COLLEGE OF COMPUTER AND INFORMATION SCIENCE

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I.T. Practicum

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Submitted To:
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Submitted to the Faculty of Mapúa Malayan Colleges Laguna

In Partial Fulfillment of the Requirements for the Degree of

Bachelor of Science in Information Technology

Overview of the Practicum Engagement

Company Background

Figure 1. iRipple Logo

The student took his internship at iRipple, Inc. iRipple is a solutions company that offers retail management software (see Figure 1). It is located at Philippine Stock Exchange Centre, 2305 B Tektite East Tow, Exchange Rd, Pasig, Metro Manila. iRipple was established by Victor Javier and Hubert Dy in 2000 as a software development company that specializes in providing systems for the retail industry and gave birth to their main product, the Barter Point-of-Sales system. The mission of iRipple is to “Lead retailers to greatness through technology”, while their vision is for “Retailers are able to scale up and speed up using iRipple technology.”

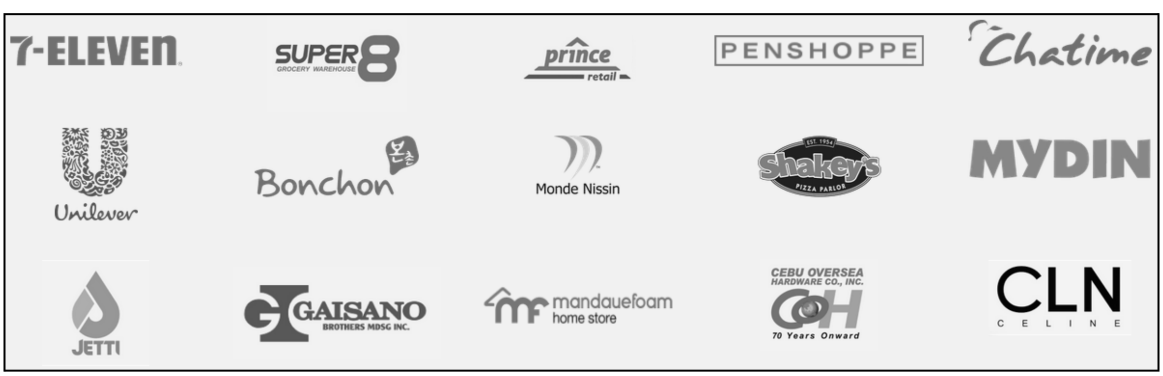


Figure 2. iRipple Clients

Early clients of iRipple include businesses in different industries such as Super 8, GABC, and Primer. The clientele of iRipple later on expanded and now includes 7-11, Bonchon, Penshoppe, Chatime, and Gaisano to name a few. In the last few years, iRipple's local clientele has continually expanded with retailers such as Celine, Asian Home Appliances, and Shakeys' group of companies. iRipple also expanded internationally by offering services to international clients and establishing iRipple Malaysia and Thailand (see Figure 2).

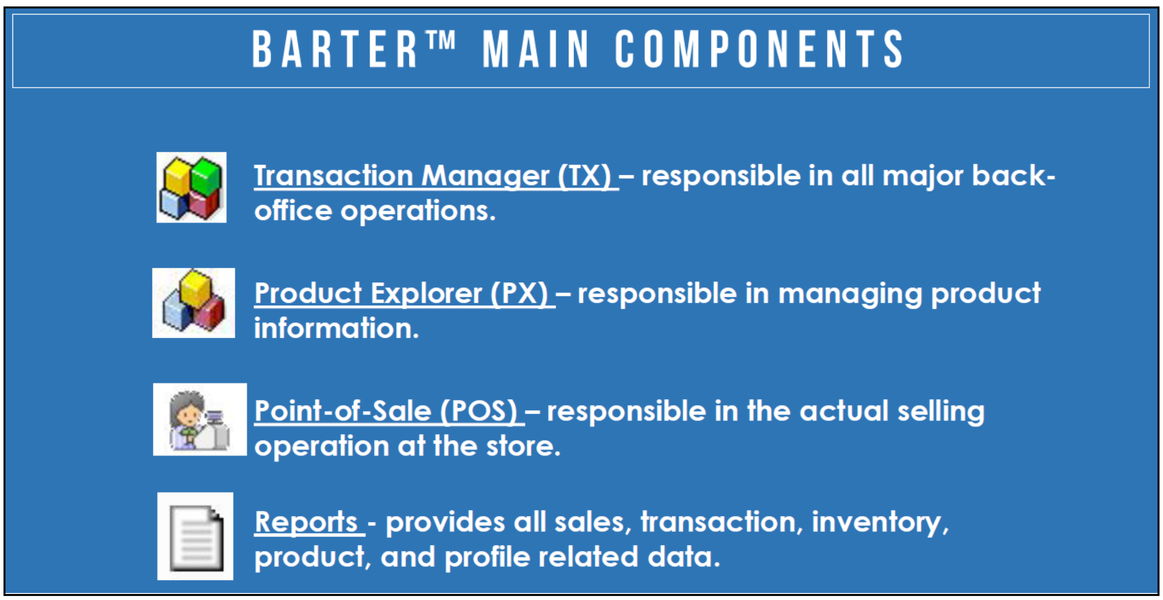


Figure 3. Barter System Main Components

The main product of iRipple is the Barter System which is a sales and inventory software solution for retail management. Its functionality includes transaction management for back-office operations like ordering stocks, moving stocks from one site to another, etc. Managing product information through the product explorer. Point-of-Sales for actual selling of goods in store. And lastly, reports for sales, transactions, inventory, etc. (see Figure 3).

Nature of Assignments or Tasks Given

During the internship, the student was under the B&HI segment which is the Boutique & Home Improvement Segment. At first, he was assigned to update the user manual documentation of the Bater 8 system but he then expressed his interest and passion for software development to his adviser. With his adviser being the research and development team leader, the student was later moved to software development and documenting the modules he has created.

The two main types of tasks he did were software development and documentation which can vary from technical documentation to user manuals. The student was tasked to create and integrate new modules for the Barter 8 system to help solve its current problems which is one of the earlier systems created by iRipple dating to its initial development in 2008. Users of the Barter 8 system include Super8.

The technologies that were used during the internship were C# Desktop Forms for the desktop applications, Microsoft SQL Server for the branch server database, MS Access for the local database of the POS terminal, and Windows LAN network file sharing for the terminals to be able to communicate with the server and vice versa. ASP.NET Entity Framework was used as an Object Relational Mapper for the MSSQL database for easier manipulation of database data.

The student was able to develop and document five (5) modules namely: Two (2) report modules that were migrated and documented from Visual Basic 6 to C#, Point-of-Sales Terminal Monitoring, Point-of-Sales Software Auto Updater, and Point-of-Sales Records Synchronizer. The said modules will be further discussed in the presentation of the output section.

Total Hours Rendered

In total, as of the creation of this report on June 5, 2023, the student was able to complete a total of 470 hours. Four (4) hours were spent on the company orientation, and 24 hours on studying the documentation of the Barter 8 system. After that, he developed and documented the migration of VB6 reports with a total of 200 hours with development being 152 hours and documentation for 48 hours. Next, he created the Point-of-Sales Monitoring module with a development time of 96 hours and a documentation time of 16 hours. After that, the student developed the Point-of-Sales Auto Updater which took him 72 hours to develop and 8 hours to create the user manual. Lastly, the student was able to create the Point-of-Sales Records Synchronizer with a total of 50 hours. The student is scheduled to finish on June 7 and plans to spend his last 16 hours on the technical documentation of the POS records Sync Module. A summary of the tasks done and their corresponding hour count can be seen in the table down below (see Table 1).

Table 1.0
Summary of Hours Rendered

Task	Hour Count		
	Development	Documentation	Total
Company Orientation	-	4	4
Study Documentation	-	24	24
Migration of VB6 Reports	152	48	200
POS Monitoring	96	16	112
POS Auto Updater	72	8	80
POS Records Sync	50	16	66
			Grand Total: 486 hours

Presentation of Output

Migration of VB6 Report Modules to C#

The output of this task is to recreate two (2) Barter 8 report modules currently written in VB6 into C# and document the process of creation. This is because the supervisor of the student wants to create all future Bater8 modules to be written in C#. The document output will then be used by developers in the future as a guide or sample when writing new functionality in C#. Shown below are the two report modules recreated (see Figures 4 & 5). The POS Sales Journal Summary is the simpler form done as practice while the POS Collections Report is the more complex form with more filters and functionality.

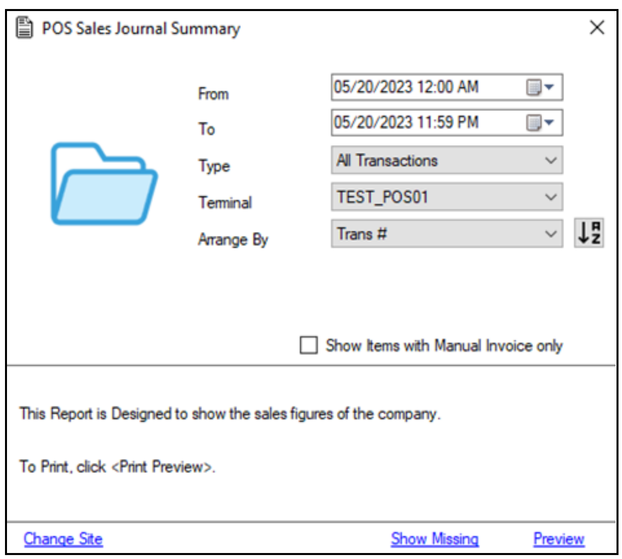


Figure 4. POS Sales Journal Summary

The POS Sales Journal Summary (see Figure 4) has filters such as picking the site from which to select terminals by clicking on "Change Site" (see Figure 5), the from and to dates for the range of dates of the records, the type of transaction being: sales, returns, void, or all types, a filter for a specific terminal or all of the terminals, and arrange by transaction, OR, or invoice number. These filters will then be used for the query to get the desired transaction records.

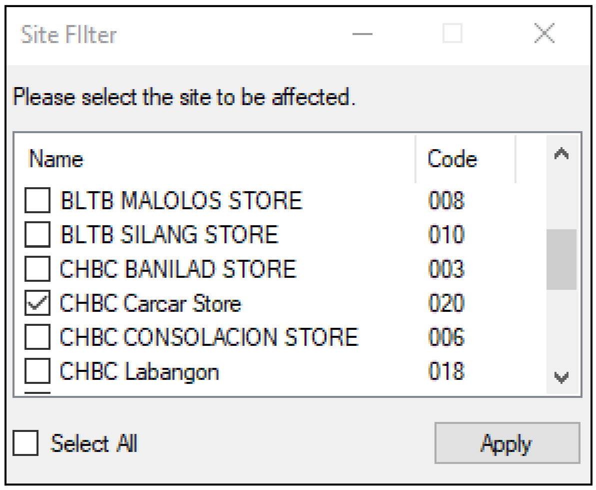


Figure 5. Change Site Filter

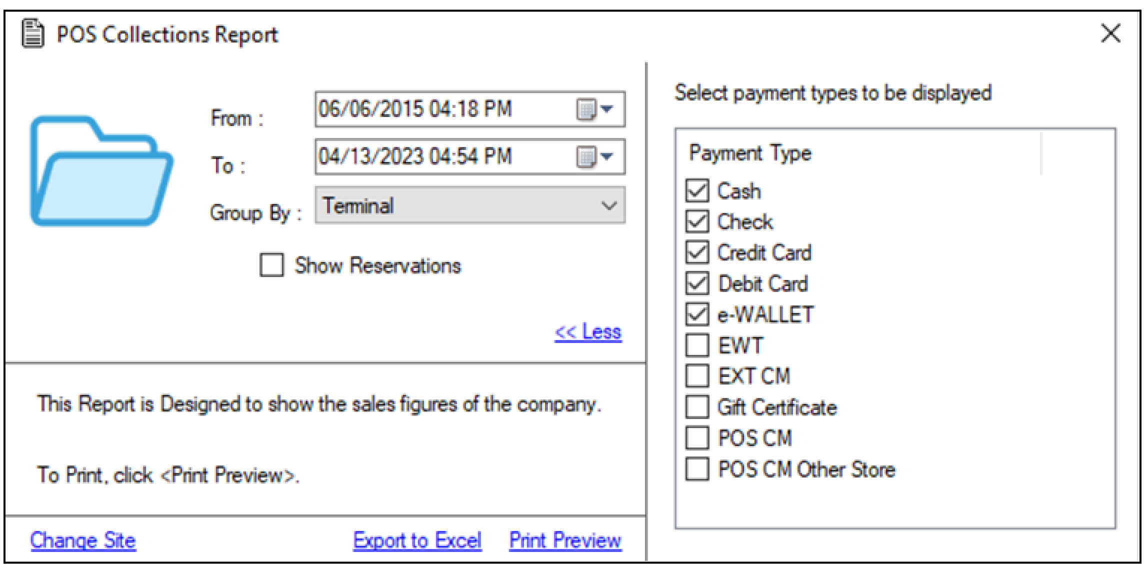


Figure 6. POS collections report

Next, the POS collections report (see Figure 6) is similar in that it also has a filter to select a specific site in which terminals to include, to and from dates of the sales transaction. Its difference from the first report form is that this only includes sales transactions, has a filter for the payment types to show, and has a group by filter with group by terminal, cashier, payment type, and site. The group by filter all has different queries which added to the complexity of this report for implementing it into printable reports and export to Excel (see Figure 6).

The data entered into these filters are then used in complex SQL queries which the student adopted from the original VB6 forms using SQL Server Profiler in order to capture the queries. These queries involve getting data from multiple tables and their respective relationships.

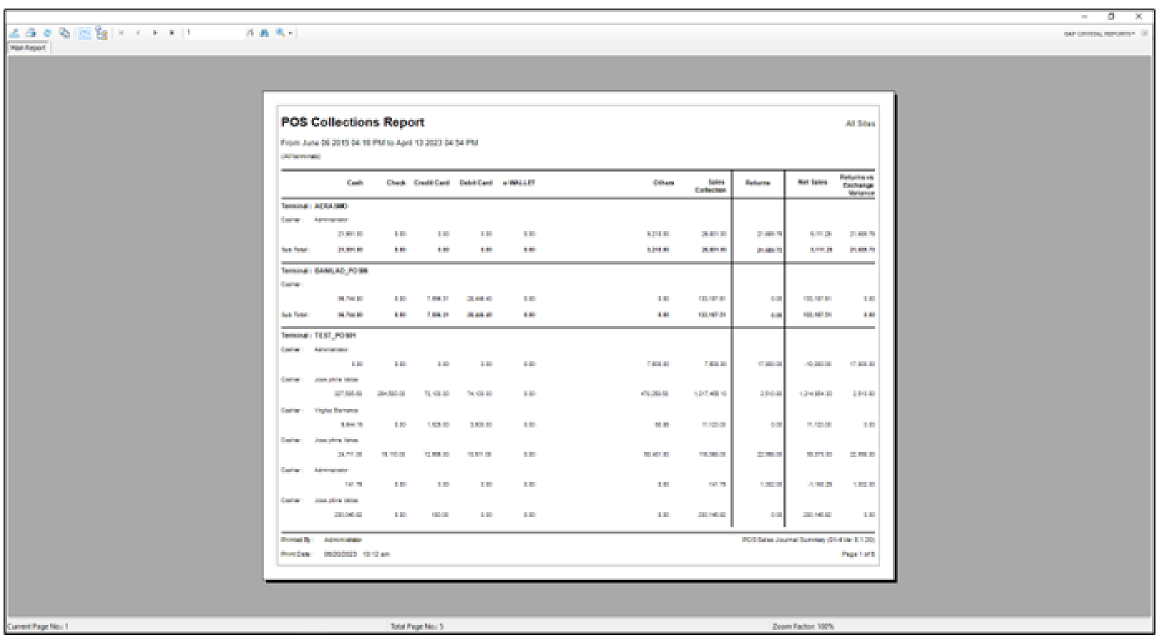


Figure 7. Printable Reports

Both of these reports have the functionality of generating printable reports by clicking on the “Preview” or “Print Preview” link labels. The student used SAP Crystal Reports in order to generate printable reports. Each of the reports has a corresponding crystal report form as the data structure to be used in a crystal report form needs to be defined beforehand. A sample of the printable report can be seen in Figure 7.

The difference between the two reports modules is that the POS collections report module has an export to Excel functionality. The student used the Interop microsoft office library to be able to interface with Microsoft Excel. Transaction records are iteratively written into an Excel file. The student used the cell's address or reference to specify where to write a specific value or field. A sample of the export to Excel functionality can be seen in Figure 8.

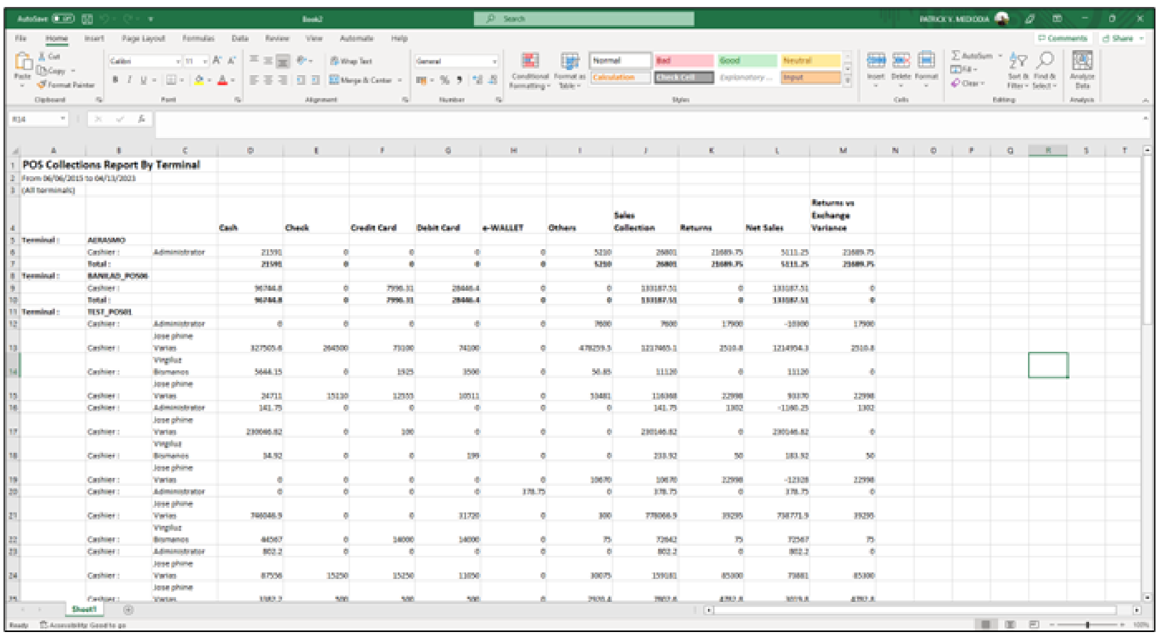
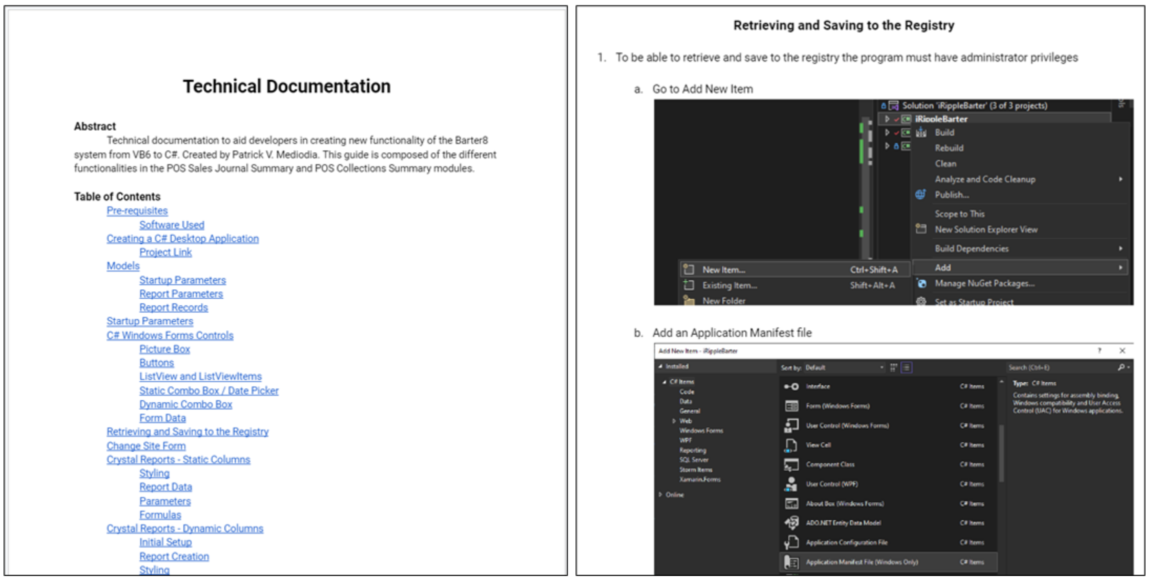


Figure 8. Export to Excel

After the development of the two report modules, the student created its technical documentation. Figure 9 below shows a sample of the technical documentation created by the student which is intended to be used by future developers as a guide. It includes information such as the tools used, setting up the project, the project structure, as well as a specific discussion on how each part of the functionality was created namely the data models, the startup parameters, retrieving and saving data to the registry, crystal reports, and exporting to excel.


Technical Documentation

Abstract

Technical documentation to aid developers in creating new functionality of the Barter8 system from VB6 to C#. Created by Patrick V. Mediodia. This guide is composed of the different functionalities in the POS Sales Journal Summary and POS Collections Summary modules.

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Retrieving and Saving to the Registry

1. To be able to retrieve and save to the registry the program must have administrator privileges
   a. Go to Add New Item
   b. Add an Application Manifest file

Figure 9. Migration of VB6 Reports Technical Documentation

Point-of-Sales Monitoring Module

Next, the student was tasked to create new modules that will help with the current problems of the system. First, he created a module to monitor the point-of-Sales terminals. This was created in order for a supervisor to be able to monitor terminals in a single view and check if there are problems so that it can quickly be resolved.

Figure 10 shows the monitoring dashboard. Its default behavior upon opening is showing only the online POS terminals, it also has options of showing the offline terminals under the options tab. Terminals are asynchronously pinged through the LAN connection using their terminal names, and if they reply, it means they are online. Terminal statuses are refreshed every 60 seconds (1 minute) with a timer shown at the top right. A user is also able to manually refresh the status of the terminals in the options tab without waiting for the automatic refresh timer.

Figure 10. Point-of-Sales Monitoring Dashboard

The monitoring dashboard also includes data such as the cashier logged in, the number of unsent transactions which means the difference between the count of the records found in the branch server versus in the local database of the terminal, and a summary of the sales, returns, and voided transactions of a specific terminal.

Figure 11 shows the viewing of all transactions for that day per terminal. This was created as the student was tasked by the supervisor as a challenge and an exercise to add a functionality that the student thinks is beneficial and helpful for the user of this module.

The student thought that since there is a summary of transactions, there should be a way of viewing all the transactions of a specific terminal for that day. This functionality also includes searching records by transaction number, transaction type, status, cashier name, or amount.

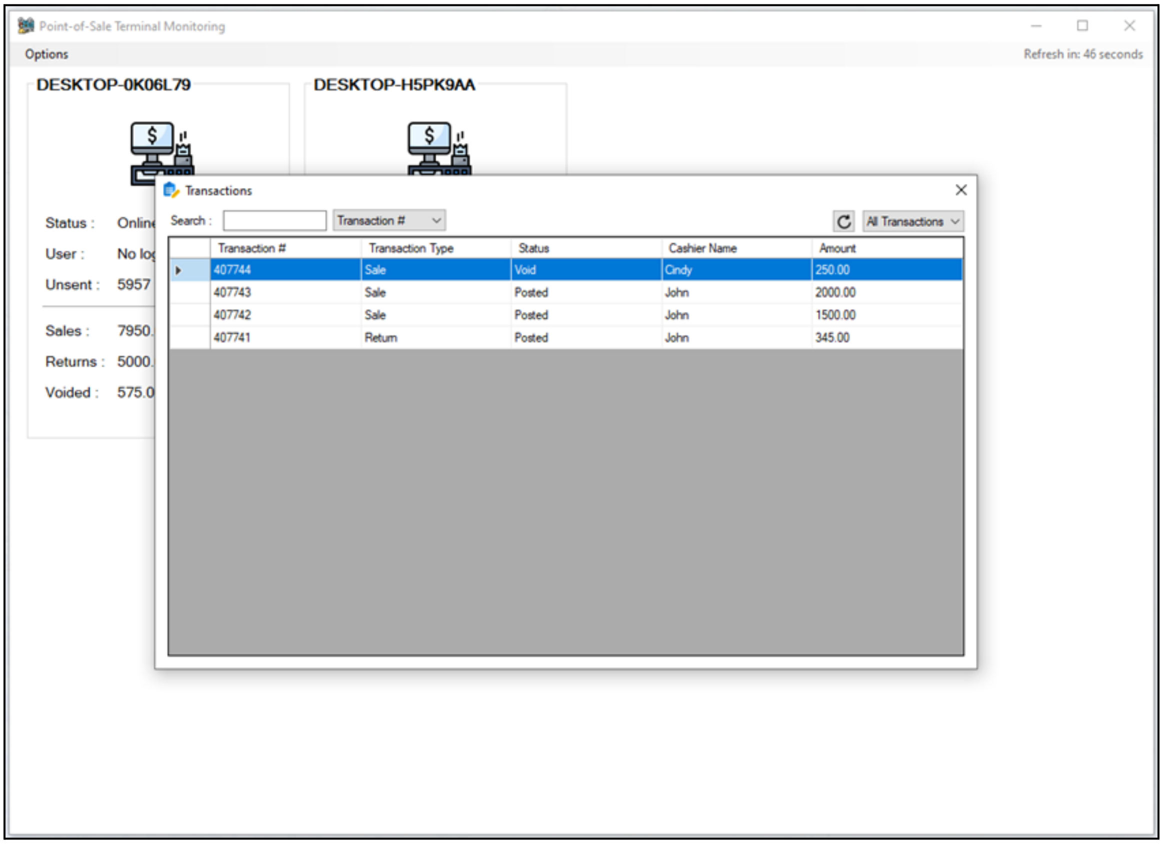

Figure 11. Point-of-Sales Monitoring View Transactions

The functionality of the POS monitoring module also includes authorizing requests that need supervisor credentials. This allows supervisors to give authorization without having to go to the actual terminal. This works by the terminal sending a request to the branch server, the branch server which the monitoring module is running on in the backend is then notified of this request.

The supervisor is notified by highlighting the terminal color yellow and playing a sound. To authorize the request, the user must click on the terminal and enter their supervisor's user code and password. These credentials are then sent to the terminal to be processed and used to authorize the request (see Figure 12).

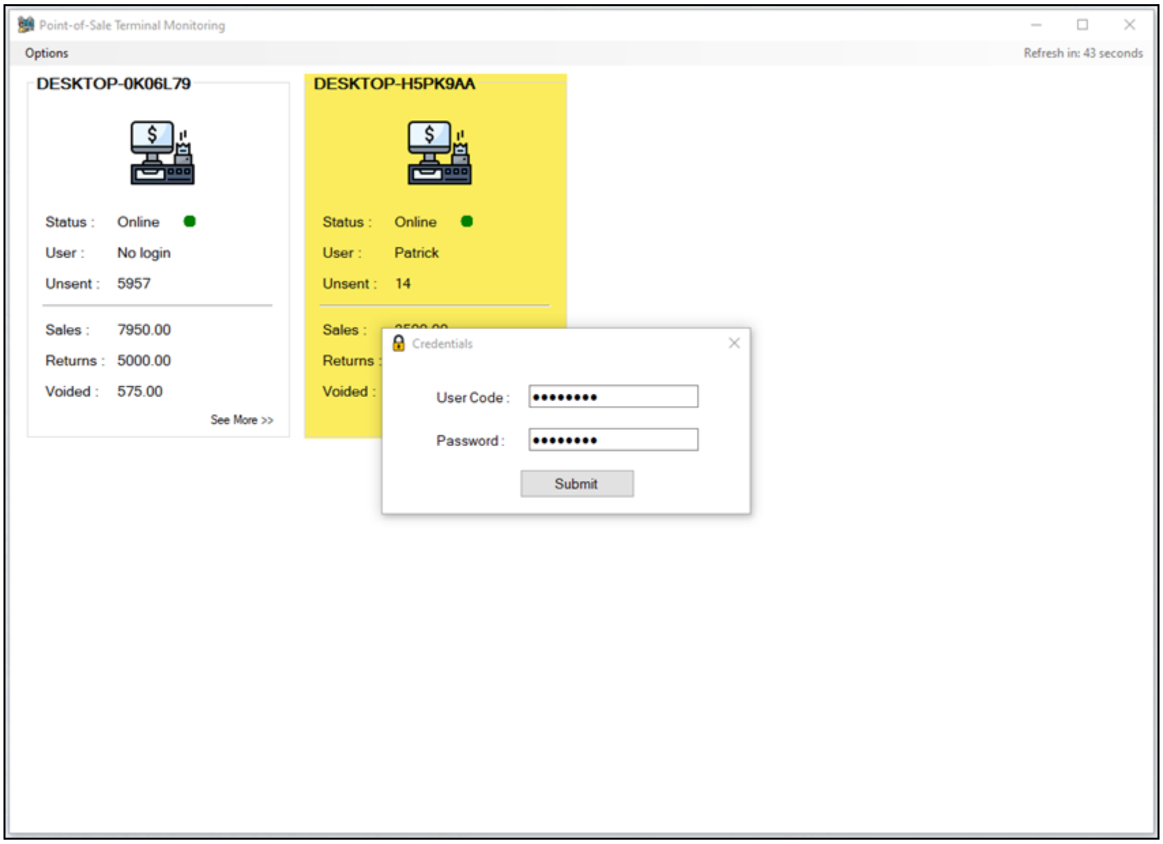

Figure 12. Point-of-Sales Monitoring Authorize Request

After the development of the monitoring module, the student created its technical documentation. Figure 13 shows a sample of the technical documentation created by the student. It includes information such as an overview of the module functionality, the tools used, setting up the project, the project structure, as well as a specific discussion on how each part of the functionality was created namely the data models, getting and pinging the terminals, refreshing the terminal status, getting transaction data, and the authorization of the supervisor and their credentials.

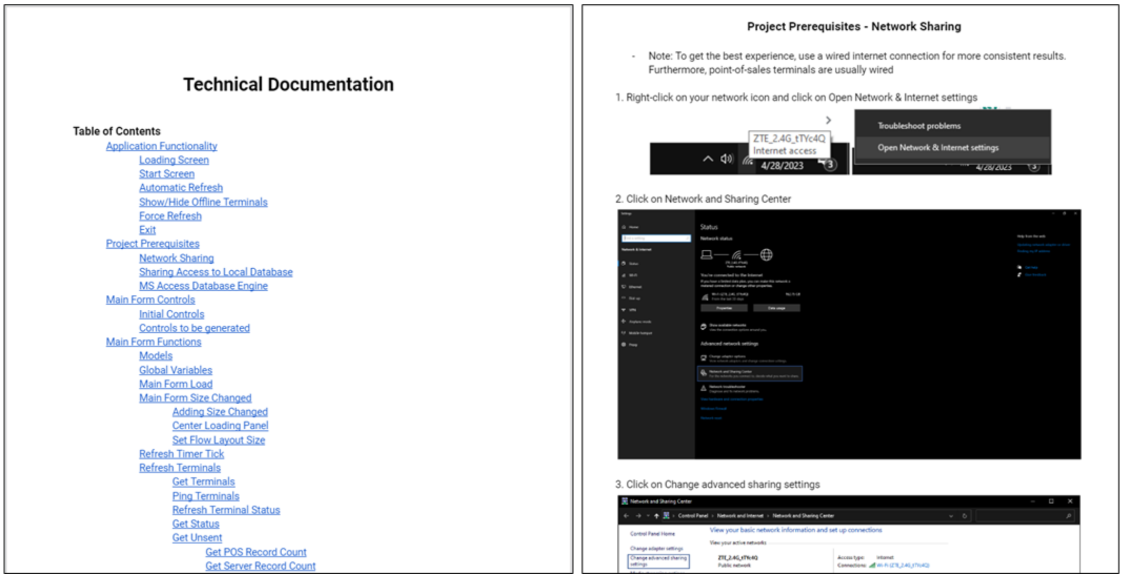

Figure 13. Point-of-Sales Monitoring Technical Documentation

Point-of-Sales Auto Updater Module

Currently, updates on Barter 8 point-of-sales terminals are manually installed by accessing the terminals one by one remotely and changing the program files and folders. According to my supervisor, this can take around 5 to 10 minutes per terminal depending on the size of the update. In a hypothetical situation of 10 sites with 10 terminals, the software support team would need to remotely access 100 terminals per software update. Although this is a legacy system and updates are not that often, this manual operation is tedious and is prone to human errors.

The point-of-sales auto-updater module developed by the student's main functionality is to check if there are software updates from the branch server. If updates are present, it then automatically updates its files and folders, while also creating backups of the overwritten files. These backups can then be used as restore or rollback points as needed. The point-of-sales auto-updater module developed by the student removes the need for manually updating the terminals one by one.

Going back to the hypothetical situation of 10 sites with 10 terminals each, the software support team would only need to remotely access the 10 branch servers and upload the updated files there. This will then be automatically installed by the auto-updater module on the startup of the terminals. The point-of-sales terminal updates are put in the POS_Updates folder on the Branch Server. The POS Auto Updater on the terminals checks the POS_Updates folder on the branch server. The name of the folder is used as the backup name or title as a way to descriptively identify updates (see Figure 14).

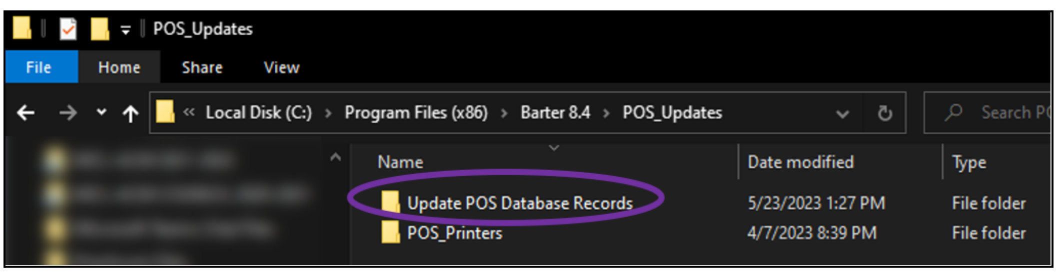

Figure 14. Update Path on Branch Server

Shown below is the point-of-sales auto-updater module updating the files of the local terminal from the branch server (see Figure 15). This is added as a task on the Windows task scheduler on user login. The user interface was created to match the design of the legacy point-of-sales system the module was to be integrated into.

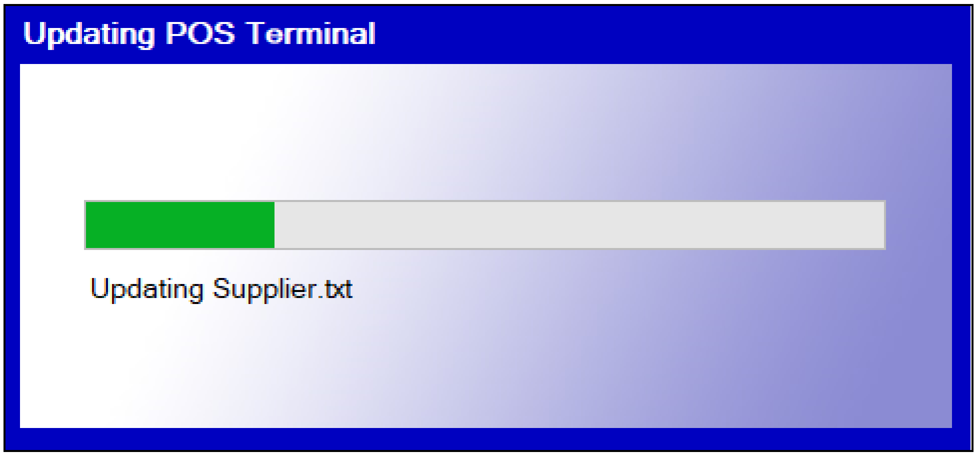

Figure 15. Installation of New Updates

After updates have been checked and installed, the Barter point-of-sales terminal program is run. The Barter POS auto-updater module is then hidden in the system tray (see Figure 16). This allows the program to be run in the background. In order to show the program, the user needs to double-click on the icon found in the system tray.

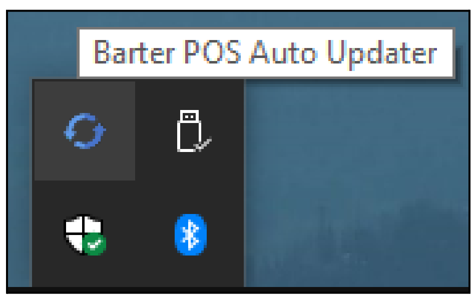

Figure 16. Hidden in System Tray

The Barter POS auto-updater module also has functionality for restoring or rolling back backups. Backups can be found in the POS_Update_Backups folder on the terminal and are stored in a zip file. Backups older than the AutoCleanupDaysLimit field stored on the terminal which in this case was set to 90 days were deleted to save on space. Figure 17 shows the restoration of the backup user interface. It shows a table of the name of the backup which was taken from the name of the update folder as well as the date and time the update was installed.

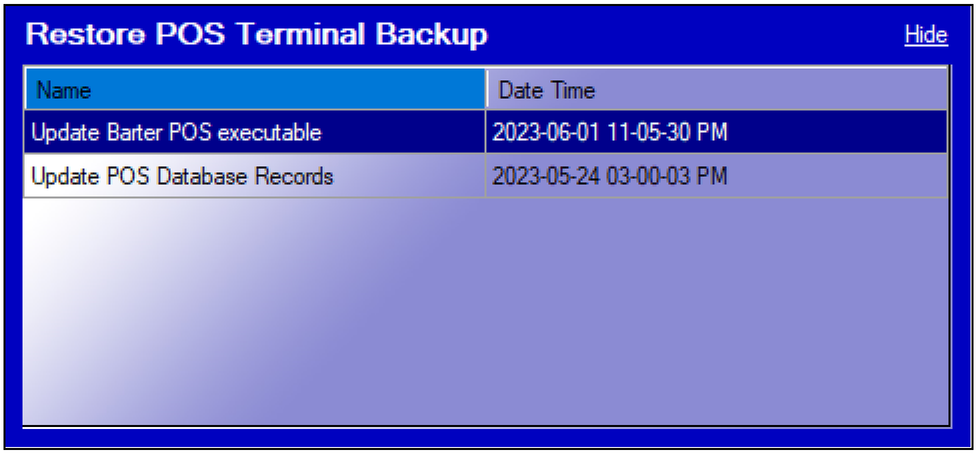

Figure 17. Restore Backups

To restore a backup, double-click on your desired backup to roll back. A prompt will then show confirming the decision of the user to restore the backup (see Figure 18).

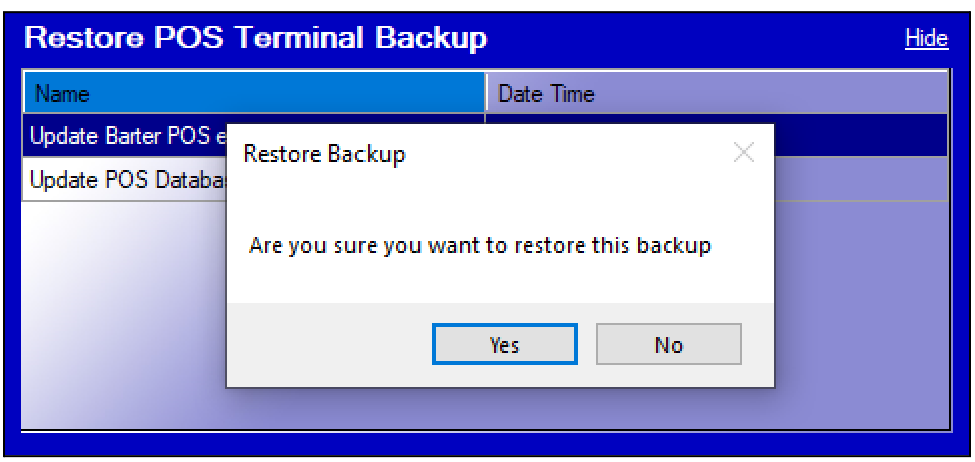

Figure 18. Restore Backups Confirmation

If the user selects yes, a prompt for supervisor credentials will be shown, this is because only supervisors are able to roll back updates on the terminals as needed (see Figure 19).

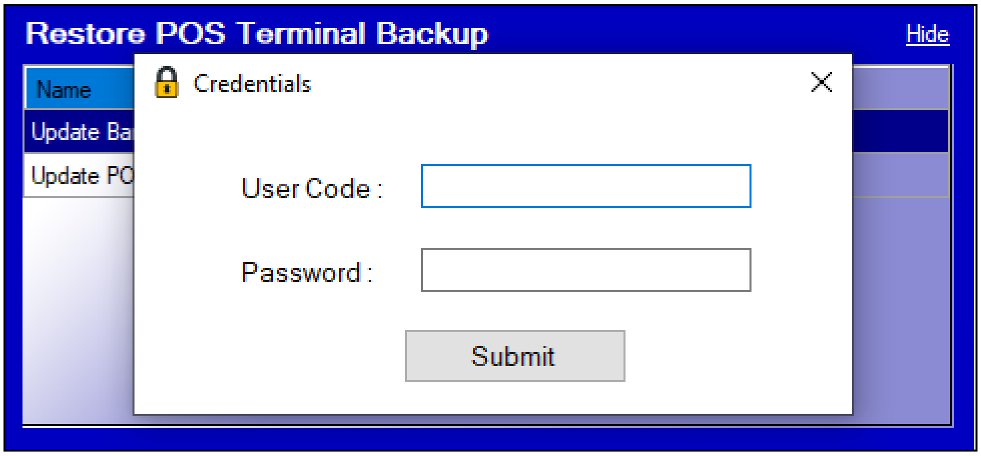

Figure 19. Restore Backups Authorization Credentials

If correct supervisor credentials have been entered to authorize the rollback of an update, it will start the operation. The figure down below shows the prompt that will display once the restoration of a backup is complete (see Figure 20).

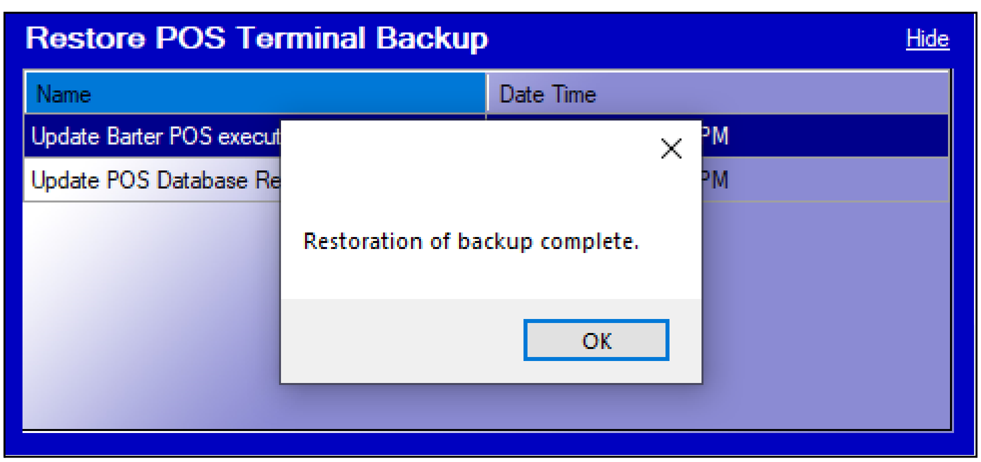

Figure 20. Restore Backups Authorization Credentials

After the development of the module, the student was asked to create a user manual. As of the moment of writing this report June 2, 2023, the supervisor of the student plans to code review and pass the program to be checked by QA in the hopes of being used in production. The user manual highlights the functionality, installation process on the terminal, and how to load the updates on the branch server to be checked by the auto-updater module installed on the terminals (see Figure 21).

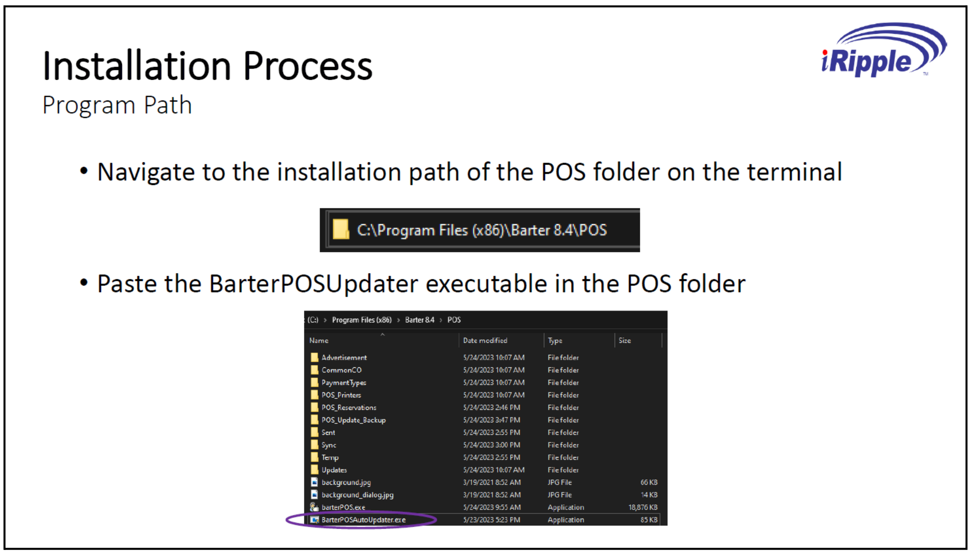

Figure 21. Barter POS Auto Updater Manual

Point-of-Sales Records Sync Module

As a quick overview, local terminal transaction records are sent to the branch server after every transaction. However, the local MS Access MDB file database of a terminal sometimes gets corrupted and its records are lost. This is a problem as the transactions on the terminals will not match the transactions on the server. This is especially problematic when the transaction ids on the local are reset and cause an error as these transaction ids might already be used in the server. Furthermore, an accurate balancing of records must be kept so that reports of sales, returns, and voided transactions are accurate.

To remedy this, the current process of the system support team is to manually update and synchronize the lost records on the terminal. Either they (1) manually repeat and recreate the transactions through the POS terminal software or they (2) transfer the server transaction records through SQL commands (see Figure 22). Both of these approaches typically result in a downtime of 15 minutes at best and could take hours in the worst-case scenario. Moreover, this manual approach is tedious, time-consuming, and prone to human error as each transaction table, namely header, items, and payment has a total of over 100 fields.

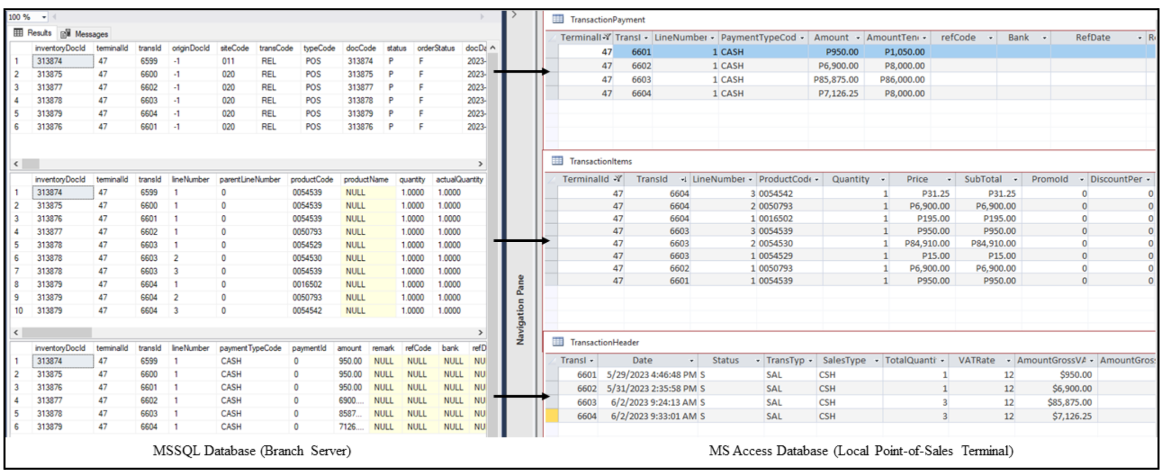

Figure 22. Sample of Records to Transfer from Server to Terminal

The module developed by the student remedies this by checking for transactions that are present on the server that is not on the local database of the terminals. It then inserts these transaction records to rectify the lost data. Figure 23 below shows the initial screen of the module. It accepts from and to date ranges to filter and narrow down the records to be checked and synchronized by the module.

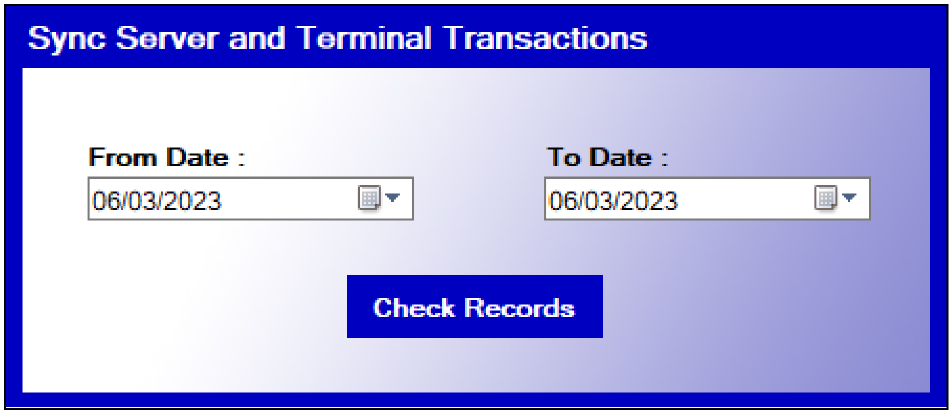

Figure 23. Server to Terminal Transactions Sync Module

Figure 24 shows what happens when the check records button is pressed. It will first show a summary of the number of records in the database of the local point-of-sales terminal and the branch server.

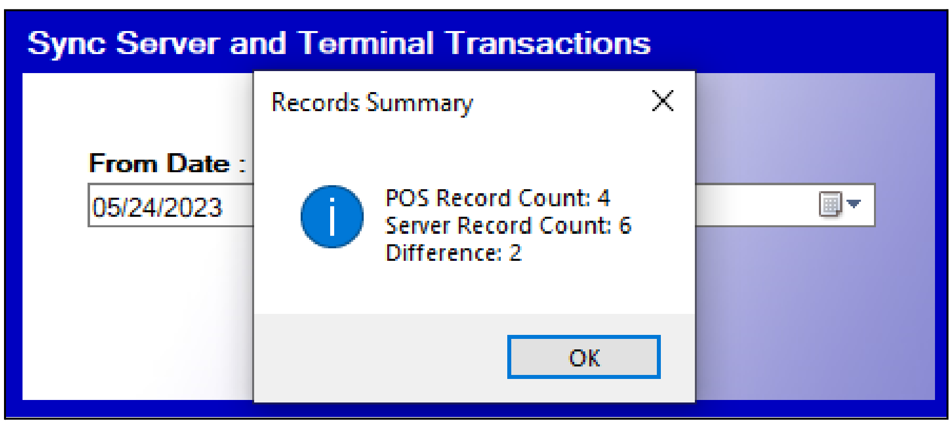

Figure 24. Number of Records

If there are more server records than local point-of-sales terminal records, the program will prompt the user if they want to transfer the records not found on the local terminal that are on the server. The message also reminds the user that this action is permanent and cannot be undone (see Figure 25).

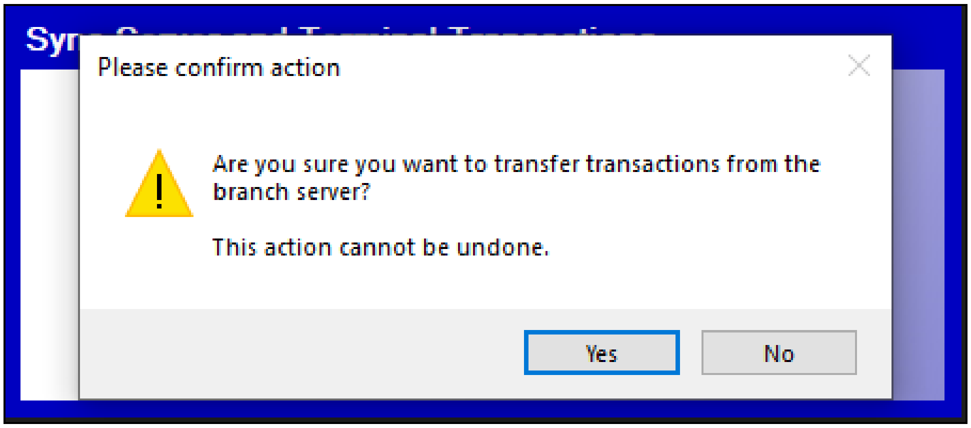

Figure 25. Confirmation of User of Transferring Records

If the user agrees, the program will start fetching the records from the branch server and insert these into the local database of the terminal (see Figure 26).

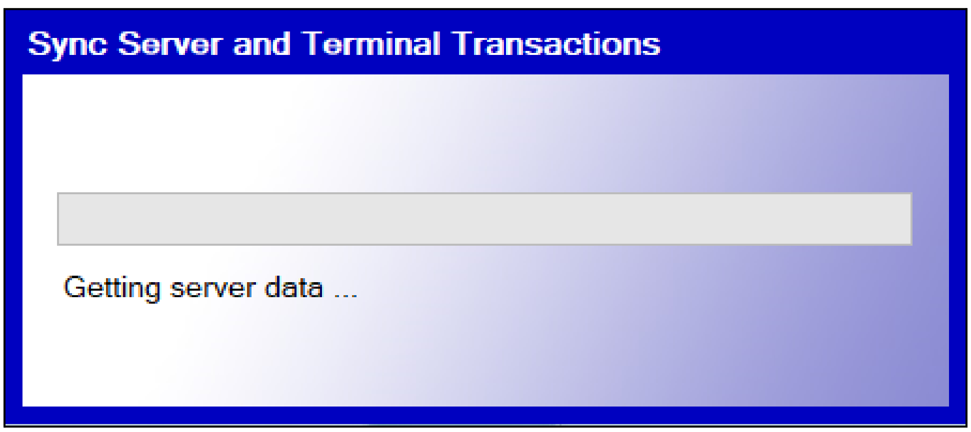

Figure 26. Progress of Records Transfer

Once the operation is complete, a message box will show that the program has finished transferring the records found on the server into the terminal (see Figure 27).

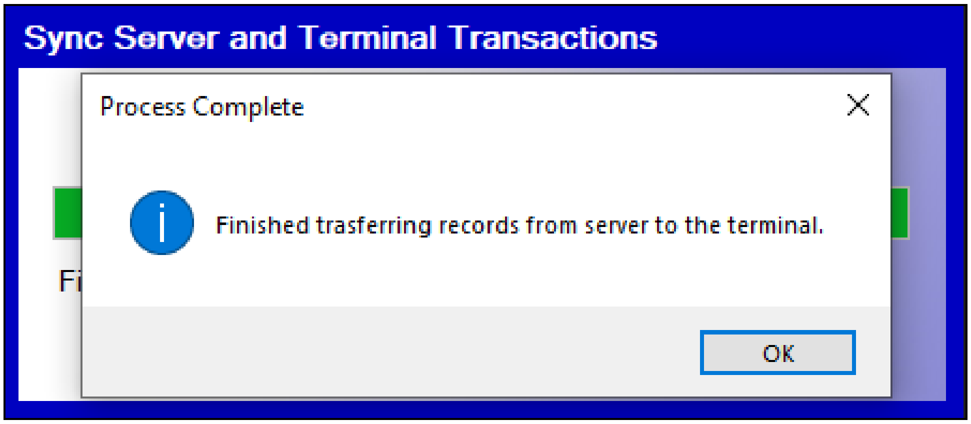

Figure 27. Finished Records Transfer

Synthesis of the Practicum Engagement

Learnings

First, the student was able to learn a lot about systems that are actually being used in production environments. He was able to interact with production software that is being used by multiple big and well-known businesses such as Super8. He learned about the process of software systems such as inventory management systems and point-of-sales terminals like how orders for stocks are placed and processed, product items management, what is X-reading and Z-reading in point-of-sales systems, and so on. From there the student was also able to learn about production infrastructure and systems design. The system he interacted with which is the Barter 8 system follows a distributed approach where the local transactions are first saved on the terminals and are then sent to the branch server to be saved. This means that the records per site are stored in their corresponding branch server and not a centralized server for all of the sites.This also allows the system to operate with only a Local Area Network without the need of the internet.

As for technical skills, the student was able to learn how to be able to develop modules that integrate into existing large-scale system systems. At school, he was used to creating systems from the ground up, which means that he was always the one creating the database structure and the structure of the program to be developed. He was able to gain experience working on the constraints set by other people on how data should be stored and how programs should be structured. Furthermore, he learned and practiced how to make code more readable and reusable through code reviews from his supervisor.

This is important since other developers are also going to look at the code he wrote and is to be maintained by other programmers.

Due to the nature of his tasks, he was also able to refresh his knowledge of C# programming desktop applications as well as his learnings in databases using SQL that he learned from the courses he took. He was also able to build upon this existing knowledge by exploring different libraries and frameworks to make a more robust and well-functioning system.

Aside from software development, the student also learned how to create technical documentation as a guide for developers or users of the system he has created. He was able to document his development process and his thoughts on why he took a certain approach in order for other developers to understand. As for user manuals, he was able to create manuals for new users to follow so that they know how to use the system. Although he has experience in creating documentation for systems he has developed in his school projects, none of them were this large of a scope, detailed, and in-depth in order to make the reader understand the system easier.

Aside from technical skills, the student also learned about the different soft skills needed in the workplace. One such important soft skill is how to communicate with your co-workers. This includes only using words that should be used in a professional setting in all forms of communication such as written messages, voice calls, and emails. Furthermore, the student also learned to write concise and straight-to-the-point messages in order to convey the message clearly to the receiver. Furthermore, he also learned to wait patiently for the response of the person he sent a message to as they also have their own work and tasks that they need to do.

Aside from communication, the student also learned about time management. This was how he was able to deliver modules and requirements set by his adviser on time. Since the student also was taking his Capstone during his practicum internship, he had to juggle his time and attention to two very important matters. He was able to do this by making sure that he is not distracted during his shift and that he also had the discipline to do his other work and important matters outside of office hours.

The student also learned how to fight the feeling of being overwhelmed. He felt overwhelmed whenever a new module or task was given to him. He remediated this by breaking down these large daunting tasks into smaller more manageable, workable, and quantifiable tasks. From there he also always thought that his first iteration of work does not have to be perfect from the start. First, he can make it work, and then iteratively improve upon it. When stuck on a task, the student also asked for help from his supervisor. This is of course after he has tried and exhausted all the possible solutions he has come up with.

Realizations

Through this internship experience, the student realized that even though the projects and assignments being done in school are challenging, there is still a large gap in difficulty between actual real-world applications. That being said, he believes that the learnings he has acquired and projects he has done in school have prepared him for the challenges in the actual workplace. He just has to take the next step and improve upon the foundation of knowledge he has gained from school.

This internship experience also led him to realize that he wants to pursue a career in the field of software development. The reason he accepted this internship in the first place rather than going through the learning path is to get a feel of a day in the life of a software developer and the pros and cons that comes with it. Even though there may be tough times, the student realized his passion for creating software that is tangible and that users can use that will help their day-to-day operations.

He also realized that he still has a long way to go and has a lot more to learn. The students feel that although his outputs have hit the objectives set by the supervisor, the way the code was written in terms of its readability, efficiency, and reusability still has room for improvement. This realization motivated the student to learn more about best practices in software development after the internship practicum was over.

Furthermore, the student also realized the importance of a good mentor. The student's supervisor was able to guide him to learn every single step of the way. He gave the student enough space to learn and experience things on their own while also stepping in to help when needed.

Conclusion

In conclusion, the student was glad he took the internship opportunity as it gave him a glimpse into the work of a software developer. It has made him realize his strengths and weaknesses which is vital to help him prepare for his future jobs. Furthermore, a competent employee not only has technical skills but also soft skills. This opportunity gave him experience and practiced his soft skills in interacting with people in the company.

In the end, the student would like to thank iRipple, Inc. for this wonderful opportunity and the learnings and experience it came with. Being able to work on production systems has opened the eyes of the student to the possibilities and hardships of working with actual clients to meet their needs. The student's adviser also expressed their appreciation to the student by offering a job position on his team if the student decides to apply to this company. The student is grateful for this opportunity and is considering it once he graduates.

Appendices

Appendix A
Competency-Based CV

Patrick V. Mediodia
San Lorenzo South, Malitlit, Sta. Rosa Laguna, 4026
0995-8959849
mediodia.patrick@gmail.com

Objective Summary

A college student and aspiring software developer looking for internship experience and learning opportunities. Willing to study and interested in new and emerging technologies. Has a good foundation of IT knowledge to build upon and can perform under pressure. Can work in a team environment and collaborate with other people.

Skills

- Capable of building front end web applications using HTML, CSS, and JavaScript. Able to use frameworks such as Bootstrap and has beginner experience on React and Tailwind.
- Proficient in creating backend web applications using C# ASP.NET framework (MVC, Web API, Web Forms) and Python Flask for web APIs.
- Competent in creating cross-platform applications that will work on Android and iOS using Flutter and Xamarin to reach more users and for easier development through a single codebase.
- Knowledgeable in using SQL databases and Firebase to store data in an efficient and scalable manner.
- Able to use version control systems such as Git and GitHub for easier project management and collaboration.
- Can interface different hardware devices such as Arduino, WeMos, and Raspberry Pi through serial and web APIs to create functional Internet of Things systems.
- Capable of setting up, creating, and securing basic networks through Cisco CCNA training and certification.
- Has general IT knowledge and troubleshooting skills through CompTIA ITF+ and A+ training and certification.

Projects / Experience

iCHECK Startup — *March 2022 – July 2022*

- Conceptualized iCHECK, a digital platform for official id's, documents, and credentials to enable easy sharing, ensure authenticity, and reduce the usage of paper. Won 1st Place on the Philippine Startup Challenge regionals and won 5th place in nationals.
- Developed using flutter for the frontend of the mobile application and website, riverpod for state management, and firebase for the database and backend.

Pet Feeder (Internet of Things) — *May – June 2022*

- Made an IoT based pet feeder through a WeMos microcontroller using HTTP protocol. Feed your pet remotely and be able to set recurring times of feeding using a Xamarin based mobile application.

Library Management System — *March - May 2021*

- Created a system where in librarians are able to manage books and library users are able to borrow and return books. Used C# ASP.NET Webforms & Web API for the backend. MSSQL for the database. HTML, CSS, Bootstrap, and JavaScript for the website frontend, and Java for the Android application.

Football Registration Website — *March 2020*

- Developed a website for a football tournament where teams can see the tournament details, how to register, and the teams that have already registered. Used HTML, CSS, JavaScript, and bootstrap for the front-end, and used flask for the backend.

Education

College – Mapua Malayan Colleges Laguna — *August 2019 – Present*
B.S. Information Technology — Consistent Dean's Lister and President's Lister

Senior High School – Mapua Malayan Colleges Laguna — *June 2017 – May 2019*
Information Communications Technology Strand — Graduated with Honors

Affiliations

Association for Computing Machinery MCL Chapter (MCL-ACM) — *August 2020 – Present*
Executive Committee – Treasurer S.Y. 2021 - 2022

Appendix B

Endorsement Letter

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

CCIS College of Computer and Information Science
Malayan Colleges Laguna

10 March 2023

MS. KRISTELLE ANN VILLALOBOS
Recruitment Officer,
iRipple, Inc.
Philippine Stocks Exchange Center, Pasig City

Dear Ms. Villalobos,

The B.S. in Information Technology program of Mapúa Malayan Colleges Laguna requires their students to undergo Practicum program for a minimum of **486** hours in an academic calendar that will prepare our students to be job-ready after completing their curriculum. This program intends to enable our students to acquire and practice the knowledge and skills expected of a graduate of a B.S. IT program which, in turn, would guarantee continuous supply of IT professionals needed by your company.

We believe that your company can provide the relevant exposure necessary for our students to achieve the intended learning outcomes for the B.S. in Information Technology program. In this regard, I would like to endorse **Mr. Patrick V. Mediodia** to have his practicum activities in your company as requested.

We thank you for your confidence and trust with us and we look forward to a more meaningful linkage that is mutually beneficial to our students and your company.

With warm regards,

KHRISTIAN G. KIKUCHI
COLLEGE DEAN
College of Computer and Information Science
Mapúa Malayan Colleges Laguna

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

Mapúa Institute of Technology at Laguna · College of Computer and Information Science · E.T. Yuchengco College of Business · Mapúa-PTC College of Maritime Education and Training
College of Arts and Science · Institute for Excellence in Continuing Education and Lifelong Learning · MCL Senior High School

Address : Cabuyao, Laguna 4025
Trunkline : +63 (49) 832-4000
Fax : +63 (49) 832-0017, +63 (2) 520-8975
Email : mclinfo@mcl.edu.ph

www.mcl.edu.ph MalayanColleges MalayanLaguna

Appendix C
Practicum Acceptance

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

MCL
Malayan Colleges Laguna
A MAPUA SCHOOL

PRACTICUM CONFIRMATION AND ACCEPTANCE FORM

IMPORTANT INFORMATION

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

NAME OF STUDENT	Patrick V. Mediodia	STUDENT NUMBER	2019165202
COURSE CODE	IT199F	SY/TERM ENROLLED	2022-2023 / 3rd Term

This is to certify that Patrick V. Mediodia *(name of student-trainee)* has been accepted for practicum at iRipple Inc. located in Philippine Stock Exchange Centre, 2305 B Tektite East Tow, Exchange Rd, Pasig, Metro Manila *(name and address of establishment)* and will be attached to the B&HI department/s for a minimum of, but not limited to 486 hours. Training will commence on March 16, 2023 and is expected to end on June 15, 2023. Attached is the list of requirements.

COMPANY REPRESENTATIVE

KMVillalobos
JENNIFER D. ALVAREZ / KRISTELLE ANN VILLALOBOS
Signature over Printed Name

HR & ADMIN DIRECTOR / RECRUITMENT OFFICER
Official Designation

HUMAN RESOURCES
Department

kvillalobos@iripple.com / 09286675748
Email and Contact Number/s

NOTED BY

Admar Ilao
Signature over printed name of Practicum Coordinator

04/11/2023
Date

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

FORM OVPAA 030B

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Appendix D
Liability Waiver

MCL

Malayan Colleges Laguna
A MAPUA SCHOOL

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

STUDENT TRAINING AGREEMENT AND LIABILITY WAIVER

IMPORTANT INFORMATION

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

I, Patrick V. Mediodia, and a student of MALAYAN COLLEGES LAGUNA (hereinafter referred to as "MCL", do hereby voluntarily undergo on-the-job training at iRipple Inc., hereinafter referred to as the **"Host Company"**, located at Philippine Stock Exchange Centre, 2305 B Tektite East Tow, Exchange Rd Pasig, Metro Manila, under the following terms and conditions:

a. That the practicum training will commence on March 16, 2023 and ends on June 15, 2023 and will have to complete a minimum of 486 hours required for the on-the-job training;

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

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

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

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

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

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

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

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

Signed on this 27th day of March 2023.

Patrick Mediodia
Patrick V. Mediodia
Signature over printed name of **Student Trainee**

WITH OUR CONSENT: ______________________
Signature over printed name of **Parent/Guardian**
(for minors only)

NOTED BY:

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

JENIFER [illegible] / KRISTELLE ANN VILLALOBOS
Printed Name and Signature of **Host Company Representative**

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

FORM OVPAA 030C

Appendix E
Training Plan

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

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

TRAINING PLAN

NAME	Patrick V. Mediodia	COURSE CODE	IT199F
PROGRAM & STUDENT NO.	BSIT / 2019165202	COURSE TITLE	I.T. PRACTICUM

STUDENT OUTCOMES

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

CO2. Apply the different concepts of systems analysis and design, software engineering, database management, and programming courses in the problem-solving process in the organization, and

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

AREAS / PHASES OF TRAINING AND TIME ALLOTMENT

A. Software Development - 406 hours
B. Technical Documentation - 80 hours

EVALUATION GUIDELINES & COURSE OUTCOMES

DEMONSTRATION OF SOFT SKILLS (40%)	DEMONSTRATION OF TECHNICAL SKILLS (60%)
KEY AREAS	KEY AREAS
COMMUNICATION SKILLS (20%) Relate to co-trainees/supervisors terminologies and rules Recite procedures and instructions needed for the tasks Identify and describe safety signs and symbols Ask critical questions related to the tasks Produce well-written regular and incident reports Prepares and presents reports using Information and Communication Technology (ICT)	**Software Development Skills (40%)** Able to integrate and implement new modules (20%) Able to deliver modules on time (10%) Able to write code that is easy to understand and reusable (10%) **Technical Documentation Skills (20%)** Able to write development documentation (10%) Able to write setup and user manuals (5%) Able to write clear and concise documentation (5%)
PROFESSIONAL DEPORTMENT (20%) Observes proper grooming and attire Reports to work regularly on time and as necessary, even beyond prescribed working hour Acts according to the job description given by the company Willing to accept new tasks apart from the usual routine and responsibilities Delivers quality output on time Demonstrates respect for different individuals	
INITIATIVE (+5%) Volunteers to perform tasks beyond routine tasks	**INITIATIVE (+5%)** Volunteers to perform tasks beyond routine tasks

CONFORME	CONSENT (FOR MINORS ONLY)	NOTED BY	ENDORSED BY	APPROVED BY
Patrick Mediodia Patrick Mediodia 4/18/23		AErasmo Allan Erasmo 4/18/2023	4/18/23 Admar Ibo	4/18/23 Admar Ibo
SIGNATURE OVER PRINTED NAME OF STUDENT / DATE	SIGNATURE OVER PRINTED NAME OF PARENT OR GUARDIAN / DATE	SIGNATURE OVER PRINTED NAME OF PRACTICUM SUPERVISOR / DATE	SIGNATURE OVER PRINTED NAME OF PRACTICUM ADVISER / DATE	SIGNATURE OVER PRINTED NAME OF PROGRAM CHAIR / DATE

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

FORM OVPAA-030D
THIS FORM IS AVAILABLE AT THE OVPAA

Appendix F
Student Evaluation on Practicum Host Company and Training

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

REVISION NO.: 00
REVISION DATE: May 13, 2016

STUDENT EVALUATION ON PRACTICUM HOST COMPANY AND TRAINING

IMPORTANT INFORMATION
- THIS FORM IS USED TO EVALUATE THE PERFORMANCE OF PRACTICUM HOST COMPANY BY THE STUDENT
- PRACTICUM ADVISER NOTES THE EVALUATION AND DISCUSSES RESULTS WITH THE STUDENT
- NOTED OJT PERFORMANCE EVALUATION REPORT FORMS PART OF THE PRACTICUM REPORT/ PORTFOLIO OF THE STUDENT

NAME OF HOST COMPANY	DEPARTMENT/SECTION/AREA ASSIGNED
iRipple, Inc.	B&HI Segment RnD Department
ADDRESS OF COMPANY	Philippine Stock Exchange Centre, 2305 B Tektite East Tow, Exchange Rd, Pasig, Metro Manila

INSTRUCTIONS: Please indicate how much you agree with each statement with 1 being that you strongly disagree and 5 being that you strongly agree.

LEGEND: 5 – Strongly Agree 4 – Agree 3 – Neutral 2 – Disagree 1 – Strongly Disagree NA – Not applicable

PART I: EVALUATION ON PRACTICUM HOST COMPANY

STATEMENTS	RATING *(please encircle one)*					
1. I was given an orientation about the company rules, regulations, and enough explanation of my practicum assignment at the beginning of the training.	5	4	3	2	1	NA
2. The employees I worked with served as resource persons, sharing ideas and materials.	5	4	3	2	1	NA
3. The people I worked with were perceptive of my needs.	5	4	3	2	1	NA
4. The practicum supervisor spent time observing my performance.	5	4	3	2	1	NA
5. The practicum supervisor provided me with enough constructive criticism.	5	4	3	2	1	NA
6. The practicum supervisor sufficiently answered my questions and clarifications.	5	4	3	2	1	NA
7. The practicum supervisor was objective when critiquing my skills.	5	4	3	2	1	NA
8. The demands placed upon me were realistic in this practicum experience.	5	4	3	2	1	NA
9. I felt comfortable in my overall relationship with the people in the host company	5	4	3	2	1	NA
10. The practicum supervisor was fair in her/his judgment of my skills.	5	4	3	2	1	NA
11. I benefited from the supervision provided by the practicum supervisor.	5	4	3	2	1	NA
12. I was given sufficient opportunities for the development of my skills and abilities	5	4	3	2	1	NA
13. The practicum supervisor served a good professional model.	5	4	3	2	1	NA
14. The company promotes a healthy working environment	5	4	3	2	1	NA

ADDITIONAL COMMENTS *(STRENGTHS AND AREAS TO IMPROVE)*

My supervisor was very receptive of my needs and interests as an intern as he even changed my tasks from documentation only to development and documenting the modules I have created. My supervisor was always there to answer my questions and clarifications and gave time in order to critique and give feedback to my outputs. Furthermore, I am glad that the modules I created were going to be tested and hopefully used in production and serve as documentation for other developers. A suggestion that I could give is that for interns to have interacted with other developers and not just their supervisor.

COPY: (1) STUDENT; (2) PRACTICUM COORDINATOR/PROGRAM CHAIR

PAGE 1 OF 2
OVPAA FORM 030K

THIS FORM IS AVAILABLE AT THE OVPAA.

PART II: EVALUATION ON PRACTICUM TRAINING

STATEMENTS	RATING *(please encircle one)*					
1. The training permitted me to generate the minimum number of direct contact hours required within a specified timeframe.	5	4	3	2	1	NA
2. The training provided me with experiences that encouraged and developed my interpersonal skills.	5	4	3	2	1	NA
3. The training provided me with experiences that encouraged and developed my technical skills.	5	4	3	2	1	NA
4. The training provided me with experiences that encouraged and developed my analytical skills.	5	4	3	2	1	NA
5. The training provided me with experiences that encouraged and developed my management skills.	5	4	3	2	1	NA
6. The training provided me with experiences that encouraged and developed my customer relations skills.	5	4	3	2	1	NA
7. Facilities and equipment are adequate and made available for the training	5	4	3	2	1	NA
8. Overall, the establishment provided me with a good on-the-job training	5	4	3	2	1	NA

ADDITIONAL COMMENTS *(STRENGTHS AND AREAS TO IMPROVE)*

iRipple gave me a good opportunity to be able to showcase my technical and analytical skills by being able to work on modules that will be interfacing with the system and to be used by clients. Furthermore, Since it is expected to be looked at by other developers, it has also taught me the need to create readable and reusable code and with its accompanying documentation. Although a suggestion I could give is I would have hoped to have interacted with other developers to be able to see their thought process and how they go about with their tasks. I would have loved to have been included in meetings, code reviews, and other tasks that a developer in iRpple is expected to be a part of.

Patrick
Patrick V. Mediodia
SIGNATURE OVER PRINTED NAME OF STUDENT

PAGE 2 OF 2
FORM OVPAA 030K

COPY: (1) STUDENT; (2) PRACTICUM COORDINATOR/PROGRAM CHAIR

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Appendix G
Complete Weekly Journals

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

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

DAILY JOURNAL

IMPORTANT INFORMATION

- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	3/16/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Company Orientation, Studying System Documentation	SHIFT/TIME	8:30 AM to 5:30 PM

First, the interns were briefed by HR about the company, its different products, services, departments, and the executive committee. Next, we were handed off to our supervisors. I was first briefed on what my tasks were, and I was told that I would be updating the old documentation of the system. My supervisor could not meet me today for my orientation as he had an onsite meeting with the client trying to live the system. I started by studying the old documentation of the Barter System which encompasses a brief overview of the system, its installation, and a manual for every standard module. As there were many manuals, I was not able to finish everything today.

I was overwhelmed today as there were many manuals of the system there are a lot of terms that I was not yet aware of. I read through the manuals and maintained focus by having breaks in between and making sure I was not distracted once I started reading them. Furthermore, I took down notes on some things that I wanted to clarify to my supervisor so that I am able to better understand the system.

Patrick

TRAINEE'S SIGNATURE

COPY: (1) STUDENT; (2) PRACTICUM ADVISER

FORM OVPAA 030G

THIS FORM IS AVAILABLE AT THE OVPAA.

Malayan Colleges Laguna
A MAPÚA SCHOOL

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

DAILY JOURNAL

IMPORTANT INFORMATION

- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	3/17/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Study and Update Documentation, Install Software	SHIFT/TIME	8:30 AM to 5:30 PM

Today I finished reading the existing documentation of the Barter System that I needed to update. Even though I was overwhelmed due to the number of manuals and their length, I learned a lot about inventory management and POS systems in general. Furthermore, I was able to clarify some of the terms and processes that I was unsure of to my supervisor. My supervisor then told me to install MSSQL in preparation for the installation of the Barter system. I was also told to update the MSSQL installation documentation to the current version. Furthermore, I also updated the documentation on how to create, backup, and restore databases in SQL management studio. My supervisor was supposed to install the Barter system today but couldn't, so my other tasks were moved to Monday.

Patrick

TRAINEE'S SIGNATURE

COPY: (1) STUDENT; (2) PRACTICUM ADVISER

FORM OVPAA 030G

THIS FORM IS AVAILABLE AT THE OVPAA.

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

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

DAILY JOURNAL

IMPORTANT INFORMATION

- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	3/20/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Software Installation, C# Desktop Development	SHIFT/TIME	8:30 AM to 5:30 PM

The Barter 8 system was installed on my computer along with its dependencies such as its database MSSQL and its other modules. I asked my supervisor if it was possible to be moved away from creating documentation and have more tasks. He told me that Barter 8 was created on VB 6 and that he told his developers they were migrating to creating future Barter modules using C#. My tasks were then shifted from updating the documentation of the existing system to developing modules using C#.

I was tasked to first familiarize myself with the different .NET desktop controls (components) such as combo boxes, ListViews, labels, checkboxes, and more. As a practice, I was tasked to recreate two existing modules by imitating their UI and functionality through connection with the database. By the end of the day, I was able to imitate one of the forms while connecting one of the dropdown lists to the database.

I am glad that I was moved to a developer role as this is what I want to pursue in the future. I am also comfortable developing in C# specifically desktop applications, but I still have a lot to learn about generating reports through Crystal reports and exporting to Excel which is both exciting and makes me nervous. I realized that even at work, you don't always know how to do it. School teaches you how to learn and you will take this skill of learning and apply it.

Patrick

TRAINEE'S SIGNATURE

COPY: (1) STUDENT; (2) PRACTICUM ADVISER

FORM OVPAA 030G

THIS FORM IS AVAILABLE AT THE OVPAA.

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

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

DAILY JOURNAL

IMPORTANT INFORMATION

- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	3/21/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	C# Desktop Dev Refresh, Database Connection	SHIFT/TIME	8:30 AM to 5:30 PM

Today I continued the creation of the first sample form that was tasked to be created by my supervisor. I was able to bind the terminal dropdown to the corresponding site selected and order with a connection to the MSSQL database. I also started on the layout of the UI components of the second more complicated form that I needed to replicate. I learned and used SQL Server Profiler to capture queries done on the database. This is useful when knowing what queries are being done so that I can replicate it with the new module. Today I had a refresh of the different form controls in C# desktop, how to set their values, get their values, and how to style forms.

Patrick

TRAINEE'S SIGNATURE

COPY: (1) STUDENT; (2) PRACTICUM ADVISER

FORM OVPAA 030G

THIS FORM IS AVAILABLE AT THE OVPAA.

MCL
Malayan Colleges Laguna
A MAPÚA SCHOOL

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

DAILY JOURNAL

IMPORTANT INFORMATION

- INCLUDE TASK ASSIGNMENTS OR MOVEMENTS, REFLECTION ON THE DAY'S NEW LEARNING, ACCOMPLISHMENT, CHALLENGES FACED AND HOW YOU RESPONDED, OBSERVATIONS AND RECOMMENDATIONS ON THE IMPROVEMENT OF SYSTEMS / OPERATION / MANAGEMENT, ETC.
- SCANNED COPIES OF THIS FORM SHALL BE SUBMITTED ON A WEEKLY BASIS THROUGH APPROVED LMS.
- HARD COPIES OF THIS FORM SHOULD BE COMPILED AS PART OF THE STUDENT'S PORTFOLIO.

DATE	3/22/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	C# Desktop Development, Report Generation Research	SHIFT/TIME	8:30 AM to 5:30 PM

Today I added functionality to the form controls of the second more complicated form such as selecting the site, group by, and payment type. Furthermore, I had to study the tables, their columns, and their different relationships. This led me to refresh my SQL knowledge as I have to make queries, join tables, filter, and order data. After getting the required data from the user to generate the reports, I researched how to generate reports using Crystal Report in C#.

I installed and created the initial queries such as what columns I needed to generate the report. From there I created the initial models for the initial implementation that I will start tomorrow. Furthermore, since the old software used VB 6, I was tasked to find out a way to export the reports to Excel. I haven't started this as I plan to finish the report generation first.

Patrick

TRAINEE'S SIGNATURE

COPY: (1) STUDENT; (2) PRACTICUM ADVISER

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DATE	3/23/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Report Generation, Database Query, Record Filtering	SHIFT/TIME	8:30 AM to 5:30 PM

Today I started the initial implementation of the report generation for the first simpler form. I was able to load the data from the database into the report. Next, I fixed the data table format to get the fields that I needed. Furthermore, I cleaned the data and turned them into the format that they were needed in such as a specific date format. After that, I created the design of the report. Finally, I also fixed the formula for generating the total in regard to sales (add), returns (subtract), and void (ignore) in the respective totals such as terminal, site, and report.

My reports generation is still a static query, so I am able to create the report itself before adding the filtering. From there I realized that things don't have to be that complicated. Make it simple at first so that you are able to figure out what you need to do to make it work. I have added a sample structure or tree of the report down below.

Report
    For each Site in Sites
        For each Terminal in Site
            For Record in Terminal

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DATE	3/24/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Dynamic Report Generation, Updated Record Filtering	SHIFT/TIME	8:30 AM to 5:30 PM

Today I realized I overlooked some of the filtering fields of the report specifically additional fields for the different return types and their corresponding reasons. Hence, I updated the form to include these filters. Yesterday it was still a static query as I wanted to make sure that the report was working and today, I was able to add basic filtering to the reports such as from and to date, by site, and by terminal. I still have some other filters that I need to work on and the different combinations of these filters may need different fields to be displayed and evaluated.

I overlooked some of the filtering features of the report and I learned that before you start something, it does not necessarily mean that you have to fully understand it, but you need to understand to some degree what affects it and how it works. This shows the importance of exploration and figuring things out before actually doing them.

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DATE	3/27/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Dynamic Report Generation, Form styling and design	SHIFT/TIME	8:30 AM to 5:30 PM

Today I sent the pre-employ form forms such as the liability waiver and practicum acceptance form to our HR contact. As for development, I finished the filtering options for dynamic report generation for the first form. By type (all transactions, sales, returns, void), arrange by (trans #, OR#, invoice # in ascending or descending order), and only manual invoices. I fixed the implementation of the initial form title and description generation and site selection from the database based on the module code. Furthermore, I was able to create different layouts for the reports for all, sales, returns, and void transactions as even though they have similar fields, there are still minor differences between them. After today I was done with the overall functionality of the first form but still needs polishing and improvement.

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DATE	3/28/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Training Plan, Second Module, Data Query, Report Layout	SHIFT/TIME	8:28 AM to 5:32 PM

Today I opened up about the training plan to my team leader. He told me that my current tasks are more on development and that I should document my code after I am done with the modules. I also scheduled a meeting with my team leader to get my code checked as I have finished the first module/form.

After that, I continued working on the second form again. I have finalized the form control and their respective functionalities for filtering (site, payment type, group by). After that, I studied the existing SQL commands of the old VB form through SQL Server Profiler to learn the different tables and their relationships to get the correct data. I had a hard time getting a grasp of the data as there are multiple SQL queries from different tables. I would be asking more about this to my supervisor tomorrow. Lastly, I was able to fetch the data with a static query from the sample given as a start and I was able to create a draft for the layout of one of the reports (by terminal) that I will continue working on tomorrow.

As for the internship at iRipple, I think that having a more structured approach like having a set program and accompanying training would benefit the students as they would have an overview of what they are going to do in the internship and be able to prepare. This would lead to better outputs and learnings for the student. As for the company, this would be beneficial as the intern's role would be clearly defined and their improved performance due to training and preparation would lead to better outputs and results for the company's benefit.

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DATE	3/29/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Orientation, Filter Query Generation, Static Fields Report	SHIFT/TIME	8:27 AM to 5:32 PM

Today I started preparing questions that I wanted to ask about my code and the database to my supervisor as I had scheduled a meeting with him at 1 pm. From there I had an orientation for the CODEX Internship program for Fasttrack later at 11 am. I am looking for options if ever I do not find the training plan of iRipple to be sufficient. I think that I will be staying at iRipple as even though Fasttrack has a great internship program like its training and OJT, I do not see myself pursuing SAP-related software. I have until Friday, March 31, to think about this decision.

Sadly, my team leader had tasks to do so we had to reschedule our meeting to 9:30 am tomorrow. In the afternoon, I continued studying the query of the first group by filter on the report of the second form. From there I created the layout, mapped the database fields, created the formulas for the different fields such as total and net sales, and finally, I was able to create an initial draft of the second report with a static query. Near the end of my shift, I realized that what I did was a report with static columns, but the requirement was showing the columns depending on the user's choice. I will work on that and fix it tomorrow.

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DATE	3/30/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presentation, Data Filtering Query, Dynamic Reports	SHIFT/TIME	8:25 AM to 5:33 PM

In the morning I had a meeting with my team leader at 9:30 am. I presented my progress on the two modules and asked about my code, the functionalities, the queries, and what improvements I could make. I am not yet done with the second form so he told me to do that first and then we will meet again on Monday, April 3, at 9:30 am. I also inquired again about the training plan, and he told me that he could give me more development work in the range of web development like a dashboard or more C# desktop applications.

After the meeting, I continued working on the second report. I needed a way to create reports with dynamic columns based on the data inputted. I first had a hard time as I had only been doing static columns and I am not that familiar with crystal reports. With much perseverance, I was able to create dynamic columns based on what the user needed to see on the report. After that, I also implemented the dynamic queries like from and to date, and which site. I still have problems with the report format or styling as the columns have varying widths. Tomorrow, I plan on doing the other group by filters and their respective fields. I feel my initial implementation could be better, but I am glad that I got it to work. I will try to refactor the said code in the future.

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DATE	3/31/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Practicum Documents, Base Report Generation	SHIFT/TIME	8:26 AM to 5:32 PM

Today, I contacted our HR contact regarding the pre-employment documents that needed to be signed by the company and she told us that we could go on-site on Tuesday next week, April 4. After that, I worked on two more reports for the second module namely group by cashier and group by site. I was able to create the base report with dynamic columns but without the extra information like show reservations, balance, or status which need to be toggled. The said reports still need improvements on their layout and design but already work as intended.

I only have one base report left for this module, but I was not able to do it today since it had a different query from the 3 other reports which have the same data set. I plan to finish this module by Tuesday or Wednesday by adding the remaining filters, creating the initial draft for the fourth report, and trying to do the export to Excel functionality.

Furthermore, I did not accept the Fasttrack offer for an internship. I realized that it is not our choices that determine our success, but it is what we do after that choice. I have already rendered two full weeks in iRipple and even though I think the program of Fasttrack is good, I would not want to throw away the hours that I have rendered and disrespect iRipple by quitting mid-internship if I were to go elsewhere.

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DATE	4/03/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	System Installation, Research and Implement Export to Excel	SHIFT/TIME	8:29 AM to 5:35 PM

In the morning I first installed the Barter system on my laptop so that I can work tomorrow on-site as we are going to go on-site to have our pre-employment documents signed. I had blockers in the morning as the installation of Barter on my PC malfunctioned and although I was able to install the system on my laptop, it does not have all the functionalities. I was supposed to have a meeting with my team leader at 9:30 AM but he was busy, and he was not able to answer my questions and fix the installation of the systems. With that in mind, while waiting I searched on how to do the export to Excel functionality. I was able to create an initial implementation for the first report although my code is not that optimized yet. Moreover, during the afternoon, our on-site meeting was moved to Wednesday as per our HR contact.

Today I learned that as professionals we should be flexible. I had a blocker for my current task so I went ahead and started other tasks so that I would not waste time. Furthermore, I believe in the notion that when developing, your implementation does not have to be super-efficient at the start. I learned that making it work and then improving upon your implementation is key so that you do not get hung up on optimizing too much which could result in not delivering your output on time.

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DATE	4/04/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Export to Excel Code Refactoring, New Filtering Functionality	SHIFT/TIME	8:27 AM to 5:37 PM

Today I first refactored my initial implementation of the export to Excel, I made it more efficient and reusable so that I do not have to repeat the code for the report headers, columns headers, and the footer, all I need to manipulate is the body. From the improved code, I created the initial implementation for the group by cashier and sites for export to Excel. From there I also created the initial implementation for the report for cashier show balance and status through crystal reports. Before ending my shift, I fixed the installation of Barter on my laptop for on-site use tomorrow. The problem was that I was using an older version of the database backup, so I restored the backup found on my pc to my laptop.

Today, the importance of reusable and non-redundant code stuck with me as I had to do several reports on crystal reports and Excel. Redundant code would make the codebase hard to maintain and inefficient, so I strived and did my best to make my code reusable. Furthermore, I learned that to not get overwhelmed you need to break down your tasks into smaller, more manageable and quantifiable tasks. Moreover, I believe that getting something done in a sloppy manner is better than not doing it at all. I do not mean to keep it sloppy, but your initial implementation will get your foot through the door to a working implementation. From there you could take a look at your code for places where optimizations can be done.

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DATE	4/05/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Export to Excel Functionality, New Reports Query and Filter	SHIFT/TIME	8:30 AM to 5:32 PM

Today we went to iRipple and got our pre-employment documents signed and to work on-site (I learned how to commute). We were also able to meet the CEO and she told us to enjoy our experience. As for my tasks in the morning I was able to create the initial implementation for the export to Excel functionality for the group by cashier with balance and status. I tried to apply styling to the Excel form, but I decided to finish all the other reports first. In the afternoon I was able to create the initial implementation for the crystal report of the group by payment type. This was different from the other reports as I had to query a whole different data set, so which means I had to create a new model, query, and report formulas and formats.

As for working on-site, I felt more productive as there were no distractions unlike working from home where you need to do your other responsibilities. Furthermore, being on-site gives you the feeling of needing to get more stuff done. Furthermore, I felt my practicum more as I was able to physically interact with professionals. However, I also realized the benefits of working from home. At home, I could wake up just before the start of my shift and I don't have to waste time commuting due to iRipple being far away and due to the traffic. Moreover, it is also expensive due to commute and food expenses. So, in the future, I hope to have a job with a hybrid setup to get the best of both worlds.

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DATE	4/11/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Finished Reports and Excel, Improvements, Documentation	SHIFT/TIME	8:27 AM to 5:47 PM

During the holy week holidays, even though I was not able to get permission from HR to work, I was able to finish all the initial implementation for the crystal reports and export to Excel for all the filtering options. I presented my progress in the morning in a meeting I had with my supervisor and I showed him the progress on my 2 modules. He had some suggestions which I took note of and some functionality that he wants me to add. He also told me to try and start the development documentation and he will check my progress by Friday afternoon. From there we talked about the training plan which would be composed of software development and technical documentation. After the meeting, I went to school to get my pre-employment documents signed by Sir Ilao. I was only able to get them signed and completed today as it was only signed on-site by my host company last April 5, 2023, just before the holy week holidays.

In the afternoon I implemented the additional functionality of saving and retrieving the settings of the user in the registry so that their last selected values will be saved and loaded on runtime. Furthermore, I was able to implement the styling suggestions of Sir Allan on my export to Excel implementation to reduce code redundancy. Sir Allan also told me that if my performance and attitude are good in this practicum, he might recommend me if I decide to apply to iRipple after graduation as they might need developers as they are currently developing the POS for Shakey's if they are satisfied, might also convert their other businesses such as Peri-Peri.

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DATE	4/12/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Bug Fixes, Testing with different data, Styling of Reports	SHIFT/TIME	8:22 AM to 5:45 PM

Today I fixed most of my crystal reports and export to excel functionalities. I first verified their values and found that my query was wrong. I was checking my reports with a small data set as I forgot that this was an older system and only included fields from the years 2021 to 2023. I then tried a larger data set with records starting from 2010 up to 2023 and found that my queries returned different results from the sample forms. I first fixed my queries and then I realized that I had a bug in my code where it added the same column twice which came out with incorrect results for that column. I was able to fix these issues albeit I had a hard time and it almost took me the whole day.

Furthermore, I also finalized the styling of my crystal reports so that it is able to accommodate larger numbers. I was not able to fix the query of group by payment types as this had a different query from all the other reports. I found that the sample form was using different queries depending on the date range which I found odd. I am going to consult this tomorrow with Sir Allan, my supervisor.

Today I learned that you should always check your code with different data sets. I was fixated on trying my functionalities on a single smaller data set that I was not able to fully verify its correctness. This mistake made me waste a lot of time but I have since learned my lesson. Furthermore, I realized that when debugging you should always use tools to make your life easier. For example, having breakpoints in order to see the flow of data and logic in your code.

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DATE	4/13/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Bug Fixes, Main Program to developed Module Parameters	SHIFT/TIME	8:24 AM to 5:57 PM

Today I first fixed the need for administrative permissions when retrieving from and saving to the registry. Now it would always prompt the user to restart the program with admin access when the user account is not yet an admin. I now know why my supervisor had me lower the User Access Control notifications so that I am not prompted for admin access every time I run the program. Furthermore, I was also able to fix the payment type query and it now returns the correct values. Before I went on my lunch break I explored how to export a C# program into a .exe and get parameters when run.

In the afternoon I was able to have an initial implementation of the passing off parameters to a .exe file. This is needed as the main program is created in VB6, and then the needed parameters such as connection string, user data, and site data for the report module to function are given as parameters. Since I do not have access to the source code of the main program, I created my own report caller. The sequence is as follows: Main program -> get global parameters needed -> click on report -> get parameters needed for report -> pass to report -> use parameters on the report.

I still have other things to take into account but the overall idea of the process and how to do it is already present. Today I realized the hardship of working on a codebase that you did not create from scratch. This is because you do not know all the ins and out of the program and you have to conform to their standard on how to do things. This restricts your implementation and makes you think about it a lot more. Moreover, this also makes me appreciate easy-to-read and reusable code that is maintainable. This is because you are not the only one looking at that code and it needs to be easily understood and simple enough when others take a look at it.

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DATE	4/14/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Bug Fixes, Refactored Code, Technical Documentation Draft	SHIFT/TIME	8:27 AM to 6:03 PM

Today I was able to fix the argument delimiter issue by encapsulating the arguments in double quotes. C# uses spaces as delimiters and the connection string was being cut off. Not sure if the main VB6 TX program sends these parameters with or without double quotes, will need to clarify with my supervisor.

Next, I refactored my first barter form (POS Sales Journal Summary) and moved the generating of SQL query from the report form to the database commands file. Did this to separate the logic of creating the query and getting the data from generating the report form. Furthermore, I refactored the POS Sales Journal Summary and added passing of arguments from the main program. Next, I fixed the bug of the sales-only report filter as its crystal report had incorrect terminal, site, and grand totals. Double-checked and confirmed all other filters to be having correct values.

Later in the afternoon, I created an initial draft of the technical documentation. I had a hard time as I do not have experience in creating documentation for the code that I wrote. I was not sure which parts to include and furthermore I realized that I should be documenting my code as I am writing it so that I do not have a hard time remembering the approaches and dependencies of the code that I wrote. Will get it checked by my supervisor for its correctness next time we meet.

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DATE	4/15/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Technical Documentation of Developed Module	SHIFT/TIME	8:25 AM to 5:50 PM

Today, I created documentation for the system that I developed. I started with project setup documentation. I wrote about the programs used, creating the project, the project structure, programs to install, references to add to the project, and the NuGet packages to install. This is important as a foundation of the overall project. Next, I documented how to transfer the arguments from the Main Program (Barter TX) to the module to be created.

In the afternoon I documented how to retrieve and save registry values. This is where some of the settings are stored. I included documentation on how to give and require administrator privileges to the program as it is needed to manipulate the registry. Next, I created documentation on how to read and write to the registry and use these values for the form controls. Next, I created the change site form documentation and added how to pass state from the main form and the change site form and vice versa. I also included how to get the list of sites from the database, create the site model, and site selection.

Lastly, I started the documentation on how to create crystal reports. This includes the creation of the report form, the use of the crystal report viewer, and the creation of report parameters and record models. I was not able to finish documenting this as it is one of the more difficult and complex functionalities in the module. I am starting to get hang of creating development documentation. I am learning what parts I need to include, and what parts I need to highlight such as adding text and other helpful pointers.

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DATE	4/17/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Continue Technical Documentation of developed Module	SHIFT/TIME	8:27 AM to 5:41 PM

In the morning I consulted my supervisor on how to fix the system as Barter's free trial expired. He gave me a version of the program that does not need licensing. After that, I again focused on creating documentation. I was able to continue my documentation for crystal reports for static columns of report records in terms of styling, data source and retrieval of records, parameters, formulas, and I was able to make my technical documentation more user-friendly as I added a table of contents that have in document linking to the specific section. I was supposed to have a meeting with my supervisor wherein I will present my progress on the documentation and ask him some questions, I have but he was busy and it was moved to tomorrow.

I didn't feel so good today, but I realized that even though you may not feel the best you still need to get the job done. I may not have been 100% today but I did my best and showed up. Furthermore, I realized the importance of work-life balance. I felt tired today as I had a Saturday shift and on Sunday, I was anxious as I already had work again on Monday. This also made me realize the importance of focus. If you are focused during your shift, you would get your tasks done on time and you would not need to think about it. I currently have a hard time separating work hours and leisure hours as I sometimes think about the things I need to do during my shift. Lastly, I was also able to create a video presentation for my module 1 assessment. I will recheck it tomorrow before submitting it.

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DATE	4/18/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Technical Documentation, Presentation, Training Plan	SHIFT/TIME	8:25 AM to 5:41 PM

This morning as I was documenting my project, I realized that my approach to creating dynamic columns in crystal reports is not that efficient. So, I brainstormed ways how to improve it but was not able to implement it yet. At 9:30 I had a meeting with my supervisor Sir Allan, and I consulted my current documentation progress. We talked about his expectations and what I should and should not include in the document. After the meeting, I got my training plan digitally signed as their default setup is WFH. After that, I went to school to get my training plan signed by Sir Ilao.

In the afternoon I continued documenting the system. I first started by documenting static values for controls which is easy. After that, I documented how to dynamically set the values of controls like combo boxes based on certain conditions and values from the database. I refactored and modified some parts of the code to make it more readable as I was using specific C# syntax which can cause confusion to other developers.

I was not feeling that well so I was not working that fast today. I was also able to document how to add resources such as photos to the project, how to use these photos in the controls, and change the photos during run time. Lastly, before I timed out I cleaned up the documentation by checking for spelling mistakes, and adding appropriate headers and styles Next, I Verified the contents of the documentation for correctness and continuity of steps.

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DATE	4/19/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Refactored Code, Technical Documentation Continuation	SHIFT/TIME	8:28 AM to 5:40 PM

Today I first refactored the query for the crystal reports dynamic columns query. I improved the implementation by modifying the query in a way that its results headers do not need to be modified to fit the crystal reports model. After I then started the documentation for the crystal reports dynamic columns. I was able to create documentation for the initial setup, which is setting up and updating the report parameters before the generation of the crystal report. Next, I documented how to create a crystal report using the Report Wizard and its different options.

In the afternoon I documented how to query the data such as the creation of the query string from the report parameters. I discussed in detail the selected payment types, payment type paddings, and how the non-selected payment types are aggregated as others. Next, I then documented how to load the queried data into the report and supply report-specific parameters. After that, I discussed why the payment headers are sent as parameters and not part of the report records and how it relates to the formulas used. I added how to create report formulas and the discussion on each of the report formulas used.

I was worrying about this part of the documentation for the past few days because I am unsure about my implementation, and it is quite complex in a way that the different parts of the documentation will overlap and need context. I was able to push through and silence my doubts. I learned that you need to do things scared and not always wait for the right time. In an environment like the corporate world, time is important, and you cannot let fear take over your actions.

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DATE	4/20/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Technical Documentation, Fixed Bug, Refactored Code	SHIFT/TIME	8:28 AM to 5:37 PM

Today I first created the documentation for the styling of crystal reports dynamic headers like the font size, font style, and other styling options which I was not able to finish yesterday. After that, I created documentation for the other C# form controls I missed such as ListView and PictureBox like how to set them up and manipulate them accordingly. Next, I fixed the headings, sequence, and design by checking and verifying the overall documentation before I went on my lunch break.

In the afternoon I fixed the implementation of the query for the dynamic selected payment types that I refactored yesterday. The query was only working if all of the payment types were selected and was returning errors otherwise. I was able to fix it by using the SQL server profiler and checking the query being performed by the program. I found out that I missed an important part of the query with the new implementation which I then fixed. I learned that after refactoring and changing the code, you always need to double-check all the test cases before confirming that you are done.

After that, the next thing I did was check and improve the implementation of the export to excel functionality before I document it. This is because I feel that it is not yet that straightforward and efficient. Furthermore, Sir Allan had suggestions regarding the code on how to style the Excel file in order to avoid redundancy. I was not able to finish the finalization, but I made good progress as I now knew which parts I could improve upon. All I needed to do was implement the improvements that I had thought of.

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DATE	4/21/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Finalized Refactored Code, Finalized Technical Documentation	SHIFT/TIME	8:23 AM to 5:33 PM

Today I continued the finalization of my export to excel implementation. I rechecked the code for better ways of implementation such as refactoring how to get the selected payment headers with less redundancy and implementing the refactoring of styling as suggested by Sir Allan. I did all of this before my lunch break as I plan to start the documentation of the export to excel functionality in the afternoon.

After my break, I first documented the base class and explained the header, body, subtotal, and grand total Excel generation functions. I then documented how to use these functions depending on the selected report filters of the user. Next, I then explained how I was able to apply the different style functions that will be used on the different parts and types of text in the Excel file. Lastly, I checked and finalized everything, and I plan to present this to my supervisor by Tuesday. I added the appropriate headers and links for export to excel documentation. I then checked and verified the newly created export to excel documentation. And lastly, I checked and verified the flow of the overall technical documentation.

I am excited to present my 2 finished modules and their documentation and be able to submit what I have been working on for the past 4 weeks. I want to be able to receive feedback on not only the module I developed but how I handled the situation, how I approached the situation, how I can improve, and what I can do better the next time around.

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DATE	4/24/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presented Documentation, Started New Development Task	SHIFT/TIME	8:30 AM to 5:54 PM

In the morning up until before lunchtime, I again did my final checking of the documentation. I skimmed through everything and fixed any grammatical, design, or format mistakes. Furthermore, I added some parts that I may have not documented yet. In the afternoon I presented the finished program and my documentation to my supervisor. He said that it met his expectations, and ideas and that I did well. I asked for feedback such as the time it took me to create the modules and he said that I was fine.

After the presentation and feedback, I was given a new task. My task is to create a module that checks the status of the POS machines if they are online or offline and the difference of records locally in the POS and from the server. Sir Allan discussed that I could get the status of the terminal by pinging them and that to check the difference between the records, I need to access both from the server (MySQL) and from the POS (MS Access) and compare them.

After the meeting, I decided to start on the UI. I first conceptualized the user interface by creating mockups. I then identified the different form controls to be used namely: Flow layout, group box, picture box, and labels. From there I put my ideas into action and created an initial implementation for the generation of all the terminal UI components with static data. Tomorrow, I plan to improve the design and be able to generate the UI components from the queried terminals data. I am excited as I have already finished my first major task and I received positive feedback. Furthermore, I think that my new task is interesting as I have not tried accessing files over the network on another computer before programmatically.

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DATE	4/25/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	School Activities, Development Tasks	SHIFT/TIME	8:26 AM to 7:22 PM

In the morning I attended the opening of the CCIS college week. I asked permission from my Practicum Supervisor yesterday about attending the event and he allowed me to attend as long as I finish my output. While at school I also processed papers for OJT regarding the student performance evaluation.s

In the afternoon I continued working on the user interface of the POS terminals status module. I first changed the POS icon to a more modern one as per the feedback of my supervisor, finalized the sizes of the form and group box, and finalized the text placements and size. My next goal was to generate the UI components based on actual terminal data as I was previously only using static data. I first created the terminal model and queried all the valid terminals. I then generated the UI components based on the terminals.

After that, my task was to get the terminal status by pinging the terminal using the terminal name. I first added my laptop and computer to the list of terminals. I then used the Ping class in C# to ping the queried terminals. It works but since the ping.Send() function only uses the main thread it was sending, waiting, and receiving the pings one at a time. From my research, I discovered using the PingAsync() function so that the pings can be sent concurrently. It has since drastically improved its performance. From there I used a timer to refresh the status every 1 minute. My current implementation of clearing all the form controls and adding new ones is too slow and obvious when refreshed as all of the components are replaced. Tomorrow, I plan to add a progress bar for a better user experience when waiting and to update the text of the existing controls rather than creating new ones.

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DATE	4/26/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	UI, Network Sharing, Compare Server and Terminal Records	SHIFT/TIME	8:26 AM to 7:05 PM

Today I first improved the UI/UX by adding an icon to the form and adding a progress bar so that there is a visual indicator while the program is pinging the terminals and waiting for their replies. I had a hard time implementing the progress bar as it was asynchronously pinging the terminals. My next task is to implement the number of unsent records from the POS and the server. I can implement this by connecting to the POS through the local network and accessing its local MS Access mdb files and comparing its count to the records in the server's MSSQL database for a specific terminal.

I first turned-on network discovery for both my PC and laptop so that I am able to connect and access files through the network. I then started off by creating a simple query to confirm that I can access the mdb file and connect to a static terminal. I then added my laptop to the list of terminals in the server database. As the mdb file and MSSQL terminal id records do not match, I had to set the terminal id of my laptop to the same terminal id found on the mdb file records. I then queried the specific terminal records from the server and the ms access file, compared them, and showed it in the form.

After finishing the functionality, I notified my supervisor and he told me that I should show it to him if he had time today or tomorrow. While waiting I improved the implementation of the terminal status refresh every minute from disposing all the form controls and creating control with updated data to initializing the components on startup and then updating the text of the existing controls on status refresh. Furthermore, I improved my implementation for my progress bar and added a status indicator where it is colored green if the terminal is online, and colored red if it is offline.

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DATE	4/27/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Improve UI, Presentation, Add Functionality to Module	SHIFT/TIME	8:28 AM to 7:02 PM

In the morning I first improved the user interface by making the form and UI elements bigger as requested by my supervisor. Next, I confirmed the functionality of status and unsent values per terminal through different scenarios. I found that using a wired connection is optimal as it means that the terminal can connect to the network faster. This is because when I was using wireless, the status of the terminal took a long time before it updated. I asked my supervisor about the connection of the POS terminals and he told me that they were wired, which is good.

After I finished testing I informed my supervisor and we had a meeting. He gave me positive feedback but wanted to improve and add additional functionality. The first is to have the loading screen show the current terminal being connected to. Second, make the UI even bigger with at least 12 terminals being seen in one window. Third, have a filter to show or hide offline terminals. Lastly, have a timer to show the next refresh and a force refresh button. After the meeting, I first went on my lunch break. I then started to implement these functionalities in the afternoon as I planned to finish the feedback from my adviser today.

I first implemented the loading screen by adding an additional label and changing the text of the label in the ping async function. As for the status of terminals, I improved their storage with global variables to be used in the initialization and refresh of controls. I then added a menu strip on top of the form to house the show/hide offline, refresh status, exit the program, and the timer till the next refresh. Finally, my last task of the day is to make the base form bigger again and update the controls. I then Implemented a 4x3 grid to show at least 12 terminals on the initial screen. Furthermore, I made the window components responsive by making the controls fill the space as needed. As for how I am feeling, I am happy as I got to finish this module earlier than expected. I feel that I am getting used to the role of being a software developer and the responsibilities it comes with.

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DATE	4/28/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Finalized Code and Testing, Initial Technical Documentation	SHIFT/TIME	8:25 AM to 7:11 PM

In the morning I asked my supervisor about my next task as I have finished the POS status module. While waiting I processed my student evaluation document to be submitted to my practicum adviser tomorrow Ma'am Rhea. After that, my supervisor replied that he would meet me on Tuesday to check the revisions that he asked for and my next task was to document the module I created. I then proceeded to recheck the code, improve any parts to make it more readable, and added additional comments. I also tested the module on another device, with my laptop being the server and the pc as the POS and I was happy to see that it is also working.

In the afternoon I started the documentation of the application functionality and its different processes. I then added the prerequisites needed to be done before attempting to use the module such as network sharing, sharing access to the local database, and the MS Access database engine installation. I then started documenting the code starting with the project structure and the parameters to be received from the main program. Lastly, I was able to document the desktop controls to be used and how to get the status of the terminals although I was not able to finish it. Before I finished my shift, I prepared what I needed to present to my supervisor and I also plan to continue the documentation on Tuesday.

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DATE	5/02/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Finalized Documentation, Present, Add Functionality to Module	SHIFT/TIME	8:23 AM to 7:32 PM

In the morning I continued and finished the initial documentation of the current state of the POS Terminals Status module. I documented the main form load, the timer tick, and the refresh terminal functions such as getting the status, computing for the unsent, initializing components, refreshing components, and the generation of components. Furthermore, I added an error checking for the MS Access database in case it cannot be accessed due to network sharing issues. Lastly, I fixed the overall documentation by adding the appropriate headers, linking, and any other content that I missed.

In the afternoon I had a meeting with my supervisor where in I showed him my progress with the additional features he asked for. I received positive feedback and he told me I was able to execute the revisions he gave me. From there he told me to add more functionalities such as a sum of the sales, returns, and void transactions for the current business day per terminal, and showing the currently logged-in user. After the meeting, I then prepared my devices for the new functionality such as using the mdb file with updated data sent by Sir Allan and I planned to start with the sum of transactions today.

I then drafted SQL commands to query the sum of sales, return, and void for a specific terminal. This was fairly easy to do as I already have previous experience on how to query this data. I then inserted dummy data to be able to test the commands. After I have confirmed that my SQL commands are correct, I created models in C# to store the queried data and used the SQL commands in my C# Code. From there I was able to use the data for the dynamic generation of C# controls including the sales, returns, and voided sums. Lastly, I was able to style the new form data and I was also able to improve the header and value control generation code to avoid redundancy by encapsulating it into a function.

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DATE	5/03/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Query from DB, Generate Controls, Testing, Refactored Code	SHIFT/TIME	8:22 AM to 6:27 PM

This morning I first figured out how to get the currently logged-in user using the session table in the local mdb file on the terminals. I had to check the session records for the date today and check if the latest session's sign-off date is null, which means that the user has not logged out yet. If it is not null, then there is currently no logged-in user. After that, I created the SQL commands to query the currently logged-in user and inserted dummy session data to test my query. I then used the query in my C# code and added error checking if the server cannot connect to the terminal. I then used the queried data for the dynamic generation and refresh of controls.

In the afternoon I tested the new functionality I created the past few days. I first tested the sum of the types of transactions being sales, returns, and voids for the current day of a specific terminal. I then tested the currently logged-in user checking afterward. In order to simulate different scenarios, I manipulated the test data and confirmed my current implementation to be working. After that, I checked for areas in my code that I could improve. I was able to improve it by removing the need to create a list of terminal names for async ping, separating code to generate lines in controls, and Improving the ping async function by removing the need to return a list of type boolean as I moved the status to the terminal model. Lastly, I prepared what I need to show to my supervisor as we have a scheduled meeting tomorrow at 10:30 AM.

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DATE	5/04/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presentation, New Functionality, Development	SHIFT/TIME	8:26 AM to 6:32 PM

In the morning I first updated the dummy records to match the current day and checked for code improvements while I waited for my meeting with Sir Allan. I tried to improve the code by using asynchronous database function calls but I was not able to do it on time. After that, I double-checked the functionality and readied my presentation and questions for the meeting. During the meeting, Sir Allan approved the implemented functionalities and commended my work. After that, he told me the next functionality he wants is to notify the user using the terminal monitoring module when a specific terminal is in need of supervisor authorization and be able to serve the request. To start things off, my current task is to just show the notification, but in the future, he wants to be able to serve the authorization requests if the correct credentials have been entered.

I first started with ways to be able to notify the user. I chose to change the color of the terminal controls and play a sound after the refresh if at least one terminal needs authorization. I then created a dummy POS program that can trigger an authorization request which will create a file locally in a network-shared folder to be accessed and checked by the server. I then programmed the terminal monitoring module running on the server to check each of the terminal's shared folders if an authorization file is present. If it is present, the program will change the color of the terminal controls to yellow and play a sound. To simulate approving the request, when a terminal that needs authorization is clicked, it will require supervisor credentials and will only authorize the request if the correct credentials are entered. After which the file will be deleted simulating the request to be served. Note I have only used static credentials as a proof of concept as I do not know where to get these credentials yet.

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DATE	5/05/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Refactored Code, Fix bugs	SHIFT/TIME	8:24 AM to 5:35 PM

Since I was already done with the functionality requested by Sir Allan, I notified him if he is available today and he said that he could meet me around 2 pm today. In the morning I tried to improve my code before our meeting. I first moved the code for authentication and granting authorization to the credentials form and then moved terminal controls to separate files from the main form for better separation of concerns. After refactoring my code I encountered a bug where after a request has been authorized and another request has been sent, it does not update the state. I checked that the state is being updated but the on-click listener of the control is not being updated. I tried updating the on-click listener to no avail.

After my lunch break, I was able to fix the bug by not creating a new instance of the terminal components list with every refresh of terminal data. I used the old list, cleared it first, and then added the new terminal component data. I was pretty free during the afternoon as I was just improving my code such as getting the MS Access connection string and address of auth file while waiting for Sir Allan. Sadly since it was Friday, he had a lot of meetings and the checking of my progress was moved to Monday.

I realized that in work, like in anything in life, things don't always go your way as there could be blockers. In this scenario, I needed feedback for my progress and thus I had to look for other ways to spend my time wisely.

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DATE	5/08/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presentation, New task, Development of new functionality	SHIFT/TIME	8:24 AM to 5:40 PM

In the morning I had a meeting with Sir Allan in which I presented my progress. I showed him the update to the module specifically the notification system of terminals for supervisor authorization. I showed him the notification part that changes the color of a terminal and plays a sound. He said that it met his expectations and then assigned me a new task. Since the part of having the POS Terminal send a request to the branch server was already done. I then had to send a response back to the POS Terminal from the Branch server of the credentials entered by the supervisor.

I first started by giving full control of the POS (Terminal) and POS_Transactions (Branch Server) folders through network sharing to ensure that files can be sent and deleted. I set my PC as the branch server and my laptop as the POS terminal. Once the branch server sees that there is a request, it asks for credentials from the supervisor through a new window form. The credentials entered by the supervisor are then stored in a terminalName.auth file on the POS folder of the terminal. These credentials are then going to be used by the POS terminal to remotely authorize the task. Although I am not sure if I will be the one to implement that feature, I updated the dummy POS terminal to process the credentials.

Lastly, late in the afternoon, I went to school for a capstone project-related activity. I asked permission from my supervisor and he allowed me as I have already finished my tasks. Today I learned that even though things are tough such as juggling between my practicum and OJT, I need to push through and do my best. Complaining and waiting around won't do me any good and I need to be proactive about the situation.

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DATE	5/09/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Conceptualized and implemented own idea to module	SHIFT/TIME	8:26 AM to 5:43 PM

Today I first asked Sir Allan if he was available for a meeting about my progress and he said he will contact me once he is available in the afternoon. He told me to enhance the functionality of the module by adding what I think the user needs. At first, I didn't know what to add since I already suggested the functionality of seeing the currently logged in cashier/user of a terminal, but I then thought of a view for the transactions of a terminal for the day. This is because my supervisor wanted to show a sum of the sales, returns, and voided transactions, why not show the said records altogether if the user wants?

I started by brainstorming how to add this to the existing UI. I rearranged the elements so that there could be a link label at the bottom of the terminal group box control for "see more". I also thought of being able to filter the data and a search bar to easily search a specific record. I also thought of adding a refresh button to make sure that the records are up to date. I then put my ideas into action. I created the model and queried the data being transaction type, transaction id, cashier name, and amount due. I then used this queried data and displayed it in a data grid view. I then implemented check boxes to filter which transaction type of data to display with only displaying sales as the default option when the form loads.

Sadly, my supervisor was busy today and was not able to meet me, but I still had a productive day. Through this task I was able to think from the perspective of the user and thought of what their needs are. As a user I would want to be able to view the transactions of the terminals from the terminal monitoring module so that I can monitor their activity. Tomorrow, I plan to finish the view transactions functionality to be checked by Sir Allan on Thursday.

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DATE	5/10/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Finished conceptualized functionality development	SHIFT/TIME	8:24 AM to 5:37 PM

Today I was able to finish the view transactions functionality to be presented to Sir Allan tomorrow. In the morning I first implemented the MD5 hashing algorithm for storing the password in the auth file to be processed by the terminal which I forgot to do yesterday. My supervisor told me to use the MD5 even though it is old and not that secure in order to keep it compatible with the system since it is legacy.

Next, I continued working on the view transactions functionality. I first fixed the data grid view column widths to occupy the whole space and fixed the header names. I then added the status attribute to show the status to confirm if the transaction is valid or voided (P = Posted/Valid, V = Void). Next, I finalized the filtering function for sales, returns, void, or all transactions by changing it from checkboxes to a drop down since it is more intuitive and user-friendly. Moreover, I translated the transaction code and status to something the user can understand. For the transaction code, REL means a sale, REC means a return, while a void is either a REL or a REC as long as it has a status of V.

In the afternoon, I first added a manual refresh button to refresh the transaction records as needed by the supervisor. I then needed to implement a search function. This would allow the users to search for a specific record with a filter by a specific field. I first searched for how to filter a data grid view and found the row filter function. I then converted the return type of my query to a data table. Next, I input the parameters on my query from the search and filter controls and used this query in the on-load of the form and on-change functions of the dropdown value to filter the records.

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DATE	5/11/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presentation, New Task Assigned, Planning for new task	SHIFT/TIME	8:25 AM to 5:36 PM

Today I had a meeting scheduled with Sir Allan in regard to my progress. During the meeting, I showed him my progress and he talked about my new task, which is to create a tool that will fix and align the records of the local terminal based on the records from the server database in case it gets corrupted. The scenario is that sometimes data on the terminals gets corrupted. Losing some of its data means that the ids of the records do not match the server and when records are pushed from the terminals to the server, there will be an error. Normally how they fix this is they manually update the MDB file of the terminal and match the records to the server. This is tedious and takes time which means the terminal is non-operational and is done manually which is prone to errors. My task is to automate this process by creating a tool that will compare the records of the server and copy any records that are not present to the terminal.

I first finished the tasks of my monitoring module and then planned what I will do next for my new task. First, I brainstormed ways of how to approach the problem. I first had to know the mapping of the Transactions table of the Server and the Terminal as not all their column header names are the same. After figuring out the mapping, I then had to think of a way to efficiently compare the columns. I can do this by comparing the transaction Ids of the server to the records on the terminal. If it is not found in the terminal, it will be appended along with its other values.

Next, I had to implement my ideas. For the mapping, I first identified the same headers of the branch server and the terminal by creating a Python script. This script queried all the fields of the terminal table to the SQL server table. If it returns a result, its name is the same on both tables and if not, I manually check the mapping of the data. I plan to explore more the mapping of the tables tomorrow. Lastly, I am excited about this task as I feel that this will really benefit the operations of this system. The support crew would only need to use the tool that I would build in order to fix the issue and not have to manually update the records to match.

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DATE	5/12/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Prioritize new module, Initial Development of new module	SHIFT/TIME	8:26 AM to 5:45 PM

In the morning I asked Sir Allan for a backup of the SQL and MDB database that has matching records. While waiting I continued the mapping of the transaction header fields. When he replied, he told me to prioritize a new task he is giving me which is an auto-updater for the terminals. Currently, every POS terminal is being updated manually by the cashier which needs prior knowledge and time. This auto-updater software will be run on startup to check for updates from the server before the terminal is used.

First, I got the update folder path of the branch server from the database. This is where the updated files for the terminal are placed. Next is that I checked the folder path with the format \\{branch server}\POS_Updates if there are files to be updated. If there are files that need to be updated, I created a backup of the old files. I compressed these backups to take up less storage. From there I then updated the current files transferring them from the Branch Sever folder to the terminal folder through a network sharing connection.

In the afternoon I then added checking the directory/folders and updating them and not only the files. I used a recursive function to check if a path is a directory, if it is, recursively call the function to access all the files in that directory. Next, I then added and improved the IU for showing if there are updates, what files will be updated, when it is backing up, and when the update is done. Finally, I tested it on another device in the network to check for functionality and performance.

My task may have changed but I am still happy as it also solves an actual problem of the company when updating their terminal manually and making automated every time the system boots up.

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DATE	5/15/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presented Module, Updated module based on feedback	SHIFT/TIME	8:23 AM to 5:41 PM

In the morning I set up and finalized the auto-updater module before I present it to my supervisor. While waiting I continued the mapping of database tables for the headers, details, and payment for the POS transactions. I then presented my progress on my module and Sir Allan had a lot of feedback.

First, it should not need any intervention (yes/no) and will just automatically perform the updates. Next, he told me that it was good that I compressed the backup but I should not backup the whole folder, only backup the files that are updated. Next backups older than the AutoCleanupDaysLimit field in the database which is currently set to 90 should be deleted. Furthermore, since this will be running on startup and updating the terminal, it should call the executable of the terminal after searching for updates. Moreover, there should be a facility for restoring backups. Lastly, I should update the UI since this will be used in production.

Today I was able to automatically perform updates on startup without any intervention, call the POS executable after updates and hide the program in the system tray, and delete old backups. With that in mind, I am happy to be able to develop something that will actually be beneficial as it automates something that is currently being done manually and will be used in the production environment of the system which is my first time.

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DATE	5/16/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Presented Module, Updated module based on feedback	SHIFT/TIME	8:25 AM to 5:42 PM

I first fixed the implementation of for the backup. I changed it from backing up everything inside the folder to only backing up the files to be changed. I was able to do this by first checking if the file from the server is existing on the terminal, if it is, the version on the terminal is first backed up before it is overwritten. I had a bug where in only the files on the update folder is being checked. I had a hard time fixing this because of the need to not only check the files, but also check the sub folders. I fixed this by implementing a recursive function where in it will recursively traverse all of the folders and its subfolders until all the files have been checked.

In the afternoon I fixed the implementation of running the barter system after the updates and hiding the updater program in the system tray. Next, I implemented the restore from backups being able to show current backups and be able to select which backup to use and restore its files.

I am happy as I was able to finish the initial implementation although I feel that my code still has room for improvement. I feel that it is important to first write out the code even though it may be messy at first. Always trying to write the best code while still figuring out the problem can cause you to overthink and not get things done. It is better to try something that may work but may not be the most efficient as this will give you an idea how to approach the problem and think of better solutions.

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DATE	5/17/2023 – 5/19/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Develop Point-of-Sale Auto Updater Module	SHIFT/TIME	8:30 AM to 5:30 PM

5/17/2023

Today I added a progress bar to the auto updater module to be able to better notify the user of the progress of the updates from the server to the terminal. Next, I was able to improve the code of the module by refactoring it and segregating the update and restoring backup code for separation of concerns. This makes the main form cleaner and only handle user interface logic. Since I have refactored by code, I have finished the main functionality of the module and my next task is to update the design to match the main program since this will be used in production.

5/18/2023

Today I was preparing for our Capstone Defense for tomorrow May 19, 2023. My supervisor Sir Allan allowed me I could time in as long as I complete my tasks. What I plan to do is to accomplish the remaining tasks I have to do on the Barter point-of-sales terminal auto updater module which is its design since I have already finished the main functionality over the weekend.

5/19/2023

Today our Capstone defense which was scheduled to be on 11:00 AM to 3:00PM was reschedule to May 21, 2023. In the afternoon I continued working on the auto updater module. I changed its design and color to match the main program. With that in mind, I plan to present my progress to Sir Allan in the afternoon on Monday after our capstone presentation.

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DATE	5/22/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Develop Point-of-Sale Auto Updater Module	SHIFT/TIME	8:25 AM to 5:57 PM

In the morning we had our capstone presentation which I asked for the permission from my supervisor. Today I first fixed the headers on showing the backups from which the user can restore from. Next, I finalized the design to match the form with the colors, text, and overall design language. I found it weird having to disable the form dialog design and having to use panels in order to change the overall colors of the form. Although I just did it as this was also what they were doing with the other modules. I also improved the code by interchanging the update and restore panels of the form rather than clearing all the controls.

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DATE	5/23/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Develop Point-of-Sale Auto Updater Module	SHIFT/TIME	8:25 AM to 5:43 PM

In the morning I double checked the functionality of the form before my meeting with Sir Allan. I found a bug where I was backing up the new updated file rather than the file to be updated and fixed it. During the meeting I presented my progress and Sir Allan approved it. He then wanted me to improve my adding more functionality. The functionality that I added is that before the user can rollback a backup, the program gets and checks the credentials of the user. Currently the credentials are hard coded as instruction by my supervisor as I do not have access to their in house encryption implementation. Next I implemented an audit to track who restored a backup, when was the rollback done, and which backup did they restore.

After that I changed the absolute paths used in testing to relative paths when it is put in the POS folder to get it ready for production. From there I needed to run it on startup. I tried using shell:startup but it was ran before even logging in. To fix this I used task scheduler and ran the program when the user logs in. Lastly, I needed to generate an .exe file with the configuration and dlls compiled into it.. I tried publishing the project using the built in Visual Studio tool but it gives an installer, not only the exe file. So I used a package called Costura.Fody to do this.

Patrick

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DATE	5/24/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Develop Sync Transaction Records, Improve Auto Updater	SHIFT/TIME	8:24 AM to 6:20 PM

In the morning I continued working on the transaction records sync module and finalized the initial database table mappings for the headers, details, and payments of the local mdb terminal database to the MSSQL database on the server. After that I created an initial implementation by getting the id of the current terminal and using this id to fetch the records from the local database and the server for that specific terminal for a certain from and to date range. I then compared the records if there are discrepancies in the transaction ids.

In the afternoon I had a meeting with my supervisor Sir Allan. We installed and configured the needed Point-of-Sales software so that I can generate the needed sample data to be able to create the module. After that he asked for the source code of my Barter POS Auto Updater as he plans on using it on production and said that he was going to review my code. From there he told me to create a user manual for this module. This user manual includes how to setup, the features, and how to use the module. While reviewing the functionality of my auto updater module, he noticed a bug where in the module would allow the user to spawn another instance of the program. I fixed this by checking if the program is already being run as a process, and if it was, the program will not create another instance but will notify the user that it is already running.

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DATE	05/25/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Student Evaluation, Finish User Manual, Fixed bugs	SHIFT/TIME	8:27 AM to 5:46 PM

In the morning I had my student evaluation meeting with Ma'am Rhea and Sir Allan Erasmo. I was first asked to explain details about my internship like my department tasks, and then they proceeded to converse 1 on 1 talking about my performance. After that, I continued and finished the user manual for the Barter Point-of-Sales auto-updater which includes a short introduction of the module including its functionality, how to install it, and how to use the program.

In the afternoon I first updated the auto-updater module based on the feedback of my supervisor yesterday. After the updates, I sent the updated version of the module to my supervisor after fixing the following: fixed bug of multiple program instances, changed text of notify icon on system tray, added order by to show backups in descending order, and changed POS_Update_Backup path to POS_Update_Backups.

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DATE	05/26/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Transaction Sync Module Initial Implementation	SHIFT/TIME	8:40 AM to 5:40 PM

Since I am done with the barter point-of-sales terminal auto-updater, I continued with the sync of transactions on the server and the terminal module. I was able to finish the mapping of the tables for the transaction header, items, and payments which have a total of over a hundred fields in total. I then started the initial implementation of the module. I first created the form which has two date pickers to get the from and to dates of the records that need to be fetched.

From there I got the count of the records on the terminal and the server. I then compared the number of records to see if there is any difference. My idea is that if I already check for the transaction ids, it will take time as if the records were not corrupted, there would be the same amount for both. After that, I started the comparison of the transaction ids on the server if it was on the terminal. I did this by fetching both the transactions ids for the server and the terminal and checking each of the traction ids on the server if it is on the terminal, if it is not, it is recorded as a transaction that needs to be transferred.

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DATE	05/29/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Exploration of Libraries and Frameworks	SHIFT/TIME	8:27 AM to 5:39 PM

Since I already knew the transactions that are on the server that is not on the local terminal from the work I did yesterday, I now created the implementation of transferring these records. At first, I had a hard time as I had to query a lot of fields from the MSSQL database on the server and insert it into the MS Access mdb file on the terminal. To remedy this, I explored using an ORM or object-relational mapper for the query on the MSSQL database using Entity framework. I have used this in the past for ASP.NET Web Form and MCV web applications but have not tried using it for desktop applications. Exploring entity framework led me to easily query data from the SQL database on the server by using LINQ C# commands which use built-in functions for easy querying rather than having to mess with strings, command parameters, and stored procedures. For the MS Access file, I tried exploring the library dapper which is an ORM that works for mdb files, sadly I did not have much success trying this out and decided to stick to using the OLEDB built in library in C# for interfacing with mdb files.

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DATE	05/30/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Transaction Records Sync Initial Implementation	SHIFT/TIME	8:30 AM to 5:35 PM

Through my research and exploring different libraries or frameworks for ORMs, today I was able to create the initial implementation for the syncing of the transaction headers from the server to the terminals. Since the TransactionHeader table had a lot of fields, I had a hard time mapping it to the local mdb file and had to recheck the values multiple times to make sure the correct fields are being mapped. From there I was also able to create the initial implementation for the TransactionItems and TransactionPayment data. These are different from the headers in that one transaction header can have many items within that transaction and can have multiple types of payment like cash and card. From there I ran multiple tests and confirmed the mapping of the tables to be correct. Although I have to confirm some of the fields to my supervisor that is not seen on the server but are present on the terminal.

Patrick

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DATE	05/31/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Refactored Transaction Records Sync Implementation	SHIFT/TIME	8:29 AM to 5:49 PM

Today I refactored my initial implementation for the transferring of files from the server to the terminal for the transaction header, items, and payments. My initial implementation was a bit sloppy, and my sole goal yesterday was to get it to work. Today I improved upon my implementation by removing any redundancies and efficiencies I see on my code.

Patrick

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DATE	06/01/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Develop Sync Transaction Records	SHIFT/TIME	8:16 AM to 5:46 PM

Today I first added sorting of records to be transferred by transaction id, this is so that the records being transferred from the server to the local terminals are by order. Next, I then added a progress bar in order to inform the user of the progress of the transferring of files, this is especially needed when large amounts of data are processed. Next, I improved the UI as so far, I was only working on the functionality of the form. I used the colors of the POS terminal software and fixed the size of the controls.

In the afternoon I refactored and improved my implementation for checking for differences between the records. Rather than checking the transaction ids right away, my supervisor told me to check the number of records first, if the records on the server were higher than that of the local terminal, that is only when the records to be transferred will be checked and fetched.

Patrick

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DATE	06/02/2023	AREA ASSIGNMENT	B&HI Segment RnD Department
TASK	Improve Sync Transaction Records and Present Progress	SHIFT/TIME	8:22 AM to 5:42 PM

In the morning I fixed the transaction tables mapping that I overlooked. I added getting the salesman and bagger data by getting using their ids in the record and fetching their respective tables. Next I converted all of the SQL database commands that were using strings and parameters to the Entity Framework and querying data using LINQ. This allows for a more robust and easier way of fetching data.

After lunch I had a meeting with my supervisor to show my progress and he approved of my output but had a few feedback that I needed to change. First, I added a confirmation before starting the transfer of the records, this is so that the support person in charge could double check the records that will be transferred before the operation will begin. Lastly, I updated the user interface to match the rest of the Barter point-of-sales terminal user interface design.

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Appendix H
Letter of Appeal for Overtime and Saturday Hours Rendered

June 2, 2023,

MR. KHRISTIAN G. KIKUCHI
CCIS Department Dean
Mapúa Malayan Colleges Laguna
Pulo-Diezmo Road, Cabuyao, 4025 Laguna

Greetings Sir Kikuchi,

It has come to my attention that in order for our intern Patrick Mediodia to render overtime and Saturdays I need to get permission from his practicum coordinator on his behalf. He requested the following dates down below to render extra hours in order to be able to meet the requirements I have set and the required hour count before the end of his term. He has rendered extra hours on the following dates:

Saturdays or Holidays
- April 15, 2023 (Saturday)
- April 21, 2023 (Holiday)

Overtime
- April 25, 2023 (2 Hours Overtime)
- April 26, 2023 (2 Hours Overtime)
- April 27, 2023 (2 Hours Overtime)
- April 28, 2023 (2 Hours Overtime)
- May 2, 2023 (2 Hours Overtime)
- May 3, 2023 (1 Hour Overtime)
- May 4, 2023 (1 Hour Overtime)

With that in mind, I am hoping you would consider and count the hours rendered by Mr. Mediodia as his contributions are very much appreciated by me and my team here at iRipple, Inc.

Sincerely,

AErasmo
Allan E. Erasmo
B&HI Segment, R&D Department Team Leader
iRipple, Inc.