

System analysis and Design: Tools and Techniques

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System analysis and design must not be considered as mechanical activities. Programming may be termed as a skill, but system analysis and design is an art as well (it's fortunate a layman possess natural ability for analysis & designing) we need to succeeded in this art, because it is becoming a sort of engineering discipline in same respect.

System analysis and design are practical disciplines. Fortunately, the practice is governed by same basic concepts and philosophies. If you understand these concepts and philosophies you will be able to apply with confidence, the tools and techniques.

System analysis is the study of a current system, needs and requirements, and the evaluation of alternative solutions. System design is the general and detailed specification of a computer based solution that is selected during systems analyses. Design specification is typically forwarded to computer programmer and technicians for system implementation during system implementation phase in which computer programmes are written and tested. Managers and users are trained to use the new system and the operations are converted from the old system to the new system, the system analysis plays a pivotal role in its phases. System analyst is responsible for the efficient capture of data from its business source, the flow of that data to the computer, the processing and storage of that data by the computer and the flow of useful and timely information back to business use. The role of system analyst is as catalyst, as an agent of change, as a communicator and as a generalist at the same time.

For becoming a good system analyst there are few skills to be developed.

- 29- Al-Qur'an, al-Jum'a (62)9
- 30- Ibid. al-Baqara (2). 238
- 31- Ibid. al-Hajj (22). 41
- 32- Ibid. al-A'raf (7). 29
- 33- Ibid. al-A'raf (7) 31
- 34- Ibid. al-Baqara (2). 114
- 35- Abu Dawud. K.al-Salat, bab fi'l-mashy fi al-salat, I/379
- 36- Mishkat, K. al-Salat, I/146 .
- 37- Special dress worn by those who go to Hajj
- 38- The little pilgrimage. consisting of the rites at the Ka'ba and the running between the hills al-Safa and al-Marwa. One can perform at any time of the year
- 39- Illiyun literally means high places; Abu- Dawud. K. al-Salat, bab fi fadl al-mashy ila al-salat, I/378
- 40- Darimi. al-Sunan, I/99 (the hadith, though weak yet the scholars have always quoted it.
- 41- Ibn Hanbal. Musnad, II/252,325,IV/8
- 42- Encyclopaedia of Islam, Masjid.
- 43- Ibn Hisham. IV/177
- 44- Bukhari. K.al-Hudud, VIII/13,14,15,16
- 45- Bukhari. K.al-Hudud, bab karahiyat al-shafa`ah VIII/16
- 46- Ibn Hisham. III/67
- 47- Encyclopaedia of Islam, masjid
- 48- Ibid
- 49- Ibid
- 50- Muslim. K.al-Masajid, man ahaq bi'l- imamah, II/133

- 1- Muslim. *al-Jami*, *K.al-masajid*, II/163; (the whole earth has been made pure and place of worship for me)
- 2- Bukhari. *al-Jami*, *K.bad al-khalq, bab, Hijrat al-Habshah*, IV/245
- 3- *Encyclopaedia of Islam*, article *Masjid*
- 4- Al-Qur'an *al-Hajj* (22). 40
- 5- Ibid. *al-Isra*, (17)
- 6- Ibid. *al-Baqara* (2). 144
- 7- Ibid. *al-Baqara* (2). 191
- 8- Ibid. *al-Anfal* (8). 34
- 9- Ibid. *al-Jinn* (72). 18
- 10- Ibid. *al-Baqara* (2). 114
- 11- Ibid. *al-Tauba* (9). 17-18
- 12- Ibn Hisham. *Sirah*, II/139
- 13- Muslim. *al-Jami*, *K.al-masajid, bab Ibtina Masjid al-Nabi*, II/65
- 14- Muslim. *al-Jami*, *bab Fadl-julus fi musallahu*, II/132
- 15- Bukhari. *al-Jami*, *K.al-salat, bab man bana Masjidan*, I/116; Muslim *K.al-Masajid, Fadl bina al-Masajid*, II/68.
- 16- Bukhari. *K.al-Adhan, bab Fadl man ghada ila al-masjid*, I/160, Bukhari, *K.al-Tafsir*, Surah IX. V/209
- 17- Muslim. *K.al-Masajid, bab Istihbab al-Rak'atain*, II/156
- 18- Bukhari. *K.al-Kusuf, bab fadl al-salat fi Masjid Makkah*, II/56
- 19- Ibid. *bab Fadl ma bayn al-Qabr wa'l Minbar*, II/57
- 20- Ibn Majah. *al-Sunan, K.al-Masajid, bab al-dua'a 'inda dukhul al-Masjid*, I/ 254.
- 21- It refers to onions and garlic
- 22- Muslim, *K.al-Masajid*, II/80
- 23- Muslim. *K.al-Masajid, al-nahy an al-busaq*, II/75 (This refers to the situation when the floor of the mosque was bare earth with some pebbles scattered over it [Author's note])
- 24- *Mishkat al-Masabih, k.al-salat*, I/48
- 25- Abu Dawud *al-Sunan, K. al-Huclud, bab fi Iqamat al-Hadd fi, I-Masajid*, V/629
- 26- *Mishkat, K.al-Salat* I /149
- 27- Abu Dawud. *al-Sunan, K.al-salat, fi bina al-Masjid*, I/310
- 28- Bukhari. *K. al-Taharah, bab al-ha'iz*, I /179

but if they are equally versed in reciting it then the one who has most knowledge regarding the *sunnah*. If they are equal regarding the *sunnah*, then the earliest of them to emigrate; if they emigrated at the same time, then the oldest amongst them. No man must lead another in prayer where the latter has authority, or sit in his place of honor in his house without his permission. ⁽⁵⁰⁾

meetings, marriage ceremonies and funerals. It is an institution that protects the identity of the Muslim Community.

ADMINISTRATION OF THE MOSQUE

The mosque from the earliest days was never considered to be anyone's property. It is God's property and an endowment to the public. The management and maintenance has always been the duty of the ruler or the society or area. Some mosques were maintained by the ruler and the expenses were paid from the *Bayt al Maal*. Some of the modern Muslim states have ministries of Awqaf and religious affairs. These ministries look after the mosques and pay the salaries of the staff employed within them. As far as general mosques are concerned, they are maintained by the community through donations and general financial assistance.

Since there is no organised clergy in Islam, so each mosque is an independent administrative unit and the *Imām* or *Khaṭīb* is the central figure. He leads the five daily prayers and the Friday congregational prayer. Besides the Imam, depending on the size of the mosque, there can be a *mu'adhdhin*, caretaker and cleaner. There is usually an administrative committee selected from amongst the community to look after the affairs of the mosque and to arrange funds for the mosque. In fact, it is the Imam who has to play a key role in the mosque. Some of the qualities of an Imam have been accepted as a necessary requirement for his appointment.

He should have a high standard of learning. By learning is meant religious knowledge.

Physically able and of sound character.

Socially accepted. Ibn Masūd has reported a *ḥadīth* of the Prophet regarding Imamah which provides a basis for the required qualities.

Abū Masūd reported Allāh's Messenger as saying: The one of you who is most versed in Allāh's Book should act as an Imam for the people;

time of the Prophet and the rightly guided caliphs, even the military expeditions were sent from the mosque and matters of defence were discussed therein.

It was the Prophetic practice which established the authority of the mosque in all spheres of Muslim life. The tradition was carried on by the Pious caliphs and the Muslims rules of the early centuries. Abu Bakr, the first Caliph, after the oath of allegiance was given to him, delivered his first address in the mosque. Since then it remained an accepted practice that the new caliph would address the people in the mosque before attending to the administrative affairs of the state. Normally his first address was considered to be his official policy, and leading the prayer and addressing from the *Minbar* was the symbol of authority.

Almost all the Umayyid and Abbasid caliphs and governors used to give their policy speeches in the mosque. Even the ruler about whom stories of transgression and injustice were reported, respected the importance of the mosque. Abdūl Malik ibn Marwān, during his preparation for war against Abdullah ibn Zabayr, came to the mosque to convince the Muslims on this issue, and sought their help and participation in the war. The famous address of Ḥajjāj and Ziyād were delivered in the mosque. "In general the mosque, and particularly the *minber*, was the place where official proclamations were made, of course, as early as the time of the Prophet"⁽⁴⁷⁾. Ibn Qutayba reports that ibn Masūd, a judge and the one responsible for all financial affairs during the time of 'Uthmān, used to sit in the mosque of Kūfa to decide judicial cases and financial matters. Ṭabarī reported that in 123 AH the judges of Medina used to hold their courts in the mosques. Ibn Baṭūṭa, the famous traveller, records his attendance to a court of Shiraz in the mosque ⁽⁴⁸⁾. "Although the mosque lost its old political importance in later history, it has never quite lost its character as the place of assembly for occasions of public importance. ⁽⁴⁹⁾

In situations where Muslims find themselves in a minority, the mosque is playing its full social role, serving as a centre for public

neither *dinar* nor *dirham*, leaving only knowledge, and he who accepts it accepts an abundant portion. ⁽⁴¹⁾.

This *ḥadīth* indicated that the companion of the Prophet was sitting in the mosque and the people were receiving knowledge from him, so the mosque was an academic centre. With the development of the schools of jurisprudence and theology, the teacher of each school would select a corner of the mosque and lecture the students. Every subject was taught in the mosque and all academic interests were served; even circles of poetry recital were organised there. The educational system was separated from the mosque when the colonial power introduced their system of education in the Muslim world. The madrasas system ran parallel to the modern educational system, but despite this, the mosque still retained its focal position even in the colonial period.

THE MOSQUE AS A SOCIAL AND ADMINISTRATIVE CENTRE

"It was inherent in the character of Islam that religion and politics could not be separated. the same individual was ruler and chief administrator in both fields, and in the same building. The mosque was thus the centre of polarity for both politics and religion. this relationship found expression in the fact that the mosque was placed in the centre of the coup."⁽⁴²⁾

The mosque, being the centre of the Muslim community, was the place where all political, judicial, and social decisions were taken during the time of the Prophet (peace be upon him). Collections for emergency needs were made there ⁽⁴³⁾ and the important matters were discussed with the companions and the tribal delegations. The Prophet also made appeals for donations for military expeditions in the mosque ⁽⁴⁴⁾. He used to decide judicial cases in the mosque ⁽⁴⁵⁾. The Prophet conducted all political negotiations and made decisions and contracts in the mosque. Whenever he wanted to draw attention to a special issue he would call people to the mosque and deliver a speech explaining the matter in a proper perspective. Ibn Hishām ⁽⁴⁶⁾ and al-Ṭabarī reported that during the

knowledge and teaching the ignorant, so they are superior. I was sent only as a teacher. "He then sat down amongst them."⁽⁴⁰⁾

In the early centuries of Islam the mosque was an educational centre and all educational activities were attached to it. Qur'an was taught there and Qur'anic verses were explained by the Prophet. The companions used to memorise and record the sayings of the Prophet in the mosque. In one of the corners of the Prophet's Mosque there was a raised platform (suffa) which was the central place of student activity for those who were interested to know about their faith, worship and other matters. Mostly it was an informal method of teaching, but later on it was organised in a systematic way. 'Umar ibn al Khattāb organized educational activities in the mosque as a state function. When he sent teachers throughout the Islamic state in 17 AH a Muslim historian recorded the mosques being full of students. The third and fourth century AH present a picture of glorious academic activity in and around the mosque. Mosques served this educational function for a long time until later *madrasas* (Islamic Schools) were established separately. Mosques still retained their central importance and the Grand Mosques in Damascus, Baghdad, Cairo and Nīshāpūr, remained famous centres of learning. The success in which these mosques disseminated knowledge is evident from the following traditions.

Kathīr ibn Qays told how, when he was sitting with Abū Darda' in the mosque of Damascus, a man came to him and said: "Oh Abū Darda', I have come to you from the town of the Messenger for a tradition. I have heard that you relate from Allāh's Messenger. I have come for no other purpose. He replied that he had heard Allāh's Messenger say: "If anyone travels on a road in search of knowledge Allāh will cause him to travel on one of the roads of Paradise. The angels will lower their wings from good pleasure with one who seeks knowledge, and the inhabitants of the heavens and the earth and the fish in the depth of the water will ask forgiveness for him. The superiority of the learned man over the devout man is like that of the moon on the night that it is full over the rest of the stars. The learned are the heirs of the Prophets who leave