Using a Suggested Strategy for Electronic Hajj Reservation

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ABSTRACT: Everyone knows the extent of the importance of Hajj in the life of every Muslim, as it is one of the obligations of Islam and one of its five pillars, and it is imposed on every adult Muslim who can perform Hajj for once in his life and it is a command from God that will not change and will not change and will not stop and use all methods to facilitate this obligation and all modern technologies and techniques to serve the pilgrims in a continuous manner forever. On the other hand, to keep the Hajj away from all worldly subjects and make the Hajj ritual with the utmost transparency, also Permission to perform Hajj must be not permitted Hajj to a specific group according to a party or official in the state or those have money and influence or granted to people who performed this duty more than once time at the expense of other people that did not perform Hajj before due to the lack of an opportunity to perform the Hajj rituals due to the use of the lottery mechanism in the distribution. This was the idea of this application for the Hajj and Umrah Authority in the Kingdom of Saudi Arabia to be responsible or for this body to be a global Hajj organization whose representatives are chosen from every country in the world, and the Muslim registers directly in the application and gets the result directly without interference by any party Official and according to the points obtained through the information entered by any person who registers in Al-Hajj Registration Application.

Keywords: Hajj, Reservation, Application, Registration, Hajj Rituals, Permission.

1. Introduction:

Hajj in Islam is a place that Muslims intend to perform the obligatory rituals and perform the legal rituals specified in the Qur'an and the Sunnah and in the months that God Almighty has assigned to perform the obligatory duty, and the existence of an application such as the registration application for Hajj needs and calls for focusing on training and preparing technical and technical cadres, including specialists in electronic media, technicians, experts, and consultants, preparing field studies and specialized research, developing performance and monitoring the volume of interaction or electronic turnout on these projects by opening comments.[6][7] [10][12]And that the efforts of media projects (newspapers, websites, groups, activists) should be grouped and unified as much as possible into collective enlarged activities, instead of being dispersed into similar and repeated activities that waste effort and disperse competencies, and does not make the money spent in these similar competing activities an added value, unlike what Western entrepreneurs are doing it right now, Where the idea of grouping activities, alliance and merging between similar projects is spread in developed countries, to benefit from pooling investments, competencies and funds in mega projects that control the largest number of minds in the world.[3][5][11][14] At the last Hajj season and amid strict health measures due

to fears of the spread of the Coronavirus among the pilgrims, about 10 thousand only residents participated in the rituals, compared to about 2.5 million Muslims who attended the previous year, after a selection process carried out by the authorities that some considered vague, as it witnessed the acceptance of requests and the rejection of numbers Another great.[4][8][9][13]

2. Problem definition:

Previously, the Ministry of Awqaf used to select pilgrims according to their ages, i.e. the oldest then the youngest, and so on. Then the lottery mechanism was introduced in the selection process, and the lottery mechanism takes place because the number of requests submitted by citizens, in most years, exceeds the number agreed upon with the Saudi authorities, and therefore the lottery resolves this congestion in submitting applications by those wishing to perform Hajj.

The procedure of the lottery is accompanied by many observations about its implementation, sometimes some problems that weaken the required transparency and the necessary publicity, and this is illustrated by the following points:

- 1- The use of the lottery every year, regardless of the year in which the citizen applied for Hajj, deprives citizens who have wanted to perform Hajj for years and were not lucky in the lottery, and it may give the opportunity to a person who applied for Hajj this year only, as who applied for several years ago, Thus, the lottery in this way cancels the idea of priority for the seniority of the application and equalizes between those who applied for Hajj once and those whorepeat the application every year.
- 2- The lottery mechanism, regardless of age, reduces the chances for the elderly, as the lottery in this way gives the same opportunity to the elderly and young people, which may deprive adults of Hajj later because of the increased possibility of illness, death or old age, or force them to repeat the request, The same conditions, in the following years.
- 3- The lack of an international website and international application concerned with the matter of the pilgrims through which every Muslim can apply for the Hajj, and follow up his data and the extent of his obtaining permission to perform Hajj directly after registration in the application. The Hajj and Umrah companies, some of these agencies or companies do their work to facilitate the task for the pilgrim and take over the matters of his registration and obtain the necessary approvals to perform the rituals of Hajj for a certain amount of money.[1][2][16] This matter encourages some weak souls in several countries to convert it into private trade and obtain from it on the exaggerated money led to the decline of the Hajj and the difficulty of performing it, especially for those with limited income. For this reason, the existence of the Hajj Registration application eliminates the presence of these intermediary companies and the pilgrim will be responsible for his data and follow-up to obtain a Hajj license.[15][10]

Since Hajj is one of the pillars of Islam and a basic obligation, it means that the data that every person enters for Hajj must be correct, else the Hajj is considered invalid because it was established on a false basis such as lying and fabricating facts, and this is contrary to the true goal of Hajj and obtaining the pleasure of God, so there is no need to request identification documents for the person, but it can be requested for verification in the event of an inadvertent error.

3. Application steps:

1- The application starts from the first interface through which registration in the application or login is done in order to know the situation and is his name for those who are allowed to perform Haji for that year.



Figure(1)

- 2- The following interface is in which the pilgrim's name, age, gender, and whether there are previous visits and the number of previous visits are entered, and there is an accompanying pilgrim.
- 3- After entering the data, it will be processed to fulfill the conditions of the Hajj, for example, if the age is less than 15 years, its data will be rejected and deleted, and the other case, if it is over 75 years, must have an accompanying person. If the age is less than 45 and the gender is female, there must be an accompanying person. If the pilgrim has a chronic disease or has a disability, he needs an accompanying person.
- 4- An interface for entering the data of the accompanying person.
- 5- After completing this data, it is stored in the database to serve as a bank of information on all pilgrims, which is modified every year by every pilgrim wishing to perform the rituals of Hajj.
- 6- The processing of this data begins and the new idea here is to give each paragraph a certain weight, where the person who is more than 75 years old is given 10 points to be in his balance and the person between 75 and 71 gives 9 points and between 70 and 71 gives 8 and so on to the lowest age is between 20 and 13 years have three points, which show in the tableno. (1):
- 7- Every person who wants to perform the rituals of Hajj and does not have any previous experience, or the first time that he will visit the holy places will give 10 points. As for the person who has one visit and wants to repeat it, he gives 9 points, and the person who has two visits gives 8 points, and so on until we reach people They have seven or more pilgrimage visits, where they are excluded and are not allowed to visit in order to give a chance to those who were not able to perform the Hajj as in the following table.

The age	weight	No. of visits	weight
Age > 75	10	0	10
75 – 71	9	1	9
70 – 61	8	2	8

60 – 51	7	3	7
50 - 41	6	4	6
40 – 31	5	5	5
30 - 21	4	6	4
20 - 13	3	7	3
13 > Age	-	more	-

Table no. (1)

- 8-A person who has a companion is given two degrees of preference over one who does not have a companion.
- 9- Those that have a group of companions who were three, five or more are given 5 points, and one of them (who know that his score is the best among them) are be in the table of pilgrims and the rest in the table of companions.
- 10- Those with low incomes are given 5 points (to encourage the poor and those with limited incomes to perform the Hajj).
- 11- A person with a disability is given 15 points.
- 12- A person with chronic illness is given two points for each disease.
- 13- If his profession is a doctor, a person is given 10 points to be accompanied by the medical team for the pilgrimage caravan.
- 14- After completing the calculation of the balance of each person, then they are arranged according to the amount of the balance for each one.

4. Experimental results:

After entering the data of any person who wishes to register to perform the rituals of Hajj, he chooses the name of the country to which he belongs, for example from Iraq, the data will be stored in a special table for this country as in the following table no.(2):

	The Republic Of Iraq Al Hajj Season For 1942 Or 2020 List Of The Names Of The Pilgrims Who Obtained Permission To Perform The Hajj Congratulate You, And May God Accept Your Deeds													
Pilgrim's Id	First Name	Second Name	Third Name	Birthday	Gender	No. Of Visits	Address	Chronic Diseases1	Chronic Diseases2	Chronic Diseases3	The Type Of Disability, If Any	Companion Id	Companion Name	No. Of Companio n
2579	Asma	Salem	Fathy	11/ 5/1965	Female	0	Mosul/Hi Al-Shrta	-	-	-	-	7883	Ayad Ali	1
2580	Kyss	Lukman	Faysal	9/4/1999	Male	0	Wasit/Alnor	-	-	-	-	-	-	-
2581	Ahmad	Yunis	Ibraheem	7/12/1960	Male	2	Bahgdad/Alamrya	Diabetic	-	-	-	-	-	-
2582	Mazin	Waleed	Raeed	8/8/1975	Male	0	Bahgdad/Aljadrya	-	-	-	Hemiplegia	2218	Saad Mazin	1
2583	Mahdya	Sulyman	Naji	5/3/1966	Female	0	Thikar/Alsamiya	Blood Pressure	Diabetic		-	133	Marym Ashraf	5
2584	Muhamad	Hassn	Muhamad	21/5/1988	Male	1	Bahgdad/Alaathamya	-	-	-	-	-	-	-
2585	Gasim	Syed	Ali	23/4/1978	Male	1	Dyala/Khansaad	-	-	-	-	-	-	-

Table no. (2)

After the data of hundreds or thousands of those who wish to perform the rituals of Hajj are stored, processing begins the data and setting weights for the entered data and then calculating the balance of each person and storing it in the database. The next step is to arrange the names in descending order according to the balance of each person. Table No. (3) Represents a sample of the table obtained by any person who enters his data into the application.

The Republic Of Iraq Al Hajj Season For 1942 Or 2020 List Of The Names Of The Pilgrims Who Obtained Permission To Perform The Hajj Congratulate You, And May God Accept Your Deeds								
Sequence	Pilgrim's Balance	Id No.	First Name	Second Name	Third Name	Birthday	Gender	
3010	15	222	Fathy	Salem	Yunis	11/ 6/1965	Female	
3011	15	3070	Ali	Faysal	Haydar	22/2/1999	Male	
3012	15	2011	Faeza	Ibraheem	Saleem	17/1/1960	Female	
3013	15	1180	Zhraa	Zyad	Ahmad	5/5/19765	Female	
3014	14	1066	Layla	Sami	Nagm	5/12/1961	Female	
3015	14	2584	Muhamad	Hassn	Muhamad	21/5/1988	Male	
3016	14	3300	Samir	Syed	Waad	3/8/1972	Male	

Table no. (3)

5. Discussion:

- 1- In case of two persons have the same balancefor differentiation between them can based on the date of birth and in the worst cases that the date of birth is identical. The choice between them is made on the basis of the alphabetical order of the name.
- 2- The weights that are given to each person registered in this application are experimental weights that can be changed according to a field study carried out by a specialized committee for the data of pilgrims for the past years that have been adopted in setting the appropriate weights for each case.

6. Recommendations:

- 1) The necessity of having a team to work behind the scenes in this application, where its members are specialized, each according to his field, to achieve integration and success in the end, and successful work requires a technical team, a media team, a consulting team, and the application of the Hajj needs a legitimate team as well.
- 2) Staying away from sectarian and political differences to achieve the greatest amount of universality and spread.
- 3) Availability of institutional and technical support specialized in work written by the Saudi government.

7. Conclusions:

Creating an electronic application for Hajj is not a new and unfamiliar matter, but the aim of designing such an application is to use a new idea to differentiate between the pilgrims and to give each case a certain weight so that the differentiation between them will be based on a great deal of

transparency and fairness by which the shares of each country are distributed and the fairness of distribution in any country depends on The data of the person applying for the Hajj without any interference from any official or unofficial authority and without imposing additional fees for intermediaries and reducing opportunities for corruption through which some mediators give permissions to people who do not meet the special conditions but are granted for intermediary's private interest only. In the end, the result is lists of names of pilgrims who get the Approval to perform the rituals of Hajj so that each pilgrim knows his position and sequence in the list and the percentage of obtaining this approval to perform the rituals of Hajj for this year or the next year.

8. Future works:

- 1) Add another corner for fatwas on matters of Hajj and Umrah.
- 2) Working on adding services for the possibility of reservation for Umrah as well.
- 3) It is possible to add another service, such as providing a flight reservation service or road vehicles for a pilgrim who has obtained permission to perform Hajj?
- 4) As well as providing a reservation service for hotels and places of residence and various offers, each according to his financial capabilities.
- 5) It is possible to add educational angles that include text files or video files and others in order to teach the rituals of Hajj in order to avoid many of the mistakes that are made by the pilgrims due to the lack of information.
- 6) Multilingualism of this content in order to facilitate registration for the Hajj by the largest number of Muslims with different languages.

9. Resources:

- 1) Adnan Shaout and Shahzeb Khan, "Alhajj Hajj App for IOS", April 2016
- 2) AchmadIrwanHamzaniPancasaktiSiswantoPancasakti, "LEGAL PROTECTION FOR HAJJ PILGRIMS THROUGH REGIONAL REGULATION", December 2018
- 3) Dr. MD Rashedul Islam, TridibMazumder,"Mobile Application and Its Global Impact",January 2010
- 4) Emad A. Felemban; Faizan Ur Rehman ,..., "Digital Revolution for Hajj Crowd Management: A Technology Survey", 11 November 2020
- 5) Esam Ali Khan, MohdKhaledYousefShambour, "An analytical study of mobile applications for Hajj and Umrah services", 18 May 2017
- 6) Kasmad Mile, AsnaAneta, Rauf A. Hatu, ZuchriAbdussamad ,"Hajj Service Management to Increase Pilgrim Satis-faction from Gorontalo", No.6, 2019
- 7) Majrashi, Khalid,"User need and experience of Hajj mobile and ubiquitous systems: Designing for the largest religious annual gathering", 11 Jun 2018
- 8) Malak Osman1, Adnan Shaout2, "Hajj Guide Systems Past, Present and Future", August 2014
- 9) SittiArafah,"The Effectiveness Of Hajj Ritual Guidance Services By The Ministry Of Religious Affairs On Eastern Indonesia",June 2020
- 10) Arogundade, Oluwasefunmi, et al., "A Mobile-Based Farm Machinery Hiring System." In Proceedings of Second International Conference on Computing, Communications, and Cyber-Security, pp. 213-226. Springer, Singapore, 2021.
- 11) Awotunde, J. B., et al. (2020). Blockchain-Based Framework for Secure Transaction in Mobile Banking Platform. Advances in Intelligent Systems and Computing, 2021, 1375 AIST, pp. 525–534

- 12) Oluwagbemi, O., et al., (2020, June). MAFODKM: mobile application framework for the management of Omics data and knowledge mining. In Journal of Physics: Conference Series (Vol. 1566, No. 1, p. 012132). IOP Publishing.
- 13) Abayomi-Zannu, et al., "Implementing a mobile voting system utilizing blockchain technology and two-factor authentication in Nigeria." In Proceedings of First International Conference on Computing, Communications, and Cyber-Security (IC4S 2019), pp. 857-872. Springer, Singapore, 2020.
- 14) Jonathan, O., et al. (2018, July). Design and implementation of a mobile-based personal digital assistant (MPDA). In International Conference on Computational Intelligence, Communications, and Business Analytics (pp. 15-28). Springer, Singapore.
- 15) Adewumi, A., et al. (2016). Design and implementation of a mobile-based timetable filtering system. International Journal of Control Theory and Applications, 9(23), 371-375.