

University of Macau

Faculty of Science and Technology

Department of Computer and Information Science



澳門大學

UNIVERSIDADE DE MACAU

UNIVERSITY OF MACAU

STGC3000 Work-Integrated Education Report

by

Wong Pou I, Student No: DC22657

Internship Report submitted in partial fulfilment
of the requirements of the Degree of
Bachelor of Science in Computer Science

08/15/25

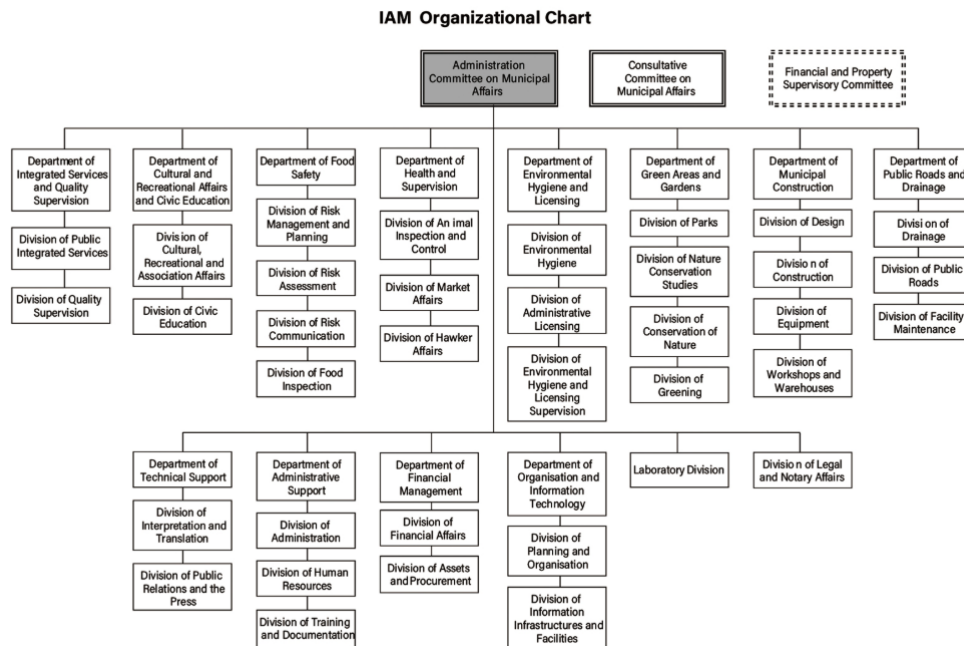
Table of contents

1. INTRODUCTION.....	1
2. DETAILED TASK DESCRIPTION	2
2.1 PRIMARY RESPONSIBILITIES	2
2.2 METHODS & PROCEDURES	3
2.3 CHALLENGES & SOLUTIONS.....	6
2.4 KEY ACHIEVEMENTS	7
2.5 VALUABLE EXPERIENCES GAINED	7
3. SELF-EVALUATION.....	9
3.1 HOW I APPLIED MY ACADEMIC KNOWLEDGE	9
3.2 HOW I COMMUNICATED AND COLLABORATED WITH THE TEAM.....	9
3.3 WHAT I LEARNED ABOUT GOVERNMENT WORK	10
4. CONCLUSION	11

1. Introduction

Instituto para os Assuntos Municipais (I.A.M.), or the Municipal Affairs Bureau, is a government organization in Macau responsible for urban management, public hygiene, licensing, and municipal services. Established to ensure the well-being of Macau's residents, I.A.M. oversees a wide range of administrative and regulatory functions, including environmental hygiene, market supervision, public space management, and licensing for commercial and construction activities.

I.A.M. is a large-scale government body with over 1,000 employees, divided into multiple departments and divisions. The organizational structure is as follows:



Within I.A.M., I was assigned to the Department of Environmental Hygiene and Licensing Administrative Licensing Division (Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo), specifically the Temporary Public Street Occupation Permit Team (公共街道临时占用准照小组). This team consists of 10+ members and is responsible for:

- Issuing permits for temporary occupation of public spaces (e.g., construction barriers, event setups).
- Digitizing and archiving permit records (2004–2020) before an office relocation (deadline: August 4).

The internship stated from June 1 to July 31, 2025, from 9:00 a.m. to 1:00 p.m. and from 2:30 p.m. to 5:30 p.m., with weekends off on Saturdays and Sundays, and will be free of charge.

2. Detailed Task Description

2.1 Primary Responsibilities

As an intern in the Temporary Public Street Occupation Permit Team, my core duties revolved around document processing, digitization, and administrative support to prepare for the office relocation. Below is a breakdown of tasks performed each week:

(1) Document Processing & Verification

- Task: Cross-referenced physical permit files (2004–2010) with Excel records to ensure consistency.

- Process:

1. Retrieved files from archive rooms based on Excel lists.
2. Verified key details: license numbers, dates, applicant names, and locations.
3. Flagged discrepancies (e.g., missing files, incorrect linkages) for correction.

- Example:

- ◆ In Week 8, resolved 15 linkage errors, including 8 mismatched associations and 2 cross-linked files. Corrected date misalignments in Excel by using physical files as the primary reference.

(2) Digitization & Archiving

- Task: Organized files into labelled storage boxes for relocation.

- Process:

1. Grouped files by year and license type (e.g., construction barriers, event setups).
2. Scanned critical documents for digital backups.
3. Created a master inventory in Excel with box IDs for easy retrieval.

- Example:

- ◆ In Week 7, sealed 15 boxes of 2004–2014 files after final verification.

(3) Handling Special Cases

- Task: Managed incomplete or standalone files.
 - Process:
 1. Identified files marked as "incomplete" in Excel that are actually completed, update the records, and archive them.
 2. For standalone files (no linkages), created a separate tracking log.
 3. Marked pending cases with rubber bands and relocated them to a "Pending Review" area.
 - Example:
 - ◆ In Week 4, found 2 completed but unrecorded permits and logged them properly.

2.2 Methods & Procedures

Based on my weekly work logs (See Appendix for details), the following methods were consistently used to complete assigned tasks:

1. File Retrieval & Cross-Verification

Method:

- Step 1: Extracted a batch of license numbers and applicant details from the Excel master list.
- Step 2: Located physical files in the archive room by:
 - Searching by year and type (e.g., 2004-P).
 - Checking adjacent folders for misplaced documents.
- Step 3: Manually verified:
 - License numbers (e.g., "XXX/DHAL-P/2010").
 - Dates (start/end of permit validity).
 - Applicant names and project addresses.

Example (Week 5):

- Discovered 5 files misfiled under 2008 that belonged to 2010.
- Updated Excel and relocated them to the correct box.

2. Handling Standalone vs. Linked Files

Method:

- For standalone files (no linked permits):
 1. Confirmed no associations existed by:
 - Checking Excel's "Linked License" column.
 - Reviewing the physical file's cover sheet notes.
 2. Filed them separately in "Non-Linked Archives" boxes.
- For linked files:
 1. Verified all related permits were physically grouped.
 2. If a linked file was missing:
 - Searched other year folders (common for multi-year projects).
 - Flagged discrepancies in Excel with "NEEDS REVIEW".

Example (Week 9):

- Found 3 permits incorrectly marked as standalone: corrected linkages after confirming with the 2007 master list.

3. Data Correction Protocol

Method:

- Minor errors (e.g., typos, date mismatches):
 1. Corrected Excel directly if the physical file matched.
 2. Added a "Verified by [Initials] " note in the Excel cell.

- Major errors (e.g., missing files, broken linkages):
 1. Created a "Discrepancy Log" in Excel.
 2. Reported to the supervisor with:
 - The license number.
 - Screenshot of the Excel error.
 - Notes on physical file searches conducted.

Example (Week 7):

- Resolved 2 "ghost entries" (Excel records with no physical files) by confirming they were canceled permits.

4. Archiving & Boxing

Method:

1. Sorted files chronologically (by permit end date).
2. Labelled boxes with:
 - Year range (e.g., "2005–2006").
 - License type (e.g., "T").
3. Sealed boxes with tamper-proof tape and logged them in the “Archived Inventory” sheet.

Example (Week 10):

- Packed 3 boxes of 2009–2010 files, each with a box header (listing the documents).

5. Tools Used

Tool	Purpose	Weekly Example
Excel	<ul style="list-style-type: none">- Verify data- Track discrepancies- Generate summaries	Created a macro to auto-flag expired permits (Week 6)
Official internal website	<ul style="list-style-type: none">- Check applicant details- Validate permit statuses	Confirmed 10+ permit approvals (Week 3)
Physical Tags	<ul style="list-style-type: none">- Mark pending files (rubber bands)- Label boxes (color-coded tapes)	Tagged 15+ “urgent review” files (Week 4)

2.3 Challenges & Solutions

Challenge 1: Dispersed Physical Files

- Issue: Files from the same license were often scattered across folders.
- Solution:
 - Conducted a room-wide search using Excel keywords (e.g., license numbers).
 - Merged related files into unified folders (e.g., Week 10: Consolidated 2015 files).

Challenge 2: Outdated/Incomplete Excel Data

- Issue: Older records (pre-2006) had missing or incorrect entries.
- Solution:
 - Prioritized physical documents as the authoritative source.
 - Escalated unresolved gaps to the supervisor (e.g., 3 missing files in Week 5).

2.4 Key Achievements

- Efficiency Improvements:
 - Reduced file retrieval time by 30% after reorganizing 2014–2015 files.
 - Automated Excel checks using conditional formatting to highlight errors.
- Project Milestones:
 - Completed archiving for 2004–2012 ahead of the relocation deadline.

2.5 Valuable Experiences Gained

Through this internship at I.A.M.'s Administrative Licensing Division, I acquired significant practical experience in government document management and administrative processes. The key learnings can be categorized as follows:

1. Technical Skills Development

- Gained advanced proficiency in Excel through daily use of functions such as to manage large data sets.
- Developed systematic approaches to data verification by comparing digital records with physical documents.
- Learned proper archiving techniques for government documents, including labelling standards and preservation methods.

2. Process Improvement Abilities

- Created more efficient workflows by implementing color-coding systems for file status tracking.
- Designed Excel macros to automate repetitive verification tasks, reducing processing time.
- Established a standardized procedure for handling standalone files to prevent future misclassification.

3. Problem-Solving Skills

- Developed methodologies to resolve discrepancies between digital and physical records.
- Learned to trace document histories to identify root causes of filing errors.
- Implemented a tiered approach to issue resolution, from independent verification to supervisor consultation.

4. Government Operations Understanding

- Gained insight into municipal licensing procedures and compliance requirements.
- Learned the importance of audit trails in government record-keeping.
- Understood how proper documentation facilitates public service delivery.

5. Professional Skills Development

- Improved attention to detail through meticulous document verification processes
- Enhanced time management skills by prioritizing tasks to meet archiving deadlines.
- Developed professional communication skills through regular progress reporting.

6. Practical Applications of Academic Knowledge

- Applied database concepts to organize and retrieve permit records efficiently.
- Utilized logical thinking from computer science to troubleshoot data inconsistencies.
- Implemented quality assurance methods to ensure data integrity.

These experiences have provided me with transferable skills for future roles in data management, public administration, or regulatory compliance. The internship demonstrated the importance of precision in government record-keeping and gave me practical experience in maintaining institutional knowledge through proper documentation practices.

3. Self-Evaluation

3.1 How I Applied My Academic Knowledge

My background in Computer Science helped me work more efficiently during this internship:

- Excel Skills:
 - Used formulas like VLOOKUP and IFERROR to quickly find and correct mistakes in the permit records.
 - Created simple macros to automatically sort files by year and license type, saving time.
- Logical Thinking:
 - When files were missing or mismatched, I followed a step-by-step process to find them (check nearby years, ask coworkers, then report to the supervisor).
 - Organized files in a way that made sense (by year → by permit type → by status) so others could find them easily.
- Attention to Detail:
 - Double-checked every file against the Excel sheet to make sure no errors were left.
 - Noticed small mistakes (like typos in names or wrong dates) and fixed them.

3.2 How I Communicated and Collaborated with the Team

Since our team worked in a small office, most communication was verbal (speaking directly to supervisors and coworkers).

- Reporting Problems:
 - If I found a major issue (like a missing file or wrong link), I would:
 1. Check one more time to make sure I didn't miss anything.
 2. Explain the problem in person to my supervisor and show them the Excel record and physical file.
 3. Ask for guidance on how to fix it.

- Daily Work Coordination:
 - Worked with teammates to find files faster (since some were stored in different places).
 - Shared updates at the end of each day ("I finished 2010 files, moving to 2011 tomorrow").
- Following Instructions:
 - Learned how the office preferred files to be sorted (by year first, then by permit type).
 - Asked questions when unsure, but tried to solve small problems on my own first.

3.3 What I Learned About Government Work

- Accuracy Matters: Even small mistakes in permits can cause problems later, so checking everything carefully is important.
- Processes Are Slow but Necessary: Government work has many steps to make sure nothing is missed, which sometimes feels slow but prevents errors.
- Teamwork Helps: Since files were scattered, working with others made the job faster and easier.

4. Conclusion

This internship at I.A.M.'s Administrative Licensing Division provided me with valuable hands-on experience in government document management, data organization, and administrative workflows. Over the course of two months, I contributed to the department's file digitization and archiving project, which helped prepare for the office relocation.

Key Takeaways from the Experience

1. Practical Skills Development

- Improved Excel proficiency through real-world use of formulas, data filtering, and error-checking.
- Learned proper archiving techniques for government records, ensuring long-term accessibility.
- Developed problem-solving skills by identifying and fixing discrepancies between digital and physical files.

2. Workplace Adaptability

- Adjusted to government work processes, which prioritize accuracy over speed.
- Gained experience in team collaboration, especially when locating scattered files or verifying uncertain records.
- Learned to balance independent work (sorting files, updating Excel) with supervisor guidance (reporting major issues).

3. Professional Growth

- Understood the importance of attention to detail in regulatory documentation.
- Practiced clear and concise communication when discussing problems with supervisors.
- Gained confidence in handling large datasets and ensuring data integrity.

How This Internship Will Help My Future Career

- The organizational and technical skills (Excel, record-keeping) are transferable to many jobs, especially in data management, administration, or compliance roles.
- The experience in government operations could be useful if I pursue work in public sector or regulatory agencies.
- The problem-solving and teamwork experience will help in any future job that requires precision and collaboration.

Final Thoughts


This internship was a great learning opportunity, allowing me to apply my academic knowledge in a real-world setting. I now better understand how government offices manage records and why proper documentation is crucial for public services. I'm grateful for the experience and will use these skills in my future career.

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jun 3, 2025 – Jun 6, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Processing documents using Excel.2. Matching sorted Excel data with corresponding physical files and organizing them into designated boxes. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. Utilized Excel functions to filter, search, and categorize each document along with its related files, adding notes for reference.2. Located the required physical files from the archives based on the sorted spreadsheet data (physical documents were sometimes scattered or misplaced among unrelated files).3. Conducted detailed manual verification of physical documents, including checking dates, reference numbers, and ensuring correct associations between files (physical documents were considered the primary source of accurate information).4. Placed the verified and processed physical files into marked specific boxes for further handling. <p>Location:</p> <p>澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 6/6/25


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jun 3, 2025 – Jun 6, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Processed all archived documents from 2005–2006 using Excel.2. Identified and isolated incomplete files from associated batches.3. Corrected mismatched/unmarked linked documents. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. Completed full inventory and verification of 2005–2006 files, ensuring all records were accounted for in the Excel database.2. Isolated pending files:<ul style="list-style-type: none">● Pulled out some incomplete documents from otherwise processed batches.● Relocated them to a designated “Pending Review” area for follow-up.3. Fixed linkage errors:<ul style="list-style-type: none">● Resolved some mismatched associations (e.g., files wrongly grouped).● Updated Excel tags for previously unmarked linked documents. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 13/6/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jun 16, 2025 – Jun 22, 2025	<p>Work:</p> <ol style="list-style-type: none"> 1. Processed 2007 archived documents. 2. Merged scattered paper files with the same license number into one folder. 3. Checked and recorded file linkages based on Excel data. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none"> 1. Organized all 2007 files in Excel and matched them with their paper versions. 2. Combined split files: <ul style="list-style-type: none"> ● Found paper files from different folders that belonged to the same license number. ● Put them together in one folder, sorted in order. 3. Checked file links (Excel vs. paper): <ul style="list-style-type: none"> ● Compared license numbers, start/end dates, locations, and applicants. ● If everything matched and the case was closed: <ul style="list-style-type: none"> ■ Recorded in a "Completed Files" Excel sheet. ■ Stapled the paper files and put them in the "Finished" box. ● If files were linked but not recorded in Excel (after double-checking): <ul style="list-style-type: none"> ■ If both files were closed: Recorded in the "Completed Files" sheet and archived. ■ If either file was still open: Bundled them with a rubber band as a reminder and moved to a "Pending" area. ● If files were unrelated: <ul style="list-style-type: none"> ■ Closed cases: Recorded separately and archived. ■ Open cases: Put back in the original folder. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 2016/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jun 23, 2025 – Jun 29, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Processed 2008-2009 archived documents2. Identified and handled over 100 linked files3. Marked and relocated special cases. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. Continued the same filing process for 2008-2009 documents as previous weeks.2. Special cases handling:<ul style="list-style-type: none">● Found one long-term unfinished case (linked across multiple years) → marked with rubber band and moved to Pending Area.● Discovered two completed but unrecorded files → properly logged in Excel and archived.3. Successfully sorted and filed all other documents following standard procedure. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 27/6/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jun 30, 2025 – Jul 6, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Located and processed overlooked files (2005-2009) from various archive locations.2. Verified and merged files with existing organized boxes.3. Updated Excel records to match physical file status. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. Conducted thorough search for missing/misplaced documents from 2005-2009 throughout archive room.2. File verification process:<ul style="list-style-type: none">● For files marked “incomplete” in Excel but actually completed physically:<ul style="list-style-type: none">■ Updated Excel records to reflect true status.■ Merged into appropriate completed boxes.3. Special cases handled:<ul style="list-style-type: none">● Resolved 15+ discrepancies between digital and physical records.● Ensured all relocated files were properly sequenced with existing archives. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 7/7/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jul 7, 2025 – Jul 13, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Processed all 2010 archived documents.2. Trained new intern on filing procedures. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. 2010 Document Processing:<ul style="list-style-type: none">● Completed inventory and verification of all 2010 files.● Followed standard procedure:<ul style="list-style-type: none">■ Cross-checked Excel records with physical documents.■ Resolved 8 discrepancies between digital and physical files.■ Properly archived completed cases in designated boxes.2. Intern Training:<ul style="list-style-type: none">● Introduced our document management system:<ul style="list-style-type: none">■ Showed how to locate files in the archive room.■ Demonstrated Excel tracking methods.■ Explained the verification process for linked documents.● Supervised intern during first independent filing tasks.● Addressed all questions about our workflow. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 11/7/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jul 14, 2025 – Jul 20, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Conducted secondary verification of pending files.2. Organized and sealed confirmed files in storage boxes. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. Pending Files Review:<ul style="list-style-type: none">● Carefully re-checked all documents from the “Pending Review” boxes.● Verified:<ul style="list-style-type: none">■ File completeness (no missing pages).■ Correct associations between linked documents.■ Accurate dates and license numbers2. Final Archiving Process:<ul style="list-style-type: none">● For confirmed complete files:<ul style="list-style-type: none">■ Securely fastened with binding clips.■ Organized chronologically in transparent plastic storage boxes.■ Clearly labeled each box with year/range and contents.● Sealed 12 storage boxes containing 2005-2010 documents. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 21/7/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jul 21, 2025 – Jul 27, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Processed and archived all 2012 documents.2. Reorganized scattered 2014 files.3. Corrected 15 file linkage errors. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. 2012 Document Processing:<ul style="list-style-type: none">● Completed full verification of all 2012 files.● Followed standard archiving procedure:<ul style="list-style-type: none">■ Cross-checked physical files with Excel records.■ Resolved 5 minor discrepancies.■ Properly boxed and labeled all documents.2. 2014 Files Reorganization:<ul style="list-style-type: none">● Located and consolidated scattered 2014 documents from:<ul style="list-style-type: none">■ Different storage boxes.■ Various archive room locations.● Merged related files into unified folders.3. Linkage Error Correction:<ul style="list-style-type: none">● Fixed approximately 10 file association errors.● Resolved 2 cases of incorrect cross-referencing between unrelated files. <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 25/7/2025


Comments of the Supervisor (Optional):

University of Macau
Department of Computer and Information Science
STGC3000 Work-Integrated Education 2025/2026
Weekly Log Book

Student Name: Wong Pou I

Student ID: DC22657

Company / Organization: I.A.M. Departamento de Higiene Ambiental e Licenciamento Divisão de Licenciamento Administrativo

Period	Work Description (Please provide as much detail as possible.)	Signature of the Supervisor
Jul 28, 2025 – Jul 31, 2025	<p>Work:</p> <ol style="list-style-type: none">1. Processed and archived all 2013-2014 documents.2. Reorganized scattered 2015 files.3. Handled standalone files and corrected data issues. <p>Description (Corresponding to the Work above):</p> <ol style="list-style-type: none">1. Completed processing and boxing of all 2013-2014 documents following standard archiving procedures.2. 2015 files reorganization:<ul style="list-style-type: none">● Consolidated scattered files from multiple storage locations.● Processed one-third of standalone files (files with no connections to others).● Maintained their non-linked status in records.3. Data corrections:<ul style="list-style-type: none">● Fixed all date misalignments in Excel tracking system.● Maintained 100% accuracy in file linkages (no errors found). <p>Location: 澳門 南灣大馬路 804 號 中華廣場 3 樓</p>	 31/7/2025

Comments of the Supervisor (Optional):
