Project Systems Management Regulations for the Ministry of Environment, Water and Agriculture

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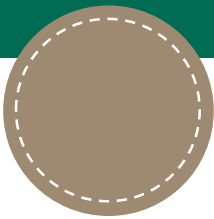
Section : 373

Instructor :
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3. Project Requirements: SRS and BRS

   3.1 SRS

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3.2 BRD

Main goals

Build an integrated revenue management system to provide a relevant system that will consolidate and compile all its own information, data and action procedures, consisting of four main tracks (property management system, invoice management, client services management system).

The property management system will be meaningful to all the administrative, organizational and logistical functions of the entities and buildings of the Ministry to ensure their administration and the smooth and flexible maintenance and contract

- Develop the system of irregularities with a view to controlling irregularities that were caused by the mispractice or failure to comply with the regulations and regulations issued by the Ministry for various activities related to the Ministry.

The billing system supports the system of irregularities and property management that will complete the procedures for registering all types of invoices issued by the Ministry for all revenues collected by the Ministry.

- Build an integrated customer relationship management system to allow clients to support and provide all possible channels to reach their voice to their various segments and ensure transparency and speed of response

The mechanism for interlinking these tracks with the overall scope of the project in figure 1:
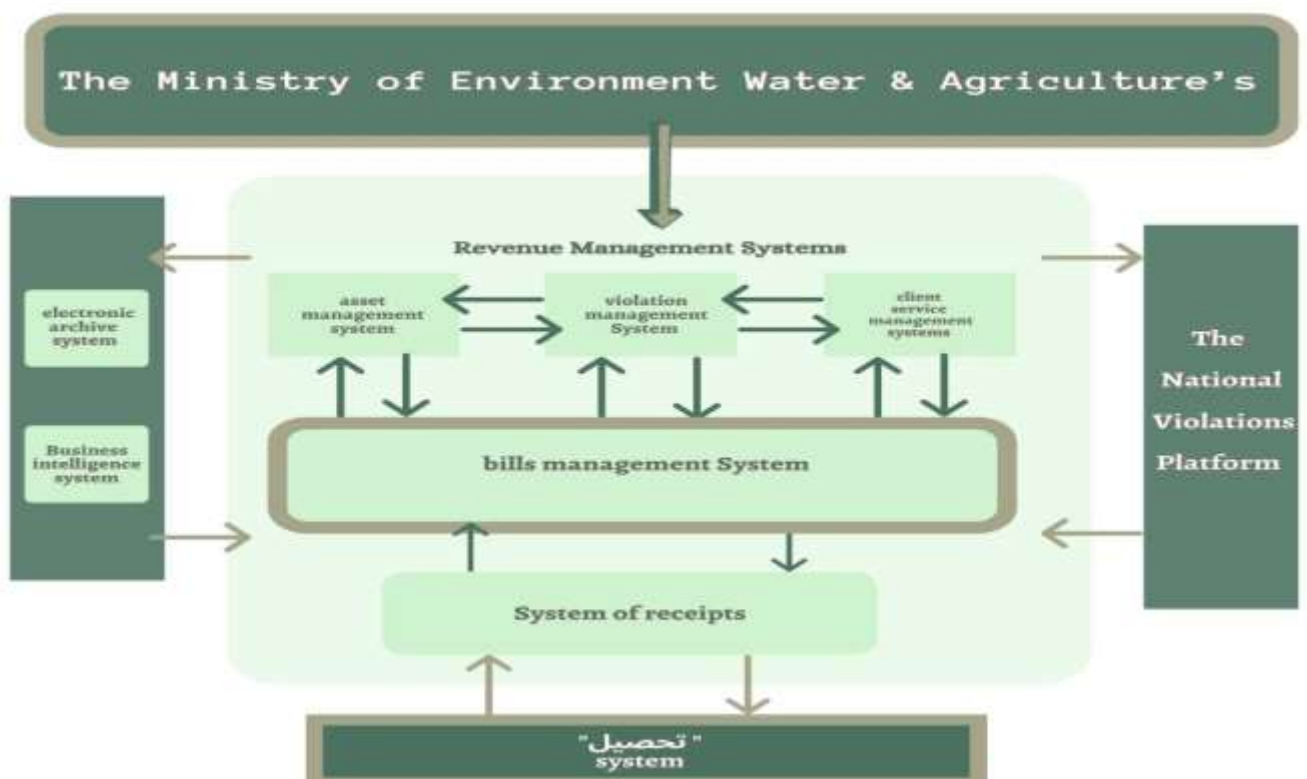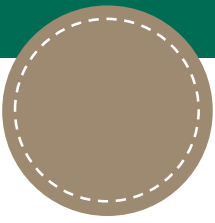
Main functionality and characteristics
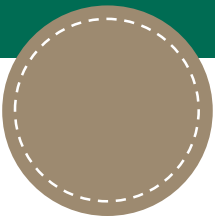
1.Property management system

Characteristics :
- Property management system is concerned with all administrative functions associated with residential property of the Ministry.

- The system controls and manages all aspects of the economic exploitation of the resources of the rent-affordable facilities

- Through the system, the Ministry concerned can manage the operation and maintenance of the estate and marketing and collect rent or premiums from tenants or investor**s**

functionality:
- The ability to identify and manage real estate and land under the Department's administration and provide its own information through the system.

- The ability to record lease contracts for real estate and lands that fall under the Ministry's management and to provide information about them through the system.

- The ability to approving the contract in the system .

- The ability to post rental bills to the Bills Management System.

- The ability to automate the process of issuing rents bills to customers according to the schedule of payments contracted between the ministry and the tenant .

- The ability to extending the contract lease

- The ability to give up a rented land

- The ability to cancel a contract.

- The ability to request a modification on an ongoing contract (Modify the activity of adding partners, heirs, etc)

- The ability to define and manage maintenance requests for Ministry property and provide their information through the system.

- Track maintenance requests and know their status

- The ability to manage maintenance requests through linking with the asset maintenance system.

- The ability to define and manage clients dealing with the Ministry and provide their information through the system

- The Ability to extract maps showing each geographical area

- The ability to extract reports on clients

- the ability to extract reports that illustrate the contract information on real estate and land

- automatic archive for electronic documentation

- Services to supporting Saudi agriculture in the allocation and leasing of suitable agricultural lands to investors in agricultural or animal projects .

- Services aimed at achieving the desired justice in relation to agricultural land

2-Violation management System

Characteristics :

- How to set an individual or facility
- Expanded and comprehensive analysis of the various procedures for the control of irregularities
- The system must support linkage with the field visits system to allow for the completion of inspection missions

- The system must have the ability to modify irregularities at all stages
- The system must have flexible ways of closing the ticket

Functionality :

- The ability to control irregularities with evidence companions

- Alert the offender to send a notice of the violation

- The violation is permitted to complain against the decision of the penalty within a specified period of time from the date of his notice of the violation

- The system supports the printing of any form of the records of the violation

- Copies of the record of the seizure of violation are issued if elements are amended, added or abolished
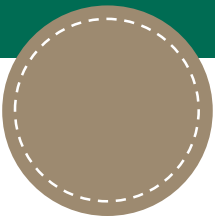
3. Bills management System

Characteristics :

- Preparations: add a new income account to the list of revenue accounts, activate accounts, disrupt revenue accounts of the Ministry

- The bill

- The access system

- Support for the partial payment mechanism, advance payment and advance payment

- Refund requests

- Reports and information are only for data in the system

- It requires the definition of user data

- The competent team shall provide financial management to discuss work requirements and review and approve outputs according to the project schedule

Functionality :

- The ability to extract revenue reports that explain all the details.

- The ability to extract reports on lease agents

- The ability to extract reports on violators

- The ability to extract reports enabling the tracking of bills and rent payments.

- The ability to extract reports enabling the tracking of invoices and payments according to the date of issuance.

- Modification/activation/disruption of services.

- Settings of reasons(cancellation of bills , request, cancellation of recovery request)

- The ability to register manual invoices for direct income
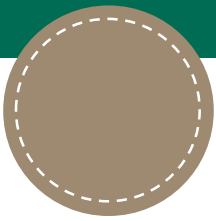
4.client service management System
Characteristics :

- System's ability to file a complaint

- The ability of the system to create and manage the agreement at the service level

- The tasks are accomplished according to their priorities

- The system allows the documents relating to the complaint to be accompanied

- The system supports the customer's satisfaction at every stage

- The flexibility of the system in the methods of closing the case or complaint

- Direct communication

- Mechanical response to the social network

- The system supports the feature of negotiation between the agent and the Ministry

- The system is able to identify viewpoints for active tasks

- The ability to describe the complaint fully, resolve and cause of complaints must be presented on a unit page

- Propose questions based on the type of complaint

- The system includes a search engine based on key words

- The system includes questions common and answers by type of complaint or service

- The Self-Service Gate includes links to additional support information

- Provide messages are available from self- service

- The system should include the reports writer to modify client support reports or establish new reports.

- The system provides a central information repository for the exchange of files and electronic documents.
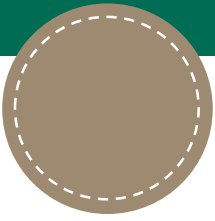
Functionality :

- Sending reminders before the due dates
- The ability to create new applications or services through previous requests or models
- Access to client information easily
- The ability to repeat the complaint
- The ability to keep the client's information
- The ability to set time for client calls to study performance standards
- The ability to track complaints by due date
- The ability to automatically identify complaints based on different criteria
- The ability to notify staff members who are automatically recruited for new complaints tasks.
- The ability to schedule client service tasks to be done in record time.
- The ability to produce self service that allows them to enter and review the complaint
- The ability to send the complaint from self-service automatically to the client support unit.

- The system's ability to register access and terminate documentation management procedures.
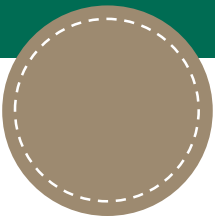
Stakeholders of the project

● product owner

After delivering the project the product owner will benefit the following :

- develop revenue management systems for the ministry of environment, water and agriculture .
- increase the quality level of the Ministry.
- Our project enables the clients to give feedback which makes the product owner gain perspective on clients.
- Develop the system with services that facilite client and employee operation.

● client

After delivering the project the client will benefit the following :

- The client can manage her/his assets (i.e. reting,selling and maintenance ,pay bill,file a complaint ..etc).
- the client can perform many operations electronically on the system without the need to attend the ministry.
- Better communication with ministry through (i.e. social media ,direct communication ,..etc).

●employee

After delivering the project the employee will benefit the following :

- the employee can complete operations, whether related to the minstry's administration or special operations for client through these systems
- The employee can access clients information and their services .
- Given him the privilege of (approving contracts, manage bills , track violation ,..etc).

●IT supports

After delivering the project the IT supports employee will benefit the following :

- Provide APIs that facilitates the developement of the systems .
- Receiving a Fully linked systems with third parties (i.e. أبشر, تحصيل, بلغ, SSO,...etc).
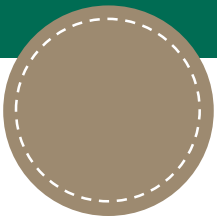
Intended Technology

Languages Used

- The language of HTML is the basis of the web pages and its infrastructure and it explains in detail what the pages are going to be and how the contents of the site are presented, like dividing the site into the address and paragraphs of the web. And that's based on the label, which is the key part of creating pages, you take a number of orders and you carry them out and allow accurate control of the characteristics of the page.

- The language of CSS is used to design, coordinate and organize the contents of html, including colors ,lines, etc.

- JavaScript to add the effects and interactions of web page pages with the client at the browser level and is supported by most page pages.

Challenges

- Identify the language of programming used for the multilingualism used to design web pages and lack of knowledge about this area.
- The lack of scrum team members is among the challenges that we will face in working jobs that are not within our capabilities , such as testing, QA.
- Difficulty in navigation given the nature of the project.
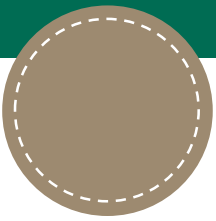
Team members background

Shatha Alyousef :

- UX|UI designer using adobe xd

- Previous experience in Android Studio

- Excellent knowledge of java

- simple knowledge in HTML and CSS

- I am the designer on the team

Raghad Albosais:

- Experience in programming with Java Language.

- Simple experience in Android Studio as an android app developer.

- I will be a programmer for this project in scrum team.

Khloud Alnufaie:
- UI designer using NetBeans

- experience in java language

- I play product owner role for envision the final product and communicate the vision.and developing and explicitly communicating the product goal .

Alhanouf Almansour:

- familiar with java.
- Brief experience with frontend development(JavaScriptHTML and CSS)

Norah Alsharhan :
- programming language: java
- simple knowledge in HTML and CSS
- I am the business analysis on the team

Project expected timeline

Project Timeline

March -2021

Phase1

Submit a fall report SRS , BRS

April- 2021

Phase2

Submit the architecture, design and implement

March -2021

Phase1

Understand the project and requirement

February -2021

Phase2

Build software architecture, design and implement prototype

March -2021

Phase3

testing and delivery the project.

April- 2021
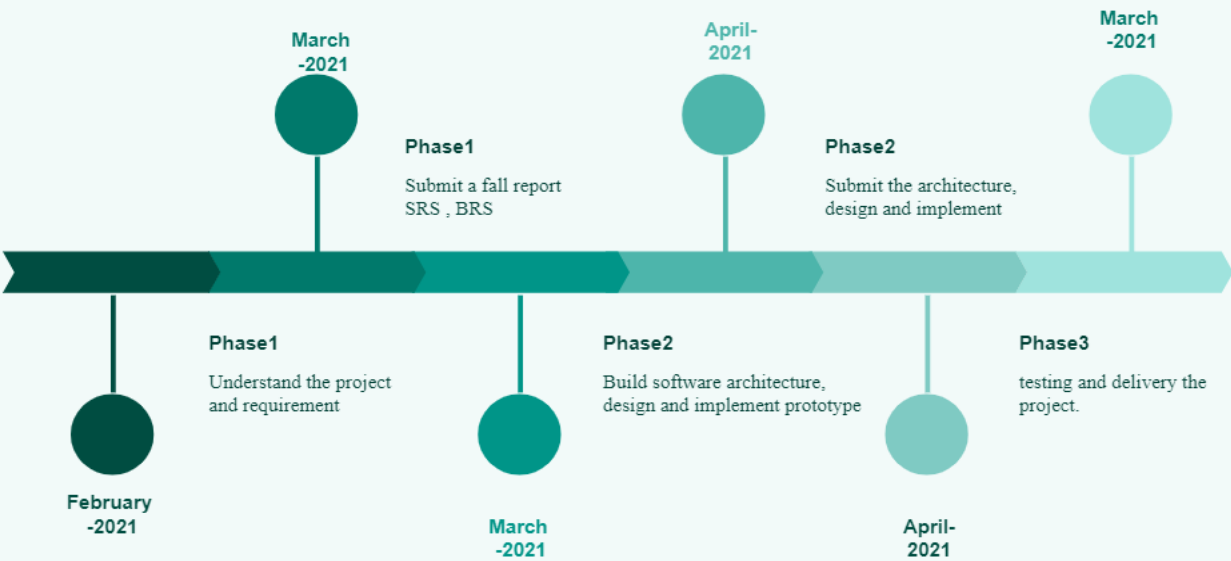
Software Development Lifecycle SDLC
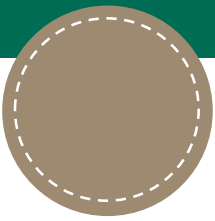
1.   3.1 Reasons for choosing the SDLC

Why we chose scrum ?

The nature of the project and the capabilities of our team members has factored greatly in our decision to choose Scrum as our SDLC and I will list a couple:

First off, scrum as a methodology can be easily understood by the team members and seems safe considering the shortage of time and the demand to produce something presentable in every phase. Despite the large number of requirements, by planning out sprints in terms of priority, we guarantee that the main features are implemented thus managing our time in an efficient manner. Although there is a scrum master, the dynamics between scrum roles are less hierarchal, which fits our team since the backgrounds are all very similar and the scrum master can easily identify who's not on track. Also, given our lack of experience, we thought scrum is a more forgiving approach in terms of adjusting during the development. Also, scrum makes sure we stay in touch via Scrum Daily Meetings which has its benefits in terms of offering support to each other, reinforcing everyone's self-accountability and eliminating any misunderstandings and confusion throughout the project. Also, delivering a shippable product in every sprint allows us to assess our quality of work and engages the stakeholder which subsequently results in better quality in every sprint and a more accurate product of what was described by the stakeholder.

2.2 A Detailed plan

2.2.1 Scrum Role
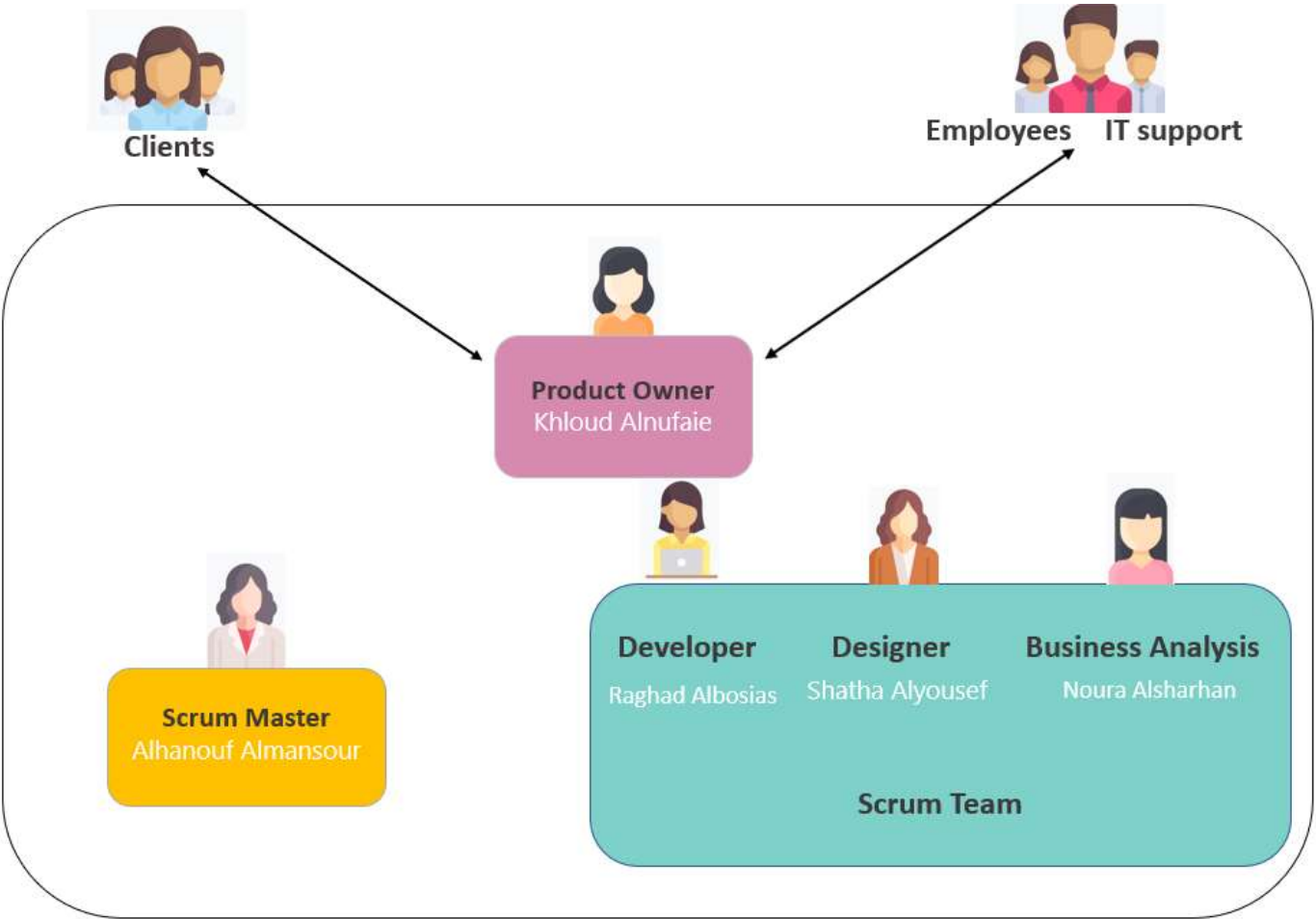
2.2.2 Scrum Artifacts

2.2.2.1 Product backlog
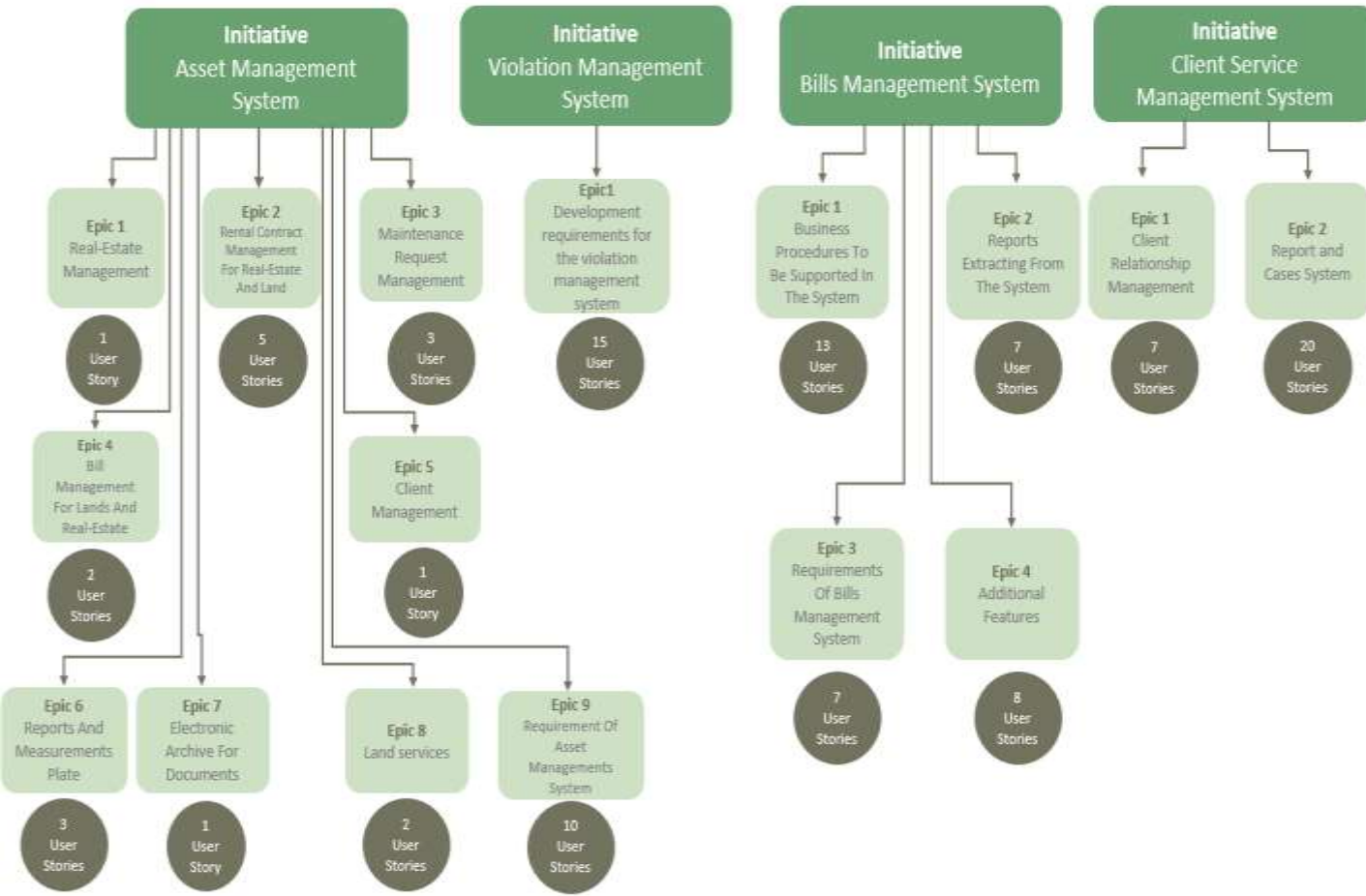
Initiative	Epics	S.No	User Stories	Priority
Asset Management System	Real-Estate Management	1	As a user, I want a service that manages real-estate so that I can view the location, area, status, and the purpose of a land.	Low
	Rental Contract Management	1	As a user, I want to be able to rent the real-estate and lands that are listed in the system with all of its data.	High
		2	As a user, I want to have the contract assured in the system.	Low

	For Real-Estate And Land	**3**	As a product owner, I want the bill to be automatically sent to the Bills Management System.	**Medium**
		4	As a product owner, I want the automation of the bill to include the payment system that was agreed upon between the ministry and the contractor.	**Low**
		5	As a user, I want the option of extending, wavering, canceling, and editing the contract.	**High**
	Maintenance Request Management	**1**	As a user, I want to have the service of requesting maintenance and requiring the user to fill information of the land.	**High**
		2	As a user, I want to be able to view the status of my land that I requested to be maintained.	**High**
		3	As a product owner, I want the management of maintenance requests to be linked with the asset maintenance system.	**High**
	Bill Management For Lands And Real-Estate	**1**	As a user, I want the bills of rented lands to be issued automatically.	**Medium**
		2	As a product owner, I want the bill to go through SADAD's payment system to update the status of the bills that have been paid. and to receive the information to update the bill.	**Low**
	Client Management	**1**	As a user, I want to be able to identify the employee helping me by their name or other information.	**Medium**
	Reports And Measurement s Plate	**1**	As a user, I want to extract maps that show each geographical area to clarify real estate information.	**Low**
		2	As a user, I want to extract reports on clients to clarify the client's information, real estate, and bill.	**Medium**
		3	As a user, I want to extract reports that illustrate the contract information on real estate and land to ensure reliability.	**Medium**
	Electronic Archive For Documents	**1**	As a user, I want an automatic archive for electronic documentation to achieve business requirements.	**Low**
	L and Services	**1**	As a user, I want services for agricultural land allocation and leasing to process requests in agricultural projects.	**High**
		2	As a user, I want services related to agriculture and issues to achieve justice about the benefit in the requests for evidence on the arguments of arbitration.	**Low**
	Requirement Of Asset	**1**	As a product owner, I want a billing system, so that I can issue electronic bills for rental.	**High**

		2	As a product owner, I want an Enterprise Resource Planning Management System for linking with the warehouse department to record and track any materials or items that are disbursed to the Ministry's property.	**Low**
		3	As a product owner, I want an electronic archive system so that I can archiving documents electronically.	**Low**
		4	As a product owner, I want to link electronic services with Asset Management Systems in the lands platform.	**High**
		5	As a product owner, I want to link the management of client services system with Asset Management System to exchange client's files.	**High**
	Managements System	**6**	As a product owner, I want to link SMS service with Asset Management System to notify through SMS.	**Low**
		7	As a product owner, I want to link SSO (Single Sign On) with an Asset Management System for an easier sign-in process.	**Medium**
		8	As a product owner, I want to provide an API, so that I can retrieving, adding, modifying or canceling any data associated with any other ministry systems.	**Medium**
		9	As a user, I want to submit all the requirements displayed in the detailed requirements appendix.	**Medium**
		10	As a user, I want to link with the Ministry's Asset Maintenance System.	**High**
Violation Management System		**1**	As a user, I want this system to support linking with the field visit system to allow the completion of inspection tour tasks that may result in pinpointing a group of violations against entities through the dedicated website.	**Low**
	Development Requirements For The Violation Management System	**2**	As a user, I want this system to complete the remaining steps of the standard procedure through a web system to perform all the related functions, from the beginning of monitoring violations to settlement, payment, or cancellation.	**High**
		3	As a product owner, I want to link with the Violations Management System to implement the partial payment of violations through the electronic payment methods available on the system	**High**
		4	As a user, I want this system to support the printing process of any form of violation records.	**Low**
		5	As a user, I want this system to Issue copies of the violations control records so the copies are in their latest version if those copies are modified or added or (versioning).	**Low**

		6	As a user, I want this system to provide a set of reports (10 maximum) and departmental indicator boards for stakeholders in the departments (4 count) .	**Medium**
		7	As a product owner, I want to link the violation management system with the field visits system to record any violations that may be pinpointed during the regular or sudden field visits process.	**High**
		8	As a product owner, I want to link the Violations System with the human resources system to recover the employee's data.	**Medium**
		9	As a product owner, I want to link the Violations System with the human resources system to create a list of all the violations from the violations system that will be created.	**Medium**
		10	As a user, I want to have the service of SMS to get notifications.	**Low**
		11	As an employee, I want to be linked with the SSO (Single Sign On) for the purpose of convenience.	**Medium**
		12	As a product owner, I expect to have APIs that can be added, edited, and recovered from so that they can be used with other ministries.	**Medium**
		13	As a product owner, I want the system to be linked with the £JJ system so that past violations will be linked.	**Low**
		14	As a product owner, I want the contractor to enlist all of the requirements listed in the requirements displayed in the detailed requirements appendix.	**Medium**
		15	As a product owner, I want the Geographic Information System (GIS) to be linked with the violation management system.	**Low**
Bills Management System	**Business Procedures To Be Supported In The System**	1	As a user, I want this system to define and manage information for all clients to facilitate the bills management.	**High**
		2	As a user, I want this system to manage the biller and billing categories so that I can record the biller data and billing categories (the agreement with a collection system on the properties of bills).	**High**
		3	As a user, I want this system to classify revenues according to their source and type.	**High**
		4	As a user, I want this system to manually record bills for miscellaneous revenues directly in the system to sending those bills automatically through email to the customer's registered email and sending text messages automatically to notify the customer that invoices have been issued for him to pay.	**High**
		5	As a user, I want this system to automate the process of issuing lease bills.	**High**

		6	As a user, I want this system to automate the process of issuing violations bills of the perpetrators of the violation.	**Low**
		7	As a user, I want this system to automate the process of following up bills with customers, whether they are related to rents, violations or miscellaneous revenues .	**Low**
		8	As a user, I want this system to provide services management so that I can define the ministry's services and link services with the ministry's revenue accounts.	**Low**
		9	As a user, I want this system to determine the method of calculating fees for each service whether fixed fees or manual fees or indicative fees or mathematical equation, to determine how work with it in the bill management.	**Low**
		10	As a user, I want to manage billing groups to define different and varied groups to classify bills also to modify/activate /disable billing groups.	**Medium**
		11	As a user, I want to manage bills categories for several things (see the data of the billing categories-The bill is based on a bill number only, or an account number and a bill number-payment bills are refundable or not-enter the expiration date of the bill-settings for automatic identification of billing numbers).	**Medium**
		12	As a user, I want to manage causes settings to define preconceived causes that are used in cancel the bill and request for refund and cancel the refund request.	**Low**
		13	As a user, I want to manage official holidays so I can define official holidays in the country, which will be used to know the official working days which are used in settlement reports.	**Low**
	Reports Extracting From The System	**1**	As a user, I want to extract revenue reports to showing all its details, (i.e. type of revenue -total revenue value - the value that was collected from that revenue that was recorded).	**Medium**
		2	As a user, I want to generate reports about rental clients to illustrate(i.e. basic clients information, bill and their status, payment of the amounts owed by the clients).	**High**
		3	As a user, I want to extract reports on the perpetrators of the violation to illustrate(i.e. entity information, violation information, violation bills and their status, amounts owed by the parties for the violation).	**Medium**
		4	As a user, I want to generate reports for leases so that I can track bills and payments according to the schedules of contracted payments according to the amount and the due dates for each contract and according to the date of their issuance, client, and real estate or land.	**Medium**

		5	As a user, I want to extract cash flow reports to illustrate the amounts of real estate expected to be collected during future financial periods according to the schedules of contracted payments.	**Low**
		7	As a user, I want to extract reports on accounts receivable ages tables.	**Low**
	Requirements Of Bills Management System	**1**	As a product owner, I want the real-estate management system to be linked with the bills management system to be linked with the bill system to offer automation.	**High**
		2	As a product owner, I want the violations system to be linked with the bills management system to be linked with the bill system to offer automation.	**High**
		3	As a product owner, I want the real-estate management to be linked to the receipt system (Oracle ERP).	**High**
		4	As a product owner, I want real-estate management to be linked with the business intelligence system to create reports and measurement panels.	**High**
		5	As a product owner, I want the real-estate management to be linked to points of sale.	**Low**
		6	As a product owner, I want the TAHSEEL system to be linked so that all external actors can pay through the system and receive the information of TAHSEEL.	**Medium**
		7	As a product owner, I want the real-estate management to be linked with File Net System for Electronic Archive.	**Low**
	Additional Features	**1**	As a product owner, I want the bills management system to add/activate/deactivate a new revenue account that already existed.	**Low**
		2	As a product owner, I want the billing system to match the billing notifications with TAHSEEL system whether in payment or refund.	**Low**
		3	As a product owner, I want the billing system to have (APIs).for creating bills, inquiring about them, and paying them automatically.	**Low**
		4	As a user, I want the billing system to support partial payment, overpayment, and prepayment.	**Low**
		5	As a product owner, I want the system to use TAHSEEL to support the option of refund and payment.	**Low**
		6	As a product owner, I want the reports and inquires to be exclusive to the data of the system and not any from any other billing system.	**Low**
		7	As a product owner, I want the user data in the Active Directory User Data Server, such as the user's Arabic name and number.	**Low**
		8	As a product owner, I want the system to develop a mechanism for granting authority for billing services (and then	**Low**

			revenue accounts) to users and developed for other branches to link.	
Client Service Management System	**Client Relationship Management**	1	As a user I want to be able to file a complaint, give feedback inquire and ask for requests through SMS, calls, and email and receive a reply.	**Medium**
		2	As a user, I want to have direct contact with people in charge or employees whether it is through a hotline of email or SMS.	**Medium**
		3	As a user I want this system to display all of my information on the screen.	**Low**
		4	As a product owner, I want a database that differentiates between clients and categorizes them.	**Low**
		5	As a user, I expect to find the system linked with external parties meaning social media for the purpose of being connected.	**Low**
		6	As a product owner, I want to connect with the complaints systems of the National Water Company to escalate complaints to the ministry from the client.	**High**
		7	As a product owner, in the case of an API not working, I want the contractor to create an interface that can be placed in other systems.	**Low**
	Reports And Cases System	1	As a user, I want a reporting system so that I can record and follow up the reports such as confirming, sending and closing the report, reporting the report, and referring the report to case management.	**Medium**
		2	As a user, I want this system to provide manage cases so I can handle and follow up the cases and search similar issues to facilitate completion of the current case and seeing any information from the ministry's systems information database about the case system.	**Low**
		3	As a user, I want this system to provide management of judicial committees so that I can handle and follow up the case pleadings until the issuance of judgments and search similar issues to facilitate completion of the current case and seeing any information from the ministry's systems information database about the case system.	**Low**
		4	As a user, I want this system to provide implementation management so that I can process and follow up the implementation of judgments issued by committees and enforcement authorities. (i.e. collect a fine/suspension of services in the ministry).	**High**
		5	As a product owner, I want this system to be able to identify all types of cases (violations, accidents, and complaints) and work according to the requirements and analysis sessions.	**High**

			6	As a product owner, I want this system to be able to allow the user to create / edit / close / view a status according to the assigned security role.	**High**
			7	As a product owner, I want this system to be able to notify all parties to a case when a case is created with case information and any actions taken in case via email/SMS.	**Low**
			8	As a product owner, I want this system to be able to provide automated workflows for case handling and implementation.	**Low**
			9	As a product owner, I want this system to be able to provide a complete view of all interactions and activities in all cases.	**High**
			10	As a product owner, I want this system to be able to pre-perform case searches.	**Low**
			11	As a product owner, I want this system to be able to generate daily/weekly reports to show performance on active cases.	**Medium**
			12	As a product owner, I want this system to be able to monitor the time spent on each case/complaint.	**Low**
			13	As a product owner, I want this system to be able to retain the same quality of services in the case of workflow escalation.	**Low**
			14	As a product owner, I want this system to allow the users to check all the cases assigned to her/him.	**Medium**
			15	As a product owner, I want this system to be able to direct cases, create rules, and alerts.	**Low**
			16	As a product owner, I want this system to be able to record and track tasks.	**Medium**
			17	As a product owner, I want this system to be able to set, authorization, and track progress on all tasks.	**Medium**
			18	As a product owner, I want this system to be able to send reminders before assignments are due dates.	**Low**
			19	As a product owner, I want this system to be able to define different types of perspectives for active tasks, which are in progress, completed and due tasks and can be divided One task to the other sub-tasks.	**Low**
			20	As a product owner, I want the tasks to be synchronized between the system and expectations, any update in one system .must be reflected in other systems.	**Low**

2.2.2.2 Sprint backlog

Sprint #	Strat	End	Status
Sprint 1 (HIGH Priority User Stories)	**12/Mar/21**	**01/Apr/21**	Not started
User Story 1 (initiative: asset management system, epics: Rental contract management for real-estate and land).	15/Mar/21	16/Mar/21	Not started
User Story 5 (initiative: asset management system, epics: Rental contract management for real-estate and land).	15/Mar/21	16/Mar/21	Not started
User Story 1 (initiative: asset management system, epics: Maintenance request management).	15/Mar/21	16/Mar/21	Not started
User Story 2 (initiative: asset management system, epics: Maintenance request management).	15/Mar/21	16/Mar/21	Not started
User Story 3 (initiative: asset management system, epics: Maintenance request management).	15/Mar/21	16/Mar/21	Not started
User Story 1 (initiative: asset management system, epics: Land services).	16/Mar/21	17/Mar/21	Not started
User Story 1 (initiative: asset management system, epics: Requirement of asset managements system).	16/Mar/21	17/Mar/21	Not started
User Story 4 (initiative: asset management system, epics: Requirement of asset managements system).	16/Mar/21	117/Mar/21	Not started
User Story 5 (initiative: asset management system, epics: Requirement of asset managements system).	16/Mar/21	17/Mar/21	Not started
User Story 10 (initiative: asset management system, epics: Requirement of asset managements system).	16/Mar/21	17/Mar/21	Not started
User Story 2 (initiative: Violation management System, epics: Development requirements for the violation management system).	17/Mar/21	18/Mar/21	Not started
User Story 3 (initiative: Violation management System, epics: Development requirements for the violation management system).	17/Mar/21	18/Mar/21	Not started
User Story 7 (initiative: Violation management System, epics: Development requirements for the violation management system).	17/Mar/21	18/Mar/21	Not started

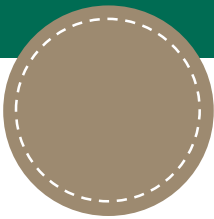|			
User Story 1(initiative: Bills management System, epics: Business procedures to be supported in the system)	17/Mar/21	18/Mar/21	Not started
User Story 2(initiative: Bills management System, epics: Business procedures to be supported in the system)	17/Mar/21	18/Mar/21	Not started
User Story 3(initiative: Bills management System, epics: Business procedures to be supported in the system)	18/Mar/21	19/Mar/21	Not started
User Story 4(initiative: Bills management System, epics: Business procedures to be supported in the system)	18/Mar/21	19/Mar/21	Not started
User Story 5(initiative: Bills management System, epics: Business procedures to be supported in the system)	18/Mar/21	19/Mar/21	Not started
User Story 2(initiative: Bills management System, epics: Reports extracting from the system).	18/Mar/21	19/Mar/21	Not started
User Story 1(initiative: Bills management System, epics: Requirements of bills management system).	18/Mar/21	19/Mar/21	Not started
User Story 2(initiative: Bills management System, epics: Requirements of bills management system).	19/Mar/21	20/Mar/21	Not started
User Story 3(initiative: Bills management System, epics: Requirements of bills management system).	19/Mar/21	20/Mar/21	Not started
User Story 4(initiative: Bills management System, epics: Requirements of bills management system).	19/Mar/21	20/Mar/21	Not started
User Story 6(initiative: Client service management System, epics: client Relationship Management)	19/Mar/21	20/Mar/21	Not started
User Story 4(initiative: Client service management System, epics: Reports and cases system).	19/Mar/21	20/Mar/21	Not started
User Story 5(initiative: Client service management System, epics: Reports and cases system).	20/Mar/21	21/Mar/21	Not started
User Story 6(initiative: Client service management System, epics: Reports and cases system).	20/Mar/21	21/Mar/21	Not started
Sprint 2(MIUDEM Priority User Stories)	**21/Mar/21**	**01/Apr/21**	**Not started**
User Story 3 (initiative: asset management system, epics: Rental contract management for real-estate and land).	21/Mar/21	22/Mar/21	Not started
User Story 1 (initiative: asset management system, epics: Bill management for lands and real-estate).	21/Mar/21	22/Mar/21	Not started
User Story 1 (initiative: asset management system, epics: Client management).	21/Mar/21	22/Mar/21	Not started

User Story 2 (initiative: asset management system, epics: Reports and measurements plate).	21/Mar/21	22/Mar/21	Not started
User Story 3 (initiative: asset management system, epics: Reports and measurements plate).	21/Mar/21	22/Mar/21	Not started
User Story 7 (initiative: asset management system, epics: Requirement of asset managements system).	22/Mar/21	23/Mar/21	Not started
User Story 8 (initiative: asset management system, epics: Requirement of asset managements system).	22/Mar/21	23/Mar/21	Not started
User Story 9 (initiative: asset management system, epics: Requirement of asset managements system).	22/Mar/21	23/Mar/21	Not started
User Story 6 (initiative: Violation management System, epics: Development requirements for the violation management system).	22/Mar/21	23/Mar/21	Not started
User Story 8 (initiative: Violation management System, epics: Development requirements for the violation management system).	22/Mar/21	23/Mar/21	Not started
User Story 9 (initiative: Violation management System, epics: Development requirements for the violation management system).	23/Mar/21	24/Mar/21	Not started
User Story 11 (initiative: Violation management System, epics: Development requirements for the violation management system).	23/Mar/21	24/Mar/21	Not started
User Story 12 (initiative: Violation management System, epics: Development requirements for the violation management system).	23/Mar/21	24/Mar/21	Not started
User Story 14 (initiative: Violation management System, epics: Development requirements for the violation management system).	23/Mar/21	24/Mar/21	Not started
User Story 10(initiative: Bills management System, epics: Business procedures to be supported in the system)	23/Mar/21	24/Mar/21	Not started
User Story 11(initiative: Bills management System, epics: Business procedures to be supported in the system)	24/Mar/21	25/Mar/21	Not started
User Story 1(initiative: Bills management System, epics: Reports extracting from the system).	24/Mar/21	25/Mar/21	Not started
User Story 3(initiative: Bills management System, epics: Reports extracting from the system).	24/Mar/21	25/Mar/21	Not started
User Story 4(initiative: Bills management System, epics: Reports extracting from the system).	24/Mar/21	25/Mar/21	Not started

User Story 6(initiative: Bills management System, epics: Requirements of bills management system).	24/Mar/21	25/Mar/21	Not started
User Story 1(initiative: Client service management System, epics: client Relationship Management)	25/Mar/21	26/Mar/21	Not started
User Story 2(initiative: Client service management System, epics: client Relationship Management)	25/Mar/21	26/Mar/21	Not started
User Story 1(initiative: Client service management System, epics: Reports and cases system).	25/Mar/21	26/Mar/21	Not started
User Story 11(initiative: Client service management System, epics: Reports and cases system).	25/Mar/21	26/Mar/21	Not started
User Story 14(initiative: Client service management System, epics: Reports and cases system).	25/Mar/21	26/Mar/21	Not started
User Story 16(initiative: Client service management System, epics: Reports and cases system).	26/Mar/21	27/Mar/21	Not started
User Story 17(initiative: Client service management System, epics: Reports and cases system).	26/Mar/21	27/Mar/21	Not started
Sprint 3(LOW Priority User Stories)	**02/Apr/21**	**22/Apr/21**	**Not started**
User Story 1 (initiative: asset management system, epics: Real-estate management).	02/Apr/21	03/Apr/21	Not started
User Story 2 (initiative: asset management system, epics: Rental contract management for real-estate and land).	02/Apr/21	03/Apr/21	Not started
User Story 4 (initiative: asset management system, epics: Rental contract management for real-estate and land).	02/Apr/21	03/Apr/21	Not started
User Story 2 (initiative: asset management system, epics: Bill management for lands and real-estate).	02/Apr/21	03/Apr/21	Not started
User Story 1 (initiative: asset management system, epics: Reports and measurements plate).	03/Apr/21	04/Apr/21	Not started
User Story 1 (initiative: asset management system, epics: Electronic archive for documents).	03/Apr/21	04/Apr/21	Not started
User Story 2 (initiative: asset management system, epics: Land services).	03/Apr/21	04/Apr/21	Not started
User Story 2 (initiative: asset management system, epics: Requirement of asset managements system).	03/Apr/21	04/Apr/21	Not started
User Story 3 (initiative: asset management system, epics: Requirement of asset managements system).	04/Apr/21	05/Apr/21	Not started

|			
User Story 6 (initiative: asset management system, epics: Requirement of asset managements system).	04/Apr/21	05/Apr/21	Not started
User Story 1 (initiative: Violation management System, epics: Development requirements for the violation management system).	04/Apr/21	05/Apr/21	Not started
User Story 4 (initiative: Violation management System, epics: Development requirements for the violation management system).	04/Apr/21	05/Apr/21	Not started
User Story 5 (initiative: Violation management System, epics: Development requirements for the violation management system).	05/Apr/21	06/Apr/21	Not started
User Story 10 (initiative: Violation management System, epics: Development requirements for the violation management system).	05/Apr/21	06/Apr/21	Not started
User Story 13 (initiative: Violation management System, epics: Development requirements for the violation management system).	05/Apr/21	06/Apr/21	Not started
User Story 15 (initiative: Violation management System, epics: Development requirements for the violation management system).	05/Apr/21	06/Apr/21	Not started
User Story 6(initiative: Bills management System, epics: Business procedures to be supported in the system)	06/Apr/21	07/Apr/21	Not started
User Story 7(initiative: Bills management System, epics: Business procedures to be supported in the system)	06/Apr/21	07/Apr/21	Not started
User Story 8(initiative: Bills management System, epics: Business procedures to be supported in the system)	06/Apr/21	07/Apr/21	Not started
User Story 9(initiative: Bills management System, epics: Business procedures to be supported in the system)	06/Apr/21	07/Apr/21	Not started
User Story 12(initiative: Bills management System, epics: Business procedures to be supported in the system)	07/Apr/21	08/Apr/21	Not started
User Story 13(initiative: Bills management System, epics: Business procedures to be supported in the system)	07/Apr/21	08/Apr/21	Not started
User Story 5(initiative: Bills management System, epics: Reports extracting from the system).	07/Apr/21	08/Apr/21	Not started
User Story 7(initiative: Bills management System, epics: Reports extracting from the system).	07/Apr/21	08/Apr/21	Not started
User Story 5(initiative: Bills management System, epics: Requirements of bills management system).	08/Apr/21	09/Apr/21	Not started

User Story 7(initiative: Bills management System, epics: Requirements of bills management system).	08/Apr/21	09/Apr/21	Not started
User Story 1(initiative: Bills management System, epics: Additional features).	08/Apr/21	09/Apr/21	Not started
User Story 2(initiative: Bills management System, epics: Additional features).	08/Apr/21	09/Apr/21	Not started
User Story 3(initiative: Bills management System, epics: Additional features).	09/Apr/21	10/Apr/21	Not started
User Story 4(initiative: Bills management System, epics: Additional features).	09/Apr/21	10/Apr/21	Not started
User Story 5(initiative: Bills management System, epics: Additional features).	09/Apr/21	10/Apr/21	Not started
User Story 6(initiative: Bills management System, epics: Additional features).	09/Apr/21	10/Apr/21	Not started
User Story 7(initiative: Bills management System, epics: Additional features).	10/Apr/21	11/Apr/21	Not started
User Story 8(initiative: Bills management System, epics: Additional features).	10/Apr/21	11/Apr/21	Not started
User Story 3(initiative: Client service management System, epics: client Relationship Management)	10/Apr/21	11/Apr/21	Not started
User Story 4(initiative: Client service management System, epics: client Relationship Management)	10/Apr/21	11/Apr/21	Not started
User Story 5(initiative: Client service management System, epics: client Relationship Management)	11/Apr/21	12/Apr/21	Not started
User Story 7(initiative: Client service management System, epics: client Relationship Management)	11/Apr/21	12/Apr/21	Not started
User Story 2(initiative: Client service management System, epics: Reports and cases system).	11/Apr/21	12/Apr/21	Not started
User Story 3(initiative: Client service management System, epics: Reports and cases system).	11/Apr/21	12/Apr/21	Not started
User Story 7(initiative: Client service management System, epics: Reports and cases system).	12/Apr/21	13/Apr/21	Not started
User Story 8(initiative: Client service management System, epics: Reports and cases system).	12/Apr/21	13/Apr/21	Not started
User Story 10(initiative: Client service management System, epics: Reports and cases system).	12/Apr/21	13/Apr/21	Not started

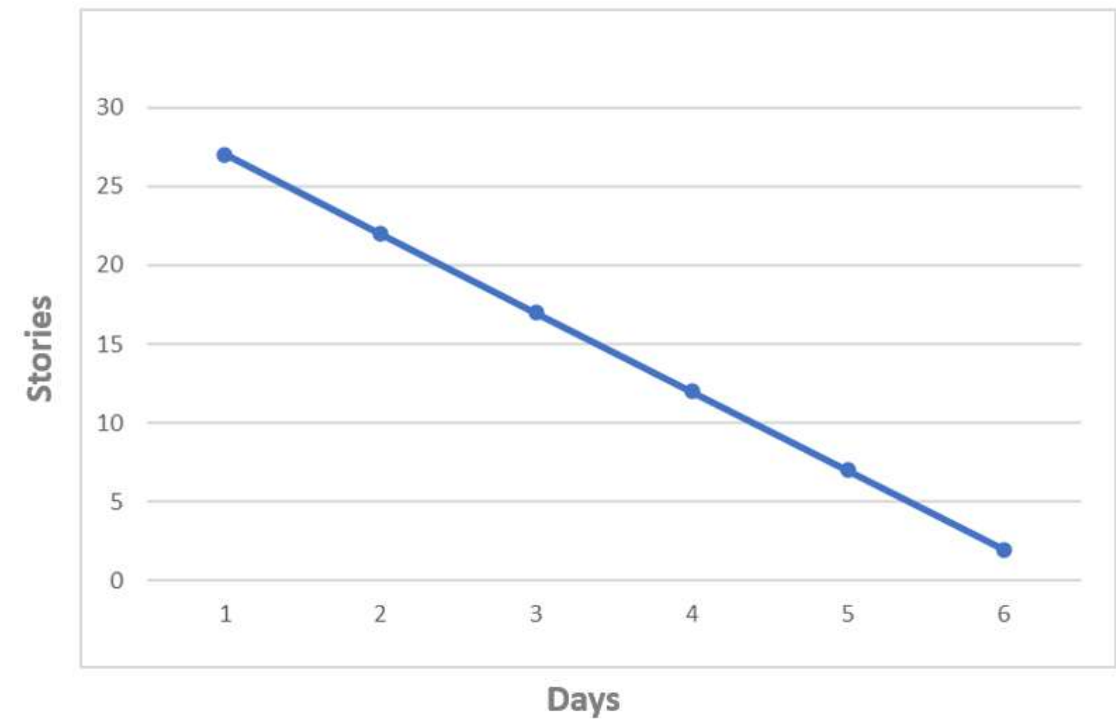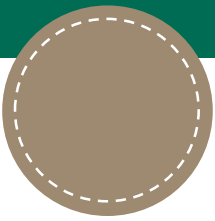|			
User Story 12(initiative: Client service management System, epics: Reports and cases system).	12/Apr/21	13/Apr/21	Not started
User Story 13(initiative: Client service management System, epics: Reports and cases system).	13/Apr/21	14/Apr/21	Not started
User Story 15(initiative: Client service management System, epics: Reports and cases system).	13/Apr/21	14/Apr/21	Not started
User Story 18(initiative: Client service management System, epics: Reports and cases system).	13/Apr/21	14/Apr/21	Not started
User Story 19(initiative: Client service management System, epics: Reports and cases system).	13/Apr/21	14/Apr/21	Not started
User Story 20(initiative: Client service management System, epics: Reports and cases system).	13/Apr/21	14/Apr/21	Not started

2.2.2.3 Burndown Chart

Estimated Burndown Chart Sprint1
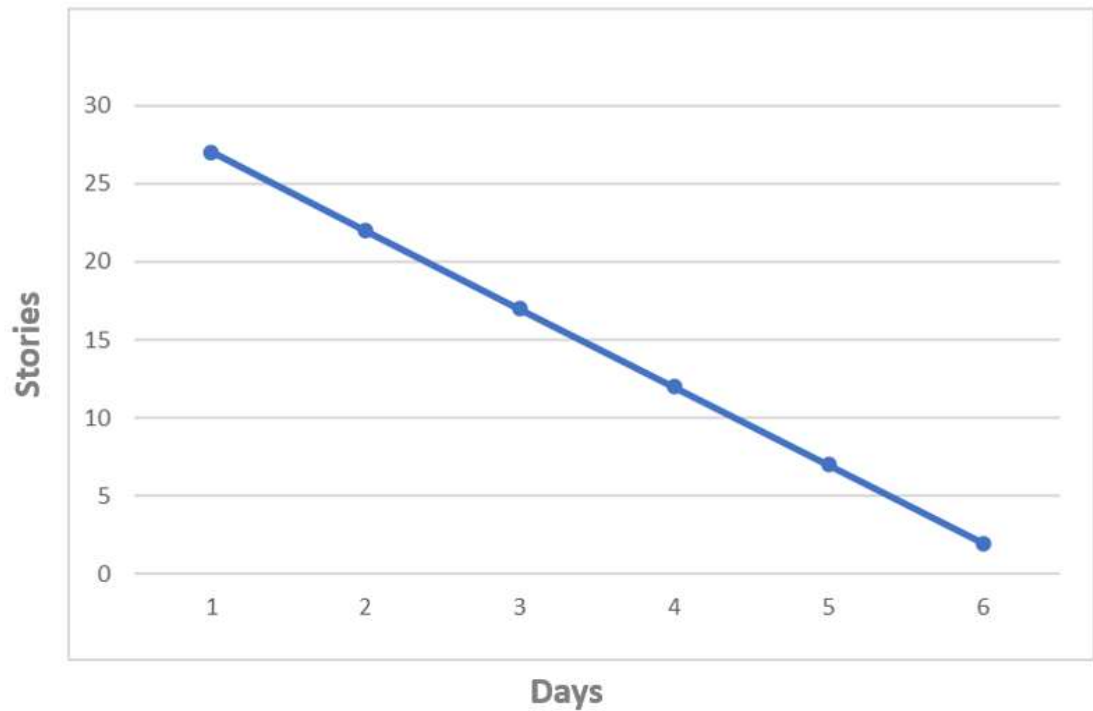
Estimated Burndown Chart Sprint2
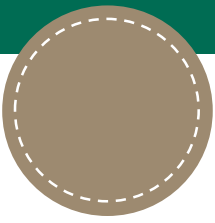
2.2.3 Ceremonies

2.2.3.1 Sprint Planning

Input	Sprint Planning Meeting	Output
Product backlog 102 user stories(27 high priority, 27 medium priority, 48 low priority).	-Analyze product backlog to be categorized into sprints, where the highest priority will done first. -Estimate sprint backlog in days . -Each sprint will be consist of one-to three week.	Sprint backlog -Sprint 1 (high priority 27 user stories). -Sprint 2 (medium priority 27 user stories). --Sprint 3 (low priority 48 user stories).

2.2.3.1 Daily Scrum Meeting

Date	Attendees	Work Plan (GOAL)	Description	Duration
22/2/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Get to know each other's strength and weaknesses. -Assign roles. - Talk about the project.	-Went as planned.	45 Minutes
2/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Make sure everyone understandsthe project thoroughly. -Choose the appropriate SDLC	-Thoroughly went through half of the project. -Chose scrum as an SDLC -Assigned the roles of Scrum.	3 Hours

Date	Members	Plan	Result	Time
3/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Make sure everyone understands the project completely. -Translate the entire project to have a unified script towork from.	-Went as planned.	10 Hours
4/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Divide the project into separate parts. -Make a plan for tackling phase1. -Assign each part to members.	-Alhanouf and Raghad were assigned the SDLC. -Khuloud was assigned the SRS. -Shatha was assigned the BRS. -Noura was assigned the design and organization of the overall document.	45 Minutes
5/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	- Check if all the team members understood their parts and what is asked for them.	-Everyone seemed competent to begin.	30 Minutes
6/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Check up on how everyone's doing and their progress. - Unite what needs to be united.	-Alhanouf& Raghad. divided the product backlogs between one another and wrote the reasoning for choosing Scrum. -Khloud completed the description of SRS. -Noura determined the functions and features of the 1st and 2nd systems in the document. - Shatha has completed the components, definitions, acronyms and abbreviations. -We unified SRS and BRS introductions.	35 Minutes

|				
7/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Check up on how everyone's doing and their progress.	-Alhanouf& Raghad wrote the 1st batch of user stories. -Khloud wrote half of the functional requirements. -Noura determined the functions and features of the 3rd and 4th systems in the document. - Shatha has wrote the scope of the system.	30 Minutes
8/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Check on progress. -Discuss who the user, client and product owner are.	-Alhanouf& Raghad completed the product backlog and planned the 1st sprint. -Khloud completed the functional requirements. -Noura determined the functions and features of the 3rd and 4th systems in the document. - Shatha completed the functional requirements. -We cleared some misunderstandings about who the user, client, and product owner should be and edited our wording fit the united concept.	30 Minutes
9/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Check up on how everyone's doing and their progress.	-Alhanouf& Raghad planned the entirety of the sprint planning and drew a burndown chart and a hierarchal diagram. -Khloud completed the non-functional requirements. -Noura has designed a timeline to be put in the document. - Shatha completed the non-functional requirements.	35 Minutes
10/3/2021	-Alhanouf -Raghad -Shatha -Khloud -Noura	-Create a coherent presentation and discuss each other's work.	-Went as planned.	40 Minutes

Software Requirements Specification

for

<Revenue management systems for the Ministry of Environment, Water and Agriculture>

Version 1.0 approved

5/3/2021
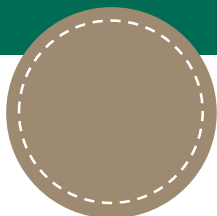
Revision History

Name	Date	Reason For Changes	Version
Khloud Alnufaie	11/3/2021	review the content and modify the correctness	1.0

1. Introduction

In this section we will provide overview for requirement of Revenue management systems for the Ministry of Environment, Water and Agriculture. We will cover all requirements for all systems whether functional requirements or non-functional requirements or additional requirements also we will mention the goals of these systems and the people who get benefit from systems and what their role is to interact with systems.

1.1 Purpose

The purpose of this document is to build Revenue management systems for the Ministry of Environment, Water and Agriculture. Through build and develop four systems which are asset management system for all administrative and regulatory tasks to entities and building they are followed by ministry including its managements, maintenance, and contracts. Violation management System for pinpointing violation perpetrated because of improper practice or noncompliance with the regulation . issued by ministry. Bills management System for automation of registration procedure including all type of bills issued by ministry. Client service management System for support clients and to allow all possible communications to ensure quick response. This document contains details of systems requirements .

1.2 Product Scope

The Ministry of Environment Water & Agriculture's Revenue Management systems consists of four systems First asset management system for real-estate management, rental contract management for real-estate and land, maintenance request management , bill management for lands and real-estate , client management , reports and measurements plate , electronic archive for documents , real estate and rental services and land services.
Second violation management System it must contain general description for the procedure of pinpointing violations and providing a set of reports.
Third bills management System for business procedures to be supported in the system and reports extracting from the system.
Fourth client service management System it seeks to implement an integrated platform for managing customer relations, complaints, issues, and reports because of their interconnectedness. both sides of the business and the application of the platform aims to achieve the strategic objectives and operational efficiency that the Ministry of Environment, Water and Agriculture.
The Ministry of Environment Water & Agriculture's Revenue Management systems needs to integration with clients data, integration with internal systems , integrate and link with external systems and must provide mechanisms with social media.

1.3 Actor including in the Revenue management systems for the Ministry of Environment, Water and Agriculture

Ministry employee	Someone who uses the systems to do her/his job.
client	Someone who deals with ministry and ask for service .
IT Support employee	Someone who will receive the project and complete manage and develop the systems.
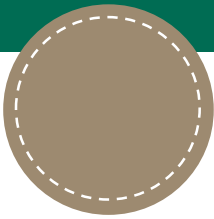
2. Overall Description

2.1 Product Perspective

The scope of work for the project, as previously explained, is divided into four main tracks
(asset management system - violation management System -bills management System - client service management System) .

-to build revenue management systems must be built asset management system and client service management System and develop violation management System and bills management System -Integrate bills management System with "تحصيل   " system.

-Integrate the national violation platform ,electronic archive system and business intelligence system with revenue management systems. the relation between them shown in figure 1
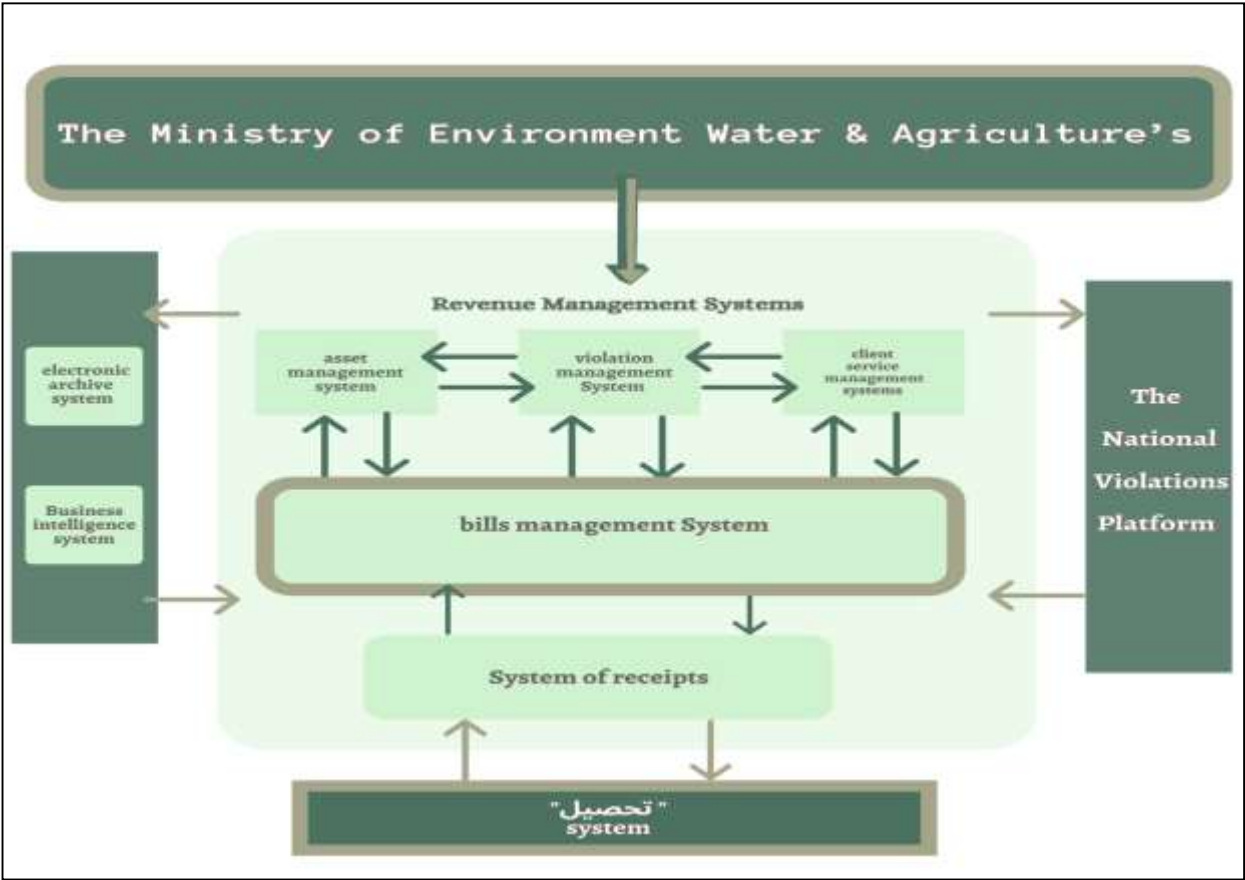
In asset management system there are eight components needed asset management system ,bills management system , electronic archive system , lands platform , client management system for implementation . the relation between them shown in figure 2
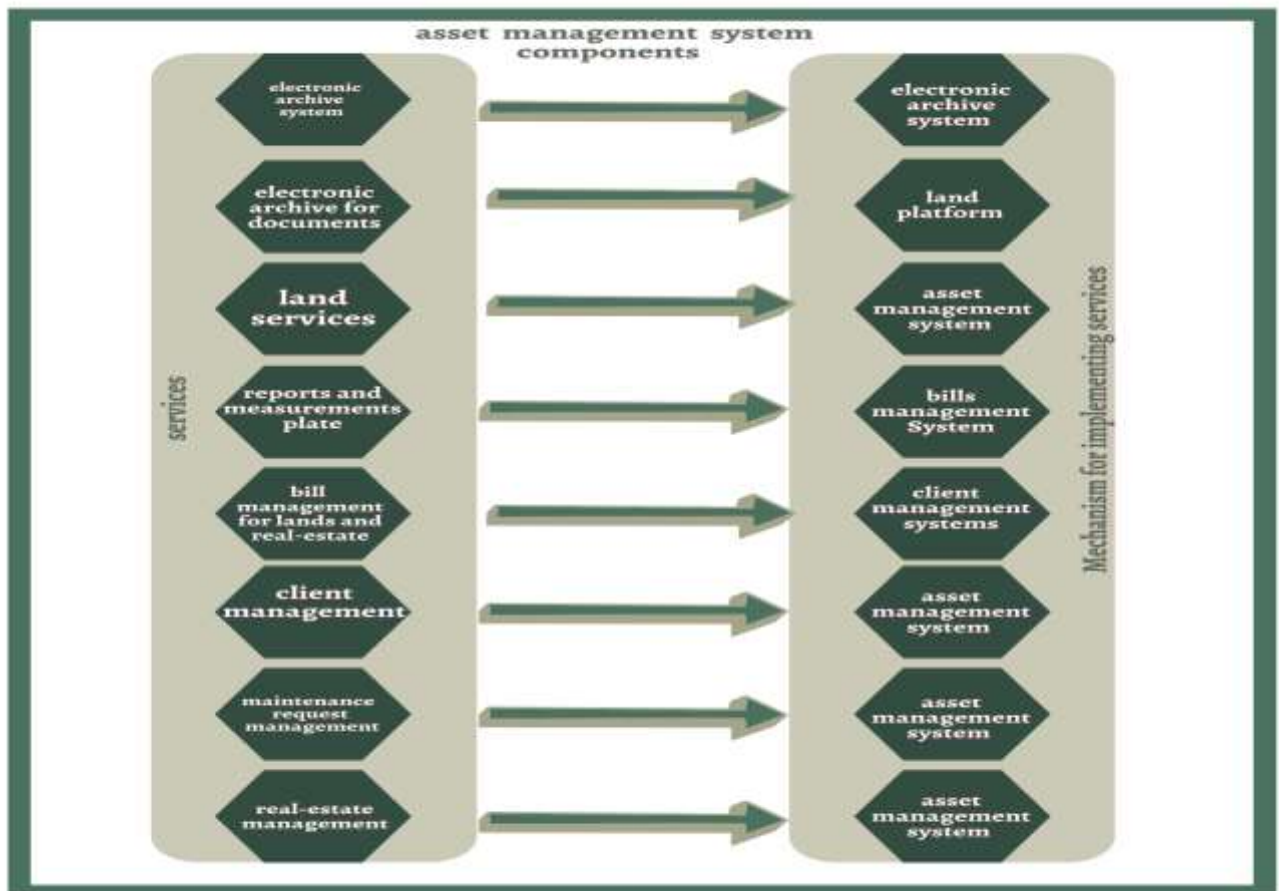
In violation management system must to integrate " أبشر " , revenue management system and field visit system . there are three service implementations in seven steps .
 the relation between them shown in figure 3
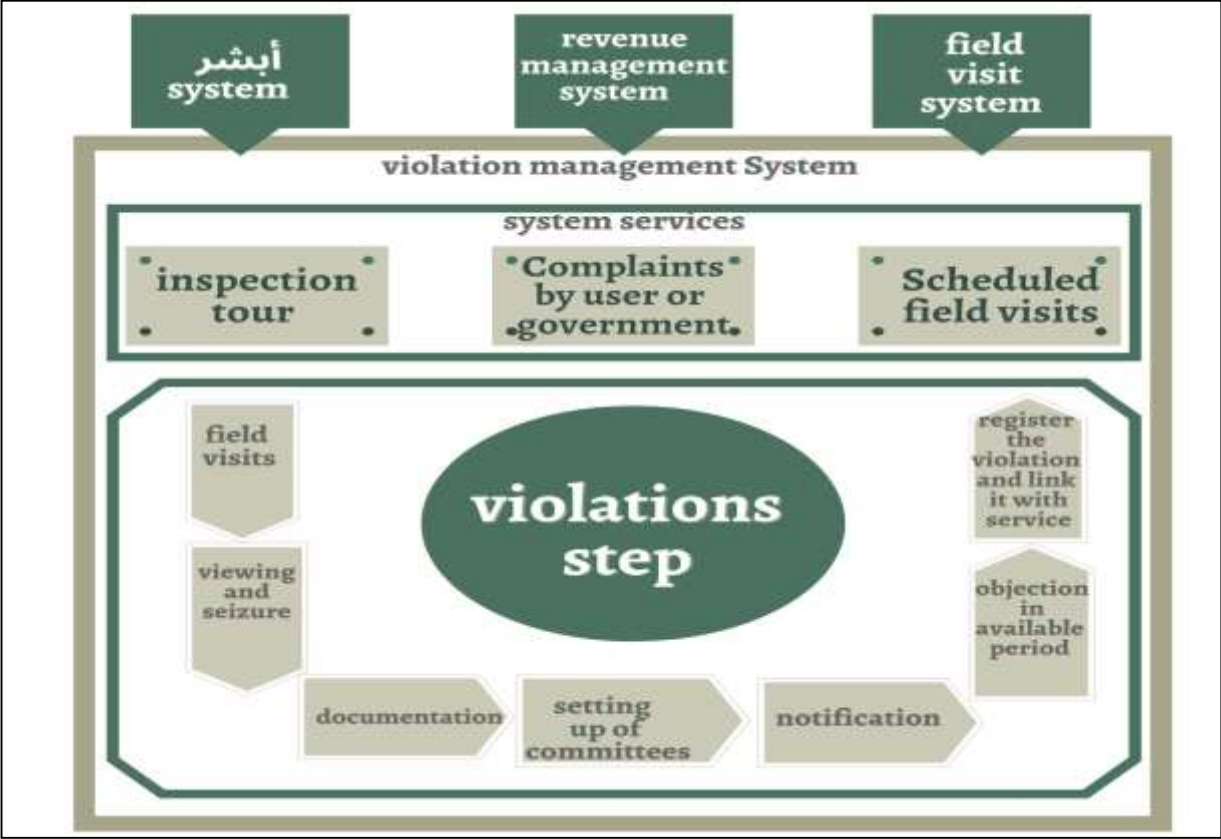
client service management System consists of two main components client Relationship Management and Reports and cases system .
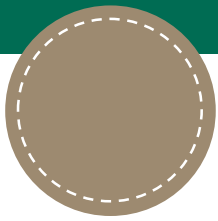
2.2 Product Functions
2.2.1 revenue system function

• System develop in accordance with the Ministry's identity
• The system must be linked with the human resources system for the organizational structure and employees according to the requirements of the ministry
• develop the required reports of the systems
• develop the required dashboards of the systems
• The system must use the highest standards of information security and encryption and apply all information security policies in the ministry
• The system is configured. It must consist of integrated modules and programs
• The ability to support the Hijri calendar (Umm Al-Quora exclusively) and the Gregorian calendar
• The system shall be provided with a simple, common, and unified application interface, and this interface shall contain constant commands
• The system must be easy to use and free from any complexity to facilitate the work of all users
• The ability to track and save all operations on records (such as deleting, updating, querying ... etc.)
• Ability to import / export data from the system into common XML scheduling and word processors and programs and databases.
 • The ability of the regulator to monitor and prevent the deletion of key records along with their movements
• Implementing the system's functions and processes in line with the Kingdom's governmental procedures, laws, regulations, and instructions
 • The ability to print the forms used in the system, and to place the ministry's logo on all official report
 • The ability to print the screen and print its related business model on the printer
 • The ability to print the manual signature on the forms specified in the system
 • The ability to do so when dealing with sensitive data such as encryption, censorship, and permissions
• Ability to deal with large volumes of data base
• The system must provide each user with a flexible and concise method for quick access to the information and data that are frequently used
• The system must provide the user with easy access and login to the application through web services (without client server application)
• The ability to link and integrate with the administrative communication system to send and receive administrative decisions and documents.
• Allow the use of digital signatures.
• The ability to deal with the lists and functions in the system flexibly and easily, and these lists be similar in all systems and linked to the responsibilities and authority used.
• Provides access to all users on the system at the same time while maintaining the level of system performance (response time to information arrival.)
• The ability of the system to integrate with systems to send and receive information through the SMS service.
• Ability to scan and store any document types. In addition to the ability to retrieve and print these documents later. This must be done by integrating with the document archiving system.
• The ability to adapt and fix systems to meet future requirements and needs, and that the process takes place within the Kingdom of Saudi Arabia.
• The ability to provide the required public, analytical and statistics report makers in real time and in multiple display decision methods.
• The system must be centralized so that access to it is made by multiple users and work teams.
• The system must have the ability to add new fields, cases, types on issues and clients without programming.
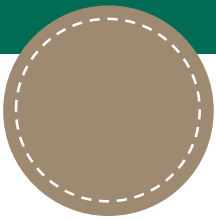
- The system must provide pre-defined email templates to send emails.
- The system must have a method In the duplication unit, to preserve the integrity of the data and avoid duplication.
- The system must provide a flexible auditing method for all data in the system and all changes to all fields.
- The system must display a historical tracking record for all records.
- The system used must show the approval of the pending system.
- The system must support the escalations of three levels or more according to business requirements.
- The system must provide the ability to download the completely database backup daily.
- The system must be fully integrated with Microsoft Outlook.
- The system must be flexible in adding new words and assigning forms.
- The system must have the ability to create business procedures Preset.
- The system must have the ability to automatically send notifications and alerts related to a specific complaint.
- The system provides the ability to integrate with the SMS to automatically send notifications.
- The system should have the ability to define the workflow and the flow of work for each type of case.
- The system should allow to return the case to the previous stages to fill in the missing data or documents.
- The system must be able to personalize the users and assign cases according to the role.
- The specified for each system should have the ability to set reminders for uncompleted tasks.
- The system should support a combination of organizational structures, traits, hierarchy, and multiple roles.
(The required integration with the active folder systems and the human resources system must be implemented)
- The system must provide a web application programming interface to enable the integration of the required services.
- The system must have full reporting capacity and reporting tools.
- The system must support the exchange of knowledge between users.
- The system must support the import and export of data according to(type, form and method).
- The system must have a high potential for expansion and development, where functionality, integration and number of users must be available.
- The system must allow access to it via mobile with more features and compatibility.
- The system must provide communication and customer profile management.
- The system must support flexibility to re-engineer Policies and processes.
- The system should provide an effective content management tool.

2.2.2 Asset management system function

- The ability to define and manage real estate and lands that fall under the Ministry's management and provide their information through the system.
- The ability to register lease contracts for real estate and lands that fall under the Ministry's management and provide their information through the system.
- Ability to approve the contract in the system.
- Ability to post rental bills to the bills management system.
- the ability to automate the process of issuing bills for clients' rents according to the schedule of payments contracted between the ministry and the tenant.
- Extending a lease contract.
- Give up of leased land.
- Request to terminate a contract.
- Request to amend a valid contract data (amendment of the activity of adding partners, heirs, and so on)
- The ability to define and manage maintenance requests for Ministry properties and provide their information through the system.
- Track maintenance requests and know their status.
- Automatic issuance of rental bills.
- Transferring the issued bills to the SADAD payment system so that all external parties can pay them through the system.
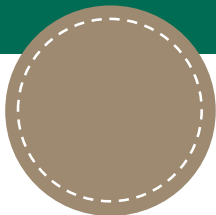
• Receive information on collection through SADAD's payment system to update the status of invoices that have been paid.
• The ability to define and manage clients dealing with the Ministry and provide their information through the system.
• Ability to extract maps showing each geographical area.
• The ability to extract reports showing contract information for real estate and land (for example: the period time and the contract value for each).
• Automatic issuance of rental bills.
• Linking with the inventory and warehouse department to record and track any materials or items that are disbursed to the Ministry's property
• Linking with SSO to facilitate employee access to the application and the system
 • All integration points (APIs) that would retrieve, add, modify, or cancel any property data must be provided so that it is available to be linked with it with the Ministry's various systems.
• Linking with the land platform.

2.2.3 Violation management System function

 • An extensive and comprehensive analysis group of the various procedures for controlling the violations that are carried out in many departments of the Ministry's agencies, in order to lead to the possibility of reaching a unified form for conducting institutional work that differs from the affected departments.
• It results in controlling several violations against entities through the application of smart devices.
• the ability to complete the rest of the steps of the unified procedure through a web system that performs all the related functions, from the beginning of monitoring violations to their settlement, payment, or cancellation.
• The system must have the ability to fix violations at all stages.
• The system must have flexible ways to close the violation.
• The system's ability to enable the system administrator to define user files.
• Develop a mechanism for issuing the seizure report for the list of violations.
• Development of a mechanism for writing the final statement of statements.
• Developing a mechanism for auditing and reviewing the record and making decisions about it (approval - rejection) .
• Developing a mechanism for sending the request to each of the committee members, the committee's reporter, and the chairperson, whereby each of them can enter his initial recommendations into the record and copies of evidence before the meeting of the request or transaction.
• Development of the mechanism for the committee to decide and approve the violation report.
• The system's ability to generate an image of the penalty decision and send it electronically to the violator.
• The system's ability to enable the violator to file a grievance against the penalty decision within a specified period from the date on which he was notified of the notification.
• Linking with human resources to retrieve employee data.
• Linking with the inventory and warehouse department to record and track any materials or objects that are disbursed during the inspection process and to control the violation.
• Link to the national violations platform for the purpose of exporting the list of seized violations from the violations system that will be developed.
• Linking with SSO to facilitate employees' access to the application and the system.
• Linking with " بلغ "system for the purpose of linking the reports with the reports of violations that arise from them.
• All integration points (APIs) that would retrieve, add, fix, or cancel any data related to a system for violations must be provided so that it is available to be linked with it with the Ministry's various systems.
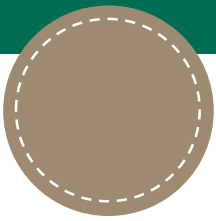• Linking with the billing management system.

2.2.4 Bills management System function

• The ability of the system to manage the bills and categories of bills
• The ability of the system to classify revenues according to their source for their type
• The ability of the system to manually record the bills for different revenues directly in the system so that those bills are automatically sent through e-mail to the registered e-mail of the customer.
• The ability to automate the process of issuing bills for rents to customers by automating the issuance of bills, schedule contracted payments between the ministry and the tenant, sending those invoices in an automated way through e-mail to the customer's registered e-mail and sending text messages in an automatic way to notify the customer that it has been done Issuing bills to be paid.
• The ability to automate the process of issuing the invoices for violations to the perpetrators of the violation, through the issuance of invoices according to the violations that have been recorded, and those invoices were automatically sent by e-mail to the e-mail the registrant will be sent to the parties that commit the violation and send text messages in an automatic way to notify the perpetrators of the violation that the violation has been done. Issue bills for violations to be paid.
• Defining the ministry's services.
• Connect the services with the revenue accounts of the Ministry
• Determine the method of calculating fees for each service
• Define different and varied groups of bills for the classification of bills
• Modify / activate / disable groups of bills
• aware the data of billers (the agreement with a collection system on the characteristics of bills) .
• The mechanism for the invoice to be based on an invoice number only or account number and invoice number.
• The system's ability to send push notifications is refundable or not.
• The ability of the system to determine the expiration date of the bills.
• Automatic identification of invoice numbers, so that the system allows four optional components (year - month - day - fixed value) and a mandatory component, which is the bills series.
• Linking with the real estate management system to issue invoices for leases automatically
• linking with the violation management system to issue invoices for violations automatically
• linking with the receipts system (Enterprise Resource Planning System) "Oracle") for the purpose of recording accounting entries for revenues resulting from billing operations of all three types (real estate management, violations management, the rest of the types of revenue recorded on the system and recording the accounting entries for collections resulting from payments from.
• Linking with the business intelligence system to create reports and dashboards.
• Linking with a " تحصيل " system for the purpose of migrating the issued bills to a " تحصيل " system so that all external parties can pay them through the system and receive information related to " تحصيل " system to update the status of bills that they have been paid.
• Electronic linking with the "file net " electronic archiving system to automatically archive documents
• Add an account new revenue to the Ministry's revenue accounts list.
• Activating the Ministry's revenue accounts. • Disabling the Ministry's revenue accounts
• The mechanism of matching with the payment notices of the " تحصيل " system The mechanism of matching with the notices of refund requests related to the requirement collection system for the "bill source" and all tests and fields related to this requirement (this includes billing screens, bill modification and invoices inquiries)
• Development of a mechanism for granting authority at the level of billing services and (then revenue accounts) for users.
• The system works on the sub-entities that have tax numbers with the Ministry of Finance only, and accordingly a mechanism is developed for other sores to link higher users and also link those branches on cities to use that data in the procedures for granting authorities .
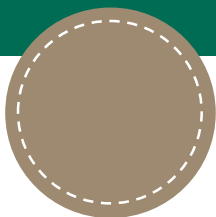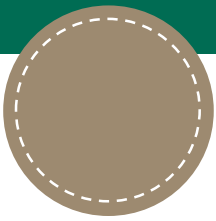
2.2.5 client service management System function

• The system must have the ability to direct complaints between different users, work teams and / or departments.
• The system must have the ability to create and manage service level agreement and escalation for each case and according to its type.
• The system must be able to define the approval hierarchy for each case and according to its type.
• The system must be able to define the list of tasks to complete cases based on the type of case.
• The system must be able to attach documents related to the complaint record.
• All internal and external emails with the customer must be registered to the Entity Profile (Party Case).
• The system must support the evaluation of customer satisfaction at every stage through the systems, tools, and auxiliary control panels.
• The system must provide management tools to flow the complaints.
• The system must have the ability to fix cases and complaints at all stages.
• The system must have flexible methods to close the issue or complaint.
• It must support Online chat system (through the information provided by the customer).
• The system must support the creation of an automatic case through social media.
• The system can add an automatic response to the social network.
• The system must support the authorization feature.
• The system must have the ability to record and track tasks.
• The system must have the ability to set authorization, and track progress in all tasks
• The system should have the ability to assign delegates, and track progress on all tasks.
• The system must be able to send reminders before task due dates.
• It protects that the system can define different types of perspectives for active tasks, in progress, completed and due tasks.
• Ability to create new requests for complaints or services through requests or previous forms .
• Ability to identify and retrieve customer information by customer name, contact name or phone number
• Ability to create complaints or requests from a predefined list of recurring or common activities.
• Ability to set Virtual scenarios response to customer requests and repeated complaints or questions.
• Ability to save the date, name of the customer, method of receipt, priority and user-defined fields for complaints sent.
• Ability to quickly assign complaints or service requests to individuals or groups.
• The ability to determine the time of customer calls to study performance standards .
• The ability to link support complaints to other complainants and solve them as a group
• Ability to link complaints to services
• Ability to track complaints by date eligibility, open days, and Percentage Completed .
• Ability to keep a record of operating notes related to complaints and results of each complaint.
• Ability to fully describe the complaint, solution and root cause of complaints must be presented on one page .
• That the system includes diagnostic tools that in turn suggest questions based on type complaining about the service or the product or a predefined user .
• must include the system a search engine for the knowledge base based on the keyword (s) .
• The ability to copy the old or previous occurrence of historical complaint solutions record into open complaints.
• The system includes online common questions (FAQs) Common Questions and Answers (categorized) According to the type of complaint, type of service, or a category predefined by the user.
• The system includes classification of search results and proposed solutions to complaints according to relevance.
• The ability to create a plan for activities or a list of tasks.
• Detailed solutions for customer service or follow-up through it.
• The ability to download documents or other electronic files related to each complaint on services and it is methods of solution.
• The ability to create a notification date that is sensitive to any complaint

- Ability to set complaints automatically set on different criteria.
- Ability to automatically notify employees assigned to new complaint tasks.
- Ability to automatically forward email notifications to clients regarding the receipt, status, or approval of the complaint.
- The ability to automatically escalate the complaint based on date, elapsed time, or failure to responding to an agreement (agreement level service).
- The ability to send e-mails to the customer to the designated call center warden and call center manager
- The ability to schedule a customer service task or make reminders for one or more people to be completed at the same time or different times.
- Ability to include and assign a specific plan to resolve complaints based on the type of complaint or client.
- The ability to distribute complaints surveys automatically.
- The ability to automatically redirect or escalate the questionnaire responses based on response value and result.
- The ability to automatically update customer service complaints according to the historical activities of each account.
- The ability to create an automatic fax, e-mail or create a sting of printed messages from templates via the push button.
- The ability to broadcast e-mails to user-defined account groups.
- Provides the resource and workflow tools to allow the user to create and automate frames and approvals or routing data to ensure complaints are resolved quickly and effectively
- For the sake of reducing learning curves and increasing static performance, the system's ability to enable users to create support policies, procedures and best practices related within web pages that are formatted with rich and well-content content and place them in specific pages in the CRM system.
- System ability to empower non-technical users create online knowledge bases from in order to reduce the repetitive answer to common questions by providing the correct answers and according to the request.
- self-service portals are available for customers to allow customers to enter the complaint online and review the status of the complaint.
- The ability to upload the complaints submitted to the self-service portal automatically to the customer support unit.
- The self-service portal allows customers to do search for questions and answers or browse the online knowledge base on manual documents.
- The self-service portal includes links to additional support information.
- Clients have the feature to start instant messages IM (instant messaging) from the self-service portal the
- Ability to review the complaints analysis report according to the type of complaint, the category of the complaint, the service provided, and other segments and categories defined by the user
- provide the system with reports and analyses of the "root cause" to identify problem patterns and proactively solve the root causes.
- The ability to track all complaint activity and history in one place according to the date of the complaint, priority, status and more.
- The system includes a report writer tool to modify customer support reports or create new reports from scratch.
- The system provides a central information repository for exchanging electronic files and documents (i.e. customer surveys, customer response documents, etc.).
- The system provides pre-defined security permissions by the user for central guarantees.
- The system's ability to check-in / finalize document management procedures
- The system's ability to complete the historical review of document use
- The system's ability to secure and provide all complaints globally by a customer support representative (CSR), enlighten customer support representatives, user, or role.
- The system's ability to pass global security settings and the application of specific security settings for complaints for any customer complaint.

• Ability to view the history of the audit statement that displays all the changes that were made to the complaint including the user who made each change, date and time and the fields that were changed.
• The system provides a simple (non-technical) import wizard to import tickets and complaints to the help and Support Centre.
• The system provides the ability for the system user to create or use import forms for repeated imports (i.e. importing complaints from multiple sources).
• That the system provides a comprehensive modification tool to make specific or comprehensive adjustments to the data (such as reassigning all complaints from one supplier to another).
• The ability of the system to enable the non-technical user to modify tables in the system in order to define the required columns and pre-defined by the user and the arrangement of columns and column headings according to the user or role.
• The system's ability to enable a non-technical user to modify Web page forms without any technical structure or programming knowledge.
• The system's ability to enable the non-technical user the ability to modify, add or remove menu items in the system.
• The system can enable the system administrator to define user files (i.e. the default home page) for CRM and maximum file size and password rules.

2.3 User Characteristics

The Ministry:
- Real estate and land management
- Registration and approval of contracts
- Connecting with multiple platforms
- Classification of revenues

Client:
- Enables the client to discuss violations and file a grievance
- System evaluation
- Completely describe the complaint and track it
- Customer Self-Service

The employee:
- Posting of invoices
- Review the minutes and take a decision
- Determine the expiration date of the invoices

The IT support:
- Developing a mechanism for sending requests
- Developing a mechanism for granting powers at the level of billing services to users
- Automated response to clients
- Managing maintenance requests, tracking them, and knowing their status

2.4 Operating Environment

• The system should be completely web based for the end user and support minimum internet browsers (Safari, Firefox, Internet Explorer, Chrome)
• Installing the system on multiple servers (Clustering) to accommodate future growth (Scalability) with The existence of a DB Clustered database server.
• Integration between systems and integration with third-party systems and with the existing systems at the Ministry (via used "interfacing", not "hard coding").
 • The HTML language is the basis of web pages and their infrastructure, and it provides a detailed explanation about what the pages will be like and about the mechanism for displaying the contents of the site, such as dividing the site into a title and paragraphs by relying on the tag, which is the main part in creating pages through which it takes several orders and They implement them and allow precise control over page properties
• CSS is the language used for designing, formatting, and organizing HTML content, including colors, fonts ...
• JavaScript language to add effects and interactions to web pages with the client at the browser level, and it is supported by most browsers.

2.5 User Documentation

For the Ministry, including full documentation of software functions (Code Source) and a grammar dictionary They assets of all developed or modified programs shall be delivered specially the data.
• Operation manual.
• User's Manual (Video)
• System analysis and design document.
• System preparation and installation document.
• The test document for the system.
• Systems Technical Details Document (Technical Manual)
• User manuals for the systems in Arabic
• A document explaining the source codes.

3. System requirement description

In this section will descript the revenue system functional requirements based on the priority and Stimulus/Response Sequences each of them (rated on a relative scale from a low of 1 to a high of 9).

3.1 Asset managements system

Requirement ID	Priority	Stimulus/Response Sequences	Description
AMS-REQ: 1	9	Stimulus: client request to ask for details and manage of real-estate and land. Response: System provides a form in (page) for the client to manage.	The ability to define and manage real estate and lands that fall under the Ministry's management and to provide their information through the system Such as [location and area of the land real-estate status (i.e.: Suitable or not for cultivation, commercial building, residential building) - the aim of the real-estate (i.e.: land reclamation, fish farms, livestock farms)]
AMS-REQ:2	9	Stimulus: client request to register real-estate and land. Response: System provides a form in (page) for the client to enter information of register operation.	The ability to record lease contracts for real estate and lands that fall under the Ministry's management and to provide information about them through the system. (i.e. the property or land subject of the contract and all its data, the customer who will be contracted with and all his data, duration of the contract, contract terms and conditions that must be adhered to by the tenant, the schedule of payments, and the date of each payment)

AMS-REQ:3	9	Stimulus : client request to approve real-estate and land contract. Response : System provides a form in (page) for the client to see the contract after approval	The ability to approving the contract in the system (by show page of contract with signatures)
AMS-REQ:4	9	Stimulus : client request to see bills of his/her rental bills. Response : System provides for the client to see the bills .	The ability to post rental bills to the Bills Management System. (any rental bills must linking with bills management system).
AMS-REQ:5	9	Stimulus : client request to export bills of his/her rental bills. Response : System provides for the client to see the bills according to schedule of payments .	The ability to automate the process of issuing rents bills to customers according to the schedule of payments contracted between the ministry and the tenant
AMS-REQ:6	8	Stimulus : client request to extend contract of his/her rental for five year Response : System provides for the client to extend the contract and show the new duration .	The ability to extending the contract lease (for five, seven or ten years and so on).
AMS-REQ:7	8	Stimulus : client request to give up of his/her rented land . Response : System provides for the client to give up the rented land and show the approval .	The ability to give up a rented land(transfer the rented land to another tenant).

AMS-REQ:8	9	Stimulus : client request to cancel contract of his/her land . Response : System provides for the client to cancel the land and show the approval .	The ability to cancel a contract.
AMS-REQ:9	9	Stimulus : client request to modify contract of his/her land . Response : System provides for the client to modify the contract and show the approval .	The ability to request a modification on an ongoing contract (i.e. Modify the activity of adding partners, heirs and, etc.)
AMS-REQ:10	9	Stimulus : client request to details and manage maintenance for asset . Response : System provides for the client to manage and show asset maintenance information	The ability to define and manage maintenance requests for Ministry property and provide their information through the system,(i.e. the building ,type of malfunction, reason for maintenance ,does the maintenance request require a complete or temporary closure of the property?).
AMS-REQ: 11	8	Stimulus : client request to see the status of maintenance request . Response : System provides for the client to show the status .	Track maintenance requests and know their status (i.e. accept ,in progress, reject etc.)
AMS-REQ: 12	8	Stimulus : client request to manage the asset maintenance . Response : System provides for the client to manage the asset maintenance.	The ability to manage maintenance requests through linking with the asset maintenance system.(could manage the asset maintenance through it is system).

AMS-REQ:13	9	Stimulus : client request to see recent bills . Response : System provides for the client the bills automatically .	Automatic issuance of rental bills.
AMS-REQ: 14	9	Stimulus : client request to payment for bill . Response : System provides for the client SDAD to payment .	The issued bills are posted to the SADAD payment system, so that all external parties can pay them through the system.
AMS-REQ:15	9	Stimulus : client request to check the payment for bill . Response : System provides for the client to see status of bill .	Receiving information about the collection through SADAD's payment system to update the status of the bills that they have been paid
AMS-REQ:16	9	Stimulus : employees request to manage the clients information . Response : System provides for the employees to manage the client information.	The ability to define and manage clients dealing with the Ministry and provide their information through the system (i.e. National ID / Iqama number in case of residents, the commercial registration number in the case of commercial companies, contact information such as phone, email and postal address, national address).

AMS-REQ:17	8	Stimulus : client request to exact information of Specific location . Response : System provides for the client all information related to the chosen location.	The Ability to extract maps showing each geographical area (Information about the real estate in it, its condition, whether it is rented or not, and whether or not its contract is nearing expiry, Percentage of real estate and lands that have been leased compared to total real estate and land for lease, The extent to which all real estate offered for rent have been used in order to grow the Ministry's incomes).
AMS-REQ:18	7	Stimulus: client request to exact his/her information. Response: System provides for the client a report has all information.	The ability to extract reports on clients (i.e. Basic clients information -Real estate and lands that the client leased from the ministry, the bills that have been issued and sent to him and their condition, any delay related to the payment of the amounts owed by the clients).
AMS-REQ:19	7	Stimulus : client request to see report of his/her land . Response : System provides for the client a report has all information	the ability to extract reports that illustrate the contract information on real estate and land (for example, the duration and contractual value of each of them)
AMS-REQ:20	9	Stimulus : employee request to search for document in archive . Response : System provides for the employee automatic documents archive .	automatic archive for electronic documentation.

Table 1

3.2 Violation management System

Requirement ID	Priority	Stimulus/Response Sequences	Description
VMS-REQ:1	9	Stimulus : employee request to field visit . Response : System provides for the employee field visit system to allow the completion the field visit .	The system must support linking with the field visit system to allow the completion of inspection tour tasks that may result in pinpointing a group of violations against entities through the dedicated smart device application
VMS-REQ:2	9	Stimulus : client request to payment of violations . Response : System provides for the client electronic payment methods .	Linking with the national violations platform to implement the partial payment of violations through the electronic payment methods available on the platform

VMS-REQ:3	7	TBD	ERP (Enterprise resource planning) for a purpose : - Linking the violation management system with human resources: • - That is to retrieve data of the employee and organizational structure. • Linking with the assignment requests to link the search and pinpointing the breach to the request for assignment
VMS-REQ:4	7	TBD	Linking with the national platform for exporting the list of pinpointing violation regime to be developed and recovered a payment case The infractions that have been monitored in advance
VMS-REQ:5	8	TBD	Extensive and comprehensive analysis of the violation procedures for controlling violations that are implemented in many departments of the Ministry's agencies, therefor It leads to access to a standardized form of Procedures serving all affected departments
VMS-REQ:6	9	Stimulus : employee request to change in violations steps information's . Response : System provides for the employee's ability to change .	The system must have the ability to fix violation at all stages

VMS-REQ:7	9	Stimulus : client request to check in decisions of violation .	Developing a mechanism for auditing and reviewing the
		Response : System provides for the client ability to review the decisions .	record and making decisions about it (approval - rejection)
VMS-REQ:8	9	Stimulus : committee members request to add their recommended . Response : System provides for the committee members automatic to add their recommended.	Developing a mechanism for sending the request to each of the committee members, the committee reporter and the chairperson, each of them can enter his initial recommendations in the minutes and copies of evidence prior to the meeting for the request or the transaction.
VMS-REQ:9	9	Stimulus : client wait to generate penalty decision . Response : System provides for the client an image about decision automatically.	The system's ability to generate an image of the penalty decision and send it electronically to the violator.
VMS-REQ:10	9	Stimulus : client request to file a grievance against the penalty decision . Response : System provides for the client ability to file a grievance against the penalty decision within a specified period.	The system's ability to enable the violator to file a grievance against the penalty decision within a specified period from the date on which he was notified of the notification
VMS-REQ:11	9	Stimulus : employee register to system with his/her SSO account .	linking SSO (Single Sign On) with violations managements

		Response : System provides for the employee ability to sign on.	system for easier sign on process
VMS-REQ:12	8		Linking the violation management system with " بلغ" system that has been reported to link communications to the records of violates arising there from.
VMS-REQ:13	8	Stimulus :client need to notification through SMS . Response : System provides for the client SMS notification him/her.	linking SMS service with violation managements system to notify through SMS
VMS-REQ:14	8	Stimulus :client request to see the Geographic information . Response : System provides form for the client	Linking the violation management system with Geographic information system (GIS)
		about all Geographic information .	
VMS-REQ:15	7	TBD	ERP (Enterprise resource planning) for a purpose : - Linking the violation management system with the inventory and warehouse management to record and track any materials or items that are disbursed during the inspection process and to pinpointing the violation, which is supposed to be partial applied in the field visit application that will be linked with.

Table2

3.4 Bills management System

Requirement ID	Priority	Stimulus/Response Sequences	Description
BMS-REQ: 1	9	Stimulus :clients request to see their information . Response : System provides form for the client about all information .	The ability to define and manage information for all clients: - Name, national identity / residency number, and the unified number in case of residents - Name, commercial registration number and the unified number in the case of commercial companies -Contact information such as phone, email address and postal address
BMS-REQ:2	9	Stimulus :clients request to register data of bills . Response : System provides form for the client ability to register all data based on properties of "تحصيل" system	Managing the biller and billing categories: The feature enables the user to record the biller data and billing categories (the agreement with a collection system on the properties of bill): -The biller numbers. - Category icon. - The bill is based on a bill number only or an account number and a bill number. - Payment notices are refundable or not. - Activate / deactivate the category.
BMS-REQ:3	9	Stimulus: clients request to see the revenues list.	The ability to classify revenues according to their source and type.

		Response: System provides form for the client to revenues list with it is classification.	
BMS-REQ:4	9	Stimulus :employee request to register the bills manually . Response : System provides form for the employee to register the bill and sent automatic to client through their emails and SMS .	The ability to manually record bills for miscellaneous revenues directly in the system: -Automatically sending those bills through email to the customer's registered email - Automatically sending text messages to notify the customer that invoices have been issued for him to pay
BMS-REQ:5	9	Stimulus :client could know when issuing lease bills . Response : System provides for the client that bills have been issued according to the schedule of payments contracted and send notify through email and SMS to client that bill must pay.	The ability to automate the process of issuing lease bills to customers through the following: -Automate the issuance of bills according to the schedule of payments contracted between the ministry and the tenant page number. -Automatically sending those bills through email to the customer's registered email Automatically sending text messages to notify the customer that bills have been issued for him to pay.

BMS-REQ:6	9	Stimulus :client could know when issuing violation bills . Response : System provides for the client(violator) that bill has been issued to violation and send notify through email and SMS to client that bill must pay.	The ability to automate the process of issuing violations bills of the perpetrators of the violation, through the following: - Issuing bills according to the violations that have been recorded - Sending these bills automatically through email to the registered email of the perpetrators - Sending text messages in an automated way to notify the perpetrators of the violation that violations bills
			have been issued for them to p^{a}y
BMS-REQ:7	9	Stimulus :client must receive reminders of bills have to pay. Response : System provides for the client automatic reminder there are outstanding bills must pay through registered emails and SMS .	The ability to automate the process of following up bills with customers, whether they are related to rents, violations, or miscellaneous revenues, through the following: - Sending reminders of the claims of those bills automatically through email to the e- mail registered for the customer - Automatically sending text messages to remind the customer that there are outstanding bills for him to p^{a}y
BMS-REQ:8	9	Stimulus :employee request for defining service . Response : System provides form for the employee to determine service and link	Services Management: The feature enables the user to: - Defining the ministry's services. - Linking services with the Ministry's revenue accounts

		service with the Ministry's revenue accounts. .	
BMS-REQ:9	9	Stimulus :employee request for defining the method of calculating fees. Response : System provides form for the employee to determine the method by choose between fixed fees, indicative fees, manual fees or mathematical equation .	Determine the method of calculating fees for each service: -Fixed fees: it is a fixed value that is determined for the service. This value is used in the bill automatically, and the bill creator cannot modify that value. -Indicative fees: it is a guiding value that is determined for the service, and this value is used in the bill automatically as a default value and the bill creator can modify that value. - Manual fees: It is not specified in the service, and the bill creator must specify the fees for the service at the time of entering the bill data. - Mathematical equation: the value of the fees in the bill is calculated automatically
			from the system based on elements that are defined for the service and a mathematical equation that is included in Calculate those elements.

BMS-REQ:10	9	Stimulus: employee request for cancel the service . Response : System provides form for the employee for ability to cancel and modify or return service .	Modification / activation / deactivation of services.
BMS-REQ:11	9	Stimulus : employee request for classify bills in group . Response : System provides form for the employee for ability to make differ groups for bills and modify , activate and disable them .	Manage billing groups: the feature enables the user to: - Defining different and varied groups to classify bills. - Modify / activate / disable billing groups.
BMS-REQ:12	9	Stimulus : client request for see the bills group . Response : System provides form for the client for ability to see all data about bills .	Ability to see the data of the billing categories (the agreement with the collection system on the characteristics of the bills)
BMS-REQ:13	9	Stimulus : employee could choose the bills number . Response : System provides for the employee for ability to determine bill number only, or an account number and an bill number .	Automatic the bill is based on a bill number only, or an account number and a bill number.
BMS-REQ:14	9	TBD	The system's ability to send Payment bills are refundable or not.
BMS-REQ:15	8	Stimulus : employee request to determine the duration of bill Response : System provides for the employee for ability to determine to enter the expiration date of the bill or is it calculated automatically by	The ability of the system to determine the expiration date of the bills (Is it necessary to enter the expiration date of the bill or is it calculated automatically by the system based on an indicative period defined by the settings)

		the system based on an indicative period defined by the settings.	
BMS-REQ:16	8	Stimulus : employee request to determine the number for bill automatically . Response : System provides form for the employee for allows four optional components (year - month - day - fixed value) to be bill number .	Settings for automatic identification of billing numbers: The system allows four optional components (year - month - day - fixed value) and a mandatory component which is The bill series.
BMS-REQ:17	9	Stimulus : employee request to determine the reason of cancel the refund . Response : System provides form for the employee for allows enter the reason in cancel the bill, request for refund or cancel the refund request. .	Causes settings: The feature enables the user to define preconceived causes that are used in the following procedures: - Cancel the bill. - Request for refund. - Cancel the refund request.
BMS-REQ:18	7	Stimulus : client request to extract revenue reports . Response : System provides form for the client that contain all details .	The ability to extract revenue reports showing all its details, (i.e. type of revenue, total revenue value, the value that was collected from that revenue that was recorded)

BMS-REQ:19	7	Stimulus : client request to extract her/his rental reports . Response : System provides form for the client that contain all basic information and bills details.	The ability to generate reports pertaining to rental clients, which illustrate(i.e. Basic clients information, the bills that have been issued and sent to him and their condition, any delay related to the payment of the amounts owed by the clients)
BMS-REQ:20	7	Stimulus : client request to extract violation report . Response : System provides form for the client (violator) that contain all violator information and bills details.	The ability to extract reports on the perpetrators of the violation, which explain (i.e. Information of the perpetrator of the violation and the basic violation - The bills that were issued and sent to the perpetrators and their status - Any delay related to the payment of amounts owed by the perpetrators of the violation).
BMS-REQ:21	7	Stimulus : client request to extract tracking bills report for rental . Response : System provides form for the client that contain all payment schedules of contracted.	The ability to generate reports that enable tracking of bills and payments for leases according to the schedules of contracted payments according to the amount and the due dates for each contract, client, and real estate or land .
BMS-REQ:22	7	Stimulus : client request to extract flow reports . Response : System provides form for the client that contain all payment probable to be	The ability to extract cash flow reports that paint a clear picture of the amounts of real estate expected to be collected during future

		collected during financial periods in future.	financial periods according to the schedules of contracted payments.
BMS-REQ:23	7	Stimulus : client request to extract tracking bills report . Response : System provides form for the client that contain information according to the date of their issuance.	The ability to generate reports that enable tracking of bills and payments according to the date of their issuance, whether they have been collected or not, and the date of collection if they are done.
BMS-REQ:24	7	Stimulus : client request to extract accounts receivable ages tables report . Response : System provides form for the client that contain all information of accounts receivable ages .	The ability to extract reports on accounts receivable ages tables
BMS-REQ:25	8	Stimulus : employee request to define client . Response: System provides form for the specific employee that ability to define client .	The ability to identify clients in the system. the tasks and authority are granted to specific persons
BMS-REQ:26	9	Stimulus : employee request to define types of revenue . Response: System provides form for the specific employee that ability to define types of revenue .	The ability to define the types of revenue in the system. the tasks and authority are granted to specific persons
BMS-REQ:27	9	Stimulus : employee request to record bills manually . Response: System provides form for the specific employee that ability to record bills manually .	The ability to record bills manually through the system. the tasks and authority are granted to specific persons.

BMS-REQ:28	9	Stimulus : employee request to issue rents and violations bills Response: System provides form for the specific employee that ability to issue rents and violations bills automatically.	The ability to issue rents and violations bills automatically. the tasks and authority are granted to specific persons.
BMS-REQ:29	7	Stimulus : employee or client request to extract reports . Response: System provides form for the specific employee or client that ability to extract reports.	The ability to extract reports through the system. the tasks and authority are granted to specific persons.
BMS-REQ:30	9	Stimulus : employee request to settle accounts . Response: System provides form for the specific employee that ability to settle accounts.	The ability to settle accounts through the (reconciliation) system. the tasks and authority are granted to specific persons.
BMS-REQ:31	8	Stimulus : client request to recording the accounting entries . Response: System provides form for the client that ability to record by link with the receipts system ("Oracle") and " تحصيل ".	linking with the receipts system (Enterprise Resource Planning System) ("Oracle") for the purpose of recording accounting entries for revenues resulting from billing operations of all three types (real estate management, violations management, the rest of the types of revenue recorded on the system and recording the accounting entries for collections resulting from payments from.

Table3

3.5 client service management System

Requirement ID	Priority	Stimulus/Response Sequences	Description
CSMS-REQ:1	9	Stimulus : client request to direct complaints . Response: System provides form for the client that ability to direct complaints to the specialized department.	The system must have the ability to direct complaints between different users, work teams and / or departments.
CSMS-REQ:2	9	Stimulus : employee request to manage service . Response: System provides form for the employee that ability to create and manage service that according to it is type.	The system must have the ability to create and manage service level agreement and escalation for each case and according to its type.
CSMS-REQ:3	9	Stimulus : client request to approve her/his case . Response: System provides form for the client that approval hierarchy and where it is case stop it.	The system must be able to define the approval hierarchy for each case and according to its type.
CSMS-REQ:4	9	Stimulus : employee request to take case . Response: System provides form for the employee that case from list that arrange according it is type.	The system must be able to define the list of tasks to complete cases based on the type of case.
CSMS-REQ:5	9	Stimulus :client request to send document for case . Response: System provides form for the client that ability to attach document.	The system must be able to attach documents related to the complaint record.

CSMS-REQ:6	8	Stimulus :employee request to see all emails between client and them . Response: System provides form for the employee that ability to see Entity Profile that contain all emails.	All internal and external emails with the customer must be registered to the Entity Profile (Party Case).
CSMS-REQ:7	9	Stimulus :client finish her/his step . Response: System provides form for the client that evaluation the service.	The system must support the evaluation of customer satisfaction at every stage through the systems, tools, and auxiliary control panels. Should monitor the quality of services provided to clients and the extent of client satisfaction with these services by providing an evaluation feature on the service.
CSMS-REQ:8	8	Stimulus :client request to manage the complaint . Response: System provides form for the client that ability to see the flow of complaint.	The system must provide management tools to flow the complaints.
CSMS-REQ:9	9	Stimulus :employee request to fix the complaint at specific stage . Response: System provides form for the employee that ability to fix the complaint in any stage.	The system must have the ability to fix cases and complaints at all stages.
CSMS-REQ:10	9	Stimulus :client request to cancel the complaint . Response: System provides form for the client that ability to cancel or disable the complaint .	The system must have flexible methods to close the issue or complaint.

CSMS-REQ:11	8	Stimulus :client request to chat . Response: System provides form for the client that ability to chat through internet.	It must support Online chat system (through the information provided by the customer).
CSMS-REQ:12	8	Stimulus :client request to send (inquiry, complaint, suggestion) through social media . Response: System provides form for the client that	The system must support the creation of an automatic case through social media. so that it is easy for the person through them to send (inquiry,
		ability to create case or register case get through social media.	complaint, suggestion) to any from the Ministry's accounts, and this request is handled through the screens of the client service system, and the response is also on social media platforms through client service system without the need to enter another system
CSMS-REQ:13	9	Stimulus :client request call through social media . Response: System provides form for the client that automated reply.	The system can add an automated reply to the social network.
CSMS-REQ:14	9	Stimulus :client request to negotiation . Response: System provides form for the client to negotiation.	The system must support the authorization feature.

CSMS-REQ:15	9	Stimulus :client or employee request to track the task . Response: System provides form for the client or employee the ability to track the task .	The system must have the ability to record and track tasks.
CSMS-REQ:16	9	Stimulus :client request to track the negotiation . Response: System provides form for the client the ability to define and track negotiation tasks.	The system must have the ability to set authorization, and track progress in all tasks.
CSMS-REQ:17	9	Stimulus: client receive reminders. Response: System provides for the client the reminders before the due date.	The system must be able to send reminders before task due dates.
CSMS-REQ:18	7	TBD	It protects that the system can define different types of perspectives for active tasks, in progress, completed and due tasks.
CSMS-REQ:19	9	Stimulus :client request to create complaint or services . Response: System provides form for the client the ability to create complaint or services also from previous services .	Ability to create new requests for complaints or services through requests or previous forms.
CSMS-REQ:20	9	Stimulus :employee request to retrieve client information . Response: System provides form for the employee the ability to retrieve all client information .	Ability to identify and retrieve customer information by customer name, contact name or phone number

CSMS-REQ:21	9	Stimulus :client request to create complaint from list of her/his activity . Response: System provides form for the client the ability to create complaints from a predefined list for activities .	Ability to create complaints or requests from a predefined list of recurring or common activities.
CSMS-REQ:22	8	Stimulus :client request to ask about complaint or to inquire . Response: System provides form for the client the ability to respond with predefined scenario.	Ability to set Virtual scenarios response to customer requests and repeated complaints or questions
CSMS-REQ:23	9	Stimulus :client request to send complaint . Response: System provides form that have the date and client name who's send .	Ability to save the date, name of the customer, method of receipt, priority and userdefined fields for complaints sent.
CSMS-REQ:24	8	Stimulus :client request to send many complaints . Response: System provides for that ability to link complaints in group and solve it together .	The ability to link support complaints to other complainants and solve them as a group.
CSMS-REQ:25	9	Stimulus :client request to send complaint . Response: System provides for that ability to link complaint to service management .	Ability to link complaints to services
CSMS-REQ:26	8	Stimulus :client request to track complaint . Response: System provides for that ability to track by date eligibility, open days, and percentage to completed .	Ability to track complaints by date eligibility, open days, and percentage to completed .

CSMS-REQ:27	9	Stimulus :employee request to see the complaint . Response: System provides for the employee that ability to see by keep all complaints.	Ability to keep a record of operating notes related to complaints and results of each complaint.
CSMS-REQ:28	9	Stimulus :employee request to see the complaint . Response: System provides form (in one page)for the employee that ability to fully describe of complaint solution and cause .	Ability to fully describe the complaint, solution and root cause of complaints must be presented on one page .
CSMS-REQ:29	9	Stimulus :client request to search. Response: System provides form for the client that ability to use search by word(S) .	must include the system a search engine for the knowledge base based on the keyword (s) .
CSMS-REQ:30	8	Stimulus :employee request to copy previous solution to new complaint . Response: System provides for the employee that ability to copy and use the historical complaint solutions record.	The ability to copy the old or previous occurrence of historical complaint solutions record into open complaints.
CSMS-REQ:31	6	Stimulus :client request to see the common question . Response: System provides form for the client that ability to see common question related to complaint.	The system includes online common questions (FAQs) Common Questions and Answers (categorized) According to the type of complaint, type of service, or a category predefined by the user.

CSMS-REQ:32	8	Stimulus :client request to search about solution . Response: System provides form for the client that ability to see the result of search according to relevance.	The system includes classification of search results and proposed solutions to complaints according to relevance.
CSMS-REQ:33	9	Stimulus :client request to service. Response: System provides for the client that ability to communication channels such as call centers or means of communication the social network, SMS, or the Ministry's branches.	Receiving clients requests for services and providing full support for their implementation by providing the customer with communication channels such as call centers or means of communication the social network, SMS, or the Ministry's branches, through which he can communicate complaints, inquiries, or suggestions and follow up on them.
CSMS-REQ:34	9	Stimulus :client request to suggestion . Response: System provides for the client that ability to	The system provides for receiving suggestions, recommendations, and ideas from clients with the aim of
		receive their suggestion for improve the level of services .	improving the level of services for registration and study.
CSMS-REQ:35	9	Stimulus :client request to register complaint . Response: System provides for the client that ability to facility complaint register .	Easily register a complaint in the system from any of the communication channels (call, mail, mobile application, social media platforms, applications, offices) and branches.

CSMS-REQ:36	8	TBD	Building a database of the Ministry's clients and classifying them according to their types
CSMS-REQ:37	*7*	Stimulus :employee request to see report . Response: System provides for the employee that ability to show analytical reports .	Provide the necessary analytical reports for decision-makers
CSMS-REQ:38	7	TBD	\It requires linking with existing regulations and a few examples in the Ministry: منصة أنعام بلس نظام الانتاج العضوي منصة زراعي نظام إعانة الانعام نظام بلغ نظام رخص حفر الابار نظام مقاولي حفر الابار نظام حصاد بلس نظام التشجير نظام كشف تسربات المياه نظام ترقيم البل تأهيل المنشأة البيطرية لترقيم البل
CSMS-REQ:39	9	Stimulus :employee request to service the client Response: System provides for the employee that ability to show all client data .	the client service center to know the services provided to the client through the knowledge number His own national identity, residence, commercial register, license, mobile registered with the Ministry.

CSMS-REQ:40	8	Stimulus :client request to open or modifying or deleting service. Response: System provides for the client that ability to do all characteristics of the system during the use of API.	must create a customer service system with all features of complementarity with internal systems in terms of its ability (open, modifying, deleting) and other characteristics of the system during the use of API and receiving reply to the communication
CSMSREQ:41	7	TBD	link will be with the applications prepared in the Ministry that serve internal procedures, such as: 1-Technical Support System (ITsM Technical Support) 2- Administrative communications system 3- IBM FileNet archives and file save files 4- out gate (البوابة الخارجية)

Table4

4. Other Nonfunctional Requirements

Non - functional requirements are requirements that specify criteria of the developed system . This can be used to judge the operation of the system , rather than specific behaviors . This is contrasted with functional requirements that define the specific behaviors or function of the system .

4.1 Performance Requirements

Requirement ID	Requirements description
PR-REQ: 1	should seek to achieve a high level of (Availability) using the (redundancy) mechanism. For operational components, and considering the use of Balancer Load Distributors in each layer, to achieve a high level of performance Responding by distributing requests to devices, and the structure of the system must be Scalable, and the systems must be compatible. Installed and developed with HTML5 systems to be compatible with the web browser, Internet Explorer, Firefox, Chromo, and Safari without the need for any additional software such as ActiveX or others. All systems must integrate with the .MS Active Directory domain server

PR-REQ:2	the system must achieve the appropriate degree of speed of performance assigned to the number of effective users and the number of procedure per second.
PR-REQ:3	The system must be installed on the Availability High Environment Production
PR-REQ:4	integration with MS Active Directory
PR-REQ:5	The system works on the internal and external networks (Internet) in the Ministry
PR-REQ:6	The characteristics of customers and those outside the ministry will be applied to the ministry's DMZ environment, and regarding the employee, they will be contacted from internal network
PR-REQ:7	The system must support SSO without the need for any external tools
PR-REQ:8	The system must integrate with the applicable archiving systems in the Ministry in terms of document archiving and retrieval(IBM FileNet).
PR-REQ:9	The system must support access from anywhere and work on the system, with access to all users on the system at the same time while maintaining the level of system performance (reducing response time in the arrival of information.)
PR-REQ:10	The system must provide easy-to-use interfaces so that the presenter applies international best practices in terms of user experience, so that the interfaces are easy to use
PR-REQ: 11	The system must have all the data related to the operations and events that take place by one of the users in the system. (Full logging system) as it provides the ability to track and save all operations on the records (such as deleting, updating, query ... etc.)
PR-REQ:12	The ability to import / export data from the system into XML, common spreadsheets, word processors, databases and pdf .

Table5

4.2 Safety and Security Requirements

System can not affect ,harm, damage to user. It is also can not damage user's computer while accessing the systems over a network .

Requirement ID	Requirements description
SS-REQ:1	The system must comply with the Ministry's information security standards and the highest global security and protection standards that allow data to be protected from leakage and hacking, and encrypts all documents and databases in a way that limits the ability to view or disassemble data except by using the system to ensure Confidentiality and Integrity
SS-REQ:2	Provide a password storage and division mechanism for password encryption for databases
SS-REQ:3	The system must support the ability to have regular and automatic backups, so that the system, i.e. downloads a complete database backup daily
SS-REQ:4	The system must support encryption and high security so that it provides the ability to the highest degree of security when dealing with sensitive data such as encryption, censorship, and powers

Table6

4.3 Software Quality Attributes

Requirement ID	Requirements description
SQA-REQ:1	The system should be easy to use and free from any complexity to facilitate the work of all users
SQA-REQ:2	The ability to track and save all operations on records (such as deleting, updating, inquiring ... etc.).
SQA-REQ:3	The ability to deal with the lists and functions in the system easily, flexibly, and easily, and that these lists are similar in all systems and linked to the responsibilities used.
SQA-REQ:4	The system must provide each user with a flexible and concise method for quick access to the information and data that are frequently used.
SQA-REQ:5	The system should display a Tracking History for all records.
SQA-REQ:6	The system should support resilience and re-engineer policies and processes
SQA-REQ:7	All integration points (APIs) that would retrieve, add, fix, or cancel any data related to the Ministry's revenue management system must be provided so that they are available to be linked with the Ministry's various systems.
SQA-REQ:8	For the Ministry, including full documentation of software functions (Code Source) and a grammar dictionary They assets of all developed or modified programs shall be delivered specially the data.

Table7

5. Other Requirements

5.1 technical support, development, and training requirements

Requirement ID	Requirements description
TDT-REQ:1	shall supervise the technical support for the current system from the beginning of the project and provide full technical support for the systems to be established by submitting it until the end of the project, by correcting errors and directly interacting with technical problems that may come later in the system after the testing and actual operation .
TDT-REQ:2	must submit a plan to train all the staff at the Ministry's website and its branch sites on the system.
TDT-REQ:3	shall submit an automated plan to provide technical support and respond to requests for breakdowns and repairs throughout the project period.
TDT-REQ:4	The system must provide each user with a flexible and concise method for quick access to the information and data that are frequently used. information center in the ministry to solve any problem or malfunction related to the server and the systems and software installed on it
TDT-REQ:5	Technical support includes solving problems of the systems that it will provide, making improvement and addition and responding to users' requests for the systems and all kinds of technical support, whether for system applications or the technical environment in force in the ministry to operate the aforementioned systems, or any support a technician guarantees the continuity of the system's work without interruption and does not include technical support for the devices used in the system administration It does not include internal network problems or all infrastructure problems of the ministry as a host environment for the system.
TDT-REQ:6	Make periodic copies of the application in case a new mobile operator "Operating system" is issued
TDT-REQ:7	shall provide operational and administrative support throughout the project period for the existing systems and for the systems that he will provide Later, during the advanced stages of the project, by providing an integrated staff to support the Ministry in using and developing a system of systems revenue

Requirement ID	Requirements description
TDT-REQ:8	obligated to provide a project manager throughout the contracting period who is qualified to lead the project on his part for the duration of the project and has him Full authority from the general administration for disposition and receipt of requests by the project supervisor in the ministry.
TDT-REQ:9	must provide two cadres in the ministry with experience in dealing with users of all systems (during a period of time) Implementing the electronic system in the project (to provide the operational technical support process to the users and answer all inquiries and maintenance requests, communication with the maintenance team and technical support in case of breakdowns, as well as making field visits for branches and region if they need it.
TDT-REQ:10	must consider the absence of limited usage licenses for the number of system users (an unlimited number of users) and take into consideration Hosting the system on the infrastructure, operational environment and the Ministry's devices available in the General Department for Technology and using the database licenses available in it as well, and he must arrange these details with the General Department of Information Technology
TDT-REQ:11	must train all the groups benefiting from the system through workshops at the Ministry's headquarters.
TDT-REQ:12	shall conduct a workshop for all the beneficiaries of the system in the main departments of the regions (13 regions) and The Ministry is inviting Branch users to attend the workshop and obtain a training certificate.
TDT-REQ:13	must be ready throughout the project period to conduct training for any number of trainees on the system at the Ministry's headquarters. or in their areas.
TDT-REQ:14	should train a group of users designated by the ministry to manage and control the system.

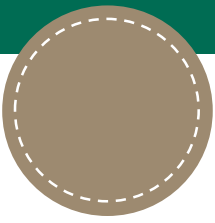| Requirement ID	Requirements description
TDT-REQ:15	responsible for providing the user manual in Arabic with 300 hard copies of 300 CDs, to be delivered to the trainees
TDT-REQ:16	must provide a video explain the system screens and all its functions.
TDT-REQ:17	must train the Ministry's employees to use the system after completing the implementation of all the work related to development by holding training workshops for users (system manager, end user) to explain the system's features and functions according to the table 9 , and the contractor can suggest or amend the table below according to the offer Submitted by him

Table8

| Training	Number of workshops	duration	number of employees in single training
Real estate system for users	4	One day	5
Violation system foe users	4	One day	5
Billing system for users	4	One day	5
Customer service system for users	6	One day	10
Technical training on the real estate system - Control Panel	1	One day	3
Technical training on the violation system - Control Panel	1	One day	3
Technical training on the billing system - Control Panel	1	One day	3
Technical training on the customer service system - Control Panel	1	One day	3
Technical training on the system Real estate - the technology used	1	Two days	3
Technical training on the violation system - the technology used	1	Two days	3
Technical training on the billing system - the technology used	1	Two days	3
Technical training on the customer service system - the technology used	1	Two days	3

Table9

Appendix A: Glossary

| term	Definition
XML	Extensible Markup Language (XML) is used to describe data.
SADAD	It is one of the systems of the Saudi Arabian Monetary Agency, and it is a central system for viewing and paying bills and other payments electronically in the Kingdom of Saudi Arabia
SSO	Single sign-on (SSO) is an authentication scheme that allows a user to log in with a single ID and password to any of several related, yet independent, software systems.
"بلغ" system	This service allows reporting of open wells, palm weevil and locust reports
ERP	Enterprise resource planning (ERP) refers to a type of software that organizations use to manage day-to-day business activities
"تحصيل" system	To manage the cash flow automatically and relieve you from the hassle of manual collection and follow-up.
File net	a company acquired by IBM, developed software to help enterprises manage their content and business processes.
FAQs	A frequently asked questions (FAQ) forum is often used in articles, websites, email lists, and online forums where common questions tend to recur
CSS	is used to define styles for your web pages, including the design, layout, and variations in display for different devices and screen sizes.
HTML	is a markup language used for structuring and presenting content on the World Wide Web.

BUSINESS
REQUIREMENTS DOCUMENT
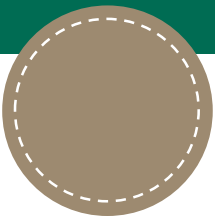
Project Sponsor:	Khloud Hassan Alnufaie
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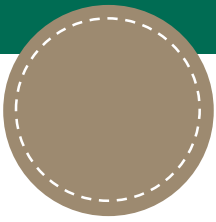
1.   Introduction

It is an integrated system to manage the revenue that is collected so that it is saved. a group of related systems that will work to unify and collect all information, data and work procedures related to it, and it is summarized in four main tracks (asset management system- violation management - Bills management System - client service management System). The property management system will be concerned with all administrative, organizational and logistical tasks of the entities and buildings belonging to the Ministry to ensure their management and follow-up of their maintenance and contracts in a smooth and flexible manner. Work will also be done within the scope of this project to develop the violations system with the aim of controlling violations that were confused as a result of a wrong practice or non-compliance with the rules and regulations issued by the Ministry for the various activities related to the Ministry. The two previous systems are supported by the development of a new invoice management system that will complete the work procedures for registering all types of invoices issued by the ministry for all revenues that the ministry collects. As a supportive step for the Ministry, it will be within the scope of work to build an integrated system for managing customer relations to allow customer support and to provide all possible channels to convey their voice to their various segments in a manner that ensures transparency and prompt response.

1.1   System users

A.   System Administrator has complete control of the system.
B.   Registered users who can use the four systems (asset management system, Violation management System, Bills management System, client service management System).

C.   System visitors who interact and browse the services.

1.2   System components

A.   System administrator control panel
B.   A website for end users

2.   Scope
2.1 In scope

- The scope of the project is divided into four main tracks (property management system, Violation management System, billing management system, customer service management system).
- The chart below shows the mechanism of interconnection between these tracks and the overall scope of the project

The Ministry of Environment Water & Agriculture's
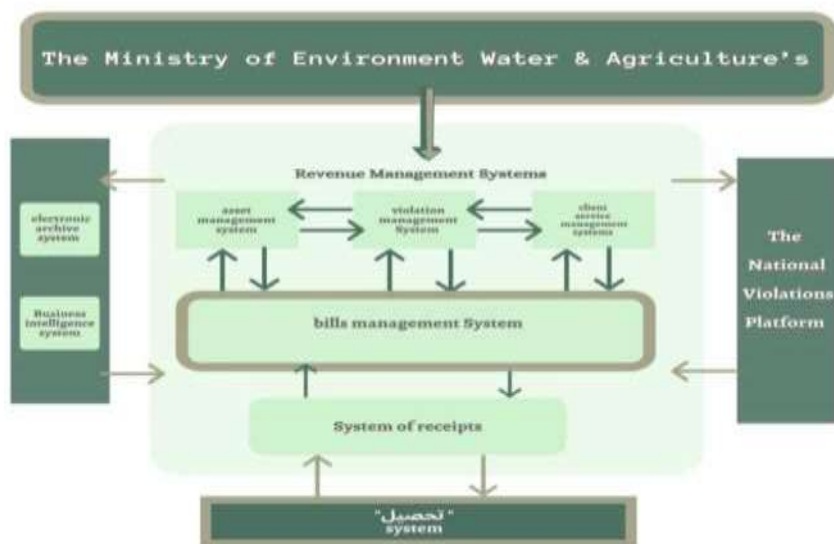
• Each track will be detailed in the functional requirements of the systems.

2.2 Out scope

1. Provide a notification center for each user.
2. Support notifications in their various ways (email, SMS, web).
3. Provide the feature of reminders and escalation in the system.
4. The system must support the printing of any form of violation seized records
5. Issuing copies of violation selections records if items are modified, added or canceled (versioning).
6. Provide a set of reports (maximum 10) and departmental indicator boards for those concerned in departments (units 4).

3. Definitions, Acronyms and Abbreviations

Term	Definitions
Administrator	It is the person responsible for maintaining the System
SADAD	It is a new service that provides an easy and safe payment option via the internet without the need for the credit cards inside Saudi Arabia.
website	A group of web pages that are linked together and stored on the same server
end users	It is the person who uses or ultimately intends to use the product
BRD	Business requirements document
Database	is a collection of information that is organized so that it can be easily accessed, managed and updated
API	Application Programming Interface
SLA	service-level agreement
CSR	customer support representative
FAQ	Frequently asked questions
CRM	Customer relationship management
IM	instant messaging
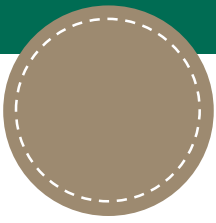
4. Functional Requirements

4.1 asset management system

A. real-estate management

1. location and area of the land
2. real-estate status (i.e. : Suitable or not for cultivation, commercial building, residential building)
3. the aim of the real-estate (i.e. : land reclamation, fish farms, livestock farms)

B. rental contract management for real-estate and land

1. The ability to register lease contracts for real estate and lands that fall under the Ministry's management and provide information about them through the system, For example:

   - The property or land subject of the contract and all its data
   - The customer who will be contracted with and all his data
   - Duration of the contract
   - Contract terms and conditions that must be adhered to by the tenant

   - The rent, the schedule of payments, and the date of each payment

2. The ability to approving the contract in the system
3. The ability to post rental bills to the Bills Management System.
4. The ability to automate the process of issuing rents bills to customers according to the schedule of payments contracted between the ministry and the tenant
5. The ability to extending the contract lease
6. The ability to give up a rented land
7. The ability to cancel a contract.
8. The ability to request a modification on an ongoing contract (i.e. Modify the activity of adding partners, heirs , .etc)

C. maintenance request management

1. The ability to define and manage maintenance requests for Ministry property and provide their information through the system, for example:

   - The building
   - Type of malfunction
   - Reason for maintenance
   - Does the maintenance request require a complete or temporary closure of the property

2. Track maintenance requests and know their status
3. The ability to manage maintenance requests through linking with the asset maintenance system.

D. bill management for lands and real-estate

1. Automatic issuance of rental bills.
2. The issued bills are posted to the SADAD payment system, so that all external parties can pay them through the system.
3. Receiving information about the collection through SADAD's payment system to
4. update the status of the bills that they have been paid

E. client management

1. The ability to define and manage clients dealing with the Ministry and provide their information through the system for example:

•   The name
•   National ID / Iqama number in case of residents
•   The commercial registration number in the case of commercial companies

•   Contact information such as phone, email and postal address -National address)

G. electronic archive for documents

1. The ability to extract maps showing each geographical area, for example:

• Information about the real estate in it, its condition, whether it is rented or not, and whether or not its
•   contract is nearing expiry
• Percentage of real estate and lands that have been leased compared to total real estate and land for lease
• The extent to which all real estate offered for rent have been used in order to grow the Ministry's incomes

2. The ability to extract reports on clients for example :

• Basic clients in formation
• Real estate and lands that the client leased from the ministry
• The bills that have been issued and sent to him and their condition
• Any delay related to the payment of the amounts owed by the clients
3. The ability to extract reports that illustrate the contract information on real estate and land (for example, the duration and contractual value of each of them)

H. real estate and rental services

I.   automatic archive for electronic documentation

I. land services

1. Services to supporting Saudi agriculture in the allocation and leasing of suitable agricultural lands to investors in agricultural or animal projects, As follows:

   • Leasing a wasteland within an approved plan: Through this service, the investor applies for the plots of land offered for lease through:

   • plans approved by the Ministry Leasing a wasteland for the purpose of investment: through this service, the investor applies for leasing a land owned by the government for the purpose of investment In agricultural or non-agricultural projects

   • Leasing of wasteland for the purpose of expanding a project: Through this service, the investor applies for leasing government-owned land for the purpose Expansion of an existing project, whether the project is built on land owned or leased from the government.

   • Transferring the use of agricultural land to other purposes: the landowner requests the transfer of the use of agricultural land that has been included in Urban ranges to another purpose, such as converting them to residential or industrial ... and so on.

   • A request to divide agricultural land into smaller areas: The owner of the land requests to divide the agricultural land he owns into areas Smaller. based on instructions and controls

   • Governmental entity request for land to be allocated as a government facility: Government agencies request the allocation of lands outside the scope Urban and development boundaries, which are under the supervision of this ministry to government and service agencies that need it

2. Services aimed at achieving the desired justice in relation to agricultural land issues with regard to The Sharia courts announce to the request for evidence on the arguments of the arbitration, and the Ministry, with its branches and offices, makes the statement according to the jurisdiction, and then completes the All procedures related to undertaking judicial pleadings before the Sharia and Administrative Court.

4.2 Violation management System

1. Extensive and comprehensive analysis of the various procedures for controlling the violations that are implemented in many departments of the Ministry's agencies, in order to lead to the possibility of reaching a unified form for conducting institutional work that differs from all affected departments.
2. The system should support connectivity with the field visit system to allow for the completion of inspection tours tasks that may result in the seizure of several sets of irregularities against entities via the application of smart devices
3. The ability to complete the rest of the steps of the standard procedure through a web system that performs all related functions from the beginning of monitoring violations to their resolution, payment or cancellation.
4. The system must have the ability to modify irregularities at all stages
5. The system must have flexible ways to close the violation
6. The system's ability to enable the administrator on the system to identify user files
7. Development of the mechanism for issuing the minutes of the seizure of the list of violations
8. Developing the mechanism for writing the final statement
9. Develop a mechanism for auditing and reviewing the record and deciding on it (approval -rejection)
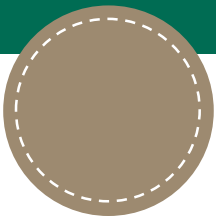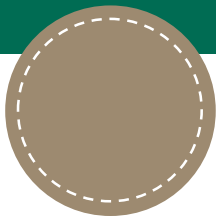
10. Develop the mechanism for sending the application to both the members of the committee, the rapporteur of the committee and a chairman where each of them can enter their initial recommendations into the record and the evidence images prior to the meeting on the application or treatment.
11. Develop the mechanism for sending the application to both the members of the committee, the rapporteur of the committee and a chairman where each of them can enter their initial recommendations into the record and the evidence images prior to the meeting on the application or treatment.
12. The ability of the system to generate the image of the penalty decision and send it electronically to the violator.
13. The system's ability to enable the offender to complain about the penalty decision within a specified period from the date of notification.
14. Linking with human resources to retrieve employee data
15. Linking with inventory and warehouse management to record and track any materials or items that are spent during the inspection and seizure of the violation.
16. Linking with the national platform for violations for the purpose of exporting the list of violations seized from the system of violations to be developed.
17. Connectivity with unified access to facilitate staff access to application and order
18. Linking to a system that has been communicated for the purpose of linking communications to the records of violations that arise from them
19. All APIs that will retrieve, add, modify or cancel any data for a system of irregularities must be provided to be available to be linked to the ministry's various systems.
20. Connecting to billing management system

4.3 Bills management System

A. Business procedures to be supported in the system

1. The ability to define and manage information for all clients:
    • Name, national identity / residency number, and the unified number in case of residents o Name, commercial registration number and the unified number in the case of commercial companies
    • Contact information such as phone, email address and postal address

2. Managing the biller and billing categories: The feature enables the user to record the biller data and billing categories (the agreement with a collection system on the properties of bill):
    • The biller number.
    • Category icon.
    • The bill is based on a bill number only or an account number and a bill number.
    • Payment notices are refundable or not.
    • Activate / deactivate the category.

3. The ability to classify revenues according to their source and type.
4. The ability to manually record bills for miscellaneous revenues directly in the system:

    • Automatically sending those bills through email to the customer's registered email o Automatically sending text messages to notify the customer that invoices have been issued for him to pay

5. The ability to automate the process of issuing lease bills to customers through the following:

- Automate the issuance of bills according to the schedule of payments contracted between the ministry and the tenant page number.
- Automatically sending those bills through email to the customer's registered email
- Automatically sending text messages to notify the customer that bills have been issued for him to pay.

6. The ability to automate the process of issuing violations bills of the perpetrators of the violation, through the following:

- Issuing bills according to the violations that have been recorded
- Sending these bills automatically through email to the registered email of the perpetrators o Sending text messages in an automated way to notify the perpetrators of the violation that violations bills have been issued for them to pay

7. The ability to automate the process of following up bills with customers, whether they are related to rents, violations or miscellaneous revenues, through the following:

- Sending reminders of the claims of those bills automatically through e-mail to the e- mail registered for the customer
- Automatically sending text messages to remind the customer that there are outstanding bills for him to pay

8. Services Management: The feature enables the user to:

- Defining the ministry's services.
- Linking services with the Ministry's revenue accounts.

9. Determine the method of calculating fees for each service:

- Fixed fees: it is a fixed value that is determined for the service. This value is used in the bill automatically, and the bill creator cannot modify that value. o Indicative fee: it is a guiding value that is determined for the service, and this value is used in the bill automatically as a default value and the bill creator can modify that value.
- Manual fees: It is not specified in the service, and the bill creator must specify the fees for the service at the time of entering the bill data.

- Mathematical equation: the value of the fees in the bill is calculated automatically from the system based on elements that are defined for the service and a mathematical equation that is included in Calculate those element.

10. Modification / activation / deactivation of services.
11. Manage billing groups: the feature enables the user to:

- Defining different and varied groups to classify bills.

- Modify / activate / disable billing groups.
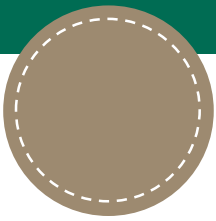
12. Bill Categories Management: The feature enables the user to:

- See the data of the billing categories (the agreement with the collection system on the characteristics of the bills)
- The bill is based on an bill number only, or an account number and an bill number.
- Payment bills are refundable or not.
- Is it necessary to enter the expiration date of the bill or is it calculated automatically by the system based on an indicative period defined by the settings?

- Settings for automatic identification of billing numbers: The system allows four optional components

(year - month - day - fixed value) and a mandatory component which is The bill series.

13. Causes settings: The feature enables the user to define preconceived causes that are used in the following procedures:

- Cancel the bill.

- Request for refund.

- Cancel the refund request.

Managing official holidays: the feature enables the user to define official holidays in the country, which will be used to know the official working days Which is used in settlement reports.

B. reports extracting from the system

1. The ability to extract revenue reports showing all its details, for example :

- Type of revenue o Total revenue value
- The value that was collected from that revenue that was recorded

2. The ability to generate reports pertaining to rental clients, which illustrate(i.e. Basic clients information
3. The bills that have been issued and sent to him and their condition - Any delay related to the payment of the amounts owed by the clients
4. The ability to extract reports on the perpetrators of the violation, which explain for example :
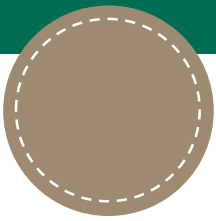- Information of the perpetrator of the violation and the basic violation

- The bills that were issued and sent to the perpetrators and their status

- Any delay related to the payment of amounts owed by the perpetrators of the violation

5. The ability to generate reports that enable tracking of bills and payments for leases according to the schedules of contracted payments according to the amount and the due dates for each contract, client, and real estate or land .
6. The ability to extract cash flow reports that paint a clear picture of the amounts of real estate expected to be collected during future financial periods according to the schedules of contracted payments.
7. The ability to generate reports that enable tracking of bills and payments according to the date of their issuance, whether they have been collected or not, and the date of collection if they are done.
8. The ability to extract reports on accounts receivable ages tables

C. Principles of separate tasks to be applied in the system

separation between the following tasks and authority so that those tasks and authority are granted to specific persons to determine the responsibility of each of them :

1. The ability to identify clients in the system
2. The ability to define the types of revenue in the system
3. The ability to record bills manually through the system
4. The ability to issue rents and violations bills automatically
5. The ability to extract reports through the system
6. The ability to settle accounts through the (reconciliation) system

D. Additional features

1. Settings:

•   Adding a new revenue account to the ministry's list of revenue accounts.

•   Activating the Ministry's revenue accounts.

•   Disabling the Ministry's revenue accounts.

2. Billing:

•   Matching mechanism with the payment notifications of the Tahseel system. page number
•   The mechanism for matching notices of recovery requests related to the Tahseel system.
•   The requirement for "bill source" and all options and fields related to this requirement (this includes the bill
•   registration screens,   modifying bills and Inquiry About bills).
•   The possibility of creating bills, inquiring about them and paying them automatically via (APIs).

3. Authority system

   •   Developing a mechanism for granting authority at the level of billing services (and then revenue accounts) to users.
   •   The system works on the subsidiary entities that have tax numbers with the Ministry of Finance only, and accordingly, a mechanism is developed for other branches to link, It also connects those branches to the cities to use this data in the procedures for granting authority.

4. Support partial payment, overpayment and prepayment.
5. Recovery requests are only based on the payment notices of the Tahseel system.
6. Reports and inquiries are for system data only and not for any other billing system data.
7. The work requires the definition of user data in the Active Directory User Data Server, such as the user's Arabic name and number The identification of the subsidiary or main entity he works for. This data must be added to the server and maintained in case it is not available
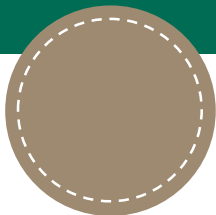
4.4 client service management System

1. The system must have the ability to complain between different users, teams and/or departments
2. The system must have the ability to configure and manage the service level agreement and escalation for each case and by type
3. The system must be able to determine the approval hierarchy for each case and by type.
4. The system should be able to select a to-do list to complete cases based on the type of status
5. The system must be able to attach documents related to the complaint record.
6. All internal and external emails with the client must be recorded to the entity profile (party status).
7. The system should support customer satisfaction assessment at each stage through systems, tools and auxiliary control panels
8. The system should provide tools to manage the flow of complaints
9. The system must have the ability to amend cases and complaints at all stages
10. The system must have flexible ways to close a case or complain.
11. The system must support online chat (through information provided by the client).
12. The system must support the creation of an automated state through social media
13. The system can add an automated response to the social network
14. The system must support the delegate property.
15. The system must have the ability to record and track tasks.
16. The system must have the ability to assign, delegate, and track progress in all tasks.
17. The system must be able to send reminders before tasks due dates
18. The system must be able to identify different types of views for active tasks, which are in progress, finished and due tasks
19. The ability to create new requests for complaints or services through previous requests or forms
20. The ability to identify and retrieve customer information by customer name, contact name or phone number
21. The ability to create complaints or requests from a pre-defined list of repetitive or shared activities
22. The ability to develop default response scenarios on customer requests, repeated complaints or questions
23. The ability to save a date, customer name, receiving method, severity, priority and user-defined fields for submitted complaints
24. The ability to quickly identify complaints or requests for service to individuals or groups
25. The ability to set a time for customer calls to study performance standards
26. The ability to link and resolve support complaints to other complaints as a group
27. The ability to link support complaints to services
28. Ability to track complaints by due date, open days, and percentage completed
29. The ability to keep the record of the operation of notes, complaints and the results of each complaint
30. The ability to fully describe the complaint and the solution and root cause of the complaints should be displayed on one page
31. The system should include diagnostic tools which in turn suggest questions based on the type of complaint on the service or on the product or prior knowledge by the user
32. The system should include a search engine for the knowledge base based on the word (keywords) keywords
33. The ability to copy the record of solutions to historical complaints, old or past, into open complaints.
34. The system should include online FAQs (FAQ) sorted by complaint type, service type, or category already known by the user

35. The system should include classification of search results and proposed complaints solutions by relevance
36. The ability to create an activity plan or a list of tasks for detailed customer service solutions or follow-up through it
37. The ability to upload documents or other electronic files related to each complaint to the services and methods of solution
38. The ability to create a sensitive alert notice date for any complaint
39. The ability to automatically assign complaints based on different criteria
40. The ability to automatically notify staff assigned to new complaints tasks
41. The ability to automatically forward e-mail notifications to customers in relation to the receipt, status or completion of a complaint
42. The ability to automatically escalate complaints based on the date, elapsed time or failure to meet the Service Level Agreement (SLA)
43. The ability to send customer emails to the designated call center commissioner and call center manager
44. The ability to schedule a customer service task or 'do' a reminder for one or more people, to be completed at the same time or at different times
45. The ability to insert and set a specific plan to resolve complaints based on the type of complaint or client
46. The ability to automatically distribute complaints surveys
47. The ability to automatically redirect or escalate questionnaire responses based on response values or results
48. The ability to automatically update customer service complaints according to the historical activities of each account
49. The ability to create a fax-automated, email-automated or create printed message copies of templates by clicking a button
50. The ability to broadcast e-mail to user-defined account groups
51. The resource provides a workflow toolkit to allow the user to create and automate notifications, approvals or data guidance to ensure that complaints are resolved quickly and effectively.
52. In order to reduce learning curves and increase consistent performance, the system's ability to enable users to create support policies, actions and related best practices within rich and well-coordinated web pages and place them in specific pages in the CRM system
53. The system's ability to enable non-technical users to create online knowledge rules in order to limit the frequently answered FAQ by providing the right and on-demand answers
54. Self-service portals for customers to allow customers to enter a complaint online and review the status of the complaint
55. The ability to automatically upload complaints to the self-service portal to the customer support unit
56. The self-service portal allows customers to search for questions and answers or browse the online knowledge base on specific documents
57. The self-service portal includes links to additional support information
58. Customers have instant start-up (IM, instant messaging) from the self-service portal
59. The ability to review the complaint analysis report by complaint type, category of complaint, service provided and other user-defined segments and classifications
60. The system provides reports and analyses for 'root cause' to identify problem patterns and proactively resolve root causes
61. The ability to track each complaint activity and date in one place by complaint date, user, type of activity, priority, status and more
62. The system includes a reporting writer tool to modify customer support reports or create new reports from scratch
63. The system provides a centralized information repository for the exchange of files and electronic documents (e.g. customer surveys, customer response documents, etc.)
64. The system provides pre-defined security permissions by the user for central guarantees
65. System's ability to check-in/finish document management procedures
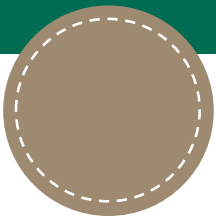
66. The system's ability to complete the historical review of the use of documents
67. The system's ability to secure and provide all complaints globally by a customer support representative (CSR), customer support representative manager, user or role
68. The system's ability to bypass global security settings and apply specific security settings for complaints for any customer complaint
69. The ability to view the historical audit statement record that displays all changes made to the complaint, including the user who made each change, date, time, and changed fields
70. The system provides a simple (non-technical) import process for importing tickets and complaints to the help and support center
71. The system provides the ability of the system user to create or use import forms for recurring imports (for example, import complaints from multiple sources)
72. The system provides a comprehensive adjustment tool for specific or comprehensive data adjustments (e.g. reassignment of all complaints from one resource to another)
73. The system's ability to enable the non-technical user to modify the tables in the system in order to identify the required columns and pre-defined by the user and arrange columns and column titles - by user or role
74. The system's ability to enable the user is not technical to modify web page forms without any technical structure or programming knowledge
75. The system's ability to enable the non-technical user to modify, add or remove menu items throughout the entire system depending on their users or individual roles
76. The system's ability to enable the administrator on the system to identify user files - such as CRM's default home page, maximum file size and password rules

5. Non Functional Requirements

1. The ability to support Arabic and English in the system interface, enter data and issue reports
2. The system must support the possibility that backups can be done periodically and automatically so that the system, for example, downloads backups to a complete database on a daily basis
3. The system must support access from anywhere and work on the system, while providing access to all users on the system at the same time while maintaining system performance (reducing response time in information access).
4. The system must support encryption and high security to provide the ability to adhere to the highest level of security when dealing with sensitive data such as encryption, censorship and powers
5. The system must provide easy-to-use interfaces so that the presenter applies global best practices regarding the user experience so that the interfaces are easy to use
. The system must have all data about processes and events performed by a user in the system. (Full system logging) provides the ability to track and save all processes on records (e.g. deletion, update, query...etc)
7. The ability to import/export data from the system to XML, common scheduling programs, word processors, databases, and PDF.

6. Document Approval

Administrator	Date approved	Signature
project manager	10-3-2021	