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Abstract

This thesis entitles "Electronic Public Distribution System" is a web based an online application intended for citizen. The main problem of this thesis is to automating "Food Department Office (FDO)" and digitalizes deliver services mainly to the citizens and public sectors. (FDO) has been automated specially for Governorate of Sulaimani Region. The main objectives of this system are to make it interactive and facilities to the users for solving daily problems.

Citizens can use this system to search for information and send necessary documents within the electronic government for the Ministry of Commerce in client side for solving their problems. Also it is used to complete their information in the database system by using full name and ration card number of family to enter the system. Citizen can follow this case and can find the result for this request from the system.

To tackle this problem the government's types such as C2G and G2C have been used. "Citizen to Government and Government to Citizen" users can send their request to Electronic Public Distribution System directly and E-center of the system can take action for these cases by staff member who has a special user name and password, staff can do update and increase in the database files such as family, person, and agent. In order to evaluate the system " Usability test Model" have been used to evaluate the satisfactions of the users during using the system and for this reason four administrators of the system and 300 three hundreds of online users have been involved to test the measurement of the reliability, usability and availability the system.

The results shows that the users satisfaction feedbacks obtained by using Usability test Model.

ÖZET

Bu tez, "Elektronik Kamu Dağıtım Sistemi", vatandaşlar için hazırlanmış web tabanlı çevrimiçi bir uygulamadır. Bu tezin asıl problemi "Gıda Dairesi (FDO)" nın otomatikleştirilmesi ve teslimat hizmetlerinin ağırlıklı olarak vatandaşlara ve kamu sektörlerine dijitalleştirilmesidir. (FDO), Süleymaniye Valiliği için özel olarak otomatikleştirilmiştir. Bu sistemin ana hedefleri, günlük sorunları çözmek için kullanıcıları etkileşimli ve kolaylaştırmaktır.

Vatandaşlar, bu sistemi, sorunlarını çözmek için müşteri tarafında Ticaret Bakanlığına elektronik hükümet içinde bilgi aramak ve gerekli belgeleri göndermek için kullanabilirler. Ayrıca, sisteme girmek için ailenin tam adı ve rasyon kartı numarasını kullanarak veri tabanında bilgilerini tamamlamak için kullanılır. Vatandaş bu davayı takip edebilir ve bu isteğin sonucunu sistemden bulabilir.

Bu sorunun üstesinden gelmek için C2G ve G2C gibi hükümet türleri kullanılmıştır. "vatandaş için hükümet ve hükümet için vatandaş" kullanıcıları, taleplerini Elektronik Kamu Dağıtım Sistemine doğrudan gönderebilir ve sistemin E-merkezi, bu özel durumlarda kullanıcıya özel bir kullanıcı adı ve parola veren personel tarafından güncelleme ve artırma yapabilir. Aile, kişi ve aracı gibi veritabanı dosyalarında. Sistemi değerlendirirken "Usablity test Modeli" sistemi kullanırken kullanıcıların memnuniyetini değerlendirmek için kullanılmıştır ve bu nedenle sistemin dört yöneticisi ve 300 üç yüz çevrimiçi kullanıcı güvenilirliğin ölçümünü test etmek için görev yapmışlardır, Kullanılabilirlik ve sistemin kullanılabilirliği.

Sonuçlar, Usablity test Modelini kullanarak elde edilen kullanıcı memnuniyeti geri bildirimlerini göstermektedir.

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LIST OF ABBREVIATIONS

ICT	Information and Communication Technologies
IT	Information Technelogy
EU	Europen Union
EE	Electronic Europe
JSP	Server Pages
PHP	Personal Home Page
WWW	World Wide Web
DAO	Data Access Objects
SQL	Structured Query Language
DFD	Data Flow Diagram
IE	Internet Explorer
DNS	Domain Name System
GPS	Global Positioning System
GPD	Growth of National Domestic Product

CHAPTER 1
INTRODUCTİON

1.1 Introduction

My proposed method is talking about the e-government and make better and development of the relation between government and people . There are many advantage of the government , To allow the user only accessible to authorized and various procedure and processing available in the system . Technology in my proposed system are the materials and methods. And include the following:Requirement analysis , economic feasibility study, system specification requirements, system design and implementation. The concept of e-government is new and emerged as a result of progress in Information and Communication Technologies (ICT). The large use of computer and internet with its different facets led to the development of e-government that uses communication as a method of transferring information as well as interaction with the public. The e-government depend on using computers, networks and emails to help in doing works. We can say that the concept of e-government is to transform traditional administrative works into electronic works that can be implemented quickly and accurately. One of the pillars that assisted in the emergence of e-government is the global market and global agent which exerted pressure on organization to get benefit of the new trend in technology to provide their services in a competitive manner which in turn led to a new trend in modern management of organizations. E-government can be defined as transforming all paper administrative process into electronic ones using the available technologies, that is to transform the document cycle in the organization into an electronic cycle, a paperless management [6]. The concept also encompasses the integration of data and information among different and multiple administrations and the use of such information and data in driving policy making and work protocol within the organization in order to have the required flexibility to respond to progress [1]. The e-government may also be defined as the non-material exchange of digital data between government offices and departments, this exchange should not inclusive of just making models forms of management processes online but should also mean making all

processes steps available and interactive to allow access to information and filling up forms that are required in a process [2]. E-government is the tool through which performance level of management can be raised, and government services can be provided online with low cost and high efficiency in very little time through one port [3]

The importance of e-government can be summarized as follow [3].:

- Low cost of production and increase of organization profits as the e-government can lessen costs of buildings, devices, employees salaries , management procedures as the form of procedures transformed from traditional means of work into an electronic one with less geographical points and thus high profit.

- Expansion of service provided to wider clients as distance barriers are eliminated.

- Provide accurate information to citizens that satisfies their wishes and requirements.

- Lessen the dependence on paper work and consequently lessen efforts , time, and cost of production elements.

- Built a culture of institutions among citizens.

- Contribute in the growth of national domestic product (GPD) and achieve transparency , equality and stability to community , which in turn promote investment environment.

- E-government facilitate forms procedures and provision of government services giving clarity to citizenry.

- Lessen human errors in official procedures.

- Increase the competitive advantage of an organization.

In order to improve government performance and facilitate citizen government procedures , the present study came as an attempt to introduce e-government aspect to governmental work in one of the most dealt with department , which is food department that deals with thousands of customers across the country making it the ideal candidate to measure how e-movement venue can play a vital role in facilitating citizen-movement interaction and lessen paper work and increase the department output performance and lessen time to complete producers.

1.2 Problem Statement

Due to the increase dependence on technology and communication as well as the need to increase the efficiency and effectiveness of governmental work in food department which consists almost all the population as a clients, the proposed system if e-government was given as a solution to meet the requirement of such increase. Clients of food department of the Ministry of Trade are required to report any change in family status such as deaths, new born, change of address and others frequently to ensure that they get their food rations according to nationally used system

Despite the development in Kurdistan Region-Iraq, the use of technology in government procedures is still not wide enough to satisfy the requirement of huge development in the different aspects of life and development of ICT around the world.

Going through papers works to complete such a procedure is a burden to both citizen and food department. For a paper procedures to be completed it takes over one month of follow-up, while with the proposed system it takes only one week, a process that can be done from client house or anywhere an internet access is available. Another advantage is that deceased people who are to be removed from the destitution system are now reported through health department rather than the deceased family themselves which can take several months to be in effect. The e-portal that was programmed and already online uses an easy to use interface to facilitate the interaction between citizen and food department through which they can report several indictors that can be dealt on other side which is run by system administrator.

The system is run by four administrators each of them is in charge of one procedure on the six main procedures citizens require to update or modify in the database of food ration card at Sulaymaniayh food department. A citizen would send his procedure work through the e-portal to the designated section and fill forms online , then the admin in charge would check them and send feedback to citizen to inform him of completion of procedures or if there is any missing info to be corrected.

1.3 Global Trends in e-government

The first stage in e-government started with the introduction of computers into management domain starting at the fifties of the 20th century. The second stage started with developing management applications to automate services provided to citizenry by using information system to provide data to help in paying phone and electricity bills. The third stage emerged with the development of the internet in which government task become implemented through cyber space. E-government appeared to use technological progress to digitize government works as well as the emergence of the concept of governance [5].

There are several global trends in utilizing e-government , the following is a brief of them:

1- European Union: electronic management of the EU organizations and commissions though out the member states, the initiative started in 2000 when the EU adopted the idea of transforming into informatics society under the motto EE (Electronic Europe) [6].

2- The electronic management in USA: the trend in the United States started with the invention of computer in there, most of activities were computerized to facilitate administration work and provide services to citizens day and night. The use of several technologies in the United States contributed to the development of internet and information world.

3- New Zealand experience: New Zealand is one of the pioneer states to use electronic management which started with the formation of a committee to develop government policy based on information in 1996. In 2000 the first e-government unit started to work and in 2004 all services were provided electronically [7].

4- Egypt experience started in 1985 by computerizing management tasks as part of their development strategy. Communication and information sector in Egypt witnessed wide progress in the field of internet and paying services through the web.

In view of the above mentioned world trend, the current proposed food distribution online procedures follow-up system is an attempt to introduce e-government practice and experience into Kurdistan Region of Iraq as a seed to further development in other

services department to increase productivity and efficiency of government to citizenry output and lessen the cost of work [4].

1.4 Problem E-Government in Iraq

E-government program is a vital element of the reform and modernization of the public sector in Iraq, where the government adopted Iraqi integrated approach to e-government for the development of Iraq at the national and local level in line with the strategy Iraq's national development, and the Millennium Development Goals, and the National Development Plan

The Iraqi government has undertaken several initiatives regarding e-government applications such as:

- In July / July 2011 e-Iraq Portal • launch a portal for Iraq [19].
- establish a framework of government communication interface and architectural design of national institutions.
- Develop four strategies for information technology and communication and transformation plan for e-health, education Mail, electronic municipal services, and personal electronic records of citizens, and formulation. And adoption of each ministry involved in the September / September 2011.

1.5 Scope of the research

Proposed system consist of two aproch, first database with collect data from people's request and answers will be send from administrators. The second aproch is designed of system technically , the system work on internet or intranet.

1.6 Research Objectives

This research had a broad range of objectives as the follows :

1-Develop an e-government in Kurdistan in order to decrease routine in the life and reduce employee hourse.

2- Reduce employee hours and Cancel all paper transactions to save all information through the computer as well as extend the work of the employee to search for citizens within the computer.

3- reducing the government's financial expenses. The government can reduce it expenses in state Departments by Staff downsizing.

4- To avoid pollution of the environment by reducing the use of the number of cars and the lack of traffic congestion within state Departments and streets, this system provides time and cost.

5-This system eliminates financial and administrative sop in state Departments.

Finally, this research provided practical guidance to e-food design managers on effective and efficient ways to implement design processes that would result in high performance and would be satisfying to group members.

1.7 Thesis structure

The present thesis consist of five chapters:

Chapter One gives an introduction to the topic of e-government and definition of e-government. Chapter two will layout the main models in e-government and the one used in this thesis as well as literature review.

Chapter Three will discuss the hardware and software used to implement the web page portal of the project of e-food department and what type of programming and servers used.

Chapter Four will give the result of the work done and discuses the main advantages gained of such work.

Chapter Five contain the conclusion and future prospects of implementing the project in the departments to initiate the use of e-government in providing the services

CHAPTER 2
LITERATURE REVIEW

2.1 Introduction

E-Government novelty term refers to the use of information and communication technologies in a manner easy to connect and communicate and deal with the government and make transactions between government interests more effectively; Governments those techniques are used to provide services between government departments and citizens, businesses, employees, and other non-governmental agencies. E-government include ways to provide a better entrance to government information, and encourage the community to interference in the activities of the government, and put the government in the subject to a more accountable, and to make way opportunities for further development.

The World Bank has presented the 2005 concept of e-government: that it is the process of using technology to institutions Information (such as online networks and broadband information network, etc.), which have the ability to change and transform Relations with the citizens of access to information, providing more transparency and more efficient management of the institutions [12][14].

Of course that e-government is the natural result of the information revolution and the dawn of the knowledge society, for this, the activation of e-government in all state facilities is part of the quest for access to the world of modern information and communications from a wider doors and an integral part of the work to build a knowledge-based and interact economy with globalization.

Walking forward in the way of building e-government will encourage the community to indulge in the digital world and the development of modern information and communication systems as the basis for the infrastructure of other community facilities to teach financial, commercial, health, literary, artistic and transactions. In addition to simply providing services directly over the Internet, organizations can provide value-added integrated services, and instead of visiting several different offices

or log on several sites on the Web for a government license; for example, that citizens or businesses completion of the procedures Log on gate and one on the Internet in one step.

So that it can recognize the significance of e-government need to know the evolution of public administration and reform processes in the government The contract eighth of the last century witnessed the use of full quality in management reform and development management; also came decade ninth idea of re-engineering and re-inventing government this confirms that the government are only a mixture of Brown, The tasks and goals. Also, the e-government initiatives are only compounds change in the techniques that are used new technology to support an emerging shift in operating efficiency and resulting from re-inventing government. Then the idea of e-government based on the adoption of private sector practices in its management of electronically known as e-commerce. E-Trade is paved road from several aspects of e-government and was the catalyst to achieve them. And objectives of e-commerce is the completion of transactions between businesses and customers, and business and work more efficiently; while the goals of e-government is to make the interaction between government and citizens, government and business, and internal relations, government agencies, less expensive and more transparent and better treatment.

2.2 Catogorıes Of E-Government

Traditionally eight categories of e-government is defined, governments seeking to implement either immediately or gradually, namely:

1. **The Government to citizen:** provide self-propulsion for the provision of public services directly, particularly through electronic delivery service to provide information and communications.[11].

2. **The Citizen to Government:** provide self-propulsion for the provision of public services directly, particularly through the electronic service for the exchange of information and communications connection [11].

3. **Government to Business:** The initiatives of electronic business transactions such as electronic tenure and open letter to the government procurement market; and do government tenders tenure through electronic methods for the exchange of information and goods.

4. **Business to Government:** The enterprice of electronic business transactions such as electronic tenure and open letter to the government procurement market; and do government tenders through electronic tenure for the sale of goods and services roads.

5. **Government to employees:** embarking on initiatives that facilitate the management of the civil service and internal communication with government employees in order to make the electronic submission of applications and deciding which jobs without paper in the mail office.[9].

6. **The Government to Government:** provide the departments or agencies of the government in collaboration and communication directly and rules of vast government data to influence the efficiency and effectiveness; and also includes the internal exchange of information and equipment [12].

7. **The Government to non-profit organizations:** the government provides non-profit organizations (charity), political parties, social organizations and legislative bodies of the information.

8. **Nonprofit organizations to government:** the exchange of information and communication between the government and non-profit institutions (charity), political parties, social organizations and legislative bodies.

The employment of information and communication technologies is not a tool for reducing labor expenses only and does not materialize by giving one computer per official in the government; but reshape government performance process which may require a radical change in the government itself, the process, so the leaders who plan to establish e-government to advance Padres tasks or processes that they want the application of information and communication technologies them. The information and communication technologies do not provide the means fast and cheap to deploy only the data but help to be stored in a soft and in a small space; Instead of using enormous stores to keep the paer documents that may require days to search for and document the treatment or recovery of an important piece of information, governments can maintain data and make the information easy to find and accessible at all times electronic means. Moreover, the responsibility of governments is unique in the preservation of historical records, the goals of preservation of documents and records that the intervention in the design of e-government system.

2.3 Experıences Of Countrıes In E-Government
2.3.1 Iraq

Iraq is a rich nation over Around the Arib (Bedouin) countries because of those proprietorship for oil Furthermore a considerable measure from claiming minerals, for example, phosphate Furthermore sulfur microbes. However, this wealth, unfortunately, don't profit iraq due to its inclusion On two real wars In as long as 15 years, these wars prompted the transitory suspension of the advancement about iraq. So as will empower iraq to adjust to what they lost in the times about war, it tries to make the remaking of the country, not main Previously, see for the and only framework aspect, as well as with respect to the mental part.

Those provision from claiming a e-government project Might make a standout amongst those pillars of the country's development, furthermore to continuously a paramount part from those battle against debasement.

However, those provision of this one task necessities will bring an incredible collaboration between those subjects and legislature orgs (because those extent of the utilization of e-government venture Toward nationals may be those mossycup oak essential benchmark to measuring the degree of accomplishment of the project) [18], there need aid a number steps which if be connected in the recent past the execution about this project, Furthermore an e-government undertaking which is an enormous undertaking that blankets mossycup oak of the transactions in which the nationals would managing legislature offices with the goal it may be not could reasonably be expected should actualize all the this venture constantly on In once, in any case must be connected through deliberately thought out phases with constant survey to identify and right errors[19], like the thing that happened clinched alongside The greater part of the created nations e. G. Europe (http://ec. Europa. Eu/dgs/informatics/ecomm), usa (http://www.Usa.Gov), turkey. (http://www.Turkiye.Gov.Tr) and south korea (http://korea.Try.Kr). These nations need utilized experimental techniques will settle on An radical transforms in the structure for its establishments through a few phases et cetera started with change over the fruition for transactions from the paper manner of the electronic path.

This postulation contends that the achievement of the provision about e-government undertaking in. Iraq relies not best on the innovative side Also foundation

(this is an part that Might a chance to be those not difficult side of the project), Anyway necessities will be a radical progress in the structure from claiming legislature organizations on fit with those new actuality that necessities this project, too it examines real issues confronting the requisition about a e-government undertaking Previously, Iraq, Concerning illustration it will be attempting with draw An guide to the accomplishment about this one task.

2.3.1.1 Kurdistan Regional of Iraq

Netgroup is an Estonian IT company have developed Courtal in Sulaymaniyah Governorate Region in North Iraq. They made a decsion to bring their justice to a new level. 10 courts with 40 regional courts digitalised their worth of effort techniques In 9 months. Sulaymaniyah region is presently a standout amongst those practically current e-Food frameworks in the in Middle . Courtal enabled them to fourfold their work effectiveness Also get transparency for eJustice[15][16][17].

Courtal works under one-time information passage standards. At majority of the data that is created Throughout those fill in process, will be reusable and members in the procedure could utilize the information officially in the framework. It empowers exceptional mechanization. Outside clients for example, such that private persons, lawyers, attorneys, camwood entry those transform over open Portal through secure channel.[20].
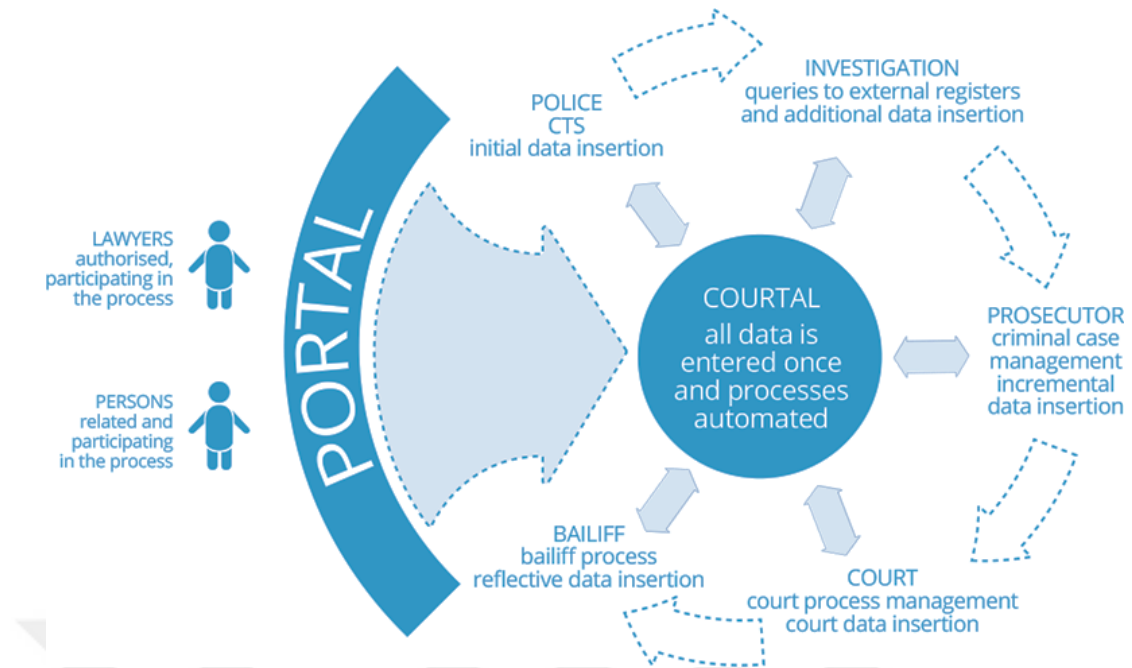
Figure **(2-1)** Portal of Courtal in Sulaymaniyah Governorate Region in North Iraq [22]

2.3.2 Unıted State:

Spending the of the US Central Government reached about $ 48 billion in 2002 and more than $ 53 billion in 2003; spent a large part of it on the Internet initiatives spawned in a short period about 35 million page directly on the Web in 22 thousand sites; however, then that efforts focused on IT mechanisms for productivity gains in the government and its ability to serve the citizens [8][10]. In the past few years the United States government initiatives to facilitate the ability of citizens to obtain services and interact with the government and improve efficiency, effectiveness and raise the level of citizens accept e-government. The strategic vision of the management confirms the government's need to reform its operations guided by three principles: to focus on the needs and abilities of the citizen, and attention to results, and build on the market. The federal government in the United States is considered the key to e-government and promising initiative to modernize and improve government services to citizens; where it is based on the following rules:

- vision: a mutation major improvement in the federal government to the citizen value where they can make decisions about-interest in minutes or at most hours instead of several weeks or months.

- definition: the use of digital technologies in all government departments to improve performance, efficiency and service delivery.

- rules upon which e-government is not an integral part of a five-part administrative reform part, a building management correspond with the reality of the market, geared to achieving results, and based on the interests of citizens, and are facilitating the procedures and work to maintain unity in the style transactions.

The statistics showed that 76% of Americans have visited the websites of the government in 2001 [7], ; that the citizens want to get answers from the government online quickly. The number who have used e-government services to 68 million in 2002 compared to forty million in 2000 has arrived and this is a big boom [10]. A large majority of citizens believe that e-government will inevitably lead to better government.

2.3.3 France

In February 2004,the French government pushed aside the curtain on the e-government plan for the period between 2004 to 2007 [5][21][22][23], which it called e-governance or »Adele« It aims its program to pay a progressive and harmonic development services to provide better citizen service, and business and civil servants a coherent and coordinated fashion; and to contribute to the modernization of the French government. That plan includes the framework for initiatives in various fields; like many citizens and civil servants categories of services file, and technical infrastructure, and standards of solidarity work, safety and training programs, and the government recently has updated strategic plan for electronic management in order to provide more services which focused on the citizen, with easy access to e-government for all site and make a personal dealing system and simpler to use by facilitating the operations and continuity and relate to one another and to be careful more responsive governance.

2.3.4 Japan

Japan announced its e-government project plan within two thousand in 1998 [24], where he headed the plans to build Japan's electronic strategy within the national strategic plan for information technology. And other operational steps

Prestigious Ahtutea plan:

- bilateral cooperation and collective with Asian countries.

- promotion of local e-government.

- new technique groping citizen opinion and evaluation of performance and contain practices

The private sector and help to continuous improvement.

The goals for Japan is to provide government services to citizens so that people feel at ease and peace of mind to receive services and information around the clock non-stop online portal and the government so that it can reach a simple and cost of government rewarding.

At present, the Japanese and the Japanese business many of secure transactions on the Internet. In June 2004, the National Tax Agency has expanded in the tax transactions and electronic payment processes and systems across the state; In another example, the Ministry of Finance enable direct online payment including licenses and permits, fines and fees as well as taxes [13][25].

2.3.5 South Africa

Still citizens used the Internet in South Africa is relatively low, however, the government issued telecommunications and Electronic Transactions Act as a law comprehensively covers all aspects of e-government activities such as legal requirements Messages for direct data and consumer protection.

The result of these efforts was that the tax service has seen more than 400% growth in the tax rate transactions over the Internet in one year also plans to provide mobile services for the few income groups in order to facilitate their access to tax returns.

The government is aware of the major limitations on their capabilities and that prevented provide additional value to their services due to limited access to the multiple communication channels; therefore, any progress makes it imperative for the government to focus its efforts to continue the implementation of its initiatives to expand access to the Internet services; It should also encourage citizens to use government e to expand the user base.

2.3.6 Australıa

It was the Australian government's early vision for e-government portal through which transactions can be done with the government in a single step; and this has developed a strategy for e-government mechanism based on the importance of integration in the provision of electronic services. In order to achieve the objectives of the framework for the development of integrated gate focused on solidarity between different government departments. Thus the e-government portal offers its users, including the business sector to facilitate multiple services from dealing with the government; it offers more than 80 interactive service request ranging from birth certificates and voter registration. It also provides the user with three options for connecting to the service and information: the type of service, location and live events.

2.3.7 Unıted Arab Emırates Dubaı

E-government services in Dubai Gateway includes all the information about government departments and services through a unified channel also receive any comments or concerns from citizens for e-government. Services also offers a dedicated team effort to communicate with-society upon himself the responsibility of e-mail outreach and facilitate the conversion process. It includes tasks for the team to encourage people to use e-government services to explain the benefits to them and to the country from the use of e-government. The team works on the first facets targeting individuals and business people who use the Internet, and the second aimed at those who do not even use the Internet to help them technology adoption were expanded e-government user base [25].

2.3.8 Sıngapore

E-Government Portal in Singapore, which came to light in 2000, offers many of the services and information to its citizens, a small country with a high population density and the more than 4 million people in the area no more than 682 km 2, where he achieved great successes in information technology applications, this is in addition to the lack of security where information was aimed at the poor literacy program free of illiteracy, and the country has succeeded in achieving plans some ambitious goals. For example, the Singapore government has succeeded in connecting all schools in a single network.

That Balt a time with the training of teaching information technology applications and the crew changed the curriculum in line with the new digital boom so that the study of information technology included in the courses and became a dedicated time with 30% of the total curriculum time, and here is the e-government Singapore experience pioneering experience, E-Government in Singapore and is working to establish a network for the advancement of e-Citizen portal where he developed the program train to about 400,000 per person per year.

2.3.9 Qatar

E-government has launched for the first time in Qatar in 2003 and was then a strategy for the government's program plan Integrated electronic. The opening of the government portal in 2008, and launched a new version in 2010 [15], to provide access around the clock to all government information and services needed by everyone who lives or works in the State of Qatar, is the largest challenge facing the implementation of e-government program is to provide the capacity and skills specialized in the field of information technology, despite the fact that the State of Qatar tried to overcome the lack of capacity Maha rate and a local specialist in the field of information technology, which reduced the ambitious projects that you want State in its implementation through the use of Bab Rev international consultants in this area, but the possibility of developing Cod is considered a local rate or a year is essential to the achievement of social development and economic goals of the State of Qatar, in order to ensure continuity ICT in state programs. To remedy this problem, the Supreme Council for Communications founded IT company.

2.3.10 Turkey

The implementation of e-government services in Turkey that there will be a unified system and the agreement instead of being fragmented prevent duplication and individual service model, and thus expensive and expenses. It is facilitating mechanisms within and between the exchange of electronic information in different organizational levels. Initiative, starting from December 18, 2008 is beginning to achieve tangible positive results the Internet gateway in solving the fundamental problems prevent the information and communications technology (Turkey gate, http://www.turkiye.gov.tr) [26] . The implementation of the following services successfully as part of the e-government services in the country: the center of the census management system

(MERNIS), identity exchange system, and project automation of Internal Revenue (VEDOP I-II), and the draft National Justice Network (UYAP), Border Point Modernization Project Management (GWMOP), police information network (POLNET), automate accounting system (Say2000i), electronic model, the prime minister of legal information system documentation. In 2007, Turkey has joined the program carried out since 2001 by Capgemini on behalf of the European Commission in the measurement of the provisions of 20 basic public services electronically. As of 2007, it showed 20 provide public service in the form of an electronic average 59% in the EU +27 (EU, Turkey, Switzerland, Norway, Island), while it was 55% in Turkey. The maturity level in the provision of services 76% in the EU27 + and 69% in Turkey. The level of maturity of the business sector show better results, and 86% in Turkey and 84% in the EU27 +. In Europe, the show was user-intensive services 17% and 12% in Turkey (Capgemini, 2007) [5].

2.4 Conclusion

In conclusion, we can see that governments can use the e-government model and strategy in many different ways. The model can be used to improve efficiency of the various agencies, provide training for employees, and make more information available to the public and to provide direct access to policy makers and planners. More and more governments around the world are turning to these types of strategies and in the future we will see more types of services available online. It is also clear that e-government can save the taxpayers money and the citizen is much time and work when it comes to dealing with government bureaucracy and agencies. Moreover, e-government can be adopted by other service providers in the government as these articles have shown. Health care providers can improve services and save lives. Unemployed workers can find jobs or get help starting a new business. And, government agencies can help improve private sectors of the economy like the tourism sector in Spain by working together using e-government services. Overall, it can be concluded that e-government services are something that all government entities should be researching and developing to improve their operations and service.

CHAPTER 3

MATERİALS AND METHODS

3.1 Methodology

The methodology proposed in this research will address information requirements for examining and assessing (ministry of trading - sulaymany food department) demand and capabilities as well as the enabling environment and ICT infrastructure. The proposed methodology has been developed based on the requirements and needs of the employees of the organization.

Key amongst (Electronic Public Distribution System) E- Government Food Department factors are human, financial, technological, regulatory and organizational factors.The methodology defines the model, scope and process for the survey and instrument design, as well as data collection and data analysis to address information requirements for E- Government Food Department.

In order to get the requirements of the employees and develop a usable e-government system in Ministry of Trading - Sulaymany Food Department, several interviews have been perofrmed with key managers and employees in the organization. Moreover, an online survey have been used to get public opinion regrading the requests and demands of visitors. Based on the results from the interviews and survey, a model have been proposed to change the manual system in Ministry of Trading - Sulaymany Food Department to an electronic system.

The model will be applied based on an algorithm which has been developed for Ministry of Trading - Sulaymany Food Department figure 3-1. In addition, The proposed model will be applied by using a web application. The front end of the application will be developed by using PHP, Html and JSP while MYSQL will be used as the backend of the application.

3.2 Proposed algorithm

- Citizen Send request to the server throught e-food.co.
- Data pre processing will be taken from server.
- İf people's request solved then server automatically send answer if not the request will go to the waiting state till solved.
- Login administrator
- action will be taken from e-food.co administrator depend on problem.
- Action taken by admin
- If problem solved
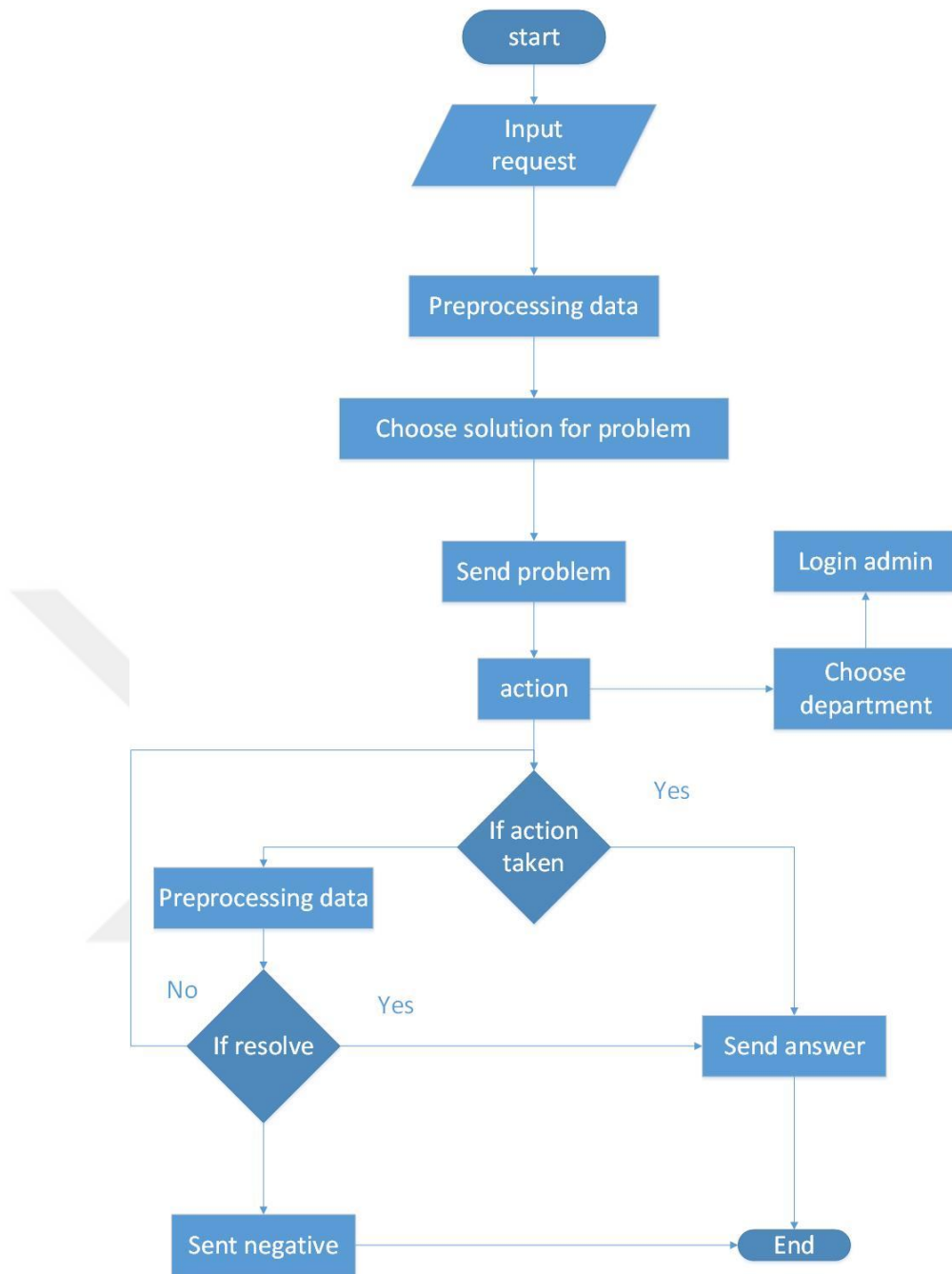 - send answer (position) to people
  - if no solved action will wait in state.
- End

Figur (3-1)   illustrate the proposed alogorithm

3.2.1 Web server (Apache Tomcat)

Apache Tomcat is an open source web server and servlet container developed by the Apache Software Foundation (ASF). Tomcat implements the Java Servlet and the JavaServer Pages (JSP) specifications from Oracle Corporation, and provides a "pure Java" HTTP web server environment for Java code to run.

3.2.2 Backend (MySQL)

Microsoft Office Access is a database management system from Microsoft that combines the relational Microsoft Jet Database Engine with a graphical user interface and software-development tools. MS Access stores data in its own format based on the Access Database Engine. It can also import or link directly to data stored in other applications and databases.Software developers and data architects can use Microsoft Access to develop application software and can use it to build software applications. Like other Office applications. The below of figers are levels of proposed system
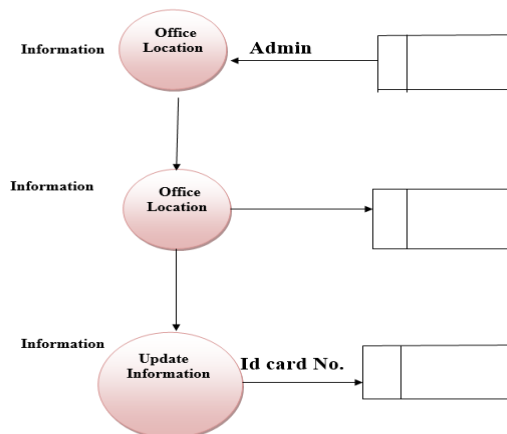
Figur (3-2) levels of proposed system
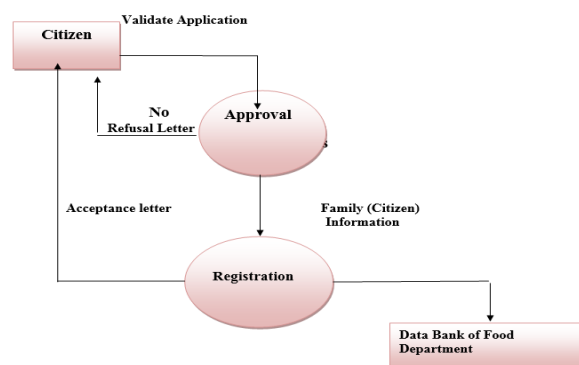
Figur (3-3) levels of proposed system

3-3 E-R Diagram

The figure below show the entlity relationship digram between the entity class of the Database of prposed system foe e-food department and the name, attrbuties of each talble. The dadabase is endback of the system and linked to the portal website of the egovernment portal calls front end and illustrate how data collect and manipulate between tables in database.
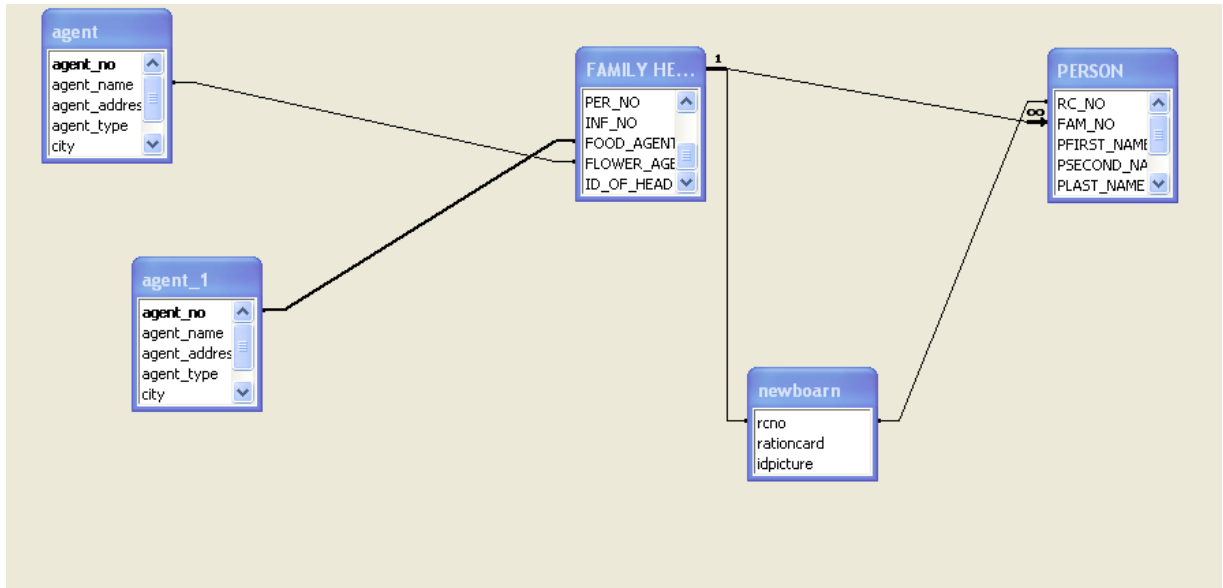

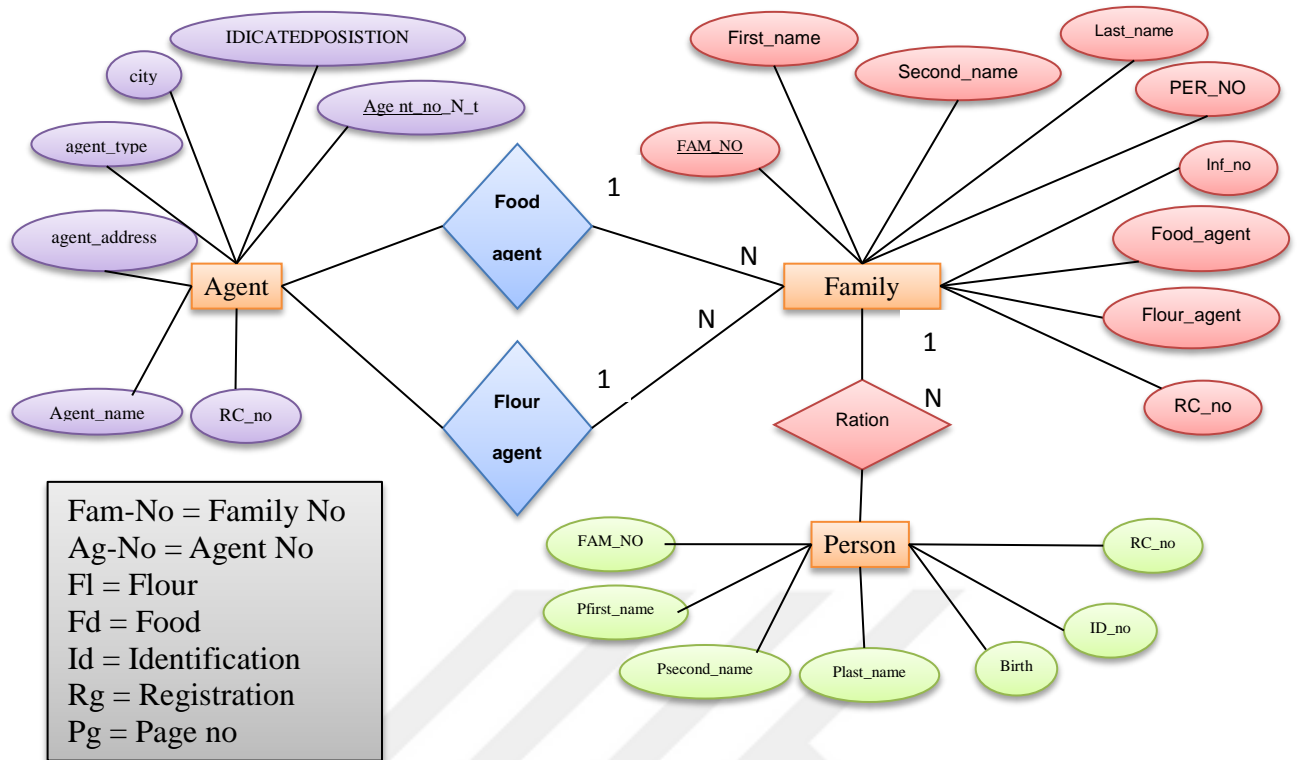Figure (3-4) ER Diagram for the database of the system

Figure (3-5) shows ER diagram for the system

A bove figure (3-5) illustretes entity relationship diagram of the prposed system and shows the agent class entity serve many families by providing them diffrent itemas as showing in the table of the agent and indivdual family mad up from one member to many members.

3.4 Proposed E-government Schemes
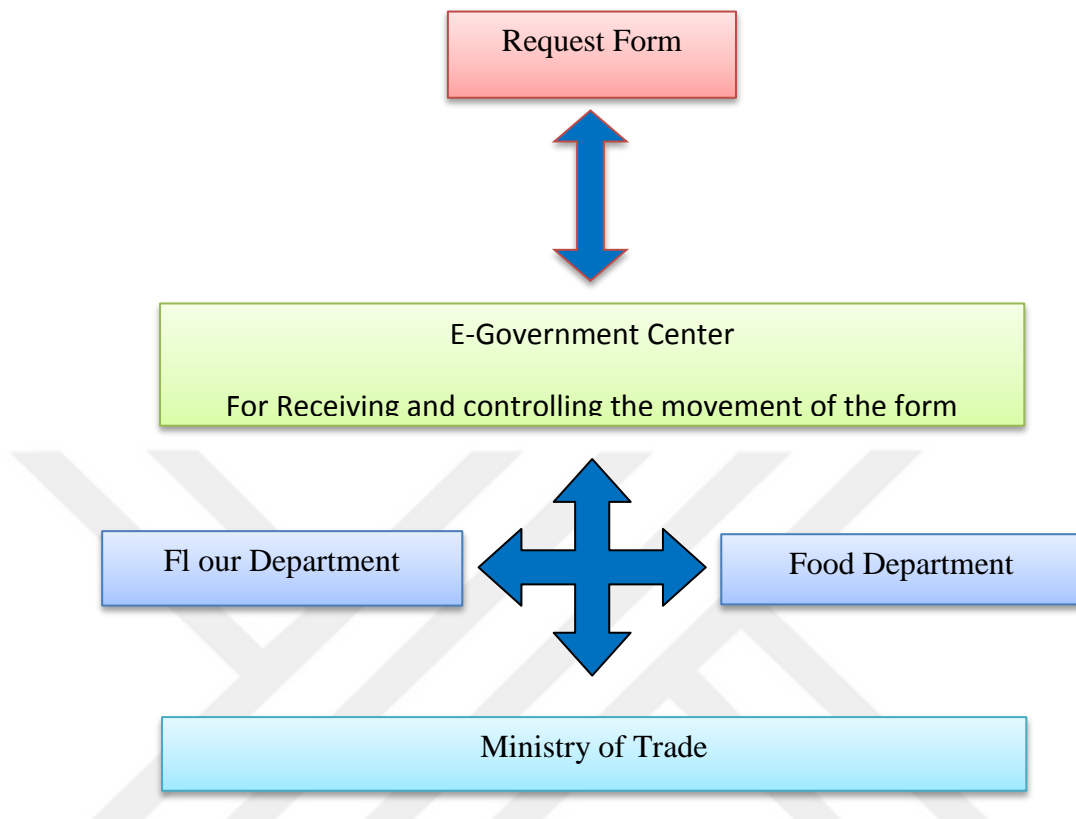

Figure (3-6) E-Government Schemes

The a bove figuer (3-6) shows the structure of the genral schemes of e-gov'ssystem in Iraq and linked to the individul regional cities in while Iraq and show the connections between departments food and Flour, as weel displays how to requiset the form from egoverment system.

The next chapter 4 discuse the results, testing and the evaluation of the prposed system by using a staristic metrex to test the system and Using the Usability Tests Model to evaluate the system for more details in chapter 4.

CHAPTER 4

RESULT AND DISCUSSION

4.1 Developed System

Initially when we must enter into the private food from the following website address: e-food.co and as it is shown in the following figure:

Figure (4-1) e-food.co address website

We will observe three main sections in which we can work them:

First Section: Administrator, this is a special part of administers who are the introduction of new information or changed they are working in the center, here we have four administers each administer has a specific job and own password, when click on the administrator we can see the password field:

Figure (4-2) Login Form

And every admin have specific job and own password, for example we write some password in the following table:

Password	Jobs
3456	Transfer
9012	Married
12345	Dead
5678	Infant (New born)

Table (4-1) password admin

Second section: Services, these part special for services, which includes six parts, the part of the address and food basket must be enter the information from the center, while the rest of the parts consists of four parts (transfer, infant, married and dead), after click on the services can see the 6 parts, as shown in the following figure:

Figure (4-3) shows services interview

1- Transfer: in this section, a ration is to be transferred from one agent to another .It includes three spaces to be filled: family number, original agent number, and the new agent number. After filling the data by user then submitted, verification can be made to check the process by pressing "answer".

Figure (4-4) shows the interface of transfer interview

2- Infant: This section concerns the new born baby's registration and includes spaces for the following data: family number, name of the newborn, baby's ID number and a photocopy of the ID.

Figure (4-5) infant interview

3- Married: this section is to register the newly married person so as to be added to the family ration card. The section is for the male and female spouses in which the newly married one can be added. It includes: family number, ID number, civil record and page numbers as well as a space for uploading a photocopy of the civil ID.

Figure (4-6) married interview

4- Dead: this section is allocated for the deceased persons whose names are to be omitted from the food ration card, the section includes spaces for the following data to be filled and submitted to update the records: family number, name of the deceased, and his ID number.

Figure (4-7) dead interview

5- Address: this section concerned with the address of the ration card agent , which should be entered by the center , it is a fixed address and must not be changed unless the food agent is changed as shown in the figure.

Figure (4-8) address interview

Pressing the coordinates of the address, maps will her where the food agent location is, as shown in the figure below:
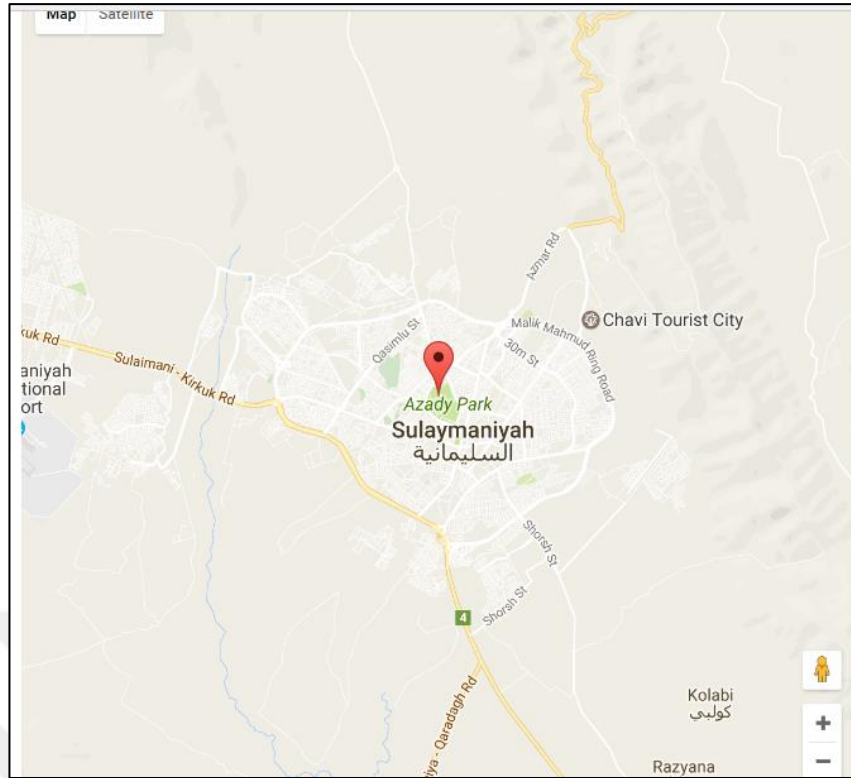
Figure (4-9) Map of Sulaimanyah
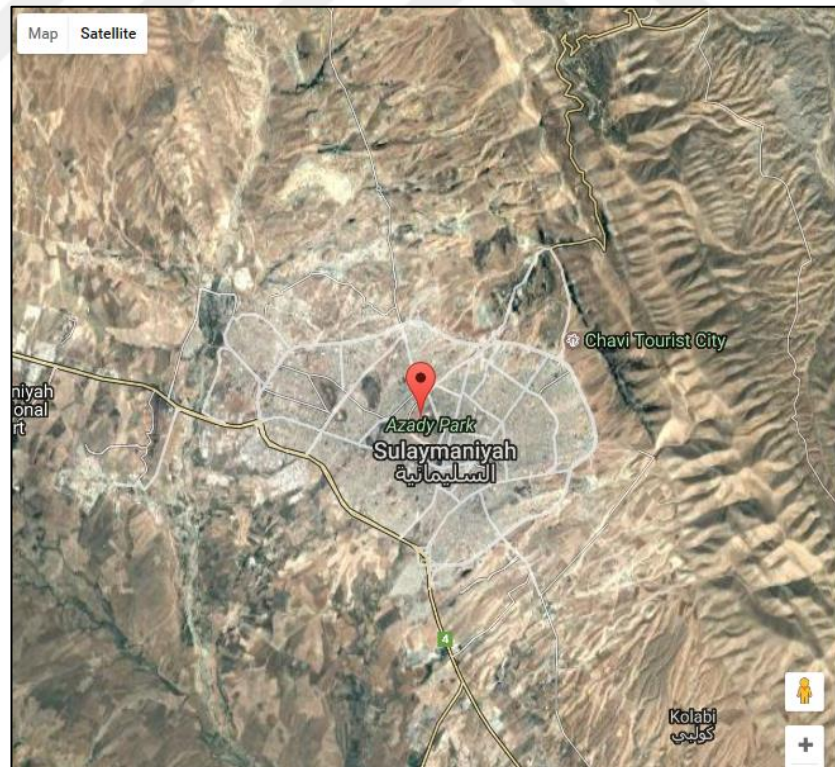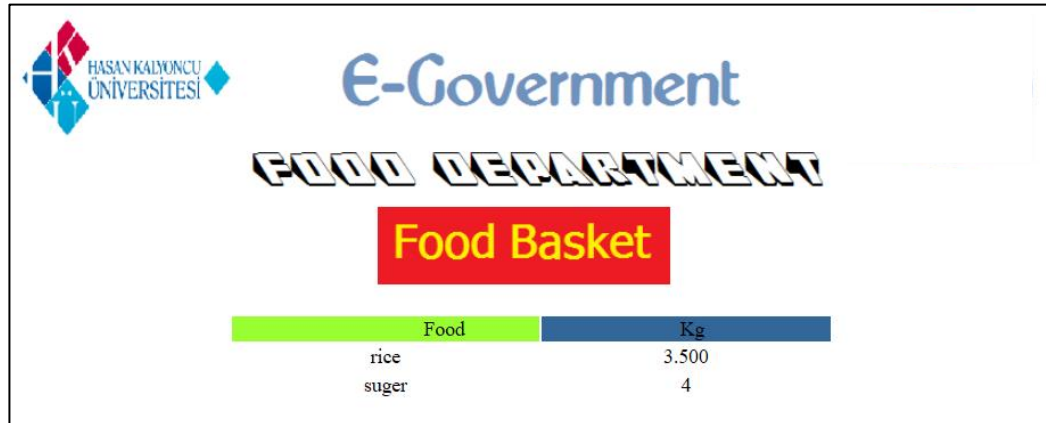
Figure (4-10) Satellite of Sulaimanyah
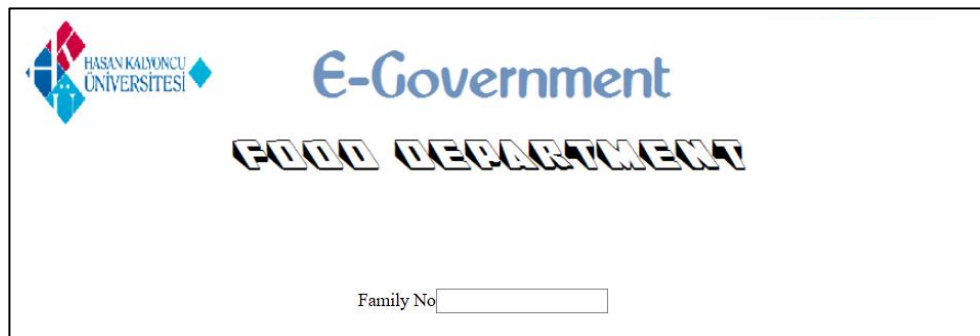
6- Food basket: this section lists the food items to be distributed to citizens based on the ration card, the list also includes the weights of each items. The items are considered a fix value unless trade ministry decides to make some changes.

Figure (4-11) food basket interview

Third section: Answers, This special section to complete the process for the user, here the user can enter the number that his family and see the completion of its process, for example, if a user has transferred from one food ration agent to anther , the user can check of the process has be sanctioned or not.

Figure (4-12) answer interview

4.2 Test and Evaluation Section

- **Evaluation Model**

After developing the proposed system based on the model, an evaluation has been performed testing the overall performance of the system. The system is evaluated based on five cases including (death, infant, married, transfer and address). The use of the

developed system is tested for the above five cases and have been compared to the traditional system without having an electronic system.

Table 4-5 the comparison of the cases between the developed system and the traditional system are carried by examining five different factors (Utility, Reliability, Efficiency, Customization, Flexibility).

Table 4-2 Shows the number of applicants participated through the system. The applicants are categorized based on five different factors including (Education, Gender, Age, Education level and Computer skills). These factors are considered in order to evaluate the developed system.

Type	Classification	No. of Applicants
Education	Science	25
	Humanities	12
Gender	Male	15
	Female	22
Age	25-35	13
	35-45	15
	45-55	9
Education level	Doctorate	2
	Master	4
	Bachelor	18
	Diploma	13
Computer skills	None	2
	Basic	24
	Intermediate	5
	Advance	5
	Expert	1

Table (4-2) shows the level of registry participants make during the test.

- **Evaluating the result of the proposed system using Cronbach's alpha measure**

Cronbach's alpha is a measure of internal steadiness, that is, how closely related a set of items are as a group.   It is considered to be a measure of scale reliability. A "high" value for alpha does not suggest that the measure is one-dimensional. If, in addition to measuring internal consistency, you wish to provide evidence that the scale in question is one-dimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality.

The Cronbach's alpha has been used to evaluate e-government food department (electronic public – distribution system), Illustrated in table 4-3.

Cronbach's alpha can be written as a task of the number of test matters and the average inter-correlation among the items. Below, for conceptual purposes, we show the formula for the uniform Cronbach's alpha:

$$\alpha = \frac{N \cdot \bar{c}}{\bar{v} + (N-1) \cdot \bar{c}}$$

Here N is equal to the number of items, c-bar is the average inter-item covariance among the items and v-bar equals the average variance.

In table 4-4, the No. of items is calculated from some parameters such as the number of users tested the system according to performance, admin response and email reply. Later, the No. of items is compared with Education, Gender, Age, Education level, Computer skills of the users participated in the survey so that cronbach's alpha result can be calculated.

In Cronbach's Alpha measure, the more the result approaches 1 the better result is achieved. Based on test applied on the e-food system, the Cronbach's Alpha result is considered as a good result.

Construct	No. of Items	Crohbach's Alpha
Utility	5	0.925
Reliability	2	0.695
Efficiency	4	0.848
Customization	2	0.895
Flexibility	3	0.669

Table (4-3) Crochbach's Alpha statistics applied on e-Food system

Figue (4-13) show diagram for Croch bach's Alpha statistics result between No of items and result of Statistics argument. The maximum range number is 5 degree which shows the good quality of the system that measure by the Croch bach's Alpha while the minimum number is 1 which shows a bad result came from the survey.
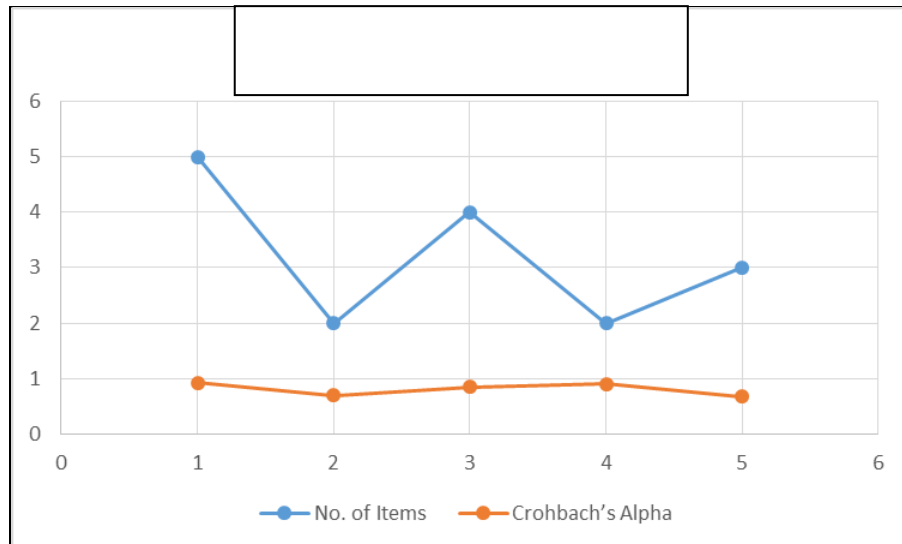
Figuer (4-13) Crochbach's Alpha statistics to show the diffrences.

4.3 Comparison and Performance

This section presents the comparisons between two new automate systems that have been applied in Sulaymaniyah Governorate Region e-Court System (http://sulicourt.com/en/) and e-Food system.

Sulaymaniyah e-court project was developed by Actors Company from Estonia. It started from 2014 and lunched in 2016. It is now working in 33 different courts in Sulaymaniyah governorate. Before using this electronic system, all the courts were handling their works using paper system while nowadays the paper system is changed with the e-court system that handles the following cases (inquiry form, claim registration, trails, making final decisions and closing trials). Attorney General has all its roles and manages them electronically. In addition, beside trails and primary cases, there are some extrinsic services provided through the system. Finally, the system allows various use of the application by different users including e-court users, lawyers, public users and e-court employees.

Table 4-4 shows the performance of the system between E-Court system and traditional system, Public requests can be processed much faster when it is compared to the old system, for example, the Inquiry form case in the traditional way from Court System of Sulaymaniyah, needed 1200 minutes in order to submit new inquiry form in to the system while after moving to the e-Court system, the time needed to handle this

procedure decreased dramatically in to 480 minutes. Table 4-4 shows the other cases in E-Court System.

Cases	Traditional Method	E-Court
İnquiry Form	1200 min's	480 min's
Claim Registration	1380 min's	600 min's
Trails	1620 min's	540 min's
Making Final Decisions	1440 min's	300 min's
Closing Trials	60 min's	1 min's

Table (4-4) shows the performance of the system between E-Court system and traditional system.

Moving from traditional paper system in Sulaymaniyah food department to a new electronic system called e-food have gained so much in processing time in the department. Public requests can be processed much faster when it is compared to the old system. According to table (4-5), the traditional government food department system needed 7200 minutes in order to add a new infant in to the system while after moving to the e-food system, the time needed to handle this procedure decreased dramatically in to 0.61 minutes. The other cases are shown in table (4-5)

Cases	Traditional Method	E-Food
Dead (task1)	2160 min's	1.18 min's
Infant (task2)	7200 min's	0.61 min's
Married (task3)	3600 min's	1.03 min's
Transfer (task4)	2880 min's	0.41 min's
Address (task5)	2580 min's	0.35 min's

Table (4-5) shows the performance of the system between current system and traditional system. Portal system during the test

Based on the results from both electronic systems, moving from a paper system to an electronic system shows a great advantage in processing time for public request. The procedures can be performed much faster and system user's time will be saved dramatically by using the following systems. In general, implementing E-government Food Department system have the following advantages:

The application of the proposed e-government system have several advantages to the food directorate and citizenry, that can be summarized as follow:

- Provide services to local citizens and access to fast and inexpensive service, and increase the efficiency of local units which will save time the performance of services to customers while maintaining quality.

- Achieve effective communication, reduce administrative complexity and reduce reliance on paperwork.

- Creating a better working environment, using information and communication technologies in departments and establishing an infrastructure that help to work easily through achieving smoothness and interaction and improving communication between the government and the citizen.

- Permanent contact with citizens any time of the year.

- Motivating citizens to use the developed system. Thus, creating an information society capable of dealing with technical data, keeping abreast of the information age, and spreading information culture in the wider society.

- Reduce administrative corruption and the lack of distinction between citizens and other citizens to complete transactions and reduce the impact of personal relationships on the completion of transactions.

- Electronic documents are transferred more effectively and not lost between office shelves.

- Reducing errors to the lowest extent possible. The electronic system is less prone to errors.

- Save time and money to the state and the citizen.

CHAPTER 5

CONCLUSİON AND FUTURE SCOPE

5.1 Conclusion:

E-governance requires an appropriate level of high-level infrastructure, including a modern network of communications and data, and a sophisticated telecommunications infrastructure capable of providing communication and information transfer between the administrative institutions themselves, on the one hand, and between institutions and citizens on the other. The basic objectives of e-governance in our project are listed as follows:

- Providing access and search to the information inside food department database
- Requesting to introduction of new data, such as the introduction of infant
- Requesting to create new ration card due to new marriage cases
- Requesting to transfer the food ration from area to area
- Improves services from government to citizen

The following are the major recommendation that can be taken into account for effective implementation of e- governance projects at all levels in a countries:

- Ensuring inter operation and integration of diverse e-agencies with multiple stakeholders besides developing a considerable legacy base.
- Adapting institutions and staff to maximize their capabilities in line with new technologies that are strictly applied in the general administrative systems, including in the private sector.
- Improve reliability by demonstrating greater access to government information, ensuring the security of information systems, user privacy and system availability.
- Making electronic services more citizen-centric than government-centric.

- Meeting technological needs related to future government policies and programmers.

- Ensuring complete and effective public-private relationship in conceptualizing, designing and implementing e-governance projects is critical to achieving the goals of good governance.

5.2 Recommendations:

After an in depth study of the reality of e-government project in Iraq we could suggest some recommendations to get to a successful project:

1. The creation of databases for all institutions and conversion of all documentation into electronic data and linked to unified data center for each ministry within defined parameters.

2. Build a unified national information center (data center) and connect all of these centers to get into the possibility of providing services electronically as required, then find the appropriate way to link these institutions among themselves by building a network (wired or wireless) for data transfer and exchange of information

3. Establish important laws related to telecommunications and information. technology and give sufficient authority to members of the e-government to make the changes required in the institutional structure in order to ensure the success of e-government project in Iraq. Re-organize government websites and activate the content management to these sites properly under the standards in terms of design and content management.

4. Provision e-service centers in all cities and provincial centers, districts and areas in order to facilitate the provision of services to citizens who are unable to communicate with these services electronically. In addition to provide electronic service kiosks in public facilities and the activation of the mobile gate through the use of a mobile phone.

5. Provide interactive electronic services possible to apply at the moment to raise the confidence of citizens towards the services provided by the public sector, such as the application form for universities after high school or jobs.

6. Web sites linking to (Web 2.0) " Web 2.0 describes World Wide Web sites that uses technology beyond the static pages of earlier Web sites" [27] , or with social networking sites and raise issues of concern to the citizens about the services

provided by the government and collect feedback and consider it and discuss it with the decision-makers and activating questionnaires about services through these sites and the involvement of citizen in decision-making.

7. Prepare and deliver awareness workshops for citizens in general (not for workers in the public sector only) and try to reduce the resistance to change by placing specialized teams in the centers of government institutions to evaluate the problems and obstacles facing the implementation of this project from the standpoint of - citizens and workers in the public sector (staff and decision makers) in addition to the use of the media to view the benefits of this project and the definition of the duty of the citizen to the success of this project[28].

8. Create teams within government institutions consisting of all majors of administrative, technical, financial, regulatory and legal to find legal solutions and the issuance of the controls and instructions necessary to facilitate the process of e-transformation [29].

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