

# Towards Enhancing the Compilation of Al-Hadith Text in Malay

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**Abstract.** The statement and conducts of Prophet Muhammad (SAW), was memorized, written down and later passed by his companions from one generation to another. Later, as the authenticity of the text became threatened, Islamic scholars from Muslim nations collected thousands of these narratives and distinguished the true wisdom from fabricated ones. However, statements are still attributed to the Prophet by individuals with no knowledge of *al-Hadith*. Currently, with the existence of the internet and the popularity of social media, the threat to the access and existence of fake al-Hadith is more likely than ever. Our first step to handling this challenge is to develop a tool that will enhance the process of compiling authentic *al-Hadith* from various sources. Due to the sensitive nature of *al-Hadith* text the tool must be reliable. To achieve this reliability a well-structured relational database with a user interface was designed and developed to store *al-Hadith* text in Malay Language. These development will enhance the compilation process, by ensuring data is stored appropriately. Subsequently, the tool will serve as a reference guide to the general public, who wish to verify the authenticity of *al-Hadith* in Malay text. Furthermore, it provides computer scientist with an opportunity to extract, analyze and perform inference on the data.

**Keywords:** Database, Al-Hadith, Sahih, Snad, Isnad, Mastn

## 1. Introduction

*Al-Hadith*, a collection of conducts and sayings of Prophet Muhammad (SAW), serves as part of the major source of guidance for Muslims. In recent years, they have been a rapid increase of data globally. Access to this data has also become easier with the increase in popularity of phones and tablets. Currently, there are several sources of *al-Hadith* on the internet and in several books written by Islamic scholars. Unfortunately, these various sources of information, exposes Muslims to both authentic and fabricated *al-Hadith*. We are therefore faced with the challenge of distinguishing between true and fabricated *al-Hadith*. Overcoming this obstacle will enable Muslims to have access to, and determine the authenticity of *al-Hadith*. The first step towards addressing this problem is to develop a uniform and well-structured storage for these texts. This will offer an opportunity for computer scientist to re-analyze, extract and enable automated inference and querying of the data. For analyzing data, making proper inference and developing most user interaction applications, there is a need for data in some structured format. This data when structured makes it easier to analyze and extract knowledge.

With the discovery of false *al-Hadith* in *al-Hadith* literature, *Mustalah* (Science of *Al-Hadith*) was established to distinguish between authentic and fabricated *al-Hadith* (Hasan, 1994; Khan, 2013). The *al-Hadith* scholars made extensive verifications to the two main parts of *al-Hadith*, *sanad* or *isnad* (chain of reporters) and *mastn* (text), according to laid down principles (Hasan, 1994). These lead to the classification of *al-Hadith* based on five different classes which includes 1) reference to a particular authority; 2) links of *isnad* - interrupted or uninterrupted; 3) the number of reporters involved; 4) the nature of the text and *isnad*; 5) the reliability and memory of the reporters (Hasan, 1994; Rashid, 2012; Yahaya & Hasan, 2014). These classes are important to distinguish between authentic and fabricated *al-Hadith*.

As at the time of this writing, we have not come across any system which provides individuals with access to authentic *al-Hadith* in Malay. However, some works have been done in other languages such as Arabic, English, and Indonesian Malay etc. Our main objective is to develop a tool that will enhance the process of compiling authentic *al-Hadith* from various sources. The tool proposed is a web based system,

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with a well-structured relational database. In the next section, we will discuss the classification of *al-Hadith*, some existing works on the compilation of *al-Hadith* and our approach. Subsequently, in section 3 we discuss the *al-Hadith* compilation system and explain the system development in section 4. Finally, we conclude our discussion of the project in section 5.

## 2. Related Works

*Al-Hadith* is said to have been transmitted orally, by a reliable chain of narrators. To protect the *al-Hadith* from false information and forgery, Umar Ibn Abdul-Aziz ordered the official compilation of *al-Hadith* in a book (Ali-Agan, 2012). Since then, most classical *al-Hadith* scholars were accustomed to compiling the *al-Hadith* text by hand. Unfortunately, this resulted in a lack of research related to electronic compilation of *al-Hadith* text (Azmi & Badia, 2010). An exception to using this approach was M.M al-Azami (1991).

Prototype CD-ROM discs were used by M.M al-Azami (1991), to compile *al-Hadith*. The material contained seven collections of *al-Hadith*, and selected text in ten different languages, resulting to seventy-five thousand *hadith* in total (Marston, 2014). His work laid the foundation for other institutions to venture into this field. *Al-Hadith* text was computerized by these institutions, and basically provided searching and browsing capabilities. Unfortunately, these commercial institutions are not interested in sharing this knowledge, but are more concerned with the monetary aspect (Azmi & Badia, 2010). As a result, only few research publications have been made in this area.

Recently, other researchers have applied techniques to analyse *al-Hadith* text. Jbara (2010) used classification algorithms to discover knowledge within *al-Hadith* text, by assigning the text to a predefined class. Also in the same year, Azmi & Badia (2010) developed an application to automatically generate a narration tree for *al-Hadith* text. The application uses shallow parsing, domain specific grammar and annotated *al-Hadith* text to recognize a narrators name and create the tree. In the next section, we will outline our approach to compiling *al-Hadith* text.

## 3. Our Approach to Al-Hadith Compilation

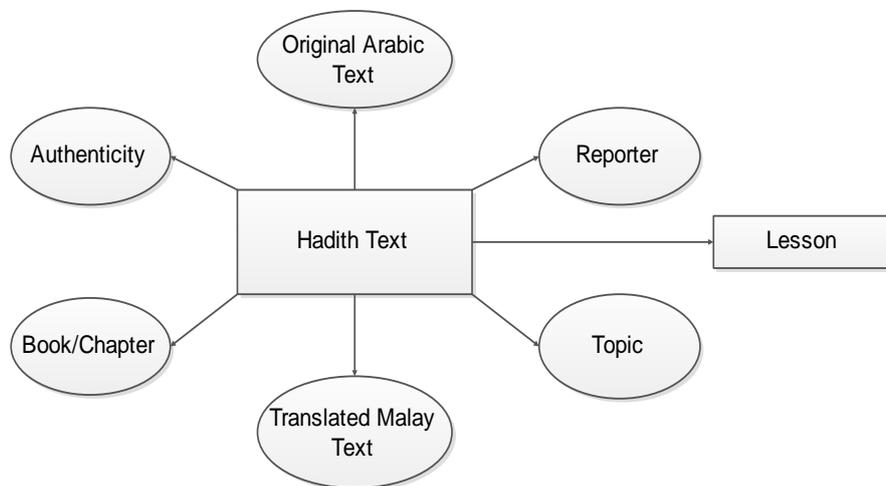


Fig 1: Structure of Compiled Hadith Text

Considering the fact that *al-Hadith* is an important source for the development of Islamic law, the public has to be aware of its reliability (Mariani, 2002). According to Sunni *al-Hadith* scholars, there are six books containing authentic collection of *al-Hadith* text (Basit, 2012). These books include *Bukhari* (d. 870), *Muslim* (d. 875), *Abu Dawud* (d. 875), *Tirmidhi* (d. 892), *Nasai* (d. 915), and *Ibn Maja* (d. 886). Respected Malaysian Islamic scholars, decided to analyze, extract and translate the text from these six books to the Malay language (Kamsin et al., 2014). They translated the *matn* and *isnad* part of the *al-Hadith* from Arabic to Malay. Furthermore, they provided the various lessons learnt from each *al-Hadith*. They analysed each *al-Hadith* and classified their authenticity according to three main categories which include; *Sahih* (sound or

authentic), *Hasan* (good), *da'if* (weak). Each *al-Hadith* text was categorized based on the topics they addressed, for example, *solat* (prayers). As shown in figure 1, the structure of each compiled *al-Hadith* text comprises of the original Arabic text, translated Malay text, the reporter, topic, book/chapter, the authenticity and the lesson derived from the *al-Hadith* as shown in figure 1. The first step taken to provide access to this well-structure *al-Hadith* text is by providing an appropriate data warehouse. In figure 2, a sample of the compiled *al-Hadith* text is shown. The figure shows the various attributes within the manually compiled authentic *al-Hadith* text. The highlighted data within the text is saved in the database, as the preceding attribute in italics, as shown in figure 2.

The next section details the design and development of the *al-Hadith* compilation tool.

**Chapter Bab 266 : Bacaan Lelaki Ketika Mengangkat Kepalanya Daripada Rukuk** *Original Arabic Text*

٢٦٦ حَدَّثَنَا مُحَمَّدُ بْنُ غِيْلَانَ قَالَ: حَدَّثَنَا أَبُو دَاوُدَ الطَّيَالِسِيُّ قَالَ: حَدَّثَنَا عَبْدُ الْعَزِيزِ بْنُ عَبْدِ اللَّهِ بْنِ أَبِي سَلَمَةَ الْمَاجِشُونُ قَالَ: حَدَّثَنِي عَمِّي، عَنْ عَبْدِ الرَّحْمَنِ كَانَ رَسُولُ اللَّهِ صَلَّى اللَّهُ عَلَيْهِ وَسَلَّمَ إِذَا رَفَعَ رَأْسَهُ مِنَ الرُّكُوعِ قَالَ سَمِعَ اللَّهُ لِمَنْ حَمِدَهُ رَبَّنَا عَنْ عَلِيٍّ بْنِ أَبِي طَالِبٍ قَالَ الْأَعْرَجُ، عَنْ عُبَيْدِ اللَّهِ بْنِ أَبِي رَافِعٍ وَكَانَ الْحَمْدُ مِلءَ السَّمَوَاتِ وَمِلءَ الْأَرْضِ وَمِلءَ مَا بَيْنَهُمَا وَمِلءَ مَا شِئْتَ مِنْ شَيْءٍ بَعْدُ.

قَالَ وَفِي الْبَابِ عَنْ ابْنِ عُمَرَ وَابْنِ عَبَّاسٍ وَابْنِ أَبِي أَوْفَى وَأَبِي جُحَيْفَةَ وَأَبِي سَعِيدٍ قَالَ أَبُو عِيْسَى حَدِيثٌ عَلِيٍّ حَدِيثٌ حَسَنٌ صَحِيحٌ وَالْعَمَلُ عَلَى هَذَا عِنْدَ بَعْضِ أَهْلِ الْعِلْمِ وَبِهِ يَقُولُ الشَّافِعِيُّ قَالَ يَقُولُ هَذَا فِي الْمَكْتُوبَةِ وَالنُّطُوعِ وَقَالَ بَعْضُ أَهْلِ الْكُوفَةِ يَقُولُ هَذَا فِي صَلَاةِ النَّطُوعِ وَلَا يَقُولُهَا فِي صَلَاةِ الْمَكْتُوبَةِ قَالَ أَبُو عِيْسَى وَإِنَّمَا يُقَالُ الْمَاجِشُونِيُّ لِأَنَّهُ مِنْ وَلَدِ الْمَاجِشُونِ.

266. Daripada **Reporter** Ali bin Abu Talib berkata: **Translated Malay Text** Rasulullah SAW jika mengangkat kepalanya daripada rukuk, mengucapkan *سَمِعَ اللَّهُ لِمَنْ حَمِدَهُ رَبَّنَا وَكَانَ الْحَمْدُ مِلءَ السَّمَوَاتِ وَمِلءَ الْأَرْضِ وَمِلءَ مَا بَيْنَهُمَا وَمِلءَ مَا شِئْتَ مِنْ شَيْءٍ بَعْدُ* (Allah SWT mendengar pujian orang yang memuji-Nya. Wahai Tuhan kami, hanya bagi-Mu segala pujian sepenuh langit dan sepenuh bumi, dan sepenuh apa yang ada di antara duanya, dan sepenuh apa yang Engkau kehendaki daripada sesuatu).

**Explanation**  
 Abu 'Isa berkata: Dalam bab ini terdapat riwayat daripada Ibn Umar, Ibn Abbas, Ibn Abu Aufa, Abu Juhaifah dan Abu Sa'id. Abu Isa berkata: Hadith Ali ini adalah hadith **Authenticity** [*hasan sahih*.] Sebahagian para ulama beramal dengan hadith ini. Pendapat ini juga merupakan pendapat al-Syafi'i. Abu 'Isa berkata: Al-Syafi'i berpendapat dengan pandangan ini dalam solat wajib dan sunat. Sebahagian ulama Kufah membaca doa ini dalam solat sunat dan tidak membacanya dalam solat wajib. Abu Isa berkata: sesungguhnya dikatakan Al-Majisyuni kerana dia daripada anak Al-Majisyun.

Faedah dan Pengajaran Hadith :

**Lesson**

1. Ulama membincangkan adakah selepas Imam mengucapkan *سَمِعَ اللَّهُ لِمَنْ حَمِدَهُ رَبَّنَا وَكَانَ الْحَمْدُ مِلءَ السَّمَوَاتِ وَمِلءَ الْأَرْضِ وَمِلءَ مَا بَيْنَهُمَا وَمِلءَ مَا شِئْتَ مِنْ شَيْءٍ بَعْدُ*, imam perlu menambah dengan *رَبَّنَا وَكَانَ الْحَمْدُ*. Berdasarkan hadith ini, imam tidak perlu menyebutkan *رَبَّنَا وَكَانَ الْحَمْدُ*.

Fig 2: Sample Compiled Hadith Text with Highlighted Attributes

## 4. System Development

A web based tool is proposed, to enhance the compilation process of authentic *al-Hadith* in Malay. Due to the sensitive nature of *al-Hadith* text the tool must be reliable. To achieve this reliability a well-structured relational database with a user interface was designed and developed to store *al-Hadith* text.

### 4.1 Database Design

A structured database was used to effectively store the compiled authentic *al-Hadith*. The main entities which include the *al-Hadith* text, lessons, reporters, *al-Hadith* reliability, book chapters and users were linked appropriately as shown in figure 3. The *al-Hadith* table stores the main Arabic text, the Malay text and the explanation of the *al-Hadith*. The link to the reporter of that *al-Hadith* is represented by its ID. Subsequently, the reliability of that *al-Hadith* and the user who saved the text are stored using their ID's. This allows for minimal storage of data, since the foreign keys (ID's) are represented as integers. To ease the process of storing the *al-Hadith* text, various lookup tables were implemented. These tables contain the reliability categories, reporter names, topics and books. At the commencement of *al-Hadith* compilation, these tables can be populated, thereby saving time to input them along with the other *al-Hadith* text. This will also reduce error, while storing the *al-Hadith* text. To ensure accountability, the user table is included. The table will allow the system admin to track all data input into the database, by providing details of the user and time. The well-structured relational database for storing the compiled authentic *al-Hadith* was then implemented using MySQL database management system.

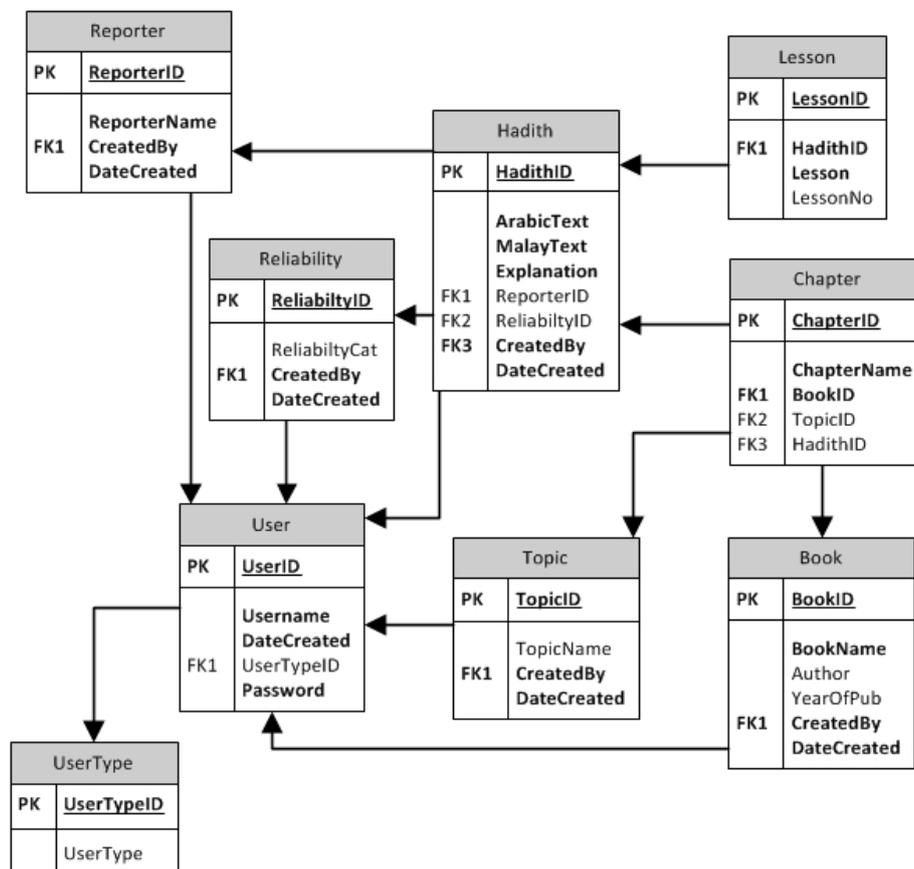


Fig 3: AL-Hadith Text Entity Relationship Diagram

## 4.2 Al-Hadith Compilation System

Interaction with the database is accomplished through a user interface as shown in figure 4. The user can insert text from the compiled *al-Hadith* based on its structure as discussed in section 2.2. After inserting each *al-Hadith* text, the user can save the data into the database. Messages are displayed to the user to confirm if data has been saved successfully. Measures are put in place to ensure that the user does not save the same *al-Hadith* twice. For this user interface, JavaServer Pages (JSP) technology was used to create dynamically generated web pages. The application logic is implemented using java beans (java classes).

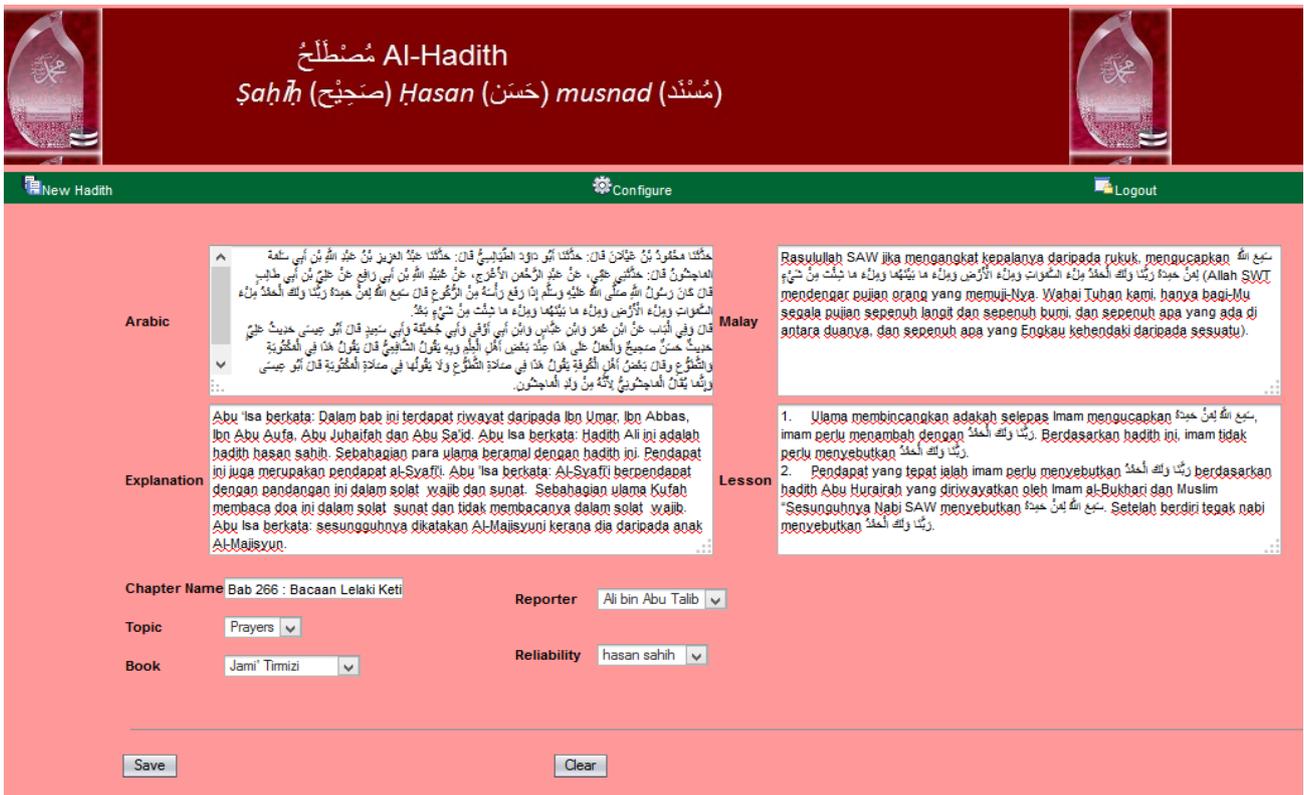


Fig 4: al-Hadith Compilation System User Interface

## 5. Conclusion

The statement and conducts of Prophet Muhammad (SAW), was memorized, written down and later passed by his companions from generation to generations. Later, as the authenticity of the text became threatened, Islamic scholars from Muslim nations collected thousands of these narratives and distinguished the true wisdom from fabricated ones. However, statements are still attributed to the Prophet, by individuals with no knowledge of *al-Hadith*. Currently, with the internet and popularity of social media the threat to the access and existence of fake *al-Hadith* is more likely than ever. These challenge, leads us to ensure the community has access to authentic *al-Hadith*. We developed a well-structured relational database to store authentic *al-Hadith* in Malay, which have been extensively analyzed by respected Islamic scholars. These development will enhance the compilation process, by ensuring data is stored appropriately. Subsequently, the tool will serve as a reference guide to the general public, who wish to verify the authenticity of *al-Hadith* in Malay language. Furthermore, it provides computer scientist with an opportunity to extract, analyze and perform inference on the data. In future, this data can be used more efficiently in other applications such as, *al-Hadith* verification, an online encyclopedia of authentic *al-Hadith* and in knowledge discovery.

## 6. Acknowledgements

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