Proposing and Developing Qaf Online System for Quranic Contests

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Abstract

Nowadays, the use of IT is playing a crucial rule in almost all aspects of life. This paper will highlight the importance of using IT in Quranic education. With that, it is observed that many Quranic institutions are using IT in their daily work, but there is still a lack in integrating IT systems into some Quranic programs that require utilizing IT for better efficiency. Qaf system has been proposed and developed to realize this objective for the whole processes of Quranic contests, which is built upon an experience of 10 years in conducting Quranic contests. The system encompasses 5 main modules – User Management Module, Applications Module, Seasons & Sessions Module, Questions & Evaluations Module, and Result Module. For smooth operation of the system, it has been tested with 700 users. With the use of this system in Quranic contests, efficiency and effectiveness are attained in terms of time, flow of processes, and effort.

*Keywords***: Quranic education, Quranic contests, Contest system.**

1. Introduction

Information technology with its amazing capabilities and multiple applications in various aspects of life has a great impact on serving Islamic sciences in all its forms, including the sciences of the Holy Quran. According to Salleh & Saifuddeen (2012) the information and communication technology has been proposed for Da'wah and Quranic knowledge. The study of Tayan & Alginahi (2009) has been distinguished with the usage of advanced ICT that combines program applications for instructing the Holy Quran. The work of Rosydi & Marjan (2003) has talked about how administrations and applications advertised by the innovation can be utilized productively to distribute and increment the level of understanding Islamic information. A complete system related to program verification and dispersion of computerized Quran and Prophetic verses is proposed where the verification process is separated into two stages: confirmation and security (Hakak et al. 2018). Research of Akkila & Abu-Naser (2018) presented the first idea of using artificial intelligence and Quran where a smart technique framework used for learning Quran with Tajweed by Rewaya Hafs from Asem in line with Shatebiyyah. The study of Anas, Ariff, Ghazali & Yaacob (2018) has clearly driven to the improvement of online Quranic learning systems and demonstrated the execution using acceptance of technology. Hosseini, Ramchahi & Yusuf (2014) have contended that IT is not only to serve Islam inclusively through technology but also helps to

spread its mission all over the world. An efficient review about the usage of information for Islamic perspective has been investigated by Al-Rahmi et al. (2017), where it has shown the importance of IT to conduct the future studies of Islamic area. Usman (2013) has analyzed how Nigeria has considered the Data and Communication Innovation (ICT) to upgrade the teaching and learning method of Arabic language and Islamic education.

One of the famous applications of information technology for the Holy Quran is the widespread entry of computers into the work of printing presses. Programs (such as the Abjad program) have shown the possibility of showing the Quranic text with Ottoman and beautiful lines and incorporating them into the texts of books or other publications (Zeki & Khader, 2011). Once the Internet revolution began to widen, the websites dealing with the Holy Quran were among the first Arab sites to be sponsored. We find dozens of programs that serve the Holy Quran and hundreds of websites on the Internet interested in the science of the Holy Quran (Al-Mashhadani, 2011).

Quranic competitions are among the important activities that serve Quranic education, in which IT applications should be utilized. Such contests encourage people to memorize and revise the Holy Quran in a perfect way. There are many Quranic verses and Hadiths that show a great reward for those who compete to become the best reciters, some of those are: i) Allah (s.w.t.) says: "So for this let the competitors compete" (Holy Quran, 83:26). ii) The Messenger of Allah (ﷺ) said, "The one who is proficient in the recitation of the Qur'an will be with the honorable and obedient scribes (Narrated by Al-Bukhari & Muslim)".

In the history of Islam, Quranic competition took a full consideration of scholars of Qira'at, they used to mention it in their books (Ibn al-Qayyim). Therefore, in the contemporary world it became a famous activity among Muslim communities. Nowadays, Quran competition takes place even in Muslim minority countries, such as USA, Canada, and Singapore. There are many objectives in conducting Quranic competitions. Most of it focus on encouraging young and youth to read and recite the Holy Quran.

1.1 Related Studies

In fact, Quranic competitions have noticeable positive impact on their participants. According to Ahmad Gusau (2012) and Rafatu Abdulhamid (2015) Quranic competitions have brought a lot of positive impact in the modification of individuals, students, and parents, in particular spiritually and educationally.

According to the available literature, many studies are attempting to develop systems that help correct the recitation of a reciter as in Nurarina Said (2012), Muhammad Zarif, Nurfadilah Mohamad and Bhasah Abu Bakar (2014), Musbah Aqel and Nida Zaitoun (2015), and Noraimi Shafie, Mohamad Adam and Hafiza Abas (2017).

However, there is a lack of studies that should develop holistic systems for the whole processes of Quranic competitions, in particular the evaluation process through the jury committee. Most of these competitions are still being conducted using the conventional way that include separate tools. Thus, technology should be utilized to provide a comprehensive system that serves Quranic competitions in an optimal way. For that, Qaf Online System was proposed and developed based on an experience of 10 years in conducting Quranic competitions. This system is aimed to serve as a model for international Quranic competitions.

2. Methodology of Quranic Competition

The methodology of Quranic competition is taken from the practices of Quranic competitions across the world. For *Hifz* (memorization) competition, the common way which is practiced in Mecca, Dubai, Egypt and majority of the Muslim countries is to ask participants certain number of questions and evaluate them according to certain criterion. Usually questions are addressed in order so that students will be having questions according to the sequence of the Quran. The evaluation process is performed according to the announced criteria of the competition. All *Hifz* competitions assign the highest marks to the memorization part followed by the *Tilawah* (recitation) part. Some competitions include the melody as a third part as well. Usually, students are evaluated based on marks evaluation system (out of 100). An example of the marks evaluation system is as follows: 60 marks for *Hifz* and 40 marks for *Tajweed*. Another example is: 70 marks for memorization, 20 marks for *Tajweed* and 10 marks for melody. This little difference in evaluation is what sets one competition apart from another, but the core is still the same in all memorization competitions. The details of the evaluation criteria may be different from one institution to another. An example of this is the deduction marks for each mistake in each part of the evaluation criteria, or whether a certain mistake should be considered as a mistake or not.

For the competition process, it usually consists of the following: application, reviewing, acceptance, questions, performance, evaluation, results and result announcement. The questions preparation is one of the critical parts of any Quranic competition. Some competitions rely on random selection of questions, meaning that any question of a certain category can be asked regardless of its degree of difficulty. This way of questioning is fair for the committee in terms of biasness. However, following this way may result in getting all the questions easy for some participants and the opposite to others. The other method of selecting questions is that a separate committee is assigned to make subsets of questions containing different levels of difficulty. This ensures that each set of questions contains such levels. Although this method seeks to distribute levels of difficulty to each set, however, it is still unable to guarantee fair difficulty level to everyone since difficulty in *Hifz* is subjective and cannot be generalized. In other words, the question that might be difficult in the eye of an examiner may not be so in the eye of a participant, as he/she may have prepared this question well, and vice versa. This is very common in international Quranic competitions where some participants fail to answer the easiest perceived questions.

2.1 Model of Quranic Competition

Many Quranic competition systems are not open to the public to access as they are owned by institutions. However, and as mentioned earlier, the processes of majority of Quranic competitions are almost the same in their core functions. The flowchart in Fig. 1 on the next page shows the process of Quranic competitions as practiced in ITQAN Institute for Quranic Education.

It shows steps that are mostly followed by majority of Quranic competitions around the world, although some differences may exist in some competitions, especially in the way session allocation or evaluation criteria and methods.

Qaf system is developed with an algorithm that generates questions as demanded. User can set earlier how many questions needed and also how many pages per each question. The questions are randomly generated by the system from a selected category according to user needs.

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                          ┌──────────────┐
                          │    Start     │
                          └──────┬───────┘
                          ┌──────┴───────┐
                          │   Receive    │
                          │ applications │
                          └──────┬───────┘
                                 │
          ◇ Requirements met? ──No──> ◇ Application missing? ──Yes──> [ Ask for updates ]
                 │ Yes                        │ No
          [ Accept applicant ]            ( Reject )
                 │
          [ Allocate candidates for each session ]
                 │
          ◇ New sessions required? ──Yes──> [ Open a new session ]
                 │ No
          [ Allocate judges for each session ]
                 │
          [ Inform candidates ]
                 │
          [ Evaluate participants in each session ]
                 │
          [ Announce results ]
                 │
          ◇ Have another round? ──Yes──> (back to Allocate candidates)
                 │ No
          ( End )
```
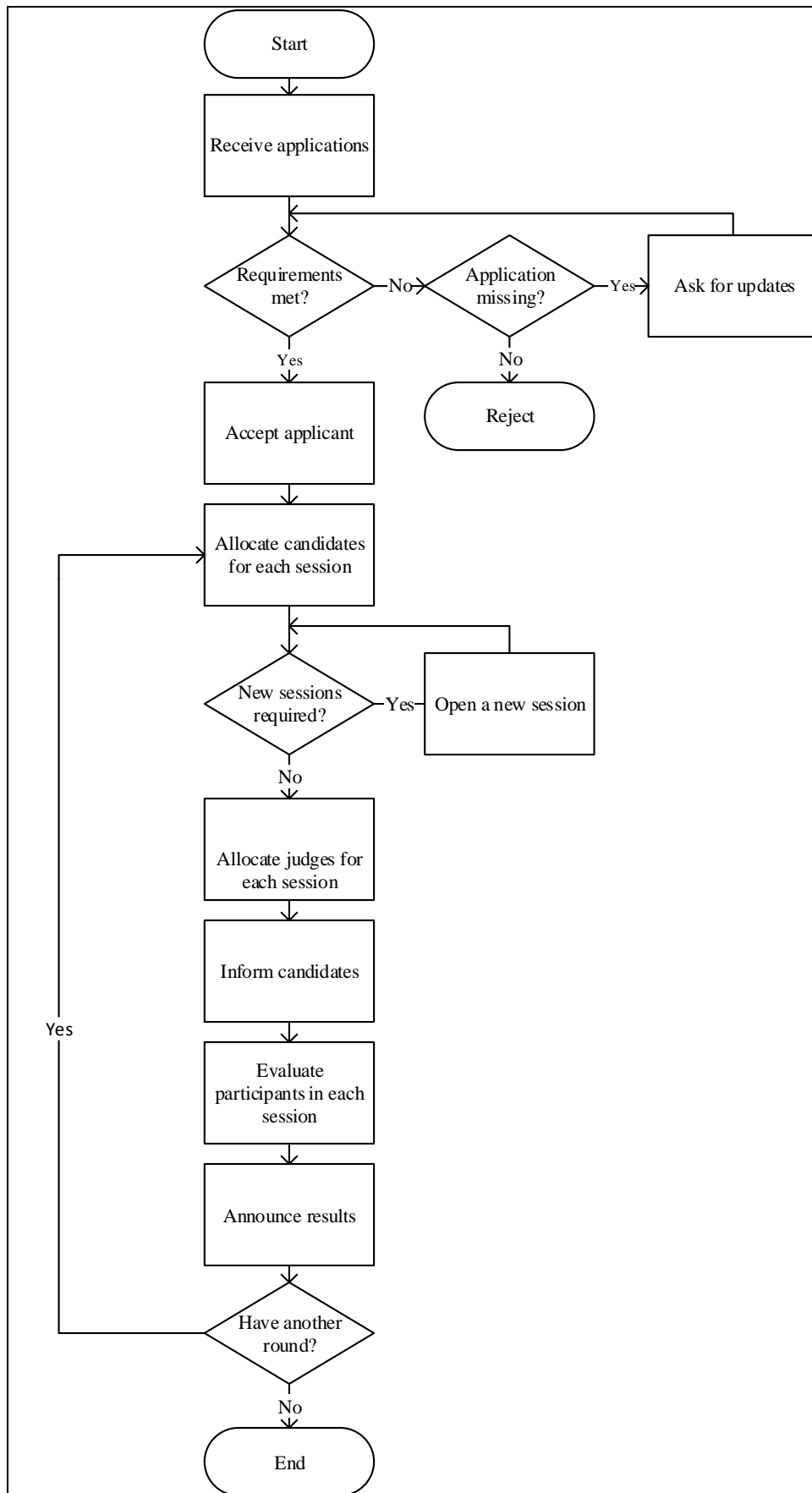
Figure 1. Flowchart of the competition processes

2.2 System Building

The system is developed based on ITQAN National Quranic Competition Model, which has taken place in Malaysia for more than a decade. ITQAN model is following the steps mentioned earlier. Building the system took around 10 months. Then, it was tested in ITQAN National Quranic Competition April-2018 in Kuala Lumpur. Around 750 users used the system. All the functions of the system have been tested and found accurate and reliable. Some bugs were found and fixed during the competition, and ultimately the system was found functioning as expected.

3. Results and Discussion

Most of the Quran institutions are used to deal with Quran competitions in a conventional way that involves the use of separate tools. Here comes the idea of proposing and developing Qaf Quran Competition System, which aims at furnishing a new approach of dealing with Quran competitions. The system was developed to combine all the tools in one single tool to realize efficiency and effectiveness. The competition is generally carried out through three major phases:

Phase 1: Registration Process

Registration process was used to be conducted through third-party tool, which has its demerits as listed in the table below:

Table 1: Registration process between conventional approach and Qaf System

No.	Demerits of Conventional Approach	Merits of Qaf System
1	Limited customization	Fully customized
2	Limited conditional options	No limit to conditional options
3	Limited validation	Full validation
4	Candidates are notified through another tool	Candidates are notified using the same tool (from applicant's page)
5	Applicant may lose record for reference later	Applicant can view and amend his/her application later
6	Limited to third-party signed-in applicants	Sign-up is not required
7	Attachments are limited to a certain size	Attachment size is customized

From Table 1, it is evident that there is a major difference between the two approaches. For example, having a limited customization causes the process to lack for a user-friendly interface and requires applicant more time to complete the process. Also, validation feature is intended to insert input of a certain type, that is to make it easy for both applicants to enter correct data and the reviewing committee to deal with the received data. This feature is found to be limited using the conventional way, while Qaf system provides full validation as

required. Instead of notifying candidates manually through another tool, which consumes time and effort, in only one step candidates can be notified using Qaf system. The system also ensures that applicant is capable of amending his/her application for applicable fields, which is not provided using the conventional tool if the applicant did not select the related option. For this process, third-party tools require user subscription, which involves further steps for those not subscribing yet, which also may discourage some applicants to complete the application. This step is not required using the system, that is to encourage all interested applicants to participate in the competition. Some applicants may find difficult to resize their attachments as required by the conventional tool, while Qaf system makes it easier to avoid this obstacle. At large, Qaf system is proposed and developed in such a way that it makes the competition process smoother, time saving, and reliable.

Phase 2: Evaluation Process

Evaluation process was used to be carried out following the conventional way of using papers forms, displaying competition questions through third-party tool and then recording the tally marks to a third-party tool as well, which has its demerits as well, as listed in the table below:

Table 2: Evaluation process between conventional approach and Qaf System

No.	Demerits of Conventional Approach	Merits of Qaf System
1	Questions are prepared manually	Questions are generated randomly based on preset criteria
2	Paper-based evaluation	Evaluation through the system
3	Tally marks are manually recorded to a third-party tool	Tally marks are automatically recorded within the system

As Table 2 shows, in the conventional approach, competition questions were manually made in such a way to display questions from a preset order. What distinguishes this process using Qaf system is the capability of displaying the questions randomly based on a preset level-based distribution of questions, which is smoother and reliable. It is too time consuming to evaluate using papers, which entails writing the basic data of each participant and manually recording the tally marks to the papers. Qaf system has made much easier, that each participant is automatically displayed to the judge, and tally marks can be electronically recorded using the system, which ensures accuracy and time saving. It can be said with certainty that, Qaf system has made the evaluation process more convenient, reliable and time saving.

Phase 3: Results Process

Results process was used to be performed manually or/and through third-party tool. The demerits of this approach are listed in the table below:

Table 3: Results process between conventional approach and Qaf System

No.	Demerits of Conventional Approach	Merits of Qaf System
1	Marks are calculated manually and/or using third-party tool	Marks are concurrently calculated
2	Sorting of marks is performed manually	Marks are automatically sorted
3	Winners of different sections are ordered manually	Winners are automatically ordered

Table 3 shows the clear difference Qaf system makes compared to the conventional way. In the conventional approach, marks calculation, sorting the scores, and ordering of winners are all done manually. In Qaf system, all such steps are done automatically, which ensures reliable calculation, time saving, and more convenient way of the whole process.

Lastly, Qaf system forms a major change to the processes of Quranic contests, which realizes both efficiency and effectiveness.

4. Conclusion

Qaf competition system has been proposed and developed to ensure efficiency and effectiveness for Quranic contests. A lot of time, effort and cost is spent in conducting the contests using the conventional approach. This system provides the optimal approach in which all contest processes run smoothly and reliability. Using this system, both applicants and contest committees interact with the contest in a convenient way.

For future work, it is advised to make the system work both online and offline so that data gets synchronized when the internet reconnects. This will help when internet interruption occurs. Also, the system should have another option for question selection besides the random selection, an option based on difficulty level (easy, medium, difficult/hard). This will require carrying out a survey to a wide number of hafizes (Huffaz) to identify the difficulty level for Quranic questions. Having such option in the system will make the evaluation accurately fair for each participant. Besides, a mobile application for the system should be developed to ease the use of the system using mobile phones.

Acknowledgement

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