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Designing and Developing E-Passport System Using & Asp.Net Implanting E-government Concepts

Dr.Saif Fatooh[1], Mohamed Abaza[2]

[1]Dean of Emirate College –Khartoum- Sudan
[2] Information Technology Deanship – Taif University-KSA.

Abstract

The purpose of this study is to illustrate the importance of using E-Systems encountered in E-Government development and implementation in Sudan. The study described the E-Government initiatives and pointed out the benefits of E-passport system which could be realized throughout the adoption of E-Government. The study suggested some priority areas of E-Government initiatives in Sudan. The study also discussed Sudan E-Government current status. Therefore, it outlined the barriers and challenges impeded Sudan E-Government development. The study stated the country readiness for E-Government adoption weaknesses. Finally, the study recommended that proper orientation should be given to E-Government adoption and development in Sudan.

Keywords: E-Passport; E-Government challenges; Sudan E-Government initiatives; Asp.Net; xml.

1. Introduction

Technology has always been a driver and an enabler for changes. In recent ICT availability has increased and applied in every domain. The early uses of ICT were applied to automating the existing process through electronic media for example internet; later on ICT has been used to transform the way in which the all operations are done. Nowadays the international trend is towards online service delivery and greater citizen interaction, this interaction and service delivery can be achieved through the uses of new technologies. The E-Government paradigm means rendering of government services and information to public using the electronic media.The new shape of government has brought a revolution in the quality of services delivered to the citizens. It has ushered in transparency in the governing process; saving the time due to provision of service through single window; simplification of procedures; better office and record management; reduction in corruption and improved attitude, behavior and job handling capacity of the dealing personnel [1] . At the beginning of the Internet revolution organizations and companies uses the internet to adopt e-business and e-commerce, in public sector the comparable term is the e-government [2]. E-Government is not merely the computerization of a government system, but a belief in the ability of technology to achieve high levels of improvement in various areas of government, thus transforming the nature of politics and the relation between government and citizens [3]. In developed and some developing countries e-government employment improved the citizen's life due to providing at least all necessary services and required information in most aspects in electronic context which results in promoting and enhancing this countries citizen's life.

1.2- E-Government Concept

E-Government enables citizens to handle more transaction such as renewing the licenses and pay their tax online. the quantity of these e-transactions increases and the administration is pushed to build online interfaces directly connected to the internally functioning government systems with minimal interaction with government staff [4]. Sudan elaborated a strategy for e-government in 1997 with specific attention to developing a telecommunications infrastructure [5].The government of Sudan create   a council for information co-ordination to co-ordinate the E-Government strategy. Most recently, Sudan has started elaborating an action plan to guide the implementation of the actions in the strategy. Despite the support of the private sector, the biggest challenge remains lack of funding for E-Government development [5]. Sudan regardless the numerous uses of technologies particularly the mobile

phone services which three companies are competed but E-Government project adoption and implementation is still far behind. But due to expansion of internet uses in recent there are some *A*.

1.3-E-government definition

Many studies and researchers defines E-Government, some definitions restrict E-Government to internet-enabled applications only, while E-Government mainly concentrate on all ICT applications not only internet to improve the activities of public sector organizations. At following we illustrate some studies and researcher definitions and then at the bottom we give a summary and conclude to E-Government definition. e-governance is the public sector's use of the most innovative information and communication technologies, like the Internet, to deliver to all citizens improved services, reliable information and greater knowledge in order to facilitate access to the governing process and encourage deeper citizen participation [6].

E-Government is simplifying services and procedures and exchanging the information electronically among the different community sector, as well as promoting government work efficiency [8].We concluded from these definitions that E-government is the use of technologies (ICT) and its applications to facilitate the operation of the government throughout system automation of different government departments and organizations. The utilization of the technologies will make the access of government information and services easy to the stakeholders. In other words we can Say E-Government is the use of technologies to facilitate the operations of the government which enable the access to the government information and service.

1.4-. Benefits of E-government

Although the implementation E-Government can result in cost reduction to government and citizens, alike increase transparency and reduce corruption in public services delivery. E-Government can transform old challenges and create unprecedented possibilities for sustainable economic development, just as it has done for business in the industrial worlds [9]. So, E-Government implementation brings many benefits to public and private sector to improve their performance. [6] outlined the main benefits of E-Government as follows:
- Cost reduction and efficiency gains
1. Quality and flexibility of service delivery to businesses and customers.
2. Increase transparency and accountability also eliminated corruptions.
3. Increase the capacity of government
4. Network and community creation
5. Improve the quality of decision making through the provision of requires and accurate information.
6. Promote the use of ICT in other sectors of the society.
7. Citizen's satisfactory due to provide them the information they required in easy and fast way.

2. -The prospects of E-Government in Sudan

The E-Government project in Sudan is the responsibility of the National Information Centre (NIC). This center was formed in 2004, and it is in charge of all ICT related projects within government [10]. Initially the center worked under the command of the Council of Ministers. After the creation of the Telecommunications and Information Technology Ministry, the NIC became one of its administrations. The E-Government project implementation will carry out the daily process automation and reengineering the existing process for optimizations to save time and cost. E-Government implementation will offer opportunities for citizens, business and others stakeholders to participate in decision making by allowing them to provide and share their own ideas and suggestion in online communities. The government of Sudan has carried out few projects for e-Government implementation comparing with others nations adopted E-Government projects. For example Sudan government has carried out National Identification System which started in 2010, E-Passport in the year 2009 and e-license and others. Although E-Government encompasses a wide range of activities and areas, we can concentrates on some public sector institutions in Sudan have priorities to adopt E-Government in their work to improve the work and performance as follows:

2.1-A. Education

Education field E-Government can enable through the following:
School and institutes online management or electronic management, which enable and speedup the information flow in and between the school and the local education administrations, states ministry of education and federal ministry of education. Also, the application of E-G in the education sector could promote the school and families digital interaction, save a staff records for promotions and training chances even so, illustrate the needs of staff appointment and so on.

2.2- Health field

The implementation of E- Government will enhance the possibility of the hospital clinical information automation which lead to electronic health records and online emergency desk, thus result in digitalization of prescription and medical certificate cycle. All these can promote the citizen life due to expedite and easiness of delivering the government services throughout using the new technologies.

2.3-Justice

The implementation of E- Government could result in improving the productivity and efficiency in the justice system; this can be achieved through keeping electronic records of justice to fastening the sort, storage and retrieval of the needed records. In recent apart from justice cases the court administration in Sudan has established computerize land management systems to overcome the land registration

problems.

2.4- Electronic office environment

E-Government will lead to assigning tasks electronically, accessing documents online, meeting schedule and mail checking electronically all these lead to reduce the use of papers which will help in cost reduction in office tasks

3-E-Government Components

A. Departments Aspects

To Focus and specialize on the business process and its simplification. Emphasis on rules and regulations.

B. Services Aspects

Customers can inquire on-line help during the services regulations; services are automatically executed.

C. Chanel Aspects

Number of counters are allowed in the long run Multiple innovative channels (web, mobile, telephone) .

D. Customers Aspects

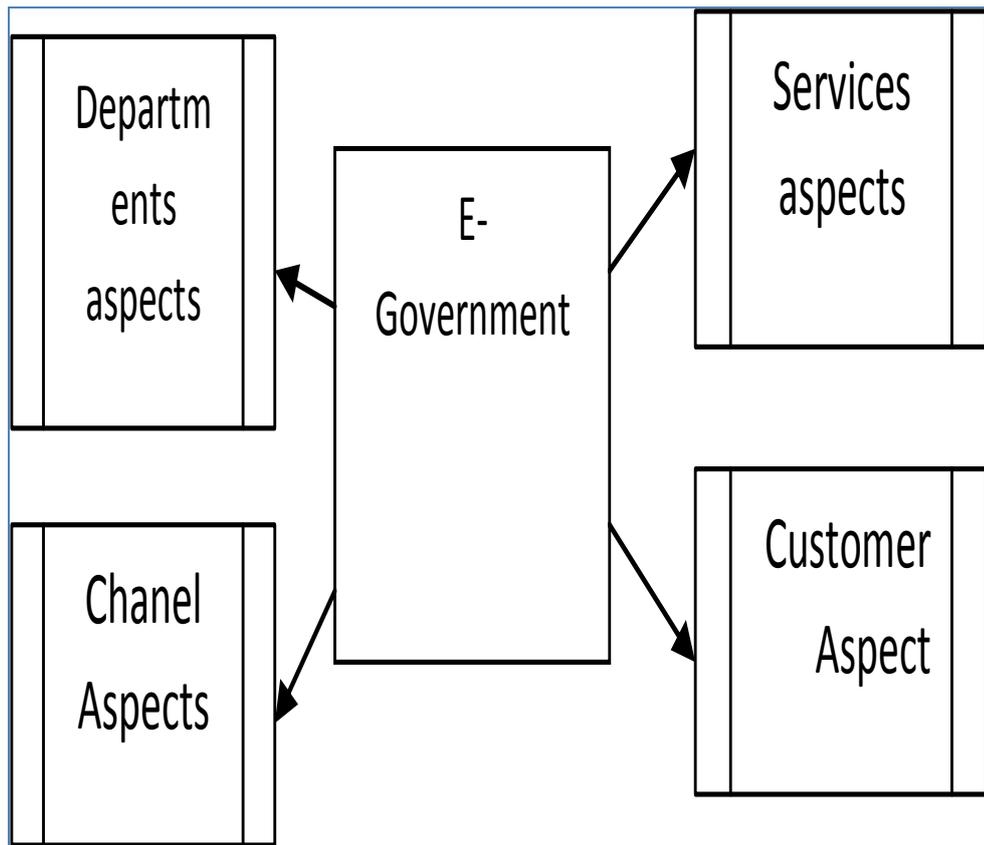Number physical visits (counters potentially closed and replaced possibly with a few service centres) .

Fig (1) General E-Government components

3.1. THE Benefits of using ASP.NET

From Development point of view ASP.Net comparing with other web base software, provides user management controls and libraries to help building UI more easily and less worry about browser compatibility. Beside UI ASP.NET provides developers with better communication and data transformation medium.

Network support, security implementation, profile management, session management on state servers and other powerful configurations will lesser effort are beauty of ASP.Net.

3.2-. Definition of ASP.NET

ASP.NET define is a set of Web development tools offered by Microsoft. Programs like Visual Studio .NET and Visual Web Developer allow Web developers to create dynamic websites using a visual interface of course, programmers can write their own code and scripts and incorporate it into ASP.NET websites as well. Though it often seen as a successor to Microsoft's ASP programming technology, ASP.NET also supports Visual Basic.NET, JScript .NET and open-source languages like Python and Perl. ASP.NET is built on the .NET framework, which provides an application program interface (API) for software programmers.

- Passport system case study
- The system consists of
- Passport data master table
- Passport transactions tables
- Nationality table
- Visa Table

3.3. The passport System Component

The Passport System contains many components that interact with each other in the system environment all of which serve the public interest. The goal of all of these requirements to obtain the correct document in the shortest possible time through the system, and follow the system used in the production of documents Individual application components (see Fig 2) do not trust any external data, including those from other application components (originating from the same or different machine). Data originating from external sources such as peer software components, network, database and operating system are considered unsafe unless proven otherwise. All

application end users including system administrators in remote PFC locations are not trusted. Application components will trust data originating from their own trust boundary only [8]
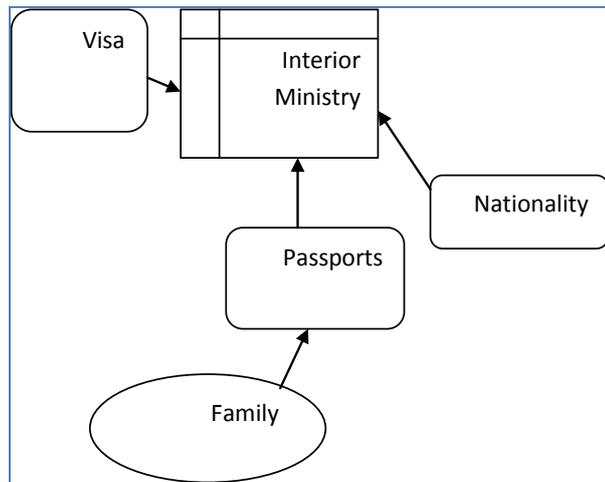

Fig (2) Interior System components
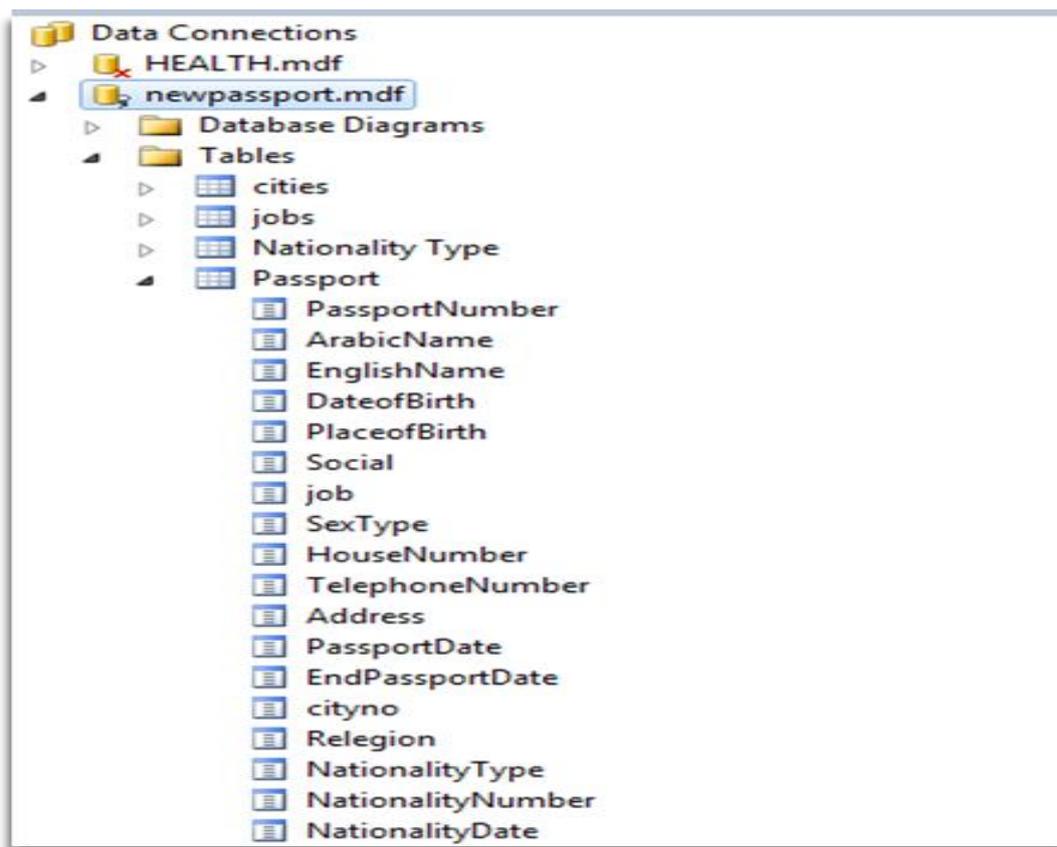
4.0-. SQL Server database tables of the system

Fig (3) Master Table fields

4.1. System login

Figure (4) The Login of Passport System

Figure (5) The Main System Web Form
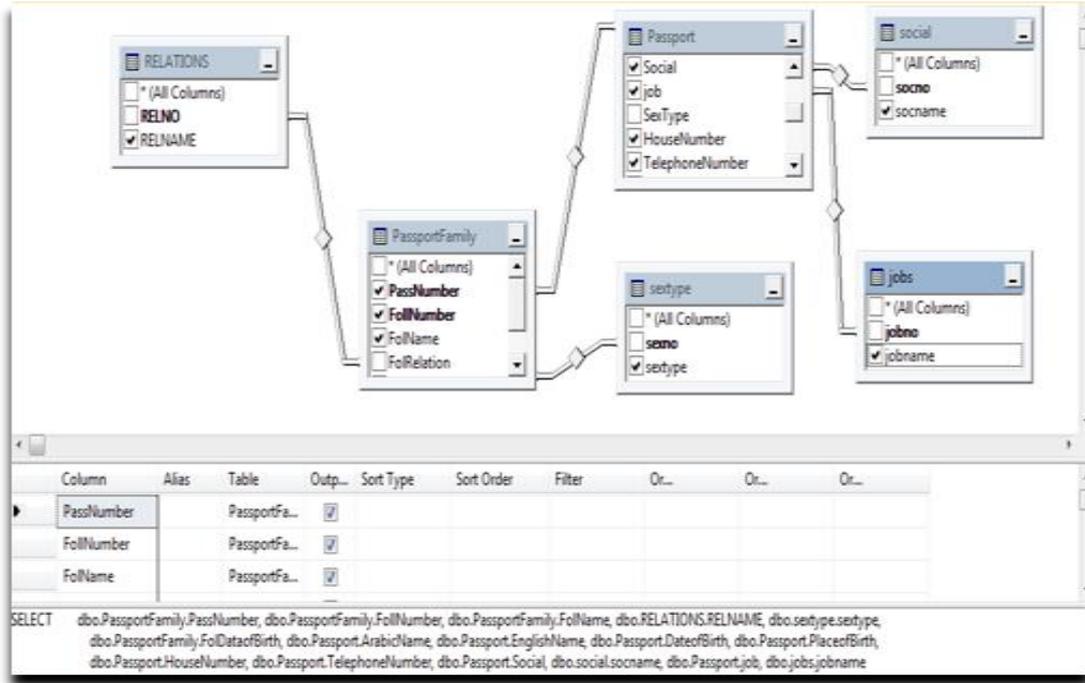
Figure (6 The Main System tables relation

5-System development using vb.net code

5.1-Add New passport data

Sql server instruction data can be inserted to the passport table in using Visual Basic .Net by writing the following code.

("INSERT INTO Passport
(PassportNumber,ArabicName,EnglishName,DateofBirth,PlaceofBirth,Social,job,SexType,HouseNumber,TelephoneNumber,Address,PassportDate,EndPassportDate,cityno,Relegion,NationalityType,NationalityNumber,NationalityDate)")

Figure (07) the Add New passport data entry webform

5-2-Updating of the passport data

Figure (08) the update button with the vb.net code below.

5-3. Design of the Report system

The system has two main reports
- The passport report
- The family report
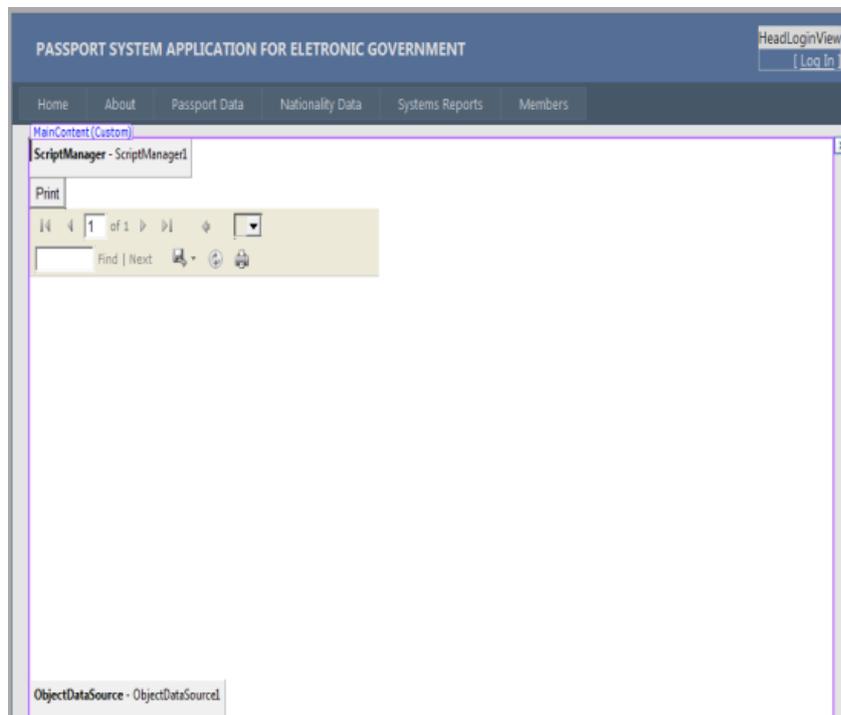
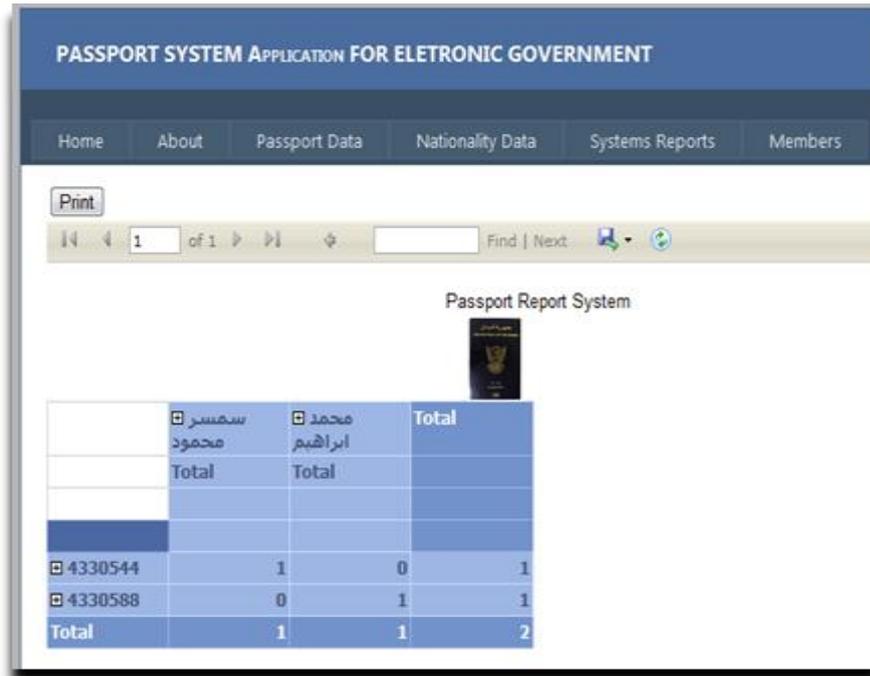
Figure (9) The Report Layout Using Report Viewer Tool

Figure (10) Web Report Form

6.0-Sudan Readiness for adopting

6.1-E-Government WEAKNESSES

The government of Sudan adopted e-government as solution to facilitate communication and connectivity between different parts of the government institutions and departments.
But indeed there are some weaknesses in Sudan readiness [9] which impeded the implementation of E-Government such as follows:

1. Cultural diverse and fragmentations among the citizens (language, religious, etc…) which make it difficult to achieved a unique level of citizen's satisfaction.
2. Political instability due to the long war in the south before the country separation in 2011 also the recent ongoing conflict in Darfur, Blue Nile and South Kordfan which have distracted the attention of the politicians and leaders to another mission than the E-Government adoption and development.
3. The embargo and sanction on Sudan since 1996 particularly the technological sanction led to the country isolation and has great impact on influencing the country ICT and its projects development which E-Government is one of them.
4. Lack of ICT skills and well-trained staff which lead to the creation of the change resistance. Moreover it can be noted that most of the professional in the IT field has immigrate to Arab States due to low salary and income.

7-- Discussion

Government has to adopt number of initiatives to eradicate ICT illiteracy and emphasized the need for establishing Database centers. Government has to introduce the benefits of E-Government to the individuals in rural and urban areas and even among civil services sectors which will result in the demand of E-Government facilities.

Government should launch new initiatives throughout increase number of computer centers and kiosks and provide more IT training programs which could result in building information-based society. Establishing unified standards for storing, archiving, sharing and managing data and information. Because without standard classification of information and documentation it will be very hard to reap the benefits of E-Government. As in Reference [10] stated "we need to build strong and powerful database systems, refine public data and carefully manage information otherwise e-government will be meaningless and the Public sector will have poor levels of effectiveness".

8- Conclusion & Future Works

In the design and development sections it was is shown that the Passport Government considers the different influence factors that are presented in the first section when working on its' E-Gov strategy. Looking at the different aspects of passport E-Gov in more detail, strengths and weaknesses were identified and examined. With concentration on the weaknesses (compared to other countries), standards or trends, some hypotheses were formulated. The insertion of adding new record form was designed and developed using ASP.NET code same as that update and searching code was written using SQL server code on asp.net. A web site was developed allow adding , updating , searching on the web site .The system include main and sub minus with the report system for printing the passport and their data on the web site.   In the future the system can be integrated with the other e-government systems as shown in the department aspect with the other services, customer and channels aspects

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Authors' Biography

Dr.Saife Eldin Fatooh PhD in Computer Science artificial intelligence dean of Emirate college – Sudan, is professor of the His researcher lines: Artificial Intelligence, Computer systems .

Mr. Mohamed Suliman Abaza master in Information System for the Information system Technology Alneelain University – Sudan, also work in Taif University lecturer in It center. His researcher lines: e-government, mobile government, Human Computer Interaction.