I. INTRODUCTION

Phonetic search is a method of finding information in a file on where the algorithm is used to find combinations of characters that sound similar to the specified combination[1]. Doing a search based on phonetic similarity will produce better search results because it will tolerate errors in writing, as long as the sound is still the same as the word in query.

The search system for the Qur'anic verses based on phonetic similarity will certainly be very helpful for Muslims, especially for Indonesian Muslims. The contents of the Qur'an are not small, consisting of 30 juz, 114 surahs, and 6666 verse [2], searching manually will be very time-consuming. At present, there are not a few systems for searching Al-Qur'an verses, one of which is Tanzil in 2007, only that Tanzil is still searching
through Arabic script queries so that people who are not familiar with Arabic script will find it difficult. Besides the phonetic-based search system using Latin letters also already exist, one of which is Islamicity in 2001 and Lafzi in 2012. For the phonetic search system in Islamicity using international Arab-Latin matching that is different from the matching of Arab-Latin Indonesia. As for the search system, Lafzi has used Indonesian Arab-Latin matching.

A search on the Qur'an is generally carried out when someone remembers a particular verse or is listening to murattal and wants to find a fragment of the verse. The query entered is in the form of a memorized verse or one that comes to mind without knowing whether the query is the correct paragraph or the query crosses two verses. So we need a search system that can handle queries for cross verses. In the search system, Lafzi himself cannot handle cross-verse searches.

In a study conducted by Eki Rifaldi on a cross-verse search system in the Qur'an based on phonetic similarity developed from Lafzi and named Lafzi+, the system produces MAP 0.9 and Recall 0.93[3]. In this research, the application of the Jaro-Winkler algorithm is still not implemented as a whole, and the system cannot handle cross-verse searches for the entire Qur'an. Cases like nun wiqoyah at the end of the verse still cannot be handled by the Lafzi+ system. To complement the previous research, in this journal beside the existing equivalent rules, the rules for handling nun wiqoyah will also be added at the end of the verse. Rules are added to the phonetic coding process, for example in Surah An-Nisa verses 37 and 38, namely الَّذِينَ (٣٦) فَخُورًا يَبْخَلُونَ the verse contains nun wiqoyah at the end of the verse, in the Lafzi system + the verse produces a phonetic encoding "fahuranilazinayabhalun", by adding the rules of nun wiqoyah in this system result in the phonetic coding of the verse pieces becoming "pahuranxalajinayabhalun", to match the results of the phonetic coding stored in the database.

In the previous system, because there were no rules that dealt with nun wiqoyah, the search for a verse piece containing nun wiqoyah at the end of the verse was not found, whereas by adding the nun wiqoyah rule to the existing rules, the search for cross-verses that contained nun wiqoyah at the end of the verse can be found.

By adding the nun wiqoyah rule to the phonetic coding process and implementing the Jaro-Winkler algorithm in calculating the similarity value and using the number of N-grams in the ranking so it is expected that the MAP and Recall results will be better, and for queries that do not cross verse it is expected that it will not reduce the MAP value and Recall from the previous system.