

The Process of Developing *Syajarat Al-Asanid* Online: Hadith From Sahih Muslim as a Case Study

Phayilah Yama¹
Nur Saadah Hamisan@Khair²
Aisyah Mat Jasin³,
Siti Mursyidah Mohd Zin⁴
Muhammad Aizat Syimir Rozaini⁵

¹ Kolej Universiti Islam Antarabangsa Selangor, KUIS (phayilah@kuis.edu.my)

² Universiti Sains Islam Malaysia, USIM (saadahkhair@usim.edu.my)

³ Universiti Teknologi Mara, UiTM (aisyahmtjasin@gmail.com)

⁴ Kolej Universiti Islam Antarabangsa Selangor, KUIS (sitimursyidah@kuis.edu.my)

⁵ Kolej Universiti Islam Antarabangsa Selangor, KUIS (aizatsyimir@kuis.edu.my)

Abstract

The study of Hadith contains different subjects including *Takhrīj al-Ḥadīth* which refers to the investigation of Hadith into the original book with the complete *sanad*. Previously, this subject was traditionally taught by referring to the numbers of Hadith collection, but due to the technological advance, many modern approaches were introduced in producing better learning process especially among the students. This study aims to discuss the importance of online learning in the study of *takhrīj al-ḥadīth* which is used to verify the authenticity and reliability of a Hadith. Furthermore, this study attempts to develop a website which able to assist students in understanding the arrangement of *sanad* and visualising *syajarat al-asānīd* in an accurate diagram. The study will elaborate the processing steps in developing the website which focuses on selected Hadiths from *Sahīh Muslim*. All selected Hadiths have a unique symbol of ‘ha’ which has a special meaning in term of *sanad* arrangement. As a methodology, this study proposes a machine learning technique to visualize the chain of narrators (*isnād*) as to present the

chronological transmission of Hadiths recorded from a Muslim scholar to another. The narrators' names will be manually extracted by identifying a set of keywords and verbs from the *sanad* part in a Hadith. Then, from a list of narrators, graph theory will be applied to present a diagram of the chain of narrators from a selected Hadith. The result shows that the usage of website as a medium of learning the Hadith is more practical, and this developed website is a continuous effort for other innovations in the field of Hadith which concerns specifically on *sanad*.

Keywords: *Takhrīj al-Hadīth*, *Syajarat al-Asānid*, Sahih Muslim, Website, Online Application.

1. INTRODUCTION

In present day, online learning is not a new approach anymore. All subjects including art, humanities, politics, and even religious have been conducted via online, where the educational system is reaching out the fourth industrial revolution (IR 4.0). Interestingly, Islamic studies also were not left behind to apply learning via useful ICT applications such as websites, mobile applications, digital libraries and specific software packages. Simultaneously, it is undeniable that there are many challenges faced by the Islamic education to coop with the modernity and the technological advance (Ashaari et al., 2012), but the importance of applying technology should not be denied due to its positive impacts.

Online learning works as a new learning concept in today's educational system which supply the world-wide demand and follow the current trending in serving better education. Many researchers have emphasized that online learning or also known as e-learning or virtual learning is capable of delivering information accurately and rapidly, able to attract attention and create enjoyable learning environment. This method not only give benefits among the students, but it also helps teaching process becomes easier since many studies agree that online education can be at least as effective as traditional method of learning (Kim & Bonk, 2006).

In Islamic education, various field of studies have applied the learning and teaching method via online by using sorts of multimedia applications.

Focusing on the Hadith studies, this study found that learning the Hadith should not be limited to theoretical and traditional framework by reading classical texts, but should be given the opportunity of applying technological advancement by developing different type of medium as have been done by many previous studies. Many websites and online applications were developed in assisting the flexibility of learning the Hadith which all come with the main purpose to emphasize the importance of Hadith as one of the legal sources in Islam. Besides, the use of electronic media in the study of Hadith has proven that Islam is advanced and encourages progress, and it should be in line with the principles of the Qur'an and Sunnah (Ismail & Khair, 2012).

There is no denying that the use of media and technology applications can facilitate a study or learning to be carried out at any time without time limit. This can clearly provide convenience to various parties. However, as a result of the lack of physical interaction and teacher monitoring in this system will open space for students to deviate from the objectives of study and be dishonest which in turn can lead to the spread of false hadiths (Hoque, Yusoff, Toure, & Mohamed, 2019).

Therefore, the use of the internet and online applications should not be excessive or become the only main medium because traditional learning and teaching is still required in the study of hadith. Among the negative implications of the high reliance on the internet to refer to hadith is addiction; and can be considered as a way of ignoring the efforts of hadith scholars in the writing of hadith books. Therefore, the best way is to use any medium in moderation; to refer to the original source; to increase knowledge in technology; in addition to refer to the hadith and technology experts (Abdullah & Khair, 2013).

2. ONLINE APPLICATIONS OF TAKHRIJ AL-HADITH

Indeed, in the study of Hadith itself, there are many branches of knowledge which all are available to be accessed online. To verify the authenticity of *sanad* or the Hadith in general, it is vital to understand the importance and need of *takhrij al-hadith*. The application of this knowledge on *takhrij* is crucial to evaluate the reliability of the Hadith, but it is highly important to clear out the general perception of Muslim and non-Muslim regarding the Hadith (Othman et al., 2012).

Takhrīj al-Ḥadīth is one of the branches in the study of Hadith which refers to the activity of searching the Hadith and revealing the quality as well as the reliability of a Hadith. Mahmud Tahhan (1978) defines *takhrīj al-ḥadīth* as “to indicate the original source of a Hadith, explain the chain and explain the value of the Hadith if deemed necessary.” He also strengthens that the purpose of showing the original source of a Hadith is an attempt to mention the books of Hadith in which there are Hadiths, such as expressions: *akhrajahu al-Bukhārī fī Ṣaḥīhi*, or other expressions. Besides, what is meant by explaining the value of a Hadith is to give an assessment of a Hadith (*ṣaḥīh*, *ḥasan* or *daʿīf*), however, not all books of *takhrīj* make an assessment of Hadith because the problem is not very basic in *takhrīj*.

Similarly, according to Dr Muhammad Abu Layth (1999), the understanding of *takhrīj* as applied at present is “a knowledge of debate on the principles and methods that facilitate access to the position of the traditions, identify the right for *mutabaʿāt* dan *syawāhid* from original sources, sources that resembles the original and the resources that are fake so explaining the law and the degree of Hadith is either accepted or rejected.” In addition, the person who practises *takhrīj* is required to have not only an in-depth knowledge of Hadith and *takhrīj*, but also knowledge of *shariʿah* in order to reach the original sources. It is not proper for a researcher and verifier to state the status or value of a particular Hadith, unless he has scientifically known all the elements of the Hadith, such as the narrator, the *matn* (text), *ʿilal* (defect), *syawāhid* (corroborative support) and other further information which form the crux of a ruling on a Hadith (Dakir, Shah, & Avivy, 2012).

There are many websites which available to be used as the medium to ease the process of *takhrīj al-ḥadīth* via online. Most of the websites used Arabic language, for example: al-Durar al-Saniyyah (dorar.net), Mawqiʿ al-Islam (<http://hadith.al-islam.com>), Islamweb (<http://www.islamweb.net>), Nidaʿ al-Iman (<http://www.eman.com/hadeeth>), Mawsuʿah al-Syāmilah (<http://www.islamport.com>), Al-Muhaddīth (http://www.muhammad.org/a_index.html), al-Jamiʿ al-Hadith al-Nabawi (<http://www.sonnaonline.com>), Kutub Takhrij al-Hadith al-Nabawi al-Syarif li al-Syaykh Nasir al-Din al-Albani (<http://islamicweb.com/arabic/books/albani.asp>) (Zulkipli, Yaacob, Anas, Mohd Noor, Zainal Abidin, Wan Jamil, et al., 2017) as well as Kutub Takhrij al-Hadith al-Nabawi al-Syarif li al-Syaykh Nasir al-Din al-Albani. (<http://islamicweb.com/arabic/books/albani.asp>) (Suliaman et al., 2018).

In reality, Mausuah al-hadith al-Syarif which was published since 1998 also contain syajarah based on title of Book and chapter. However, it is not similar with *syajarat al-asanid* as in this research which refers to “the thematic presentation is in a linked tree, so that the user can easily access partial information for the various forensic sciences by hyperlinking the library contents” (<https://apps.apple.com/us/app81/id1001425531>).

In addition, websites that used Malay language and developed by Malaysian are also available like one that developed by researcher from Universiti Teknologi MARA (UiTM), “Mutiarah Hadis” (<http://sigir.uitm.edu.my/webhadis/>). Other examples are: “Carian Hadis” (<https://semakhadis.com/browse/>), Projek MyMasjid, “al-Hadith” (<http://www.mymasjid.net.my/#>) (Ahmad, Suliaman, Shah, & Rokhibi, 2019). Several mobile applications were also identified which successfully established the effort of *takhrij al-hadith*, for instance: iShamela, Maktabah Al-Hadith Al-Syarif, Hadith Encyclopedia by 9 Imam, Mawsu'ah Al-Hadith Al- Nabawi Al-Syarif, al-Mawsu'ah al-Hadisiyyah and Jawami'ul Kalim (Halim et al., 2018; Supriyadi, Julia, Aeni, & Sumarna, 2020; Zulkipli et al., 2017).

All of the above search engines and online applications are among the examples, but they allow the users to search any Hadith easily and to facilitate them with any service regarding the study of Hadith. Some of the websites offer electronic books related to Hadith and they can be downloaded for free. Each of those online applications either web-based or mobile apps have their own uniqueness and strength, but at the same time they were not as perfect as the original book which have been taught in the traditional learning method by the experts.

Moreover, it has been discussed by many scholars that one of the important criteria in performing *takhrij al-hadith* is *syajarat al-asanid*. It refers to a diagram that gathers sources from one Hadith which contains the chain of narrators of a Hadith that shaped like a tree. Several studies found that it was very few to include *syajarat al-asanid* in demonstrating the learning method to study the Hadith via online applications (Mat Jasin, Yama, Rozani, & Mohd Zin, 2019). According to Ahmad et al. (2019), it has not been done by any website which developed by Malaysia, except one which have been

developed by Indonesian known as Hadith Encyclopedia by 9 Imam (<http://store.lidwa.com/get/>).

Another effort has also been done by researchers in developing a mobile apps which include *syajarat al-asanid* in understanding the process of *takhrij al-hadith*. This apps, however, served as a beginning step purposely to evaluates students' responds towards learning Hadith via mobile apps, and the findings show that learning using mobile produces positive responses and generates better performance among them (Khair et al., 2018).

Thus, this study fills the existing gap to develop an online application to learn *takhrij al-hadith* by emphasising the importance of *syajarat al-asanid*. It is also an effort to acknowledge the need to apply technology and multimedia in learning the Hadith which beneficial among the students, teachers, as well the higher educational institutes.

3. RESEARCH OBJECTIVES AND MATERIAL

This study aims to discuss the importance of online learning in the study of *takhrij al-hadith* which is used to verify the authenticity and reliability of a Hadith. As previously mentioned, *takhrij al-hadith* is one of the important branches in the study of Hadith, and it will not be completed to study the Hadith without the knowledge and the ability to verify the status of a Hadith.

Furthermore, this study attempts to develop a website which able to assist students in understanding the arrangement of *sanad* and visualising *syajarat al-asanid* in an accurate diagram. The study will elaborate the processing steps to generate a chain of narrators in developing the website which mainly focuses on selected Hadiths from *Sahih Muslim*.

Sahih Muslim was chosen as the main material in this study. This collection of Hadith was known as the second highest in the rank of six authentic Hadith collections. The full title of this book is *al-Jāmi' al-Sahīḥ al-Musnad al-Mukhtasar min al-Sunan bi Naql al-'Adl 'an Rasūlillāh* (translated as The Abridged Collection of Authentic Hadith with Connected Chains Narrated by Just Transmitters from the Prophet) (Abd Fattah, 1992). It contains roughly 7190 Hadiths (with repetitions), but around 4000 Hadiths without repetitions, in 43 books. All Hadiths in *Ṣaḥīḥ Muslim* were arranged by Abū al-Ḥusayn 'Asākir ad-Dīn Muslim ibn al-Ḥajjāj ibn Muslim ibn Ward ibn

Kawshādh al-Qushayrī an-Naysābūrī, commonly known as Imam Muslim. It was said that he took almost 15 years to collect Hadiths and completed his narration in this book (Tawalibah, 1998).

Besides, this study is limited to the usage of symbols used by Imam Muslim, which is ‘ha’ (ح) that is placed in *sanad* (chain of narrators), which can be found in *Sahih Muslim*. Imam Muslim was known as a scholar who applied different symbol as his unique writing method in his Hadith collection. Each symbol has its own meaning and function and needs to be comprehended to understand the *sanad* (chain of narrators) contained in a specific Hadith. But, this symbol of ‘ha’ was chosen because it has its own uniqueness and will be more easily understood through *syajarat al-asanid*.

4. RESEARCH METHODOLOGY AND FINDING

As a methodology, this study proposes a machine learning technique to visualize the chain of narrators (*isnad*) as to present the chronological transmission of Hadiths recorded from a Muslim scholar to another. The narrators’ names will be manually extracted by identifying a set of keywords and verbs from the *sanad* part in a Hadith. Then, from a list of narrators, graph theory will be applied to present a diagram of the chain of narrators from a selected Hadith.

Following are the process of constructing a chain of narrators from the part of *sanad* in a Hadith:

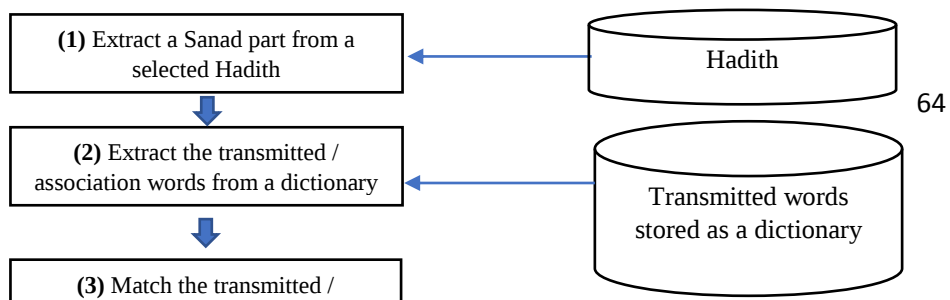


Figure 1: Processing steps to generate a chain of narrators

The processing steps visualized in Figure 1 can be further explained as following:

(1) In database, each Hadith will be recorded in different parts; the first part is a complete record of each Hadith, the second part is a *sanad* (chain of narrators) as shadowed by the blue colour and the last part is a *matn* (text) as shadowed by the green colour. In this study, the proposed algorithm reads the part of *sanad* as recorded in the database. A Hadith from the Sahih Muslim was taken as a sample as shown as below:

حَدَّثَنَا يَحْيَى بْنُ يَحْيَى التَّمِيمِيُّ، أَخْبَرَنَا أَبُو الْأَحْوَصِ، ح وَحَدَّثَنَا أَبُو بَكْرِ بْنُ أَبِي شَيْبَةَ، حَدَّثَنَا أَبُو الْأَحْوَصِ، عَنْ أَبِي إِسْحَاقَ، عَنْ مُوسَى بْنِ طَلْحَةَ، عَنْ أَبِي أَيُّوبَ، قَالَ جَاءَ رَجُلٌ إِلَى النَّبِيِّ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ فَقَالَ دُلَّنِي عَلَى عَمَلٍ أَعْمَلُهُ يُدْنِيَنِي مِنَ الْجَنَّةِ وَيُبَاعِدُنِي مِنَ النَّارِ . قَالَ " تَعْبُدُ اللَّهَ لَا تُشْرِكُ بِهِ شَيْئًا وَتُقِيمُ الصَّلَاةَ وَتُؤْتِي الزَّكَاةَ وَتَصِلُ ذَا رَحِمِكَ " فَلَمَّا أَذْبَرَ قَالَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ " إِنَّ تَمَسَّكَ بِمَا أُمِرَ بِهِ دَخَلَ الْجَنَّةَ " . وَفِي رَوَايَةِ ابْنِ أَبِي شَيْبَةَ " إِنَّ تَمَسَّكَ بِهِ " .

Figure 2: Hadith in Arabic language version

Telah menceritakan kepada kami Yahya bin Yahya al-Tamimi, telah mengabarkan kepada kami Abu al-Ahwas (ح), dan telah menceritakan kepada kami Abu Bakar bin Abu Syaibah, telah menceritakan kepada kami Abu al-Ahwas, daripada Abu Ishaq, daripada Musa bin Talhah, daripada Abu Ayyub dia berkata, "Seorang lelaki datang kepada Nabi SAW dan berkata: "Tunjukkanlah kepadaku suatu amalan yang mendekatkanku ke surga dan menjauhkanku dari neraka." Baginda SAW menjawab: "Kamu menyembah Allah, tidak mensyirikkan-Nya dengan sesuatu apa pun, kamu dirikan solat, kamu tunaikan zakat, kamu jalinkan silaturrahim dengan keluarga." Ketika dia (lelaki itu) beredar, maka Rasulullah SAW bersabda: "Jika dia berpegang teguh pada sesuatu yang diperintahkan kepadanya nescaya dia masuk ke syurga." Dan dalam suatu riwayat Ibnu Abi Syaibah: "Jika dia berpegang teguh dengannya."

Figure 3: Hadith in Malay language version

It has narrated to us Yahya bin Yahya al-Tamimi, who has narrated to us Abu al-Ahwas (ح), and who has narrated to us Abu Bakr bin Abu Shaybah, who has narrated to us Abu al-Ahwas, from Abu Ishaq, from Musa bin

Talhah, It is narrated on the authority of Abu Ayyub that a man came to the Prophet (ﷺ) and said: "Direct me to a deed which draws me near to Paradise and takes me away from the Fire (of Hell). Upon this he (the Holy Prophet) said: You worship Allah and never associate anything with Him, establish prayer, and pay Zakat, and do good to your kin. When he turned his back, the Messenger of Allah (ﷺ) remarked: If he adheres to what he has been ordered to do, he would enter Paradise.

Figure 4: Hadith in English language version

(2) A dictionary created in the database is mainly used to store all the transmitted words. These words are to describe that the selected Hadith is transmitted from a narrator *A* to a narrator *B*. Table 1 shows the sample transmitted words exists in the aforementioned part of sanad.

Table 1: Transmitted words contain in the Hadith

No	Sentence	Translation
1	<i>Telah</i>	It has
2	<i>menceritakan</i>	Narrated
3	<i>kepada</i>	To
4	<i>Ku</i>	Me
5	<i>Kami</i>	We
6	<i>Telah</i>	It has
7	<i>Daripada</i>	From
8	<i>mengkhabarkan</i>	Narrated

(3) The algorithm reads and matches all the transmitted words in a Sanad text with words stored in dictionary. The constraint occurs when a same word spelled in the different letter. For instance, the word *Telah* and *telah* referring to the similar meaning. It happened when the word *Telah* with capital *T*, exists in the initial sentence while the word *telah* with small *T* exists in the middle sentence.

(4) Each transmitted word is converted by a vertical bar. The purpose of this process is to enable the algorithm to identify the narrator names without extra white spaces.

(5) The algorithm removes any punctuations including vertical bar created in the step (4)

(6) Since only the narrator names remained in the current text, it is easier to identify the symbol of 'ha' (ح) or 'wa' (و) or both symbols which can be found in the text.

(7) Technically, there are several specific steps in the proposed algorithm to implement a graph theory to visualize the chain of narrators. First, after the proposed algorithm identifies the narrator names, all these narrator names coordinated into a list of vertices. Then, we zip a pair of vertices (narrators) into list of edges. This is an important step to bind an association among the vertices (narrators). The sample of an edge list is shown as Table 2 below:

Table 2: The list of narrators and the list of edges

No	Narrator	List of edges
1	Imam Muslim	{Imam Muslim, Yahya bin Yahya al-Tamimi}
2	Yahya bin Yahya al-Tamimi	{Yahya bin Yahya al-Tamimi, Abu al-Ahwas}
3	Abu al-Ahwas	{Abu al-Ahwas, Abu Bakar bin Abu Syaibah}
4	Abu Bakar bin Abu Syaibah	{Abu Bakar bin Abu Syaibah, Abu al-Ahwas}
5	Abu al-Ahwas	{Abu al-Ahwas, Abu Ishaq}
6	Abu Ishaq	{Abu Ishaq, Musa bin Talhah}
7	Musa bin Talhah	{Musa bin Talhah, Abu Ayyub}
8	Abu Ayyub	{Abu Ayyub, Nabi SAW}
9	Nabi SAW	-

Then, by using the graph theory approach, all these (narrators) vertices are then converted into a diagram of chain of narrators (refer to Figure 5). In this diagram, there is a red arrow to show that the current direction which temporarily stuck at a narrator named Abu al-Ahwas. It is actually turning back to Imam Muslim due to the word of 'ha' (ح) which exists after the narrator Abu al-Ahwas, Later, the Hadith was transmitted from Abu Bakar bin Abu Syaibah to Imam Muslim. The following steps, the Hadith was transmitted from Abu al-Ahwas, then he received the Hadith from Abu Ishaq. Followed by Musa bin Talhah, Abu Ayyub and Rasulullah SAW. Finally, the ultimate result is shown in the diagram as in Figure 6.

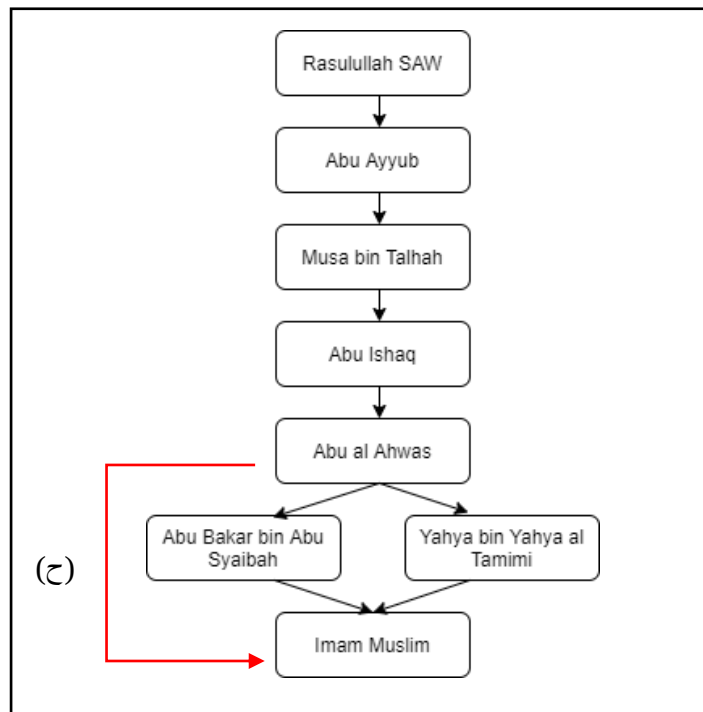


Figure 5: The chain of narrators

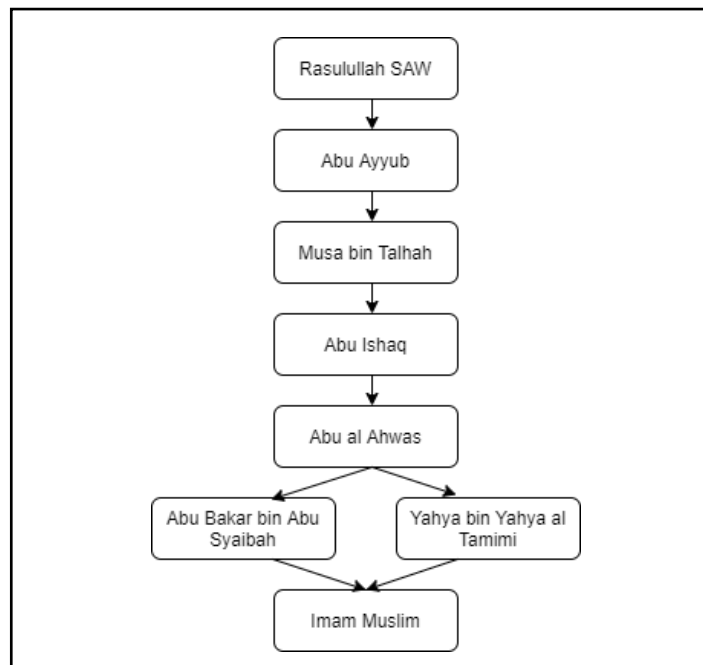


Figure 6: The final result of the chain of narrators

In another example,

وَحَدَّثَنَا يَحْيَى بْنُ يَحْيَى، قَالَ: قَرَأْتُ عَلَى مَالِكٍ ح ، وَحَدَّثَنَا قُتَيْبَةُ بْنُ سَعِيدٍ ، عَنْ مَالِكِ بْنِ أَنَسٍ ، عَنْ أَبِي الزِّنَادِ ، عَنْ الْأَعْرَجِ ، عَنْ أَبِي هُرَيْرَةَ : أَنَّ رَسُولَ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ ذَكَرَ يَوْمَ الْجُمُعَةِ فَقَالَ : " فِيهِ سَاعَةٌ لَا يُوَافِقُهَا عَبْدٌ مُسْلِمٌ وَهُوَ يُصَلِّيُ يَسْأَلُ اللَّهَ شَيْئًا إِلَّا أَعْطَاهُ إِيَّاهُ " . زَادَ قُتَيْبَةُ فِي رَوَاتِهِ وَأَشَارَ بِيَدِهِ يُقَلِّلُهَا .

Figure 7 : Hadith in Arabic language version

Dan Telah menceritakan kepada kami Yahya bin Yahya(1) ia berkata, saya telah membacakan kepada Malik(2) -dalam jalur lain- (ح) Dan Telah menceritakan kepada kami Qutaibah bin Sa'id(3) dari Malik bin Anas(4) dari Abu Zinad(5) dari Al A'raj(6) dari Abu Hurairah(7) bahawa Rasulullah SAW menyebutkan tentang hari Jumaat, maka beliau bersabda: "Di dalamnya terdapat satu waktu, tidaklah seorang muslim mendapati waktu itu lalu berdoa memohon kebaikan kepada Allah, kecuali Allah akan mengabulkan permohonannya." Qutaibah menambahkan di dalam riwayatnya; Beliau memberikan isyarat dengan tangannya, yakni waktunya sempit.

Figure 8 : Hadith in Malay language version

And Has narrated to us Yahya bin Yahya (1) he said, I have recited to Malik (2) -in another line- (ح) ,And Has narrated to us Qutaibah bin Sa'id (3) from Malik bin Anas (4) from Abu Zinad (5) from Al A'raj (6) from Abu Hurairah (7) that the Prophet SAW mentioned about Friday, so he said: There is a time on Friday at which no Muslim servant would pray and would ask Allah for a thing (that is good) but He would give it to him. Qutaiba pointed with the help of his hand that it (the time) is short

Figure 9 : Hadith in English language version

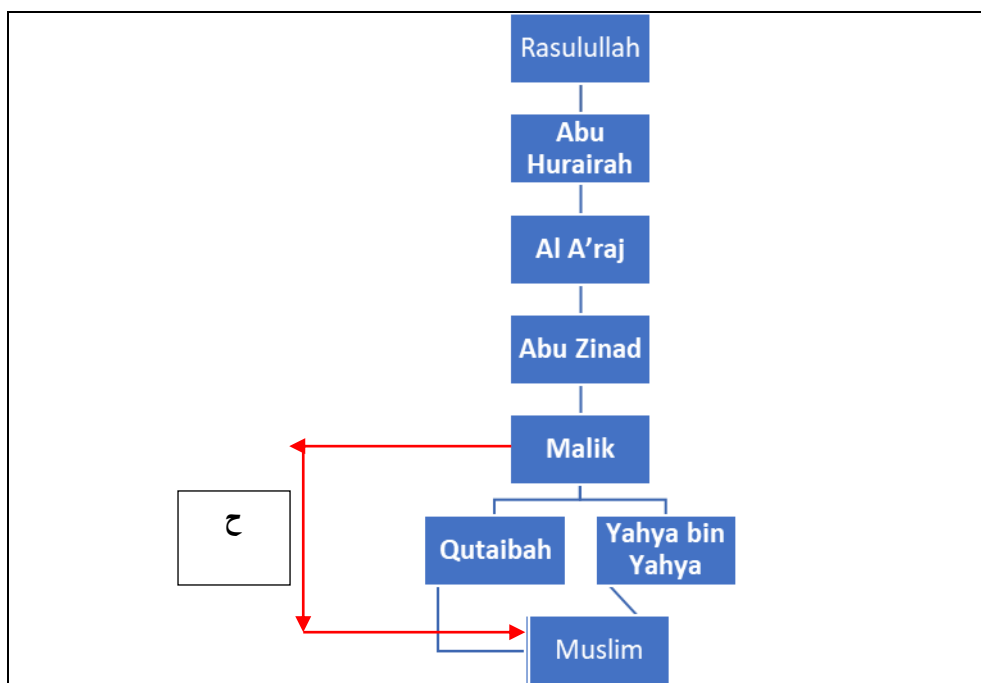


Figure 10: The chain of narrators (*Syajarat al-Asanid*)

The processing steps visualized in Figure 7 to 10 is almost similar as the first hadith as explained previously.

5. DISCUSSION AND ANALYSIS

This study is a preliminary study in developing the website which contain *syajarat al-asanid* on selected hadiths from Sahih Muslim. It is found the effort to develop online applications and the use of technology on the aspect of sanad as an important part of the hadith has not been often discussed previously. Particularly, the special symbols used by Imam Muslim are also rarely given attention, although it is often a confusion among students who have just learned the path of hadith narration, especially in the subject of *takhrij al-hadith*.

Furthermore, Imam Muslim has great contributions in the filed of Hadith. His book had been translated into various languages and used as a reference for many years until present day. To follow the mainstream in the current

technology era, this study selects Imam Muslim and his book Sahih Muslim and connects it with learning modern ways through online applications by developing a website to make it easier for the purpose of learning among students.

6. CONCLUSION

As a conclusion, this study achieved the objective to develop an algorithm and processing steps which will be applied in the development of the website as a medium to learn *takhrij al-hadith* via online. The website will focus on the selected Hadiths from Sahih Muslim and builds *syajarat al-asanid* as one of the important aspects in identifying the original source of a Hadith. The developed website is still under construction, but the methodology used have been explained in detail in this study. It is highly important to apply the correct methodology because it involves Hadith which relies on the Prophet Muhammad SAW, and simultaneously to acknowledge the credibility of Imam Muslim and his approach in writing Sahih Muslim.

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