DEBRE MARKOS UNIVERSITY

INSTITUTE TECHNOLOGY

SCHOOL OF ELECTRICAL AND COMPUTER EGINEERING

COMPUTER STREAM

FINAL INTRENSHIP REPORT

DURATION 10/06/2016-08/08/2016 E.C

SUBMITED BY:

NAME OF STUDENT **ID**

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SUBMITION DATE:16/08/2016

SUBMITED TO: Mr. MEKURIAWE AYELEGN

DEBRE MARKOS IN ETHIOPIA

April 2016 E.C

Declaration

I hereby declare that the work included in this report was completed entirely by me during our three-month/February 10/06/2016-10/08/2016 E.C internship at the ICT Directorate of Debre Markos University, which ran from February to April 2016. Our knowledge and experience from the internship helped us to prepare this report. In order to prepare this report, I spoke with office staff members to get their background information, read various books about the Enterprise division, and reviewed the company training manuals. With our signature, I guaranteed everything stated above.

Name of Student	ID	Signature	Date
Selamsew Alemu	NSR/1507/12	_____	_____

Approval

As an advisor, I declare that I have advised their work throughout the course of this report and all works included in this document. I assure all this with my signature as follow.

Name of Advisor:	**Signature**	**Date**
Mr. MEKURIAWE A(MSc)	_____	_____

Acknowledgment

I thank our all-powerful God first and foremost for helping me in every way, keeping me secure, and protection me from any danger. I also want to thank all of maintenance technician team to help me to improve practical skill, and Ato Aklilu, the information team leader and director of the DMU-ICT directorate, for accepting me and allowing me to use the company resources necessary to complete our internship work. In particular, I appreciate and are grateful to Ato Aklilu and Ato Gashaw Adane for their advice, time, and attention.

Executive summery

In this final internship report, the ICT directorate at Debre Markos University's three-month internship program is the focus. It became clear to us that engineering cannot advance in any area of study without practical experience. I have thus provided a brief overview of DMU ICT's background history, organizational structures, work processes, products and services for its clients, and internship goal in this report. I then went through every aspect of our internship experiences, including how I entered the company, the department I were working in, the methodology we employed, the materials and equipment I used, the main tasks I completed during the internship, the difficulties I encountered, and the steps I took to resolve those difficulties. I next enumerate the advantages experienced during the internship. Having said all of this, which focuses on maintaining the computer's internal components as well as external components like hardware and software, and also recommendation, reference includes for my report. I have also included our project DMU store management system.

List of acronyms

PC	personal computer
HDD	hard disk drive
ROM	read only memory
RAM	random access memory
RJ-45	Registered Jack-45

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CHAPTER ONE

Introduction

By taking on an internship, students can fulfill their degree requirements while gaining real-world work experience, sometimes for free. This suggests that in order to produce technically skilled workers rather than merely theoretical ones, the ministry of education has allocated trainers time that is meant to assist them in putting what they learned in college into practice. Throughout our internship, I handle many different tasks. I gave a quick brief of the company's past at the beginning of this report. Next, during this field practice, I've given a comprehensive rundown of our entire internship experience. The benefits that come with internships were then discussed. I then listed each of the report particular details. In the conclusion section, the report will be summed up and suggestions will be made. The source materials I had consulted during practice were listed as I finish our report.

1.1.Background history of DMU University

Debre Markos University (DMU) is one of the thirteen New Universities which was established in 1999 E.C by the federal democratic republic government of Ethiopia

- Debre Markos is located 300 kilometers North-West from the capital of Ethiopia Addis Ababa and 265 kilometers South-East of Bahir Dar, the capital of the Amhara National Regional State.
- Debre Markos University is found in the Northwestern part of the country at Debre Markos town. The University is located in the Eastern part of the town approximately two kilometers from the central square. It covers an area of over 100 hectares.
- Debre Markos University foundation stone was laid on January 2005. It was inaugurated on 18 November 2007. After the completion of the first phase of the construction, the University began its service in February 2007 admitting the first batch of 760 regular students in the Education Faculty. Soon after its establishment, the University employed 53 academics, 34 supporting permanent staffs and 21 contract workers.
- Debre Marko’s University is responsible for providing relevant educational programs at undergraduate and graduate study levels. In addition, the University offers continuous short-term training, research work and consultancy services. (1)

- The Debre Markos University Information and Communication Technology Center (ICTC) provide the primary management and support for computing and technology services within the university. They manage the wired and wireless network infrastructure.

1.2. **Vision, mission and objectives of DMU-ICT**

1.2.1. Vision

To be a center of innovation by providing a quality ICT services for Debre Markos University and for the Community.

1.2.2. Mission

To effectively conceive, develop, implement, utilize, and manage appropriate information systems in order to provide integrated, coordinated and customer-focused quality ICT services to Debre Markos University in line with its vision, mission and objectives.

To provide, coordinate, and facilitate the use of ICT in all activities of the University in order to bring change.

- Prepare knowledgeable, skilled, and attitudinally mature graduates in relevant disciplines to support peace, democracy and national development that can make the country internationally competitive.
- Promote and enhance research focusing on knowledge and technology transfer consistent with the country's priority needs.
- Design and provide community and consultancy services that shall cater to the developmental needs of the country through active engagement of the community and stakeholders.

The ICT Directorate office was established to meet the following objectives:

- To plan, develop and manage University-wide ICT infrastructure
- To develop/acquire relevant applications
- To manage operations and maintenance of ICT resources
- To train end-users on computer literacy and offer end-user computing support
- To promote staff development program to ensure that ICT staff continue to acquire the necessary skills to provide high-quality services and support

- To advise and consult the University management on the acquisition of ICT resources and related issue

1.2.3. The tasks that have executed in the DMU ICT section

In the ICT center section of DMU we were working as a team member in different works of the section. Such me in maintenances and application. In first phase I participated in maintenances practice. I have seen different materials and instruments needed to maintenances. Then I begin working and studying about everything in detail.

Some of the daily tasks I was executed in the ICT section are as follows:

- Computer hardware know
- Identifying maintenances problems
- Try to solve problem

1.2.4. Stakeholders of DMU-ICT directorate

- Head of DMU ICT
- Directorate of DMU ICT
- Supervisor's
- All staff members Employees of the University
- Student
- DMU centers of excellence
- Enhancing crop productivity
- Developing and Promoting Indigenous Culture, Literary and Language

1.2.5. Main products and services of the organization

The main product of the organization, that in, Debre Markos University Information and Communication Technology directorate is giving so much products or services in universities. This ICT has a great contribution to the development of the University. Since many tasks which are performed in the university are done by means of information & communication technology.

The followings are the main products or service of DMU-ICT directorate.

The main services in Debre Markos University are:

- Student Information System

- University's institutional Email Official Websites
- Internet Connection service
- Network installation and Network Security
- Hardware and software maintenance
- Educational services
- Research and Community services
- Computer training
- Conference room
- Software development
- Web development
- System design
- Computer and office machine maintenance

1.3. The main customers or the end users of DMU-ICT Services

The main customers or end-users of Debre Markos University are peoples those are living within Debre Markos Town as well as the peoples of Ethiopia and the communities of the University itself. Customers are the active users of products that are produced from DMU -ICT directorate.

In Debre Markos University especially in ICT directorate there are so many customers that use internet as well as related things to internet. The following are main customers or end users of DMU -ICT directorate service

This organization has been established for many purposes, like

- Improve Research facility
- To create job opportunity for many educated citizen and community services ,
- To increase the number of educated persons in the country etc.
- Improve Registrar
- Students
- Colleges

The residents of Debre Markos Town, the Ethiopian people, and the university's communities make up the majority of Debre Markos University's clients or end users. Generally speaking, the establishment and development of a modern system is the primary goal of Debre Markos University (DMU).

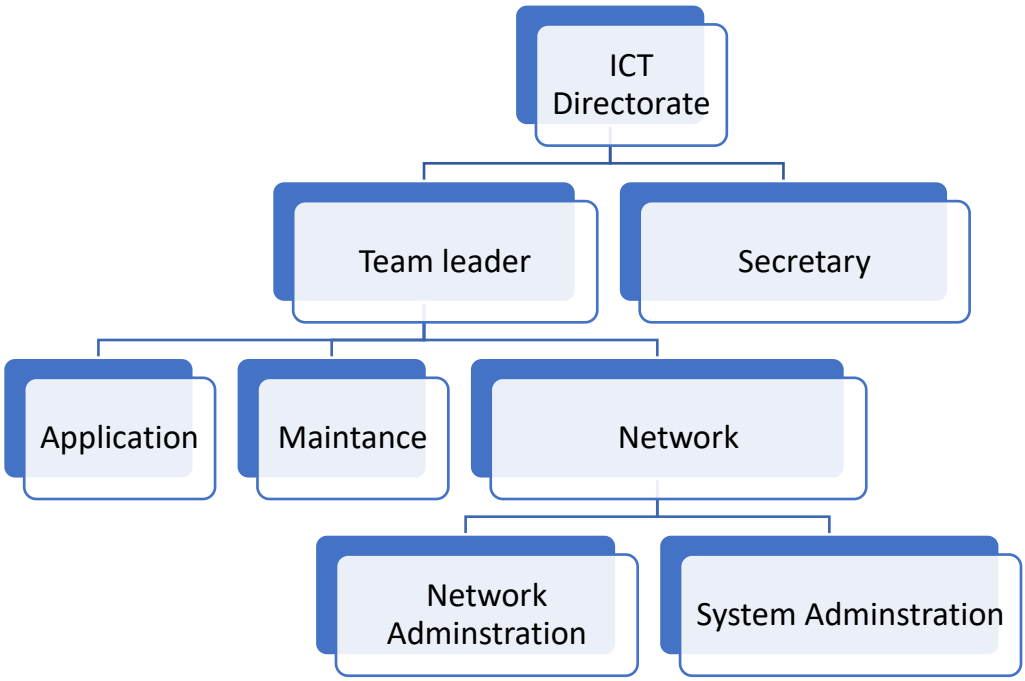

Figure 1: Organization structure of DMU-ICT directorate.

1.4. **The work flow of DMU-ICT staff**

All stakeholders of DMU-ICT member have their own function or work flow

1.4.1. DMU-ICT directorate director

The main function of DMU-ICT directorate director is to develop a policy for the use of ICTS within university and to provide a framework for policy implementation; program planning, management all staff member and implementation

1.4.2. Business application development and administration team

This team is responsible for developing and maintaining automated services and environments, undertaking system analysis and development, involving in software procurements and preparing quality control mechanisms for software.

1.5. This team is responsible to meet the following objectives:

- Ensuring proper and timely delivery of computing services
- Developing quality computing service strategy, systems and procedures (Timely Delivery of Application Software, Websites and Software Specifications)
- Integrating ICT directorate office to the various academic and administrative functions of the University
- Developing quality e-learning service strategy, systems and procedure

- ❖ Preparing quality control mechanisms for software purchases
- ❖ Automate and facilitate the full life-cycle activities of students and staff (from enrollment to graduation/resignation/retirement)

1.5.1. **Network infrastructure team**

- ❖ This team is responsible for following task:
- ❖ Check the flow of data in the campus
- ❖ Installing and configuring network in the campus
- ❖ Troubleshoot the problems of network in the university
- ❖ Periodically check the network device like layer3, switch, firewall, and servers andreconfigure if needed
- ❖ Create and manage the IP layer connectivity
- ❖ Plan, implement and manage the internet connectivity, creating acceptable use policy forthe network

1.5.2. **Training and consultancy team**

This team is responsible to arrange trainings for the ICT team, plan Inter-ICT team knowledgeand exchange sharing and arrange training for campus users and staff about newly implement and developed applications. The other tasks are

Gives training for all ICT staff members

- ❖ Gives course on Cisco and IT essential
- ❖ Gives training on local made software training
- ❖ This team have planned to make improvement on all above teams

1.5.3. **Maintenance and support team**

This team is the technical support officers monitor and maintain the computer systems plus networks of an organization and it may be known by other job titles, including help desk operators, technicians, and maintenance engineers or application support. For use by first levelsupport personnel and maintain failed office equipment like printer, ups, computer, laptops, phones, network devices etc**.**

1.6. Scope of our internship

During our internship program we have covered, crimping UTP cables, troubling and maintenance of network devices, maintenance internal and external parts of computer

1.7. Objective of internship

To develop theoretical knowledge in practical skill

1.7.1. General objective

To improve our theoretical knowledge in practical skill and to get work experience**.**

1.7.2. Specific objective

- To have clear knowledge about what we have learned in the class
- To become somehow experienced about the basic tasks in the feature
- To have skill and concept about network hardware and software
- To develop understanding of work ethics and responsibilities
- To troubleshooting and maintenance of network devices
- To enhance written and verbal communication skill

CHAPTER TWO

2. Overall internship experience

2.1. How we get into the company

The goal of the engineering internship program at Debre Markos University Institute of Technology is to give students practical experience in an industrial setting in addition to academic studies. First, I checked DMU ICT centers are you gave internship. then My request was granted when I went up to the DMU-ICT directorate employee. You asked, and he easily permissioned. I then begin our work practical in a different area or group. such as the maintenance group, networking, and application.

2.2. The tasks that have executed in the DMU ICT section

I was worked more concerned maintenance and application sections. But in addition to reading by yourself to understanding the scope of the network, enabling network services, and configuring wired and wireless networks are under the purview of the networking section. Any network-related problems the university may encounter are handled by the maintenance department(networking).

2.3. Material and tools we used

2.3.1 Material I used to prepare the internship report

We try to use different materials to prepare the document.

- Phone camera
- Personal computer

2.3.2. Material I used to do our internship (hardware part)

RJ-45: it is used to connect UTP cable to network devices. I was used the RJ-45 for connection of Ethernet network adapters. It is an 8-pin connection and this connecter most connected to the end of cat 6 cable, which is connected between a computer network card and a network device such as a network switch.

STP&UTP Cables: Is the types of cables we used in networking. Is certainly the most popular type of network cables on the world since their characteristics are very good and make it easy to work with, install, expand and troubleshoot special for indoor connection.

Figure 2:UTP copper cable

Node frame: is a connection point or an endpoint for data transmissions. In general, data fromnetwork switch to workstation transmit via UTP cable lastly to node.

Truncate: - is used for the UTP or STP cable safety; guiding, protecting and bundling cables and wires in which cables run through to arrive destination place. It is protective tubing which protects people from electricity and electricity from people and their machinery

Screw driver: - This tool is used to drive the bolt to tin the trunk with wall

Figure 3:Screw driver

A hard disk drive (HDD) is an internal or external computer component that stores data, such as the operating system, applications, and user files. HDDs are “non-volatile” storage devices, meaning they retain stored data even when power isn't being supplied.

Crimper: - it is a device used to attach the cable with the RJ-45 plug. The cable which is used to connect the internet ports with the computer need to be crimp. After connecting each pin properly according to the numbering a color. Use Crimping tool to make a straight cut across the 8 wires to shorten them from the cut sleeve to the end of the wires.

Figure 4:Crimper

Figure 5:A hard disk drive (HDD)pc

Figure 6:A hard disk drive (HDD)disktop

RAM, which stands for random access memory, and **ROM**, which stands for read-only memory, are both present in your computer. RAM is volatile memory that temporarily stores the files you are working on. ROM is non-volatile memory that permanently stores instructions for your computer. Find out more about RAM.

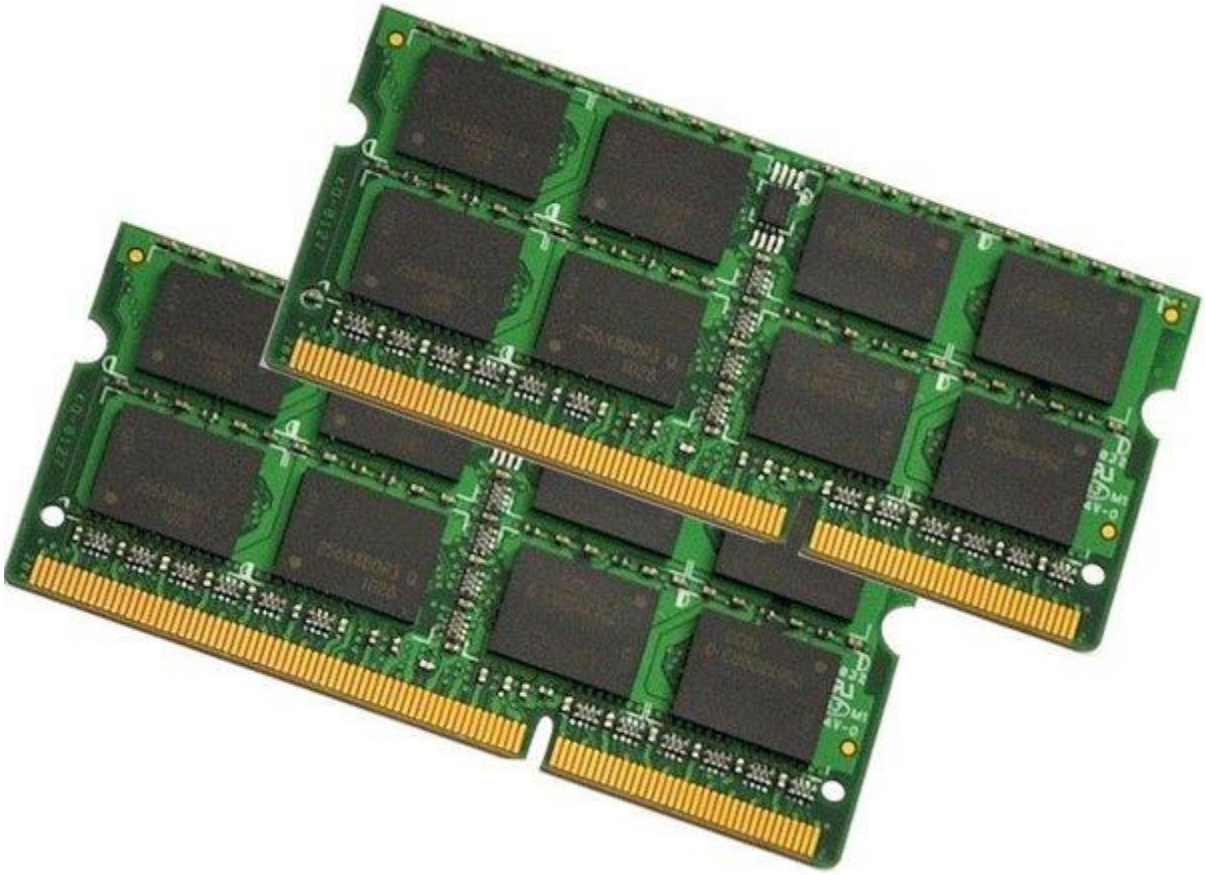

Figure 7:RAM

Disk top/PC:A personal computer, often referred to as a PC, is a computer designed for individual use. It is typically used for tasks such as word processing, internet browsing, email, multimedia playback, and gaming

Figure 8:Disk top and PC

A computer's motherboard is typically the largest printed circuit board in a machine's chassis. It distributes electricity and facilitates communication between and to the central processing unit (CPU), random access memory (RAM), and any other component of the computer's hardware. There is a broad range of motherboards, each of which is intended to be compatible with a specific model and size of the computer.

Since different kinds of processors and memories are intended to function best with certain types of motherboards, it is difficult to find a motherboard that is compatible with every type of CPU and memory. Hard drives, on the other hand, are generally compatible with a wide variety of motherboards and may be used with most brands and types.

- **A motherboard** is a circuit board inside general-purpose computing systems, including personal computers, smart televisions, smart monitors, and other similar devices, which supports communication between different electrical components and houses components such as the CPU, memory, etc.
- It is typically made of fiberglass and copper.
- This article defines a motherboard and explains its components and functions

Figure 9:A motherboard

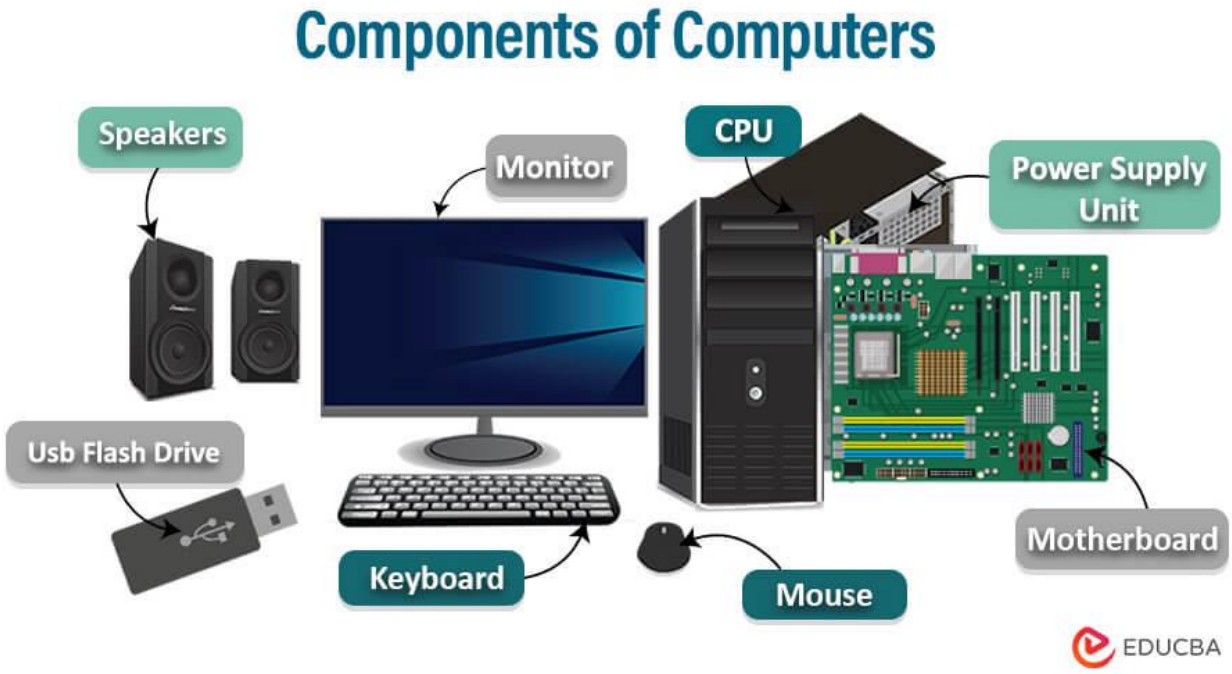

Figure 10:component of computer

2.3.3. **Material we used to do our internship (software part)**

- ❖ Command prompt
- ❖ Computer management system

2.4. The **major tasks I have been performing**

- ❖ Crimping straight through and crossover cable
- ❖ Troubleshooting and maintenance of network devices

2.4.1. **Procedure used to crimp straight through & crossover cable (Task one)**

- ❖ Straight Through cable arrangement:

- We use this UTP cabling for the different type of network devices. Ethernet cables are thestandard cable used for almost all purposes, and are often called "patch cables" and it is used to connect different type of devices. This type of cable will be used most of the timeto connect:
- Connect a computer to a switch/hub's normal port.
- Connect a computer to a cable/DSL modem's LAN port.
- Connect a router's WAN port to a cable/DSL modem's LAN port.
- Connect a router's LAN port to a switch/hub's uplink port.
- Connect two switches/hubs which one of the switch or hubs using an uplink port and theother port.

1. **Straight through cable arrangement**

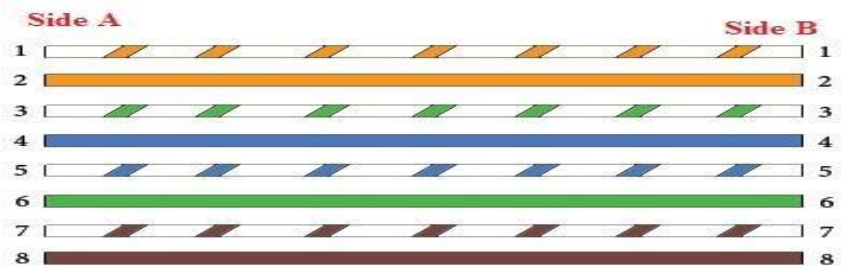

Figure 11:Straight through cable arrangement

Table 1: Straight through cable arrangement

Number	Side one RJ- 45	Side two RJ-45
1	White orange	White orange
2	Orange	Orange
3	White green	White green
4	Blue	Blue
5	White blue	White blue
6	White brown	white brown
7	White brown	White brown
8	Brown	Brown

2.Crossover cable arrangement:

An Ethernet crossover cable is a type of Ethernet cable used to connect computing devices

together directly. We use this UTP cabling for the same type of network devices where the pins order on one end follows the 568A pinning order and the other end of the cable follows the 568B pinning order. That means connecting two pieces of equipment that have the same pin edge on both ports. Such as connecting use crossover cables for the following cabling:

- ❖ Connects two computers directly
- ❖ Switch to switch directly
- ❖ Hub to hub

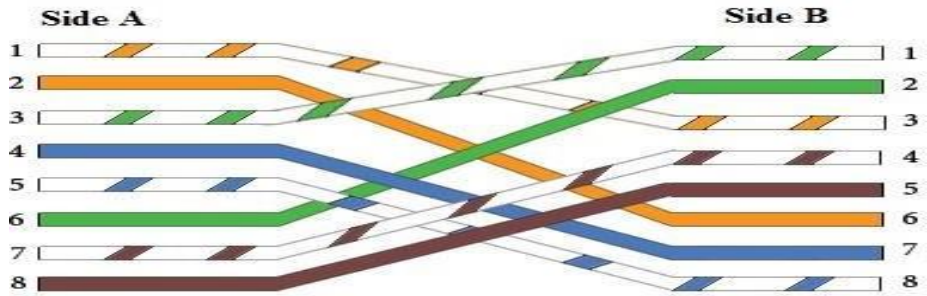

Figure 12: Cross over cabling color arrangement

Table 2: -Cross over cables color arrangement

Number	Side one RJ-45	Side two RJ-45
1	White orange	White green
2	Orange	Green
3	White green	White orange
4	Blue	White brown
5	White blue	Brown
6	Green	Orange
7	White brown	Blue
8	Brown	White blue

Steps to crimping copper cables

1. Strip cable end: removing the insulting insulators or sheath
2. Untwist wire end: and straighten them
3. Arrange wires: based on the type of cable needed

4. Trim wire to size: Cut the wires around half of inch

5. Attach connectors: RJ 45

6. Crimp: using crimper and

7. Finally test using tester module

2.4.2. **Troubleshooting and maintenance of network devices (Task two)**

Troubleshooting: is the process of employing various preventative techniques to either prevent or repair various kinds of issues with computers or other network devices. It is essentially the process of locating and fixing issues with computers or other network devices.

Maintenance: Preventing a computer or other network device from malfunctioning is the goal of maintenance. It split primarily into two.

Preventive maintenance: refers to the pre-activities carried out to prolong the life of an equipment. This is done by cleaning and replacing worn-out parts of materials and systems on a regular basis to prevent failure and make sure they are in good working order. It is used to increase data protection, prolong component life, lower repair costs, and decrease the number of equipment failures. We were carrying out tasks related to preventive maintenance, like

1. Removing dust from fan intakes and keyboard.
2. Checking the CPU'S cooling fan is working and that the air flow is not closed.
3. Make sure systems are plugged into protected outlets
4. Removing dust from networking device.

Corrective maintenance: Are post-activities carried out to restore a device's functionality after it has stopped working? It entails replacing and repairing worn-out parts that exhibit damage. During our internship, I completed the following kinds of tasks.

- Cleaning the dusts from switch ports
- Figuring out the problem using module tester
- Tighten up RJ 45 connector.

2.4.3. Material we used to do the practical application in internship

Hardware requirements (when we maintaining)

- **A hard disk drive (HDD)**.
- Random access memory.

- ❖ Read only memory.
- ❖ Screen.
- ❖ Motherboard.

2.4.4. How check hard disk are functionality or not (when HDD change).

1. Got to computer management system.
2. Hard disk management.
3. See the hard disk (c): healthy (boot. page file, crash dump, primary partition) this is functional
4. Else is not functional.

2.4.5. Some procedure of change hard disk in pc

1. Back up data
2. Create recovery disc
3. Remove the old hard drive.
4. Place the new hard drive
5. Reinstall the operating system
6. Reinstall your program and files

Figure 13: Hard disk change

2.4.6. And also, some step of Screen change

To change the screen on a device, such as a computer monitor, you can follow these general steps:

1. Power off the device: Before making any changes to the screen, it is important to turn off the device completely.
2. This ensures your safety and prevents any damage to the electronic components
3. Remove the old screen: With the cables disconnected, you can now remove the old screen from the device. Take care not to apply excessive force or twist the screen during removal.

4. Install the new screen: Take the new screen and carefully position it in place, aligning it with the screw holes or connectors. Make sure it fits securely and snugly.
5. Reconnect cables: Reconnect the cables to their respective connectors on the new screen. Ensure that they are firmly inserted and locked in place if applicable.
6. Power on the device: Turn on the device and check if the new screen is functioning properly. Look for any display abnormalities or issues with touch functionality, if applicable.

Figure 14:screen change

2.5. **How good we have been performing our work task**

Throughout our time working with the ICT director at Debre Markos University, I contributed to the work equally and on time. I was receiving training in everything they used to test me and gain experience. It is true that I was:

- ❖ Highly attend and follow them
- ❖ Highly participate and practice more
- ❖ Create a smooth relationship between each of us'
- ❖ Ask anything that boring me

2.6. **Major challenges and problems we have faced during our internship period**

There were a few obstacles I had to overcome while residing in the DMU-ICT director, including: when one thing is another thing are brake and even highly sensitive RAM/ROM, CPU challenging to change this material.

- Lack of Punctuality: some students and special staff members were not getting on time.
- Students are not participating equally on the field work.
- There are more apparent students in the organization

2.7. **Measure we have taken in order to overcome those challen**ge

Some measure we have taken in the company was as follow

- Ask them for technician support during practicing.
- Enforce him to offer the device and toolkit at the time of practice.
- I enforce both staff members and student to be on time.
- Undergoing the tasks in patience and harmonious manner.
- I enforce each Student to participate equally on the field work

CHAPTRE THREE

3. **Benefits I gained from internship**.

3.1. In terms of improving practical skills

Applying theoretical concepts learned in class to real-world situations is the main way that an internship aims to improve practical skills. Throughout the internship, I will have the opportunity to apply classroom theory to real-world business challenges and be exposed to the newest technologies. This improves our theoretical knowledge to practical application through the use of resources provided by the host company. The ICT division were working on several ongoing projects at the time, as were previously mentioned in the division background, and we were assigned some of them. This hands-on work also greatly benefited me. In general, an internship program serves as a tool for knowledge acquisition that enables me to draw connections between the theoretical lessons I have previously studied and the real world that we get to witness at the host company.

3.2**. In terms of upgrading theoretical knowledge**

Our primary motivation for taking part in the internship program was to get experience in actual workplaces. It is also possible to learn a substantial amount of theory during the internship. I didn't waste time worrying about exams or tests; instead, I concentrated on accomplishing our objectives rather than merely earning high marks. During the internship program, I was introduced to a few fundamental theories that are required for every task. The main goal of the internship's theoretical component is to improve the concepts that have already been learned. enhancing our understanding of theory.

3.3. **In terms of improving interpersonal communication skills**

People who are working together to strengthen and promote friendship, peace, and stability benefit from interpersonal communication skills. Developing better interpersonal communication skills is one of the internship's objectives

- Good communication skill has the many advantages the following is a few one:
- Improving relation with other
- To express and share idea with other
- To handle the challenge
- To ask question and easy to understand answer of our question

Our group members, our company advisor, our advisor, and all DMU-ICT staff members helped us throughout the internship to effectively communicate with one another in order to complete our well-organized report and internship project

3.4. In terms of improving team playing skills

Simply coming to an understanding of the tasks at hand from disparate perspectives is the most crucial aspect of teamwork. Incorporating teamwork is crucial for all tasks. Thus, developing strong teamwork skills is crucial for increasing productivity and completing tasks efficiently. Because every task we were given required teamwork, our internship experience helped me become better team players. By building team spirit, we were able to solve problems and acquire important life skills like patience, selflessness, and accountability. Individual egotism must be removed in order for a team to function properly, and everyone must share responsibilities in order to cultivate the virtue of accountability. Throughout the internship, I developed a strong sense of teamwork, as everyone's contribution determines the project's overall success. I thus succeeded in applying the majority of these team-playing techniques. Exchange and investigate various concepts.

- Negotiate, extend and modify ideas
- Test and substantiate ideas
- Finalize and act on group consensus

3.5. In terms of leadership skills

I was not in a leadership position that doesn’t limit us to develop good leadership skills because all minor things are also in a circle of leadership. I could, able to understand the meaning of leadership practically. "Leadership is not a matter of position but it is a matter of responsibility.

3.6. In terms of understanding about work ethics related issues

The measure of the performance of any employee of any profession mainly depends on his/her agreement to the work ethics. Work ethics were the most significant lesson we got from the internship that we strived to arrive at the workplace also in meeting the deadline of a given task punctually. Work discipline or desired work behavior can be achieved only by obeying and respecting the moral or ethical standards of profession. Ethical standards enable workers to distinguish the right or desired way of conduct from the wrong ones. This helps workers develop good working environment and enables them to sustain good communication skills and behavior with each other and with customers. During our internship period we have observed some ethical problems related to work ethics in hosting company.

3.7. In terms of improving our contribution

During the last of two month of internship period, some of the responsibilities that I have under taken at the time of internship are:

- Start the technical tasks at a time.
- Work our task effectively
- Use the work time properly
- Use and protect the company resources wisely.

3.8. In terms of entrepreneurship skill

Entrepreneurship is the mechanisms or process of creating new idea, system, technology and new business. In order to effectively execute of practical knowledge, this internship program enabled us to be creative, reasonable, hard workers and motivated to perform related works with field of study. From the program, I could able to understand how logical thinking and planning, risk think and make change, self-confidence is important thing to create new idea in order to developing business concept and becomes an entrepreneur.

CHAPTER FOUR

4.0. Conclusion and recommendation

4.1. Conclusion

I can honestly state that this internship was successful because I gained the necessary knowledge and real-world experience. The hosting organization was happy with our performance and theoretical understanding of space at all times during this time (as an intern). I witnessed the actual working conditions, management and leadership styles, and how I interacted throughout the internship, in addition to the organization's shortcomings. Additionally, it is a means of transforming theoretical knowledge into applied skill. Overall, I had a great experience working for the organization, which has given me a wealth of experience, communication skills, hard work, and positive perspectives on the field. I am grateful to the system developer staff for their assistance and unrestricted knowledge sharing. In general, draw the conclusion that our internship was worthwhile and that it gave me access to fresh viewpoints. I also feel that the experience we gained from working for the company was quite beneficial.

4.2. Recommendation

Throughout our internship at DMU-ICT Director, I made an effort to pay attention to various details. I would like to suggest a challenge and issues I encountered under this lesson that should be improved going forward. As far as I am aware, this internship program is crucial for preparing engineering students for the real world and helping them adjust to it. Suggestion for DMU ICT Center: I suggest the following to DMU ICT Center.

4.3. Recommendation to Debre Markos University

- Software tutors should be provided to students as it forms the foundation of any project and without it, it becomes challenging.
- For the benefit of society as a whole, the university should interact with businesses.
- The internship report format should be appropriately published by the university and given to the students prior to their distribution to the hosting company.
- The structure for creating an internship report should be simple enough for students to grasp. It is recommended that the teaching and learning approach prioritize electronics and computer labs to increase the interns' students' familiarity with industrial instruments and equipment.

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PART II

CHAPTER FIVE

DMU STORE MANAGEMENT SYSTEM PROJECT (min)

Introduction:

The DMU Store Management System is advance software website designed to simplify and enhance the management of departmental stores. Manual processes and outdated systems often result in inefficiencies, errors, and difficulties in decision-making so in this problem to fix software method.

it is crucial for store owners and administrators to have efficient tools to streamline operations and improve customer satisfaction.

Problem Statement:
How to improve DMU store management system?

Objectives:

Develop a user-friendly interface for store administrators to easily navigate and perform various management tasks within the DMU Store Management System.

Implement an efficient and accurate inventory management system that tracks stock levels, monitors product availability, and automates reordering processes to minimize stockouts and optimize inventory levels.

General Objective:

The general objective of the DMU Store Management System project is to develop and implement an efficient and user-friendly software application that streamlines and enhances the management and operations of departmental stores.

Specific Objectives:

Develop a user-friendly interface for store administrators to easily navigate and perform tasks within the DMU Store Management System, such as adding and managing products, generating reports, and assigning employee roles and privileges.

Scop of project

Overall, the scope of the DMU Store Management System project is to provide a comprehensive software solution that optimizes store management, improves operational efficiency, enhances decision-making, and drives customer satisfaction and cost minimalize.

Methodology

The DMU Store Management System project will follow a systematic and iterative approach to ensure successful development and implementation. The methodology will involve the following key steps:

general procedure

first select actor of DMU store management system

DMU store management system use case diagram
Actors:

1. System Admin
2. store manager
3. Colleges
4. Department
5. Directorate
6. Inventory Manager
7. User

Use Cases:

System Admin:

1. login
2. Manage User Accounts
3. Configure System Settings

4. View System Logos
5. logout

store manager:

1. login
2. views report
3. logout

Colleges:

1. login
2. Order inventory
3. View Order Status
4. Manage college inventory
5. accept /reject to Dept request
6. logout

Department:

1. login
2. Request inventory from college
3. distribute inventory to dept
4. Update Department Inventory
5. logout

Directorate:

1. login
2. Approve/disapprove to IT request
3. Generate Reports
4. logout

Inventory Manager

1. login
2. manages inventory
3. Receive New Stock
4. Update Stock Levels

5. Handle Returns and Exchanges
6. logout

User:

1. login
2. Place Orders
3. see Order History
4. record yours inventory
5. transfer inventory
6. logout

Data collection

- ❖ Conduct meetings, interviews DMU store management system directorates of directors
- ❖ From DMU ICT center workers
- ❖ Other relative friands
- ❖ And also, different written material
- ❖ DMU store secretary

System block diagram

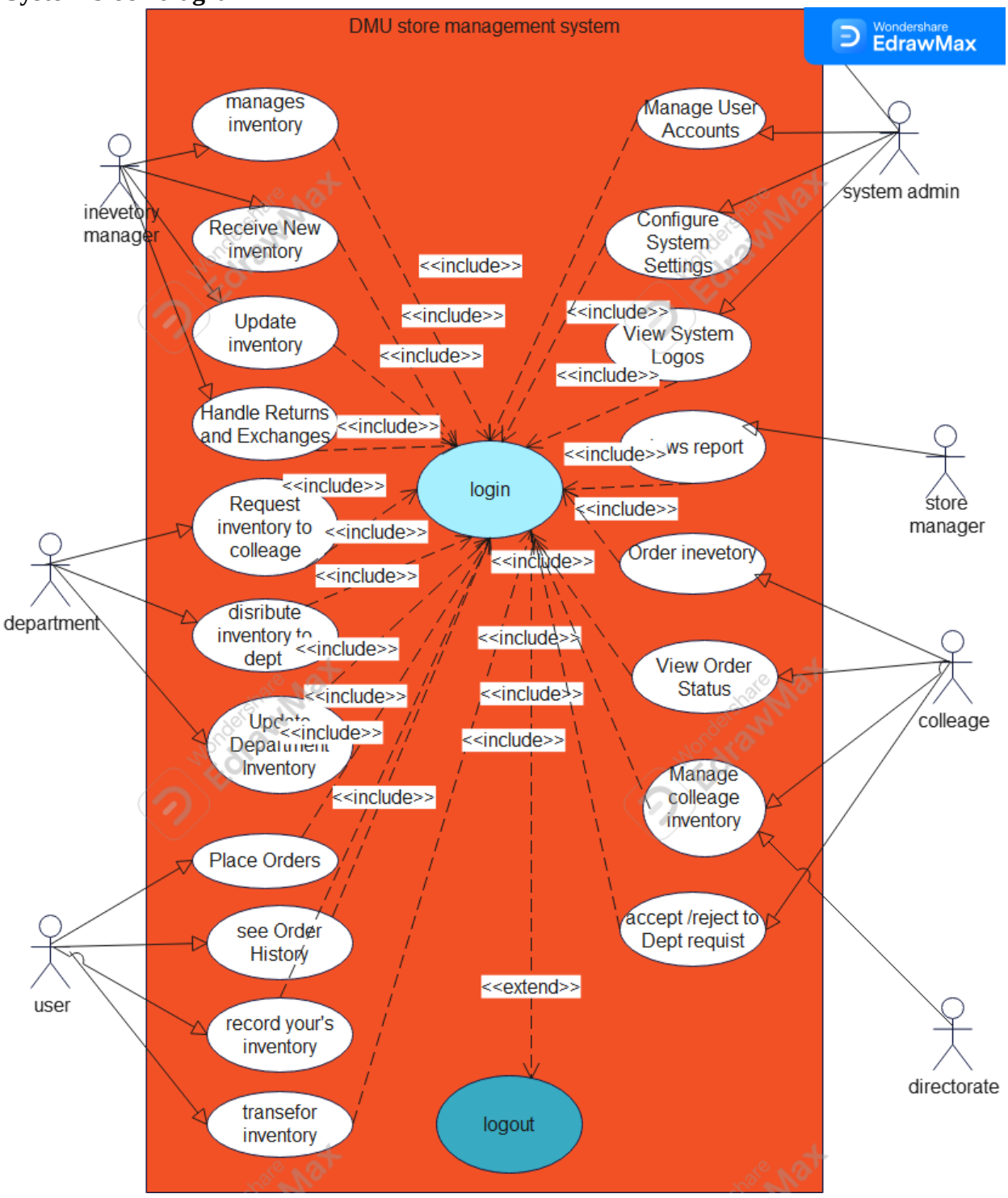

Figure 15:use case diagram DMU store management system

Result

1. login
    - ❖ Actors: all users

- ❖ Precondition: the system running and user has an account
- ❖ Postcondition: the user is logged

Main Flow:

- ✓ The user enters their username and password
- ✓ The system verifies the user's credentials
- ✓ The system logs the user in
- ✓ Alternative Flow: If the user enters incorrect credentials, the system displays an error message.

System Admin:

Primary Actor: System Admin

Preconditions: The System Admin is authenticated and logged into the system.

Post-conditions: The System Admin successfully performs the desired action and may or may not remain logged in.

Main Flow:

- ❖ The System Admin logs into the system.
- ❖ The System Admin manages user accounts.
- ❖ The System Admin configures system settings.
- ❖ The System Admin views system logos.
- ❖ The System Admin logs out.

Store Manager:

Primary Actor: Store Manager

Preconditions: The Store Manager is authenticated and logged into the system.

Post-conditions: The Store Manager successfully performs the desired action and may or may not remain logged in.

Main Flow:

- ❖ The Store Manager logs into the system.
- ❖ The Store Manager views reports.
- ❖ The Store Manager logs out.

Colleges:

Primary Actor: Colleges

Preconditions: The Colleges are authenticated and logged into the system.

Post-conditions: The Colleges successfully perform the desired action and may or may not remain logged in.

Main Flow:

- ❖ The Colleges log into the system.
- ❖ The Colleges order inventory.

- The Colleges view order status.
- The Colleges manage college inventory.
- The Colleges accept/reject department requests.
- The Colleges log out.

Department:

Primary Actor: Department

Preconditions: The Department is authenticated and logged into the system.

Post-conditions: The Department successfully performs the desired action and may or may not remain logged in.

Main Flow:

- The Department logs into the system.
- The Department requests inventory from colleges.
- The Department distributes inventory to the department.
- The Department updates department inventory.
- The Department logs out.

Directorate:

Primary Actor: Directorate

Preconditions: The Directorate is authenticated and logged into the system.

Post-conditions: The Directorate successfully performs the desired action and may or may not remain logged in.

Main Flow:

- The Directorate logs into the system.
- The Directorate approves/disapproves IT requests.
- The Directorate generates reports.
- The Directorate logs out.

Inventory Manager:

Primary Actor: Inventory Manager

Preconditions: The Inventory Manager is authenticated and logged into the system.

Post-conditions: The Inventory Manager successfully performs the desired action and may or may not remain logged in.

Main Flow:

- The Inventory Manager logs into the system.
- The Inventory Manager manages inventory.
- The Inventory Manager receives new stock.
- The Inventory Manager updates stock levels.
- The Inventory Manager handles returns and exchanges.
- The Inventory Manager logs out.

User:

Primary Actor: User

Preconditions: The User is authenticated and logged into the system.

Post-conditions: The User successfully performs the desired action and may or may not remain logged in.

Main Flow:

- The User logs into the system.
- The User places orders.
- The User sees order history.
- The User records inventory.
- The User transfer's inventory.
- The User logs out.

Draw Class Diagram for the entire System

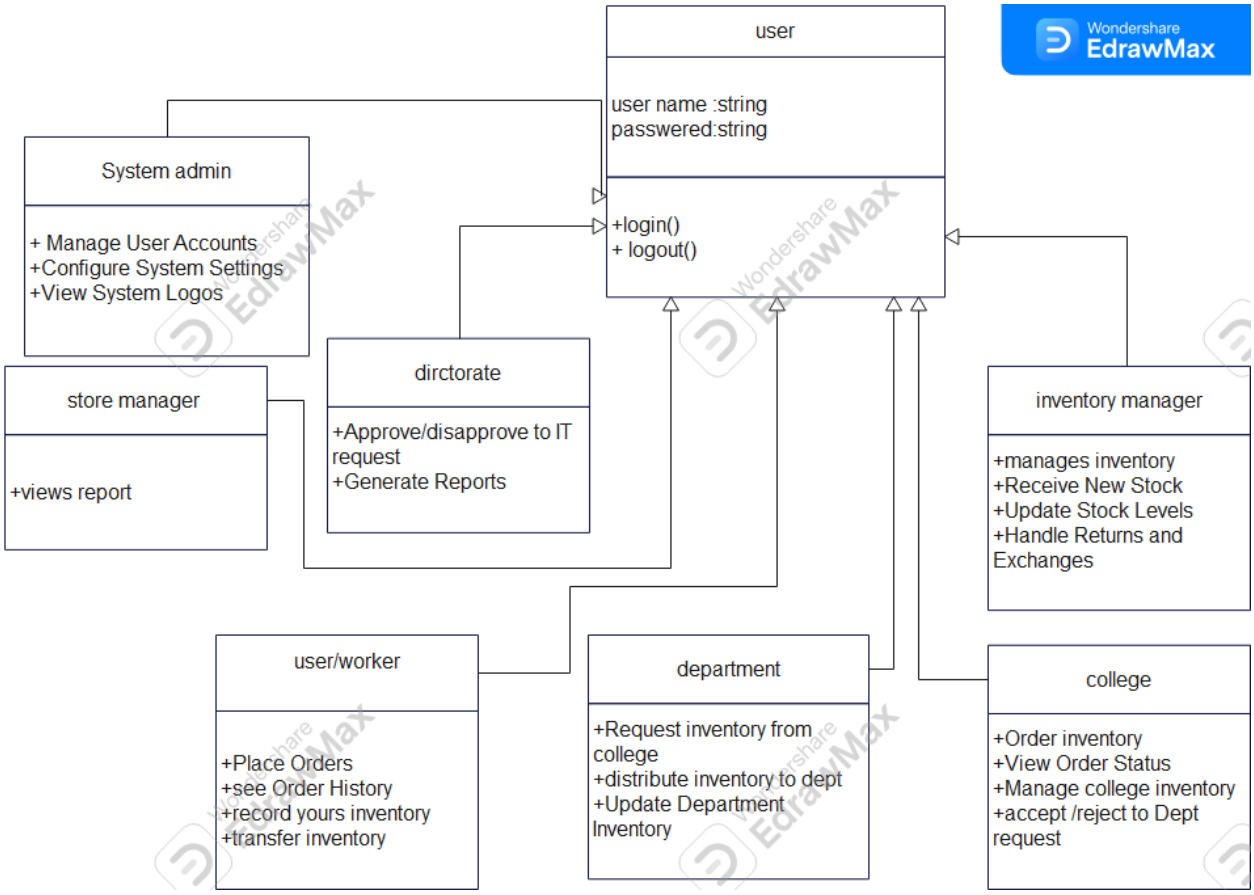

Figure 16:class diagram

discussion

Improved Inventory Management:

The prototype's inventory management module enables efficient tracking and management of product details and stock levels.

Store administrators can easily monitor inventory status, identify low stock items, and take timely actions such as restocking.

Conclusion

the DMU Store Management System prototype offers a comprehensive solution for managing various aspects of a store's operations. With its user-friendly interface, the system facilitates efficient inventory management and enhanced employee management, insightful reporting, and customization options. By implementing this prototype, store administrators can benefit from improved operational efficiency, better decision-making capabilities, and a more organized and effective management of their store. Overall, the DMU Store Management System prototype provides a valuable tool for optimizing store operations and driving overall business success.

Recommendation

Provide comprehensive user training materials and support resources to assist administrators in effectively utilizing the system's features and functionalities.

By considering these recommendations, the DMU Store Management System can be further improved and tailored to meet the evolving needs of the store and its administrators, ultimately enhancing operational efficiency, decision-making capabilities, and customer satisfaction.