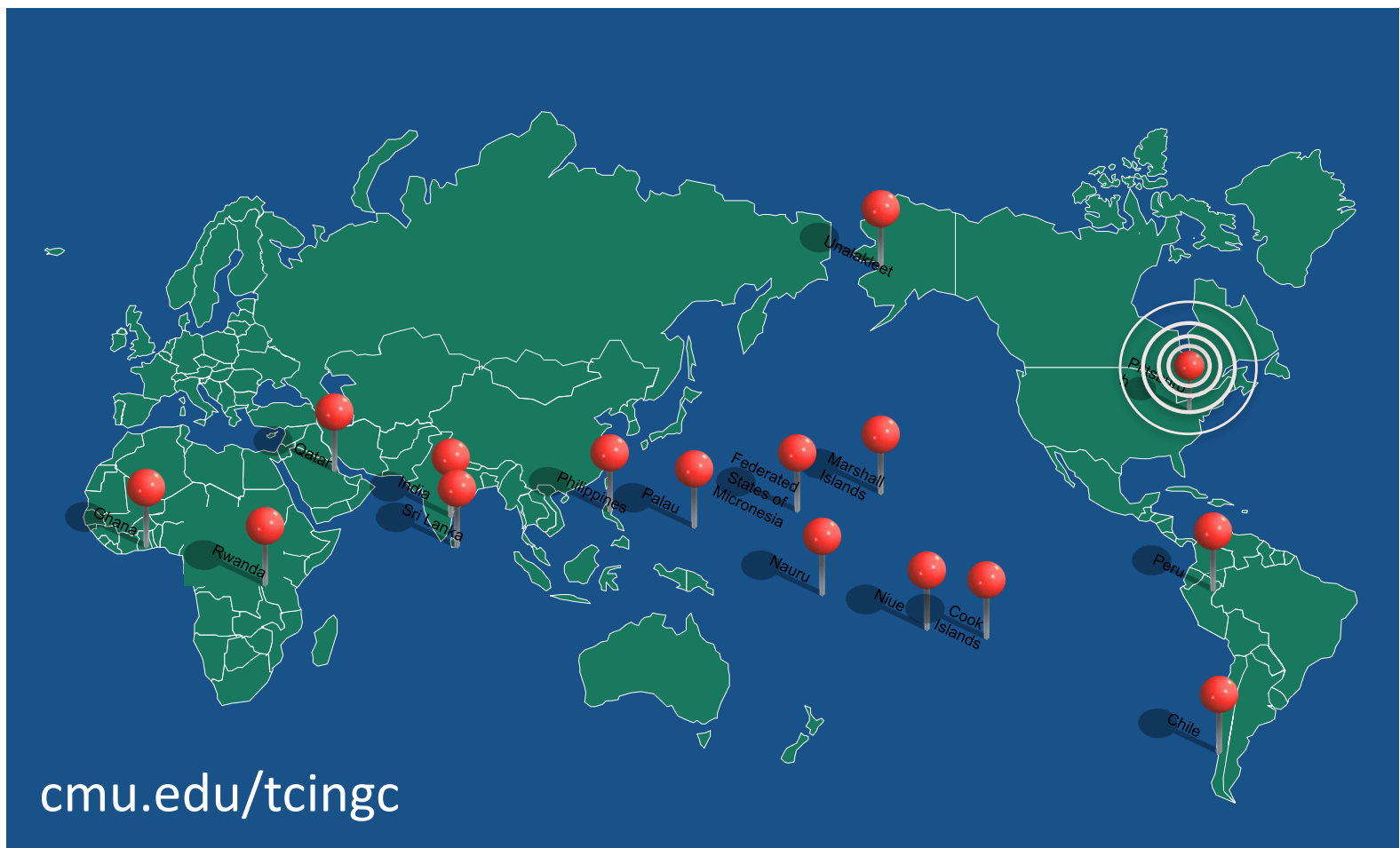# TECHNOLOGY CONSULTING
IN THE GLOBAL COMMUNITY

Final Consulting Report
Palau Financial Intelligence Unit
Benjamin Junker
August 2016

Carnegie Mellon University

Unalakleet

Pittsburgh

Qatar

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Republic of Palau – Financial Intelligence Unit Executive Summary

Student Consultant, Benjamin Junker
Development Partner, Nelson J. Werner

I. About the Organization

The Financial Intelligence Unit (FIU) of the Republic of Palau is a division of the Palauan government tasked with investigating and monitoring all financial activity in Palau. They describe their organization and mission as:

> *The Financial Intelligence Unit (FIU) is a government organization that monitors all financial activity in Palau. They receive and analyze information in order to identify possible activities relating to money laundering or terrorist financing.*

II. Working with FIU staff to review and practice with all existing database functionality and derive a list of desired changes

It is important for all FIU staff to gain full proficiency in the use of the existing database software. All FIU personnel now have proficiency in using the database solution, the staff has been provided with a Database User Manual, and a list of desired changes has been created. The only risk to the sustainability is that the FIU personnel forget how to use the database. Going forward, the FIU should hire someone to implement the documented list of desired changes.

III. Complete transition to electronic report submission

Because the FIU now has a database software solution, it is important that banks submit reports electronically going forward. Bank of Hawaii and Bank of Guam are now submitting electronically; Bank Pacific is still in the process of transitioning. The risks to sustainability are that Bank of Hawaii or Bank of Guam experience problems and/or that Bank Pacific does not complete the transition to electronic filing. In the future, the FIU should continue to work with Bank Pacific so they start filing electronically.

IV. Training and implementation of encrypted email

The FIU has the need to securely communicate and exchange intelligence with external parties. The FIU now has encrypted email working on its computers, adequate proficiency in using encrypted email, and an Encrypted Email User Manual. The main risk for sustainability is that the FIU personnel forget how to use encrypted email. As such, the FIU personnel should work to develop comfort and proficiency with encrypted email.

V. Define recommendations for importing backlogged reports into the database system

The FIU would like to have backlogged reports, along with current and future reports in its system. Bank of Guam will give the FIU their last five years of backlogged reports in digital format. The FIU additionally has recommendations for importing all backlogged data into its database. This outcome is sustainable as they are both instances of added capacity that the FIU now has. Going forward the FIU should follow through on the recommendations for importing backlogged data.

VI. Investigate and implement information retrieval from other Palauan Government organizations

The FIU needs to be able to remotely view information in other government entities' databases to conduct investigations. The FIU currently remotely has access to information from the Bureau of Immigration and Labor. Such access for the Bureau of Customs and Border Protection and the Bureau of Revenue and Taxation are forthcoming. This initiative will fail to be sustainable if the FIU staff forget how to access the external data. The FIU should monitor the status of those agencies that do not currently have databases so that, if one was to adopt a database, the FIU could gain remote access.

VII. Investigation into and implementation of a case management software solution

The FIU needs case management software to manage its investigations. The FIU now has such a software solution, XMind, and an XMind User Manual for stutainability. This initiative will fail to be sustainable if the FIU staff forgets how to use XMind and fails to make use of the XMind User Manual. Despite the success of XMind, if the FIU has an opportunity to adopt and implement goAML, it should.

VIII. Additional Recommendations

The FIU should obtain a faster Internet connection, as it would greatly augment the FIU's ability to execute and speed up many important and frequently preformed tasks.

Additionally, the FIU should hire in-house technical expertise, as it would allow the FIU to function more effectively at the tasks it already preforms and also allow the FIU to expand its scope.

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Ben is a senior in Information Systems. He will return to Carnegie Mellon to complete his degree next fall.

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I. About the Organization

Organization

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> *The Financial Intelligence Unit (FIU) is a government organization that monitors all financial activity in Palau. They receive and analyze information in order to identify possible activities relating to money laundering or terrorist financing.*

The Financial Intelligence Unit achieves its goal of combating money laundering and terrorist financing by collecting and analyzing reports to identify possibly illegal behavior. Specifically, these reports are Cash Transaction Reports (CTRs), Suspicious Transaction Reports (STRs), and Cross Border Currency Reports (CBCRs). The CTRs and STRs are submitted to the FIU by the three retail banks in the area, Bank of Hawaii, Bank of Guam, and Bank Pacific. CTRs detail withdrawals and deposits from the banks of values greater than or equal to $10,000 (USD), and STRs are reports that detail any suspicious financial activity that a particular bank has observed, such as anomalously large transactions for a particular individual or a pattern of transactions that adheres closely to those associated with illegal activity. The Financial Intelligence Unit receives CBCRs from the Palauan Bureau of Customs and Border Patrol, which contain information about the movement of sums of money greater than or equal to $10,000 (USD), in cash, into or out of the country. After amassing information and building a good faith suspicion of illegal activity, the Financial Intelligence Unit passes their amassed intelligence to another entity, such as the Bureau of Public Safety or the Attorney General's office, to do the rest of the investigation

The Financial Intelligence Unit has two employees: Nelson Werner, who is the Director of the unit, and Hussein 'Boboy' Derbai who is a Senior Intelligence Analyst. The Financial Intelligence Unit currently uses technology in a limited capacity and is looking to expand its use of technology to enhance its investigations and to increase its prestige in the international community.

Facilities

The Financial Intelligence Unit is located in an office on the second floor of the IA Meda Korner Building in Koror, Palau. It shares the second floor facilities with the Financial Institutions Commission (FIC). To this end, the Financial Intelligence Unit and the Financial Institutions Commission work together to monitor financial activity in Palau.

In terms of physical space and organization, the size, furnishings, and layout are adequate for the current operations of the Financial Intelligence Unit. There are three desks in the office, which are used by Nelson and Boboy for day-to-day work, as well as a larger conference table used for meetings. At one of the desks is a desktop computer; there are an additional five laptops in the office. The access to power at the Financial Intelligence Unit office is also satisfactory for its needs:

there are sufficient power outlets in the office to power all of the electronic devices (i.e. – computers, phones, etc.) the Financial Intelligence Unit has, as well as those of guests, and sufficient power to provide climate control and lighting for the office. The security to the office is also ample, being that the door to the Financial Intelligence Unit office is locked at night, as is the door to the second floor that contains the Financial Intelligence Unit and Financial Institutions Commission offices. However, it should be noted that if the Financial Intelligence Unit were to expand to include more personnel, it would potentially need more office space, as there are not currently facilities or space in its office to house more than three to five permanent employees.

Programs

The sole function of the Financial Intelligence Unit is to collect and analyze the abovementioned reports and other pertinent intelligence, to determine the existence of suspected, illegal, financial, activity, through procedures and systems that are compliant with international standards. Due to this, all activities of the Financial Intelligence Unit are pursuant to its organizational mission. With regard to technology, the employees of the Financial Intelligence Unit generally use computers for tasks such as communication, information storage, and information lookup to aid them in their jobs

Staff

There are two employees in the Financial Intelligence Unit.

Nelson Werner is the Director. His responsibilities include general management of the Unit, planning, both technological and otherwise for the Unit, and intelligence gathering about money laundering and terrorist financial activity cases. Nelson uses computers for general office work, such as email, word processing, and research. He has access to pertinent Microsoft Suite applications (i.e. – Microsoft Word, Excel, Access, etc.) and email clients through the Internet. His primary resource for technology training is the Internet.

Hussein 'Boboy' Derbai is a Senior Intelligence. His role at the Unit is similar to Nelson's: he is also, in part, responsible for management, planning, and intelligence gathering for the money laundering and terrorist financial activity cases. In addition, Boboy serves as the liaison between the Financial Intelligence Unit and the larger Palauan community, as Boboy was born and raised in Palau and has standing relationships with many of the people in the larger Palauan community. His access to and use of technology is largely similar to Nelson's, except that Boboy has more proficiency in using the Financial Intelligence Unit's Microsoft Access Database. Boboy's access to technology training is similar to Nelson's, as well.

Technology Infrastructure

The Financial Intelligence Unit has six computers: one Acer desktop computer running Windows 7, one HP laptop computer running Windows 7, three Asus laptop computers running Windows 8, and one Toshiba laptop computer running Windows 8. All of the computers have the current front-end Microsoft Access database application and are connected to the back-end data on the desktop computer that contains the reports the Financial Intelligence Unit collects. All computers additionally have basic office software on them, particularly the Microsoft 2007 Package Suite, and Internet access (with the necessary web browser to use the Internet). Specifically, Boboy primarily makes use of the desktop computer and uses Google Chrome for Internet access, and Nelson primarily makes use of the Toshiba laptop computer and uses Mozilla Firefox for Internet access. The remainder of the computers are either used for travel, as some are smaller and more convenient

to take to conferences, or by temporary employees (e.g. – Data Entry Employees) when the FIU has budget to make such hires. Nelson and Boboy also both have personal smartphones, with cell phone service, that they occasionally use for purposes related to the Financial Intelligence Unit. In terms of non-computing technology, the Financial Intelligence Unit's office is equipped with phones ("landlines") and a scanner/printer that is accessible over the local network

Despite the fact that all computers at the Financial Intelligence Unit have Internet access, the Internet connection is less than ideal for their purposes. Specifically, the bandwidth ranges between ~0.05 mbps and ~0.25 mbps for upload and download speed. In addition, the speed and connectivity status of the Internet are variable depending on external factors, such as the overall network usage in the greater Koror area and the weather. This stems from a larger issue effecting all of Palau: that all off-island Internet connections to Palau are through satellite. There are plans to connect Palau to the broader Internet through an undersea fiber-optic cable, which would vastly improve Internet speeds, however the culmination of these plans is estimated to be at least one year away.

Due to the poor Internet connection, the Financial Intelligence Unit has issues performing tasks that are essential to its organizational success, such as checking email, downloading files, and browsing the Internet. Moreover, certain technical solutions, such as building web applications that are hosted off-island are impracticable. Other than the issue of Internet, the technology infrastructure at the Financial Intelligence unit is appropriate for its current needs.

Technology Management

The Financial Intelligence Unit does not currently have a technology management plan because the technology infrastructure at the FIU does not require a great deal of maintenance. And, as such, technology management at the Financial Intelligence Unit is done on a largely 'as needed' basis. That is, the management of technology is typically only done when a piece of technology at the Financial Intelligence Unit stops working as it should.

The responsibility for day-to-day technology problem solving is shared, to a certain extent, between Nelson and Boboy, though it often works out that the responsibility for technology problem solving falls primarily on Boboy, as he is more familiar with the usage of computers, the primary piece of technology infrastructure at the Financial Intelligence Unit. Boboy's current technical expertise, as it relates to technology management, largely consists of the ability to use computers, meaning he can preform tasks such as installing software or updating virus definitions through a graphical user interface.

Beyond those sorts of tasks, the Financial Intelligence Unit relies on external services to manage its technology infrastructure. Unfortunately, the Financial Intelligence Unit's access to external services is limited. There is a dedicated information technician for government organizations in Palau, Conrad, but he is not able to dedicate a large amount of time or attention to the Financial Intelligence Unit's needs, as his services are required by a large number of government organizations. Furthermore, the Financial Intelligence Unit does not currently have the budget to hire an external vendor. Given this lack of external support and internal capacity, the technology management portion of the Financial Intelligence Unit's organizational practices is limited.

Technology Planning

Technology planning at the Financial Intelligence Unit is largely done by Nelson, with some input from Boboy. Being that the FIU was created less than three years ago, Nelson largely crafts the technology plan from the example of more established Financial Intelligence Units. Nelson gains

information about comparable international practices by attending conferences about money laundering and terrorist financing prevention and dually observing the best practices showcased there as well as communicating with the other Financial Intelligence Units in attendance about their technology infrastructure.

The current technology plan, to first establish, then augment a database, as well as procure a way to effectively visually represent a financial investigation, has been in place since Nelson created a technology plan for the Financial Intelligence Unit. In addition, its implementation has also been consistent: to utilize the Technology Consulting in the Global Community program. Going forward Nelson does not envision establishing a vastly new technology plan or implementing the current technology plan in an entirely different matter

Communication

Internally, information at the Financial Intelligence Unit is shared verbally, through the use of a flash drive, or through email and, externally, through email or phone. As such, the Financial Intelligence Unit does have the capacity to share files, both internally and externally. With regard to the security of the files shared via email, the email accounts at the Financial Intelligence Unit are password protected and have the capacity to be encrypted, but the staff at the Financial Intelligence Unit does not yet have the technical expertise to encrypt their emails. As mentioned above, the bandwidth in Palau does not allow very fast upload or download speeds, which can cause issues for the Financial Intelligence Unit when its employees need to communicate or share files via the Internet. Other than a need to encrypt email and a general need for higher bandwidth Internet access, the one-to-one communication capacity of the Financial Intelligence Unit is appropriate for its needs. Beyond one-to-one communication, the Financial Intelligence Unit communicates with the general public through its informational website, www.palaufiu.org . Finally, in terms of non-technical communication, the Financial Intelligence Unit previously had a problem managing the thousands of paper reports delivered to its offices by banks. However, the Financial Intelligence Unit has transitioned to a database for management of those reports, and, consequently, the banks are newly required to electronically submit their reports, meaning the amassment of paper reports should not be an issue going forward.

Information Management

The Financial Intelligence Unit currently handles its information management needs through the use of a Microsoft Access database to manage the various reports it receives, which was implemented by two consultants participating in the Technology Consulting in the Global Community program last summer. The organizations that submit these reports to the Financial Intelligence Unit (banks and the Bureau of Customs and Border Patrol) are currently transitioning from paper based submission to electronic submission. By the end of the summer, Nelson predicts that submission will be an entirely electronic process. Additionally, though the current database solution is robust in its support of storage, import, basic lookup, and basic report generation functionality of CTRs, STRs, and CBCRs, it does not meet all of the Financial Intelligence Unit's needs. In short summary, the Financial Intelligence Unit needs technical solution(s) to allow its employees to access a larger variety of information and to utilize analytic/visualization tools for the Financial Intelligence Unit's data. Both of these improvements would aid the Financial Intelligence Unit in its pursuit of its mission of monitoring financial activity and identifying possible activities related to money laundering and terrorist financing.

Between staff of the Financial Intelligence Unit, most information is either exchanged, as mentioned above, through the use of a flash drive, or through email. In addition, the back end information of the database solution is shared between Financial Intelligence Unit employees over the local area network through Windows Homegroup.

II. Working with FIU staff to review and practice with all existing database functionality and derive a list of desired changes

Motivation

For the Financial Intelligence Unit to preform its duty of monitoring financial activity in Palau and monitoring information related to possible money laundering or terrorist financing related activity, its personnel need the ability to quickly and easily browse the various reports that are provided to them. To address this need, last summer two consultants from the Technology Consulting in the Global Community program implemented a Microsoft Access database solution to manage the various reports, CTRs, STRs, and CBCRs that the Financial Intelligence Unit receives.

For a number reasons, most prominently due to a lack of data in the system, the database solution has not been heavily used by the FIU staff, resulting in a lack of expertise in the system by the current staff at the FIU. Due to this fact, the FIU was lacking in its ability to manage the information it had at its disposal.

As such, there was a need to review and practice all existing database functionality with the FIU staff. In addition, through this process a list of desired changes to the current system would be compiled. Through these two procedures, the FIU staff would gain proficiency in their database system, which would aid them in their aforementioned mission, and also would have an idea of improvements that should be made to the database system going forward.

Outcomes

After establishing proficiency in use of the database system, it was decided that the best implementation of a training program with Boboy, who is primarily in charge of the database system, would be to review and practice all existing database functionality with him throughout the duration of the engagement. Through this method, he would not be subjected to 'lessons', but rather gain insight and expertise into the database system's practical application, as its features were relevant and needed.

To this end, Boboy has displayed a large increase in proficiency of use of the database system. At the start of consulting engagement, over roughly the past year Boboy had input approximately 1,000 records into the database; however, over the two month consulting engagement, the number of records in the database has risen to over 4,000, most of which are directly or indirectly the result of Boboy's efforts. In addition, Boboy has gained the capacity backup the database and is now doing so on a weekly basis to an external hard drive to prevent the loss of data in the event of technical issues. Finally, Boboy demonstrated sufficient proficiency in the system to train a temporary employee at the FIU in the use of the system during the consulting engagement.

Beyond the ongoing training program that was conducted with Boboy, to ensure sustainability of this initiative, a Database User Manual (see Appendix A) was created in conjunction with Boboy's ongoing training to provide the FIU with a resource to train future employees in a way that fostered

buy-in on the part of the FIU. The efficacy of the Database User Manual was tested and demonstrated to be sufficient through its use in the training of Nelson in the database system. Nelson has demonstrated the ability to perform all pertinent use cases in relation to the database system. Specifically, Nelson has demonstrated the ability to manually input data, query the database, import data into the database, and generate basic reports.

Finally, through the use of the database system, the FIU staff articulated various desired changes to the system. As there was not sufficient time to make these changes within the scope of the current engagement, these changes have been documented for future consideration (see Appendix B).

Through the results of this initiative, the FIU personnel have been able further their organizational mission through the use of the database system. Namely, the FIU has been able to use the system to investigate the financial activity of various people who are being monitored by the FIU. In addition, the ability to use the database system has allowed the FIU to identify certain patterns of transactions that appear suspicious but were not previously being monitored by the FIU.

With regard to overall sustainability of this initiative, the combination of proficiency of the current FIU staff in the use of the database system and creation of a Database User Manual will ensure that all future FIU personnel will be able to obtain relative proficiency with the existing database system. In addition, the Database User Manual was printed to create a physical manual, a medium that the FIU personnel are more comfortable with, to further ensure that it is utilized.

Recommendations

Going forward, there are two important courses of action that the FIU should take to maintain and expand their capacity in relation to their database system. First and foremost, the current FIU staff should train any future employees in the use of the database system with the Database Training Manual, as well as added insight from their own expertise that they deem appropriate. By doing this, the FIU will ensure that all of its personnel can effectively use the database system to pursue its organizational mission.

In addition, the FIU should hire additional technical expertise to implement its desired list of changes. These changes are, by nature of their creation desirable to the FIU and will make the database solution more robust. As such, it would be prudent to ensure their implementation. As alluded to above, the FIU should do this through an external vendor: potentially through a future Technology Consulting in the Global Community engagement or through, budget permitting, a professional technical consulting vendor.

III. Complete transition to electronic report submission

Motivation

Submitting banks, Bank of Hawaii, Bank of Guam, and Bank Pacific, all submit CTRs and STRs to the Financial Intelligence Unit. Previously they did this through a paper based process in which an employee of one of the banks would physically travel to the FIU's office and hand deliver a paper copy of these reports. Considering the fact that the FIU now has a database to collect and manage these reports, it is now mandatory that banks submit these reports electronically rather than in physical copies.

As such, there was a great need, within the FIU, for someone, particularly someone with technical expertise, to oversee this process, help banks transition to electronic submission of reports, and troubleshoot any issues that arise during the transition.

By way of successfully overseeing a transition to electronic filing, the FIU will more effectively be able to access the reports they have on file in their, in their various inquiries into the possibility of illegal financial activity, through their existing database software solution. This would aid the FIU in its organizational goal of monitoring and identifying activities related to money laundering and terrorist financing.

Outcomes

Throughout the consulting engagement, the consultant and FIU staff communicated with all three banks about the transition to electronic reporting with varying degrees of success.

The results of this initiative with Bank of Hawaii and Bank of Guam were very successful. Prior to the current consulting engagement, neither bank had filed electronically with the FIU, at all. After communication with both banks' local branches and headquarters, as well as the examination of various test submissions by both banks, Bank of Hawaii and Bank of Guam are now filing electronically. Since they started electronically filing (mid-July), Bank of Hawaii has submitted approximately 600 records electronically and Bank of Guam has similarly submitted approximately 400 records.

In contrast, the results of this initiative with Bank Pacific were less successful. Despite repeated attempts to engage Bank Pacific throughout the duration of the consulting engagement, they were unresponsive and static for the large majority of the time. Only during the last week of the engagement was one test file submitted. As such, Bank Pacific did not complete the transition to electronic filing.

In addition to working with the various reporting banks to transition to electronic report submission, another aspect of this initiative involved working with the FIU staff, particularly Boboy, to develop the capacity to import these results into the database system. Though, in theory, the process is straightforward, there were some encountered issues and necessary troubleshooting to import the submitted reports into the database system. These issues were explored and resolved jointly by the consultant and Boboy to foster capacity to combat such issues in the future within the FIU. In addition, these issues and processes for resolving them were documented in the Database User Manual (see Appendix A) for future reference.

Finally, the Electronic Reporting Instructions created by the consultants last summer were updated (see Appendix C) to reflect the current procedures and state of electronic reporting. These updated instructions will be included in regulation to further mandate electronic submission by banks.

The status of Bank Pacific notwithstanding, the results of this initiative have been very successful. Coupled with increased ability to make use of the system from the previous objective, the additional data in the database system from this initiative has allowed the FIU to use the system to investigate the financial activity of various people who are being monitoring by the FIU. In addition, the additional data in the database system has allowed the FIU to identify certain patterns of transactions that appear suspicious but were not previously being monitored by the FIU.

The main risk to sustainability of this initiative is Bank Pacific's lack of transition to electronic reporting within the duration of the consulting engagement. To combat this the consultant will be

available via email for input and assistance with transitioning Bank Pacific to filing reports electronically. Beyond that, the other risk to sustainability is that there is an issue with future submission(s) that the FIU does not have the capacity to troubleshoot. Though this possibility is unlikely, as preemptive efforts were made by consultant and FIU to avoid this situation, the consultant will similarly be available via email for any issues that the FIU has with future submissions.

Recommendations

The most important thing the FIU can do, given the current situation, is work to transition Bank Pacific to electronic filing. Given that Bank Pacific is now palpably working on this initiative (i.e. – has submitted a test file), this process should be more forthcoming than it was during the consulting engagement when Bank Pacific were largely unresponsive. To achieve this the FIU should continue its current process of accepting test submissions from Bank Pacific and giving feedback until Bank Pacific submits data in the correct format. A good basis for comparison and thus potential feedback is any number of correct submission files, such as the sample STR, CTR, and PIT files provided by the consultants last year. In addition to follow up from solely the FIU, the consultant has agreed to serve as an ongoing resource on this matter.

IV. Training and implementation of encrypted email

Motivation

The financial intelligence community, by its very definition, deals with very sensitive information: people's banking information. As such, it is an industry standard in the financial intelligence community to ensure that all digital communication is secure. The primary mode for securing such digital communication is the encryption of email with public-key encryption. This standard is so ubiquitous that certain countries' Financial Intelligence Units will not exchange information with another Financial Intelligence Unit unless the emails through which information is being exchanged are encrypted.

Currently, the employees of the Palauan Financial Intelligence Unit have directions to encrypt their email left by the consultants who worked with the Palauan Financial Intelligence Unit last summer. However, given that encryption of email through the use of public-key encryption is an involved, technical process, the directions did not prove to be sufficient for the employees of the Palauan Financial Intelligence Unit to build sufficient capacity to encrypt their outgoing email. From a usability perspective, specifically, one issue that the employees of the Financial Intelligence Unit have expressed they have with the documentation left by the consultants last summer is that it is designed for use with Microsoft Outlook. Nelson and Boboy have both expressed that they do not have a high level of proficiency with Microsoft Outlook.

Herein lies the need for the Palauan Financial Intelligence Unit to build capacity to encrypt their outgoing emails. Without the ability to encrypt their emails, the Palau Financial Intelligence Unit does not have the ability to exchange crucial information, pertaining to its various undertakings of identifying possibly illegal financial activity, with other Financial Intelligence Units.

Outcomes

Though initially the plan was to use Mailvelope to allow the FIU staff to send encrypted emails through their web browsers, after investigation and initial implementation of the Mailvelope browser add on, the consultant encountered issues receiving encrypted messages with Mailvelope. Due to this discovery, it was decided that Microsoft Outlook would be used to encrypt email. In addition, Nelson's main objection to Microsoft Outlook, that it did not work on his computer, was eliminated as he upgraded to a more powerful computer during the duration of the consulting engagement, on which Microsoft Outlook works well.

As such, digital email certificates (containing public keys digitally signed by Comodo) and private keys were secured and successfully stored, for director@palaufiu.org, on Nelson's computer of choice and for admin@palaufiu.org, on Boboy's computer of choice. After which, training was conducted wherein Nelson and Boboy were both shown how to fully utilize the encrypted email. This process was documented for sustainability in the Encrypted Email User Manual (see Appendix D).

Both Nelson and Boboy have demonstrated proficiency in the use of encrypted email as they have both sent and received encrypted emails. In addition, with regard to the previously mentioned low level of proficiency with Microsoft Outlook, this issue has been rectified as Nelson and Boboy are both now using Microsoft Outlook for general email use. Despite these positive indicators, no results pertinent to the mission of the FIU have resulted yet as all external parties that the FIU has reached out to via encrypted email have not yet responded.

Finally, this initiative is entirely sustainable, as Nelson and Boboy both have demonstrated the capacity to make use of encrypted email and have bought in to the existence and usefulness of the Encrypted Email User Manual. In addition, their current knowledge, coupled with the Encrypted Email Use Manual will allow them to train any future FIU employees in the use of encrypted email.

Recommendations

With regard to this objective the only recommendation would be to develop a higher level of comfort using encrypted email. Currently, as encrypted email is a relatively new skill for the FIU staff, they are not entirely confortable using it. However, as it is an important capacity to have, it is essential that the FIU staff make frequent use of (i.e. – practice with) encrypted email to gain a higher level of comfort using it in real-world situations.

V. Define recommendations for importing backlogged reports into the database system

Motivation

Because banks have only recently begun submitting reports electronically to the FIU, there is not a great deal of past/historical data in the FIU's database. As such, there is a need for the automated import of backlogged data (i.e. – the past reports submitted by the banks) into the Financial Intelligence Unit's database system. This would be a positive change for the Financial Intelligence Unit, as it would allow them a greater breadth of information to utilize in their inquiries into possibly illegal financial activity.

Outcomes

As with the transition to electronic reporting, since this objective deals with banks, there was a varying degree of success between banks. Bank of Hawaii notified the FIU that relatively early on in the consulting engagement that they would not provide the FIU with any backlogged reports in digital form, meaning that the FIU must rely on archived paper copies of Bank of Hawaii reports to import into the database. Conversely, Bank of Guam notified the FIU relatively late in the consulting engagement that they would, in fact, deliver the past five years of reports in Bank of Guam's XPS format to the FIU. However, they will transmit the reports between September 1, 2016 and December 31, 2016, so after the end of the consulting engagement. Finally, Bank Pacific did not respond to any inquiries about past reports meaning that the FIU will have to rely on archived paper copies, as with Bank of Hawaii.

The main outcome of this initiative is the Recommendations and Directions for Importation of Backlogged Reports document (see Appendix E). These recommendations detail options for importing the backlogged reports into the FIU database and recommend a concrete set of actions for doing so.

While these defined recommendations do not currently result in any new abilities for the FIU, it does expand their future capacity to import backlogged reports into their system. In addition, assuming that the banks do not change their position on the provision of backlogged reports, the recommendations will be sustainable in that they will still be applicable to the records the FIU has.

Recommendations

It is recommended that the FIU look into implementing the recommendations defined in the Recommendations and Directions for Importation of Backlogged Reports document. This will obviously expand the FIU's capacity, as it will increase the amount of data in their database system. Further details and recommendations for implementation are detailed in the aforementioned document. In terms of resources for implementation, the FIU could make use of a potential future TCinGC engagement or, budget permitting, an external vendor to realize this recommendation.

VI. Investigate and implement information retrieval from other Palauan Government organizations

Motivation

It is currently difficult for the Financial Intelligence Unit to fully and effectively conduct its inquiries into possible money laundering/terrorist financing. This, in part, is because some of the information needed for these inquiries is not stored in the FIU's database; it is stored within a host of different government organizations of the Republic of Palau, and potentially within their databases. As such, there is a great need for the Financial Intelligence Unit to have the ability to autonomously retrieve information from other Palauan Government Agencies. With such access the FIU would then be able to fully and effectively conduct its inquiries into possible money laundering/terrorist financing.

Outcomes

An investigation into the possibility of connecting the Financial Intelligence Unit to remotely access the databases of government organizations was conducted. As one might expect, there were varying results between each government organization.

The full results of the Retrieving Information from other Palauan Government Organizations initiative can be seen in Appendix F. However, most notably, the FIU gained remote, read-only access to pertinent sections of the Bureau of Immigration and Labor's database. That is, the FIU staff can now navigate to a specific IP address, log in, and access pertinent information in the Bureau of Immigration and Labor's database. In addition, the FIU gained the technical capacity and bureaucratic approval to obtain remote, read-only access to pertinent sections of the Bureau of Customs and Border Protection's and Bureau of Revenue and Taxation's databases and is currently waiting on the administrator of the databases to provide remote access.

This ability to access the Bureau of Immigration and Labor's database has already been a boon to the FIU. Without any technical assistance from the consultant or people with technical expertise in the Bureau of Immigration and Labor, the FIU staff was able to effectively access the Bureau of Immigration and Labor's database remotely. Furthermore, the FIU staff did not only demonstrate that they had gained the capacity to access to external databases, but also put that capacity to good use in that they used it to augment their inquiries into possible money laundering by gathering immigration information about certain individuals of interest.

This increased capacity has very few risks to sustainability and seems to be very sustainable. The main risk to sustainability is that for some political reason, external agencies such as the Bureau of Immigration and Labor attempt to revoke the FIU's access to their databases. This is unlikely however, as the FIU is securing remote access to external databases by entering into MOU's with those other government entities. The other risk to sustainability is that the FIU loses the knowledge of how to access the external databases; however, given that the FIU staff have recorded the external IP address and username/password for login and that this information can be recovered or reset from the external agency, this is very unlikely.

Recommendations

Beyond it's current access to the Bureau of Immigration and Labor's database and anticipated access to the Bureau of Revenue and Taxation and Bureau of Customs and Border Patrol databases, it is recommended that the FIU continues to monitor the methods other government entities use to store data. This way, if a government entity of interest, such as the Foreign Investment Board, was to adopt a database software solution, the FIU would be able to leverage future technical engagements, such as a TCinGC engagement or professional consulting firm, to gain remote access.

VII. Investigation into and implementation of a case management software solution

Motivation

A reality of the domain that the Financial Intelligence Unit operates in is that intelligence gathering inquiries into potential money laundering or terrorist financing can be quite complex. It is potentially difficult for the personnel at the FIU to solely mentally keep track of all of the information for certain inquiries of identification into money laundering and terrorist financing. This can make it difficult to discern what the best paths of inquiry are going forward and how to best proceed with a given inquiry. In addition, when presenting the information to an external party, so that the external party might do the groundwork of investigation, the previous process of organization: presenting the external party with the various pertinent reports and peripheral

information, did not yield positive investigative results, likely in part due to an inability on behalf of the external party to fully and easily understand the intelligence the FIU presented them.

As such, it was evident that the FIU had the need for a case management software solution that would allow them to logically organize information and visually present it. This would help to both organize its investigations internally and present them to the external party responsible for investigating.

Outcomes

After exploring various case management software solution options (these considerations can be seen in Appendix G), it was decided that XMind was the best option for a case management software solution. As such, XMind was installed on the primary computers used by the FIU staff, and the FIU staff was trained in the use of XMind. For sustainability of this initiative an XMind User Manual (see Appendix H), detailing the commonly used practices of the FIU to diagram cases using XMind.

All members of the FIU staff have demonstrated proficiency in using XMind, having diagrammed eleven investigations, which span numerous CTRs and STRs, between Boboy and Nelson's efforts. These diagrams have been useful both internally and externally for the FIU's efforts. Internally, the advent of case management software and diagramming of cases has allowed the FIU to make further inquiries on once-stagnant cases; that is, since the FIU was able to diagram and visualize their investigations, they have been able to consider new angles on investigations and pursue them further. Externally, the FIU has presented the diagrammed investigations to other government entities, particularly its governing board, and received positive responses, which have increased its prestige within the government. Finally, at the time that the FIU decides it is appropriate to disseminate the information it has gathered to a law enforcement entity (such as the not as of yet created Financial Crimes Investigative Unit), the results of the case management software solution will be very useful in presenting the intelligence the FIU has gathered to external parties.

This outcome is very sustainable as the personnel of the FIU have sufficient proficiency in using XMind that they will be able to continue making use of it going forward. For any new personnel that may join the FIU in the future or if the current personnel were to forget how to use XMind, an Xmind User Manual has been created for future training.

Recommendations

Notwithstanding the successful implementation of XMind, the goAML is likely still a more robust case management software solution, in addition to the fact that it preforms many other tasks of importance to the FIU. As such, if there is ever a time that the FIU has the hardware infrastructure, access to technical expertise, and budget, the FIU should obtain and implement goAML.

VIII. Additional Recommendations

Establish an improved Internet connection

The Internet connection at the Financial Intelligence Unit is less than ideal for their purposes. Specifically, the bandwidth ranges between ~0.05 mbps and ~0.25 mbps for upload and download speed. This causes routing tasks, such as checking and sending email to take up to an hour. In addition, during high usage periods and periods of inclement weather, the Internet does not work at

all. Some of this is out of the FIU's control (Palau's Internet connection is through satellite, which is the source of the weather issue). However, by obtaining a faster Internet connection, the FIU staff would be able to better and more quickly preform tasks essential to their organizational success, from checking email to accessing external government databases remotely to downloading electronically submitted reports from banks.

In terms of barriers to implementation, the main prohibitive factor is cost. The cost of Internet in Palau is quite high (see Appendix I). However, upgrading is not difficult, as it entails only a phone call to Palau National Communication Corporation (PNCC). And, if the FIU was to find the budget and make such an upgrade, it would greatly beneficial.

Bring technical expertise in-house

As is mentioned above, the Financial Intelligence Unit only has two permanent staff members, neither of who have specific technical expertise. Many of FIU's tasks involve technology, however. This can present and has presented a problem in the past for the FIU. Bringing technical expertise in-house would be very beneficial to the FIU, as it would both aid the current staff members in any of their endeavors that involve technology and allow the FIU to focus on more pure technology initiatives (for example, importing backlogged reports through the use of technology).

To do this, the FIU would have to look to hire and openly advertise a "Technology Expert" position, or something similar. Particularly, it is recommended that, if the FIU were to do this, the position be advertised internationally, as the amount of technical expertise in Palau is not as great as that in the world, or even the larger South Pacific region.

About the Consultant

Benjamin Junker is a rising senior in Information Systems with potential minors in International Relations and Politics and Discrete Mathematics at Carnegie Mellon University. He will return to Carnegie Mellon in the fall to complete his Bachelor's Degree.

List of Appendices

Republic of Palau

Financial Intelligence Unit

Microsoft Access Database

User Manual

Table of Contents

Introduction

The Financial Intelligence Unit (FIU) of the Republic of Palau maintains a Microsoft Access database to track various reports submitted to them as well as various pieces of information about cases and companies it is investigating.

With regard to reports, the database tracks three main kinds of reports: Suspicious Transaction Reports (STRs), Cash Transaction Reports (CTRs), and Cross Border Currency Reports (CBCRs). CTRs and CBCRs track the movement of money, particularly a sum of money greater than $10,000. CTRs track the movement of money into or out of a bank, and CBCRs track the movement of money into or out of the country. STRs, on the other hand, detail suspicious activity, as reported by a bank, and can be generated as a result of, for example, one large, CTR-worthy transaction or multiple transactions none of which qualify for a CTR. CTRs and STRs are submitted by banks whereas CBCRs are submitted by the Bureau of Customs and Border Patrol.

The database application can also track data about companies of interest and information about ongoing (or past) cases. As there is no external body to determine which companies are of the highest importance or to preform the FIU's casework, these records must be manually entered.

It should be noted that this guide is geared towards usability and the tasks that were encountered during the duration of the Summer 2016 consulting engagement. For more technical directions (e.g. – encryption, splitting the database), see the documentation left by the Summer 2015 consultants.

Main Form

The main form is the primary way to interact with the FIU database. To access the main form, click the main form option from the list of options on the left side of the screen

General Utility – Search

From the main form, you can search the database for records. The search criteria you can enter are:

- Last name of person or entity
- Start Date (of activity)
- End Date (of activity)
- Account number (related to activity)

You can restrict your search with as many or as few criteria as you wish.

The results for you search will be displayed in the corresponding sub forms below.

CTRs Here:

STRs Here:

CBCRs Here:

Companies Here:

and Cases Here:

General Utility – Aggregate Reports

You can also generate aggregate reports about the data currently in the system.

The names and descriptions of the reports are as follows:
- CTRs by Person
  - o Aggregates the data for each person that has been implicated in a CTR; separates money aggregates into 'Deposit' and 'Withdrawal' categories
- CTRs by Month
  - o Gives a summary of all of the money that was reported in CTRs for each month; separates money aggregates into 'Deposit' and 'Withdrawal' categories then combines to give an aggregate metric
- CTRs by Year
  - o Gives a summary of all of the money that was reported in CTRs for each year; separates money aggregates into 'Deposit' and 'Withdrawal' categories then combines to give an aggregate metric
- STRs by Month
  - o Gives a summary of all of the money that was reported in STRs for each month; separates money aggregates into 'Deposit' and 'Withdrawal' categories then combines to give an aggregate metric

- STRs by Year
  - o Gives a summary of all of the money that was reported in STRs for each year; separates money aggregates into 'Deposit' and 'Withdrawal' categories then combines to give an aggregate metric
- Year to Date
  - o Gives a summary of STR activity in the current calendar year

Type of Record – CTR

To navigate to the CTR Form, click the 'CTRs' button in the box shown below:

The data for a CTR is displayed as such:

The information unique to the CTR itself is displayed in Parts I and II of the report, and the information about the people involved in the CTR is shown in Part III (highlighted below):

To select the desired CTR or person involved in the desired CTR, use the buttons highlighted below:

Alternatively, you can search for a CTR by its CTRID:

To create a new CTR, click the button highlighted below:

(Note that you must enter a 'Cash Transaction Report Number' before entering any other information about the CTR.)

To add a new person to a CTR, click the button highlighted below:

To delete a CTR or a person associated with a particular CTR, click one of the two buttons highlighted below:

(Note that, before you delete a CTR, you must delete all persons associated with that CTR)

Finally, to navigate back to the Main Form, click the button highlighted below:

Type of Record – STR

To navigate to the STR Form, click the 'STRs' button in the box shown below:

The data for a STR is displayed as such:

To select the desired STR, use the button highlighted below:

Alternatively, you can search for a STR by its STRID:

To create a new STR, click the button highlighted below:

To delete a STR, click the button highlighted below:

Finally, to navigate back to the Main Form, click the button highlighted below:

Type of Record – CBCR

To navigate to the CBCR Form, click the 'CBCRs' button in the box shown below:

The data for a CBCR is displayed as such:

To select the desired CBCR, use the button highlighted below:

Alternatively, you can search for a CBCR by its CBCRID:

To create a new CBCR, click the button highlighted below:

To delete a CBCR, click the button highlighted below:

Finally, to navigate back to the Main Form, click the button highlighted below:

Type of Record – Company

To navigate to the Company Form, click the 'Companies' button in the box shown below:

The data for a Company is displayed as such:

To select the desired Company, use the button highlighted below:

Alternatively, you can search for a Company by its FIBID:

To create a new Company, click the button highlighted below:

To delete a Company, click the button highlighted below:

Finally, to navigate back to the Main Form, click the button highlighted below:

Type of Record – Case

To navigate to the Case Form, click the 'Cases' button in the box shown below:

The data for a Case is displayed as such:

To select the desired Case, use the button highlighted below:

Alternatively, you can search for a Case by its CASEID:

The sub-forms for CTRs, STRs, Companies, and CBCRs display the pertinent reports associated with the selected Case. (CTR example below)

To add CTR, STR, Company, or CBCR information to a Case, enter the record's ID in the appropriate ID field, and click the 'Add' button. Use a similar process to remove a record, except click the 'Remove' button. (CTR example below)
(Do not attempt to add a record that was already associated with the a Case)

To create a new Case, click the button highlighted below:

To delete a Case, click the button highlighted below:

(Note that before you delete a case, you must remove all CTRs, STRs, CBCRs, and Companies associated with it)

Finally, to navigate back to the Main Form, click the button highlighted below:

Table View

In addition to being able to interact with the database application through specially designed forms, Microsoft Access also provides the ability to interact with the database through tables, which are much like spreadsheets from Microsoft Excel.

In Table View, you can view data, edit information by clicking on a box and typing new information, add new information by scrolling to the bottom of a table and inputting data on a new line, or delete data by selecting an entire row (or rows) and pressing the delete key. You can additionally search for information by pressing Ctrl+F, as you might do in a Microsoft Excel document.

There are two ways to view the data in the database application in Table View. One can either do so directly through the back-end file, which houses the data, or through the front-end database application.

Table View – Back-End

To view the tables in the database directly, open the back-end file directly (by locating it in Microsoft Explorer and opening the file), and double-click on one of tables to view its data.
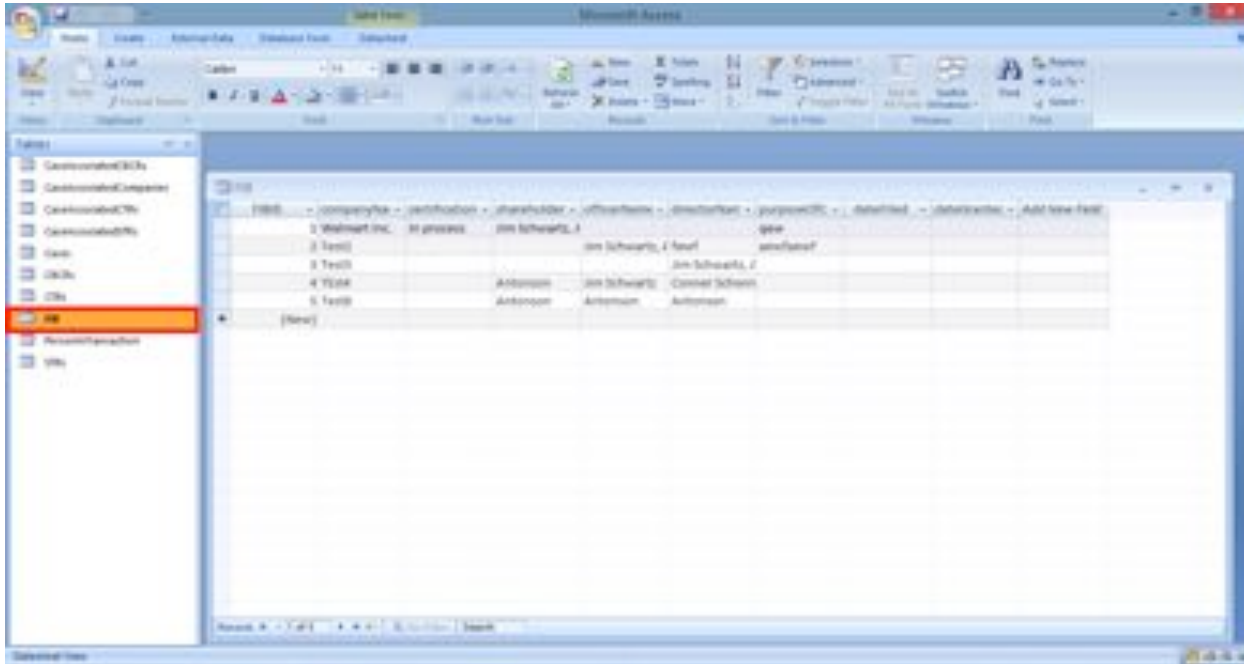
Table View – Front-End

To view the tables through the front-end database application, open the front-end application as usual. Then, instead of opening the Main Form or one of the dedicated forms as you might usually do, double-click on the first option in a given category (as shown below) to view the information in Table View.
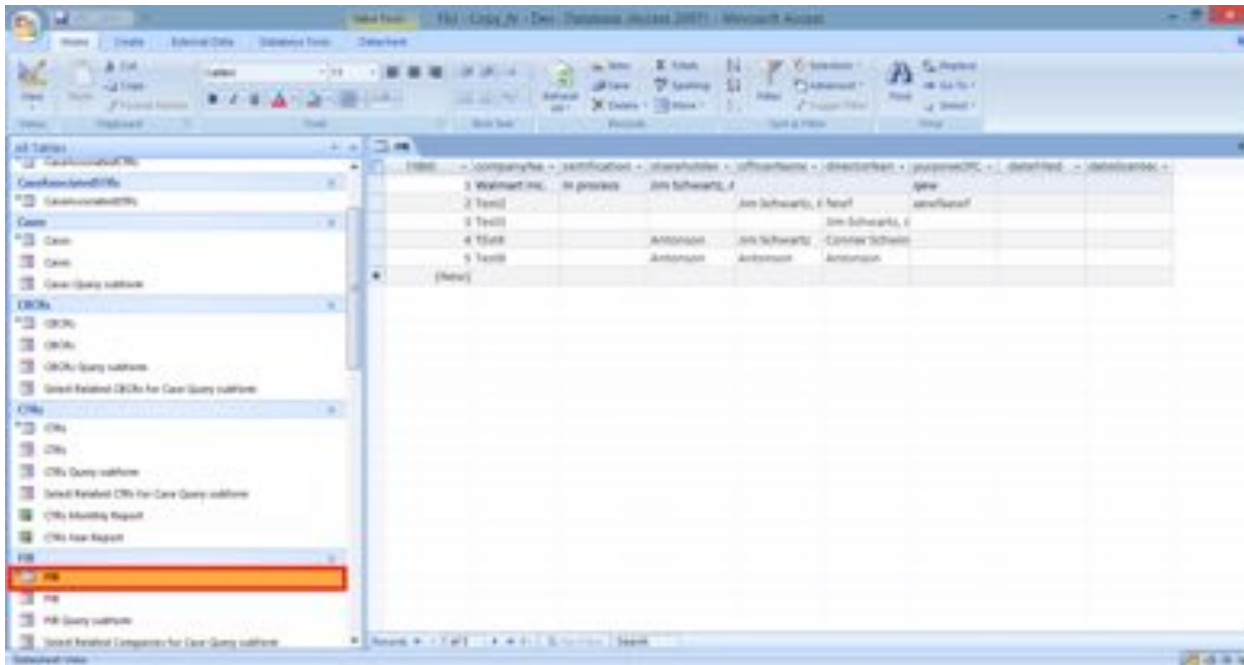
Database Maintenance

Backup – Front-End

To back up the front-end database application, open the front in in Microsoft Access as normal. Move to back up the database as shown below:
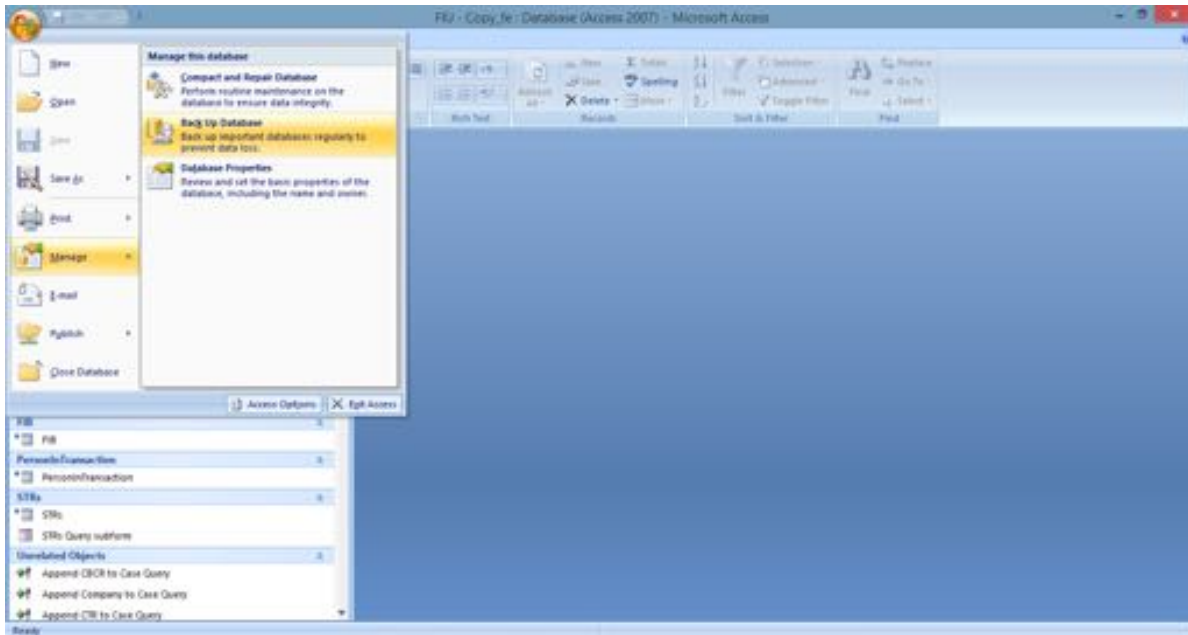
Then select a location to save and name for your front-end backup, and save.
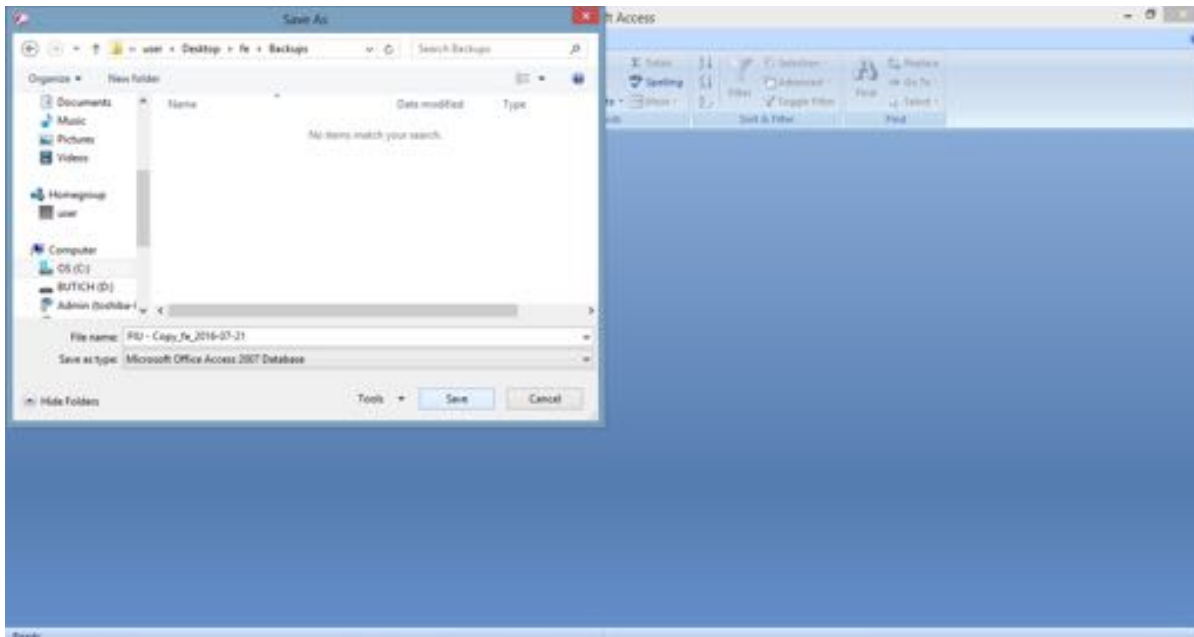
Backup – Back-End

To back up the back-end data, open Microsoft Access (but not the back-end database, yet):
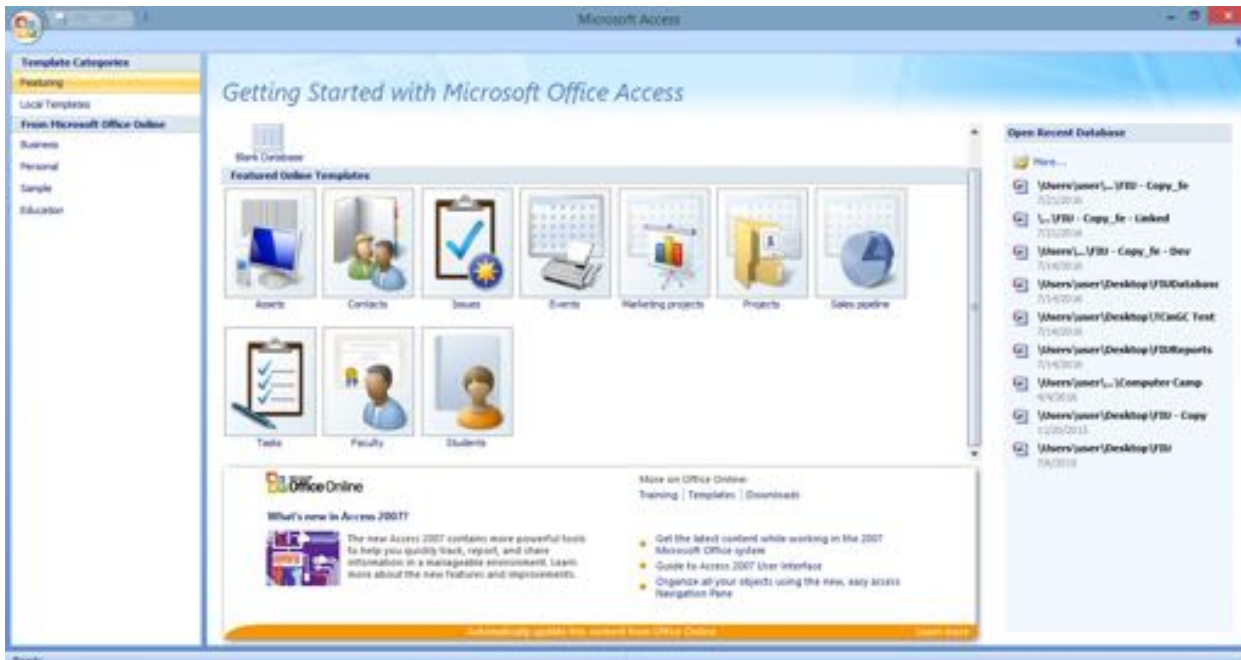
Navigate to open a file, as shown below:
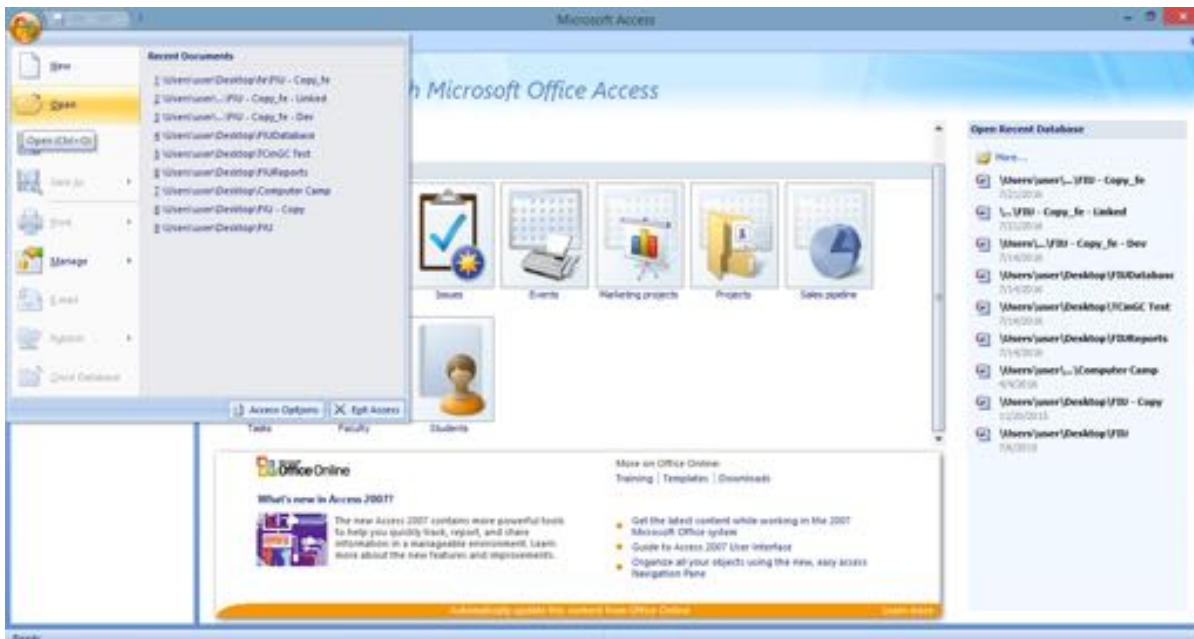
After selecting 'Open', browse to the location of the back-end database, and select it.
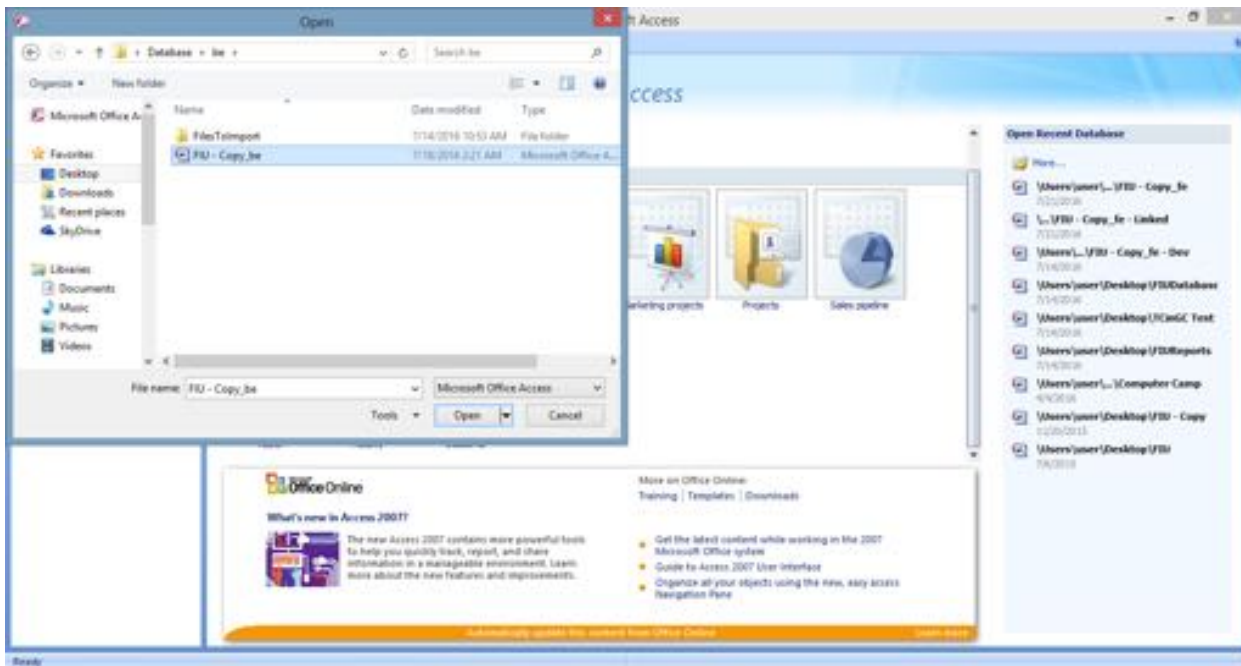
Then, rather than opening the file directly, click the dropdown option, and click open exclusive.
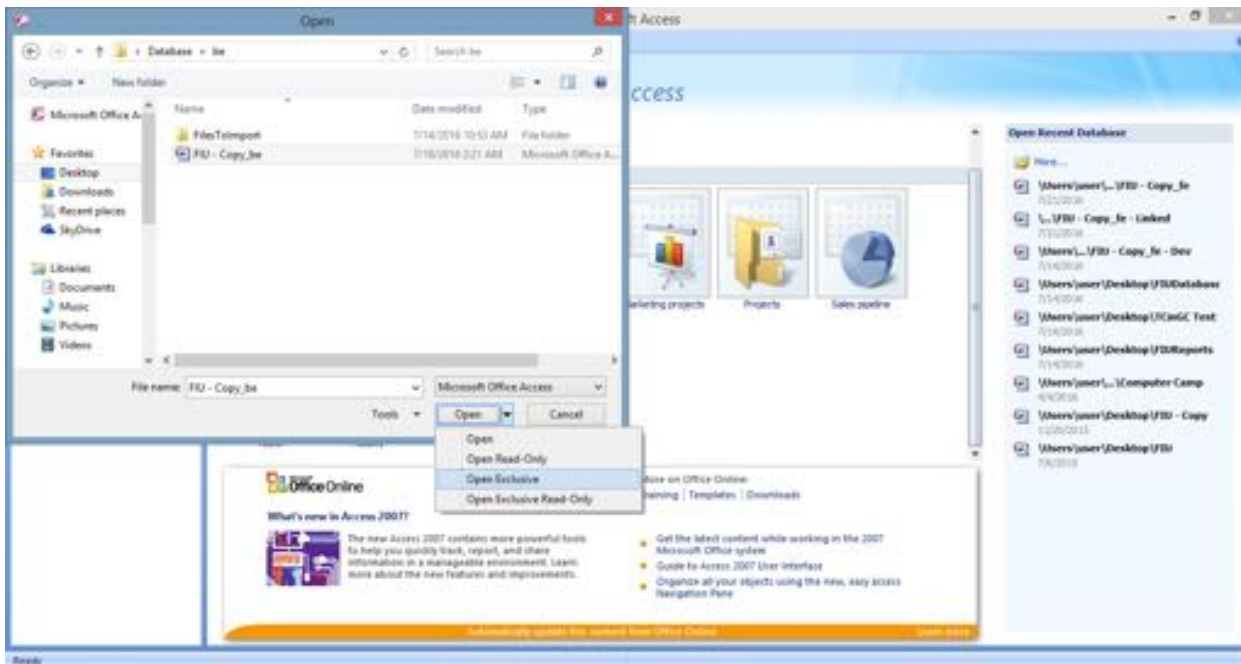
Once the back end file is opened in exclusive mode, navigate to back up the database as shown below:
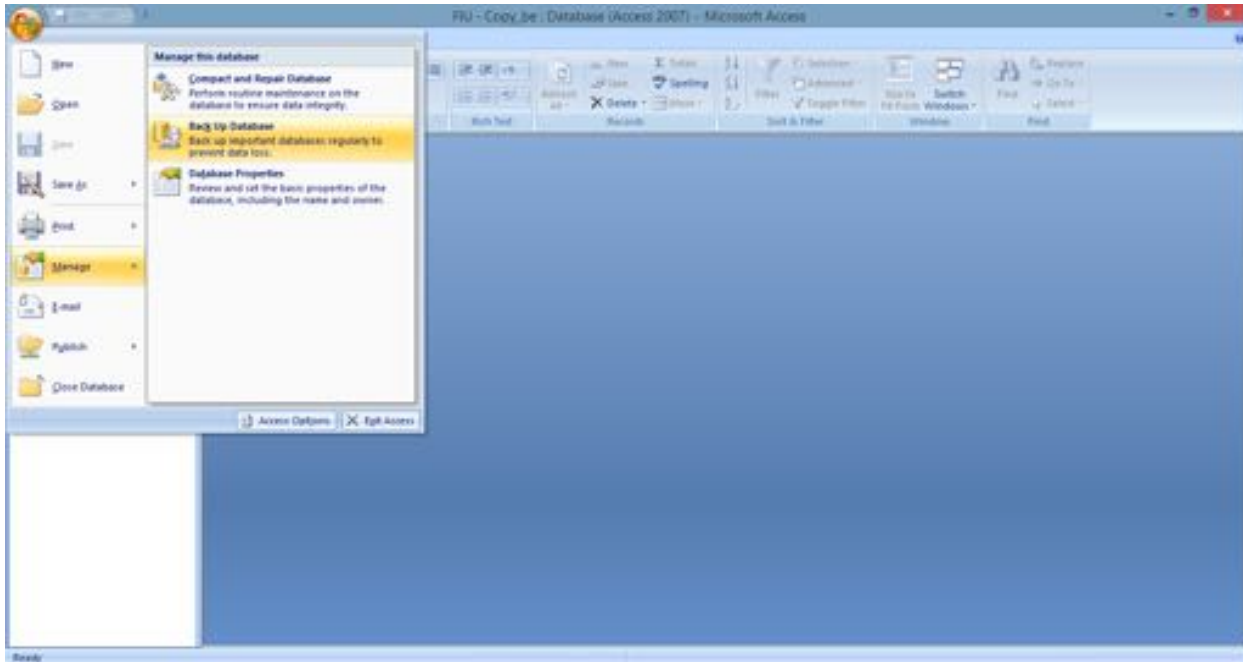
Finally, name and select a location for the back-end back up, and save the file.

Import Data – How To
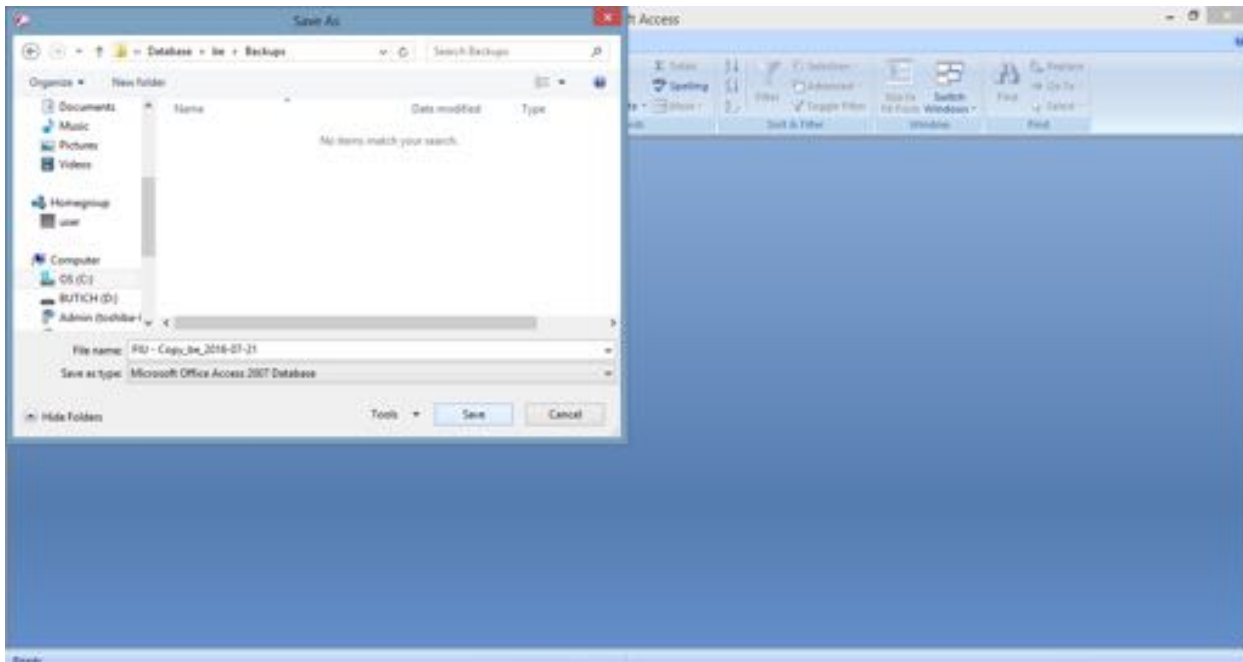
Start at the main page for the Microsoft Access application

Click on the 'External Data' tab
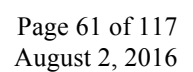
Click the 'Text File' button directly below the 'External Data' tab. The following screen should appear:
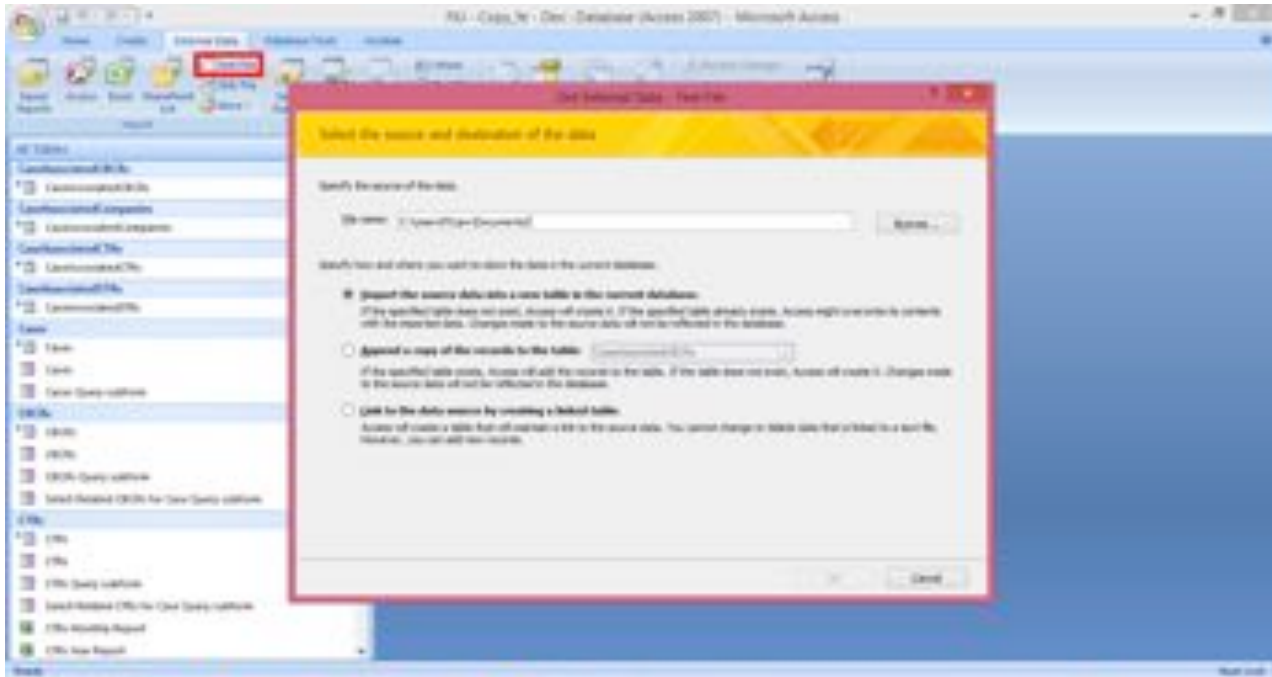
Select the file you want to import by clicking the 'Browse' button, and select the 'Append a copy of the records to the table' option. Additionally, once you have selected to append a copy of the records, select the appropriate table from the dropdown. Then click 'OK'.

The following screen should appear. Ensure that the 'Delimited' option is selected and click 'Next'.

On the next screen, select the 'Comma' option, check the "First Row Contains Field Names" box, and select double quotations (") from the dropdown. Then click 'Next'.
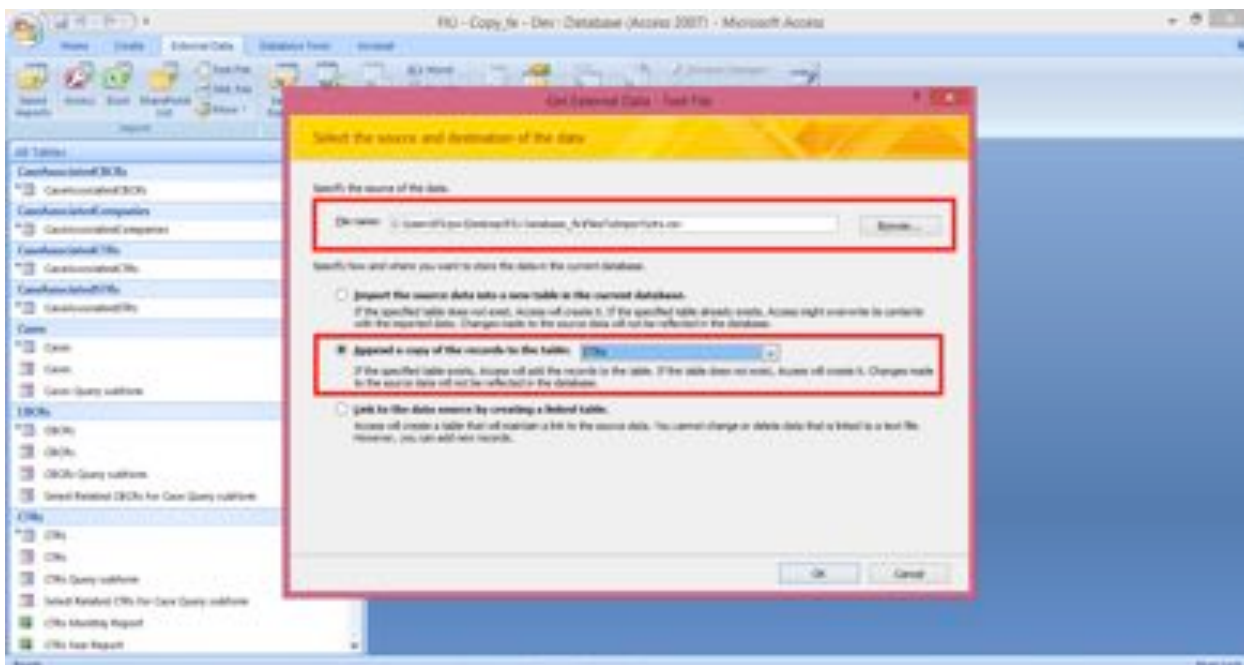
Finally, click the 'Finish' button.
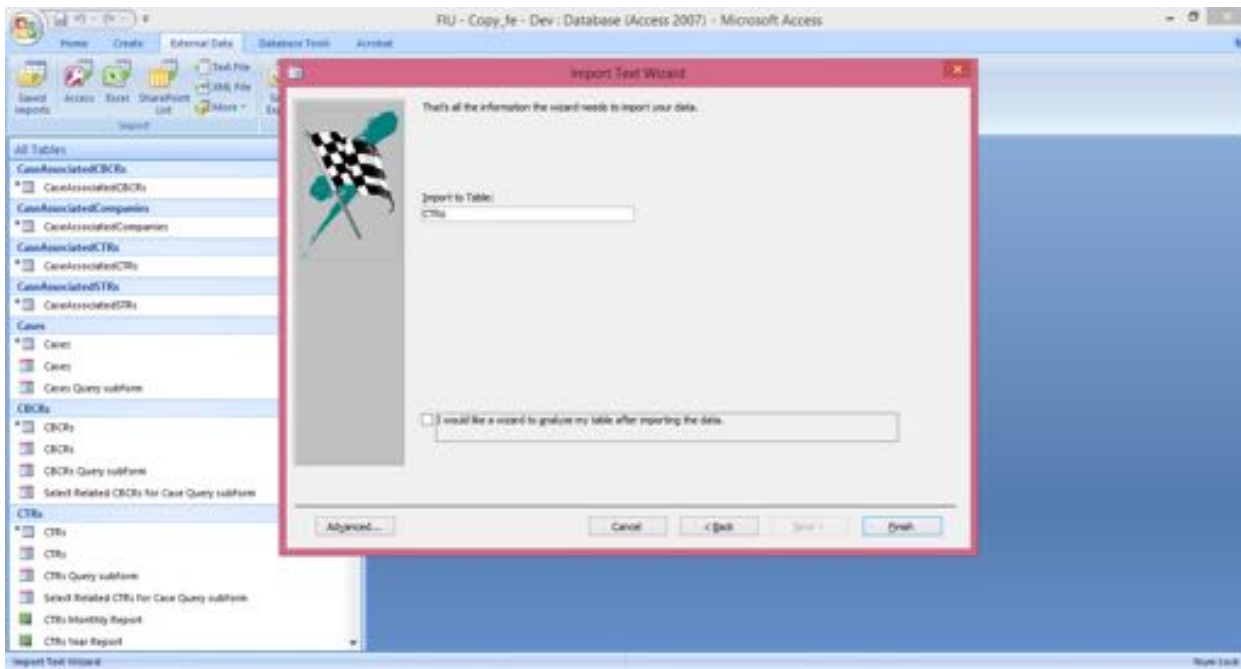
After doing so, Access may show the following errors; however, they are nothing to worry about. Click 'OK' for both errors if they appear.
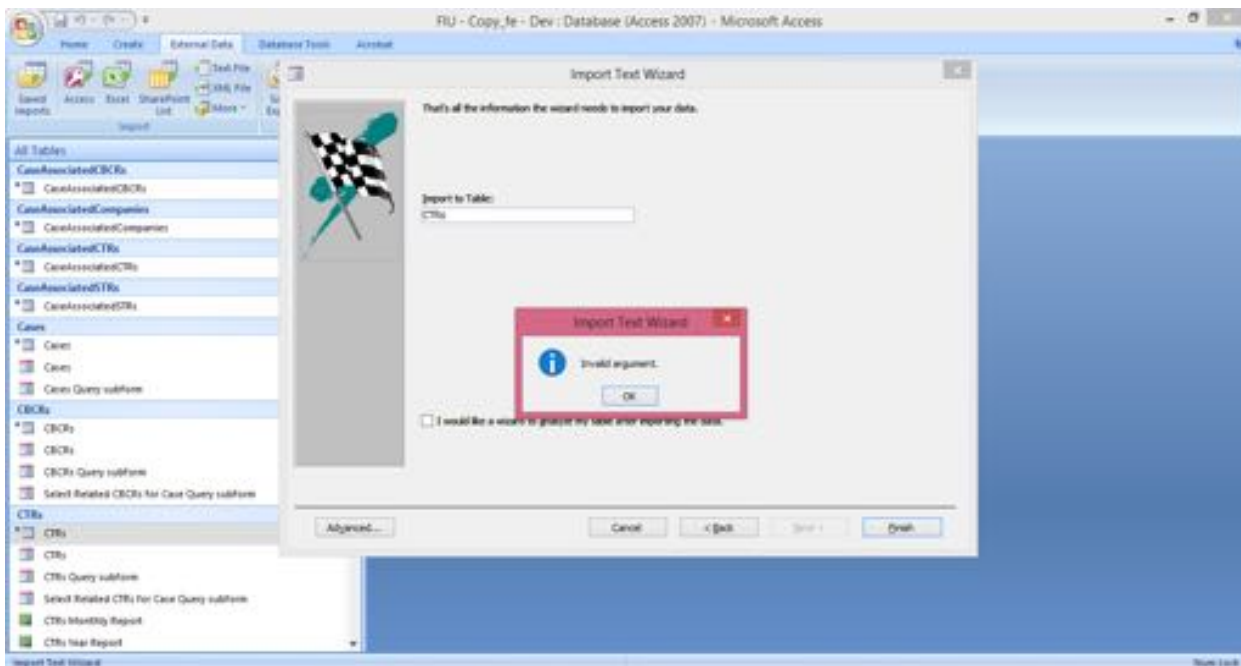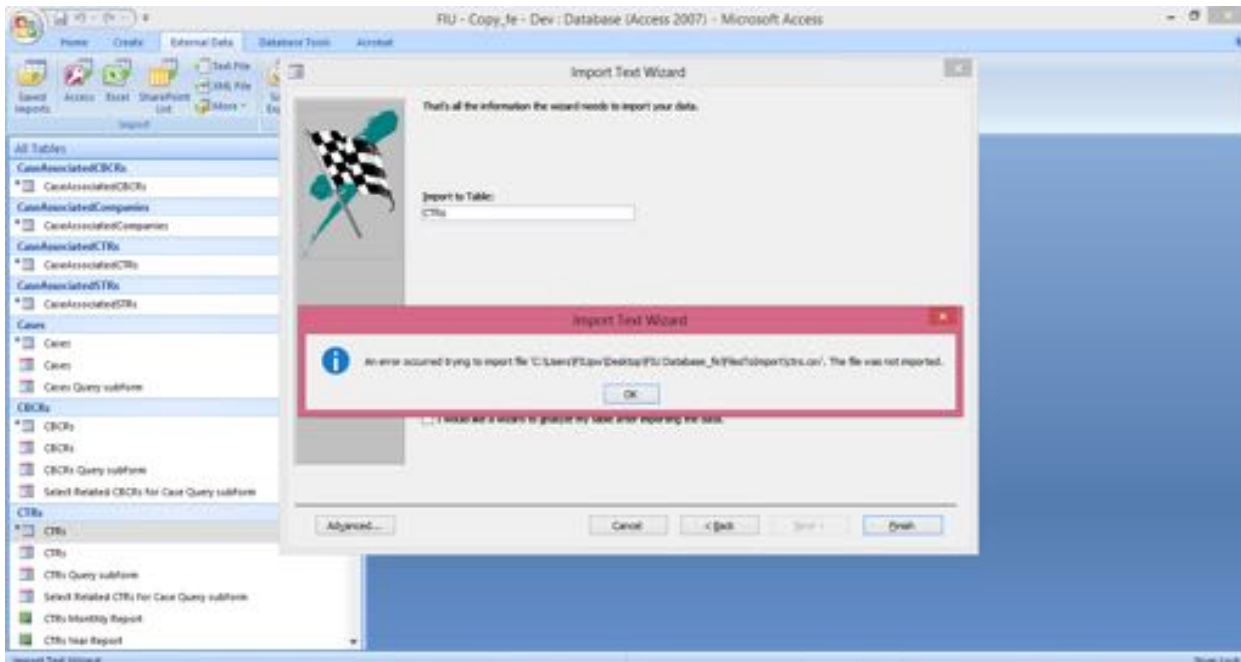
After, clearing the errors, click Cancel, and the following screen should appear, signifying that you successfully imported data into the database!
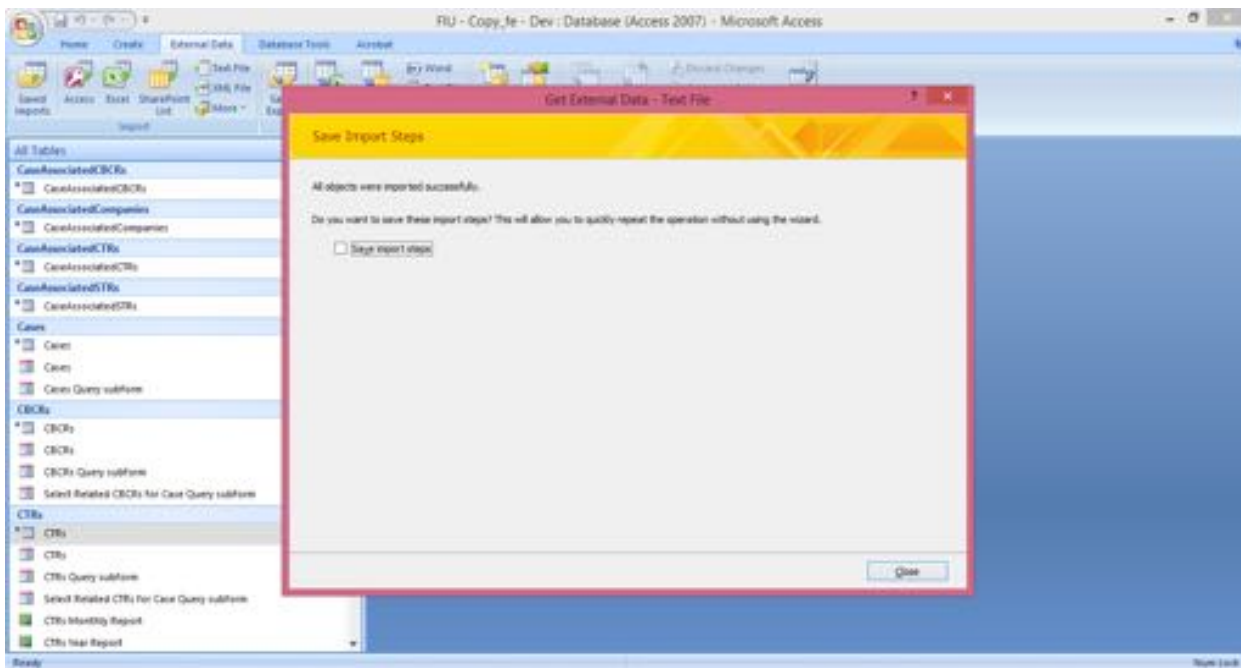
Import Data – Troubleshooting

In importing initial submissions from reporting banks into the database, some general types of errors were discovered. This section will detail how to troubleshoot these various errors. (However, keep in mind that the errors detailed in this section are, more than likely, not exhaustive. As such, there may well be more types of errors that this section does not detail how to resolve).

Import Data Format

Please note that to import data into the database, it must be in the comma-separated value (CSV) format (for more information, see the Updated Electronic Reporting Instructions). If the data is saved in an alternate format, for example as a Microsoft Excel Spreadsheet (XLSX format), you must convert it to CSV format.

To convert data from XLSX format (a common misformatting of import data) to CSV format, open the XLSX format data in Microsoft Excel, navigate to "Save As" in the save options menu. Once you select "Save As", name the file and save it as a CSV format file.

Data Mismatch Error

When Microsoft Access imports data from an external file, the data import wizard attempts to make some reasonable assumptions about the data it is importing. One of these assumptions is, for each column, based on the first twenty-five rows in the file to be imported, what type of data that column holds. Typically, this should not cause any errors, however in some cases, Microsoft Access makes incorrect assumptions, resulting in an error when the user attempts to import the data.

One encountered example of this is with the Phone Number field in the PIT and STR tables. The type of the Phone Number field in the Microsoft Access database, for either table, is 'Text', so the database can handle phone numbers formatted in any number of ways (e.g. – 'XXXXXXXXXX', 'XXX-XXX-XXXX', '+XXX XXX-XXXX', etc.). However, this causes an error if all phone numbers in the first twenty-five lines of the import file are formatted solely as numbers (ie – 'XXXXXXXXXX'), because Microsoft Access assumes that the user is attempting to import number data into a text field. The error you would receive looks as follows:
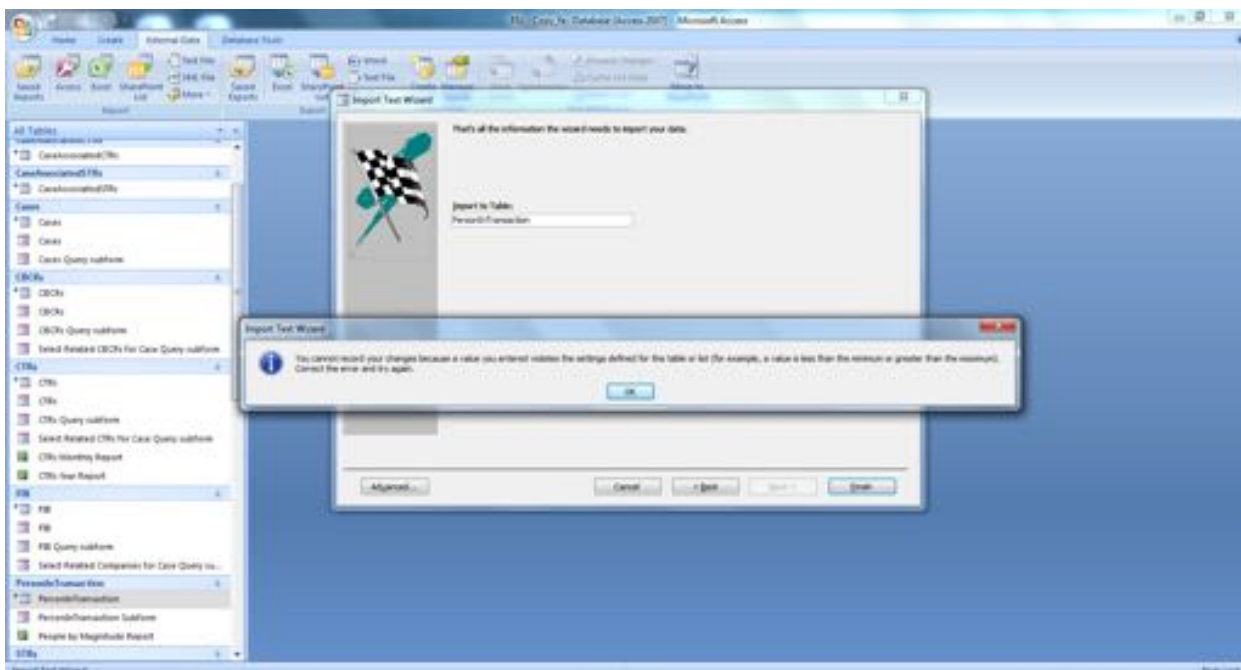
(It should be noted that an unrelated issue *could* also be causing this import error)

To remedy this error (if it was indeed being caused by phone numbers), open the file you are attempting to import in Microsoft Excel and in the Phone Number column of a record between the third (at the earliest) and twenty-fifth (at the latest) entries add a space in between two of the numbers that comprise the phone number. This will cause Microsoft Access to read that column as a text field when you attempt to import data and solve the import error.

Before:

After:

Misformatted Data

Data you attempt to import into the Microsoft Access database may be misformatted for any number of reasons. For example, the file you are attempting to import may not contain all of the correct columns, or some columns may have extra fields.

To fix misformatted data, one must manually go through the data (either in Microsoft Excel or a text editor, such as NotePad) and inspect it for instances of misformatting. Then, one must resolve these errors before the data can be successfully imported.

Below there is a list of potential misformatting errors as well as the error messages that suggest the data that is being attempted to be imported may be misformatted.

Potential Errors:

- Extraneous Comma in the file
- Extraneous Quotation mark in the file (likely a double quotation mark)
- Too Many Columns of Data
- Incorrect Column Names
- Extraneous, Additional Columns
- Random Input not related to the content of the file

On the next page are screenshots indicating that one of these errors may have occurred.

It should be noted that this is one of the more difficult type of errors to troubleshoot. If this type of error presents itself as a problem, and after a reasonable amount of troubleshooting, the error cannot be resolved, one good course of action would be to alert the reporting institution of an error and ask them to resubmit an error free file.

Screenshots:
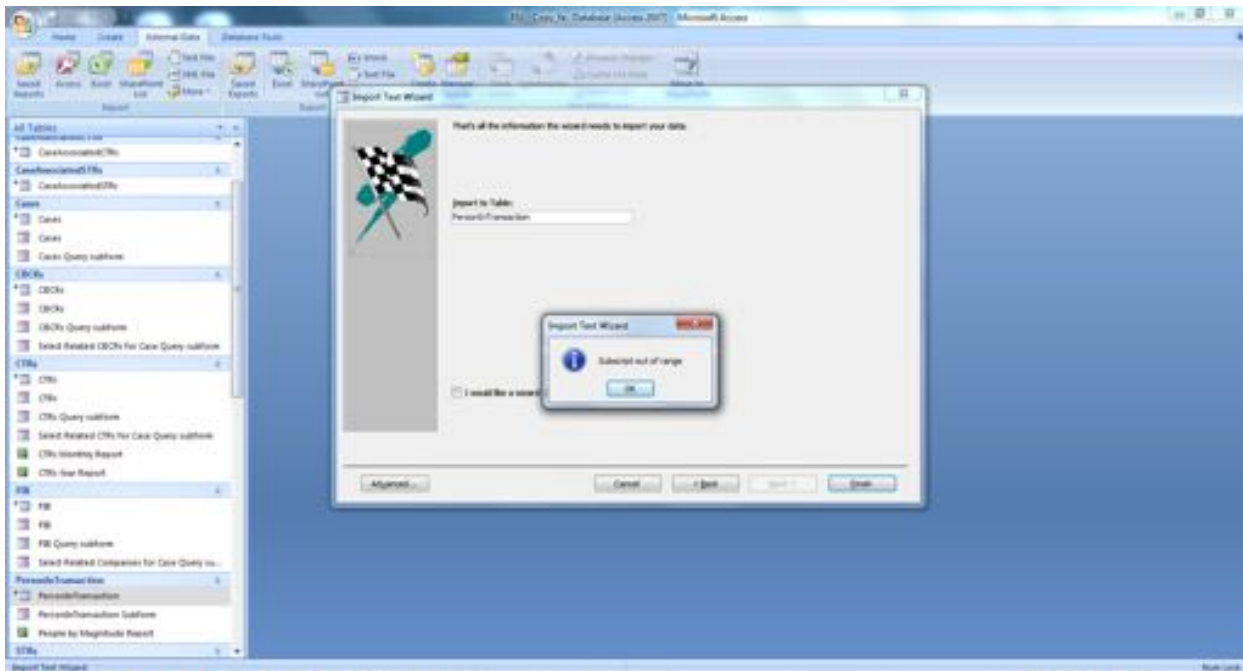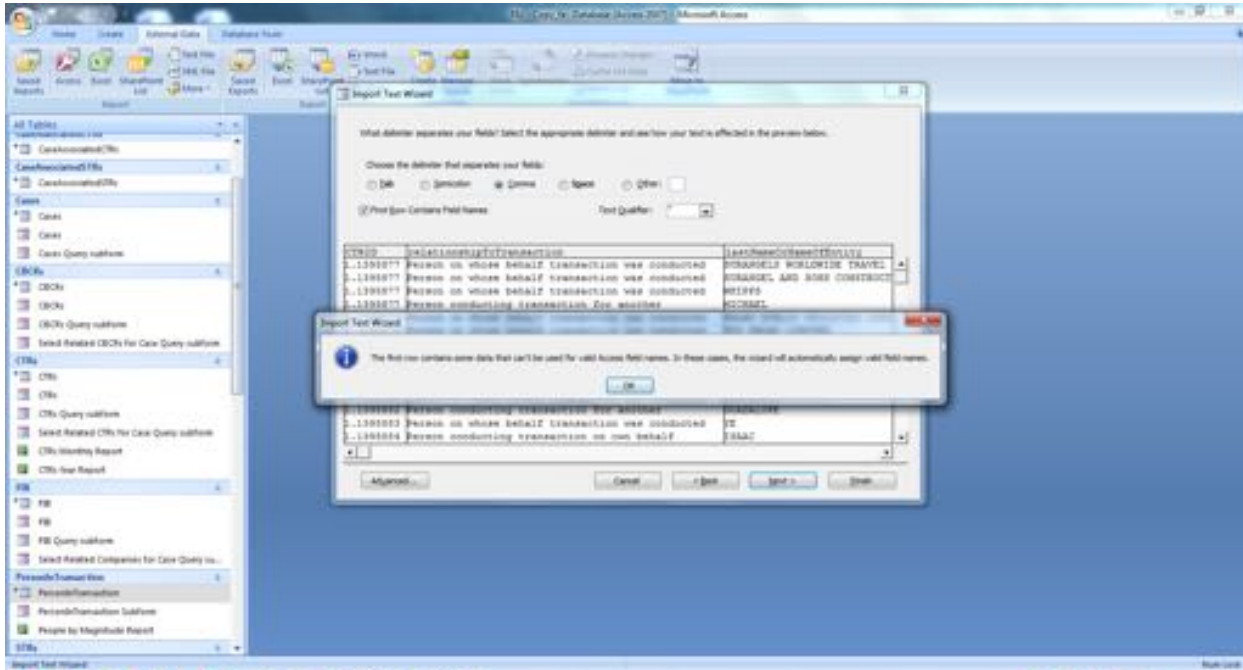
Sharing Back-End Data Between Computers

Windows Homegroup

To share the back-end data between computers on the same Wi-Fi network, we will use Windows Homegroup. To join Windows Homegroup, navigate to the screen shown and click 'Join Now'.
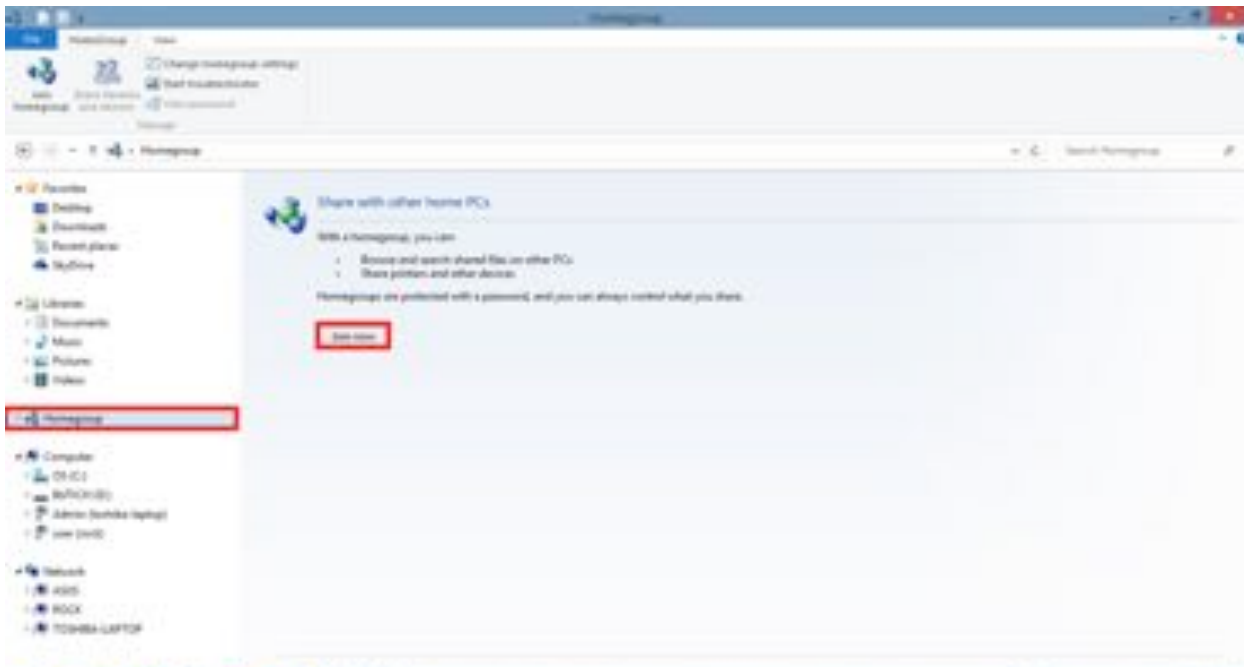
The Homegroup is already set up on the Desktop computer with the back-end data. To access the it from a separate computer, join the Homegroup as below:
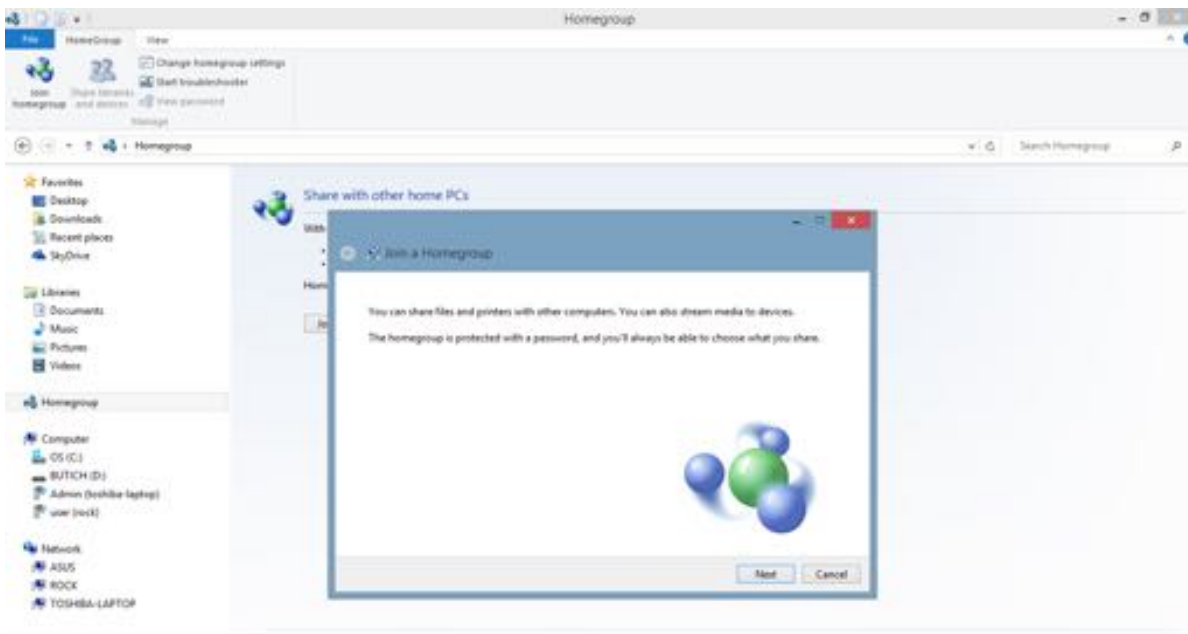
To access the Homegroup, you will need to the Homegroup password, which can be accesses by viewing the Homegroup settings on the Desktop computer:
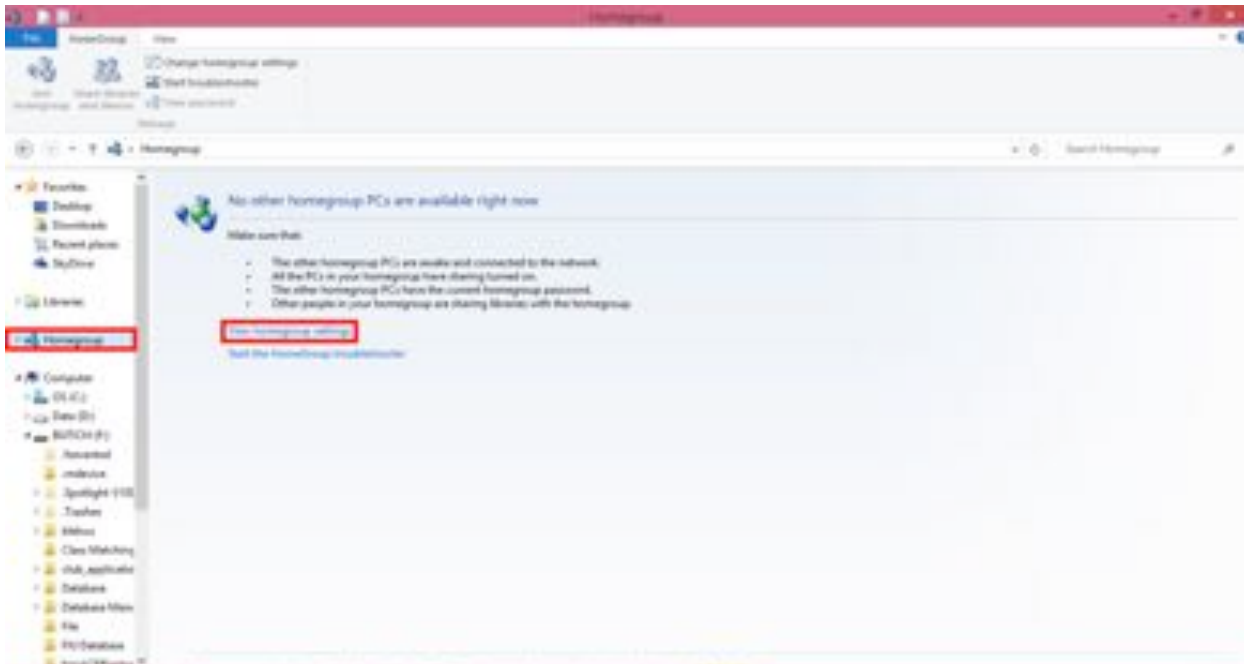
Once you have the Homegroup password, enter it in the prompt:
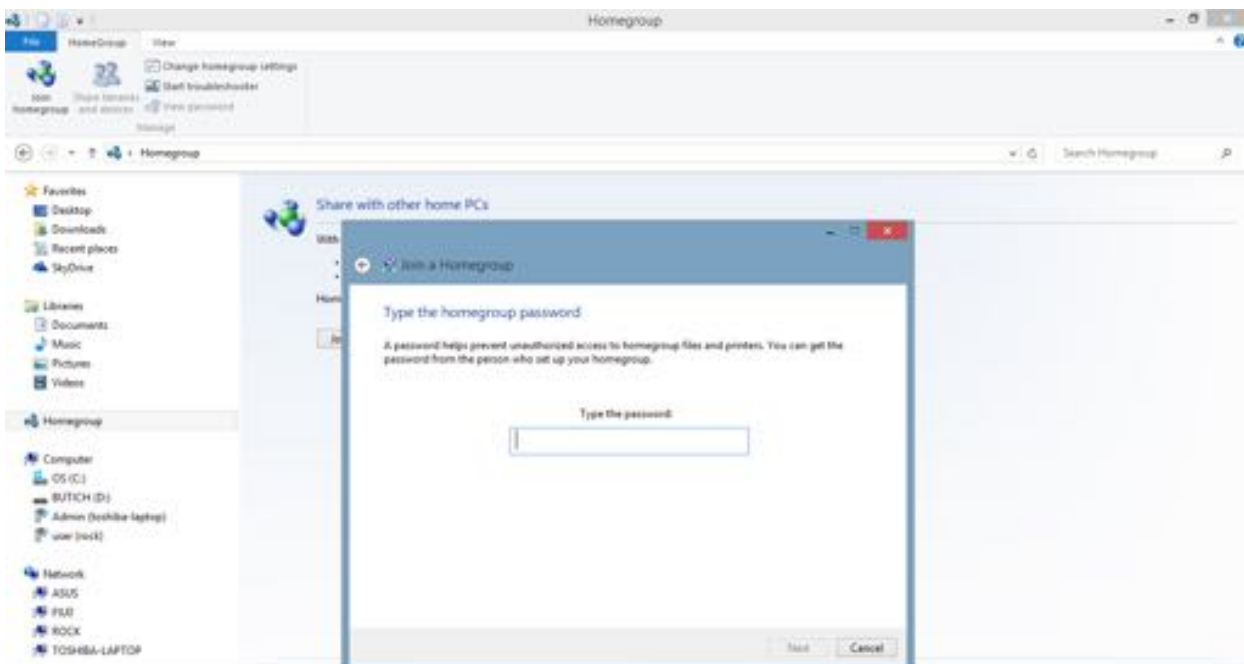
After you have entered the password, you will be asked about sharing settings, since the back-end of the database is already set up to be shared, you can set your sharing settings as shown below:
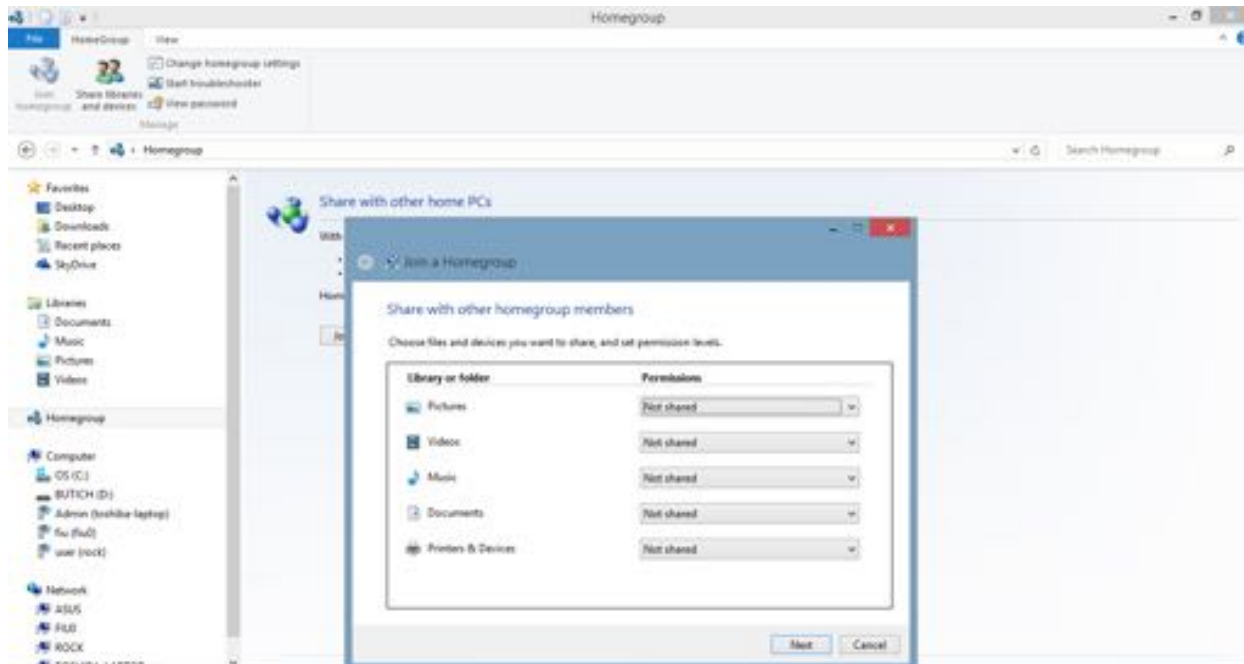
Once you have proceeded through the rest of the setup, verify that you have indeed joined the Homegroup, by viewing the Homegroup page as shown below:
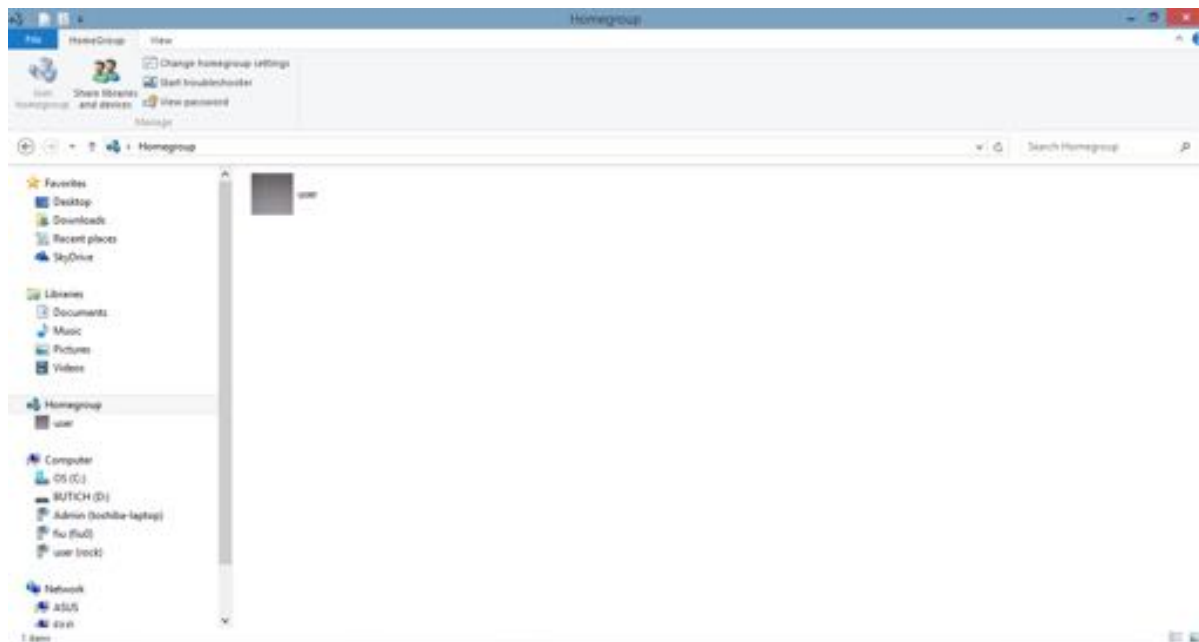
Connecting to the Back-End Data in Microsoft Access

Once you have connected to Windows Homegroup, the front-end application needs to be connected to the back-end database. Start by opening the front-end application as normal:
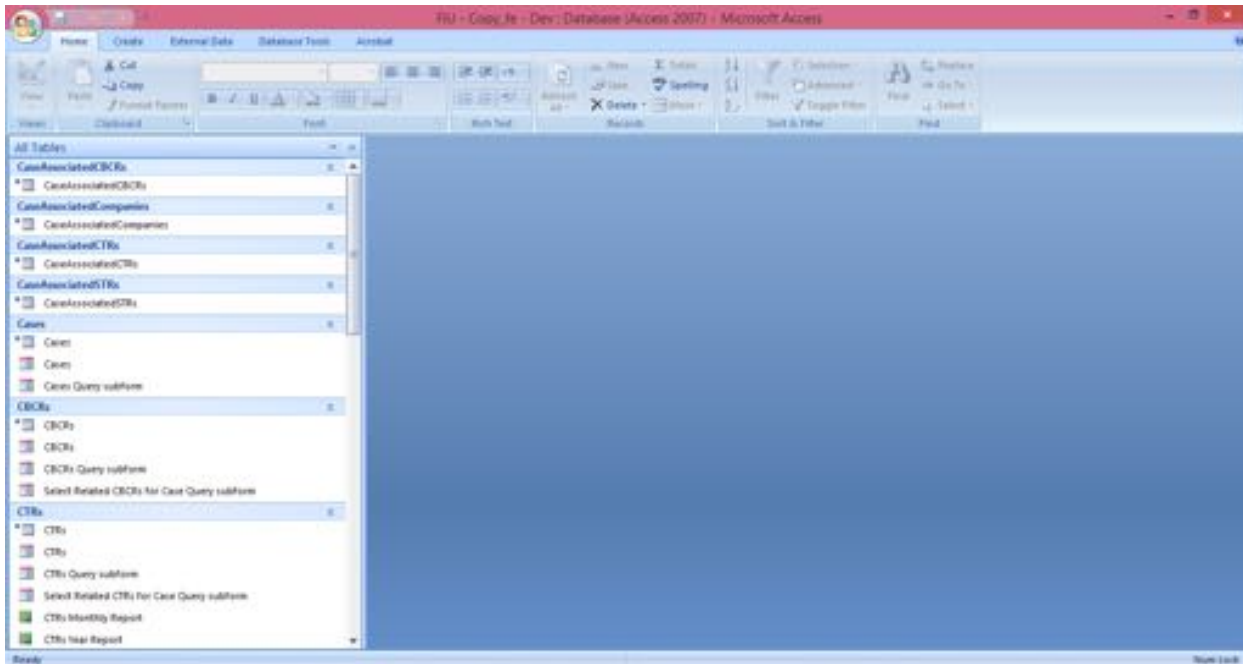
Next, navigate to the 'Database Tools' tab and select 'Linked Table Manager':
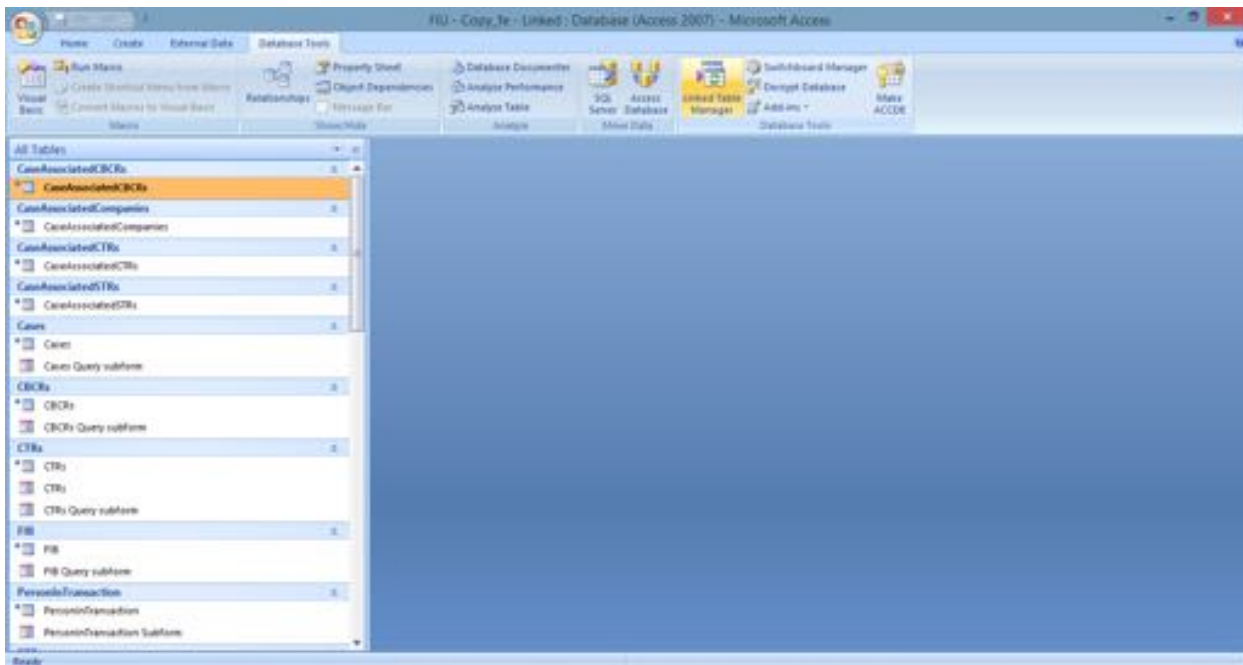
Next, select all tables in the menu:
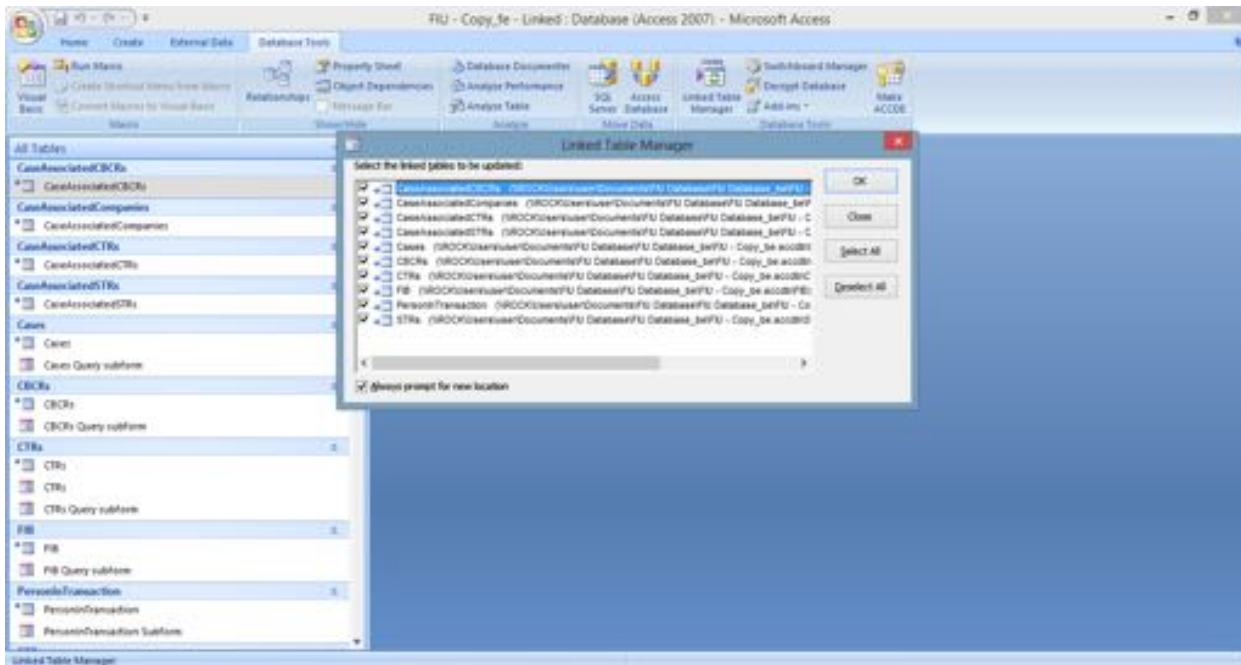
After clicking 'OK', navigate to the back-end data on Windows Homegroup as detailed in the picture below:
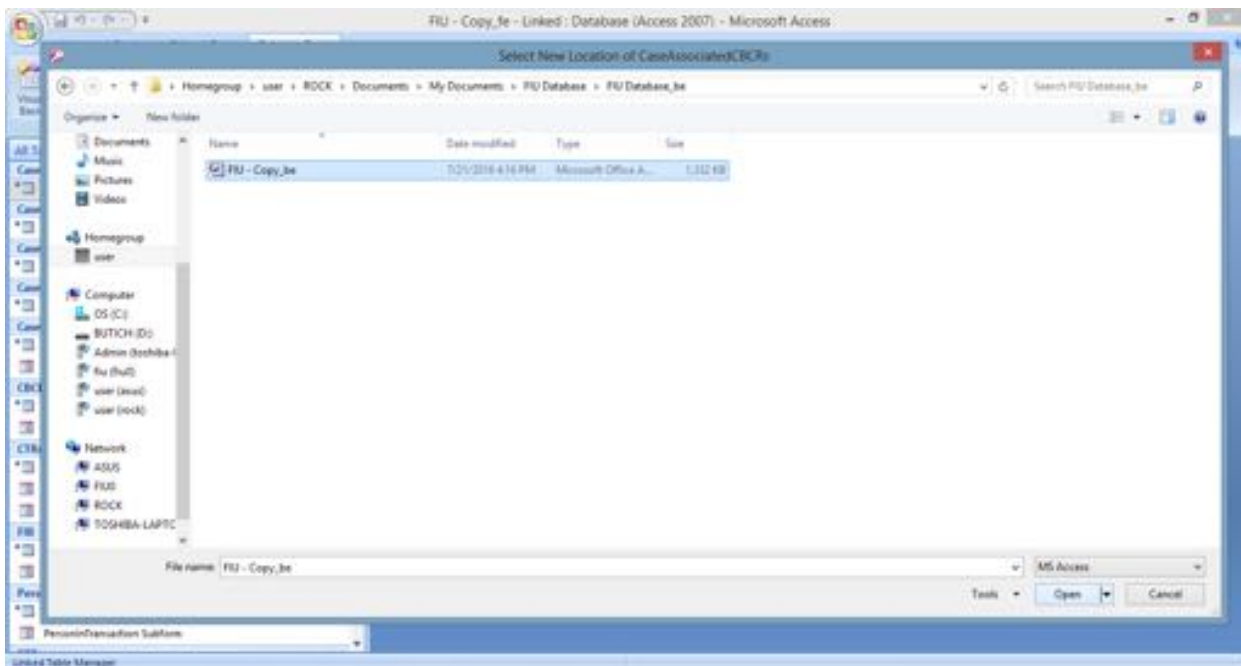
After selecting the back-end data on the Windows Homegroup, verify that the data was successfully linked as shown in the screenshot below:

Palau Financial Intelligence Unit
List of Desired Changes to Microsoft Access Database
Summer 2016

- A newly created report that can search STRs by STRID and displays a specific in a print-friendly format
- A newly created report or restructured Main Form that allows the user to search all tables with a set of parameters and generate a print-friendly result with basic information about the search results
- A change to the 'CTR by Month', 'CTR by Year', 'STR by Month', and 'STR by Year' reports on the Main Form to allow the user to set date parameters that cause the report to display a subset of the CTRs/STRs that are within the date parameters
- A change to the 'STR by Month' and 'STR by Year' reports such that the reports display the STRIDs of the individual STRs involved in the report and so that the newly displayed STRIDs are clickable links to the STR subform page displaying that STR
- Faster access to the back-end data on computers that are linked to the back-end data through Windows Homegroup
- The addition of 'First Name' as a search parameter on the Main Form

Electronic Reporting Instructions

Electronic Reporting Process

The electronic reporting process for reporting institutions is as follows:

1. Reporting institutions format the CTR and STR data into CSV files as specified by the FIU below.
2. Reporting institutions negotiate appropriate naming conventions for the CSV files (e.g. – "BankName_CTR_5-17-2016", "STR-08.12.2016-BankName", etc.) with the FIU
3. Reporting institutions digitally transmit the files to the FIU in one of two ways:
    a. Through Encrypted Email
        i. Reporting institutions encrypt and email the files to admin@palaufiu.org using the FIU's public key, which can be provided to the reporting institutions upon request
        ii. The FIU responds with a confirmation email acknowledging receipt of the reports.
        iii. The FIU downloads and decrypts the compressed folder using its private key.
    b. Through a Secure Server
        i. Reporting institutions maintain a secure server that one can only access with appropriate login credentials
        ii. Reporting institutions provide such a set of credentials to the FIU
        iii. Reporting institutions upload or otherwise transmit the files to the secure server
        iv. The FIU then logs on to the secure server and downloads the submitted files
4. After downloading the submitted files, the FIU imports the CSV files into the Access database.

CSV File Specifications

A CSV file is a text file with the use of the comma as the field separator for the data.

1. Fields/columns are separated by the comma character.
2. Records/rows are terminated by newlines.
3. All records should have the same number of fields, in the same order.
4. Any field may be quoted (enclosed with double-quote characters)

    "1998","Jim","Schwartz"

5. Fields with embedded commas or double-quote characters must be quoted.

    1998,Jim,Schwartz,"Nice, friendly guy"

    1998,Jim,Schwartz,"Nice, ""friendly"" guy"

6. The first record must be a header, which contains column names for each of the fields

Required fields and format for STRs

Each row of the csv file will correspond to a unique STR. The FIU requires 26 fields. The FIU used previous STRs as the template for the fields and extracted a subset of the fields containing only the information needed. If a field has options, such as "yes" or "no", the available options are listed under the numbered field as bullet points.

1. accountNumbers
2. nameOfBranchOfficeAgency
3. fullNameOfFinancialInstitution

4. lastNameOrNameOfEntity

5. firstName

6. middleName

7. address

8. addressCity

9. addressState

10. zipCode

11. addressCountry

12. phoneNumberResidence

13. phoneNumberWork

14. occupationOrTypeOfBusiness

15. dateOfBirth

- · MM/DD/YYYY

16. admissionOrConfession

- · yes

- · no

17. idNumber

18. idIssuingAuthority

19. relationshipToFinancialInstitution

- · Accountant

- · Agent

- · Appraiser

- · Attorney

- · Borrower

- · Broker

- · Customer

- · Director

- · Employee

- · Officer

- · Shareholder

- · Other

20. typeOfInsiderRelationship

- · None

- · Suspended

- · Still employed at financial institution

- · Terminated

· Resigned

21. dateOfSuspensionTerminationResignation

· MM/DD/YYYY

22. stateDateOfSuspiciousActivity

· MM/DD/YYYY

23. endDateOfSuspiciousActivity

· MM/DD/YYYY

24. amountOfCash

25. summaryCharacterization

· Money Laundering and Proceeds of Crime Act

· Bribery/Gratuity

· Check Fraud

· Check Kiting

· Commercial Loan Fraud

· Computer Intrusion

· Consumer Loan Fraud

· Counterfeit Check

· Counterfeit Credit/Debit Card

· Counterfeit Instrument (other)

· Credit Card Fraud

· Debit Card Fraud

· Defalcation/Embezzlement

· False Statement

· Misuse of Position or Self Dealing

· Mortgage Loan Fraud

· Mysterious Disappearance

· Wire Transfer Fraud

· Terrorist Financing

· Identity Theft

· Other

26. narrative

Required fields and format for CTRs

The CTRs will be broken up into two CSV files. One file will have information for the Person(s) involved in transactions (PIT_info) and another file will have the rest of the information for the CTRs (CTR_info). This method was chosen to facilitate easy and reliable importing of the files into the FIU's database.

PIT_info:

Each row will correspond to a unique "Person Involved in Transaction" entry for each CTR that has been filed. This information comes from the current CTR format that each bank files with FinCen: Part I Person Involved in Transaction. For example, if there are three CTRs filed in a given time period: CTR1, CTR2, CTR3. Where CTR1 and CTR2 have 3 persons involved in the transaction and CTR3 has 1 person involved in the transaction. Then, PIT_info will have a total of 7 entries, with each row corresponding to one person involved in the transaction across all of the CTRs.

CTR_info:

Each row will correspond to a unique CTR. The fields in each entry were derived from Part II and Part III of the current CTR format that each bank files with FinCen.
PIT_info and CTR_info will be linked together through a CTRID. Each "person involved in transaction" entry will have the CTRID of the CTR that they are associated with. In order to ensure that CTRID is unique across the reporting institutions we require that each bank include a unique identifier as part of the CTRID.

The format will be:

"bank identifier"."CTR identification number"

The CTR identification number can be what each respective bank currently uses to uniquely identify their CTRs.

Bank identifiers:

Bank of Hawaii: 1

Bank of Guam: 2

Bank Pacific: 3

(Any further Bank Identifiers will be negotiated at the time that such a bank begins filing with the FIU)

So, if Bank of Guam has a CTR with an ID/filing number of:

CTRB1500104000006

Then, the CTRID would be:

2.CTRB1500104000006

Fields for PIT_info:

1. CTRID

2. relationshipToTransaction
    - Person on whose behalf transaction was conducted
    - Person conducting transaction for another
    - Person conducting transaction on own behalf
    - Courier Service (private)
3. lastNameOrNameOfEntity
4. firstName
5. middleName
6. gender
7. occupationOrTypeOfBusiness
8. address
9. addressCity
10. addressState
11. zipCode
12. addressCountry
13. dateOfBirth
    - MM/DD/YYYY
14. contactPhoneNumber
15. emailAddress
16. idType
17. idNumber
18. idCountry
19. idIssuingAuthority
20. accountNumbers
21. cashDirection
    - Withdrawal
    - Deposit
22. cashAmount

Fields for CTR_info:
1. CTRID
2. dateOfTransaction
    - MM/DD/YYYY
3. cashDirection
    - Withdrawal
    - Deposit

4. cashAmount
5. typeOfFinancialInstitution
6. fullNameOfFinancialInstitution
7. nameOfBranchOfficeAgency

Reference Files

Reference files can be provided to reporting institutions by the FIU upon request.

Republic of Palau

Financial Intelligence Unit

Encrypted Email

User Manual

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Introduction

The Financial Intelligence Unit (FIU) of the Republic of Palau deals with very sensitive information: people's banking information. As such, it is essential that the FIU has a method of securely communicating with external entities. One such standard way of securely communicating is through encrypted email. Particularly, this guide details how to use Microsoft Office Outlook to send and receive encrypted emails.

It should be noted that the appropraite private keys and digital certificates are installed on Nelson's Toshiba laptop and Boboy's Asus laptop. It should additionally be noted that this guide is geared towards usability and not towards set-up or more technical tasks. For directions on set-up and more technical tasks, see the documentation left by the Summer 2015 consultants.

Overview of Communicating Through Encrypted Email

To communicate through encrypted email, two people must exchange public keys. Once each of the two people has received and stored the other person's public key, they can begin communicating through encrypted email by encrypting communication to each other using the recipient's public key. This process will be elaborated on by way of an example situation below.

Example Situation:

Suppose Adam and Betty want to communicate through encrypted email and that they each have their own public and private keys.

First they must exchange public keys. To start, Adam sends an unencrypted, digitally signed message to Betty. (Note that unencrypted means not encrypted and that digitally signing a message means attaching your public key to that message). At this point, Betty has Adam's public key, but Adam does not have Betty's public key. So, Betty replies to Adam's message with a similarly unencrypted, digitally signed message.

Now, Adam has Betty's public key, and Betty has Adam's public key. They can begin communicating through encrypted email.

To send an encrypted message to Betty, Adam encrypts a message with Betty's public key and sends it to Betty. Betty receives Adam's message and decrypts it with her private key. (Note that the *only* key that can decrypt the message that Adam just sent is Betty's private key.)

Similarly, to send an encrypted message to Adam, Betty encrypts a message to Adam with his public key and sends it to Adam. Adam than receives and decrypts the message with his private key, as his private key is the *only* key that can decrypt the message.

Digitally Signing Messages (With Your Public Key)

Assuming you have a digital certificate installed on your computer, to digitally sign a message, start to compose a message on Microsoft Outlook, and click the sign button as shown below:
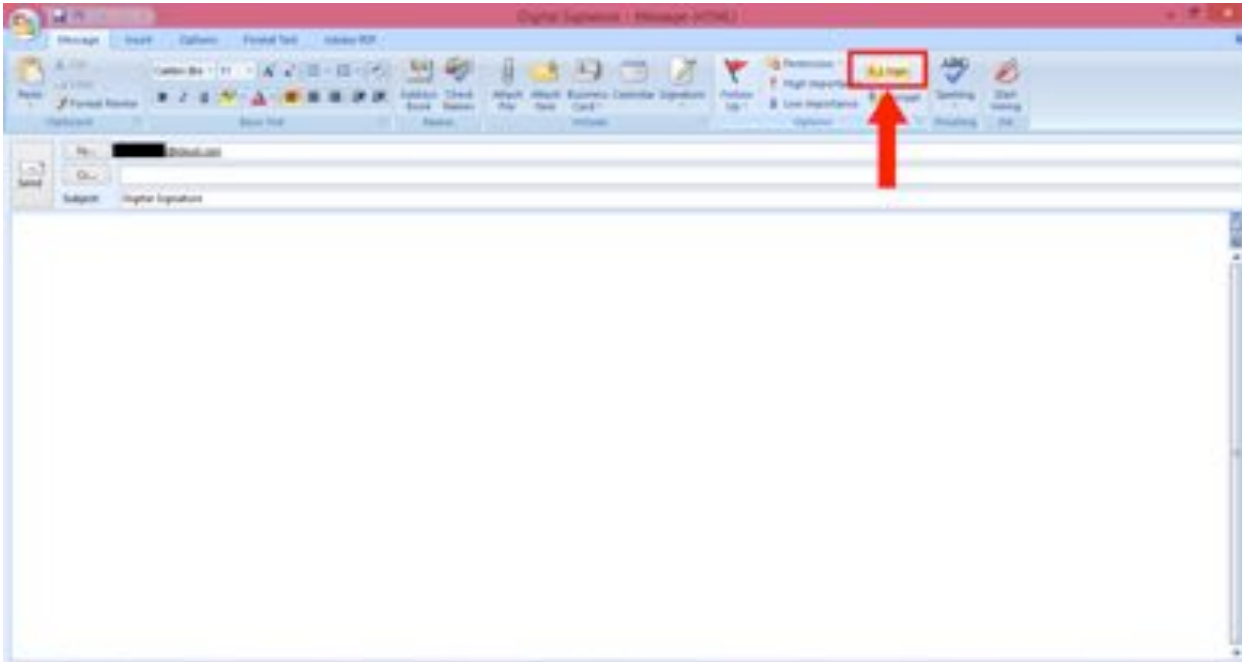
Receiving Digitally Signed Messages

To receive a signed message, synchronize your mailbox by clicking 'Send/Receive' as you normally would. If there is a ribbon icon (shown below), this denotes that the message you received is digitally signed.
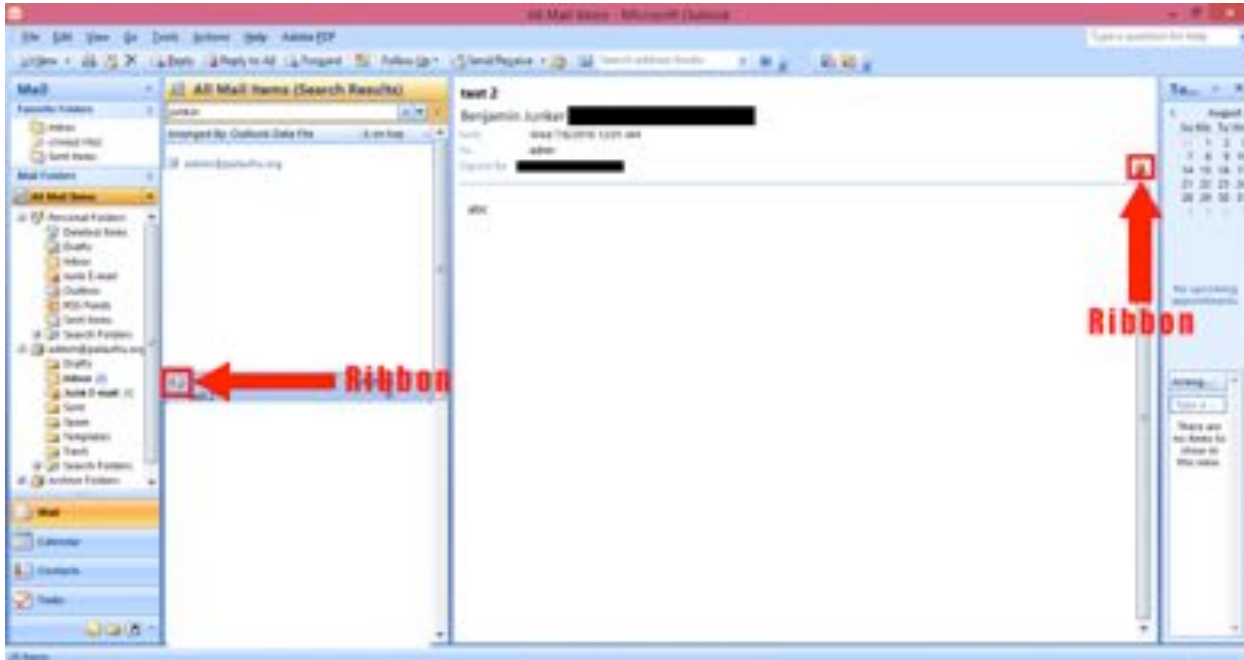
Adding (Some Else's) Digital Signature to Your Contacts

Once you have received a digitally signed email, you must add it to your contacts to use that digital signature to encrypt future messages. To do that, right click the name of the person sending the email and click 'Add to Outlook Contacts' as shown below:
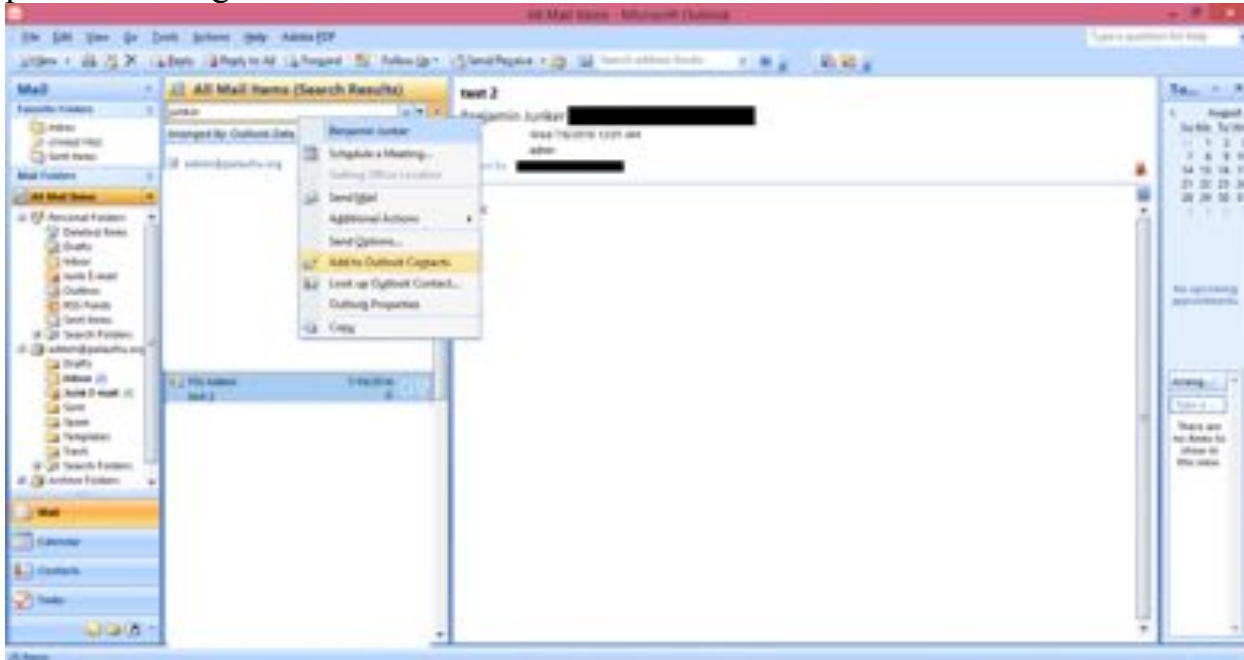
(Note: If you already have that person in your contacts, the option may read, 'Update Outlook Contact')

The Contact menu should show up. Click 'Save & Close' to add that person and their digital signature to your contacts.
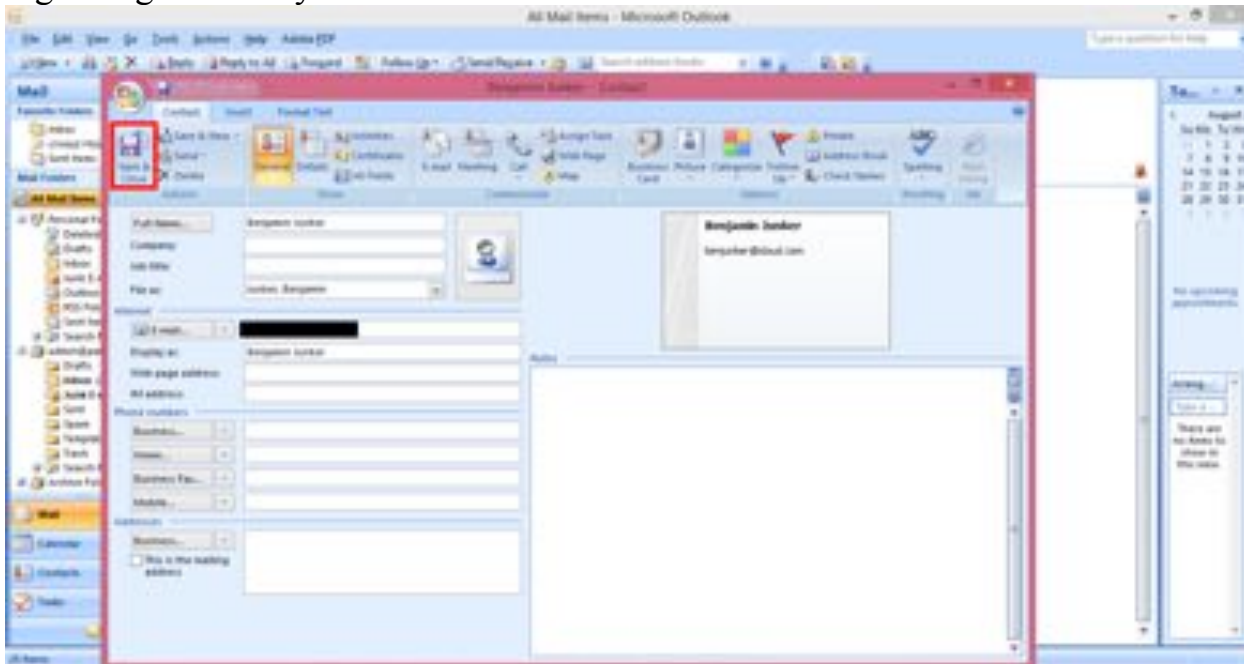
Sending Encrypted Messages

Once you have saved someone's digital signature, you can send encrypted messages to that person. To do so, compose a new message to that person and click the 'Encrypt' button.
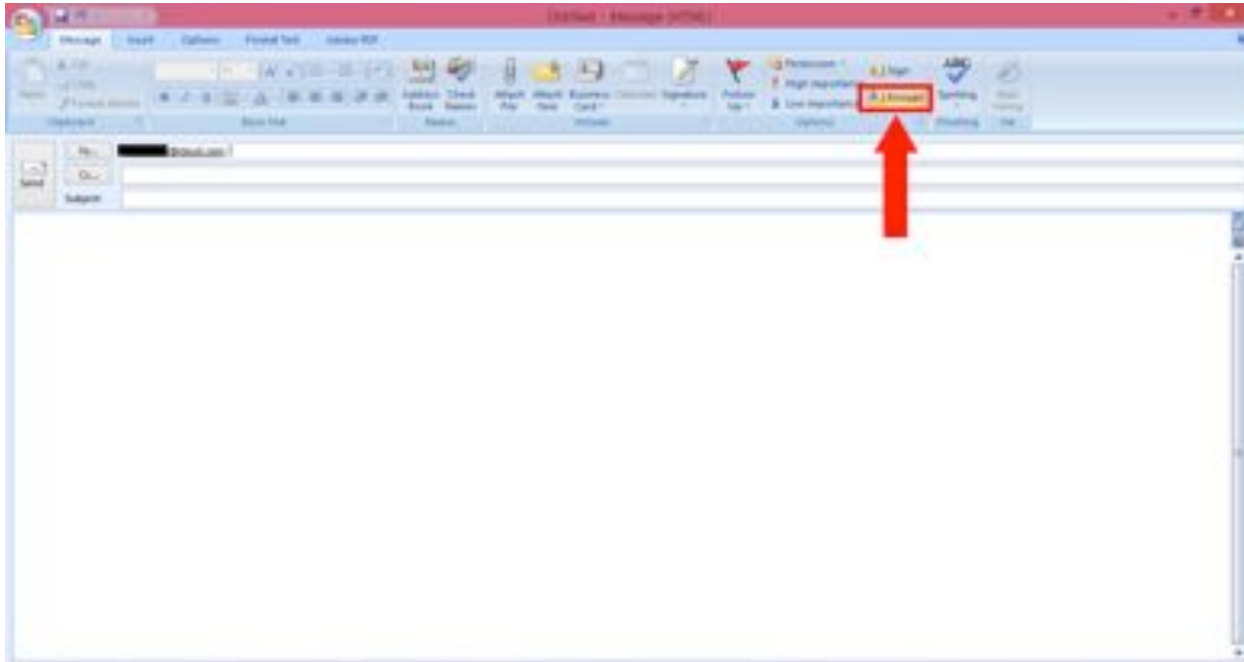
Without the Recipient's Digital Signature

If you attempt to send a message to someone without his or her digital signature stored in your computer, you will get the following error message:
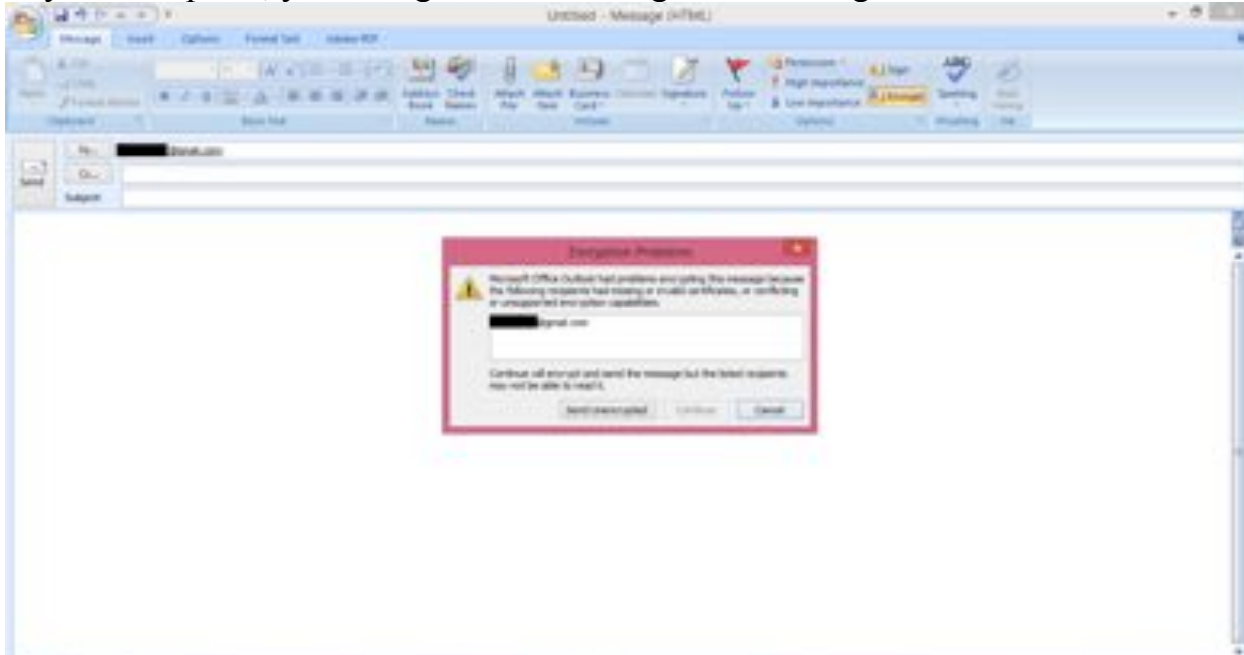
To remedy this issue, either send the message unencrypted or reach out to the intended recipient separately to obtain a digitally signed message, so that you can store his or her digital signature in your Contacts.

Receiving Encrypted Messages

To receive and successfully open an encrypted email, you must be using Microsoft Outlook on the computer on which the private key for your email account is stored. You receive encrypted emails as you would a normal email, however there are two main differences. The first difference is that encrypted emails are denoted with a lock icon, and the second difference is that you must double click on an encrypted email to open it in a different window.
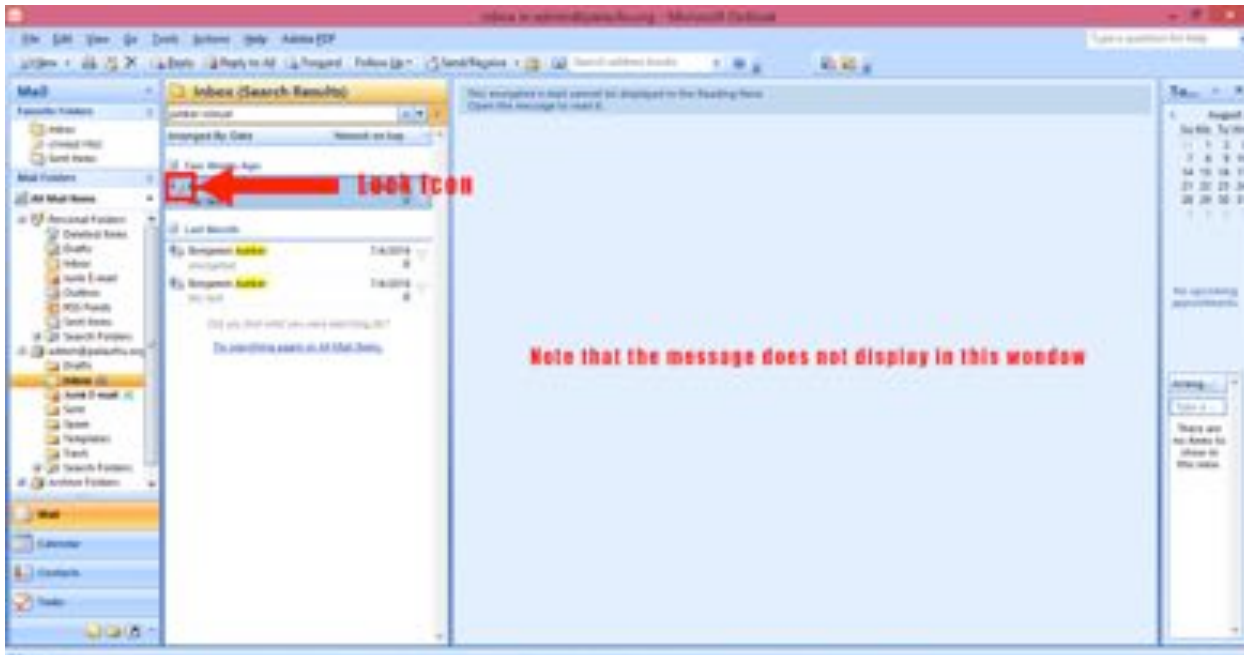
Once you double click on the message, however, you will be able to read it as normal:
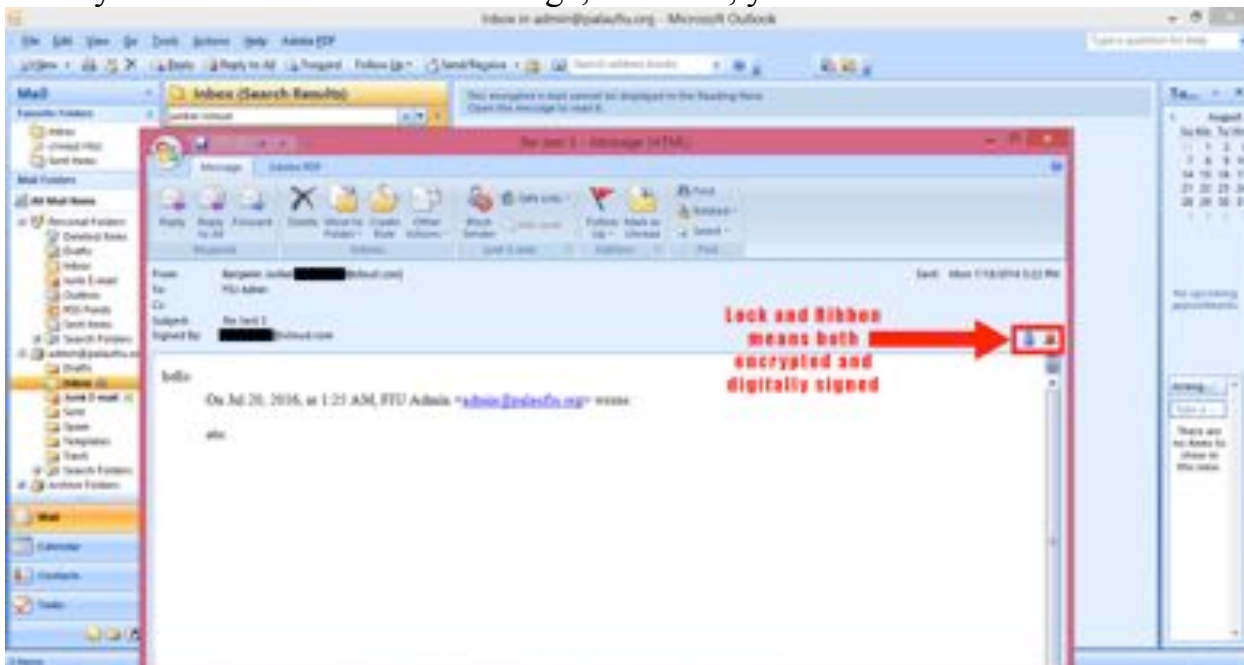
Republic of Palau

Financial Intelligence Unit

Recommendations and Directions for

Importing Backlogged Reports

Table of Contents

Introduction

The Financial Intelligence Unit (FIU) of the Republic of Palau has recently transitioned to a Microsoft Access Database system. Going forward, all reporting institutions will submit electronic reports that the FIU can easily import into its database. However, as the database system has been recently implemented, the FIU does not have data from past years in its system.

This report details recommendations for the FIU to follow so that past/backlogged reports can be imported into the FIU database system.

Status as of August 5, 2016

There are currently three banks that report to the FIU and whose reports are of interest to the FIU: Bank of Hawaii, Bank of Guam, and Bank Pacific. All three banks have been, since their inception, reporting Cash Transaction Reports (CTRs) and Suspicious Transaction Reports (STRs) to the FIU, when such reports are internally generated by the banks. Until recently, the banks have submitted these reports to the FIU in paper format. As such, the FIU has a record of STRs and CTRs in hard copy going back years.

Being that it will be, likely, more time-consuming for the FIU to import physical copies into its database system than digital copies, inquiries were made to all three banks to determine whether each bank would be willing to give the FIU digital copies of their backlogged reports.

Presently, only Bank of Guam has agreed to provide the FIU with backlogged copies of its previously submitted reports. Bank of Guam has agreed to deliver the past five years of its reports in XPS format to the FIU between September 1, 2016 and December 31, 2016.

As such, the FIU is left to work with the paper copies of the Bank of Hawaii and Bank Pacific reports it has on file.

Manual Data Entry

At the beginning of the Summer 2016 TCinGC consulting engagement, the FIU had three computers, only one of which had a front-end database application that was connected to the back-end data. By the end of the engagement, the FIU had increased the number of working computers it had to five, all of which have a front-end database application that is connected to the back-end data.

As such, the FIU now has the ability to employ data entry personnel to manually input data from the backlogged paper reports into the database. These personnel would simply read the data from the backlogged reports and type it into the database.

This option is most suitable if the FIU does not have the option to employ anyone with technical expertise but has budget to dedicate towards importing backlogged data into the database system.

Optical Character Recognition

Optical character recognition (OCR) software is software that converts files that contain images of text into files that contain machine-encoded text. One route that the FIU could take to import backlogged data into its system is to scan the backlogged paper reports that it currently has into image files or PDFs, and then to use OCR software to convert those files into machine-encoded text files, such that the FIU's database system can import them.

While, in theory, OCR software is an attractive option, in reality there are several obstacles to implementation of an OCR software solution and potential issues with such an implementation. Many OCR software solutions are cost-prohibitive, considering the FIU's current financial situation. In addition, OCR programs are not known to be 100% accurate at converting images to text. Because it is important that the information imported into the FIU's database is accurate, the FIU would need to employ personnel to check the work of the OCR program, which is a functionally quite similar job to manual data entry. Finally, many OCR programs are quite cumbersome and time-consuming to implement, as they require things such as training and calibration on 'training data sets'.

This option would be most suitable if the FIU experienced a large increase in budget and brought a person with technical expertise in-house; such a person would be able to person would be able to continually oversee and monitor the implementation of an OCR software solution.

Programmatically Converting XPS Files

As was mentioned above, Bank of Guam has agreed to provide the past five years of its reports in their XPS format to the FIU between September 1, 2016 and December 31, 2016.

XPS files are zipped archives that contain various files that make up a document. Most importantly, for each page in the XPS document, the archive contains a file (.fpage file) that contains all text, symbols, and geometric graphics on the page. These files can be extracted from the XPS archive and programmatically scanned for pertinent information. This information can then be formatted into CSV files that can be imported into the FIU database.

During the Summer 2016 consulting engagement, a proof of concept of this extraction and programmatic scanning of XPS files was created. Though the proof of concept was not developed into a full-fledged solution due to time constraints, the proof of concept demonstrates that programmatically converting the XPS documents into CSV files is a possibility. To further this initiative, one would need to review and understand the reference files, and then work to devise algorithms that will fully transform XPS input, formatted as Bank of Guam's are, into CSV output that can be imported into the FIU database.

This option is most suitable if the FIU has access to some with technical expertise for a limited time, and does not rely on the FIU budget as there is no (paid) external software that is believed to be needed to complete this option

Reference Files:
Parse_XPS_Instructions.txt
toCSV.py

Recommendations/Directions for Implementation

Considering the current staffing and budget of the FIU (that the FIU does not have any personnel with technical expertise or a large enough surplus in budget to make such a hire), in the immediate future it is recommended that the FIU pursue neither technical option and instead opt for manual data entry. This can be achieved by:

- Hiring anybody with the ability to both read and type on either a part-time or full-time basis
- Training them in the data entry portion of the database system
- Tasking them with transcribing various reports in to the database system

However, if the FIU obtains personnel with technical expertise (either in-house or temporarily, through something like a consulting position), it is recommended that they pursue the programmatic conversion of XPS files over the implementation of optical character recognition software. This is because the programmatic conversion of XPS files is likely more feasible and cost-effective than the implementation of OCR software.

There is, unfortunately, no defined procedure for the programmatic conversion of XPS files, other than tasking such technical personnel with pursuing the programmatic conversion of the XPS files based off of the work that was already done, as the algorithm to convert the files is yet to be defined.

Palau Financial Intelligence Unit
Retrieving Information from Other Government Organizations
Summer 2016

Foreign Investment Board:

After inquiries into the information management systems of the Foreign Investment Board, it was found that the Foreign Investment Board uses Microsoft Excel spreadsheets to store information about foreign investment. Since one cannot establish remote access to an Excel spreadsheet, the FIU cannot establish remote access to the Foreign Investment Board.

Bureau of Public Safety:

After inquiries into the information management systems at the Bureau of Public Safety, it was found that the Bureau of Public Safety maintains some of their information in databases and others in Microsoft Excel spreadsheets. Unfortunately the information that the Bureau of Public Safety stores in databases is information that the FIU is not interested in remotely accessing, such as drivers license information. Conversely, the Bureau of Public Safety stores information such as arrest record in spreadsheets, which are not remotely accessible. As such, the FIU will not be establishing remote access with the Bureau of Public Safety currently.

Bureau of Customs and Border Protection, Bureau of Revenue and Taxation, & Bureau of Immigration and Labor:

After inquiries were made to the Bureaus of Customs and Border Protection, Revenue and Taxation, and Immigration and Labor it was determined that the all three of the Bureaus have databases that can be remotely accessed.

The two obstacles to implementation for access to any of the databases were IP address compatibility and bureaucratic signoff. PNCC's (Palau National Communication Corporation) assistance was solicited to ensure that the FIU's external IP address was compatible to access the databases, and separate MOUs were created and signed to authorize the FIU to access each of the databases.

The FIU currently has gained remote access to the Bureau of Immigration and Labor's database. The FIU additionally has the technical capacity and bureaucratic signoff to access the Bureau of Customs and Border Patrol and Bureau of Revenue and Taxation databases. However, in the time between when the FIU gained bureaucratic signoff for those databases and the writing of this report, the Taiwanese developer has been on-island making small changes to both database systems. As such, the FIU is expected to gain access within the next week after the Taiwanese developer finishes working on the database systems.

Attorney General's Office:

Due to a political conflict between the FIU and Attorney General's Office, no inquiries were made to the Attorney General's office about their information management systems.

Palau Financial Intelligence Unit
Case Management Software Solution Decision Matrix
Summer 2016

Name of Case Management Software	**Edraw Mind Map**	**goAML**	**XMind Free**	**Mind Mup**
Cost	Free	Could not get exact quote, but Nelson estimated that subscriptions are >$1,000/year	Free	Free
Needs Internet Access	No	Yes	No	Yes
Ease of Use (from qualitative testing (if possible)	Many well articulated menus (design similar to Microsoft Office); Too many menus were confusing at times; Reasonably easy to use	Could not test	Minimalist design but easy to navigate nonetheless; Easy to use	Difficult to figure out how to use and additionally to use
Flexibility (from qualitative testing, how well does it adapt case management needs)	Eventually figured out how to adapt to adapt to case management needs	Could not test	Figured out quickly how to adapt effectively to case management needs	Could not figure out how to adapt to case management needs
External Support	Submit requests to Edraw support, documentation	goAML dedicated support	XMind support center and various methods of contact	Mind Mup documentation
Robustness of Dedicated Case Management Capabilities	Non-Existent	Not tested, but looks robust	Non-Existent	Non-Existent

XMind Free was determined to be the best option for Case Management Software Solution.

Republic of Palau

Financial Intelligence Unit

XMind
## User Manual

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Introduction

The Financial Intelligence Unit (FIU) of the Republic of Palau monitors financial activity in Palau and gathers intelligence about behavior that may be related to money laundering. In their various intelligence-gathering inquiries, the FIU staff develops cases involving certain people and transactions. As such, the FIU needs a tool to manage, diagram, and visualize its various cases.

XMind has been adapted to fit this need for the FIU. This manual does not describe how to use XMind as a piece of mind mapping software, but instead as the case management software need that it has been adapted to fill.

Create Case

To create a new document in which to make a case diagram, first open XMind and select 'Map'.
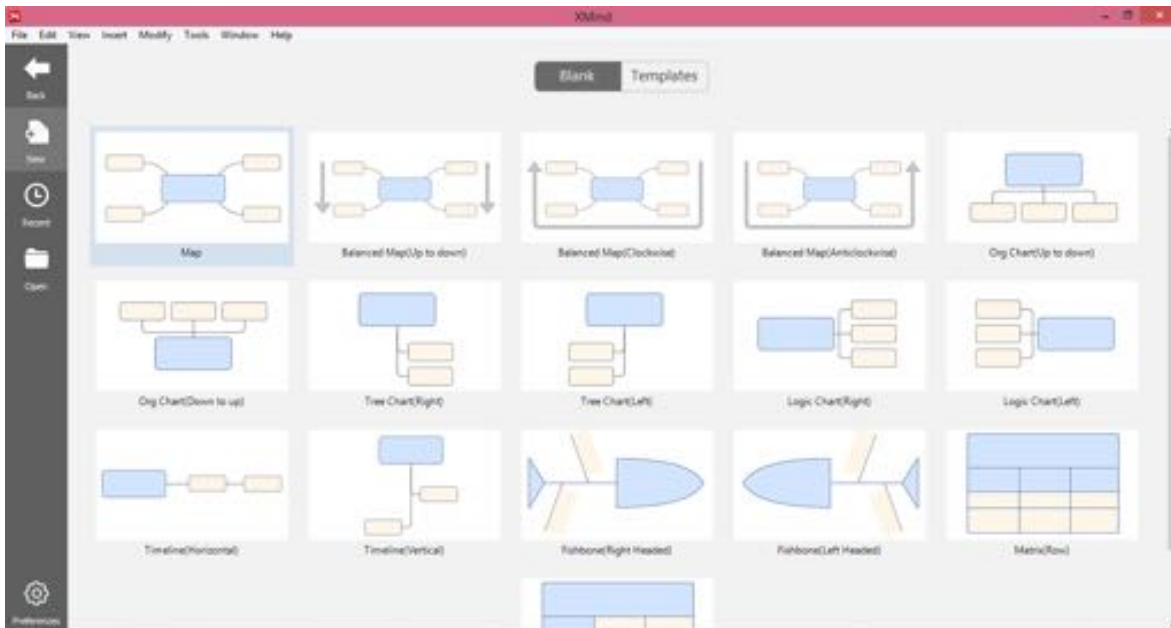
Then, select an option for theme. Though the theme is aesthetic and does not impact the content of the diagram, 'Professional' has been found to look both minimalist and visually appealing.
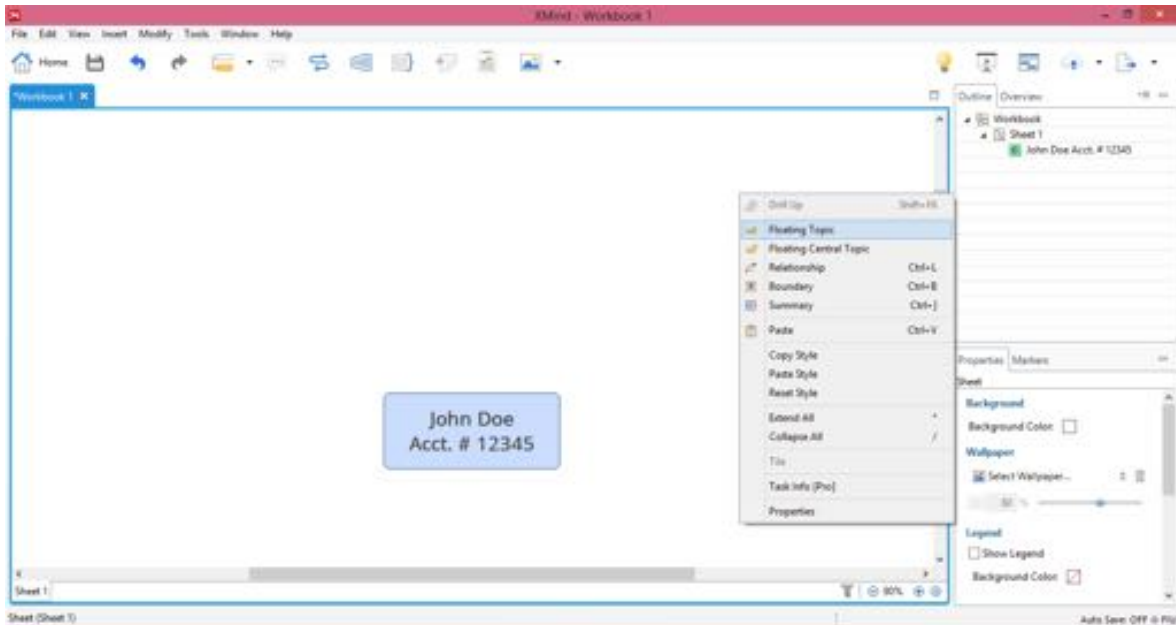
Name Main Entity

The large square in the center of the screen is the main entity that you are investigating. To rename it, double-click on it, type a name, and click anywhere else on the screen. After that process, it should look something like the example below:
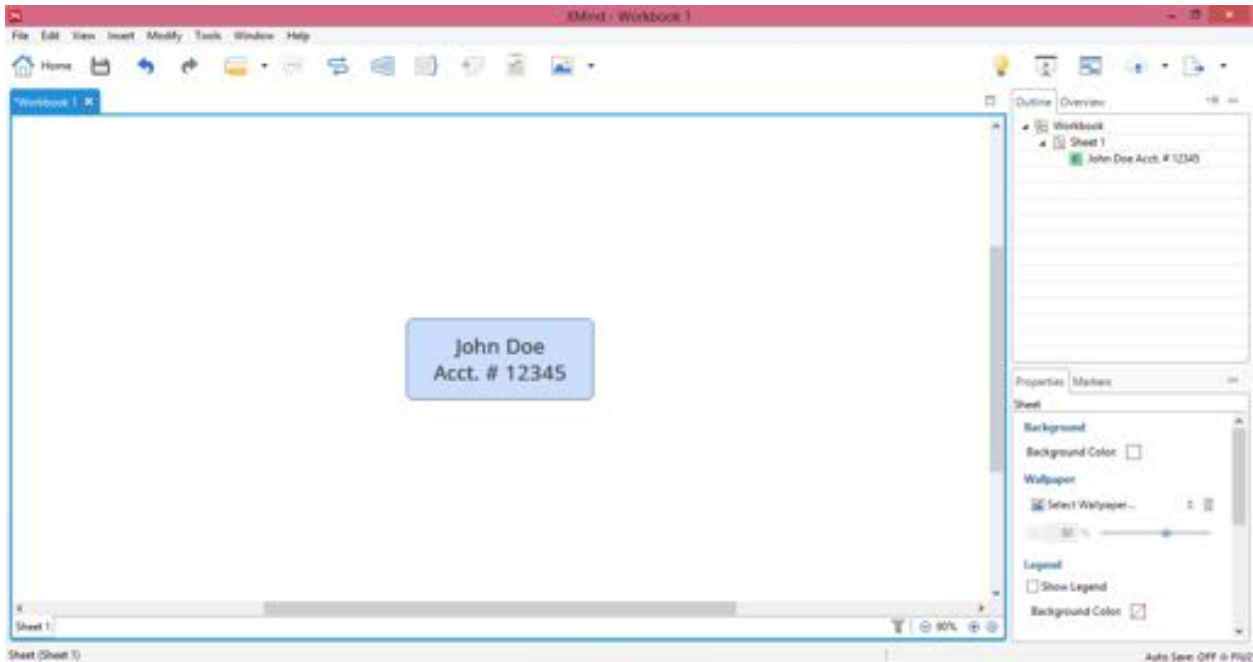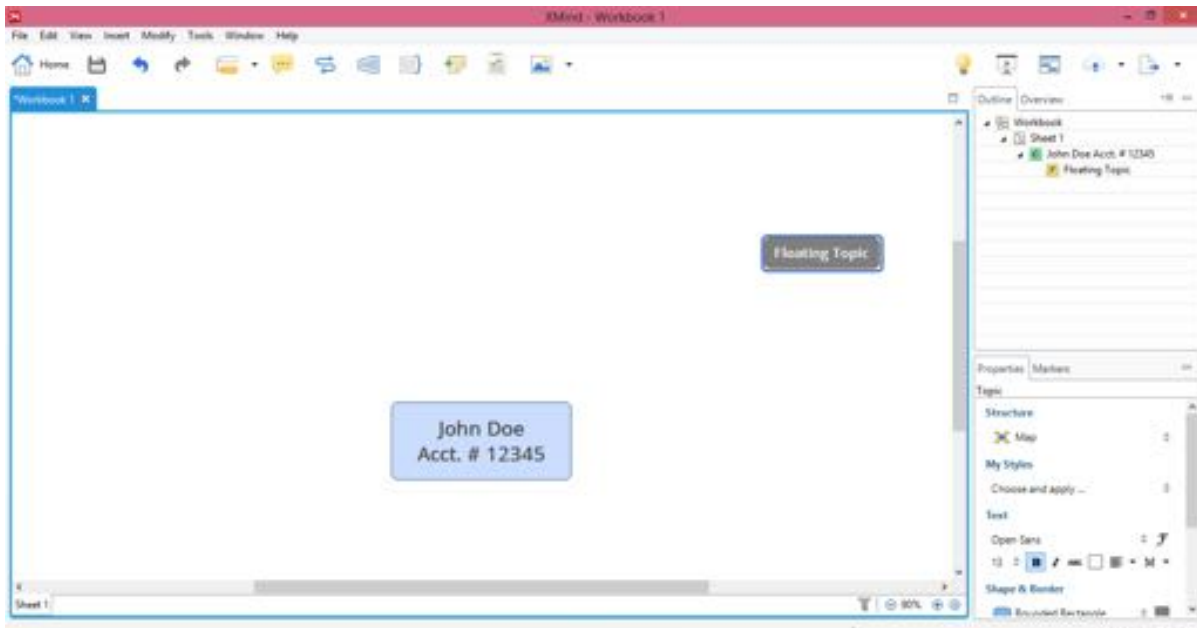
Create Secondary Entities and Connect Entities

Transactions and other entities are represented using floating topics. To create floating topics, right click on the screen and select 'Floating Topic' from the dropdown list:


Then, click anywhere on the screen (not near the main entity) to place the floating topic.

As with the main entity, double click on the floating entity to rename it.
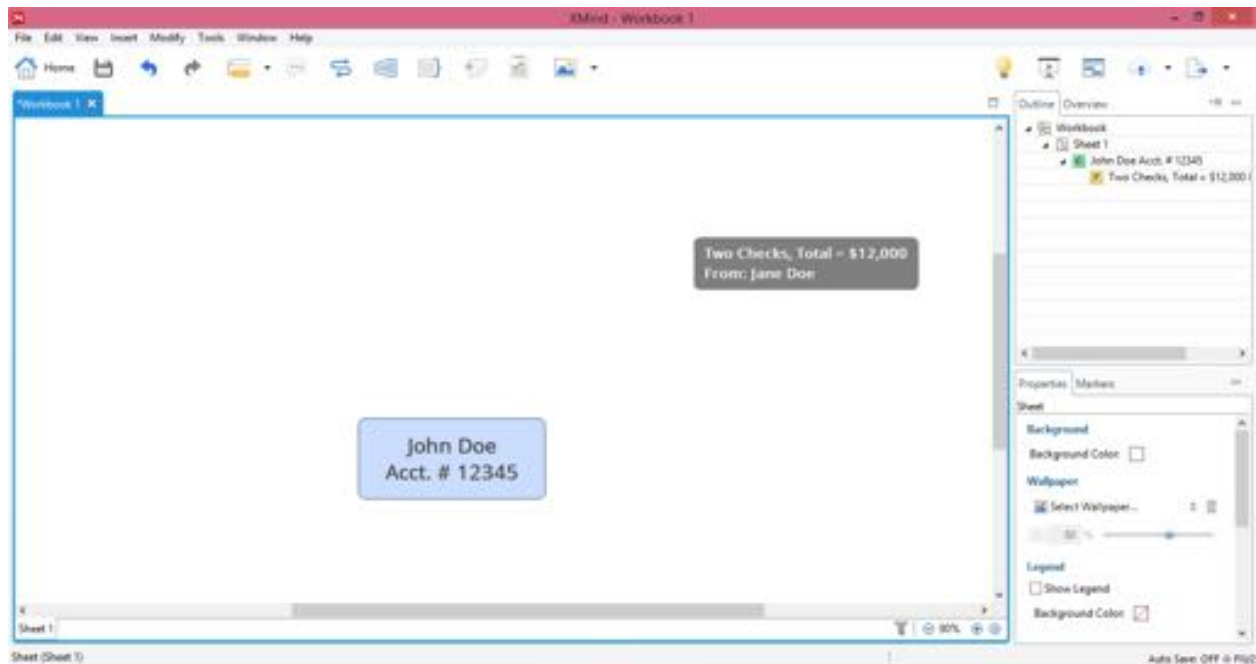

If a secondary entity represents the movement of money, it may represent multiple transactions. To represent these multiple transactions, subtopics are used. To create a subtopic, click on the secondary entity with multiple transactions. Then, navigate to create a subtopic in the toolbar on the top of the screen as shown below:
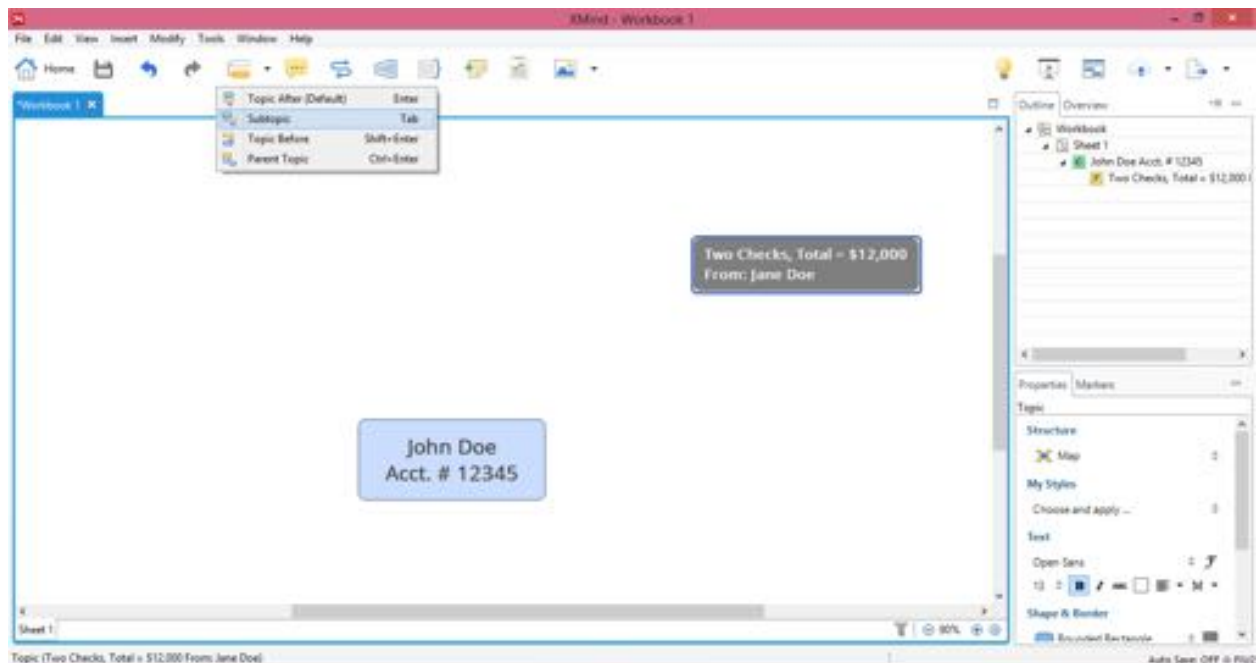
In this example, the subtopic represents two transactions:
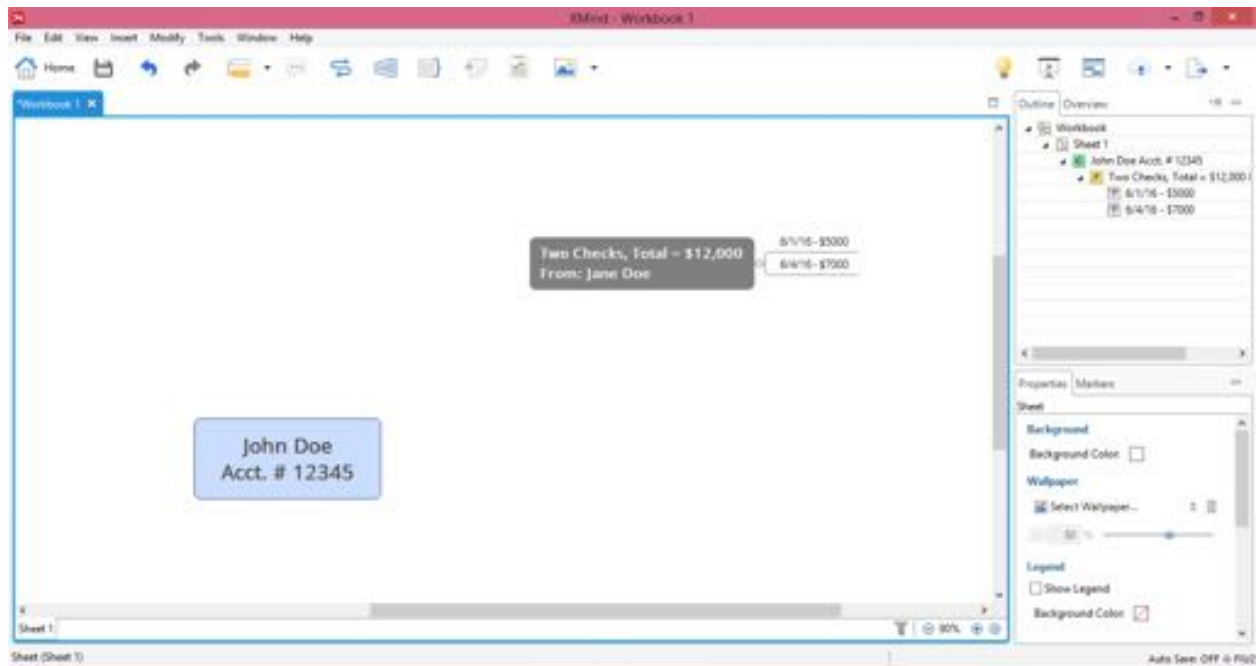
To signify the direction of transactions, we use relationships, which appear as arrows going from one entity to another. To create a relationship, first make sure that no entity is selected. Then, click the relationship button.
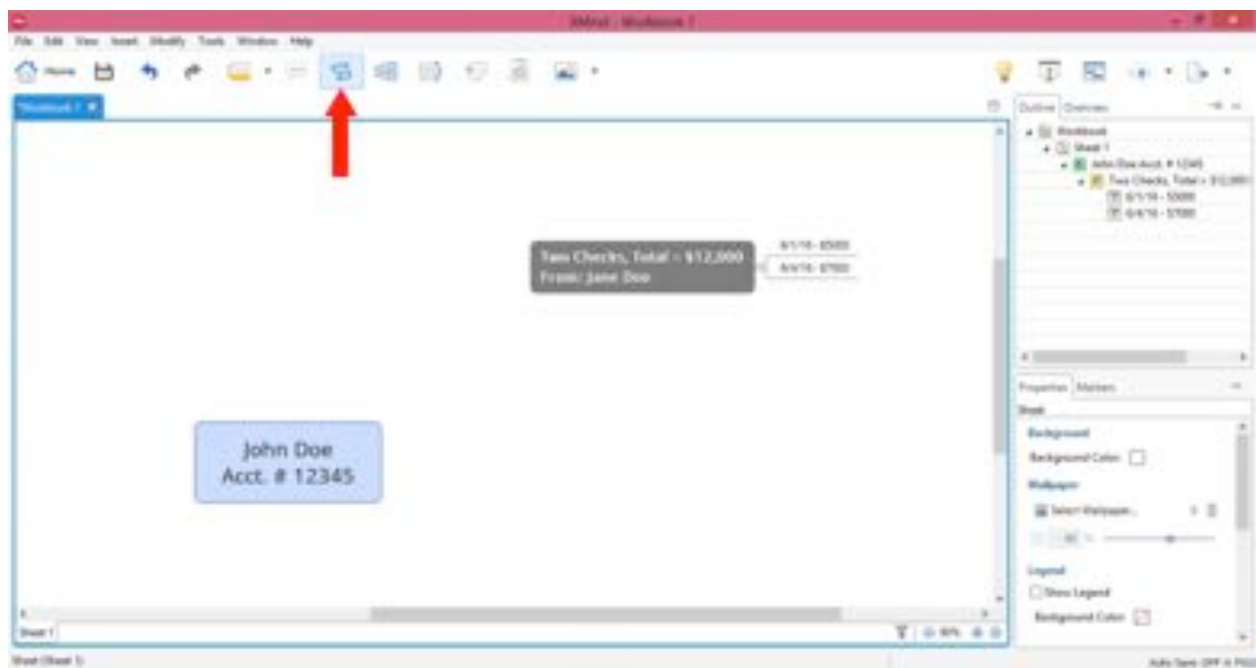
After clicking the relationship button, click the entity that the transaction is going from and then the entity that the transaction is going to. In the example case the result looks as follows:
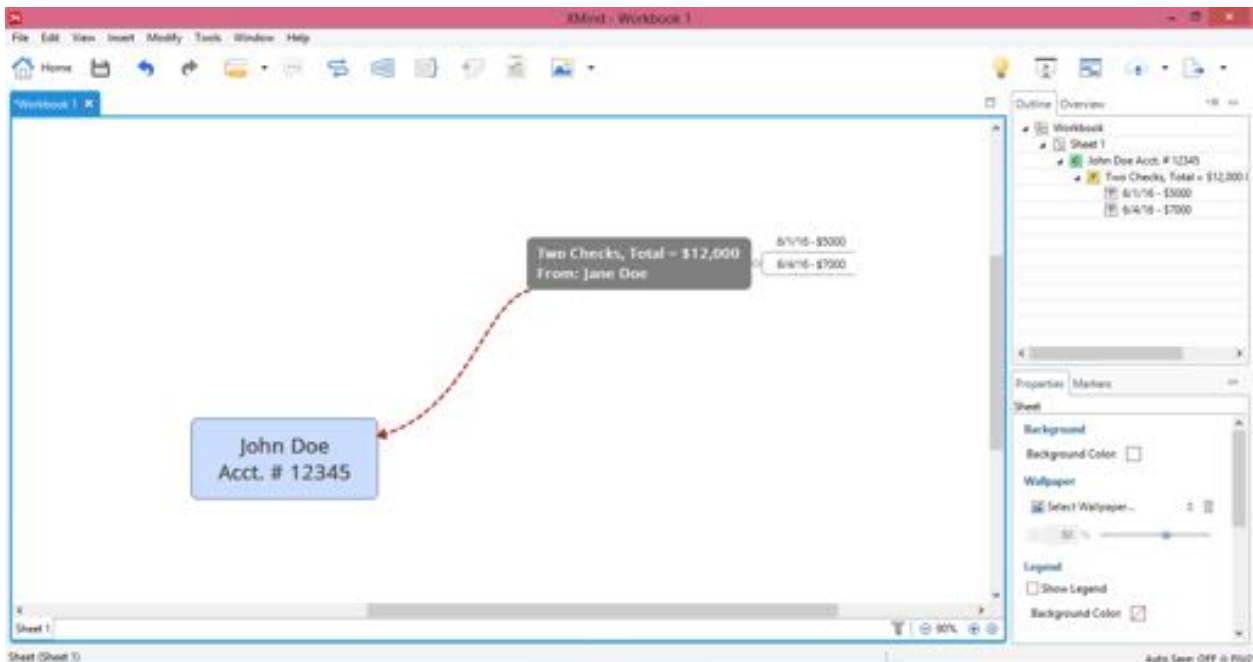

Any entity can have multiple relationships, which signify an entity having multiple transactions, as is shown below. John Doe has conducted transactions with both Jane Doe and Sally Johnson.
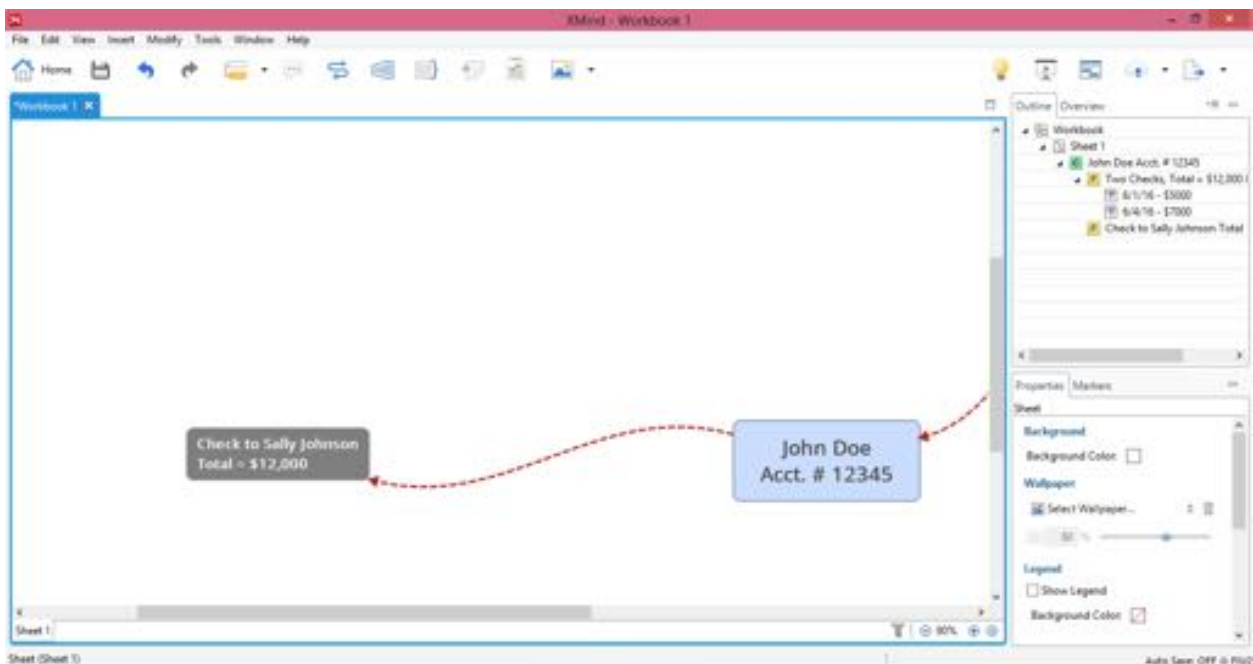
Styling

You can use the menu on the bottom right of the screen to change the styling of the entities and text. This can be used in many ways. For example, you could make all entities that deposit money to the main entity red and those that receive money from the main entity green.

One handy use of styling is to use the cloud shape to signify a thought about the case. To do this create a new floating topic and change the text in it to a thought you have about the case. Then navigate on the menu in the bottom right, as shown below, to change its shape to a cloud.
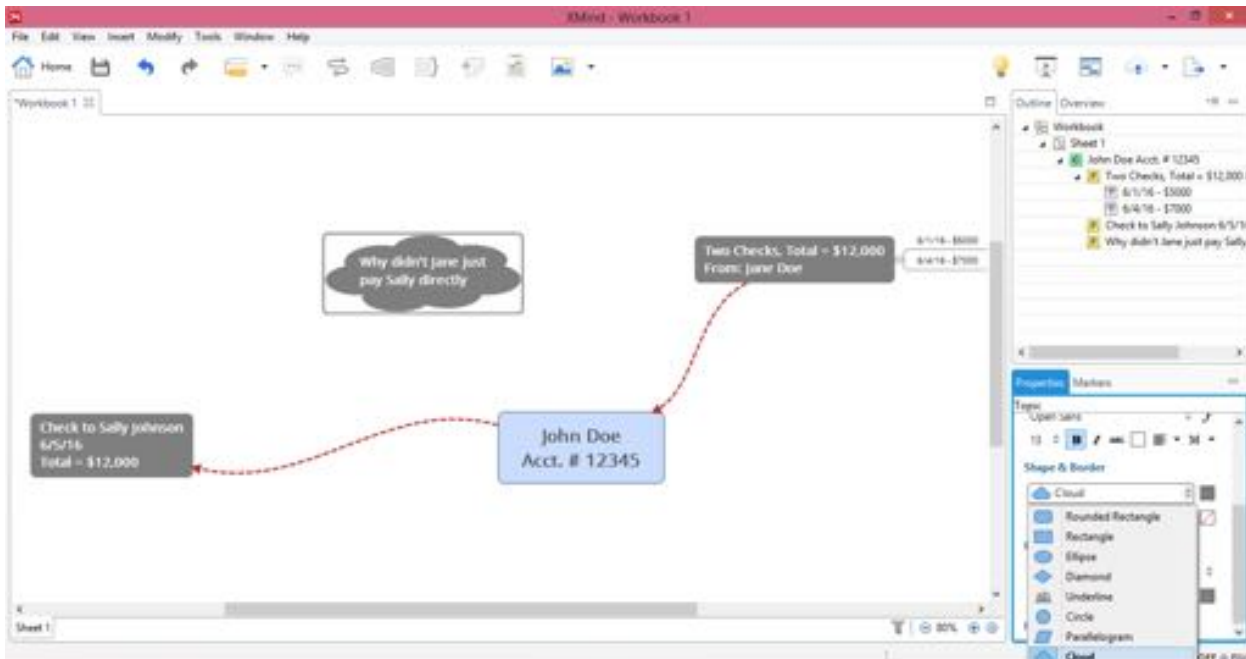
Internet
Service Rates

PalauNet Dial-up Service

Deposit: $50   Connection Fee (initial or reconnection): $10.00

Dial-up Service Plan	Monthly Fee	Hours Included	Additional Hour
E-mail Only	$15.00	0	N/A
Basic	$15.00	4	$2.50
Bronze	$29.95	16	$2.50
Silver	$49.95	56	$2.00
Gold	$69.95	240	$1.50
Unlimited	$99.95	unlimited	-

High-speed Broadband Internet Service (DSL)

Installation Fee: $105.00   Reconnection Fee: $50

DSL Package	Speed	Monthly Rate
DSL Lite*	64	$199.95
DSL Surfer	128	$379.95
DSL Surfer Plus	192	$529.95
DSL Elite	256	$659.95
DSL Elite Plus	320	$759.95

Speeds higher than 320 kbps available at $199.95 per increment of 64 kbps Call Sales at 488-9600 for quote.