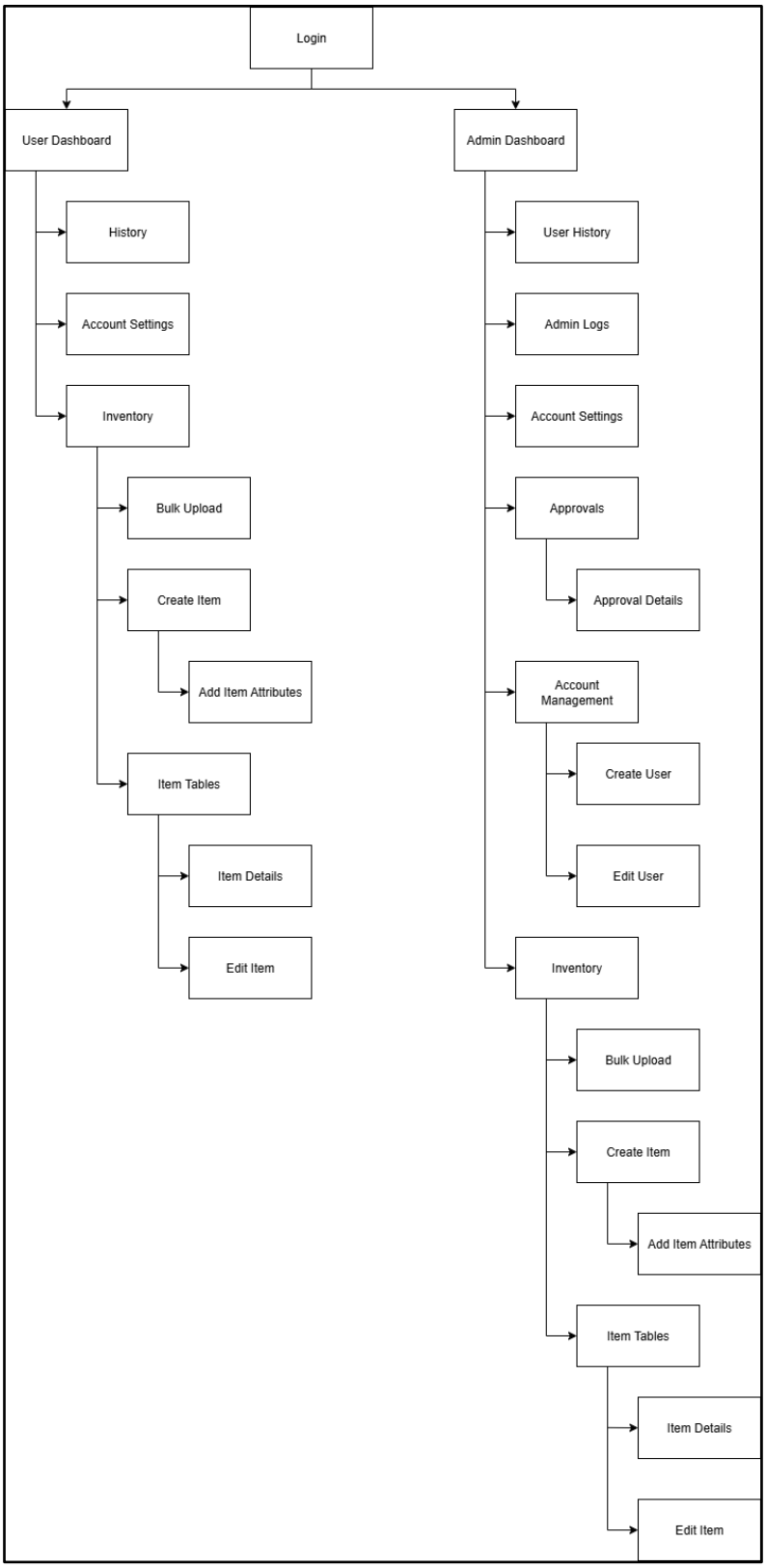

Figure 5. Sitemap Diagram

ISD Inventory System Web Application

Following the development of the initial graphical user interface (GUI) prototype, the web application project will start implementing the planned functions. The system was designed to offer a user-friendly platform for managing company assets through a centralized item listing supported by structured database storage. Its core objective is to ensure accurate tracking of item ownership and detailed record-keeping to support asset accountability and lifecycle visibility. Key functionalities of the application include authentication, account and role management for Admin and User types, comprehensive item handling, and the ability to generate printable reports for documentation and analysis.

The dashboard module (fig. 6-7), available to both Admin and User accounts, provides consolidated information such as total item counts by category, a list of recently modified items, and a summary of recent activity. It also features interactive visual representations including graphs showing item trends over time and distributions based on category, business unit, or location which offers users insights for monitoring asset status and usage across the organization.

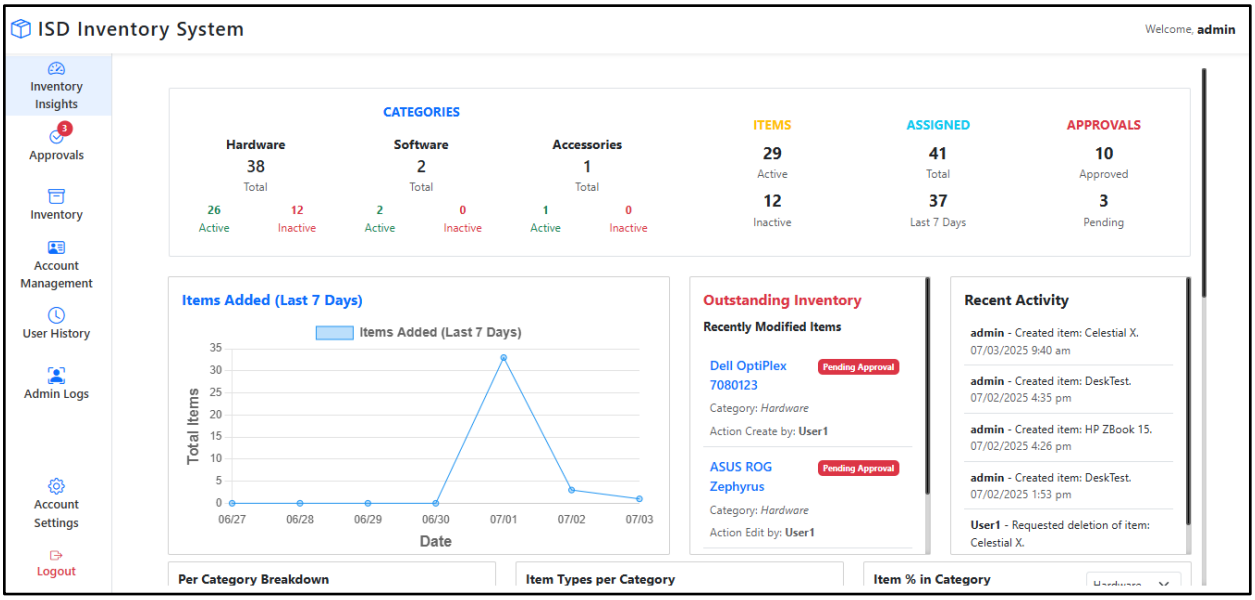

Figure 6. Dashboard Page

Figure 7. Dashboard Page

The approvals page (fig. 8) is responsible for overseeing and managing actions submitted by user roles within the system. It presents a comprehensive list of user-initiated operations, accompanied by relevant details necessary for review. This module is accessible to accounts with administrative privileges, allowing them to evaluate and either approve or disapprove actions such as item creation, editing, or deletion. Each entry in the approvals list specifies the type of action performed whether Create, Edit, or Delete, along with the corresponding item information to support informed decision-making and ensure proper oversight of system activities.

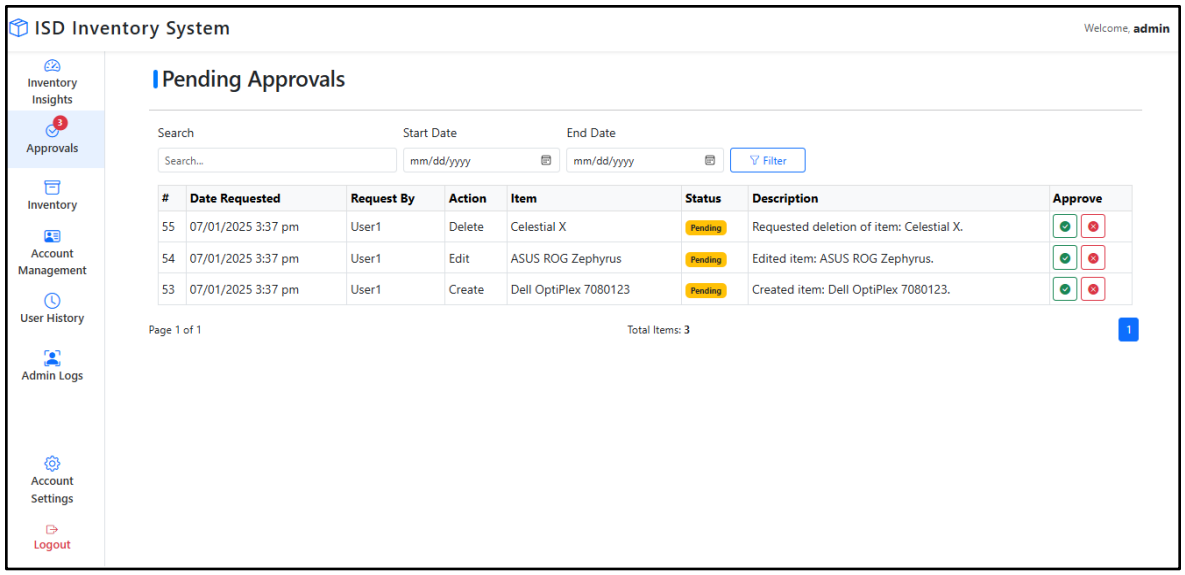

Figure 8. Approvals Page

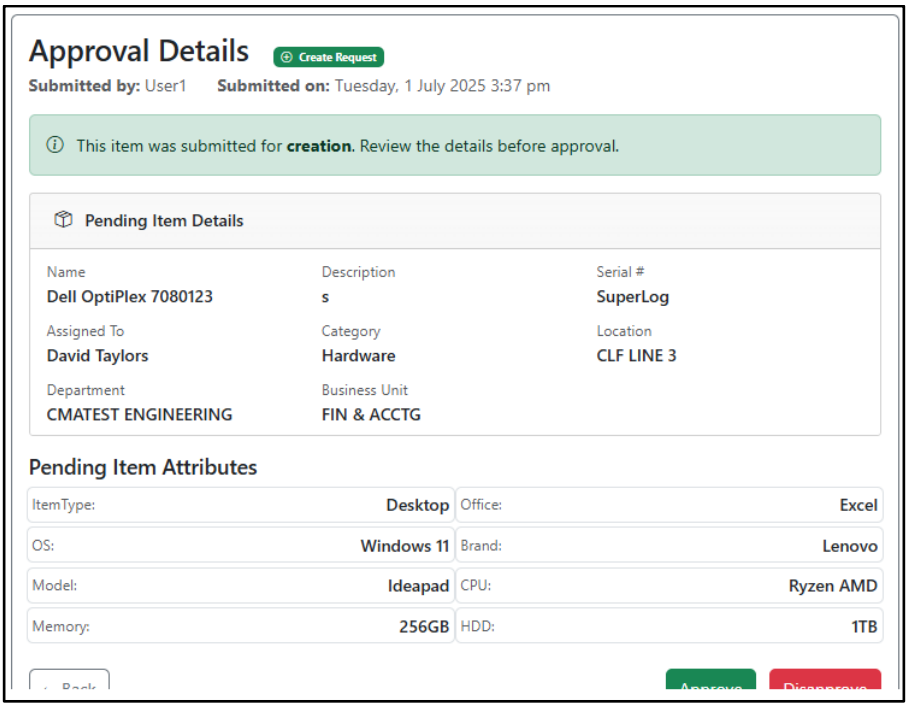

Figure 9. Approval Details

The Inventory page serves as a centralized interface displaying the complete catalog of all assets recorded in the system. Users with administrative privileges have access to both active and inactive items, while standard users are limited to viewing only active items. Each item type is

clearly categorized, with corresponding listings that include comprehensive item details. This module also supports core item management operations, allowing authorized users to create new entries, modify existing data, or remove items as necessary.

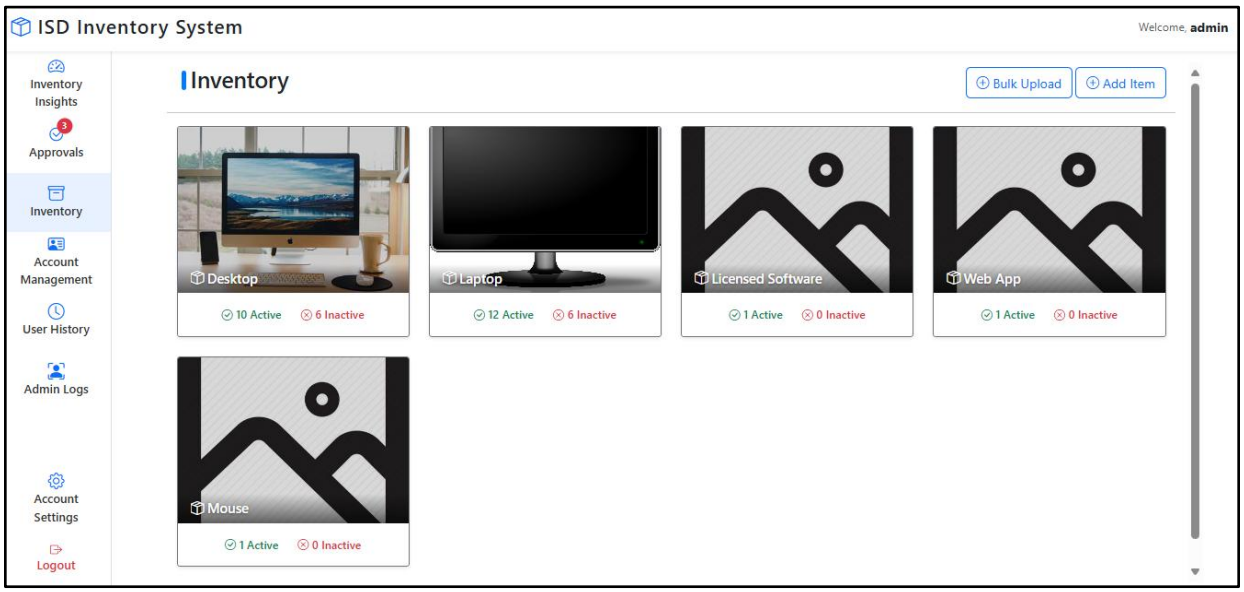

Figure 10. Inventory Page

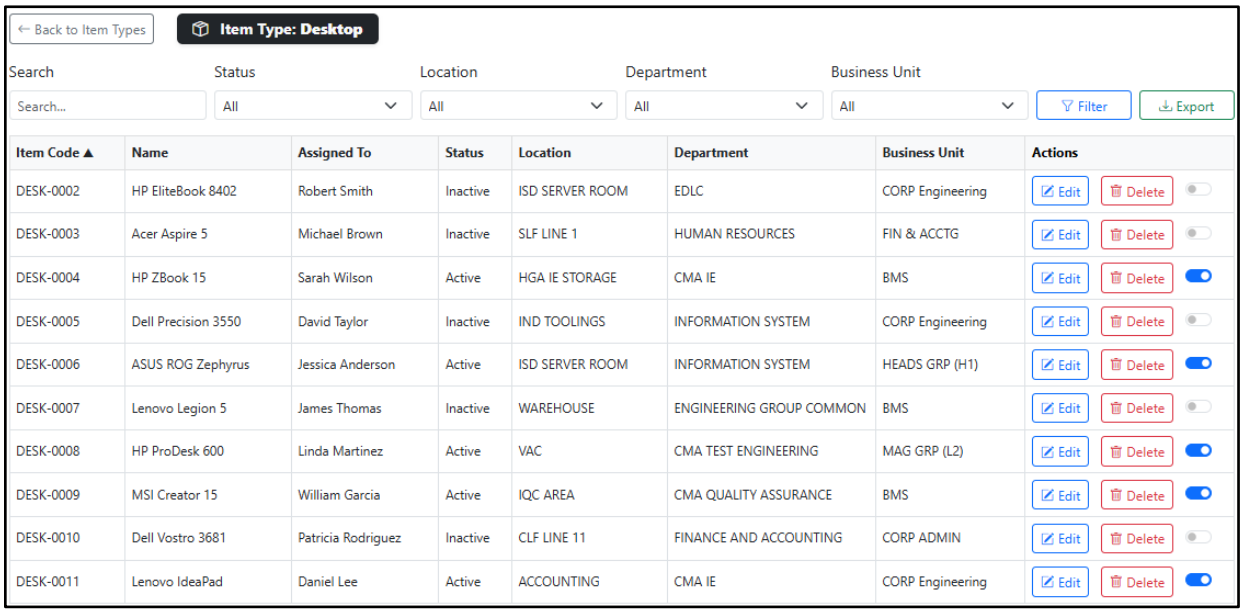

Figure 11. Item List Page

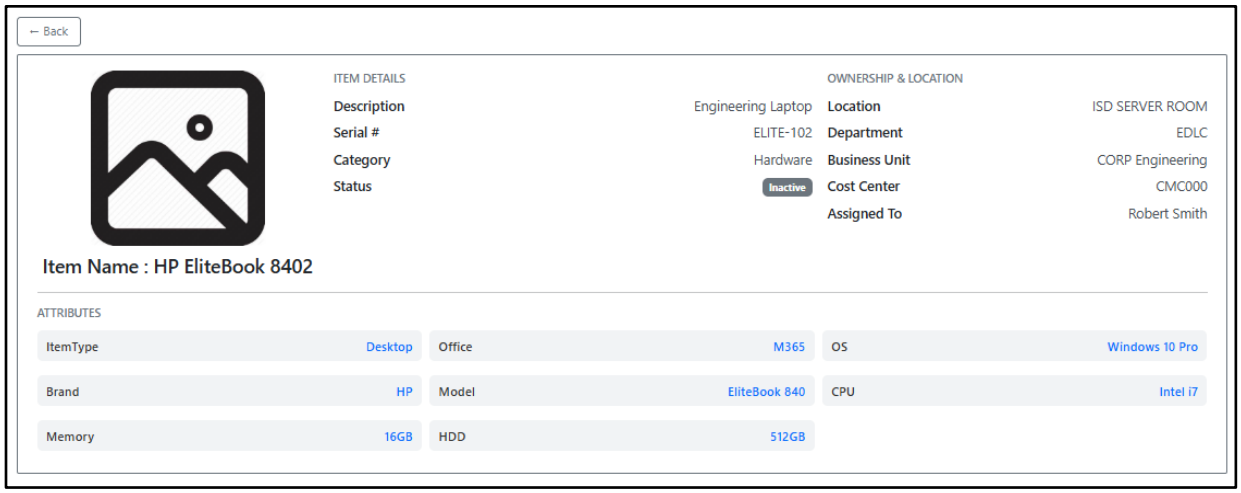

Figure 12. Item Details Page

The Account Management page (fig. 13) enables administrators to create and assign user accounts within the web application, utilizing the ASP.NET Identity framework for secure authentication and user management. Through this module, administrators are able to designate unique usernames and passwords, which are securely stored and managed by the system. To support ongoing credential maintenance, the application includes an Account Settings page where users can update their passwords and manage related authentication settings. This implementation not only streamlines account provisioning but also enforces security best practices by using the built-in features of ASP.NET Identity for identity validation, password hashing, and role-based access control.

Figure 13. Account Management Page

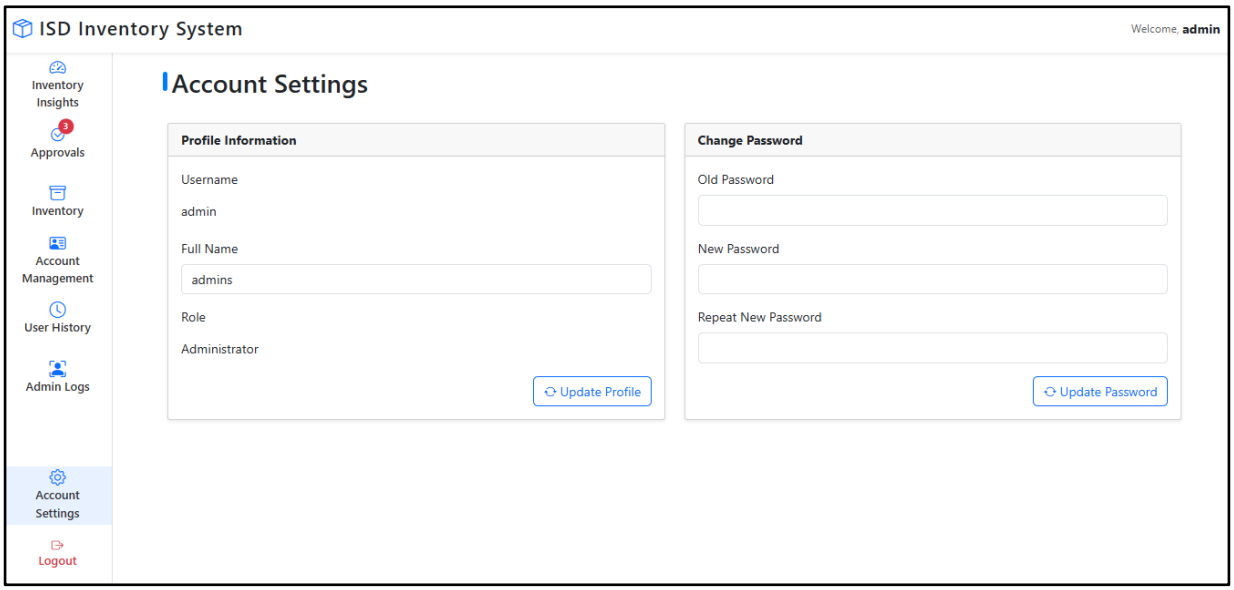

Figure 14. Account Settings Page

The Admin Module includes two logging components designed to support accountability and system oversight. The User History section displays a comprehensive record of all actions performed by users within the application. This log includes essential details for each activity and offers filtering capabilities to help administrators locate specific events. It also supports data export for reporting or audit purposes. In parallel, the Admin Activity Logs (fig. 16) capture all actions

executed by users with administrative privileges. Like the User History (fig. 15), this section allows for filtering and export of records, ensuring that all administrative operations are transparent and well-documented for future reference.

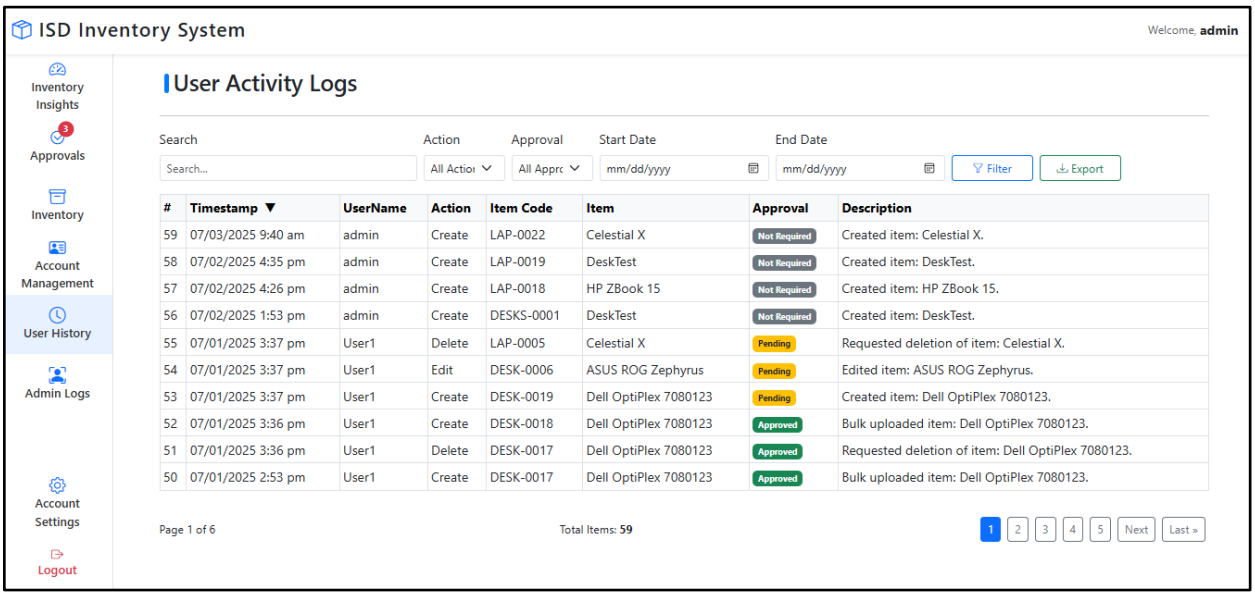

Figure 15. User History Page

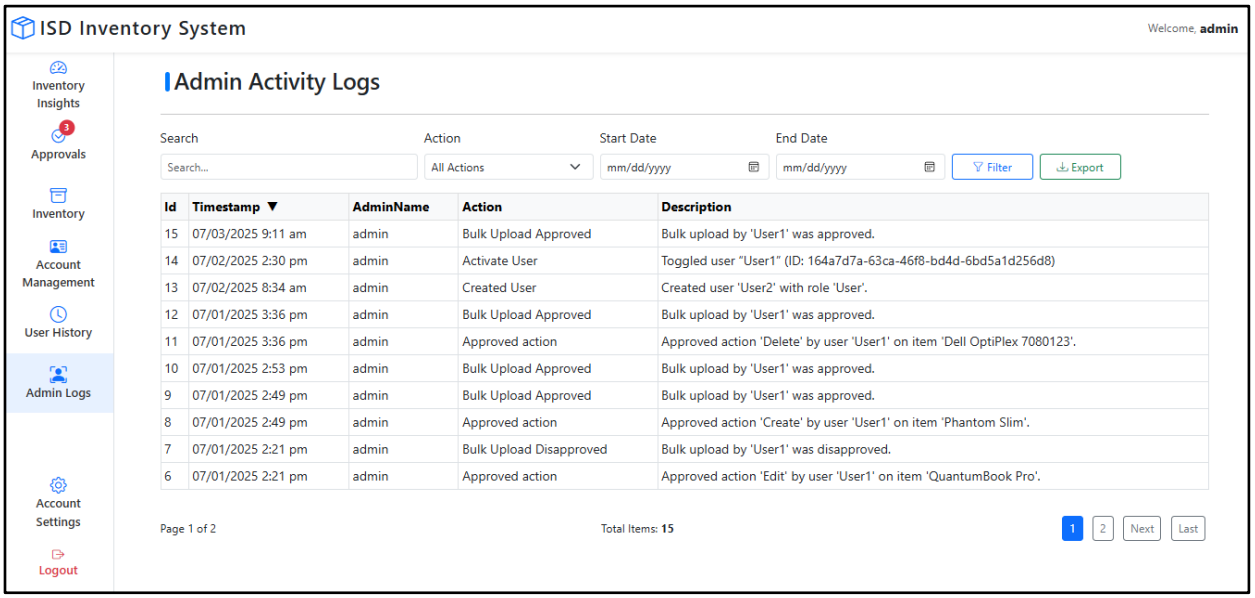

Figure 16. Admin Logs Page

The User Module also has a dedicated Dashboard page, Inventory page, and History page. Except that for the first two is essentially the same as Admin Module but only with active items. Moreover, the History page only reflects actions made by the user signed in.

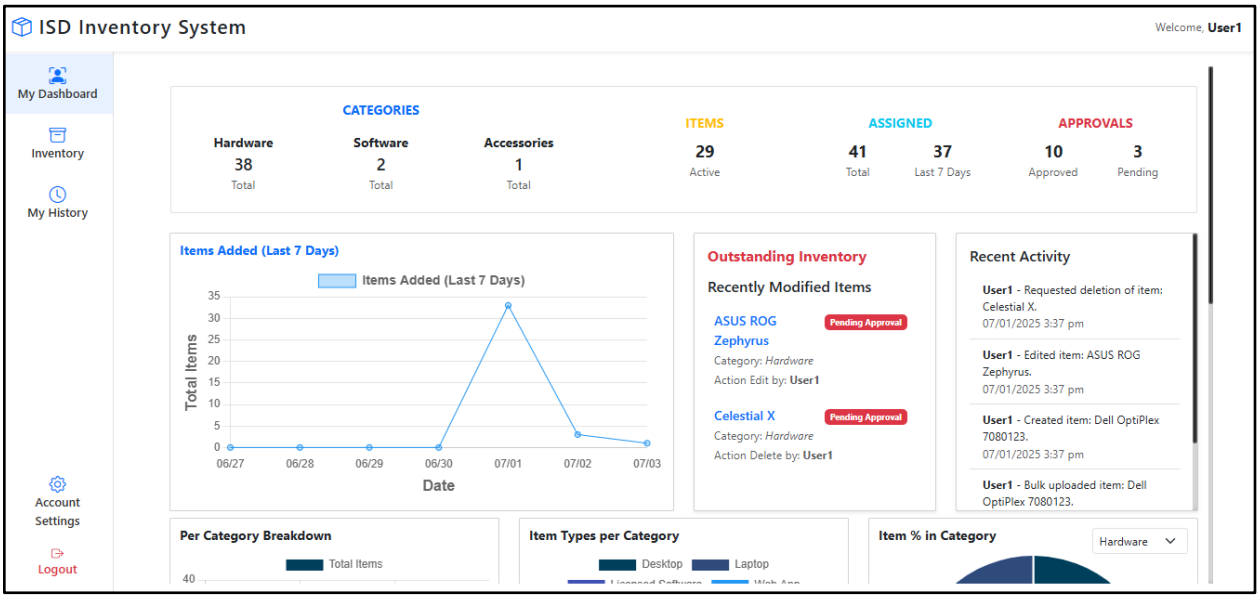

Figure 17. User Dashboard Page

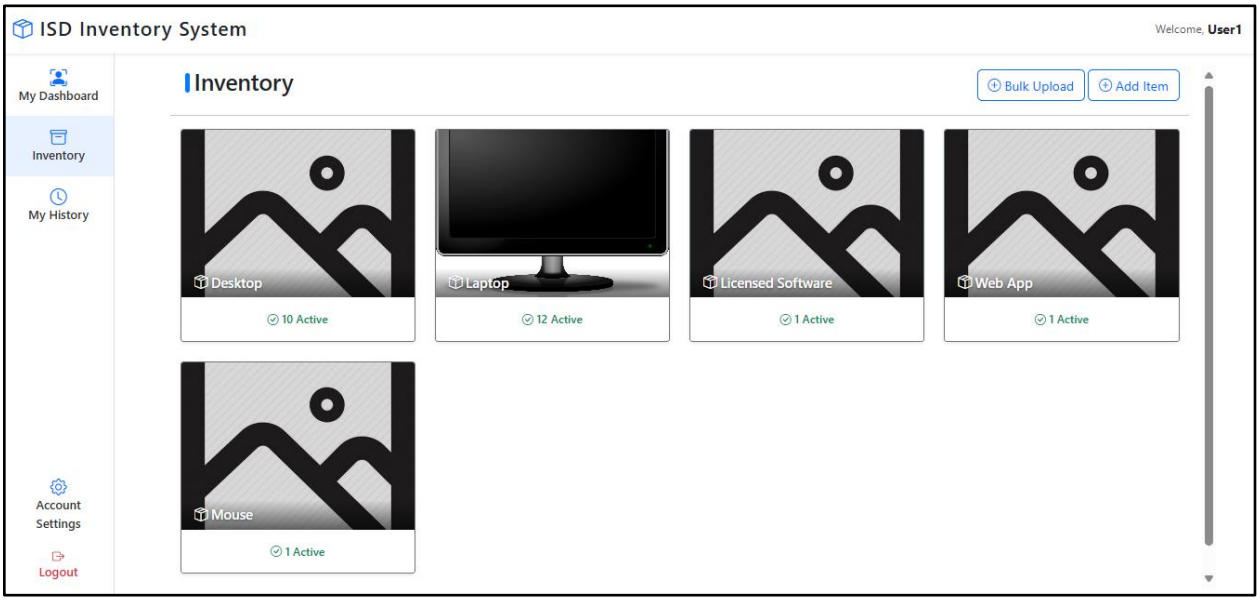

Figure 18. Inventory Page - User Module

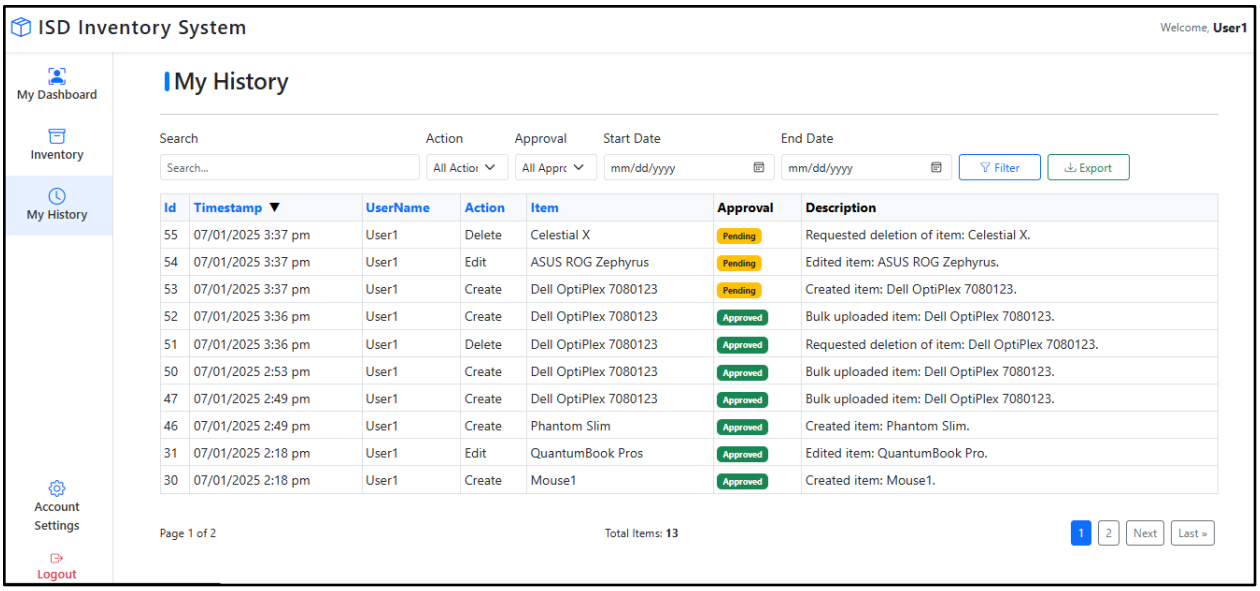

Figure 19. History Page - User Module

Synthesis of the Practicum Engagement

Learnings

The practicum experience at TPC provided a valuable opportunity for the student to transition from academic theory to hands-on industry practice. Immersed in a professional environment, the student engaged in meaningful tasks that reinforced technical competencies while cultivating essential soft skills. Through active participation in real-world projects and collaboration with experienced professionals, the student gained insights that extended beyond coding and enriched their perspective on teamwork, communication, and personal growth within a workplace setting.

During the practicum at TPC, the student was able to learn a variety of knowledge and skills that are highly applicable to a career in software engineering and development. In addition to the practical experience gained from developing the application, the student enhanced their interpersonal abilities through continuous collaboration with their superior throughout the

system’s development. One of the most significant realizations during this period was the value of being encouraged to ask thoughtful questions. This openness fostered clearer communication, prompted insightful feedback, and allowed the student to benefit from the shared experience and knowledge of other department members. Furthermore, the student recognized the importance of discipline in a professional setting, particularly the need to establish a consistent work schedule and develop sustainable habits which are key qualities that will carry forward into future roles and responsibilities.

During the practicum, the student gained valuable technical experience, particularly in integrating MySQL databases with Visual Studio using Entity Framework Core alongside the Pomelo library. This exposure enabled the student to deepen their understanding of how object-relational mapping facilitates seamless communication between a .NET application and a MySQL backend.

The student also developed their proficiency in ASP.NET Core by exploring its key backend features such as routing, dependency injection, middleware configuration, and controller-action structure. This led to a clearer grasp of how the framework supports modularity.

Complementing backend skills, the student worked extensively with HTML, CSS, and JavaScript to create interactive and responsive user interfaces. They practiced structuring content, styling layouts, and handling basic user interactions, which contributed to a better understanding of front-end development principles.

In addition, the student utilized Bootstrap to enhance the application's design consistency and responsiveness. Through this experience, they learned how to apply the Bootstrap grid system, components, and utility classes to build mobile-friendly, user-centered interfaces efficiently.

Working with MySQL independently, the student gained experience in designing relational schemas, managing data using queries, and handling database migrations. They learned how to structure data relationships appropriately and apply SQL operations to support system functionalities.

Finally, the use of Entity Framework Core in combination with Pomelo empowered the student to implement core CRUD (Create, Read, Update, Delete) operations through a clean and maintainable approach. The smooth handling of data operations further reinforced best practices in database abstraction and application-level data management.

Realizations

The internship experience provided the student with meaningful insights into the real-world application of concepts introduced throughout the Computer Science curriculum. One of the most significant realizations was the critical importance of having a strong foundational knowledge as a developer. Applying best practices from the onset of development helps minimize errors and reduces the need for time-consuming corrections later. The student recognized that becoming deeply familiar with proper software engineering processes is essential to building a reliable and efficient workflow, and that further self-development in this area remains a key priority.

Additionally, the student learned the value of structured planning in software development. By outlining conceptual features early in the project, they were able to move forward with greater clarity and purpose. While certain aspects of the practicum still revealed gaps in planning, these moments served as practical lessons that highlighted the importance of foresight and strategic thinking.

The most transformative realization was the role that experience plays in both personal and professional growth. Mistakes were not merely setbacks, but opportunities for reflection and learning. The student gained a deeper appreciation for learning from both personal missteps and the insights shared by experienced colleagues. Engaging with professionals in the same field provided valuable feedback that enriched their learning journey.

Ultimately, the student came to understand the ever-evolving nature of the technological landscape. Recognizing the need to stay informed about new tools, trends, and methodologies, they emphasized the importance of continuous learning. Embracing modern problems with modern techniques and using them to apply modern solutions will be essential in future challenges in software development.

Conclusion

The student gained significant experience throughout the internship at TPC, enhancing both technical competencies and soft skills essential for success in future professional environments. This practical engagement served as a valuable opportunity to deepen knowledge in web application development, while also instilling a strong sense of discipline and work ethic. The student learned to manage time effectively, meet deadlines, and complete development modules within the expected timeframe.

The development of the ISD Inventory System served as a comprehensive test of the student's capabilities. It highlighted areas of strength as well as aspects in need of improvement, enabling the student to reflect critically on their own skills. This project reinforced the importance of establishing a solid technical foundation and the value of proper planning during the early stages of development. Additionally, the student discovered more efficient methods for implementing front-end features and enhancing user experience.

Ultimately, the internship became a pivotal experience in the student's academic and professional growth. It fostered greater technical proficiency, sharpened interpersonal skills, and inspired a deeper commitment to continuous learning. The insights and realizations gained during this period left a lasting impression and will serve as a guiding influence as the student moves forward in pursuit of a career in the software development industry.

Appendices

Appendix A
Resume

Cliff Marvic M. Coligado

Cabuyao, Laguna | cmrvc.coligado@gmail.com | 2021cmmcoligado@live.mcl.edu.ph | 0919 005 8783
www.linkedin.com/in/cmmcoligado

EDUCATION

Mapúa Malayan Colleges Laguna — **Cabuyao, Laguna**
Bachelor of Science in Computer Science | GWA: 1.58 — *August 2021 - Present*

- **Relevant Coursework:** Software Engineering, Data Analytics, Machine Learning, IT Infrastructure and Network Technologies, Information Assurance and Security, System Fundamentals
- **Awards/Honors:** President's List Awardee A.Y. 2023-2024
  Dean's Lister A.Y. 2023-2024 (1st - 3rd Term)
  President's List Awardee A.Y. 2022-2023
  Dean's Lister A.Y. 2022-2023 (1st - 3rd Term)

Colegio de San Juan de Letran - Calamba — **Calamba, Laguna**
Letran Science High School Graduate — *July 2019 - May 2021*

- **Awards/Honors:** With Highest Honors A.Y. 2020 - 2021
  With High Honors A.Y. 2019 - 2020

Colegio de San Juan de Letran - Calamba — **Calamba, Laguna**
Letran Science High School Completer — *June 2015 - April 2019*

- **Awards/Honors:** With Honors A.Y. 2018 - 2019
  Bronze Achiever A.Y. 2016 - 2017

CERTIFICATIONS

- **TOEIC** — *March 2025*
- **CompTIA IT Fundamentals (ITF+) Certification** — *July 2024*
- **Google Cloud Essentials** — *September 2023*

SKILLS & INTERESTS

- **Programming**: Python, C#, JavaScript
- **Web Development:** HTML, CSS, React, Node.js
- **Databases:** MySQL, SQLite
- **Software Development:** OOP, Git/GitHub
- **Mobile Development:** Xamarin
- **Cloud:** AWS, Google Cloud
- **ML & Data Science:** Pandas, NumPy
- **Tools:** VS Code, Jupyter, Visual Studio
- **Soft Skills:** Problem-Solving, Collaboration, Time Management, Self-Learning
- **Languages:** English (TOEIC 955), Filipino, Basic Japanese

ORGANIZATIONS

Junior Philippine Computer Society - Mapúa Malayan Colleges Laguna — *2023 - Present*
Member

Appendix B
Endorsement Letter

MAPÚA MALAYAN COLLEGES LAGUNA

CCIS COLLEGE OF COMPUTER AND INFORMATION SCIENCE
MAPÚA MALAYAN COLLEGES LAGUNA

02 April 2025

MS. NOREEN TAN
Manufacturing Manager, TDK Philippines Corporation
119 E Science Ave., Laguna Technopark, Binan, Laguna

Dear Ms. Tan,

The BS Computer Science program of Mapúa Malayan Colleges Laguna requires their students to undergo a Practicum program for a minimum of 324 hours during the third term of our academic calendar.

We would like to request that Mr. Cliff Marvic M. Coligado be permitted to have his training in your company. We believe that your company can provide the relevant exposure necessary for our students to achieve the intended learning outcomes for the BS Computer Science program. We are confident that he will be able to acquire the practical knowledge and skills expected from a Computer Science graduate which, in turn, would guarantee a continuous supply of CS professionals needed by your company.

We thank you for your favorable action and we look forward to a more meaningful linkage that is mutually beneficial to our students and your company.

With warm regards,

Jonalyn G. Ebron

JONALYN G. EBRON
BS Computer Science Program Chair
College of Computer and Information Science
Mapúa Malayan Colleges Laguna

jgberon@mcl.edu.ph
(049) 832-4076

Human Resources Department
RECEIVED
BY: ELIZA QUEEN V. ALICANDO
DATE: 4/2/25 TIME:

Address : Pulo Diezmo Road, Cabuyao City, Laguna 4025
Trunkline: +63 (49) 832-4000
Fax : +63 (49) 832-0017, +63 (2) 8520-8975
Email : mclinfo@mcl.edu.ph

Appendix C
Practicum Acceptance

MAPÚA
MALAYAN COLLEGES
LAGUNA

PRACTICUM CONFIRMATION AND ACCEPTANCE FORM

IMPORTANT INFORMATION

- STUDENTS ACCEPTED FOR PRACTICUM IN A HOST COMPANY WILL HAVE TO ACCOMPLISH THIS FORM.
- ASK THE PRACTICUM SUPERVISOR/ COMPANY REPRESENTATIVE TO FILL IN THE DETAILS OF THE TRAINING.
- SUBMIT TO THE PRACTICUM ADVISER/COORDINATOR PRIOR TO THE START OF TRAINING.

NAME OF STUDENT	CLIFF MARVIC M. COLIGADO	**STUDENT NUMBER**	2021151649
COURSE CODE	CS199F	**SY/TERM ENROLLED**	2024-2025 / 3RD T

This is to certify that CLIFF MARVIC M. COLIGADO *(name of student-trainee)* has been accepted for practicum at TDK ~~Electronics~~ Philippines Corporation 119 E Science Ave, Laguna Technopark, Biñan, Laguna *(name and address of establishment)* and will be attached to the ISD department/s for a minimum of, but not limited to 324 hours. Training will commence on May 6, 2025 and is expected to end on July 1, 2025. Attached is the list of requirements.

COMPANY REPRESENTATIVE

CYNTHIA PLASUELO
Signature over Printed Name

HR - DIRECTOR
Official Designation

HRD
Department

0956-769-2587
Email and Contact Number/s

NOTED BY

Signature over printed name of Practicum Coordinator

Date

COPY: (1) STUDENT; (2) HOST COMPANY; (3) PRACTICUM COORDINATOR

FORM OVPAA 030B

THIS FORM IS AVAILABLE AT THE OVPAA.

REVISION NO.: 00
REVISION DATE: May 10, 2016

MAPÚA
MALAYAN COLLEGES
LAGUNA

PRACTICUM CONFIRMATION AND ACCEPTANCE FORM

IMPORTANT INFORMATION

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- ASK THE PRACTICUM SUPERVISOR/ COMPANY REPRESENTATIVE TO FILL IN THE DETAILS OF THE TRAINING.
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NAME OF STUDENT	CLIFF MARVIC M. COLIGADO	**STUDENT NUMBER**	2021151649
COURSE CODE	CS199F	**SY/TERM ENROLLED**	2024-2025 / 3RD T

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COMPANY REPRESENTATIVE

CYNTHIA C PLASUELO
Signature over Printed Name

HR DIRECTOR
Official Designation

HRD
Department

0956-769-2587
Email and Contact Number/s

NOTED BY

Signature over printed name of Practicum Coordinator

5/10/2025
Date

COPY: (1) STUDENT; (2) HOST COMPANY; (3) PRACTICUM COORDINATOR

FORM OVPAA 030B

THIS FORM IS AVAILABLE AT THE OVPAA.

Appendix D
Liability Waiver

MAPÚA
MALAYAN COLLEGES
LAGUNA

REVISION NO.: 00
REVISION DATE: May 10, 2016

STUDENT TRAINING AGREEMENT AND LIABILITY WAIVER

IMPORTANT INFORMATION

- THIS FORM IS TO BE ACCOMPLISHED AND SUBMITTED BY STUDENT TRAINEE TO THE PRACTICUM ADVISER BEFORE STARTING THE PRACTICUM.
- READ AND UNDERSTAND THE PROVISIONS OF THIS AGREEMENT AND WAIVER.
- ENSURE THAT ALL SIGNATORIES SIGN THE FORM.

I, CLIFF MARVIC M. COLIGADO, and a student of MALAYAN COLLEGES LAGUNA (hereinafter referred to as "MCL", do hereby voluntarily undergo on-the-job training at TDK PHILIPPINES CORPORATION, hereinafter referred to as the **"Host Company"**, located at 119 E Science Ave, Laguna Technopark, Binan, Laguna, under the following terms and conditions:

a. That the practicum training will commence on May 06, 2025 and ends on July 1, 2025 and will have to complete a minimum of 324 hours required for the on-the-job training;

b. That I shall observe proper decorum and act professionally at all times and abide by the Company's rules and regulations and comply with those imposed for the training program, otherwise, I shall be excluded from further participation;

c. That in the course of my training program, I may have access to information which may be of confidential in nature and proprietary to the Company, for which I may be required to execute a confidentiality and non-disclosure agreement as a prerequisite to my participation in the training program;

d. That the time I will spend on the training program in the completion of my on-the-job training requirements will not and should not be interpreted or construed as working hours and should be regarded as non-compensable. Provided that, the Company may, as a unilateral act of liberality or generosity on their part, provide me with meal, travel, transportation allowances, accommodations, etc.;

e. That I fully understand that notwithstanding the allowances enumerated in the preceding section which I may receive, there exists no labor-management and/or employer/employee relationship between me and the Company where I will undergo my training;

f. That I shall exercise due care and diligence in the tasks assigned to me and personally be made answerable for any and all liabilities for damage to property or injury to third person, which may be occasioned by my intentional or negligent acts during the course of my on-the-job training;

g. That I shall likewise hold the Host Company and MCL free and harmless from any and all liability and responsibility for any sickness or injury to myself and third parties and damage to property which I may sustain and/or may occur at any time during the training program, including time spent in traveling to and from any and all premises and locations where I may be required to go to as part of my training program;

h. That the Company reserves the right to discontinue my training on reasonable grounds upon written notice to MCL and myself. Additionally, in the event my training program is discontinued for reasons attributable only to myself, I may be made to reimburse the Host Company for any/all the allowances, stipends, etc., which I may have received from them during and prior to the termination of my training program;

i. That in addition to my liability under section *g* and for the pre-termination of my training program provided for under section *h* hereof, I may be subjected further to disciplinary action in accordance with the school's student manual and/or be a ground for disqualification from graduation;

Signed on this 6th day of May 2025.

CLIFF MARVIC M. COLIGADO
Signature over printed name of **Student Trainee**

WITH OUR CONSENT:

Signature over printed name of **Parent/Guardian**
(for minors only)

NOTED BY:

Printed Name and Signature of **Practicum Adviser/ Coordinator**

CYNTHIA C PLASNETO
Printed Name and Signature of **Host Company Representative**

COPY: (1) STUDENT; (2) HOST COMPANY; (3) PRACTICUM ADVISER; (4) PRACTICUM COORDINATOR

FORM OVPAA 030C
THIS FORM IS AVAILABLE AT THE OVPAA.

Appendix E
Training Plan

MAPÚA
MALAYAN COLLEGES
LAGUNA

REVISION NO.: 00
REVISION DATE: May 10, 2016

TRAINING PLAN

NAME	Cliff Marvic M. Coligado	COURSE CODE	CS199F
PROGRAM & STUDENT NO.	BSCS 2021151649	COURSE TITLE	CS PRACTICUM

STUDENT OUTCOMES

CO1. Identify, analyze, and design business process solution to the problem faced by the organization.

CO2. Apply the different concepts of systems analysis and design, software engineering, database management, and programming courses in

the problem solving process in the organization, and

CO3. Acquire new knowledge and experience while in the organization.

AREAS / PHASES OF TRAINING AND TIME ALLOTMENT

A. Company Orientation / Training Orientation - 16 hours

B. Software Development (including but is not limited to development of Gantt Chart, UI/UX Design, and Testing Phase Document) - 246 hours

C. Technical Documentation - 62 hours

EVALUATION GUIDELINES & COURSE OUTCOMES

DEMONSTRATION OF SOFT SKILLS (40%)	DEMONSTRATION OF TECHNICAL SKILLS (60%)
KEY AREAS **COMMUNICATION SKILLS (20%)** Relate to co-trainees/supervisors terminologies and rules Recite procedures and instructions needed for the tasks Identify and describe safety signs and symbols Ask critical questions related to the tasks Produce well-written regular and incident reports Prepares and presents reports using Information and Communication Technology (ICT) **PROFESSIONAL DEPORTMENT (20%)** Observes proper grooming and attire Reports to work regularly on time and as necessary, even beyond prescribed working hour Acts according to the job description given by the company Willing to accept new tasks apart from the usual routine and responsibilities Delivers quality output on time Demonstrates respect for different individuals **INITIATIVE (+5%)** Volunteers to perform tasks beyond routine tasks	**KEY AREAS** Software Development Skills (50%) - able to implement software modules (30%) - able to find and fix errors in the modules (10%) - able to improve modules based on feedback (10%) Technical Documentation Skill (10%) - able to document features of implemented modules (5%). - document progress and related information on developed modules (5%) **INITIATIVE (+5%)** Volunteers to perform tasks beyond routine tasks

CONFORME	CONSENT (FOR MINORS ONLY)	NOTED BY	ENDORSED BY	APPROVED BY
CLIFF MARVIC COLIGADO SIGNATURE OVER PRINTED NAME OF STUDENT / DATE	SIGNATURE OVER PRINTED NAME OF PARENT OR GUARDIAN / DATE	ROMULUS DACARA SIGNATURE OVER PRINTED NAME OF PRACTICUM SUPERVISOR / DATE	SIGNATURE OVER PRINTED NAME OF PRACTICUM ADVISER / DATE	SIGNATURE OVER PRINTED NAME OF PROGRAM CHAIR / DATE

COPY: (1) STUDENT; (2) HOST COMPANY; (3) PRACTICUM COORDINATOR

FORM OVPAA-030D

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Appendix F
Complete Weekly Journal

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

REVISION NO.: 00
REVISION DATE: May 10, 2016

DAILY JOURNAL

IMPORTANT INFORMATION

- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
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DATE	May 6 - 9, 2025	AREA ASSIGNMENT	Inventory System
TASK	Initial Development	SHIFT/TIME	7:30am - 5:00pm

During the first week of my On-the-Job Training (OJT) at TDK, which began on May 6, 2025, I participated in an extensive orientation program. On the first day, I attended an 8-hour session where general policies, benefits, and essential information about working at TDK were discussed, along with occasional tests to assess our understanding. The following day, I continued with the orientation, focusing on workplace safety policies and expectations, again participating in tests to ensure comprehension. By May 8, I was deployed to the Information System Department (ISD) and assigned a project by my immediate superior, Sir Dax. My tasks included preparing an Entity-Relationship Diagram (ERD) for the system, setting up a draft Graphical User Interface (GUI), and configuring the programming language and necessary add-ons. However, I encountered some challenges during the setup process, which took longer than anticipated, allowing me to start making progress only an hour before the end of the day. Despite this, I was able to formulate ideas for the project and prepare some features. On May 9, I successfully set up my development environment using Visual Studio asp.net MVC and MySQL, and I began drafting the ERD and GUI while programming a basic login page UI. I managed to connect my project to the database and created a sample login page. However, I faced difficulties with data management in MySQL and Visual Studio, particularly with retrieving data for the login page, which led to several issues. Moving forward, my plan is to find solutions to these errors, complete the login page, and prepare a proper module document after further discussions with Sir Dax. Overall, the first week was a mix of learning and initial project development, setting a foundation for the work ahead.

CLIFF [illegible]
TRAINEE'S SIGNATURE

Malayan Colleges Laguna
A MAPÚA SCHOOL

REVISION NO.: 00
REVISION DATE: May 10, 2016

DAILY JOURNAL

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DATE	May 13 - 19, 2025	AREA ASSIGNMENT	Inventory System
TASK	Initial Development	SHIFT/TIME	7:30am - 5:00pm

During the 2nd week of my OJT, I focused on resolving errors from the previous week and advancing my project.

On May 13, I successfully fixed the login page, ensuring its core functionality was operational. My tasks included preparing necessary diagrams like the Entity-Relationship Diagram (ERD) and flowcharts, setting up a draft GUI, and preparing an account settings page and the main dashboard. However, I encountered issues with the main dashboard layout and sidebar functionality, as well as challenges in setting up the inventory view for testing.

On May 14, I began creating a mock GUI using Figma and aimed to prepare a sitemap for discussion with my superior. I still needed the actual sample of inventory storage to finalize the ERD and improve the inventory system GUI, particularly the add item form.

On May 15, I completed the item list table and established a simple CRUD function to lay the groundwork for future features. I also enhanced login security by adding authorization and cookies. On May 16, I received an Excel file for the inventory and organized the data for the database, starting to create tables on an ERD drawing website and applying to Visual Studio. This continued for another day.

By May 19, I focused on refining the ERD, considering various item types and specifications. After presenting my draft ERD to Sir Dax, we decided to make the "person" a field itself. I continued to face challenges with the inventory system and needed to gather more Excel files for reference.

Overall, the week was productive, with significant progress made despite the challenges encountered, but for now I will be able to progress further until I will be able to finish some pages, starting from the design of the first Module.

CLIFF COLIGADO
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DAILY JOURNAL

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DATE	May 20 - 26, 2025	AREA ASSIGNMENT	Inventory System
TASK	System Development	SHIFT/TIME	7:30am - 5:00pm

During the week of May 20 to May 26, 2025, I made significant strides in my project development. On May 20, I focused on improving the UI design in Figma and set up a new Visual Studio project based on my designated ERD. I began coding the models for each table and was able to finish the page design for first module. I encountered security concerns that prompted me to redo the project to incorporate ASP.NET's built-in authorization and identity features. But I was able to work on the initial page designs for all pages. Especially for the module 1 pages for the user view. I also needed datasets for item details but believed that programming all the pages would help avoid redirection issues later on. continued preparing the code using my current ERD design and remade the project file to apply Visual Studio's identity features for better account security I faced challenges with managing item inputs due to the complexity of the ERD, which relied on flexible attributes I aimed to research efficient designs for the inventory system, considering performance and usability. On May 22, I worked on fixing the login authentication, separating admin and user logins, and created pages for account management. I I continued to face challenges with the inventory system and needed to gather more Excel files for reference. I also began planning the items table to ensure it was both usable and dynamic. I continued to have concerns about the performance implications of dynamically storing attributes, so I decided to update the item table to include a nullable column for serial numbers and prepare to populate the database with dummy data for testing. By May 23, I successfully implemented a simple CRUD functionality for inventory on the admin side, and I was also able to completely finish the account settings page for the user and admin. However, I encountered several issues related to required items and database connections, which needed to be addressed. I focused on completing the item table and its CRUD functionalities to ensure the system was well-functioning. On May 26, I added attributes to each item, ensuring that the forms could dynamically adjust based on the item category and type. Despite these difficulties, I made significant progress and aimed to complete the item archive within the week and was able to finish the dashboard design for my admin page.

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Malayan Colleges Laguna
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DAILY JOURNAL

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DATE	May 27 - June 2, 2025	AREA ASSIGNMENT	Inventory System
TASK	System Development	SHIFT/TIME	7:30am - 5:00pm

From May 27 to June 2, 2025, I made substantial progress on the inventory system. On May 27, I advanced the item list page by adding sections for item selection and began working on item logs to track CRUD actions, while also addressing UI concerns raised by my superior regarding scalability. The following day, May 28, I implemented validations and logging for entries, developed a logs page for tracking item CRUD actions, But I was able to work on the initial page designs for all pages. Especially for the module 1 pages for the user view. and created a feature to download item lists based on type. However, I faced challenges with session handling and the need to refactor my ERD. On May 29, I focused on the Admin Logs page, making significant progress but encountered difficulties debugging date displays. I prepared the database for the new logs page and planned to start on Admin insights next. On May 30, prepared the database for the new logs page and planned to start on Admin insights next. On May 30, I worked on the user credentials editing page on the admin side, completing most features and starting a summary page, while also exploring multi-input options for the database. By June 2, I developed the admin dashboard, formulating summaries for the inventory and fixing a sidebar navigation bug. I also created a bulk upload page requiring a specific CSV format for uploads. Throughout the week, I aimed to finalize major features and prepare for user page development, while addressing various bugs and improving overall functionality. I was able to finish the account management for admin.

CLIFF ALIGADO
TRAINEE'S SIGNATURE

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DATE	June 3 - 4, 2025	AREA ASSIGNMENT	Inventory System
TASK	System Development	SHIFT/TIME	7:30am - 5:00pm

From June 3 to June 4, 2025, I focused on enhancing the user side of the inventory system. On June 3, I worked on the pending approvals page after completing the admin and user logs. I addressed various bugs and issues while connecting the inventory archive with the admin side, implementing constraints to prevent unauthorized access to admin commands based on user roles. Initially, I considered creating a new model for the user inventory archive, but I successfully managed to incorporate role-based access by adding conditions to the existing logic. The next day, June 4, I concentrated on developing the item list for users, reformatting it to differentiate between user roles and separating admin commands from user functionalities. My primary focus was on identifying and fixing bugs, particularly in the item listing, while also beginning to implement exporting options for item lists by category. However, I encountered challenges with managing partial pages for the item archive, especially when trying to separate items by type and maintain dynamic listings without disrupting the webpage structure. Moving forward, I planned to enhance the item archive page further, ensuring that filters and pagination were in place for improved usability.

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DATE	JUNE 10 - 16, 2025	AREA ASSIGNMENT	Inventory System
TASK	Web App Development	SHIFT/TIME	7:30am - 5:00pm

During Week 6 (June 10–16, 2025), I focused on improving various aspects of the web application. On June 10, I resolved issues with the admin item page, particularly bugs where the item details wouldn't display correctly after applying filters. I decided to refactor the code and redesign the filtering system for better stability and customization. I also enhanced the UI design for pages like account editing, logout, and item editing. On June 11, I converted the item table and details pages into full pages to minimize conflicts, added pagination and sorting to item tables, and refined overall styling and responsiveness. By June 13, I continued working on the dashboard UI to make it more uniform, but encountered issues with the bulk upload function after refactoring. Finally, on June 16, I focused on unifying the dashboard design for both admin and user roles, fixed log filter bugs, ensured proper display of approval data, and redesigned the item details page. I also continued reworking the bulk upload feature to handle multiple CSV inputs more efficiently.

CLIFF COLLADO
TRAINEE'S SIGNATURE

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DATE	JUNE 17 - 23, 2025	AREA ASSIGNMENT	Inventory System
TASK	Web App Development	SHIFT/TIME	7:30am - 5:00pm

I focused heavily on finalizing core system functions and improving data handling. On June 17, I worked on implementing the bulk upload feature, which proved to be the most challenging part due to input validation and the complexity of processing CSV files. To avoid overwhelming admin approvals, I decided that only edit and update actions would require approval, not new bulk-created entries. I also refined the analytics dashboard and made corrections in logs and logic.

On June 18, I continued improving the admin and user dashboards by adding two new graphs for better data visualization and creating an approval details page to review item changes. I also addressed bugs related to data import/export and enhanced the item edit page. Some challenges remained, such as defining CRUD permission rules and implementing standardized headers and attributes for devices.

On June 23, I developed a delete function for items and began applying correct headers to the dataset, which showed promising results. After presenting my progress to my supervisor, I received feedback to include approval workflows for user actions, a pending table for bulk uploads, and more robust logging and tracking. While all main modules are functionally complete, the focus now shifts to continued testing and debugging to ensure system reliability within the development timeframe.

CLIFF GOLLIMAO
TRAINEE'S SIGNATURE

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DATE	JUNE 24 - 27, 2025	AREA ASSIGNMENT	Inventory System
TASK	Further Development and Debugging	SHIFT/TIME	7:30am - 5:00pm

I focused on polishing the bulk upload feature by introducing temporary tables for approval-based uploads, ensuring that each action is properly logged and validated before final storage. On June 24, I tackled bugs related to handling multiple table interactions and began preparing dummy data for bulk testing. The following day, June 25, I finalized all major system functions and presented my progress to my manager and ISD employees. Feedback included adding item IDs, making item attributes customizable via editable files, minimizing hardcoded entries, implementing soft deletion, and preparing for a potential super admin role. On June 26, I addressed bugs identified during the presentation, improved filters and exports on the user side, and refactored location data and item attributes to be read from JSON files allowing live updates during runtime. I also successfully implemented soft deletion by flagging records instead of permanently removing them. These tasks required creating additional files, adjusting the program configuration, and thorough testing to ensure system stability. With most functionality completed, I plan to begin documentation soon and, if possible, add the super admin feature in the coming week. I was absent on June 27 but will resume on Monday.

CLIFF [illegible]
TRAINEE'S SIGNATURE

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Malayan Colleges Laguna
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DATE	JUNE 30 - July 7, 2025	AREA ASSIGNMENT	Inventory System
TASK	Web App Deployment, testing and debugging	SHIFT/TIME	7:30am - 5:00pm

On the start of week 9, I began working on system documentation by drafting the ERD, sitemap, and use case diagrams, and added updates to both admin and user dashboards. On July 1, I implemented a basic custom item ID system, which caused several bugs in bulk upload and CRUD functions that I spent the day fixing. On July 2, I completed a draft of the user manual and added login lockout features, while also presenting my progress on using text files for item attributes. On July 3, I updated the user manual further and addressed issues with how custom attributes from text files were processed in the system. On July 4, I performed local testing, refined the attribute logic, and began exploring how to deploy the system on the company server. On July 7, I focused on writing some parts of my final report and presentation, updated the user manual, and resolved a bug where bulk uploads were duplicating attributes. Each day involved bug fixing, polishing features, and preparing the system for deployment. The main goal now is to host the system and begin multi-user testing.

CLIFF MARVIN COLLADO
TRAINEE'S SIGNATURE

MCL

Malayan Colleges Laguna

REVISION NO: 00
REVISION DATE: May 10, 2019

DAILY JOURNAL

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DATE	July 8 - July 14, 2025	AREA ASSIGNMENT	Inventory System
TASK	Web App Deployment, testing and debugging	SHIFT TIME	7:30am - 5:00pm

During Week 10, I successfully published the web application using a test MySQL database and the Folder Publish method in Visual Studio, then manually deployed it to the remote server. On July 8, I encountered several challenges, including image loading issues and errors in the Admin Logs page, which even caused my local version to break. By July 9, I managed to publish a working version, shared it with the team, and received feedback after a company visit from my adviser, while also validating bulk upload functionality and updating documentation. On July 11, I addressed issues with the bulk template download not working due to HTTP/HTTPS conflicts and IIS routing, and I improved the dashboard layout and account settings. Lastly, on July 14, I prepared for and presented the system, applied last-minute revisions based on feedback, and finalized the user manual. Although time constraints prevented thorough testing of every feature, the deployed version was stable and included all key functions. Daily internal testing helped confirm the system's usability. The main challenge now is seeing whether the system remains reliable and maintainable in the long run.

TRAINEE'S SIGNATURE

COPY (1) STUDENT, (2) PRACTICUM ADVISER

FORM OVPAA 0300

THIS FORM IS AVAILABLE AT THE OVPAA

Appendix G
Certificate of Completion

CERTIFICATION

This is to certify that **CLIFF MARVIC M. COLIGADO** whose specimen signature appears below was an on-the job trainee of **TDK Philippines Corporation** under **Information System Department** from **May 06, 2025** to **July 14, 2025.**

Furthermore, he has rendered **324 hours** of training and has no derogatory record during his stay in this company.

This certification is issued upon his request for whatever legal purpose it may serve.

Issued this **14th day** of **July 2025,** 119 East Science Ave., SEPZ Laguna Technopark Biñan, Laguna

EDERLYN OSBUAL
HRD - Manager

Received by:

CLIFF MARVIC COLIGADO
Signature over printed name

Not valid w/ alteration & w/out seal

TDK Philippines Corporation
119 East Science Avenue, Special Export Processing Zone, Laguna Technopark, Biñan, 4024 Laguna, Philippines
Telephone Numbers: (+63 2) 7755-1700, (+63 49) 541-2510 / Fax Numbers: (+63 2) 7729-5060, (+63 49) 541-2514