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# Design Requirements on Web-Based Ancestry Platform for Islamic Family Inheritance in Malaysia

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**ABSTRACT**

The Islamic inheritance system is typically explained through the concepts of *wasiat* (will), *hibah*, and *faraid*. In Islam, there is no limit on transferring property during a person's lifetime, but the distribution of inheritance upon death is subject to the rules of *faraid* and will. The delay in claiming inheritance rights for many Muslim families can lead to the accumulation of unclaimed estates and frozen assets that cannot be distributed to eligible heirs. This study aims to identify the challenges and issues with the traditional methods of inheritance distribution and propose improvements for the existing Ancestry Platform for Islamic Family Inheritance in Malaysia This study was designed as a qualitative approach that consists of five stages, which are Planning, Research Design, Data Collection, Data Analysis, and Documentation. This research has adopted Technology-Organization-Environment (TOE) Framework as part of the research scope and semi-structured interviews were conducted with the representatives from the Selangor Islamic Religious Council (MAIS) to identify the root cause of the inheritance distribution problem. The data collected was analysed using the Content Analysis method. This paper will propose the inclusion of documentation collections and family tree features as elements of the Ancestry Platform. These improvements could be useful for future developers or institutions looking to implement the platform.

## 1. Introduction

Malaysia has become one of the world's developing countries that aspire to be a high-income country, thus effective procedures for managing billions of Ringgit assets must be developed. Ibrahim Lembut [1] stated that the Malaysian *Syariah* Judiciary Department is searching for a solution to the issue of frozen assets and how to avoid it in the future. Muslims' money is a valuable resource that may be used for development, and it should be used to further Islam's glory in the twenty-first century [2]. This asset has the potential to provide revenue for the Malaysian Muslim population's

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development. If the asset is not developed, Muslims will suffer because the property worth billions of dollars may be used to drive the economy and reduce the problem of poverty in Malaysia. Therefore, it is crucial to figure out the causes of the insufficiency and delay in the distribution of estate left by the deceased in order to formulate a technological solution [3].

This phenomenon is caused by a number of variables, including; family disputes, legitimate heirs cannot be found and heirs do not know the property. Also, if the distribution of wealth is not done properly, this can result in family disputes and an increase in the number of unsettled or unclaimed properties. Family discord has increased as a result of a lack of understanding regarding inheritance and financial allocation [4]. This problem should not have occurred in this day because the technology was designed to solve any difficulties that may arise.

Hence, this paper discusses the issues and challenges in managing and distributing inheritance in Malaysia to find a practical alternative solution to the problem. However, this paper will only focus on explaining the most prominent issues and challenges faced by the Selangor Islamic Religious Council (MAIS) staff and will focus on proposing design requirements to develop technological solutions to that exact problem.

### *1.1 Problem Statement*

The growth of digital technologies has created an increasing desire for people to not only to learn about others, but to learn about themselves. The Western approach to getting to know their ancestors are through the use of genealogy platform, such as myheritage.com, familysearch.org, geni.com, genealogy.com, and more, by searching over 4 billion historical records for documents, images, articles, letters, and other items. The platforms are also able to generate a “Family Tree” to give their users a bird-eye view of their family connection.

Compared to the Islamic approach in Malaysia, family relationships are relying more on documents kept by family members and government agencies such as the National Registration Department (JPN). By those existing records, they will build their own family tree which is most of the time are incomplete or inaccurate. While genealogical platforms utilized in the Western approach can address some of the challenges faced by the Islamic community in developing their own family tree, there are still some obstacles that are unique to the Islamic community that needs to be addressed. These include the need to ensure accurate and complete records of family relationships, ensuring that the distribution of assets complies with Islamic inheritance law, and determining the amount/percentage of inheritance received by each heir.

To support the problem statement, a preliminary review of online journal articles was conducted to identify several issues with the current approach that have been highlighted by various authors in their papers. One common problem that was noted is the lack of complete or adequate documentation during the *faraid* process. This happens because the documents are either forgotten, lost, or misplaced or the process to retrieve from JPN is difficult and very time-consuming. A rather critical situation is when the heir does not know their own family members or the date of death of another heir. According to Md Yazid Ahmad *et al.,* [5], inheritance distribution issues can arise due to various factors such as forgetting the marriage history of the deceased, uncertainty about their death dates, not being aware of other potential heirs, and lack of evidence of the deceased's presumed death. The issues with the current approach of inheritance distribution for Muslim families have been widely recognized by scholars and practitioners, leading to a need for a better system to manage and organize the necessary information and documents for the inheritance process. The lack of complete or adequate documentation during the *faraid* process can result in confusion, disputes, and delays in the inheritance process.

This highlights the importance of having a system that can provide clear, accurate, and up-to-date information on the heirs, their relationship to the deceased, and the distribution of assets according to Islamic inheritance law.

### *1.2 Concept of Islamic Inheritance System in Malaysia*

i. ***Wasiat*** refers to a will that outlines a person's wishes for the distribution of their property after their death. This document is considered a crucial aspect of Islamic inheritance law, as it provides guidance for the distribution of assets according to the individual's wishes and ensures that the inheritance process is carried out fairly and efficiently.
ii. ***Hibah*** refers to a gift that is given during a person's lifetime. This type of gift is not subject to the Islamic inheritance laws, as the intention behind the gift is not to pass on wealth to heirs, but rather to benefit the recipient during their lifetime.
iii. ***Faraid*** refers to the Islamic laws and guidelines that govern the distribution of assets upon death. These laws are based on the principles of fairness, justice, and equality, and ensure that the distribution of assets is carried out according to the principles of the Islamic faith.
iv. These concepts are particularly relevant within the Islamic inheritance system, as they provide guidance for individuals on how to distribute their assets in a way that is consistent with their beliefs. By understanding these concepts and how they interact with one another, individuals can ensure that their estate is distributed according to their wishes and in accordance with Islamic law.

### *1.3 Concept of Ancestry Platform*
#### *1.3.1 Western perspectives*

Peng Jiang *et al.,* [6] address genealogical investigation, which is the study of family history utilising existing resources such as historical documents. Ancestry Platform from Western offers its users one of the world's largest online genealogy indexes, with billions of records from a variety of sources, including important documents like birth and death certificates, immigration records, court and divorce records, and many more. Ancestry Platform searches seek to retrieve relevant records from numerous record formats, allowing users to create family trees, explore their family history, and make significant discoveries about their ancestors from various viewpoints.

In research from Price *et al.,* [7], U.S. researchers have solved the problem of access to data, which allows researchers to observe people at different points in their lives or across generations by obtaining the limited consumption data with information on Social Security numbers that allow them, for example, tax records to be linked across generations or to education histories [8,9]. This innovative work is restricted to information from the past few decades, a Social Security numbers do not exist in many data set. Another approach is to utilise name-matching technologies to connect people across censuses and other older data sets, such as military recruitment records [10].

#### *1.3.2 Islamic perspectives*

In Muslim civilizations, genealogy has long been recognised as one of the most fundamental and authoritative organising concepts. Genealogical expressions have taken various shapes throughout history and served essential purposes in Muslim society, particularly when it comes to inheritance distribution. According to the e-Faraid MAIS Blog [11], inheritance division and management must follow specific procedures and guidelines set forth by both legislation and *Syariah* law. As stated in

the Qur'an, Allah SWT has provided detailed instructions on the distribution of inheritance, including the specific portions assigned to each heir and their position in receiving the deceased's inheritance.

The Ancestry Platform can assist in recognising each heir's rights to the deceased's inheritance and providing adequate room for those who are related to the deceased by blood or marriage to inherit the inheritance. This method also protects each heir's share by setting a certain rate and restricting the bequest rate to only one-third of the deceased's assets, preventing the deceased from leaving his heirs in poverty.

### *1.4* Scope

#### *1.4.1 The technology-organization-environment (TOE) framework as a research basis*

TOE Framework by Tornatzky and Fleischer's is a useful tool for analysing the Islamic inheritance system in order to identify the challenges and opportunities that exist within the current system implementation. The TOE Framework is comprised of three key components, which are:

i. **Technology:** which refers to the tools and resources that are used to manage the Islamic inheritance system. This can include software programs, databases, and other technological infrastructure that is used to manage and distribute assets according to Islamic law.
ii. **Organization:** which refers to the social and institutional structures that are used to implement and enforce the Islamic inheritance system. This can include religious organizations, legal institutions, and other social and cultural structures that are involved in the management of the inheritance system.
iii. **Environment:** which refers to the external factors that impact the Islamic inheritance system, such as economic conditions, demographic changes, and political developments. This can include factors such as changes in population density, shifts in economic activity, and changes in social and cultural values.

By examining each of these components and how they interact with one another, it is possible to gain a deeper understanding of the challenges and opportunities that exist within the Islamic inheritance system. This can help to identify areas for improvement and inform the development of new technologies, policies, and strategies for managing the Islamic inheritance system in a way that is consistent with Islamic law.

#### *1.4.2 Participants for the interview*

To determine the ideal respondent, the researcher focuses on the objective of the study and the target audience should have direct involvement with the subject the researcher is asking questions about. The inclusion and exclusion criteria listed in Table 1 were used.

**Table 1**
Inclusion-Exclusion Criteria (interview session)

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| Staff from Selangor Islamic Religious Council (MAIS) | Not a staff from Selangor Islamic Religious Council (MAIS) |
| Have at least 2 years of experience in their fields | Have less than 2 years' experience in their fields |
| MAIS's staff from the Shah Alam branch | MAIS's staff from other branches |

### *1.4.3 Selection of literature review*

To guarantee that only quality-evaluated literature reviews were included, a set of inclusion and exclusion criteria based on analytic needs and the quality of the retrieved publications were devised. Article research found using the search technique would be chosen if it met all of the predefined inclusion criteria and if it fulfilled any of the pre-set exclusion criteria, it was rejected. The inclusion and exclusion criteria listed in Table 2 were used.

**Table 2**
Inclusion-Exclusion Criteria (journal articles)

| Inclusion Criteria | Exclusion Criteria |
|---|---|
| The abstract or title has to clearly state that the article is related to the design, inheritance and/or ancestry platform | The paper does not state any words related to design, inheritance and/or ancestry platform |
| The paper is peer-reviewed (journal article, conference paper) | Any gray publication without peer-review, e.g., a technical report |

### *1.4.4 MAIS existing system*

The researcher will focus on the features of the e-Faraid system from MAIS as a basis for research. That system will also be a system that is proposed to be improved based on the findings of this study.

### *1.5 Summary Reviewing Existing or Similar Applications*

From Table 3, it shows that the proposed Ancestry Platform will make Ancestry.com website as a reference, as the application are cover the most elements compared to the other reviewed application.

**Table 3**
Functional requirements and apps origin of existing or similar application

| Applications | Search for Ancestors | Generate Family Tree | Compile Documents | Inheritance Distribution Percentage | Apps Origin |
|---|---|---|---|---|---|
| FamilySearch Website | / | | | | USA |
| Ancestry.com | / | / | / | | Lehi, UK |
| MyHeritage.com | / | / | / | | U.S |
| e-Faraid MAIS | | / | | / | Malaysia |

Overall, the uniqueness shown by e-Faraid MAIS compared to the other existing application is an additional inheritance distribution calculation feature. Below are the elements for each of the existing applications:

i. **FamilySearch Website** [12] is mainly to search for ancestors. Users need to enter the name of the person that they want to find and FamilySearch will find possible matches. Other support services provided by FamilySearch include instructions for completing genealogy research, forums where users may ask other users questions, and a "wiki".
ii. **Ancestry.com** [13] is a complete set of genealogical searches because it is capable of combining billions of rich historical documents, millions of family trees, and millions of

people's samples using their other product called AncestryDNA® to help their users discover unique histories and gain insights.

iii. **MyHeritage.com** [14] can assist the user in creating a genealogy-focused personal website Users may create family trees, upload historical materials as proof of their ancestry, and share their efforts with their other relatives and friends. Users may also search many of MyHeritage's historical record databases, including the world's biggest historical newspaper collection.

iv. **e-Faraid MAIS** [15] is focused on simplifying the process of dividing inheritance for Muslim families because users are able to set the division of property while they are still alive and calculate the share for each heir after the owner of the property is dead. It also has features called K-Faraid MAIS that aim to educate the community to understand the method of calculating and dividing inheritance according to *faraid*. Users who want to use K-Faraid MAIS only need to enter the names of the deceased's heirs through the heirs' list or chart before entering the total value of the estate left by the deceased.

From Table 4, it shows that the proposed solution will make Ancestry.com website and MyHeritage.com as the references, as the applications are cover the most elements compared to the other reviewed application.

**Table 4**
Comparison of existing application by using the end-user satisfaction model

| Applications | Content | Accuracy | Format | Ease of Use | Timeliness |
|---|---|---|---|---|---|
| FamilySearch Website | / | | | | |
| Ancestry.com | / | / | / | / | / |
| MyHeritage.com | / | / | / | / | / |
| e-Faraid MAIS | / | / | / | | / |

In order to evaluate each existing or similar platforms, questions from the End-User Satisfaction Model of information system are being used (refer Figure 1 below).

FamilySearch Website only satisfies content criteria within the end-user satisfaction models, due to certain deficiency, which are it does not convince users about the accuracy of the information generated by the website, the information provided is not clear and can raise suspicion about the truth of the information, the website does not guide users on how to use their website as it does not give clear navigation in order for the user to achieve their goals when entering the website and lastly, there is no clear date on when the information is being updated.

While, e-Faraid MAIS does not meet the Ease-of-Use criteria because the family tree generated from this application is not responsive when the user has a large family. The generated family tree will be cropped because it does not resize the family tree as the family grows. Also, it does not provide users with an instruction of use for each component in the application.

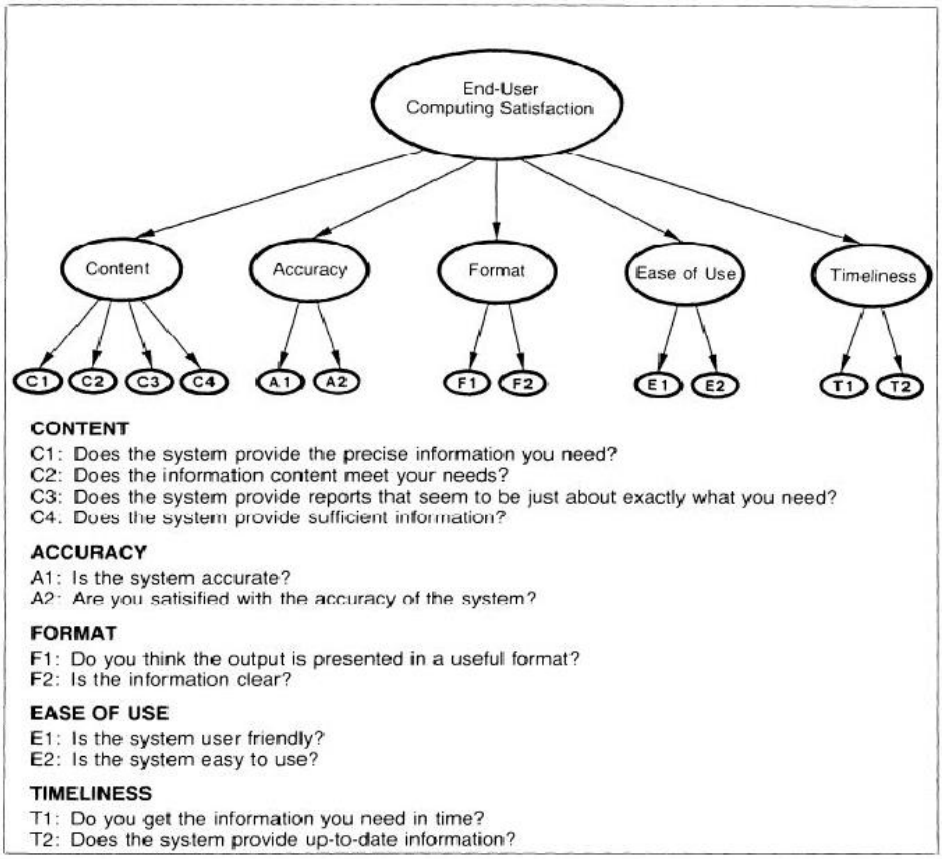


**Fig. 1.** The end-user satisfaction model of information system with an explanation [16]

## 2. Methodology

The objective of the research is to collect the design requirements in order to develop an Ancestry Platform for Islamic Family Inheritance in Malaysia, which adopts the qualitative research approach to examine. Several methods will be employed in this research to collect the problems encountered by MAIS and to identify an improvement in reducing the delay in inheritance distribution. Table 5 presents the overall research design overview.

**Table 5**
Research design method

| Research Questions | Research Objectives | Methods | Deliverable |
|---|---|---|---|
| What are the issues and challenges of using the current traditional way of inheritance distribution? | To identify the issues and challenges of using traditional way of inheritance distribution. | Interview with experts (MAIS). | Collect problems faced by MAIS. |
| What are the design requirements in improvising the existing Islamic Family Inheritance in Malaysia? | To propose the design requirements in improvising the existing Islamic Family Inheritance in Malaysia. | Literature Review. | Proposed the design requirements for Islamic Family Inheritance in Malaysia by using collected design requirements found. |

This research adopted the research process from Polit and Beck [17]. The research process is separated into five stages that will help in fulfilling the research questions and objectives, as shown in Figure 2 below.

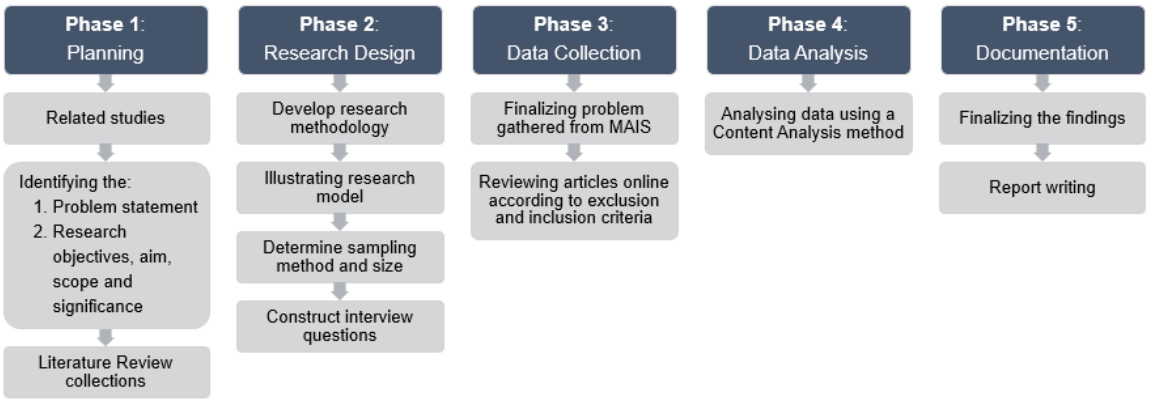


**Fig. 2.** Research Methodology

### *2.1 Phase 1: Planning*

The initial stage of this research includes three exercises for defining the research problem, which is a review of previous ancestry platform explorations, the adoption of an inheritance distribution system, and identifying the problem statement, research questions, objectives, aim, scope, and impediments, as well as the significance of the research.

### *2.2 Phase 2: Research Design*

This stage comprises a strategy for answering the research questions and achieving the research objectives.

#### *2.2.1 Data sample*

This research was conducted using two types of research instruments: interviews and a literature review. To avoid any overloaded data, the researcher interviewed three representatives from Selangor Islamic Religious Council (MAIS) as the study's target participants since the samples that have been selected must have the characteristics of the population to be studied so that the information obtained through the study can provide a statement or a general picture of the entire population being studied [18]. The participants are divided into three mental models, which are:

i. **Director (P1)**: The individual who holds the position of Baitulmal Director at MAIS Shah Alam has over 13 years of experience, making him one of the pioneers in the organization.
ii. **Executive Technical (P2)**: The individual who holds the position of technical staff at MAIS Shah Alam has over 13 years of experience in his field.
iii. **Investigative Executive (P3)** (Malay: *Eksekutif Siasatan*): The person who has been working since 2005, in charge of the *faraid* process at MAIS Shah Alam and responsible for ensuring the accuracy of the evidence and documents presented by heirs before the next steps can be taken.

### *2.3 Phase 3: Data Collection*

The primary data collection was conducted using semi-structured face-to-face interviews with the representatives from the Selangor Islamic Religious Council (MAIS) to get input on the difficulties

they are experiencing in handling inheritance distribution using traditional systems/ways. The interview questions were adapted and modified from Indeed Website [19], which gave samples of open-ended questions for customer surveys, also with the combination from research articles that are investigating the corporate *waqf* model by Raja Adnan [20]. The adapted and modified questionnaires were facilitated and used within this research context of the study. Online audio recordings will be used during the interview session to capture and collect research raw data. It will transcribe as a whole after gathering the raw data. The interview is divided into four major sections: A, B, C, and D. Section A is for gathering personal information. Section B will compile their main issues. Section C is for them to provide input on an existing MAIS application called e-Faraid. Last but not least, section D is to get their feedback on the solutions they need in order to help them.

Secondly, collecting journal articles on existing ancestry platforms from different perspectives, which are Western perspectives and Islamic perspectives will aid in the creation of design requirements for the Ancestry Platform.

### *2.4 Phase 4: Data Analysis*

The data collected for this study will be analysed using content analysis in order to meet the first objective of this study, which is to provide a list of problems encountered while using the traditional method of inheritance distribution. The process of analysing written, verbal, or visual communication messages is known as content analysis [21]. The qualitative content analysis enabled the researcher to gain a deeper grasp of the participants' experiences and perspectives. Based on Bengtsson [22] as cited in Rahimi and Tafazoli [23], the qualitative data analysis process is divided into four stages: decontextualization, recontextualization, classification, and compilation of all steps in the process.

#### *2.4.1 Content analysis stage 1: decontextualization*

In the first stage of decontextualization, the audio recordings from the interview session were manually recopied into Microsoft Word, and the participants' responses were read and re-read to familiarize themselves with the answers and gain an overall sense. As suggested by Rahimi and Tafazoli [23], the researcher decided to use the rule model as a deductive coding strategy to ensure dependability and reduce cognitive shifts throughout analysis [24].

The data obtained will be coded depending on internal and external characteristics using a Rule Model from Thamrin and Pamungkas [25]. Based on the responses, the internal factors faced by MAIS were classified as strengths, while the negative responses were recorded as weaknesses. The external factors were assessed as opportunities or threats based on their potential impact on MAIS. However, for the purpose of this research, the focus will be on the internal factors, with the objective of finding solutions for MAIS.

**Table 6**
The Rule Model

| | | Score | |
|---|---|---|---|
| Factors | Internal | Positive<br>Strength | Negative<br>Weakness |
| | External | Opportunity | Threat |

### *2.4.2 Content analysis stage 2: recontextualization*

According to Creswell; Lincoln and Guba; Patton, as cited in Rahimi and Tafazoli [23], to recheck the codes and to assess inter-coder reliability and effectiveness, researchers re-read the original data in conjunction with the final codes during the recontextualization stage. Aside from the coloured lines, the researcher's focus is on the unmarked texts to see if the researcher overlooked any meaning units that were not coded. Finally, the researchers analysed the coding to evaluate the similarities and differences and came to a conclusion.

### *2.4.3 Content analysis stage 3: categorization*

The purpose of phase three (3) is to compress the meaning units in order to minimise the number of words while maintaining the meaning [26]. After condensing the units, the researcher classified them into four categories: Strengths, Weaknesses, Opportunities, and Threat. By categorising the text, it helps the researcher to focus on specific phrases or patterns related to the research question. The researcher identified the codes with themes that are concise and immediately convey to the reader what the topic is about. The Content Analysis Table (refer to Table 7) was created to outline the key challenges that MAIS experienced in managing the inheritance distribution process.

**Table 7**
Content Analysis Table

| Score | |
|---|---|
| Strength | Weakness |
| MAIS have their own family tree.<br>Able to show how many percent that the heirs will be getting from the inheritance. | MAIS has to get a court order to collect records from JPN.<br>JPN produces an incomplete Family Tree to MAIS.<br>The religious department is not centralized with JPN.<br>MAIS need to seek help from other agencies to complete their investigation of the deceased's inheritance.<br>MAIS overlooked the heirs.<br>Heirs did not know the genealogy (Malay: *salasilah keluarga*) of their own heirs.<br>MAIS has to investigate manually because of insufficient documents prepared by the clients.<br>Every investigation report produced needs to be printed, stapled, and kept in the rack. |

The codes for difficulties faced by MAIS are placed under a common theme. Because the researcher will use the problem to produce a technical solution by using the Weakness part of the internal factors, as a basis to wrap up the Content Analysis method.

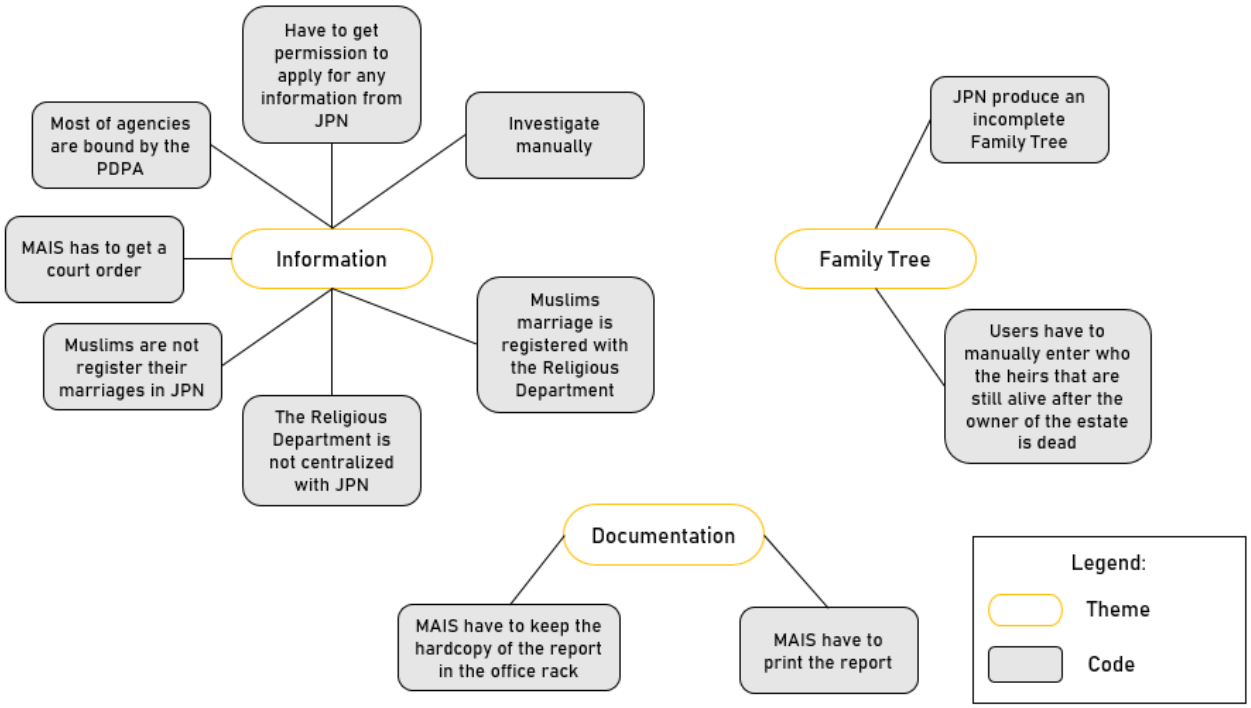


**Fig. 3.** Content Analysis Map representing the problems faced by MAIS

*2.4.4 Content analysis stage 4: compilation*

The report is the final stage of the Content Analysis. In this phase, the researcher will use the themes generated by the Content Analysis Map as a guide to answering research question 2, which is to provide design requirements for the development of an Ancestry Platform to facilitate inheritance distribution for Muslim families in Malaysia.

*2.5 Phase 5: Documentation*

The write-up report will incorporate participant quotes as evidence and examples to offer a comprehensive and detailed understanding of the findings.

## 3. Results and Discussion

*3.1 Interview Results*

This section analyses and give an overview of the questions and answers that were asked to the participants during the interview session by using a question that has been constructed and reviewed for validity with slight modifications [27].

*3.1.1 Section A: Participant's demographic profile*

A participant from the Selangor Islamic Religious Council (MAIS) was involved in the interview session. The researcher interviewed the director and two (2) staff members of Selangor Islamic Religious Council (MAIS) as the study's target participants since the researcher believes they can provide all of MAIS's current issues.

### *3.1.2 Section B: Problems gathering questions*

During the interview, one of the most often mentioned problems by participants was an incomplete family tree generated by the National Registration Department (JPN). Even though JPN can produce a family tree for MAIS, it considers that to be incomplete since Muslim marriage records are kept by state governments rather than by JPN. Furthermore, JPN has been firmly governed by the Personal Data Protection Act 2010 (PDPA) since 2019, making it difficult for MAIS to request a family tree or any documents from JPN without a court letter. Aside from that, most heirs who come to MAIS are unaware of their family members' genealogy, and are unaware that there are other heirs who deserve a portion of the inheritance besides his siblings. For example, the still-living uncle and aunt. After several face-to-face interview sessions, the researcher will explore the problems faced by MAIS in further detail in the Content Analysis section.

### *3.1.3 Section C: Gather feedback from existing application (e-faraid)*

e-Faraid MAIS is a system designed to provide inheritance management services, a *faraid* calculation method, file management, and reporting to the managing officer. As an on-the-go application, it has greatly aided clients and MAIS employees in managing their inheritance process during the last two years since its launch. One enhancement recommended by participants is notification, which would alert MAIS employees whenever a new *faraid* application is received.

### *3.1.4 Section D: UI/UX & features suggestions*

Each application must have its own set of constraints. According to participants, e-Faraid will be a remarkably successful application if it is mobile friendly, has an additional module called *'Modul Perlaksanaan'* where all the documents and investigation reports made by the MAIS officers can be kept inside of the applications, and also construct a timeline to display a chronological sequence of events along a drawn line that helps MAIS officers to determine the status of the client's application.

## *3.2 Findings*

The findings of the content analysis of the interview data were classified into three key themes in this study. The first theme is 'Information,' which is concerned with how MAIS gathers information on heirs (Malay: *Waris Fardhu*) and distributes inheritance. The second theme is 'Documentation,' which refers to any reports generated when performing an investigation throughout the inheritance distribution process. The third theme is the 'Family Tree,' which is concerned with the visualization of the family connection with the owner of the inheritance. Based on the three main themes that emerged, researchers may infer that the Ancestry Platform can assist alleviate some of the problems. The following are the results pertinent to the themes obtained from the interview session.

### *3.2.1 Information*

Since 2019, most Malaysian agencies have been obligated by the Personal Data Protection Act 2010 (PDPA), making inheritance distribution more difficult because MAIS are no longer allowed to simply request a Family Tree or other personal information on the deceased from JPN. MAIS must apply for a court order and send the letter to JPN, who will then provide the information to MAIS. However, the time required to obtain such information is likely to be lengthy, forcing MAIS

investigators to conduct their own investigations and gather documentation from the deceased family.

### *3.2.2 Documentation*

Documentation for MAIS is crucial since they need solid evidence before distributing a portion of the inheritance to qualified heirs. Even said, storing all papers online would be more efficient because utilizing paper may result in data inconsistency and requires one physical place to retain all the information. MAIS also noted that they have a lot of cases to deal with every day. Consider a case that consists of 5 thick reports, each with hundreds of pages. All of that paperwork will take up a lot of room in the office, and they may lose track of which cases they should work on first. As a result, with a rise in people who are already aware and wish to manage their inheritance with the aid of MAIS, traditional ways of organizing papers are no longer acceptable.

### *3.2.3 Family tree*

According to certain observations and feedback from participants, using Family Tree will be a very valuable tool not only for facilitating the process of inheritance distribution, but also for obtaining relevant information about the family. Tracing back the heirs will be quite simple with Family Tree since it will depict the diagram into something that is easy to grasp at a look.

## *3.3 The Use of Islamic Ancestry Platforms Differs from the Western Ancestry Platforms*

The differences between the Western Ancestry Platform and the Islamic Ancestry Platform are based on the product's functionality. A Western Ancestry Platform strives to obtain relevant information from diverse record formats, allowing users to develop family trees, study their family history, and make major discoveries about their ancestors from a variety of perspectives [6]. While Islam requires more than just a family tree. It must also have tools to determine inheritance division based on the created family tree. Because, each heir will get a different percentage of the inheritance based on their relationship to the deceased, who is the owner of the inheritance [11]. Having a calculating tool together with a family tree tremendously helps MAIS employees and heirs to gain an overview of their portion and they will understand why and how MAIS gets a proportion of the inheritance distribution. As a result, there will be no disagreement between heirs and MAIS.

**Table 8**
Comparison between Western and Islamic Ancestry Platforms

| Western Ancestry Platform | Islamic Ancestry Platform |
|---|---|
| Retrieve relevant records/documents about the ancestors, such as birth, marriage, & death records | |
| Generate a family tree according to the records found or records that are being added to the system | |
| Add family members who are still alive in the family tree | |
| -NA- | Calculate inheritance distribution based on their relationship with the deceased |
| -NA- | Provide the amount/percentage of the portion received by the heirs |

## *3.4 Proposed Design in Ancestry Platform as a Solution*

### *3.4.1 Problem 1: Information*

Quoted from a participant, “In order for the JPN to be able to produce a complete Family Tree to MAIS, then our government needs to have centralized data, where all marriage information, birth

certificates, and any other information are in one place. But it is against the law". Therefore, the solution to this problem cannot be solved with technology because our country has its own laws. One of the laws that are being mentioned by MAIS is Personal Data Protection Act 2010 (PDPA).

### *3.4.2 Problem 2: Documentation*

The current issue is that MAIS still needs to print and retain its documents on a physical file. As a result, a room with multiple cabinets, drawers, and folders may obstruct procedures while attempting to access the file. The documentation collection feature on the Ancestry Platform can help address some of the issues and challenges associated with the Islamic inheritance process in several ways:

i. Providing a centralized location for important documents: The documentation collection feature of an Ancestry Platform can provide a centralized location for important documents related to the Islamic inheritance process, such as wills, trusts, and financial records. This can help ensure that these documents are easily accessible to all parties involved in the inheritance process, and can help to avoid disputes over the distribution of assets.
ii. MAIS officers can be more effective if their paperwork is well-organized: They may upload documents, electronically sign them, distribute them with the appropriate persons, and maintain all of the information in each of these interactions in the platform by implementing an Ancestry Platform that can store any document online.
iii. By storing data on the platform, the costs associated with maintaining a physical space for storage are eliminated. Additionally, the system's ability to categorize documents based on relevant information helps ensure that all necessary documents are easily accessible and organized for efficient processing.

### *3.4.3 Problem 3: Family tree*

The current MAIS system called e-Faraid MAIS does have a family tree generator system, which allows family members to manually key in the information related to their family relationships. However, it is important to note that the information provided may not cover all possible heirs in the inheritance process. Thus, the proposed family tree feature on the Ancestry Platform can help address some of the issues and challenges associated with the Islamic inheritance process in several ways:

i. Facilitating communication and collaboration: The family tree feature of an Ancestry Platform can facilitate communication and collaboration among heirs, as well as between heirs and other relevant parties, such as legal professionals and religious institutions. This can help to ensure that all parties are on the same page and can work together to resolve any issues or disputes that may arise during the inheritance process.
ii. Providing a clear and accurate record of family relationships: This can help to ensure that the proper heirs are identified and that the distribution of assets is carried out according to Islamic law.
iii. Helping to identify all potential heirs: The family tree feature of an Ancestry Platform can help to identify all potential heirs, which is an important consideration in the Islamic

inheritance process. This can help to ensure that all eligible heirs are included in the distribution of assets, and can help to avoid disputes over the distribution of assets.


**Fig. 4.** Family Tree sample from Ancestry.com [28]

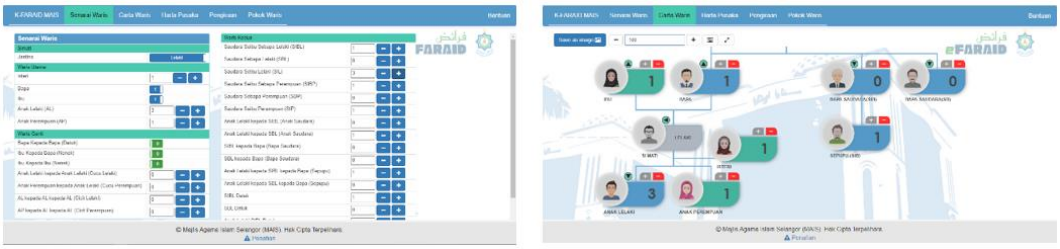

**Fig. 5.** Family Tree sample from MAIS [29]

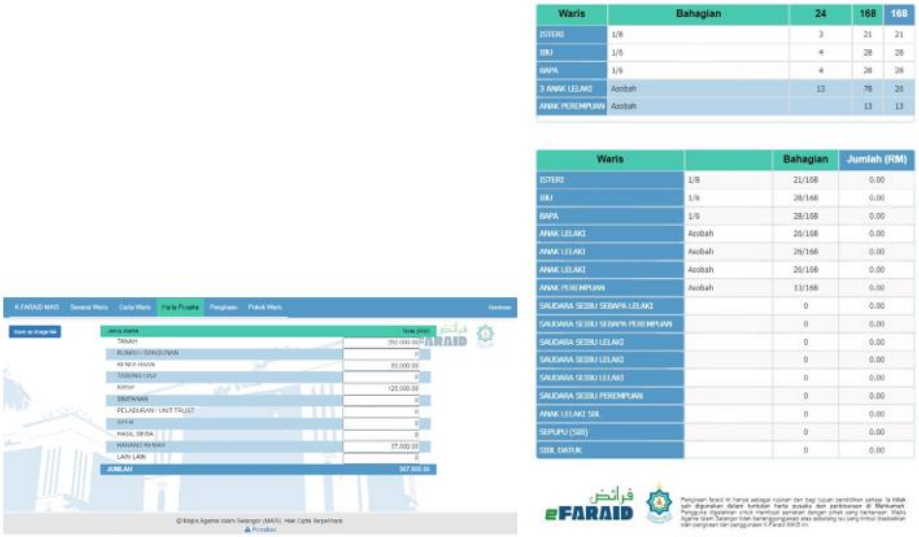


**Fig. 6.** Calculation table from MAIS [29]

## 4. Conclusions

An interview session has been done with the director and two (2) staff members of Selangor Islamic Religious Council (MAIS) in order to achieve the first objective of this study which is to answer the questions on the issues and challenges of using the traditional way of inheritance distribution. Meanwhile, some suggestion on design solution is also discussed in the Results and Discussion section which successfully achieve the second research objective of this study to answer what is the design requirements in improvising the existing Islamic Family Inheritance in Malaysia.

Limitations of this research are researcher only focuses on collecting problems from an organization. In order to get full coverage of the problem, researchers should include citizens in managing their inheritance or during the process of their inheritance distribution.

This research provides a better understanding of the current factors that contribute to the delay of Islamic inheritance claims from a different point of view and states the reasons why e-Faraid MAIS needs to be improved in order to further simplify and accelerate the process of distributing the inheritance with the help of features in the proposed Ancestry Platform. Despite the fact that this research provides, it is advised that the current investigation be continued in order for the findings in this study to be justified in future studies. Based on the requirement analysis conducted in this study, the research should focus on developing a real Ancestry Platform to facilitate the process of inheritance distribution for Muslims in Malaysia, while also considering the application's usability and user experience. In conclusion, this research can be concluded as successful, and the results and findings in this paper can be used in other related work. The goals and objectives of the project have been achieved and met.

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