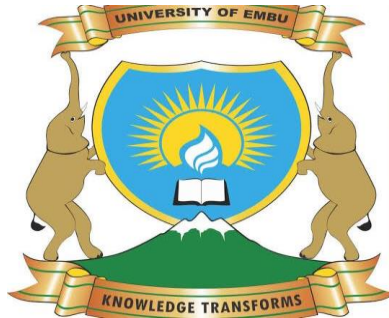# UNIVERSITY OF EMBU

INDUSTRIAL ATTACHMENT REPORT

Name : Benard Gichuchi Maina

 Adm Number: B135/23243/2022

 Course: Bachelor of Science in Computer Science

Attachment Institution:

Office of the Director of Public Prosecutions (ODPP) – ICT Division

Attachment Period:

22nd April 2025 – 22nd august 2025

Supervisors:

Internal Supervisor: Dr. Mugo

 External Supervisor: Mr. Alex Macharia

Submitted to:

University of Embu
Department of Computing and Informatics

Date of Submission: …………………….…..

Acknowledgement

I wish to express my sincere gratitude to the **University of Embu** for granting me the opportunity to undertake my industrial attachment, which has significantly contributed to my academic and professional development.

My heartfelt appreciation goes to the **Office of the Director of Public Prosecutions (ODPP) – ICT Division** for graciously hosting me during the attachment period. I am especially grateful to the entire ICT team for their unwavering support, mentorship, and the wealth of practical knowledge they imparted throughout my stay.

Special recognition goes to my **internal supervisor, Dr. Mugo**, and my **external supervisor, Mr. Alex Macharia**, whose guidance, encouragement, and constructive feedback were instrumental in the success of my attachment experience. I also thank the **University's Department of Computing and Information technology** and the **Industrial Liaison Office** for their efforts in coordinating and supporting this program.

Finally, I am deeply thankful to **God Almighty** for granting me good health, wisdom, and strength throughout this journey.

Abstract / Executive Summary

This report presents a detailed summary of the four-month industrial attachment undertaken at the **Office of the Director of Public Prosecutions (ODPP) – ICT Division**, from 22nd **April to 22nd august 2025**, as part of the academic requirement for the **Bachelor of Science in Computer Science** at the **University of Embu**.

The objective of the attachment was to bridge the gap between academic theory and industry practice by exposing me to realworld ICT environments. This report captures the scope of activities performed, the technical and professional skills acquired, the challenges encountered, and the solutions implemented. It also highlights lessons learned and proposes recommendations for enhancing future attachment programs.

Throughout the attachment period, I was actively involved in key ICT operations, including but not limited to:

- Hardware diagnostics, maintenance, and component replacement.

- Software installation and configuration of operating systems and applications.

- Printer troubleshooting and IP configuration across multiple departments.

- LAN and WAN network setup, troubleshooting, and documentation.

- Participation in field visits to satellite offices, such as **Makadara Law Courts**, to restore network connectivity and resolve technical faults.

- Assisting end-users with both hardware and software-related support issues.

- Contributing to the documentation of technical procedures and asset tracking.

This practical exposure significantly strengthened my technical competencies in system administration, networking, and ICT support, while also enhancing vital soft skills such as communication, professionalism, adaptability, and teamwork. I also gained firsthand experience working within a public institution governed by structured ICT policies and regulatory frameworks.

The report concludes with reflective insights into my personal and professional growth, followed by strategic recommendations for improving the effectiveness of the industrial attachment program. It also recognizes and appreciates the pivotal role played by the **University of Embu**, the **ODPP**, and all supervising parties in making this attachment both impactful and memorable.

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- **Chapter 1: Introduction**

- **1.1 Background of the Industrial Attachment**

- Industrial attachment is a structured and supervised professional engagement that bridges the gap between academic learning and real-world practical experience. As part of the curriculum for the Bachelor of Science in Computer Science at the University of Embu, am required to undergo industrial attachment to acquire firsthand exposure to professional environments. The training enables me to develop workplace ethics, technical competencies, and the soft skills necessary to adapt to the dynamic field of Information and Communication Technology (ICT).

- In line with this academic requirement, I was attached to the **ICT Division of the Office of the Director of Public Prosecutions (ODPP)** from **22nd April 2025 to 22nd august 2025**. The institution offered a comprehensive and supportive environment, which allowed me to actively participate in real-time ICT tasks and initiatives. This placement served as a critical learning experience in understanding how ICT infrastructure supports the operations of a key government agency tasked with delivering justice and upholding the rule of law.

- **1.2 Objectives of the Attachment**

- The main objectives of the industrial attachment were:

- To **apply theoretical knowledge** gained in class to solve practical ICT problems in a real organizational setting.

- To **gain hands-on experience** in ICT operations including network configuration, hardware/software maintenance, and user support.

- To **understand the application of ICT policy frameworks and data protection** in the context of a sensitive government environment.

- To **develop critical thinking, problem-solving**, and **technical documentation** skills by engaging in projects and fieldwork activities.

- To **enhance interpersonal, communication, and teamwork** abilities through collaboration with ICT professionals and other department staff.

- These objectives were aligned with both the learning outcomes of the BSc. Computer Science program and the strategic goals of the host institution.

- **1.3 Importance of the Attachment**

- The industrial attachment was of immense importance in my academic and professional journey for several reasons:

- It exposed me to the **inner workings of government ICT systems**, including secure email configurations, domain control, and user authentication.

- I had the opportunity to work with **advanced tools and technologies**, such as network analyzers, remote desktop systems, system imaging tools, and cybersecurity software.

- I gained insight into **technical report writing, documentation standards**, and inventory tracking for ICT assets, which are crucial in corporate IT environments.

- By participating in **technical meetings and court assignments** such as resolving network issues at Makadara Law Courts, I gained a broader perspective on the impact of ICT in supporting justice delivery.

- The experience helped me **build professional relationships**, receive mentorship from experts in the ICT Division, and learn to adapt to new tasks with minimal supervision.

- In conclusion, the industrial attachment provided a rich learning experience that significantly enhanced my technical proficiency and professional readiness. The subsequent chapters of this report present a deeper reflection on the department, tasks accomplished, skills acquired, and the value derived from the attachment.

Chapter 2: Department (Institution/Organization) Overview

    2.1 Overview of the ODPP

The **Office of the Director of Public Prosecutions (ODPP)** is an independent constitutional office established under **Article 157 of the Constitution of Kenya, 2010**. It is mandated to **institute, undertake, and oversee criminal prosecutions** against any individual or entity in Kenya, with the aim of promoting justice, upholding the rule of law, and ensuring public safety. The ODPP operates independently, without interference from any authority, ensuring fairness and accountability in its prosecutorial decisions.

With headquarters in **Nairobi**, the ODPP maintains **over 130 satellite offices** across the 47 counties in Kenya, including field stations attached to magistrate and high courts. These widespread operations demand a robust and reliable ICT infrastructure to support its mission.

    2.2 The ICT Division of ODPP

The **Information and Communication Technology (ICT) Division** is a critical component of the ODPP. It ensures the proper functioning of technological systems and services that support legal and administrative operations. The

ICT Division reports to the Office of the Secretary, Director of Central Services and is coordinated at the national level.

The division comprises **network administrators, system analysts, ICT officers, database specialists, support technicians,** and **cybersecurity personnel**. They work together to provide technical services, secure information systems, and maintain up-to-date infrastructure.

2.3 Core Functions of the ICT Division

The key responsibilities of the ICT Division include but are not limited to:

- **ICT Infrastructure Management**

  - Deployment, monitoring, and maintenance of ICT hardware and software across all ODPP offices. ○ Server administration (e.g., Windows Server 2016/2019, Active Directory, DNS, DHCP). ○ Managing LAN/WAN infrastructure, routers, switches, and firewalls.

- **Technical Support Services**

  - Handling daily user support requests including troubleshooting hardware/software issues.

  - Printer and scanner configuration.

  - Training ODPP staff on basic IT literacy and new systems.

- **System Installations and Upgrades**

  - Installation of Windows OS, antivirus software, and productivity tools (MS Office, Adobe). ○ Migration and upgrades of systems from legacy software to secure, updated platforms.

- **Cybersecurity and Data Protection**

- o Enforcing ODPP's data protection policies in line with the **Data Protection Act, 2019**. o Monitoring threats and ensuring endpoint security through antivirus and firewall tools.

- o Backups and disaster recovery planning.

- **Communication and Data Platforms Support**

  o Maintenance of internal email systems (e.g., Microsoft Exchange). o Support for video conferencing tools and collaborative platforms (e.g., MS Teams, Zoom). o Ensuring continuous internet connectivity and VOIP communication tools.

2.4 Staff Structure and Coordination

The ICT Division is headed by the **Head of ICT**, who oversees day-to-day operations and strategic planning. Below the head are **regional ICT coordinators**, who are responsible for specific counties or regions. Field ICT officers provide localized support to court stations and regional offices.

The team structure promotes specialization, collaboration, and efficient incident handling. Interns and attachés are integrated into various units based on need, under the supervision of experienced staff.

2.6 Importance of the ICT Division to ODPP's Mission

Without the ICT Division, the legal and administrative arms of the ODPP would not function effectively. From **courtroom evidence presentation systems** to **digital communication**, **legal research**, and **case file tracking**, every critical prosecutorial process is either supported or driven by ICT. The Division ensures that justice is not delayed due to technical failures and

that the ODPP remains compliant with national ICT and data privacy standards.

Chapter 3: Discussion of the Attachment

This chapter outlines the practical experience, tasks, and engagements I undertook during my industrial attachment at the Office of the Director of Public Prosecutions (ODPP) – ICT Division from 22nd April 2025 to 22nd august 2025. The attachment provided a valuable platform to apply academic knowledge in a real-world professional environment and offered a holistic understanding of ICT functions within a government institution.

3.1 Routine Tasks and Responsibilities

During the course of the attachment, I was actively involved in a variety of daily and weekly responsibilities that enhanced my technical proficiency, communication, and professional conduct. These tasks included:

1. **Diagnosing and repairing computer and printer hardware faults**, including replacing hard drives, memory modules, CMOS batteries, and power supplies.

2. **Installing and updating Windows operating systems** (Windows 10/11), drivers, and productivity applications like MS Office, Acrobat Reader, and antivirus tools.

3. **Configuring network printers with static IPs** for centralized domain-based printing across office floors.

4. **Troubleshooting internet connectivity** for ODPP field offices such as Makadara.

5. **Performing routine preventive maintenance** of ICT equipment, such as cleaning workstations, checking UPS batteries, and ensuring cooling in server rooms.

6. **Creating and managing domain user accounts** in Active Directory, including assigning folder access rights and resetting passwords.

7. **Running diagnostic tools** (e.g., Windows Memory Diagnostic, chkdsk, and SFC) to identify and resolve software-related issues.

8. **Setting up projectors and courtroom display systems** for presentations by legal teams and internal training sessions.

9. **Supporting staff during system downtimes**, guiding them on workarounds or resolving problems directly.

10. **Organizing and labeling cables** in the server room to improve access, airflow, and reduce downtime during support.

11. **Engaging in field visits to other ODPP locations** for inspection of ICT setups and checking user complaints.

12. **Learning and participating in basic procurement procedures**, including the generation of technical specifications for ICT hardware.

13. **Setting up new workstations**, including domain joining, naming conventions, and email configuration.

14. **Providing training to interns and newly recruited staff** on basic ICT policy compliance.

3.2 Advanced and Specialized Tasks

In addition to routine tasks, I had the opportunity to work on more complex technical activities under supervision, which deepened my professional capabilities and understanding of real ICT operations in a government setting.

- **VPN Troubleshooting:**
  Participated in diagnosing and resolving issues with ODPP's VPN, which allows prosecutors to securely access internal resources remotely. This included firewall rules, credential synchronization, and endpoint validation.

- **Network Configuration and Management:**
  Assisted in editing **DHCP scopes**, assigning **static IP reservations**, and verifying **MAC address bindings** using managed switches and routers (e.g., Cisco and MikroTik).

- **Disk Imaging and Deployment:**
  Worked with **Clonezilla** and **Acronis True Image** to deploy system images to multiple machines, reducing software setup time and ensuring uniform configurations.

- **Cybersecurity Practices:**
  Participated in implementing **password management policies**, configuring **user access controls**, and discussing incident response strategies with senior ICT officers.

- **Hardware Compatibility Assessment:**
  Helped compare specifications of proposed ICT hardware for acquisition, considering power ratings, compatibility, costefficiency, and ODPP's operational needs.

- **Inventory Management:**
  Took part in conducting an **ICT asset audit** using asset management tools and updating inventory records for desktops, laptops, printers, and accessories.

- **ICT Policy Implementation:**
  Reviewed internal ICT policy documents and helped ensure compliance with guidelines such as the **ODPP ICT Use Policy** and **Data Backup Policy**.

3.3 Interpersonal and Collaborative Engagements

Throughout the attachment, I was encouraged to interact with different professionals across various departments, which nurtured interpersonal and organizational skills. These interactions helped me:

- Work as part of a **multidisciplinary team** involving legal, procurement, HR, and administrative staff.

- Participate in **departmental meetings**, where strategic planning was shared.

- Communicate technical issues and updates clearly to nontechnical staff members.

- Coordinate with **external service providers** during warranty repairs, network upgrades, and scheduled maintenance visits.

3.4 Learning Outcomes

The experience at ODPP significantly shaped my professional growth. I gained:

- **Hands-on experience** with enterprise ICT systems and structured troubleshooting techniques.

- Exposure to **real-world ICT governance policies**, compliance, and documentation standards.

- Appreciation for **data security protocols** and best practices in a public institution.

- Improved capacity to work under pressure and independently manage technical issues.

Chapter 4: Conclusion, Achievements, Challenges, and Recommendations

4.1 Conclusion

The industrial attachment at the **Office of the Director of Public Prosecutions (ODPP) – ICT Division** was an enriching, transformative, and intellectually stimulating experience. Over the course of four months, I transitioned from a theoretical learner to a practical contributor within a dynamic government ICT environment. The handson exposure to real-time challenges and mission-critical operations equipped me with industry-relevant skills and a deeper understanding of ICT's role in public service delivery.

I not only improved my technical capacity in hardware, networking, and systems administration, but also developed soft skills such as professional communication, time management, documentation, and teamwork. These skills have significantly enhanced my readiness for the job market and reaffirmed my passion for contributing to public service through technology.

4.2 Achievements

During the attachment, I accomplished the following:

- **Resolved over 30 hardware and software-related support tickets**, often independently, after initial training.

- **Effectively supported domain printing, user account management**, and shared resource access in a live enterprise environment.

- **Participated in field-level technical support missions** , successfully diagnosing connectivity issues and performing on-site repairs.

- **Contributed to ICT policy awareness** by supporting staff in interpreting acceptable usage policies and basic cyber hygiene practices.

- **Successfully configured workstations and supported system rollouts** without disruption to critical legal processes.

4.3 Skills Gained

Through the structured mentorship and open learning environment at ODPP, I acquired the following hard and soft skills:

Technical Skills

- Computer assembly, disassembly, and component-level diagnosis.

- Operating system installation and configuration (Windows 10/11).

- Network IP configuration, DHCP reservation, and printer IP mapping.

- User account and access control management using Active Directory.

- System hardening basics and implementing cybersecurity best practices.

- Server room equipment handling, cable patching, and labelling.

Professional & Interpersonal Skills

- Communicating technical findings in written and oral formats.

- Collaborating with team members across technical and legal departments.

- Prioritizing tasks based on urgency and aligning with ODPP's mission.

- Practicing discretion when dealing with sensitive legal and administrative data.

4.4 Challenges Faced

While the experience was largely successful, it came with a few challenges that presented learning opportunities:

1. **Limited Access to Certain Administrative Systems**
   Due to the sensitivity of government data, access to some core applications and servers was understandably restricted. However, this challenge was managed through observation and discussionbased learning.

2. **Balancing Multiple Tasks During Peak Hours**
   The division occasionally experienced high volumes of support requests, requiring multitasking and rapid prioritization—key professional skills that I honed over time.

4.5 Recommendations

To improve the experience and outcomes of future industrial attachments at ODPP and similar organizations, I propose the following: .

- **Include interns in strategic meetings** occasionally to expose them to organizational planning and decision-making processes.

4.6 Appreciation to the University

I extend my heartfelt gratitude to the **University of Embu**, particularly the Department of Computing and information technology, for making industrial attachment a compulsory part of the academic program. This foresight bridges the gap between theory and practice, ensuring that graduates are better prepared for the demands of the job market.

The university's collaboration with reputable institutions such as ODPP reflects its commitment to producing competent, ethical, and solutionoriented ICT professionals. I am deeply thankful for this

opportunity and proud to represent the University of Embu in a national government office.

Chapter 5: Bibliography / References

- This section includes the key materials, documents, and sources of information that were consulted and referenced during the industrial attachment period. These sources supported both

  practical tasks and conceptual understanding of ICT operations in a government setting.

- **Primary References**

- **ODPP ICT Policy Guidelines**
  Internal document outlining policies on cybersecurity, access control, system usage, data privacy, and ICT governance within the ODPP.

- **University of Embu Industrial Attachment Guide**
  Official guide from the University outlining expectations, structure, reporting format, and evaluation criteria for industrial attachment.

- **Supervisor Interviews and Briefings**
  Daily and weekly guidance from the ICT officers and supervisors at ODPP, including verbal and written instructions during mentorship.

- **Secondary References**

- **Cisco Networking Essentials**
  Cisco Press (2nd Edition) – A foundational guide to networking principles, IP addressing, switching, and network security.

- **Microsoft Windows Deployment Manual**

Microsoft Official Documentation – Comprehensive manual on Windows OS installation, configuration, group policy settings, and deployment tools.

- **Kenya National Cybersecurity Strategy (2022–2027)** Ministry of ICT, Innovation and Youth Affairs – A public policy document highlighting national approaches to securing information systems.

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Chapter 6: Appendices

The appendices provide supplementary information that supports the content of the report. They include detailed records, visual evidence, reference documents, and feedback materials relevant to the attachment experience at the ODPP – ICT Division.

Appendix A: Daily Logbook Entries

This appendix contains a summarized log of daily activities, tasks, and duties performed from **14th April to 22nd July 2025**. It provides a chronological account of engagement, highlighting technical assignments, supervisory interactions, and knowledge gained.

Appendix B: Photos of Tasks Performed

This appendix includes photographic documentation of tasks conducted during the attachment period. These photos serve as evidence of participation in:

- Hardware repair and maintenance

- Cable management and network setup

- Printer configuration and labeling

Appendix C: Network Topologies and Printer IP Configuration Screenshots

Includes:

- Labeled diagrams of local area network (LAN) topologies used at ODPP headquarters and branch offices

- Sample screenshots of printer IP configuration settings and device access permissions

- DHCP settings and VLAN configurations on Cisco switches where applicable

Appendix D: Supervisor's Feedback and Assessment Form

Submitted in a confidential enverope