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SECJ2253: Requirements Engineering and Software Modeling

User Requirements Definition

Mipanzu File Management System

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1. INTRODUCTION

1.1.Purpose

The purpose of the URD created is used in order for us to describe all the requirements elicited from the file management system in JKSNJ. This is because we want to create and develop a new file management system that will be changed from manual system to online system. URD is best used for us to document the functional requirements of the system that need to be developed. The document will specify all the user expectations toward what the software is able to do. In the URD, we will use a swimlane diagram in order to get a more detailed understanding towards each process in the system. All the documents related towards the file management system also will be recorded in the URD. It is also easy for us to see clearly all the issues and improvements that can be made towards each process. All the requirements gathered in the URD are elicited from the stakeholders of JKSNJ on 11 April 2020. The parties involved for this URD are CRU and SAO.

1.2.Scope

The software product is an online file management system to replace the current manual file management system from JKSNJ. This file management system has the function of keeping track of the location of the files and records. So, when the user wants to borrow the files they need to key in the code of the file. All file access information including the user identity, date and time of borrowing and returning and file type will be stored online therefore it can replace the physical version of "Kertas Minit". Therefore, it is easier for SAO as they can know who borrowed the file and can keep track of the file location.

All the staff need to log in with passwords to verify their identities. Different groups of staff can access different types of files according to their security levels. When the staff return files, the system will record the date and time of return. The staff can also report the loss of file in the system. The system will automatically notify the officers about the late return of files. The system can also be used to dispose of files, open new files and closing files. When they want to do any of these activities, they need the approval from ANM. Therefore, with this online version approval from ANM can be

done in minutes instead of hours or even days. The system will notify the officers of the files that shall be disposed of according to JPR.

On the other hand, viewing files and store files does not need approval from ANM, instead the CRU only need to update the file status in the system. Our goal for this system is to give a path for the users to have an easier work in managing the files and records while maintaining its integrity.

1.3. Definitions, Acronyms and Abbreviation

URD - User Requirement Definition

JKSNJ - Jabatan Kehakiman Syariah Negeri Johor

CRU - Clerk Of Record Unit

SAO - Syariah Assistant Officer

ANM - Arkeb Negara Malaysia

JPR - Jabatan Pelupusan Record

1.4. References

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Seksyen Rekod – Bahagian Pendaftaran, K. d. (2016). *MANUAL PENGGUNAAN KLASIFIKASI FAIL JABATAN KEHAKIMAN SYARIAH MALAYSIA*. Jabatan Kehakiman Syariah Malaysia.

1.5.Overview

The URD contains two sections, the current manual file management system (As-Is) in Jabatan Kehakiman Syariah Negeri Johor (JKSNJ) and the proposed computerized system (To-Be). The swim-lane diagram described the flow of the business process of As-Is and To-Be system, respectively. The issues that arise are identified in the current system, and the suggestion of improvement are provided. For the proposed system, business rules are defined for each of the processes.

2. PROPOSED SYSTEM VISIONS

2. Goal Model

Our proposed system goal is to have to provide a secure and user friendly access. In order to achieve this goal, our system needs to save time and energy, protect the content of the file, prevent the loss of life and need to be accessible from different platforms.

In terms of save time and energy for executing the process, the system will give ease to the user to borrow the file, locate the file easily, faster procedure to get Arkib Negara Malaysia approval, faster procedure in disposing file and provide an easier way for file classification.

Other than that, in order to protect the content of the file, the system needs to provide automatic user authentication and control file access according to their security level.

Furthermore, to prevent the loss of file, the system provides an easy way to track the file access record.

Lastly, in order for our system to achieve the accessible from different platform, the system needs to be access from Windows,Linux and any mobile devices.

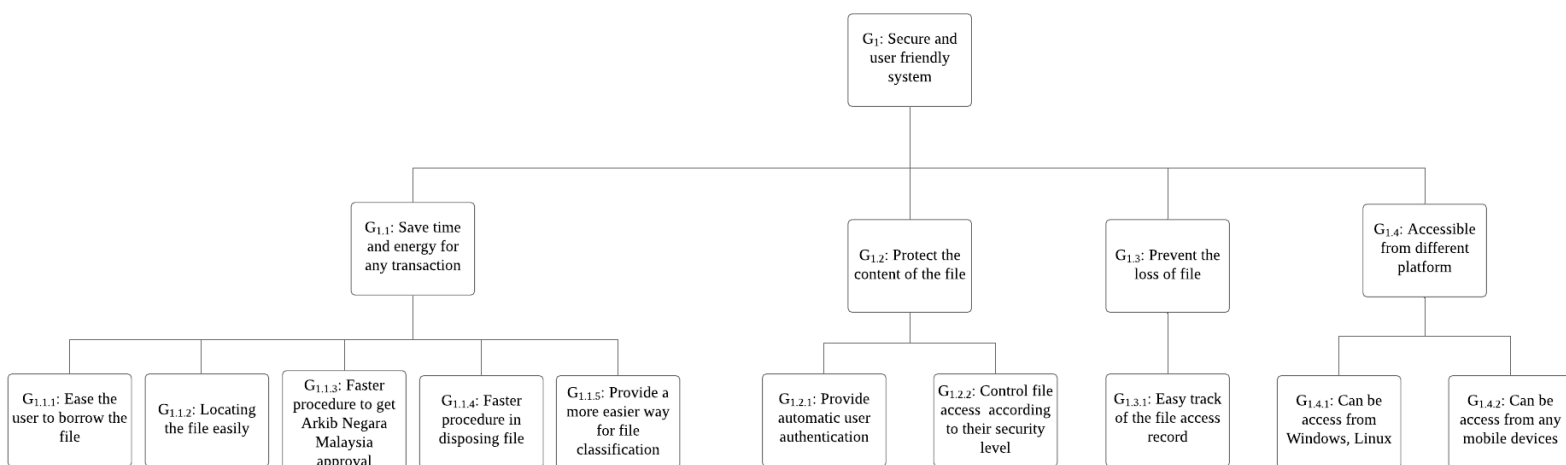


Figure 2.1: Goal Model of Mipanзу System

3. AS-IS (CURRENT) PROCESS ANALYSIS

3.1. Handle the Open File procedure

The process of opening a file involves one actor group which is the clerks of the record unit. The process starts when they receive a letter to be kept in JKSNJ. They will identify the type of letter and the code of the file. They can check if the file exists by searching through the file cabinet. If the file exists, they will check the contents of the file on the Kertas Minit to determine if that particular letter exists in the file. If the letter doesn't exist, they will add the letter into the file and register the letter in the kertas minit.

If the file is not found, they will identify the security level of the file. After that, open a new file and register the file both in kad pendaftaran fail and in Excel. They will then add in the letter, kertas minit and kad pergerakan fail. They will register the letter on the Kertas Minit. The process ends when they store the file in the appropriate location according to the type and security level of the file.

3.1.1. Swimlane Model

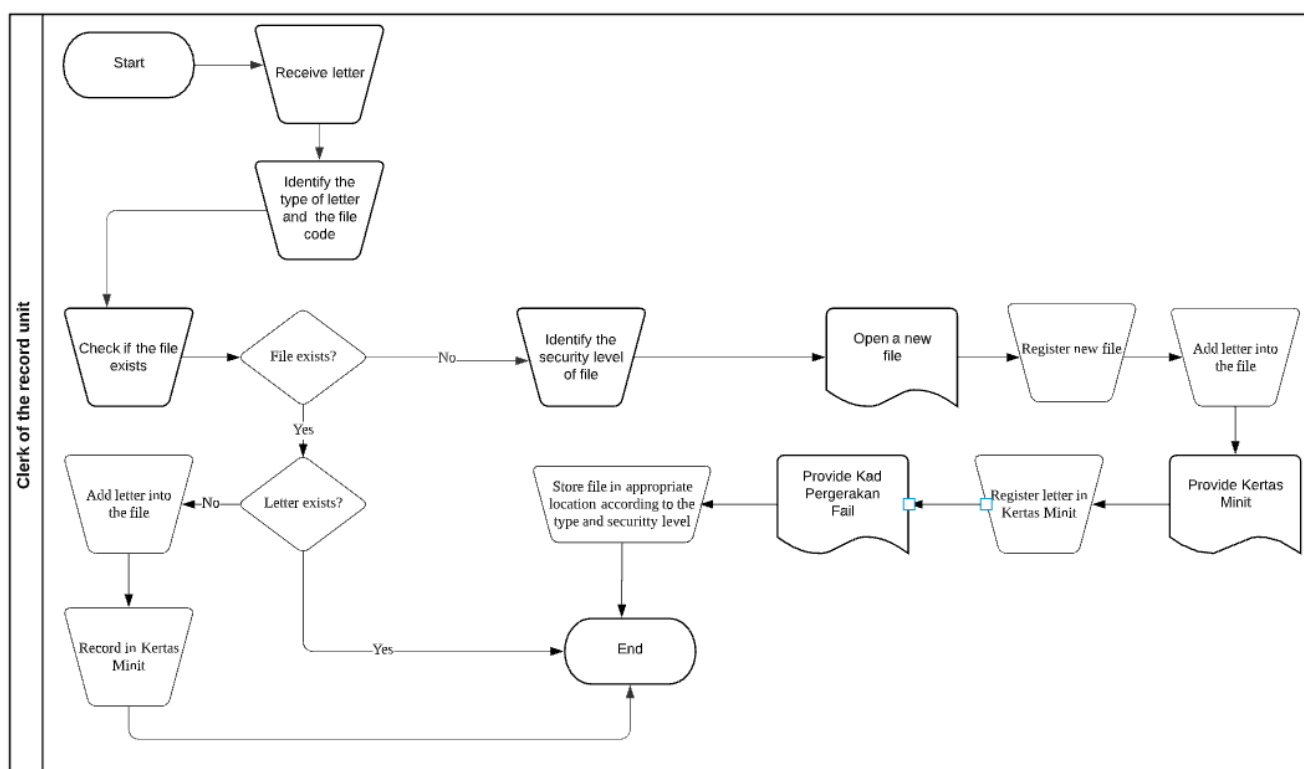


Figure 3.1: Swimlane Diagram of Handle the Open File procedure (AS-IS)

3.1.2. Related Documents

- a) Letter
- b) File
- c) Kertas Minit
- d) Kad Pergerakan Fail
- e) Kad Pendaftaran Fail

3.1.3. Issues in current process

- a) The clerk of the record unit needs to manually identify the file code and may attach wrong file code.
- b) The clerk of the record unit has to manually identify the security level of the file.
- c) Only kertas minit contains the list of letters in the file so the clerks of the record unit have to retrieve the file and kertas minit to check if the letter is in the file.
- d) Clerk of the record unit has to search through the file cabinet for the file location and may place the file in the wrong place.
- e) The file access record and file content are only recorded in kad pergerakan fail and kertas minit which increases the risk of missing and damage of those records.
- f) The clerk of record unit has to record the new file twice in excel and in kad pendaftaran fail.

3.1.4. Improvement Suggestions

- a) The clerk of record unit has two options whether to key in the file code directly or to select the function, activity, subactivity and transaction type of the file so that the system can automatically key in the file code for opening a file or searching for a file.
- b) The system shall automatically attach the security level of file based on the file code entered.
- c) The clerk should record and update the letters and contents of files in an online system.
- d) There shall be an online system that shows the exact location of the file when the file code is entered.
- e) There shall be an online database that stores all the information of the file like the file access record, content of files, status of file and the list of files to replace the file record in paper documents and at the same time back up all records using servers.
- f) The clerk can just register the new file in an online system.

3.2. Handle the Close File procedure

The process of closing a file involves one actor group which is the clerks of the record unit. The process starts when they check the status of all files to determine if the thickness of files exceeds 4sm or 100 attachments. In that case, those files have to be closed. They will cross mark the files and record the closing date of the file. Next, they will open a new file and register the new file both in kad pendaftaran fail and Excel. They will attach this new file to the back of the old file.

After the file is no longer used, they will separate it from the active files and arrange them in a box. List down all the inactive files in the box and paste the list on the box. The process ends with the initialisation of the file disposal procedure.

3.2.1. Swimlane Model

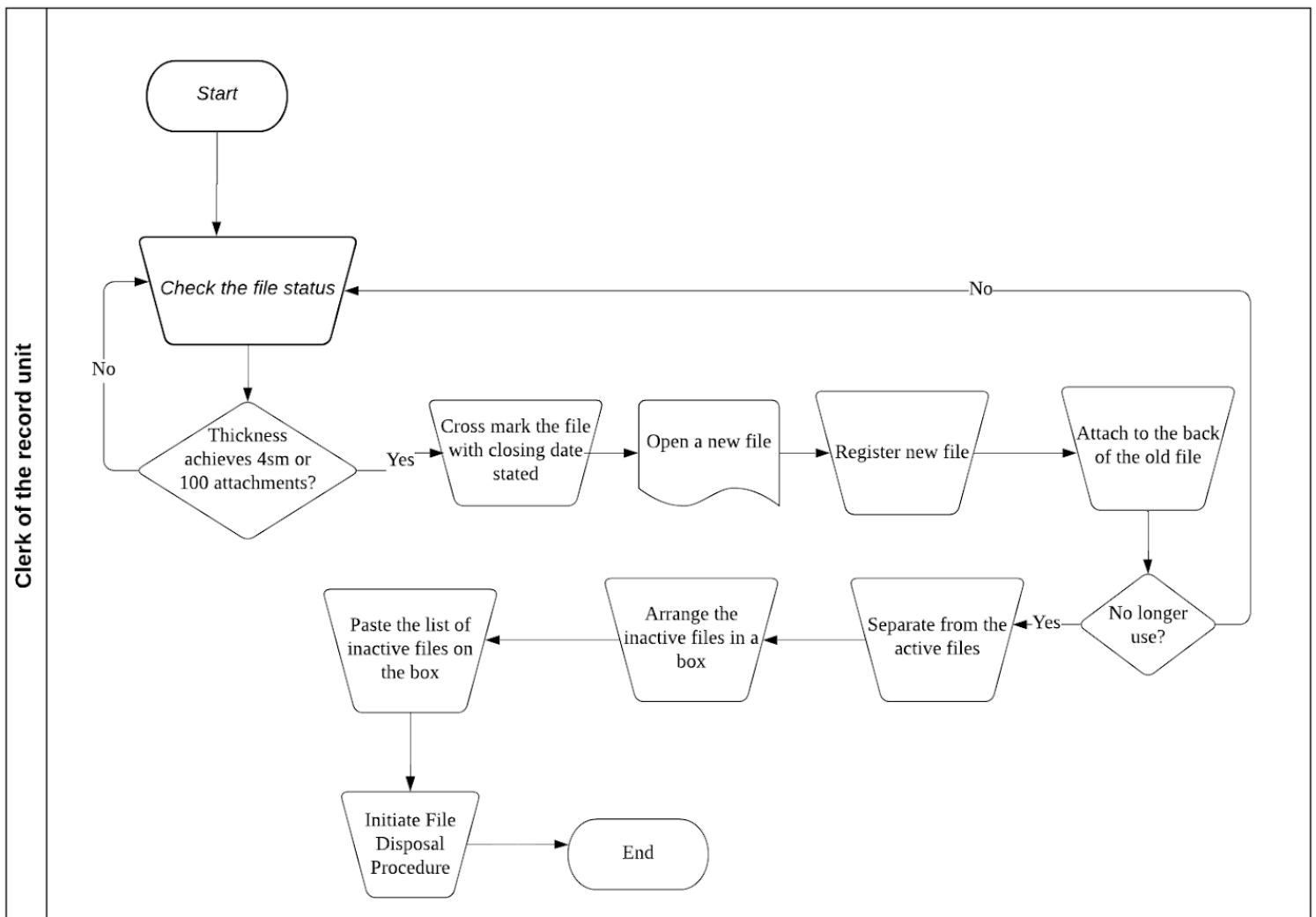


Figure 3.2: Swimlane Diagram of Handle the Close File procedure (AS-IS)

3.2.2. Related Documents

- a) Active file
- b) Inactive file
- c) Kad Pendaftaran Fail

3.2.3. Issues in current process

- a) The clerk has to manually check if the number of attachments in the file exceeds 100 pieces for the closing of the file.
- b) The clerk has to manually measure the thickness of all the files to find out the files that exceed 4sm.
- c) The clerk of record unit has to record the new file twice in excel and in kad pendaftaran fail.
- d) No online record of the status of file (active or inactive).
- e) The exact location of the inactive file is not updated.

3.2.4. Improvement Suggestions

- a) The number of attachments or documents in the file will be automatically updated in the online system.
- b) The clerk shall update and keep a record of the thickness of the file in the online system whenever new contents are added to the file so that the clerk can use the system to automatically filter out the files that need to be closed.
- c) The system should enable the clerk to select the function of adding a new file under the existing file code with the volume updated in the online system.
- d) Update the active or inactive state of file in the online system
- e) Update the location of inactive file (room number and box number) in the online system.

3.3.Handle the Borrow File procedure

In this process, two actors will be involved. They are clerks of the record unit and JKSNJ staff.

The process starts when JKSNJ staff request the clerk to borrow the file. Then, the clerk checks the staff who has the privilege to access the file or not. If yes, the clerk will accept the borrowed file request of staff. If not, the clerk rejects the borrowed file request of staff. After that, the clerk needs to check the availability of the file. If the file is available, the clerk gives the requested file to the clerk. The staff successfully borrows the file.

This process ends here.

3.3.1. Swimlane Model

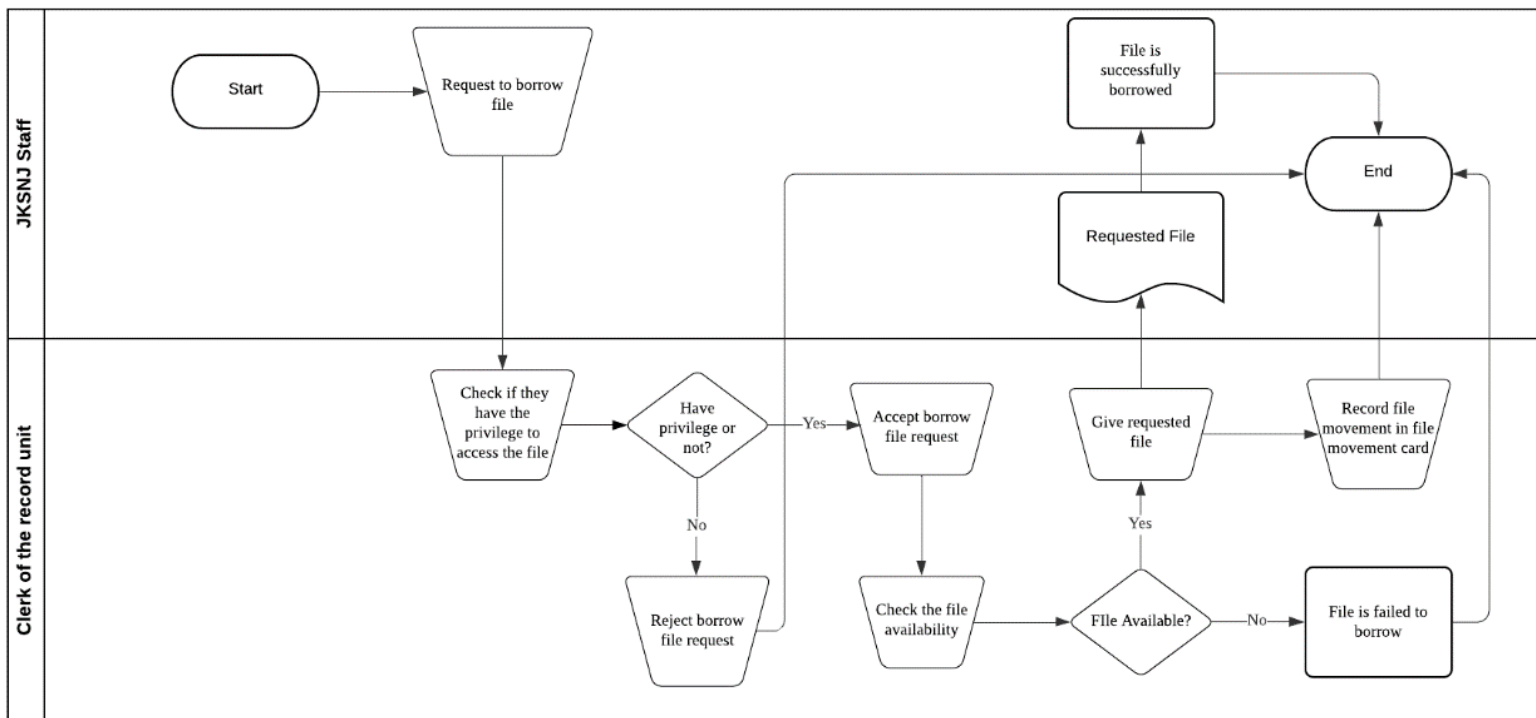


Figure 3.3: Swimlane Diagram of Handle the Borrow File procedure (AS-IS)

3.3.2. Related Documents

Requested File

3.3.3. Issues in current process

- a) Lack of a systematic online system to validate the identities of the file borrowers and to identify the type of files that can be borrowed by them.
- b) Clerk of the record unit has to search through the file cabinet for the file location.
- c) The clerk has to manually check for the file availability by checking Kad Pergerakan Fail.
- d) Anyone can reach the file at the public area easily posing security risk.

3.3.4. Improvement Suggestions

- a) A computerized online system should include the function to validate the identities of the file borrowers and to identify the type of files that can be borrowed.
- b) A searching file function should be included in the computerized system to let clerk can search files easily.
- c) Kad Pergerakan Fail can make it as a computerized management system to check file availability.
- d) Store all the files in a specific strong security room and give authorised people access only.

3.4.Handle the Return File procedure

In this process, 2 actors will be involved. They are clerks of the record unit and JKSNJ staff.

The process starts when JKSNJ staff takes the file to the counter of JKSNJ. Then, JKSNJ staff needs to fill in and sign the returning form of file. The clerk of the record unit fills in the staff name in this returning form and signs the form. After filling and signing the form, The clerk of the record unit places back the file to its original location based on its file classification.

This process ends here.

3.4.1. Swimlane Model

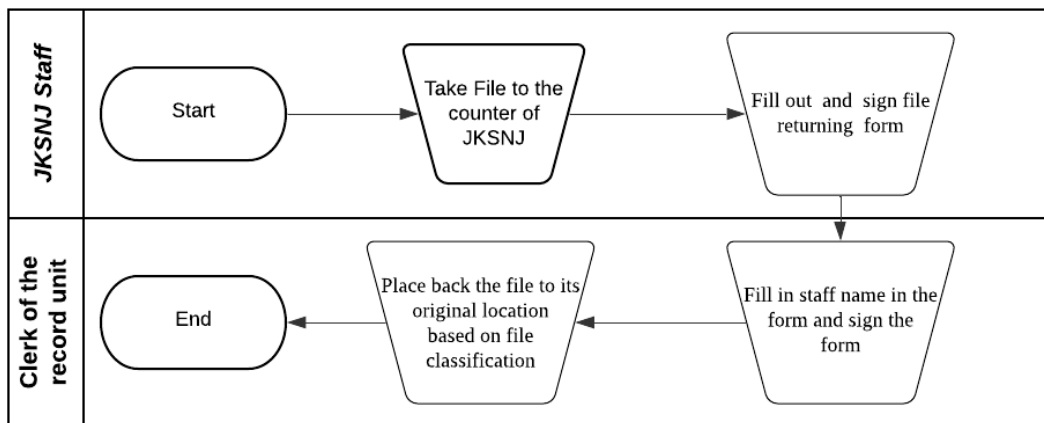


Figure 3.4: Swimlane Diagram of Handle the Return File procedure (AS-IS)

3.4.2. Related Documents

File Returning Form

3.4.3. Issues in current process

- a) The file returning form may be damaged or lost since the form is stored as physically and manually.
- b) The officer might have misplaced the returned file at the not correct position.

3.4.4. Improvement Suggestions

- a) The file returning form can make it as E-form and keep it in a centralized database.
- b) A computerized automated system should include a file tracking function to let the clerk easily locate the returned files location

3.5.Handle the Dispose File procedure

In this process, three actors will be involved. They are clerk of the record unit, Syariah Assistant Officer and Arkib Negara Malaysia (ANM).

The process starts when the clerk of the record unit separates the file based on file types. Then, the clerk determines the storage time of the files, if the file exceeds the maximum storage or the file is damaged, it will be included in the file list to be disposed of. If the files list to be disposed of is completed, the file list is sent to Syariah Assistant Officer (SAO). SAO measures the file size in metre. If the file type stated in Jadual Pelupusan Rekod (JPR), clerk fill in archive form 5/08, if not clerk fill in archive form 2/08. Then, SAO send file disposal application form to ANM. Then, ANM approves the file disposal. The clerk keeps the important documents from the files to be disposed of and update the disposal status file. Then, the clerk approves to destroy the file. If not, the files are migrated to ANM.

This process ends here.

3.5.1. Swimlane Model

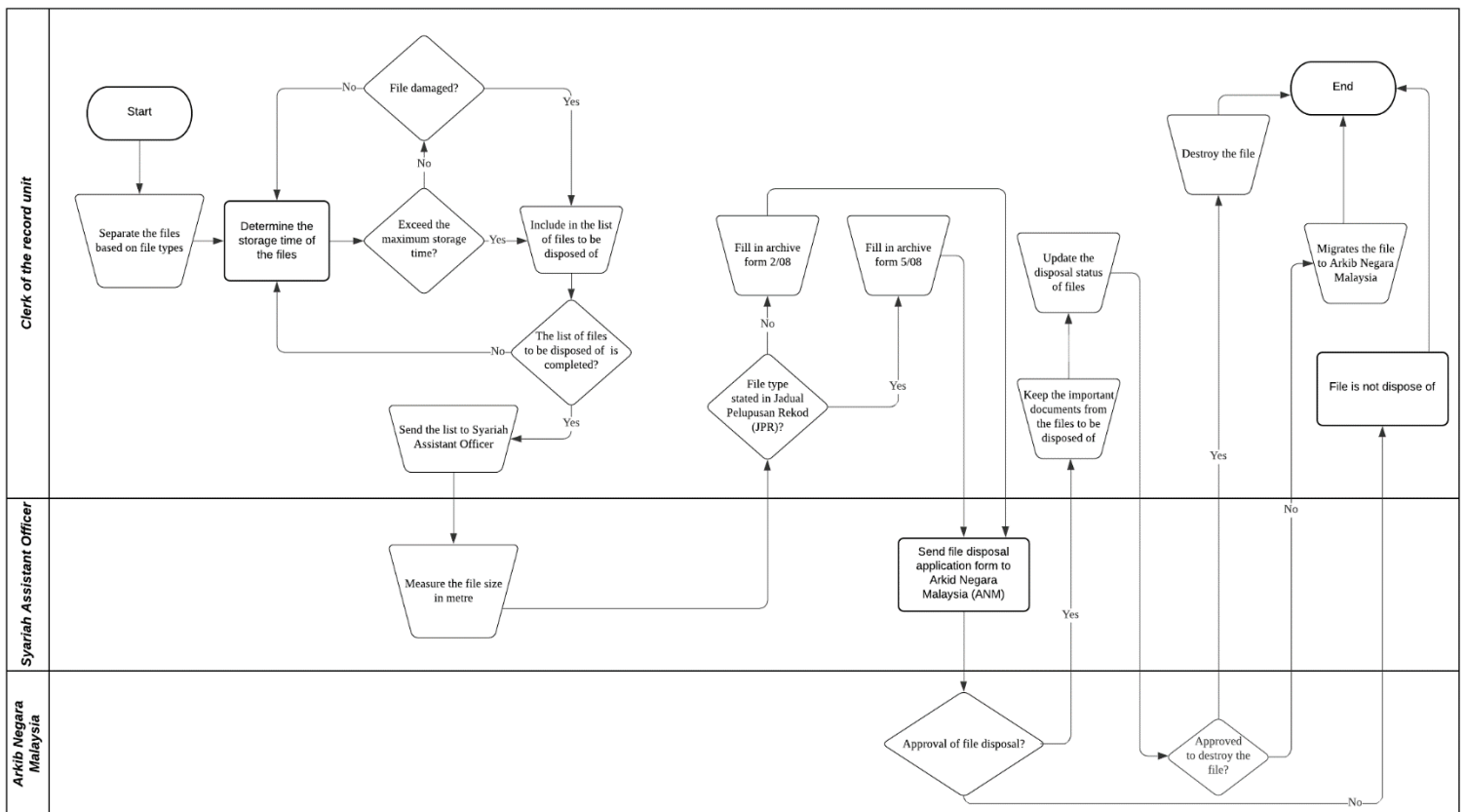


Figure 3.5: Swimlane Diagram of Handle the Dispose File procedure (AS-IS)

3.5.2. Related Documents

- a) Archive Form 5/08
- b) Archive Form 2/08ada

3.5.3. Issues in current process

- a) The archive form may be damaged or lost since the form is store physically and manually.
- b) The process of getting approval from Arkib Negara Malaysia is manual process, which is time cosuming.

3.5.4. Improvement Suggestions

- a) The archive form can make it as E-form and keep it in a centralized database.
- b) A computerized system should include to minimize the time for getting approval from Arkib Negara Malaysia.

3.6. Monitor file access

This process involves 3 actors who are the clerks of record unit, JKSNJ staff and Syariah Assistant Officer. The process starts when the clerk of the record unit checks the file access records. If there is any late return or missing file, then the clerk will ask the last borrower of the file. If the file is lost, then they will report to Syariah Assistant Officer who will then report to Arkib Negara Malaysia. If the file is not lost, then the last borrower will initiate the return file procedure.

3.6.1. Swimlane Model

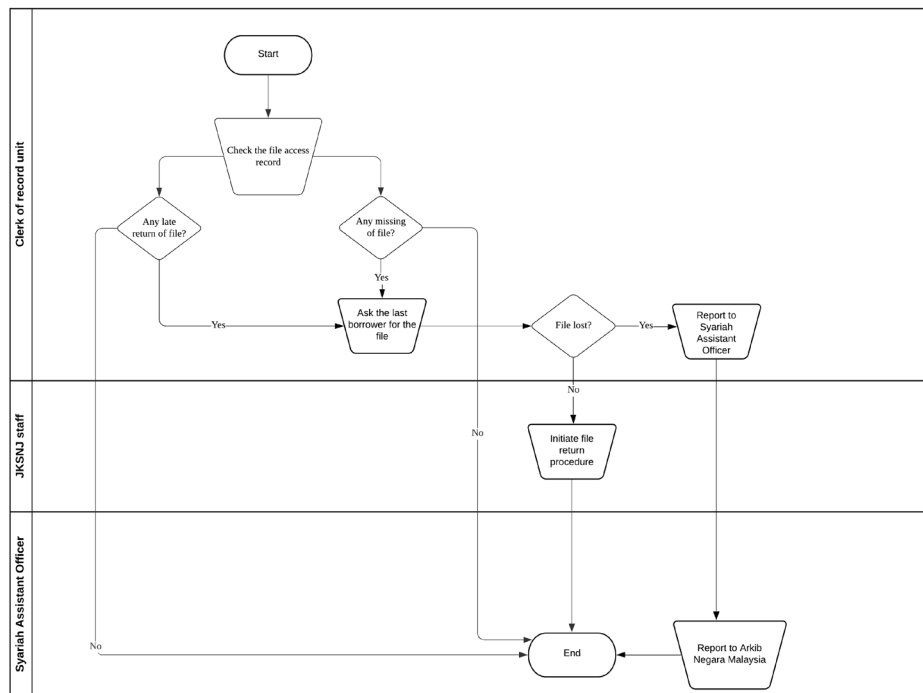


Figure 3.6: Swimlane Diagram of Monitor file access (AS-IS)

3.6.2. Related Documents

- a) Kad Pergerakan Fail
- b) File

3.6.3. Issues in current process

- a) The clerks of record unit have to check each of the kad pergerakan fail manually.

3.6.4. Improvement Suggestions

- a) There should be an online tracking system that will display a list of the late return of files and missing files along with the details of the last borrower.

4. PROPOSED (TO-BE) PROCESS

4.1. Handle the Open File procedure

In this process, there will be 2 actors that will be involved which are Mipanzu system and Clerk of the record unit. Firstly, the process will start when the clerk of the record unit will receive the letter. Then, they will key in the classification code of the letter online and try to find the file information in the file database. The system will check whether the file exists or not. If the file does not exist, the clerk of the record unit needs to identify first the security level of the file. After that, they can open the new file documents. At the same time, the new file will be registered in the Mipanzu system. Mipanzu system then will update all the file information and letter of the file before storing it into the file information database system. Finally, the clerk of the record unit can key in all the kertas minit and kad pergerakan fail online and store all the information into the file record database. Last but not least, all files will be stored by the clerk of the record unit in an appropriate location according to the files' type and security level.

However, if the file exists, the system after that needs to check whether the letter exists or not. If the letter exists then the process will end meanwhile if the letter does not exist then it will follow all the process after the system registers a new file.

4.1.1. Swimlane Model

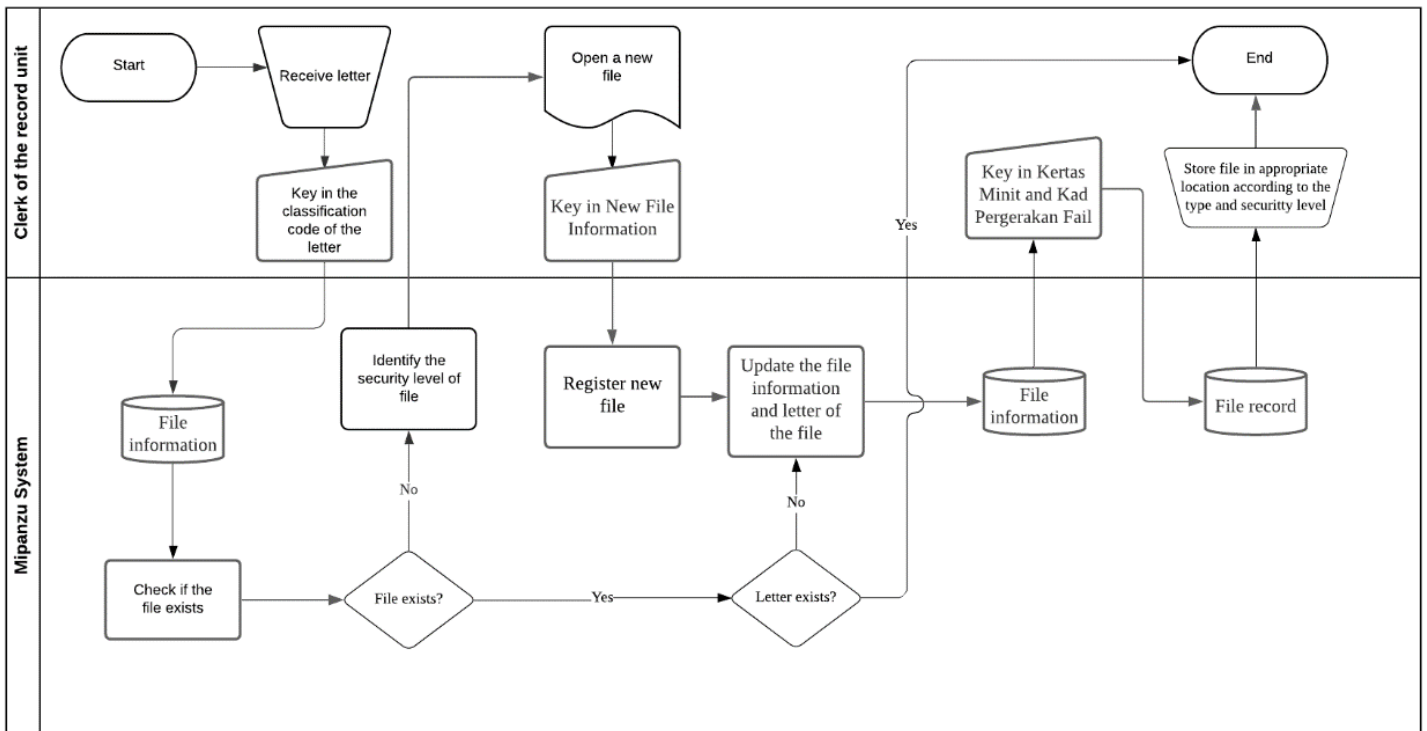


Figure 4.1: Swimlane Diagram of Handle the Open File procedure (TO-BE)

4.1.2. Business Rules

- The Mipanzu system will only display the information about the topic of the file and the file location without displaying the file contents.
- All the information in the system is highly protected and secured therefore cannot be share to other people.
- The information of the file need to be same both in the real life and in the system.

4.2.Handle the Close File procedure

In this process, there also will be 2 actors involved which are the clerk of the record unit and Mipanzu system. Firstly, the clerk of the record unit will check the file status either the thickness of the file has achieved 4 sm or the file has achieved 100 attachments. If the thickness of file is still less than 4sm and the file still has fewer than 100 attachments, the clerk of the record unit needs to continue checking the file status until it fulfills the condition. After the file has fulfilled the condition, the file will be cross marked with the closing date stated. Then, the clerk needs to open a new file. At the same time, the system also will register the new file and will update the file information into the file information database. Next, after finishing updating the file, the clerk can attach the new file into the back of the old file. After that, the clerk will check whether the file is no longer in use or not. If the file is still being used by the staff of JKSNJ then the clerk will do the iteration and check the file status back. Meanwhile, if the file is no longer used, the clerk will separate the unused file from the active file, arrange it neatly into the box that contains the inactive file and paste the box with the list of inactive files. The Mipanzu System then will delete the inactive file information from the file information database. Finally, the clerk will initiate the file disposal procedure before the process ends.

4.2.1. Swimlane Model

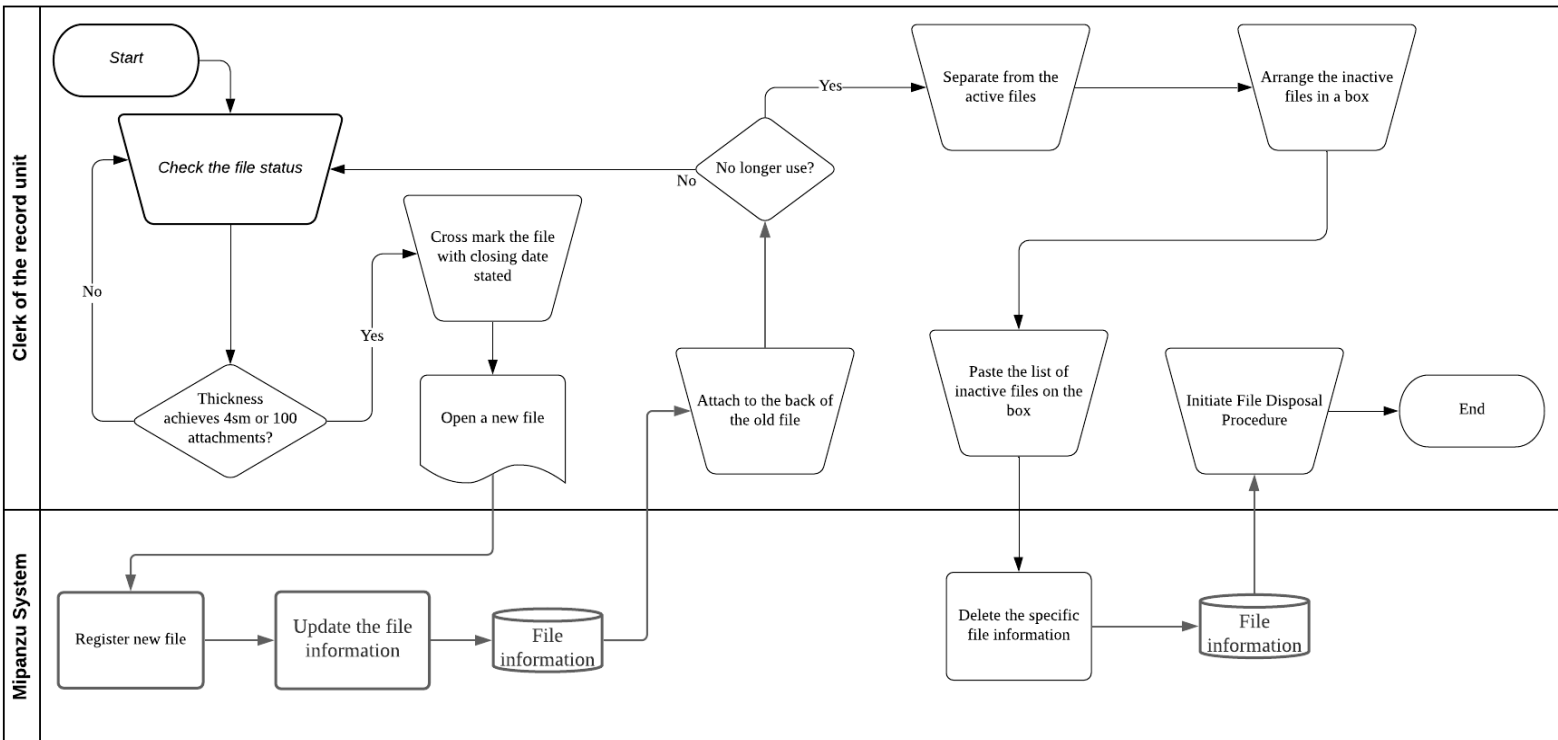


Figure 4.2: Swimlane Diagram of Handle the Close File procedure (TO-BE)

4.2.2. Business Rules

- All the data that is disposed from the system need to be completely deleted from the system.
- The file name and id need to be unique and different from each other.

4.3.Handle the Borrow File procedure

In this process, there will be 3 actors involved which are the clerk of the record unit, Administration staff and Mipanzu system. Firstly, the administration staff will request to borrow the file online. The Mipanzu System then will check whether the staff have the privilege to access the file or not by referring to the staff information database. If the staff does not have any privilege to borrow the file, the system will reject the borrowed file request and display file is failed to borrow before the process ends. Otherwise, if the staff has privilege, the system then will accept the borrowed file request from the staff and check the availability of the file from the file information database. If the file is not available, the system will also display “the file is failed to borrow” and end the process. Meanwhile, if the system detects the file is available then the clerk of the record unit will give the requested file and will key in the kad pergerakan fail before storing the information into the file record database online. Lastly, the administration staff will get the requested file documents before the process ends.

4.3.1. Swimlane Model

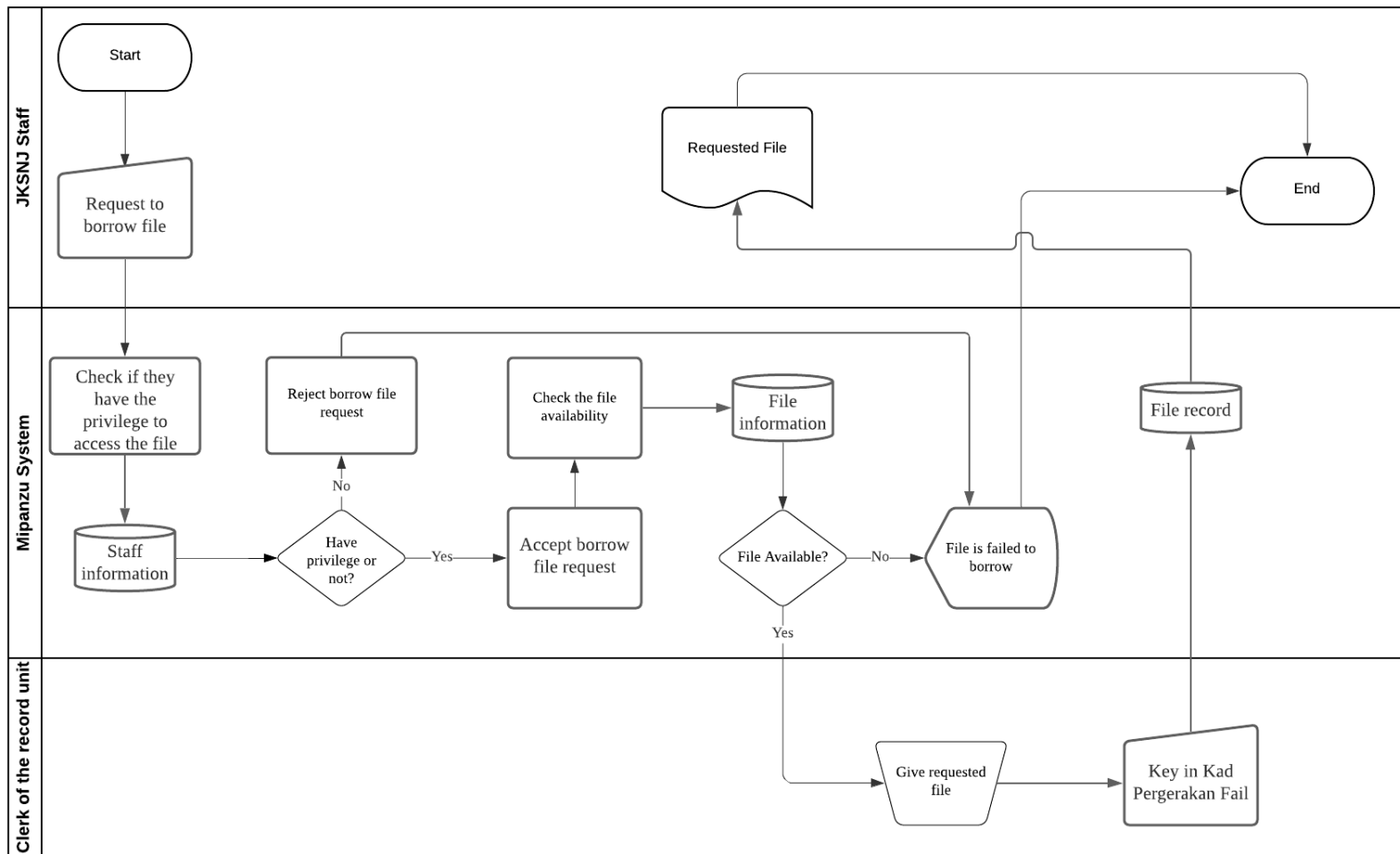


Figure 4.3: Swimlane Diagram of Handle the Borrow File procedure (TO-BE)

4.3.2. Business Rules

- The staff need to key in their username and password before login into the system so that the system can know the details about the staff information.
- Administration staff need an internet connection in order to request to borrow the file.
- The user that failed to return the file that they borrowed cannot make another request in order to borrow the file.
- The system will store all the information regarding the staff that borrowed the file which include the staff name and location.
- The user can only borrow one file from one request therefore if the user wants to borrow another file they need to make another request.

4.4. Handle the Return File procedure

For the return file, there will be 3 actors involved which are JKSNJ staff, clerks of the record unit and Mipanzu System. The JKSNJ staff first will take the file to the counter of JKSNJ. Then, the clerks of the record unit will fill in the staff name in the fom and will sign the form online to show that the staff has returned the file. The clerks also will place back the file into its original location based on the file classification. The Mipanzu system at the same time will update the file record in the file record database before the process ends.

4.4.1. Swimlane Model

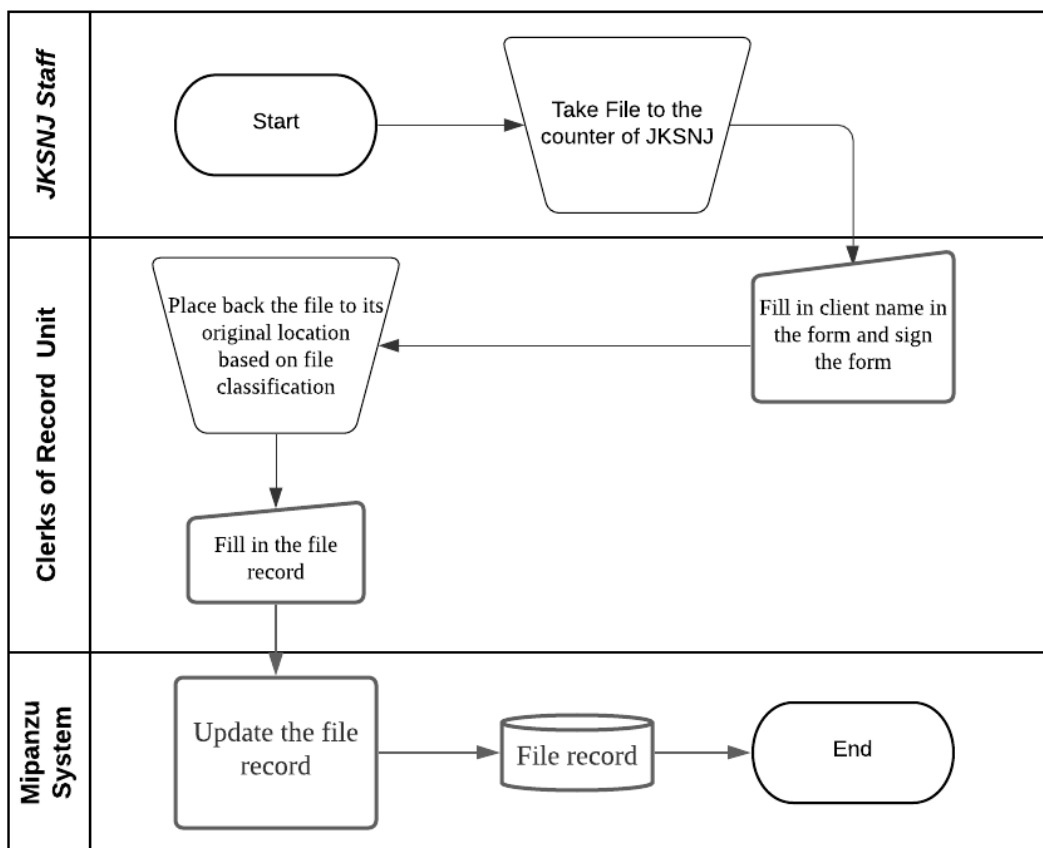


Figure 4.4: Swimlane Diagram of Handle the Return File procedure (TO-BE)

4.4.2. Business Rules

- All the files need to be returned after a period of time agreed by the JKSNJ staff and clerks of the record unit.
- JKSNJ staff can only return the file only on the working day.

4.5.Handle the Dispose of File procedure

For the disposal of file, there will be 4 actors involved which are Clerks of the record unit, Syariah Assistant Officer, Mipanzu System and Arkib Negara Malaysia. Firstly, clerks of the record unit will separate the files based on file types. Then, Mipanzu system will determine the storage time of the files. If it exceeds the maximum storage time or the file is damaged, clerks of the record unit will include in the list of files to be disposed of, then the system will update the list of files to be disposed of and store in file record database, then if the list is completed, the system will send the list towards the Syariah Assistant Officer. However, if the file is not damaged and does not exceed the maximum storage time, the Clerk of the record unit then will start over from determine the storage time of the files. Other than that, if the list of files to be disposed also is not completed the system will also send the file to start over from determine the storage time of the files. The Syariah Assistant Officer then will measure the file size in metre. After that, the system will check whether the file type is stated or not in Jadual Pelupusan Rekod (JPR). If the file is stated, the clerk of the record unit need to fill in the file into the archive form 5/08 and if the file is not stated, the clerk need to fill in the file into archive form 2/08. Next, the system will send the file disposal application form to Arkib Negara Malaysia (ANM). Arkib Negara Malaysia needs to approve the file disposal as if they do not approve the file disposal, the file will not dispose and the process will end. So, if the file is approved by ANM, the clerk of the record unit will keep the important documents from the files to be disposed of. The system then will update the disposal status of files in the file record database. Lastly, the clerk of the record unit needs to approve in order to destroy the file. This is because if they do not give approval to destroy the file, the file then will be migrates to the Arkib Negara Malaysia.

4.5.1. Swimlane Model

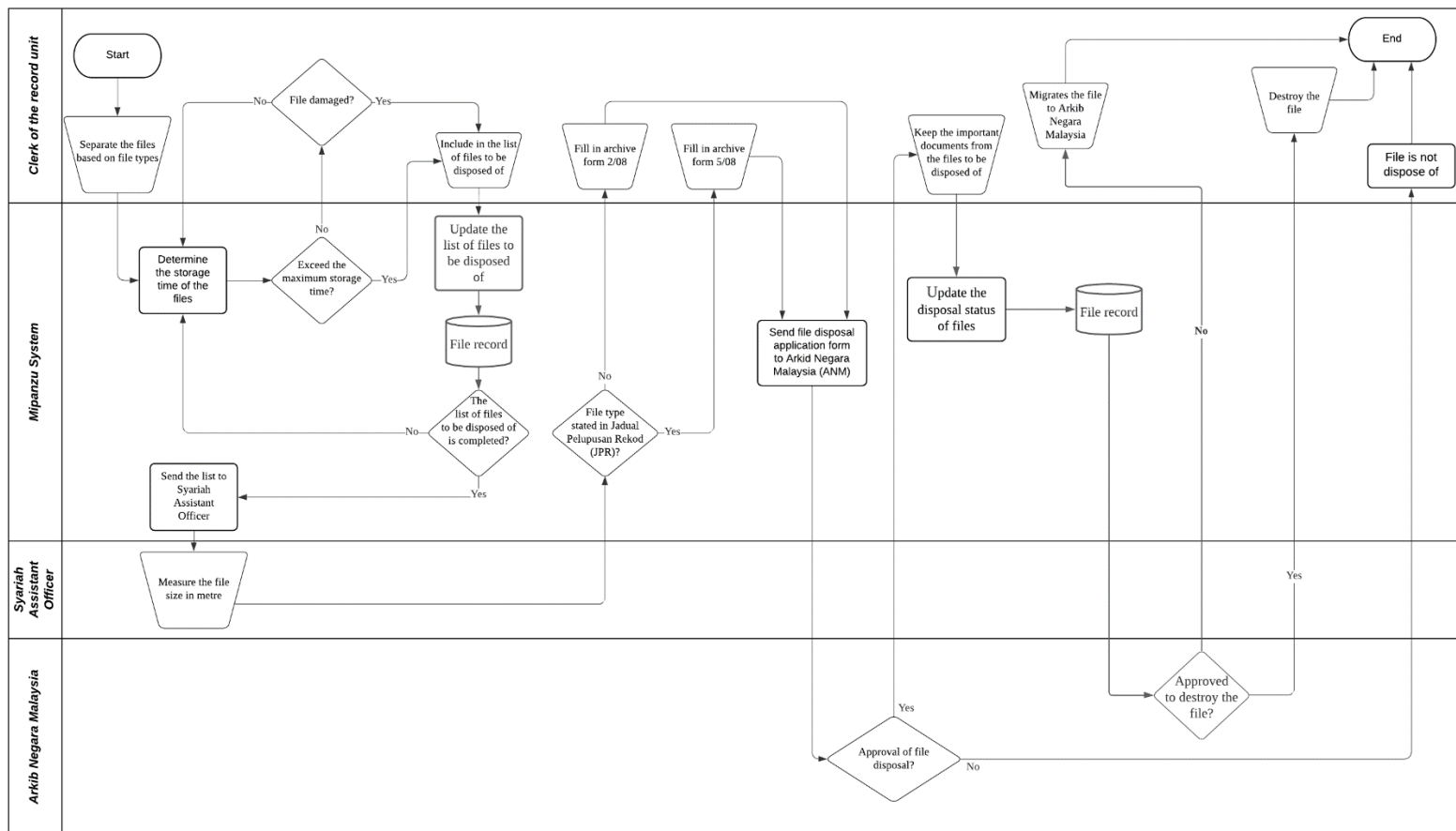


Figure 4.5: Swimlane Diagram of Handle the Dispose of File procedure (TO-BE)

4.5.2. Business Rules

- a) Disposal of file can only be done if it gets the approval of ANM.
- b) The process of file destroying need the approval from CRU and CRU need to witness the process being done.

4.6. Monitor the File access

For monitor the file access, there are four actors involve which are the Clerk of the record unit, Mipanzu System, JKSNJ staff and Syariah Assistant Officer. Firstly, the clerk of the record unit will inspect the file access record in the Mipanzu System. Then, the Mipanzu system will check the file access record in the file record database. If there are any missing files or any late return of files, the system will automatically notify the borrower in order to return the file. The JKSNJ staff then need to make sure that the file is not lost. If the file is not lost, then the system will initiate the return procedure. Next, the JKSNJ staff need to return the file and the process will end. However, if the file is lost, the system then will report the missing file toward the Syariah Assistant Officer. Lastly, the Syariah Assistant Officer will report it towards Arkib Negara Malaysia and then the process will end.

4.6.1. Swimlane Model

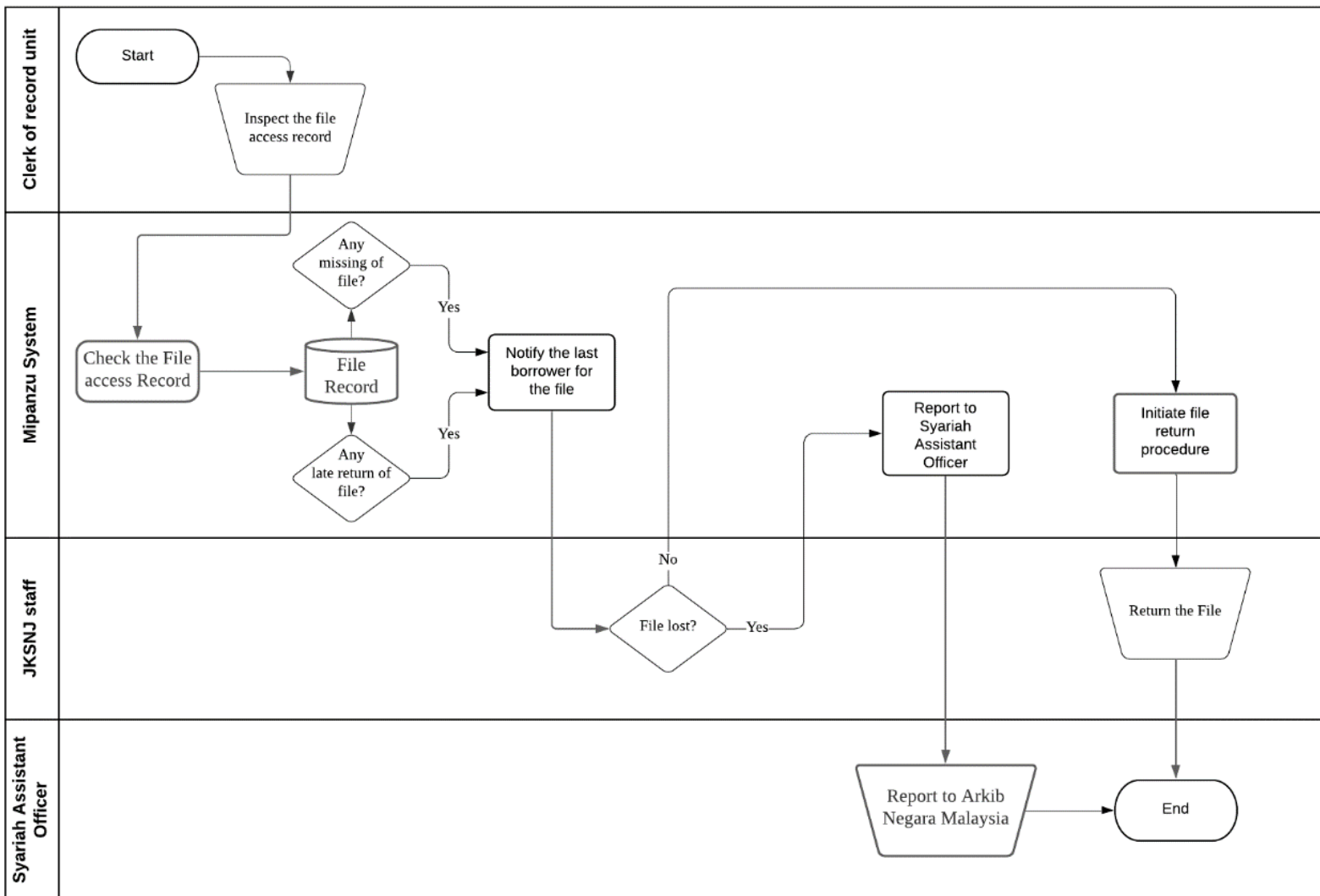


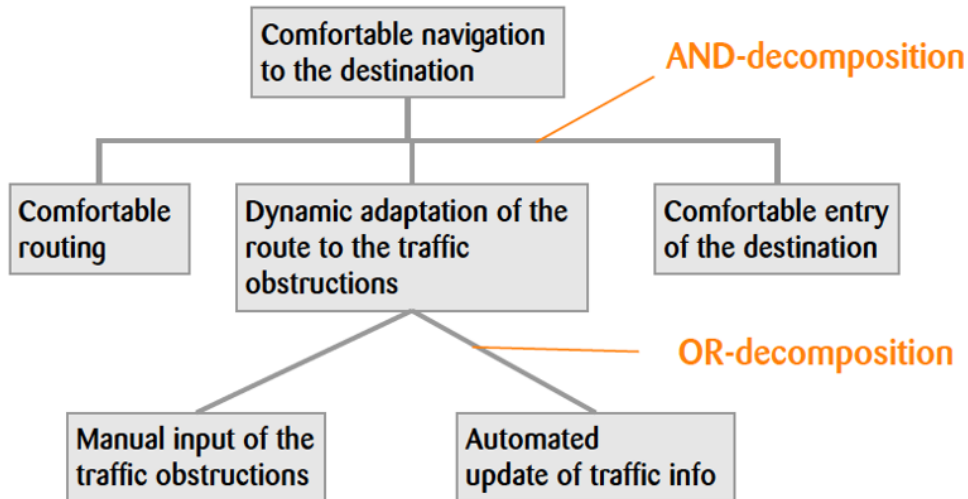
Figure 4.6: Swimlane Diagram of Monitor the File access (TO-BE)

4.6.2. Business Rules

- a) Any file lost must report to SAO in order for SAO to make a report to ANM.
- b) CRU can inspect the file access record 24/7.

5. APPENDICES

Notation of goal models



Symbol	Meaning	Symbol	Meaning
	Input/output		Manual operation
	Paper document		Magnetic tape
	Online display		Direct access storage device
	Online input		Flowline
	Punched card		Telecommunications link
	Process		Predefined process
	Terminal		Decision

CAKNA PENGURUSAN REKOD SIRI 1

