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Municipality of Greater Madaba E-Readiness Assessment & E-Options

AMIR II Achievement of Market-Friendly Initiatives and Results

April 2005

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JORDAN AMIR II

Achievement of Market-Friendly Initiatives and Results

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Assessment & E-Options
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Abstract

This study performs an E-readiness assessment for the processes of issuance and renewal of professional licenses at the Municipality of Greater Madaba as part of the implementation of a Business Process Re-engineering (BPR) Pilot Project to develop a model for issuance and renewal of professional licenses at the Municipality level outside the Greater Area of Amman.

The purpose of this report is to determine the state of E-readiness of the Municipality of Greater Madaba and the degree to which the Municipality is prepared to participate in the automation of selected municipal business processes.

This assessment will measure IT infrastructure and the Municipality's readiness in the areas that are relevant to the re-engineered processes. It will also provide general recommendations and put forward e-options that can be implemented to automate the proposed issuance and renewal of professional licenses model.

Executive Summary

This study performs an e-readiness assessment for the processes of issuance and renewal of professional licenses at the Municipality of Greater Madaba as part of the implementation of a Business Process Re-engineering (BPR) pilot project to develop a model for issuance and renewal of professional licenses at the Municipality level outside the Greater Amman area.

The purpose of this report is to determine the state of e-readiness of the Municipality of Greater Madaba and the degree to which the Municipality is prepared to participate in the automation of selected municipal business processes.

This assessment will measure IT infrastructure and the Municipality's readiness in the areas that are relevant to the re-engineered processes.

The study is based on interviews with officials at the Municipality of Greater Madaba and the personnel involved in the professional license issuance and renewal processes.

The e-Readiness assessment investigated the following categories: Hardware, Software, Network, Servers, Applications, Human Resource Capacity, and Corporate Culture.

Several visits to the Municipality of Greater Madaba proved that IT infrastructure is in place however extremely underutilized in terms of software, network, sharing information, connection, and resources within the Municipality.

Only a small number of computers are used in the process for issuance and renewal of professional licenses purposes and they are solely used for data entry and/or printing purposes.

In addition, most, if not all, of the personnel involved in the processes of issuance and renewal of professional licenses, including the contact IT personnel, have minimal computer literacy – limited to data entry.

Suggested general recommendations include improving the Local Area Network (LAN) and associated devices to share information and resources; upgrading and standardizing infrastructure hardware and software; upgrading the informative website to be a more dynamic and up-to-date; as well as developing Human Resources and promoting e-culture within the municipality.

The report also puts forward e-options that can be implemented to automate the proposed issuance and renewal of professional licenses model. Options range between internal automation for issuance and renewal of professional licenses allowing for completing transactions electronically; to more complex options like a full fledged web application that provides in addition to internal automation, connection with common external entities like Madaba Governorate, Madaba Chamber of Trade and Commerce, Civil Defense Directorate for ease of communication.

Suggested e-options took into consideration the "To Be" business model, e-culture, IT literacy, integration, infrastructure and budget.

Chapter 1: Background & Introduction

Both phases of the AMIR program have identified existing business licensing practices as being unnecessarily costly and lengthy to entrepreneurs seeking to establish a business in Jordan. Depending on the number of internal and external body approvals required it can take from three days to three months and typically cost between JD 50 and JD 300 each year to license a business.

AMIR/ USAID has initiated a pilot project in the Greater Madaba Municipality as a representative sample for the outside Amman Area to develop a model professional licensing process that can be applied to other municipalities in the Kingdom. The pilot project aims at simplifying the current processes for professional license issuance and renewal within the municipality, through designing and implementing a simplified manual process (Stage One) and then applying a suitable e-processing improvement to the simplified professional licensing processes (Stage Two).

As part of preparations for “Stage Two” of applying suitable e-processing improvements to selected professional licensing processes, an e-readiness assessment was undertaken at the Greater Madaba Municipality covering related areas such as Hardware, Software, Network, Servers, Applications, Human Resource Capacity, and Corporate Culture.

This report will include the objective behind this activity, the assessment methodology, findings of the consultants, general concerns, preliminary general recommendations and suggested e-options.

Chapter 2: Objective

The objective behind this activity is to determine the state of e-readiness at the Greater Madaba Municipality and the degree to which the Municipality is prepared to participate in and benefit from Information Communication Technology following the implementation of the manual professional licensing business process re-engineering effort currently being finalized.

Specifically, this report will assess whether the necessary infrastructure in terms of hardware, software, network, servers, and current applications is in place. It will also evaluate human resources capacity and corporate culture within the Municipality. Moreover the report will put forward a set of e-options that can be implemented to automate the proposed issuance and renewal of professional licenses model.

Chapter 3: Methodology

This assignment was primarily conducted through site visits and interviews with key personnel within the Greater Madaba Municipality to evaluate their e-readiness.

A checklist was developed and used in the process of data collection necessary to assess the e-readiness at the Municipality, see Appendix A and B. The check list measures seven categories

that are relevant to professional licenses issuance and renewal processes, which include the following:

1. Hardware
2. Software
3. Network
4. Servers
5. Applications
6. Human Resource Capacity
7. Corporate Culture

The above categories cover availability, speed and quality of network access, and focus on use of information and communication technologies, workplace, and e-culture.

The e-readiness assessment effort was undertaken for the following relevant departments/ personnel that link directly to the professional licensing issuance and renewal processes within the Municipality:

1. Professional Licensing Division
2. Zoning Department
3. Public Works Department
4. Investigation Division
5. Health Directorate
6. Financial/Administrative Directorate
7. Director Office of Greater Madaba Municipality
8. Correspondence Bureau

Other relevant entities that link directly to the Municipality but are not located within the premises of the Municipality, such as the Court of Greater Madaba and the Ministry of Finance were treated as external entities and are were not included within the e-assessment.

Chapter 4: Findings

General observations and findings indicate that IT infrastructure at the Municipality of Greater Madaba is in place however is considered to be underutilized.

Only few computers are used for issuance and renewal of professional licenses purposes however none of the machines are used for electronic transactions/ procedures with the exception of the Financial/ Administrative Directorate whereby a simple MS-Access program is installed to track financial dues that include rental fees, paving fees of those applying for the issuance or renewal of a professional license.

Despite having a server and a Local Area Network (LAN) set at the Municipality, they are found to be inactive. None of the computers are found to be linked with each other in any form of network to share information and/or resources. The available computers including the server are used as stand alone machines solely used, if used at all, for administrative purposes such as word processing, data entry purposes and/or printing.

The poor network design approach is conducted with minimal attention to business processes and applications rendering the IT setup inappropriate for The Municipality needs.

The Municipality of Greater Madaba recently lost their domain name and hosting rights of their simple informative and promotional website www.greatermadaba.com due to the lack of technical guidance. The site initially provided the basic information and documents needed to process issuance/renewal of a professional license.

Hardware:

The Municipality of Greater Madaba posses the following hardware:

- 20 personal computers of mixed brands (LG, Compaq and Acer) ranging between Pentium 2 and Pentium 4 most of which are operating on a windows 98/2000
- Another 10 Acer 2.4 Pentium 4 PCs with 128RAM, 40G Hard Disk, 15' Monitors and CD-ROM 48x, Network card and 10/100 MB capacity are available within the municipality but awaiting for tender procedures finalization.
- One Compaq ML 370 Server / 3.6 GB, Tape Drive 20/40, CD drive
- 11 Inkjet printers
- Seven laser printers

Not all of the 20 computers are operational and only four are used for the actual manual process; one of which is used by the Investigation Unit, two for data entry purposes of the manually filled Professional issuance/renewal application form (post license issuance) in a simple MS-Access database and one in the Financial /Administrative Directorate as part of accounting.

The server is not used at all and only few of the printers are actually being used.

Software:

There is specific software used in the process of issuance/ renewal of a professional license with the exception the in-house developed C-application using an MS-Access Database used at Financial/ Administrative Directorate to track rental fees, paving fees for those applying for issuance/ renewal of a professional license.

Other similar software pertaining to accounting (wages and budgeting) and buildings are also available on stand-alone machines that reside within the same directorate. Only one machine has Auto Cad and is used in the Public Works Department. None of the applications are integrated with each other.

Most of the machines use Windows 2000 Operating System (OS) and Microsoft Office 2000 applications. One machine found in the server room is a Pentium 4 with Windows 2000 Pro.

Servers:

There is only one Compaq Proliant ML 370 dual processors server with 2X36.2 GB SCSI hard drives. This server is not being utilized.

Connectivity:

The Municipality of Greater Madaba does not have a Wide Area Network (WAN) or internet connectivity.

The only connectivity option found is the fax located at the Director of Greater Madaba Municipality office which is sometimes used for approvals obtained specifically by the Madaba Governorate.

Workstations Distribution at Municipality of Greater Madaba:

- Financial/ Administrative Directorate: Eight computers with seven printers of which some are used by the Investigation Division and Accounting
- Health Directorate: one computer and one printer
- Professional Licensing Division: one computer and one printer
- Zoning Directorate: two computers with two printers;
- Public Works Directorate: two computers with two printers
- Correspondence Bureau: six computers with six printers.

Network:

The Municipality of Greater Madaba internal network is constructed of 48 points externally ducted using UTP cat5 cables, terminated on a 2X24 port #com switches. None of the points are active.

The star topology network setup does not cover all relevant Municipality divisions in a proper manner. Therefore any future expansions will require reinstalling new points depending on the division / department needs.

Human Resources:

There are no computer specialists or system administrators within the Municipality of Greater Madaba. Initially they had a computer specialist who managed to design and maintain their website and who later developed a few C-applications pertaining to accounting and Investigation Unit as well as accounting, using an MS-Access Database

This same computer specialist was also the person behind proposing to have a server and a switch, however, he no longer is a staff of the Municipality and as a result the municipality was

left with machines, network, hardware and software that they can not operate, manage and/or maintain.

The Municipality of Greater Madaba is facing a problem in hiring a computer specialist due to needed approval from the Municipality of Municipal Affairs.

Corporate e-Culture:

Computer skills possessed among staff at the Municipality of Greater Madaba is generally very poor.

None of the staff use Internet or email and only two have browsed the Internet once or twice. Only few of The Municipality staff use the computer as a word processing tool to prepare official letters. While most of the ones that utilize the computers, use it for data entry purposes, retrieving information (ie Investigation Division) as well as for printing.

None of the staff has taken the basic International and Computer Driving License course (ICDL).

Chapter 5: General Concerns

This section reflects general IT infrastructure concerns that the consultants were able to highlight from their initial assessment. These can be summarized as follows:

- Lack of the proper IT infrastructure, including adequate connectivity to the internet.
- All machines operated as workstations and are usually reserved for word processing/printing and data entry and retrieval of part of the information pertaining to the Investigation Division.
- Lack of utilization for the Local Area Network (LAN) and associated devices in terms of sharing information and resources
- No IT personnel to help in IT management, administration and maintenance
- Lack of any technical advice.
- Lack of access to technology and Internet
- Lack of e-culture
- Extremely poor IT skills training

Chapter 6: General Recommendations

This section provides preliminary general recommendations that need to be addressed following the implementation of the re-engineered processes within the Municipality of Greater Madaba and prior to Stage Two of e-enabling select processes. These are as follows:

- Hiring an IT expert to help operate, administer and maintain the technical aspect of the Municipality.
- Having an IT plan of what the Municipality needs in terms of resources, systems, software, hardware.

- Developing the IT infrastructure providing automation for the business processes involved.
- Utilizing the server, Local Area Network (LAN) and associated devices to share information and resources.
- Having an integrated system rather than small scattered applications that cater for few users at a time, and that can be regularly updated and maintained.
- Exploring possibility of integrating with the E-government portal.
- Introducing e-Culture at the Municipality of Greater Madaba.
- Providing online technology - Internet and email.
- Providing extensive software, email and Internet training.

Chapter 7: E-Options

This chapter presents the different e-options that are proposed to further simplify the process of issuance and renewal of professional licenses at the Municipality of Greater Madaba.

The proposed e-options range between an simple online information and service site, which allows for retrieving professional license issuance and renewal requirements from an informative website, submitting forms online, to more complex options like a full fledge web application that involves automating professional license issuance/renewal processes within the Municipality and allows external entities complete the process transactions from their respective entities. This would immensely held speed the process of professional license issuance and renewal and mostly importantly in the entities like the Municipality Court, Madaba Directorate of Finance, Chamber of Industry & Commerce, Madaba Governorate, Vocational Training and Civil Defense which usually do cause delays in obtaining a professional license.

Suggested e-options take into consideration the “To Be” business model, e-culture, IT literacy, integration, infrastructure and budget.

E-options are discussed on four main levels:

- Municipality-To-Business: to improve municipality communication with businesses
- Intra-Municipality: to improve internal communication within the municipality
- Municipality-To-External Departments: to improve communication between the municipality and relevant external bodies.
- Business-To-Municipality: provide e-service capability for business to apply, track, and self-serve their license application on-line.

Municipality-To-Business

These options are suggested to ease professional licenses issuance/ renewal through improving businesses’ relationship with the municipality.

OPTION “A” → Static Website

Developing a static information website by creating a dedicated section under the e-government portal (i.e. Ministry of Municipal Affairs section) that would include a complete guide to professional license issuance /renewal processes as well as the related necessary forms available online thus realizing the one-stop shop online service of business establishment. This can be complemented by brochures and CD-ROMs that

would be provided by the one-stop-shop currently being established within the Municipality of Greater Madaba.

The above-suggested option serve as good business option as it is anticipated that these options will greatly enhance issuance and renewal processes of professional licenses if used to complement internal (within the Municipality of Greater Madaba) automated processes. It will also help create an example for other municipalities that wish to follow a similar track of realizing initial steps to a one-stop-shop especially if was created via the e-government which will provide greater visibility as oppose to having an own website. Further, it provides an additional opportunity to publish the defined licensing workflow process, enhancing the knowledge and ensuring that everybody is following the same procedures.

The initial estimates indicate that minimal effort is required to implement this option with a likely high value of return on the investment.

Intra-Municipality

These options are suggested to ease professional license issuance and renewal processes within the Municipality of Greater Madaba.

OPTION "B" → Desktop Automation of Workflow Process:

Developing an interactive desktop database workflow application that automates internal workflow and processes of professional license issuance/ renewal within the Municipality of Greater Madaba. The Municipality currently has several MS-Access applications running and this database technology could easily handle the volume and users anticipated. The database could be hosted on the existing file-server with individual MS-Access applications accessing the data from each individual desktop.

This database application would enable real-time communication between team members within the municipality office through a paperless environment that will speed process. Through such an application, users from various departments can complete the process of issuance and/or renewal of professional licenses by providing application users with information access privileges in order to take action.

By having a multi disciplinary and cross-functional application, it would stimulate teamwork and improve workflow, which in return will accelerate the professional license issuance and renewal processes. Further, automation would allow for processing of applications by each department to happen in parallel, as opposed to the current serial process that occurs as the paper application move from department to department.

This option will require employing a qualified IT staff within the municipality to ensure smooth run of the application, or at least require that support be contracted locally on an as-needed basis.

With the one-stop-shop currently being implemented within the Municipality of Greater Madaba, this process will help consolidate data into one place as well as track application status. On the other hand it will not by itself greatly minimize number signatures and time

of processes within the municipality as after establishing the one-stop-shop, approvals within the municipality do not take that much time anyway. However if this option was complemented with minimizing time of pre-approvals from common relevant external entities, it will immensely impact time of completing the process. See the following option.

OPTION “C” → Web-based Automation of internal processes:

Having an interactive online web based workflow application through automating internal workflow and processes of professional license issuance/ renewal within the Municipality of Greater Madaba.

The web-based application would enable real-time communication between team members within the municipality through a paperless environment that will speed process. Through such an application, users from various departments can complete the process of issuance and renewal of professional licenses through user privileges that would provide them with access to information in order to take action.

By having a multi disciplinary and cross-functional application, it would stimulate teamwork and improve workflow, which in return will accelerate the professional license issuance and renewal processes. Further, automation would allow for processing of applications by each department to happen in parallel, as opposed to the current serial process that occurs as the paper application move from department to department.

This option will require employing a qualified IT staff within the municipality to ensure smooth run of the application, or at least require that support be contracted locally on an as-needed basis (this option will likely require significantly more support than Option “B”).

With the one-stop-shop currently in the process of being implemented within the Municipality of Greater Madaba this process will minimize number of signatures and will help consolidate data into one place as well as track application status but will not by itself greatly minimize time of processes within the municipality as after establishing the one-stop-shop, approvals within the municipality do not take that much time. However if this option was complemented with minimizing time of pre-approvals from common relevant external entities, it will immensely impact time of completing the process. See the following option.

This option is similar to Option “B”, however, the user’s interface is an HTML interface accessed through a web-browser to access the central database. The main benefit to this option is that it lends it self to providing access to the database through the web. This project is intended to be a prototype for other Municipalities, who may not have the same connectivity constraints as Madaba. Whereas Option “B” is problematic in allowing web access to the database, the additional investment in Option “C” will surmount such issues.

Municipality-To-External Departments

OPTION “D” → Automating internal processes and integrating with other common relevant external departments:

This option builds on the above option and extends the automation processes to include common relevant external departments like Madaba Governorate, Civil Defense Department, Chamber (s) of Industry and Trade, and the Vocational Training Center.

This option will require a computer and one online connection per external entity to complete the process. The external entity user will be able to access his/her relevant section and the required information to complete the process via a secured username and password through the web.

These departments would be linked to an online web based application through that allows access to users with privileges based on the areas relevant to the external departments and the required filled information from within the Municipality to complete the process.

Taking into consideration that this might be a good base for future automation of other professional licenses issuance and renewal processes across in other municipalities.

As most external approvals consist of approvals and disapprovals it will be a small extension to option C process (as external entities operate similar to an internal department, the only difference is location).

However, the realization of this Option may not yield the anticipated results of shortening the professional licenses issuance/renewal lifecycle in itself, as some of these entities still require obtaining the actual certification rendering the process of visiting the external entity inevitable. More importantly, this Option requires a large commitment from these involved external entities, especially that these entities' decision by law is not bound to a specific approval time/ duration which makes the efficiency more dependent on humans rather than the system..

In addition, this option would require a high level of security and the buy in from the above named external entities to comply with the workflow requirements imposed by the system,

Moreover, the Municipality of Greater Madaba has connectivity issues that must be resolved in order for this Option to work – this will take a significant investment on top of system implementation and would likely be expensive.

It is worth to note that similar web based application is used within ASEZA (Aqaba Special Economic Zone Authority) in their Enterprise Registration and Permitting System (ERPS) which is currently considered the sole realization of one-stop-shop application in the Kingdom.

Business-To-Municipality

OPTION “E” → Business License E-Service:

This is an advance option that creates an E-Service that will allow individual businesses to apply and pay for their license on-line. In addition, the user could be provided self-servicing information to track the progress of the processing of their license without ever having to contact Municipality staff.

This option builds upon the foundation of option “D” by extending the capabilities from the government entities out to businesses as new users.

Culturally, this option does not appear to be feasible. Firstly, internet penetration is considered to be very low in Jordan, that there would be very few applicants that would use this feature. Further, it is anticipated that applicants would have less faith in this e-capability and would prefer the safety of a face-to-face transaction to ensure that their license is actually being processed. This option should be addressed in years to come as the internet culture changes.

The below matrix provides suggested e-options:

Option I.D.	Suggested e-options	Description	Place	Training	Budget	ROI	Concerns/Notes	Recommendation
A	<u>Static Website</u>	Developing a static website or creating a dedicated section under the e-government portal MoICT E-Government Information Portal (ie Ministry of Municipal Affairs section) that would include a complete guide to professional license issuance /renewal processes as well as the related necessary forms online thus realizing the one-stop shop online service of business establishment.	Ministry of Municipal affairs/ MoICT E-Government Information Portal	Low	Low	High	<ul style="list-style-type: none"> • Will not ease internal procedures despite decreasing number of visits minimally. • Will not ease professional licenses issuance and renewal processes complexity • Option is mutually exclusive for other options 	High
B	<u>Desktop Automation of Internal Process</u>	Developing an office desktop workflow application through automating internal workflow and processes of professional license issuance/ renewal within the Municipality of Greater Madaba.	Municipality of Greater Madaba only	High	Medium	Med	<ul style="list-style-type: none"> • Hardware may exist • Easy to train on office applications • Connectivity not an issue • Possible high maintenance cost 	Medium/High
C	<u>Web-based Automation of Internal Process</u>	Having an interactive online web based workflow application through automating internal workflow and processes of professional license issuance/ renewal within the Municipality of Greater Madaba.	Municipality of Greater Madaba only	High	Medium/High	Med/High	<ul style="list-style-type: none"> • May require additional server hardware • Higher cost of software • Possible high maintenance cost • Provides flexibility to provide access in disparate offices 	High

Option I.D.	Suggested e-options	Description	Place	Training	Budget	ROI	Concerns/Notes	Recommendation
D	<u>Automating internal processes and integrating with other common relevant external departments:</u>	<p>This option builds on the above option and extends the automation processes to include common relevant external departments like Madaba Governorate, Civil Defense Department, Chamber (s) of Industry and Trade, and the Vocational Training Center.</p> <p>These departments would be linked to a web based online application. Access privileges would be determined based on the areas relevant to the external departments and the required filled information from within the Municipality to complete the process</p>	Municipality of Greater Madaba/ Common external entities (Madaba Governorate, Civil Defense Department, Chamber of Industry and Trade, and the Vocational Training Center)	High +	Medium /High +	Med	<ul style="list-style-type: none"> • Possible high hardware cost • Possible high software cost • Possible high maintenance cost • Possible high security cost 	Med
E	<u>Business License E-Service</u>	This option builds on the above option and extends the automation processes to allow business users to apply and self-service their license application.	Municipality of Greater Madaba/ Common external entities (Madaba Governorate, Civil Defense Department, Chamber(s) of Industry and Trade, and the Vocational Training Center)	High +	High	Low	<ul style="list-style-type: none"> • Possible high hardware cost • Possible high software cost • Possible high maintenance cost • Possible high security cost • Culture not realistically ready to take advantage of capability 	Low

E-Options Summary:

According to the suggested e-options and the associated matrix above, *both OPTION "A" → Static Website* and *OPTION "C" → Web-based Automation of Internal Processes* were rated highly recommended as e-options that can be implemented to further simplify the process of issuance and renewal of professional licenses at the Municipality of Greater Madaba

The recommendations were based on "Low", "Medium" and "High" rating and took into consideration impact and feasibility as well as return on investment, budget and training.

OPTION "A" → Static Website was considered a good business option as it is anticipated that this it will greatly enhance issuance and renewal processes of professional licenses if used to complement internal (within the Municipality of Greater Madaba) automated processes.

It will also help create an example for other municipalities that wish to follow a similar track of realizing initial steps to a one-stop-shop especially if was created via the e-government which will provide greater visibility as oppose to having an own website. Further, it provides an additional opportunity to publish the defined licensing workflow process, enhancing the knowledge and ensuring that other municipalities within Jordan follow similar procedures.

The initial estimates indicated that minimal effort is required to implement this option with a likely high value of return on the investment.

OPTION "C" → Web-based Automation of Internal Processes on the other hand was considered the most ideal option for automation to simplify the process of issuance and renewal of professional licenses at the Municipality of Greater Madaba.

This option proposed having an interactive online web based workflow application through automating internal workflow and processes of professional license issuance/ renewal within the Municipality of Greater Madaba.

The web-based application would enable real-time communication between team members within the municipality through a paperless environment that will speed process. Through such an application, users from various departments can complete the process of issuance and renewal of professional licenses through user privileges that would provide them with access to information in order to take action.

By having a multi disciplinary and cross-functional application, it would stimulate teamwork and improve workflow, which in return will accelerate the professional license issuance and renewal processes. Further, automation would allow for processing of applications by each department to happen in parallel, as opposed to the current serial process that occurs as the paper application move from department to department.

The initial estimates indicated reasonable effort is required to implement this option with a likely medium/high value of return on the investment, however will require high efforts in staff training.

OPTION "B" → Desktop Automation of Workflow Process, *OPTION "D" → Automating internal processes and integrating with other common relevant external departments* and *OPTION "E" → Business License E-Service* were excluded for one or more of the following reasons:

- » High budget and minimum impact on shortening the process of issuance and renewal of professional licenses at the Municipality of Greater Madaba
- » Minimal commitment of external entities to the system that will be developed and deployed
- » Minimum return of investment
- » Culture not e-ready

E-options' benefits:

- Accelerate Professional License Issuance/ Renewal processes.
- Eliminate redundancy.
- Improve communication among departments and staff.
- Improve communication with clients and businesses.
- Promote efficiency and effectiveness with automated tracking and workflow.
- Increase the accuracy and consistency of data.
- Provide capability to produce accurate and timely reports on Professional Licenses with minimal investment of staff time to produce such reports.
- Establish a base for integration with future e-government projects.

APPENDIX A:

Municipality of Greater Madaba

**Infrastructure Evaluation
Check List**

PART 1: HARDWARE & SOFTWARE

1- Are there any servers at the Municipality of Greater Madaba? ___ YES ___ NO,

If YES, specify number of servers _____ and specs to include Operating System

2- Are there any Computers at the Municipality of Greater Madaba? ___ YES ___ NO

If YES, specify total number of computers:

- ___ PC
- ___ Mac
- ___ UNIX
- ___ other

Provide main specs for each _____

- User Name
- Title
- E-mail (if available)
- Type of Work

3- Are there any specialized staff with skills in data management and/or electronic networking (data manager, computer/network manager) at the Municipality of Greater Madaba? If YES, provide the contact addresses (e-mail address, phone and fax numbers, if available)

4- Does the Municipality have any computing system administration support available for any of the following? If YES specify.

- ___ Windows 98
- ___ Windows NT
- ___ Apple/Mac
- ___ UNIX

5- Specify any software used in the “Licensing Process” (Issuance or Renewal) at the Municipality?

- 1- _____
- 2- _____
- 3- _____

User Name
Title
E-mail (If available)

6- Does the Municipality have any Backup and recovery policies?
_____Yes _____No

If YES, specify the backup policy, and backup software used

PART 2: NETWORK

Local Area Network (LAN)

1- Does the Municipality have a Local Area Network (LAN) connecting its computers? _____YES
____NO

If YES, specify the following:

- a- Number of outlets _____
- b- Number of connected PC's _____.
- c- Are cables terminated on patch panel _____YES _____NO
- d- Type and capacity of Hub/Switch _____ Ports
- e- Is it CAT3 or CAT5?
- f- Speed

Wide Area Network (WAN)

1- Does the Municipality have a Wide Area Network (WAN) connecting its computers with Greater Amman Municipality or other relevant authorities? _____YES _____NO

If YES,
Specify related Hardware/ Software/ line speed between the two Municipalities

PART 3: INTERNET CONNECTIVITY

1- Does the municipality have a connection to the Internet? _____YES _____NO

If YES,

- a- Who is the Internet provider?
- b- How are they connected?
 - ____ Simple modem connection over phone lines
 - ____ Lease line
 - ____ DSL
 - ____ Frame relay
 - ____ T1
 - ____ ISDN
 - ____ other

2. Are there any restrictions imposed by the provider (e.g. a "firewall", non-fixed host IP numbers, etc.) If YES, specify.

3. Does the Municipality have an e-mail server? _____YES _____NO

If YES,

- a- Specify the e-mail server software and version _____

- b- Number of e-mail users _____
- c- Does the Municipality have any Firewall? What kind?

PART 4: CULTURAL ASSESSMENT

1. How many of the Licensing Process related staff use PCs?
2. Specify Computer knowledge of related staff?

User name
 Title
 E-Mail

Knowledge Level:

- Windows
- Microsoft Office (detail)
- Internet
- e-mail
- Specific Software
- Other
- Never used any of the above

Server/PC form per user

User Name
Title

CPU Type:	
Computer Make/Model:	
Operating System:	___ DOS, ___ WIN 3.x, ___ WIN 95/98, ___ WIN NT/2000, ___ MAC, ___ Netware, ___ UNIX, ___ OS2, ___ Other
Memory size (MB / GB)	
Hard Disk Capacity (MB / GB):	
Disk Interface:	___ SCSI, ___ IDE, ___ EIDE, ___ Removable, ___ Optical, ___ Tape
Controller Card Type/Make/Model:	: ___ ESDI, ___ RAID, ___ ST-MFM, ___ ST-RLL
External disk/tape	___ CD ROM, ___ The formatted drive I have included, ___ 3 1/2" Floppy ZIP Disk, ___ JAZ Disk,
Backup Drive	___ 4mm DAT Tape , ___ 8mmExabyte Tape, ___ DLT Tape,
LAN Card	___ Yes ___ No

APPENDIX B**Interviewees List**

Personnel who are involved in the process of issuing/renewing professional licenses within the Municipality of Greater Madaba that actually use PC's

<i>Name</i>	<i>Department</i>	<i>Title</i>	<i>Word</i>	<i>Excel</i>	<i>Other</i>	<i>Email</i>	<i>Internet</i>
Ms. Moufeeda Abbadi	Professions Department	Data Entry officer	Yes Limited	No	No	No	No
Ms. Talae Al Mouwaza	Professions Department	Data Entry officer	Yes Limited	No	No	No	No
Mr. Sahher	Financial and Administrative Unit / Investigation Division	Fees collector	Yes	No	No	No	No
Mr. Mohamad Jihad Jamal	Investigation Division	Head of the Investigation Division	Yes Limited	No	No	No	No
Dr. Ahmad Ghlailat	Health Department	Director of the Health Department	Yes	No	No	No	once
Mr. Aref Jamahini	Correspondence Bureau	Prepares letters/	Yes	No	No	No	No
Mr. Ahmad Abu Rajouh	Public Works Department	Head of Public Works Department	Yes	No	Auto Cad	No	No
Eng. Halimah Shawabke	Public Works Department	Public Works officer	Yes	No	Auto Cad	No	No