# Mobile Based Application "Hadith for Women" Using Algorithm Boyer Moore

1st Nurhayati Buslim[1], 2nd Dwinda Faradita[1], 3th Anif Hanifah S[1] , 4th Siti Ummi Masruroh[1]
{nurhayati@uinjkt.ac.id[1], anif.hanifa@uinjkt.ac.id[1], dwinda.faradita@gmail.com[1]}

Department of Informatics, Syarif Hidayatullah State Islamic University Jakarta, Indonesia[1]

**Abstract.** Currently, women Moslem used media interaction or print media such as books - books of fiqh hadith to obtain women information. Excess of media interaction is easy and quick to find information than the print media, but the print media is more credible because of the evidence printed media interaction while still doubt the truth of the information. The women moslem need an application that is able to deliver information quickly and easily. The research will be built the mobile-based applications as device to provided easy information and used Boyer Moore algorithm for quick searching the data hadith. Algorithms perform Boyer Moore matching characters from the rightmost position and are included in the category of Exact String Matching. The result of the research has been mobile application Hadith for women using Boyer Moore algorithm is capable to obtain information specific to women's Hadith.

**Keywords:** mobile application, Searching, Hadith for women, Boyer Moore Algorithms.

## 1 Introduction

In Islam, a woman is referred to as the charm of the world who are taught by God to remain a wonderful and most beautiful. Position is very precious, as the hadith that states 'heaven is in the soles of the feet of women (mothers)'. However, at a time when the feast of the Prophet gives warning to women, that they constitute the majority population group hell because of lack of reason and religion in every woman. In an effort to avoid themselves from the group, a woman is recommended to understand the teachings of religion, law, and Islamic law. One of them comes from the Hadith.

Hadith is everything that comes from the words, deeds, and Taqrir performed by Rasulullah saw [1]. This is in accordance with the word of Allah in Qs. Al-Hasyr: 7 that contains the commands to follow everything that is done and leave the Prophet things forbidden or not done by him. Hadith has three important roles on al-Qur'an that as an affirmation of the laws described, description of the contents al-Qur'an, and other legal information that is not mentioned in it. So the role of Hadith is necessary for every woman, especially matters relating to issues related to women.

Based on the results of the questionnaire data, 39% of respondents use print media as a source of information in the Hadith. Due to this media information has advantages in detail and have proof (in print) because the truth should be clear hadith source. The drawback is the need of searching a long time. Media interaction has directly elected by 32% of respondents as providing information easier and faster information than the print media. However, the truth of

ICIIS 2019, November 07-08, Jakarta, Indonesia

DOI 10.4108/eai.7-11-2019.2294564

the information conveyed speakers still in doubt. To unify these advantages, mobile technology is one alternative that can be used to obtain information.

Previously existing smartphone-based Android application that displays information Hadith for women but not equipped with the features to search the word Hadith that can facilitate users in obtaining information right keywords as needed. Content Provided Hadith also still inadequate to the completeness of data required Hadith. It required new applications that can provide more content and features to complete the word search are available right Hadith. Searching is a process that is very important in life. In a hadith search, the information obtained is a collection of some of the words (in the programming is called a string), where the search process is done by finding a keyword in the set of data available in the application hadith. String Matching is the process of finding the place of the string you want to find in a set of strings or text [2], the search results are found or not found. The Boyer Moore algorithm is able to provide results faster than the brute force algorithm, Knuth Morris Pratt, and the Rabin Karp string search[3, 4]. These algorithms do the matching characters from right position to the left to mobilize a sizeable leap character so as to accelerate the search.

Thus, the author takes the theme of the hadith application development for women with mobile technology and algorithms Boyer Moore in search feature, with the title “Application Hadits for Women Using Algorithm Boyer Moore Based Mobile”.

## 2 Theoritical and Related Work

### 2.1. Female

Women are “people (humans) who have pies, can menstruate, get pregnant, give birth to children, and breastfeed ”.[5]. In Islam also explained that the level of equality between men and women are equal in the sight of Allah is the aspect that sets it apart from any personal faith of Muslims. Therefore, an understanding of religion, law, and Islamic law must be present in order to obtain a valuation of a woman of faith and righteous deeds are high and able to be a source of goodness and grace in the development of various generations of Islam and the nation. One source of guidance in Islam, the Sunnah (Hadith).

### 2.2. Hadith

Hadith can be interpreted based on the language and terms the science of hadith. According to the language, the hadith is “a news or something new ". While the science of hadith (the term) means "words, deeds, and taqrir (recognition of something by not commenting) carried out by the Prophet Muhammad SAW. ”[1].Hadith commonly used is the narration of Al-Bukhari and Muslim[17].

### 2.3. String Matching

according to Black, String is an arrangement of characters (numeric, alphabetic, or other characters) and it is usually represented as a array data structure. Strings can be words, phrases, or sentences. Meanwhile, a string matching or matching strings, is a problem to find a pattern in a string arrangement of another character string or part of the contents of the text. [5].

There are 3 main components in a string matching algorithm:

a. The text, is a place where the pattern matching is done, expressed as , with a length of n characters.

b. Pattern, a sequence of characters that will be matched with the text, expressed as , with a length of m characters.

c. Alphabet, which contains all the symbols used by the language of the text and pattern, expressed by Σ sized ASIZE.

With a character value (m <n) to be searched in the text. The text will be assumed to be in memory, so as to search for a string in all the contents of the archive file then needs to be read first, and then stored in the memory. If the pattern appears more than once in the text, the search will only give you the output of the current location pattern was found in the first position.

Based on the direction of his quest, string matching algorithms, there are three kinds. i.e. [6],Based on the above categories, the application will be built using the Boyer Moore algorithm to search the word.

### 2.4. Boyer Moore Algorithm.

**Basic Algorithm;** In 1977, R.M. Boyer and J.S. Moore made an algorithm that does the matching characters from the rightmost position to the left (the rightmost character is the first character in the pattern that will be matched with the character in the text). With the statement, "The basic idea behind the algorithm is that more information is gained by matching the pattern from the right than from the left." [7]. **Description of Work;** The right to left starting from the rightmost character. Two kinds of shifts that will occur when the mismatch between pattern and text characters are matched. The condition known as good-suffix shift and bad-character shift, both are used to determine the step shifts the characters to be continued on the next comparison. [4][8]

### 2.5. Application, Mobile Application, and Android

Application is "*subclass of computer software that utilizes the ability of the computer directly to perform a task the user wants*" [9]. Applications used by the computer to read the data (input), manage data (control processing unit), and issue a data management results (output).

Mobile Application is a designation for for an application running on a mobile computing technology. This technology was developed without the use of cables for communication media, so it remains to be done either when the user in a state of permanent and mobile (relocates). ***Smart phone*** *is an Internet-enabled telephone that usually also provide PDA capabilities.*" [10].

Android is a mobile operating system Linux-based The device which include an operating system, middleware, and applications. Android is said to be the first mobile platform Complete, Open, and Free. [11][12]

### 2.6 Method of Data Collection and The Concept of Data and Database System

The perform data collection by applying these two techniques are field studies and literature. Data is a fact of something that statement comes from the fact, in which the statement is the result of measurement or observation. Data can be a number - numbers, letters - letters, symbols - a general or special symbols, or combination thereof. Based on the source, research data can be grouped into two types of data, i.e.: [16] Primary data and secondary data

Database System is "*computerized system whose main purpose is to maintain data / information that has been processed and make it available when needed*" [14]. DBMS (*Database Management System*) is a set of programs to access data using SQL (*Structured Query Language*) Queries [12]. This Research uses MySQL.

The research used *Rapid Application Development (RAD) is an object-oriented approach to systems development that includes a method of development as well as software tools* [13].

UML [14] diagrams that will be used in the study were Use Case Diagram, Activity Diagram, Sequence Diagram, and Class Diagram.

The research used Black box testing focuses on the functional requirements of the software. Thus, black box testing allows the software engineer to get a set of input conditions as used all functional requirements for a program [3]. Black box testing is done during the final stages of testing, because testing is a control structure that focuses attention on information dominance.

# 3 Research Method

This research used multiple methods of data collection that can support so get writing a description of material truth discussion. Data can be divided into primary and secondary data.

3.2. System Development Methods

3.2.1. **Phase of Planning Conditions**

a. Problem Identification. The lack of availability of media information in obtaining Hadith for Women that is easy, fast, and precise.

b. Problems Solutions. To overcome the existing problems, the authors provide a solution to developing applications for the Women's Hadith which can be accessed easily, quickly, and accurately.

c. The terms of information. To support the problem solving necessary to have some information requirements that supports the design application. The needs completeness of data, and completeness of software - hardware.

d. Identification Requirements Application Features. The identification of the features shown in the picture needs to be implemented.

3.2.2. **Phase of Design Workshop**

**The User Design Phase have** Object Modeling Design;Word Search Process Design,The Algorithm Design, User Interfaces Design.

**Construction Phase**

Construction process is done with reference to the design and application flow that have been determined in the design process. The process uses the version of Juno Eclipse IDE as an editor program which has been accompanied by the installation of the SDK and ADT. As well, XAMPP as the server database design and temporary storage.The Boyer Moore Algorithm Construction and User Interface Construction

3.2.3. **Implementation phase**

Once the system has been built in accordance, Data on the hosting server to be online. Then do the testing of applications by type of Black Box testing. The implementation exam done independently and user interviews

# 4. Result and Discussion

## 4.1. Method of Data Collection

Based on the results of interviews, questionnaires, and literature (literature studies, online data retrieval, and literature) is concluded; Women need information about specific Hadith as a guide for women everyday. To obtain this information, the application is built on a mobile device that provides easy access to the word search feature as its main features by applying the

Boyer Moore algorithm, and to present information to women who are more Hadith narrated by Imam Bukhari full and Imam Muslim.

### 4.2. System Development Methods

#### 1. Phase of Planning Conditions

**Problem Identification.** Women need informa-tion media that provides convenience in obtaining Hadith for women. The information has been obtained from the print media and interaction indirectly. The print media have complete information, but less effective when searching hadith needed.

**Problems Solutions.** Hadith applications will be built for women who provide media hadith information easily and quickly. By applying the Boyer-Moore algorithm and implemented in mobile devices.

**The Information are** Necessity and Completeness of Data; Completeness of Software and Hardware; and Identification Requirements Application Features**.**

#### 2. Phase of Design Workshop

**The User Design Phase is** : Object Modeling Design, Word Search Process Design, The Boyer Moore Algorithm Design

**Object Modeling Design is** Application design using UML object modeling. The design covers the use case diagram, activity diagram, sequence diagram, class diagram of the application and Hadith Women.

**Use Case Diagram:** In this application design, use case diagram consists of a single actor, and seven use cases.

**Activity Diagram:** This phase described the Activity Diagram List of Hadits, Activity Diagram List of Narrators, Activity Diagram List of Assembly

**Sequence Diagram:** Describes the process undertaken in order to achieve the goal of system use case. They are Sequence Diagram List of Hadits and Search Word of Hadits, Sequence Diagram of Narrators, Sequence Diagram Assembly Schedule, Sequence Diagram Information

**Class Diagram:** It is to describe a collection of classes and relationship. It explains the relation between relations with relation narrators of hadith. An object with exactly one hadith related on the object narrators. A narrators can relate to one or more than one object in the hadith.

#### 3. Word Search Process Design

Explaining the workings of the application in the process of searching the data available in the application. It Design Process Flowchart Word Search

#### 4. The Boyer Moore Algorithm Design

We designed the In order to achieve the goal of research is to conduct a keyword search hadith, applied string matching - Boyer Moore algorithm on the word search function. In designing the Boyer Moore algorithm, the author uses the following pseudecode of Boyer Moore algorithm and workings of Boyer Moore algorithm are:

1. Firstly, the application will read the data that is in a class prayer Data. Applications will conduct a search of the meaning of the data array containing the hadith. Example: “Syurga berada di telapak kaki ibu”
   **T = Syurga ditelapak kaki ibu; m = 25**
2. Later, the application captures a character or *string* of keywords entered by the *user*, in this discussion is referred to as *pattern*. Example: ‘telapak’.

**P = telapak;** **n = 7**

3. Then pattern aligned with the leftmost text, so that the first character in the pattern vertically aligned with the first character of the text.

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | t | e | l | a | p | a | k | | | | | | | | | | | | | | | | | | | |

4. (i=0) In the first step (displacement, *S* = 0) in get character '*k*' on the pattern aligned with the character ' (spasi) ' in text;

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | t | e | l | a | p | a | k | | | | | | | | | | | | | | | | | | | |

‘k’ ≠ ‘ ’; don’t match, mt(T[i+j])=null; skip = j + 1 = 6+1 =7

5. (i=7) The next step (displacement, *S* = 1) in get character '*k*' on the pattern aligned with the character '*a*' in the text;

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | t | e | l | a | p | a | k | | | | | | | | | | | | | |

‘k’ ≠ ‘a ’; don’t match, mt(T[i+j])=5;
skip = Math.max(1, 6 – 5) = 1

6. (i=8) next step (displacement, S =2) in get character ‘k’ on the pattern aligned with the character ‘p’ in the text;

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | t | e | l | a | p | a | k | | | | | | | | | | | | | |

‘k’ ≠ ‘p’; don’t match, mt(T[i+j])=4;
skip = Math.max(1, 6 – 4) = 2

7. (i=10) next step (displacement, S=3) in get character ‘k’ on the pattern aligned with the character ‘k’ in the text;

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | | | t | e | l | a | p | a | k | | | | | | | | | | |

‘k’=’k’;‘a’=’a’;‘p’=’p’;‘a’=’a’;‘l’=’l’;‘e’=’e’;‘t’=‘t’
Matches all characters, words are found;
skip = 1; *continued the process to find the next pattern in the text.*

8. (i=11) next step (displacement, S=4) in get character ‘k’ on the pattern aligned with the character ‘ ’ in the text;

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | | | t | e | l | a | p | a | k | | | | | | | | | | |

‘k’ ≠ ‘ ’; don’t match, mt(T[i+j])=null;
skip = j + 1 = 6+1 =7

9. (i=18) next step (displacement, S=5) in get character ‘k’ on the pattern aligned with the character ‘b’ in the text;

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| P | | | | | | | | | | | | | | | | | t | e | l | a | p | a | k | | |

‘k’ ≠ ‘b’; don’t match, mt(T[i+j])=null;
skip = j + 1 = 6+1 =7.

10. (i=23) the search process is complete. The total pattern is the pattern found 1.

**Table 1.** Results From Keyword Search Process.

| T | S | y | u | r | g | a | | d | i | t | e | l | a | p | a | k | | k | a | k | i | | i | b | u |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| S=0 | t | e | l | a | p | a | k | | | | | | | | | | | | | | | | | | |
| S=1 | | | | | | | t | e | l | a | p | a | k | | | | | | | | | | | | |
| S=2 | | | | | | | | t | e | l | a | p | a | k | | | | | | | | | | | |
| S=3 | | | | | | | | | | t | e | l | a | p | a | k | | | | | | | | | |
| S=4 | | | | | | | | | | | t | e | l | a | p | a | k | | | | | | | | |
| S=5 | | | | | | | | | | | | | | | | | | t | e | l | a | p | a | k | |

## 5. User Interfaces Design

We design Scheme User Interface in this stage

**The Construction Phase** defined Boyer Moore Algorithm Construction and User Interface Construction

**The Implementation phases**

**Application Testing is t**ests conducted on the application has been made, the application of Hadith for Women with Boyer Moore algorithm based on mobile. testing was conducted with the Black Box.

**Independent Testing** conducted by the authors to test applications on smart phones used in the construction phase. Smartphone use is the type of brand Samsung I8190 Galaxy S3 Mini with Android version 4.0 (Jelly Bean).

**Table 2**. Details of Application Testing

| Testing | Enter Data | Expectation | Observation | Con-clusion |
|---|---|---|---|---|
| See List of hadith | The user clicks a button on the main menu Hadith Index | Displays a list of titles Hadith | The system displays a list of titles hadith. | Success |
| See Hadith | Users select a title from the list of Hadith | Displaying data available Hadith appropriate option title | The system displays the data available Hadith appropriate option title. | Success |
| See Majelis Schedule 9. | The user clicks a button on the main menu Agenda | Displays a list of names of the Majelis | The system displays a list of names of the Majelis. | Success |
| | User selects a name from a list of Majelis | Agenda showing the schedule of selected Majelis | The system displays the schedule selected agenda of the Majelis. | Success |
| See List of narrators | The user clicks a button on the main menu Biography, and choose a name from the list of narrators. | Displays a list of narrators in a dialog box. | The system displays a list of the transmitters in a dialog box. | Success |
| See narrators | Users select a name from the list of narrators. | Displaying data are available under the name narrators narrators choice. | The system displays the data that is available under the name narrators narrators choice. | Success |
| View Infor-mation | Users click on the Info button on the main menu. | Displays developer information and application data. | The system displays the data information and application developers. | Success |

In addition, system testing was also carried out for word search was performed using the same device with specs 1 GB of RAM, CPU 1 GHX dual-core Cortex-A9, and a total of 0.95 GB of free memory. With as many as 17 007 characters total of 50 titles available in the application Hadith.

**Table 3**. Key word Searching Hadith

| No | Word Search | Expectation | Observation | Con-clusion | Time | |
|---|---|---|---|---|---|---|
| | | | | | ms | s |
| 1 | Perempuan | The result shown word '*perempuan'* | The result of system shown search words *'perempuan'* | Success | 12 | 0 |
| 2 | Hadits | The result shown word '*hadits'* | The result of system shown search words *'hadits'* | Success | 15 | 0 |
| 3 | Rasulullah shallallahu'alaihi wasallam | The result shown word '*rasulullah shallallahu'alaihi wasallam'* | The result of system shown search words *'rasulullah shallallahu 'alaihi wasallam''* | Success | 11 | 0 |
| 4 | Wanita | The result shown word '*wanita'* | The result of system shown search words *'wanita'* | Success | 14 | 0 |
| 5 | Iman | The result shown word '*iman'* | The result of system shown search words '*iman'* | Success | 19 | 0 |
| 6 | A | The result shown word '*a'* | The result of system shown search words *'a'* | Success | 50 | 0 |
| 7 | Ayah | The result shown word *'ayah'* | The result of system shown search words *'ayah'* | Success | 12 | 0 |
| 8 | Ibu | The result shown word '*ibu'* | The result of system shown search words '*ibu'* | Success | 19 | 0 |
| 9 | Amalan | The result shown word '*amalan'* | The result of system shown search words '*amalan'* | Success | 16 | 0 |
| 10 | Pakaian | The result shown word '*pakaian'* | The result of system shown search words '*pakaian'* | Success | 15 | 0 |
| 11 | Pakaian Sutra | The result shown word *'pakaian sutra'* | The result of system shown search words *'pakaian sutra'* | Success | 10 | 0 |
| 12 | Allah | The result shown word *'allah'* | The result of system shown search words *'allah'* | Success | 17 | 0 |
| 13 | Muslim | The result shown word *'muslim'* | The result of system shown search words *'muslim'* | Success | 16 | 0 |
| 14 | Orang Tua | The result shown word *'orang tua'* | The result of system shown search words *'orang tua'* | Success | 12 | 0 |
| 15 | Dosa | The result shown word *'dosa'* | The result of system shown search words *'dosa'* | Success | 19 | 0 |
| 16 | Dosa Kecil | The result shown word *'dosa kecil* | The result of system shown search words *'dosa kecil'* | Success | 11 | 0 |
| 17 | Dosa Besar | The result shown word *'dosa besar '* | The result of system shown search words *'dosa besar'* | Success | 12 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 18 | Tato | The result shown word *'tato'* | The result of system shown search words *'tato'* | Success | 19 | 0 |
| 19 | Riba | The result shown word *'riba'* | The result of system shown search words *'riba'* | Success | 17 | 0 |
| 20 | Shalat | The result shown word *'shalat'* | The result of system shown search words *'shalat'* | Success | 17 | 0 |
| 21 | Puasa | The result shown word *'puasa'* | The result of system shown search words *'puasa'* | Success | 18 | 0 |
| 22 | Ibadah | The result shown word *'ibadah'* | The result of system shown search words *'ibadah'* | Success | 12 | 0 |
| 23 | Bakti | The result shown word *'bakti'* | The result of system shown search words *'bakti'* | Success | 15 | 0 |
| 24 | Jihad | The result shown word *'jihad'* | The result of system shown search words *'jihad'* | Success | 15 | 0 |
| 25 | Haji | The result shown word *'haji'* | The result of system shown search words *'haji'* | Success | 17 | 0 |
| 26 | Haid | The result shown word *'haid'* | The result of system shown search words *'haid'* | Success | 20 | 0 |
| 27 | Hutang | The result shown word '*hutang'* | The result of system shown search words *'hutang'* | Success | 15 | 0 |
| 28 | Hari Raya | The result shown word *'hari raya'* | The result of system shown search words *'hari raya'* | Success | 11 | 0 |
| 29 | Mahram | The result shown word *'mahram'* | The result of system shown search words *'mahram'* | Success | 12 | 0 |
| 30 | Laknat | The result shown word *'laknat'* | The result of system shown search words *'laknat'* | Success | 14 | 0 |
| 31 | Tidur | The result shown word *'tidur'* | The result of system shown search words *tidur'* | Success | 14 | 0 |
| 32 | Rezeki | The result shown word *'rezeki'* | The result of system shown search words *'rezeki'* | Success | 16 | 0 |
| 33 | Surga | The result shown word *'surga'* | The result of system shown search words *'surga'* | Success | 16 | 0 |
| 34 | Neraka | The result shown word *'neraka'* | The result of system shown search words *'neraka'* | Success | 14 | 0 |
| 35 | Suami | The result shown word *'suami'* | The result of system shown search words *'suami'* | Success | 16 | 0 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 36 | Istri | The result shown word *'istri'* | The result of system shown search words *'istri'* | Success | 14 | 0 |
| 37 | Agama Islam | The result shown word *'agama islam'* | The result of system shown search words *'agama islam'* | Success | 9 | 0 |
| 38 | Setan | The result shown word *'setan'* | The result of system shown search words *'setan'* | Success | 13 | 0 |
| 39 | Malaikat | The result shown word *'malaikat'* | The result of system shown search words *'malaikat'* | Success | 11 | 0 |
| 40 | Jin | The result shown word *'jin'* | The result of system shown search words *'jin'* | Success | 21 | 0 |
| 41 | Anak | The result shown word *'anak'* | The result of system shown search words *'anak'* | Success | 19 | 0 |
| 42 | Ibnu | The result shown word *'ibnu'* | The result of system shown search words *'ibnu'* | Success | 16 | 0 |
| 43 | Manusia | The result shown word *'manusia'* | The result of system shown search words *'manusia'* | Success | 11 | 0 |
| 44 | Golongan Manusia | The result shown word *'golongan manusia'* | The result of system shown search words *'golongan manusia'* | Success | 8 | 0 |
| 45 | Bangun Tidur | The result shown word *'bangun tidur'* | The result of system shown search words *'bangun tidur'* | Success | 8 | 0 |
| 46 | Aplikasi | The result did not shown word *'aplikasi* | The result of system did not shown search words *'aplikasi'* | Success | 11 | 0 |
| 47 | Sistem | The result did not shown word *'sistem* | The result of system did not shown search words *'sistem'* | Success | 16 | 0 |
| 48 | Android | The result did not shown word *'android'* | The result of system did not shown search words *'android'* | Success | 14 | 0 |
| 49 | Mobile | The result did not shown word *'mobile'* | The result of system did not shown search words *'mobile'* | Success | 9 | 0 |
| 50 | Smartphone | The result did not shown word *'smartphone'* | The result of system did not shown search words *'smartphone'* | Success | 9 | 0 |

Based on the test results obtained that the algorithm is able to provide results Boyer Moore search speed for 0 seconds at 17 007 characters total with the actual test as many as 35 word searches. Where, the longer the pattern or total character input pattern the sooner the keyword search.

## B. Field Testing

Field testing is testing performed by determining and analyzing the types of smartphones and mobile devices version of Android that can implement application Hadith Women.

The list of questions can be found on the link addressed:https://docs.google.com/forms/d/1bQgWHXdXKSBaTRhejsEtQJ4ryTh2OoZtoqQVFvuUaC0/viewform.

testing can be viewed at the following address**:** https://docs.google.com/spreadsheet/ccc?key=0Ak_a-W0S0qgmdEF3QVMtSUhSLWFKeTRRMjYyajEyeGc&usp=sharing (access end at 10:00 am, on May 20, 2014). The results of the questionnaire answers percentage of the total 30 female respondents can be seen in the following table,

**Tabel 4**. Results Questionnaire testing

| No | Jawaban | | |
|---|---|---|---|
| 1 | Ya | Tidak | |
| | 30 | 0 | |
| | 100% | 0% | |
| 4 | Ya | Tidak | |
| | 30 | 0 | |
| | 100% | 0% | |
| 5 | Ya | Tidak | Kurang |
| | 24 | 0 | 6 |
| | 80% | 0 % | 20% |
| 6 | Ya | Tidak | |
| | 23 | 0 | |
| | 100% | 0% | |

From the test results it can be concluded that the application Hadith for Women:

1. Successfully installed and can be run on the Android operating system.
2. Successfully makes it easy for users to obtain information Hadith for Women.
3. Successfully deliver search results information quickly and accurately in performing a keyword search Hadith
4. The keyword search on this application is able to provide the speed for 0 seconds persekali search.

## 5. Conclusions and Suggestions

**Conclusion**

Application Hadith for Women is designed with a word search feature that can facilitate users in obtaining information related to women's hadith. The design is done by the method of system development Rapid Application Development (RAD). System design tools are used is the Unified Modeling Language (UML). While the encoding using the Java programming language and XML for Android. based on the results of the questionnaire, the Hadith for Women successful application to easily obtain information.

Boyer Moore algorithm used in applications 'Hadith for Women' to be implemented in the word search feature. This algorithm is used for the study of literature states that the Boyer Moore algorithm has a search process that is faster than brute force algorithm, Knuth Morris Pratt, Rabin and Karp. In the process, these algorithms do the matching characters from the rightmost position to the left. Thus, he was able to do a pretty big leap of character and can speed up the search string. This is evident in the search process in this application; the algorithm is able to provide results Boyer Moore search speed for 0 seconds on a total of 50 word search.

**Suggestion**

Applications that writers make is not perfect of course, there are many things that can be developed in order to make the benefits of the application be better for the future.
Therefore, the authors also present some suggestions for further research, namely: Applications can be developed other mobile operating systems and can be added with features like voice command, auto-text, auto-complete, book-marks, and steaming words.

**Acknowledgements.** This research supported by UIN Syarif Hidayatullah Conference Grant for ICONQUHAS 2019

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