

المملكة العربية السعودية
وزارة الشؤون البلدية والقروية
إدارة منطقة المدينة المنورة



An inventory, study and analysis document for related applications

Consulting engineering services project to study the

development of geographical information in the municipality of Me

2013-06-09 AD

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Project information

Project information			
project name:		Project "Consulting engineering services to study the development of geographical information in the Municipality of Madinah Region"	
Project code:		34008	
The executing agency :		Saudi Engineering Union Company is preacher and scholar	
Project start date:		2013-03-13 PM	
Project end date:		2013-08-13 PM	
internal <input type="checkbox"/>		external <input checked="" type="checkbox"/>	
the beneficiary		The project is sponsored by the Secretariat	M. Walid Barakat
The representative of the beneficiary		Project manager from the Secretariat	M. Akram Alsarani
Project manager from the implementing agency		Project Manager from the Implementing Entity:	M. Hassan Jabaei

A general definition of the project

The project aims to develop a strategic plan to develop geographic information systems in the Municipality and to establish an electronic infrastructure for geographic information. The plan is based on defining the future vision of the secretariat in relation to geographic information systems and identifying future initiatives and projects required to achieve the vision and strategic tasks. The plan also defines the roadmap and provides the operational tools for developing geographic information systems in the secretariat for the next three to five years. The project also aims to prepare a plan to transform the currently used work environment. *MapInfo* In Medina Municipality to the new work environment *Esri* Based on the standards and criteria approved by the Ministry of Municipal and Rural Affairs.

The project includes the following main elements:

- Study and evaluation of the current situation and geographical data available to the Secretariat
- Preparing a strategic plan to develop the geographical information system in the Secretariat
- Issue recommendations for establishing an electronic infrastructure for spatial information (*SDI* In the Secretariat
- Preparing a brochure of conditions and technical specifications for the project of transferring data and applications of the system *GIS* From the current situation " *MapInfo* To the new work environment *Esri*

an introduction

The goal of the report

This report aims to explain and evaluate the applications currently existing in the Municipality of Medina and related to geographic information systems, by summarizing the technical functions, the work system, and the procedures followed for all applications used in the Municipality of Medina.

Report content

When determining the requirements and during the process of prioritizing them, the applications used in the administration of the Medina Municipality were identified and evaluated, in order to study the possibility of developing them and improving their performance in the process of converting the environment currently used from MapInfo products to ESRI products.

This report contains a detailed presentation of all the applications separately, through a detailed explanation of the technical functions, the programs developed on them, the work system used, the processes of linking with other applications and programs, the workflow followed in the applications and others.

Web application evaluation

Cheap restoration

Overview

The application of "restoration licenses" allows adding or searching for a specific repair by entering the license number. The system searches for the license number entered in the Oracle geographical database, and then displays the required descriptive and spatial information on the screen.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Restoration Licenses application runs on Windows 1 and Windows XP.

Linkage with other systems

The "Restoration Licenses" application is linked to the Oracle Spatial database.

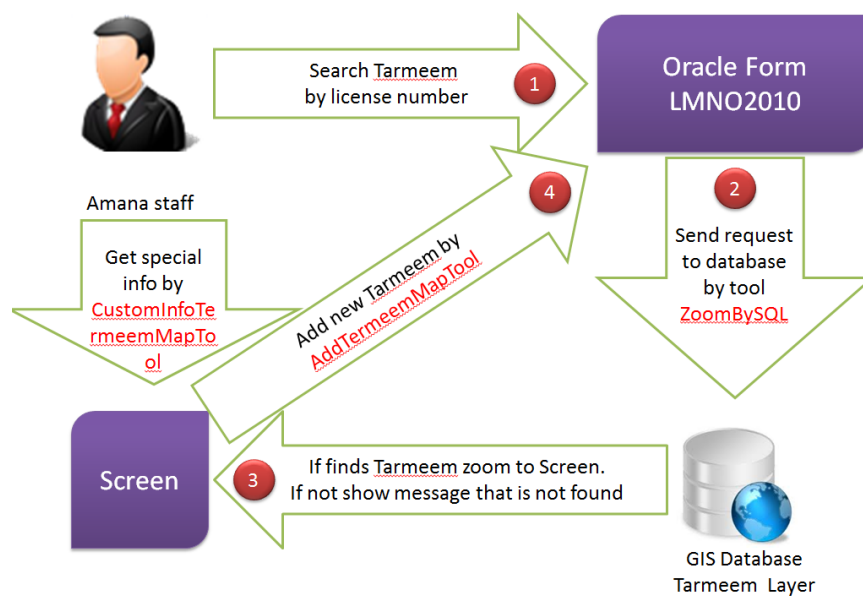
Departments and users

- Urban Planning Department - Central Licenses Department.
- Managing ramshackle buildings.

Job list

- Restoration permit applications (two screens).

Workflow



User rating

Currently, the application of "restoration licenses" is used ineffectively due to the presence of some technical and technical problems, as well as the lack of updated geographical and descriptive data for all classes such as buildings, plots, reduced lands and other geographical data.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Planning

Overview

The planning application contains a set of screens that allow the user to search for a specific element of geographical data, and also help facilitate verification and review transactions for the layers of land parcels, areas of reduction and others among the departments of planning, valley, studies, naming and numbering, etc.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Layout application runs on Windows 1 and Windows XP.

Linkage with other systems

The Planning application is linked to an Oracle Spatial database.

Departments and users

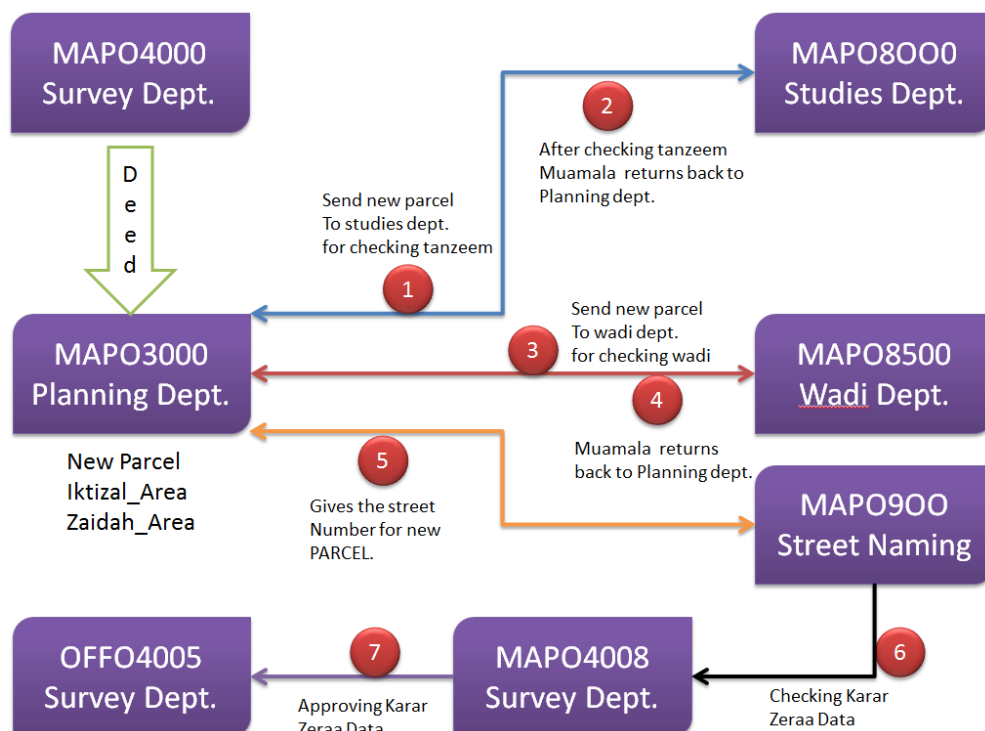
- Most of the departments that fall under the General Administration of Urban Planning
- General Administration of Valleys and Floods.
- Naming and Numbering Department.

Job list

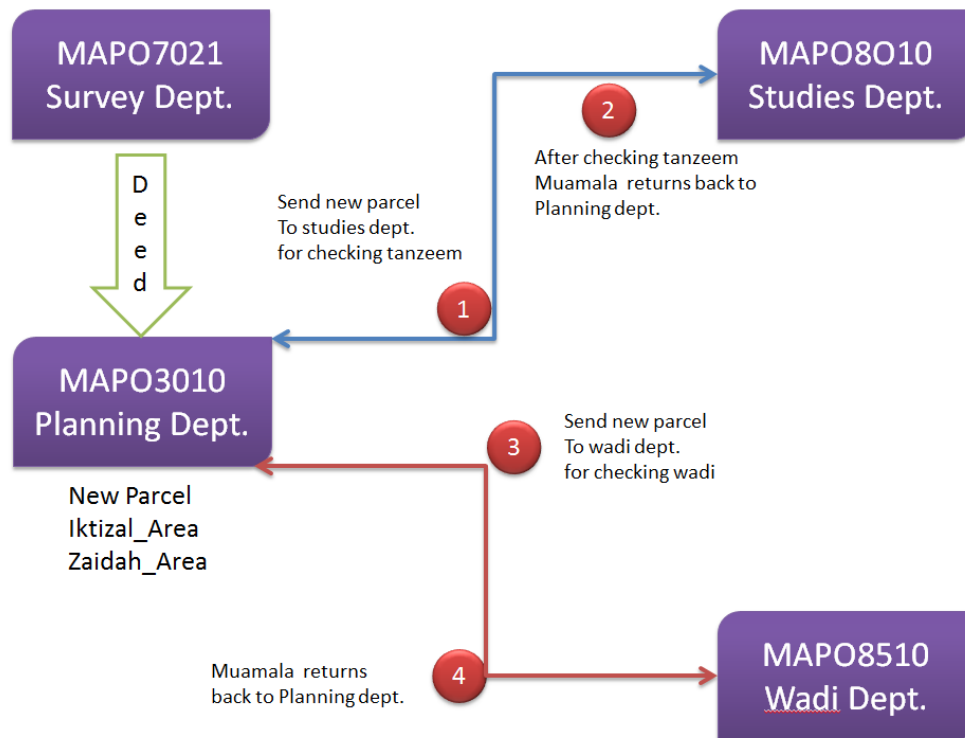
- Random applications for licenses referred from the survey (licenses).
- Requests for approval referred from the ownership examination.
- Transactions of the systems unit referred from planning (licenses).
- Transactions of the systems unit referred from planning
- (consolidation). Transactions of valleys and torrents referred from
- planning (licenses). Transactions of valleys and torrents referred
- from planning (consolidation). Labeling and numbering transactions
- assigned from the chart (licenses). Special construction instructions for the scheme.
- Inquiry about the building instructions related to the plan.

Workflow

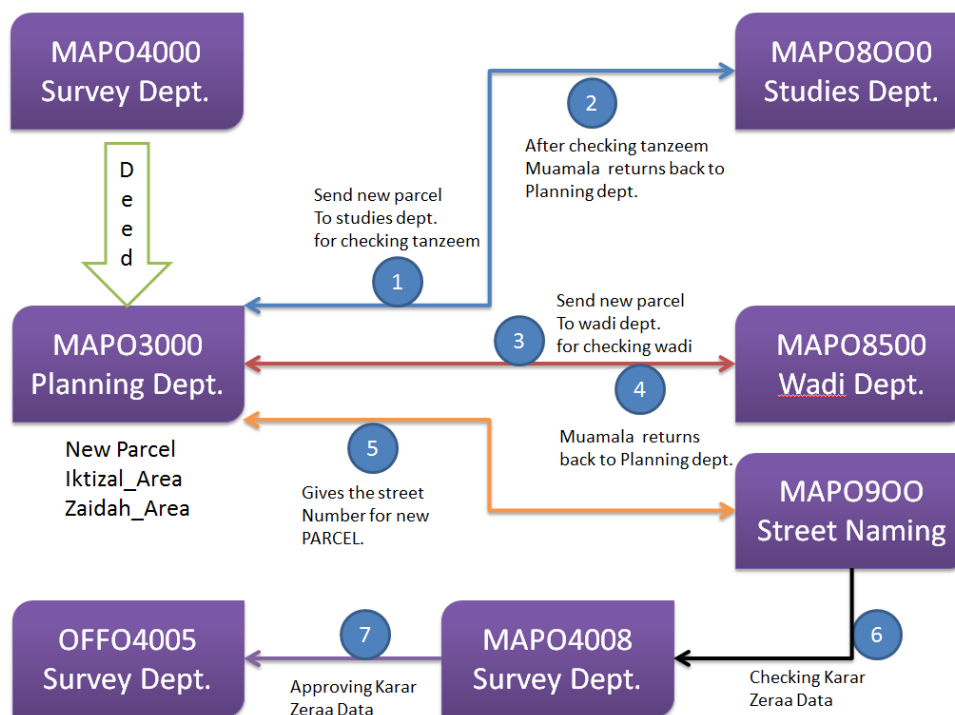
- Random applications for licenses referred from the survey (licenses).



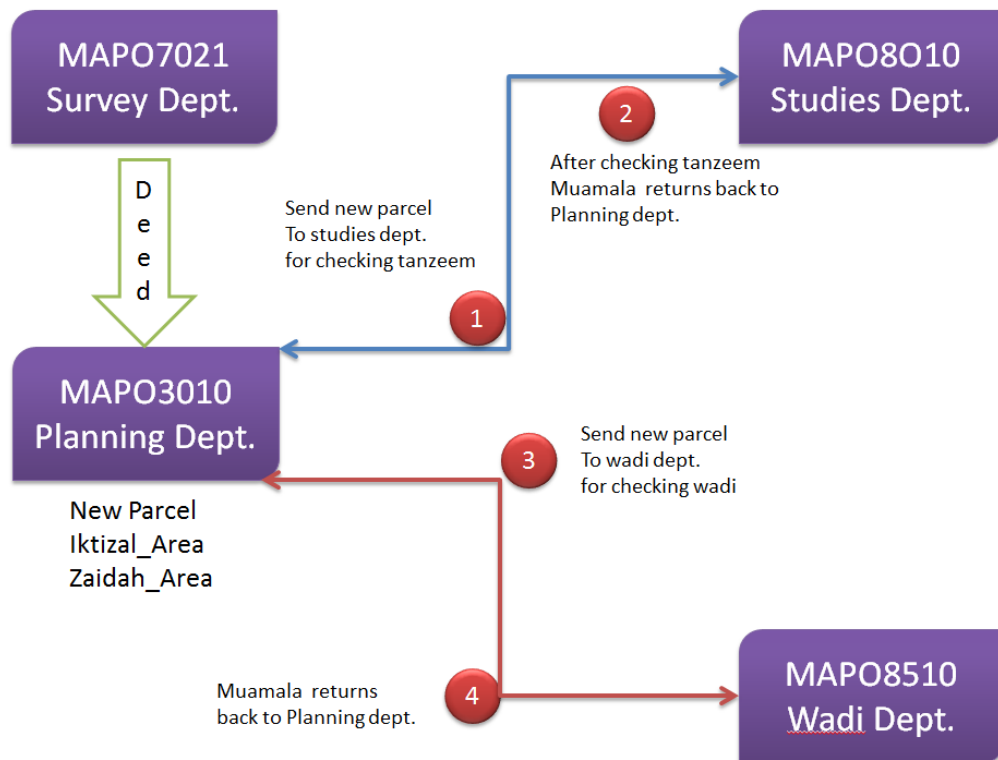
- Requests for approval referred from the ownership examination.



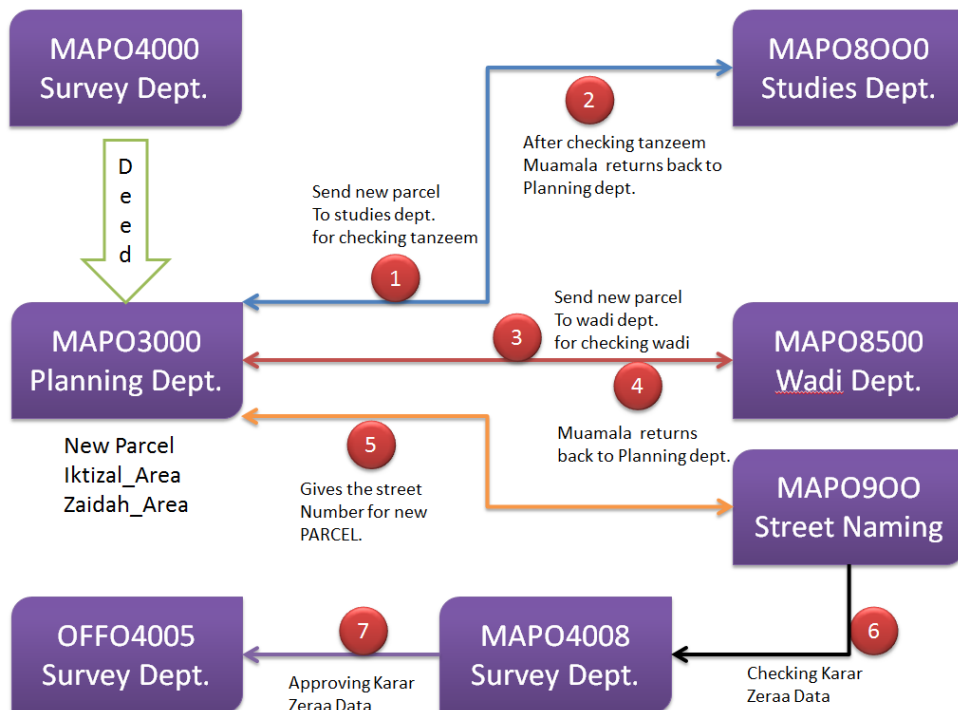
- Transactions of the systems unit referred from planning (licenses):



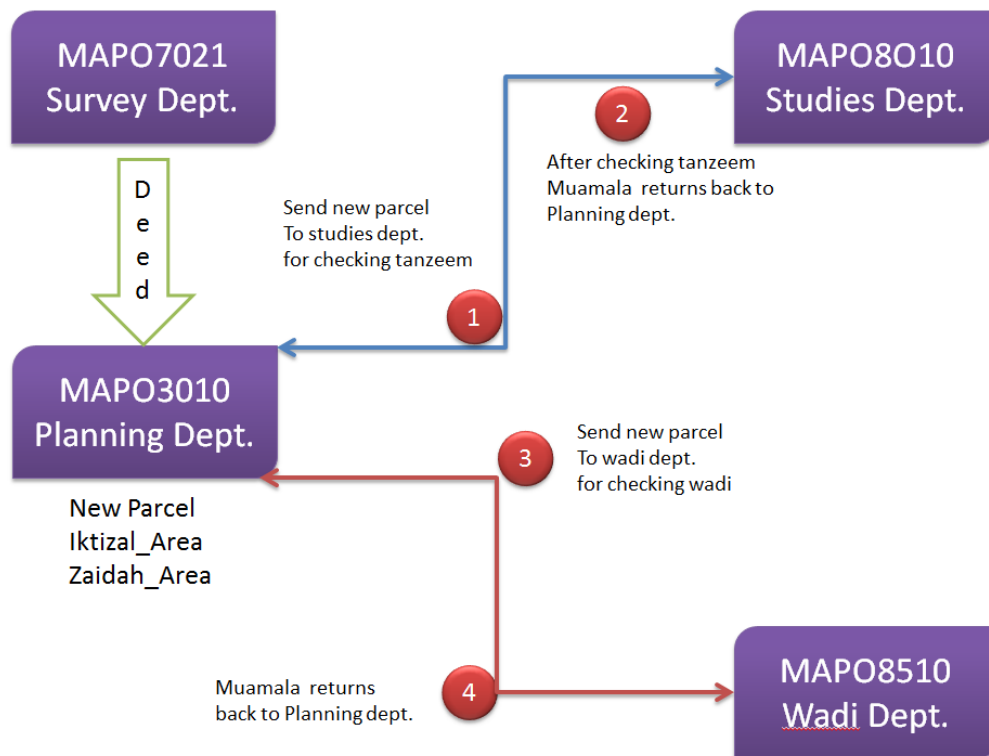
- Transactions of the systems unit referred from planning (expansion):



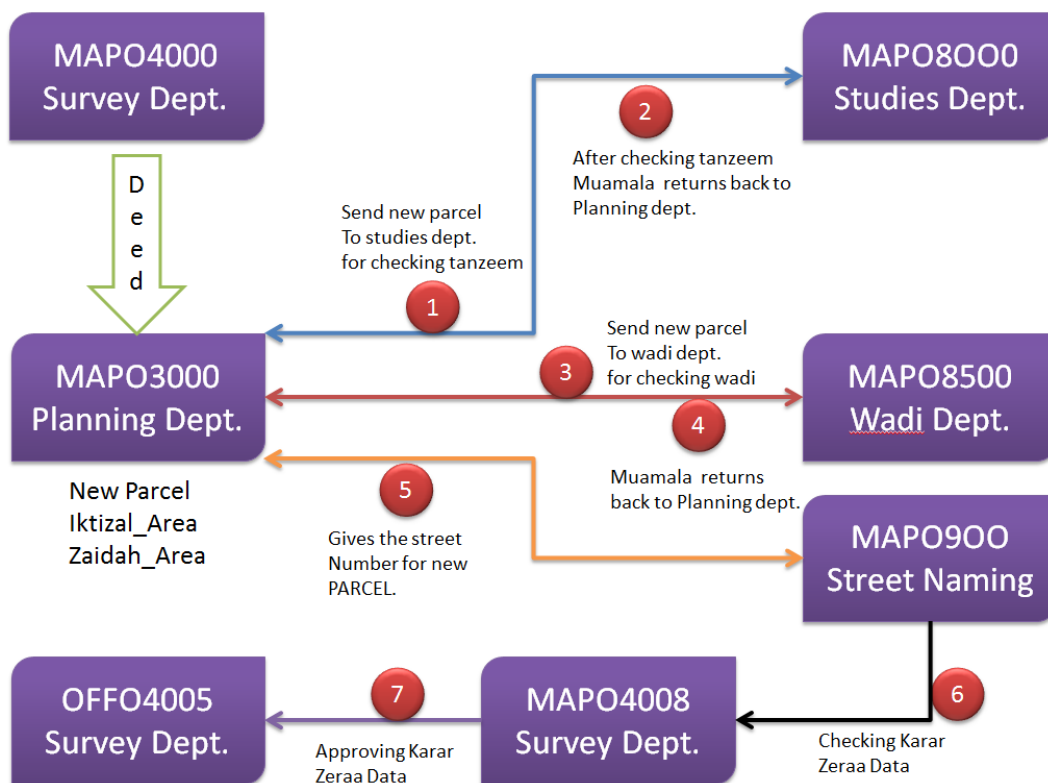
- Transactions of valleys and torrents referred from planning (licenses):



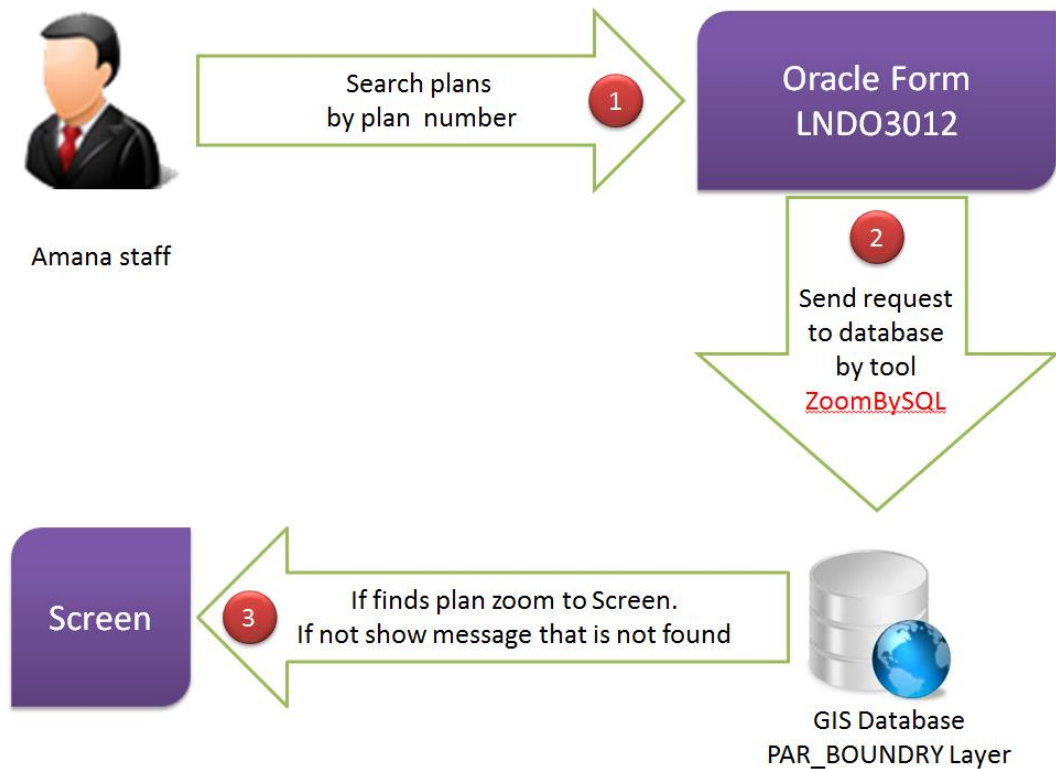
- Transactions of valleys and torrents referred from planning (consolidation):



- Labeling and numbering parameters transferred from the layout (licenses):



- Special construction instructions for the scheme:



User rating

Currently, the "planning" application is used on a daily basis among urban planning departments and other departments, but there are some technical and technical problems such as a sudden breakdown in the system, the lack of updated descriptive and geographical data for all classes, the complexity of the procedures followed to issue licenses and durations, the need to add other tools and facilities on Applications help facilitate everyday work and other problems that must be avoided when converting applications to an ESRI environment.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1

the number	Status	Yes = 1 No = 1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Space

Overview

The "Survey" application helps to identify construction permit applications before and after regulation, as well as search for instruments

Field surveyed lands, upload cadastral survey before organizing and display geographic and descriptive data related to the lands and area stored in the Oracle geographical database.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Space application runs on Windows 1 and Windows XP.

Linkage with other systems

The "space" application is linked to an Oracle Spatial database.

Departments and users

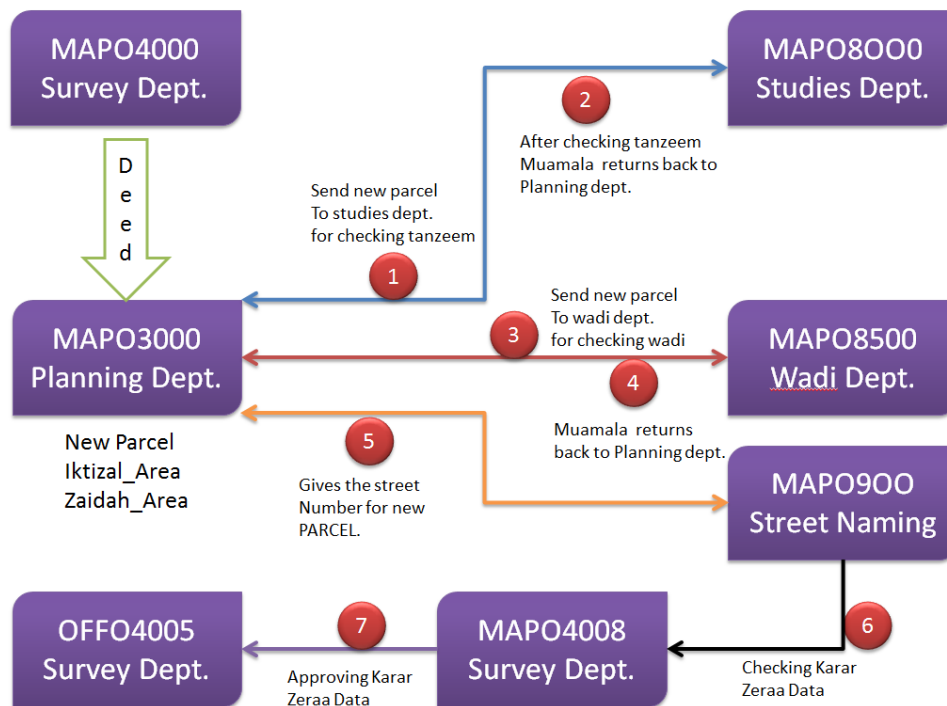
- Survey management and plans implementation.

Job list

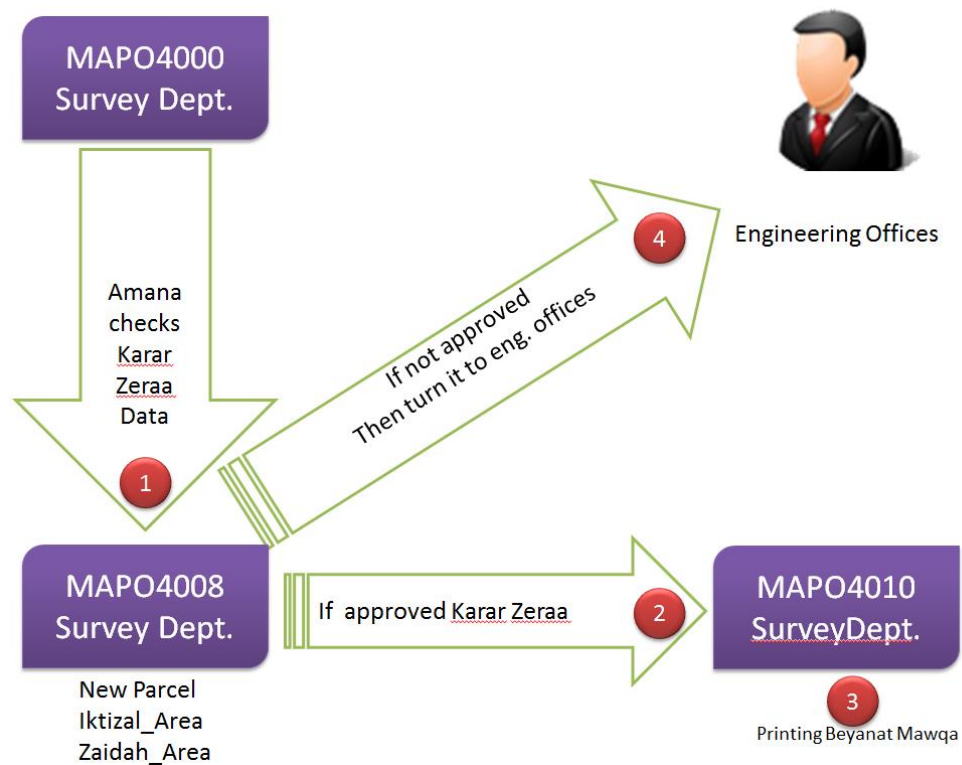
- Surveying applications for construction licenses (before
- organizing). Determine surveyors for applications that have been organized.
- Surveying applications for construction licenses (after
- organizing). Loading the areal lift before organizing (newly developed).
- Determining surveyors for applications that were organized (newly developed).

Workflow

- Surveying applications for construction licenses (before organizing).



- Surveying applications for construction licenses (after organizing).



User rating

The "space" application is used on a daily basis, but there are technical and technical limitations to the screens used, as you must add screens that are easy to use and have faster effectiveness.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1

the number	Status	Yes = 1 No = 1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Ownership check

Overview

The "Property Check" application helps to verify the approval data provided by the contractors' offices. It also assists with searches and uploading of submitted data to a geodatabase, and displaying geographic and descriptive data related to property check layers stored in the Oracle geodatabase.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Property Check application runs on Windows 1 and Windows XP.

Linkage with other systems

The Property Check application is linked to the Oracle Spatial database.

Departments and users

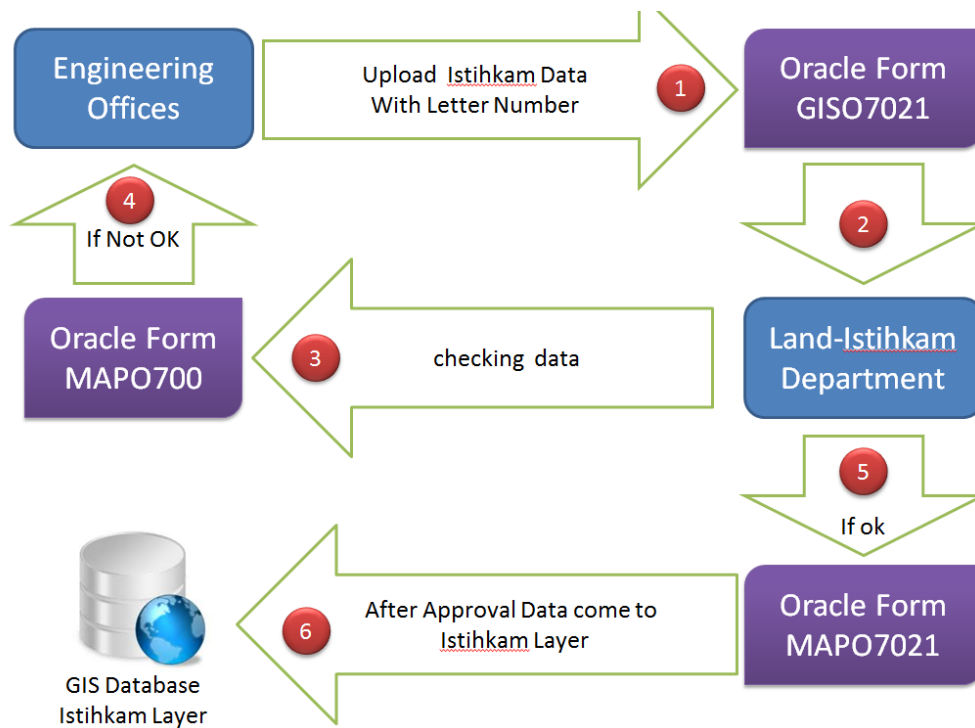
- Land and property management.

Job list

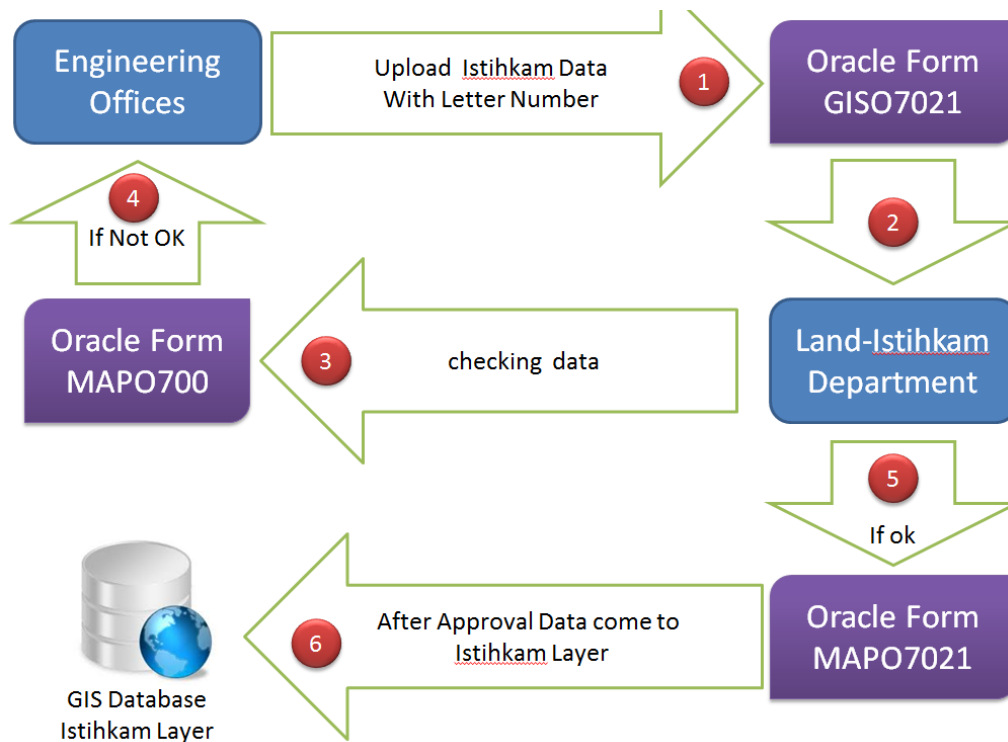
- Review the area lift provided by the office.
- Personal data on nature (aerial photography).

Workflow

- Review the area lift provided by the office.



- Personal data on nature (aerial photography).



User rating

The "property check" application is used in an ineffective manner, as there are technical and technical limitations to the screens used and the procedures followed. Easy-to-use and faster-effective screens should be added.

The department's needs in terms of applications and procedures (Reyada Project) were previously collected and were not implemented.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the user's absorption	1

the number	Status	Yes = 1
		No = 1
. 7	Web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Grants

Overview

The "Grants" application allows you to inquire about the donated plots to the citizens, by displaying the geographical and descriptive data required in the searches by entering the plan number or type stored in the Oracle geographical database.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Grants application runs on Windows 1 and Windows XP.

Linkage with other systems

The Grants application is linked to the Oracle Spatial database.

Departments and users

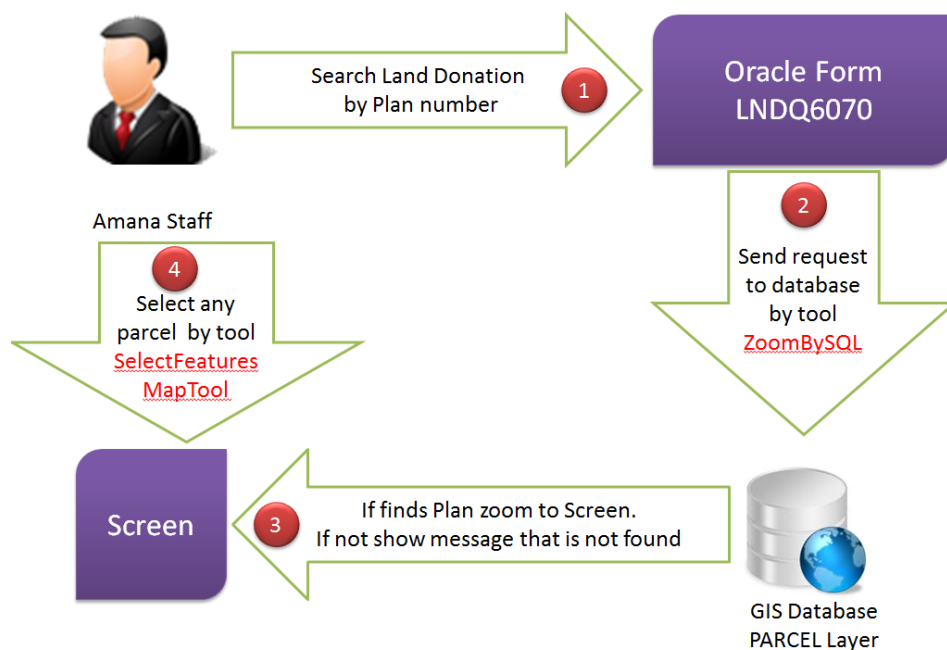
- Land and property management.
- Grants Administration

Job list

- Inquiry about donated pieces.

Workflow

- Inquiry about donated pieces.



User rating

There should be tools that are easy to use and fast to implement in the "grants" application. Where there are some technical problems such as slow drawing and display of geographical data, not displaying all the metadata related to the donated pieces, etc.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Requests

Overview

The "requests" application is used to search for a specific plot of land by property number or plot number. The system searches for the plot of land using the Oracle geographical database, and displays the geographical location and its metadata through the used screen.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Requests application runs on Windows 1 and Windows XP.

Linkage with other systems

The Requests application is linked to an Oracle Spatial database.

Departments and users

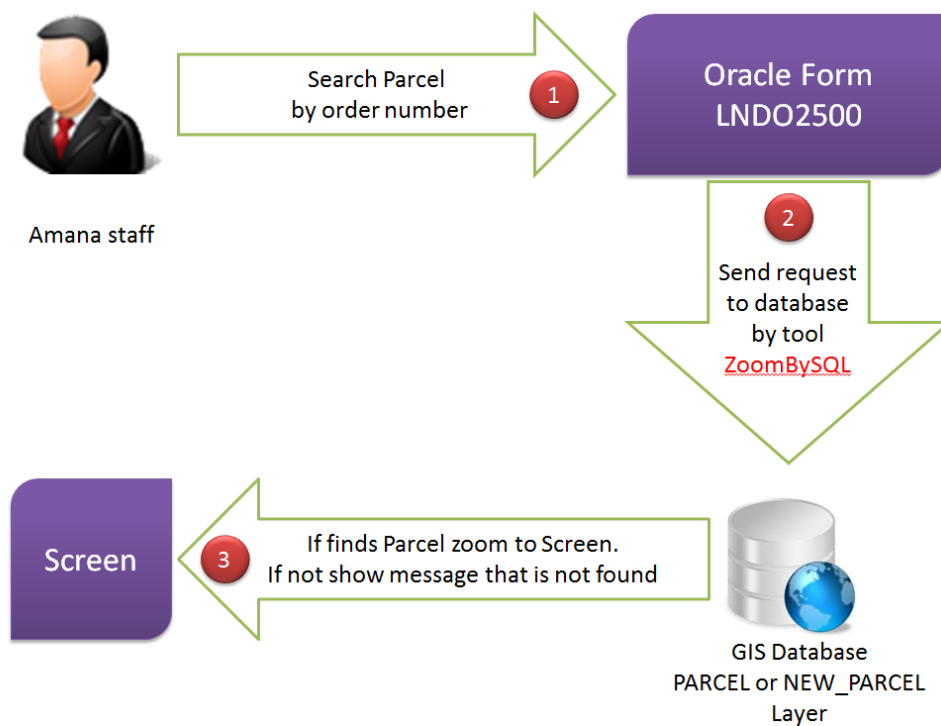
- Land and property management.
- Some departments of the Construction Agency.

Job list

- Approval of registered applications from offices.

Workflow

- Inquiry about donated pieces.



User rating

The "requests" application is used by users on a daily basis, but it needs to provide advanced search tools for geographical data on plots of land and alleviate technical problems and their limitations.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Establishing licenses

Overview

The "Construction Permits" application is used through several screens that allow the user to search for geographical elements such as plots of land, licenses, and others. The application also enables uploading and downloading of data of agricultural decisions and licenses, and to verify and print geographical locations and their metadata.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Creation Licenses application runs on Windows 1 and Windows XP.

Linkage with other systems

The Generation Licenses application is linked to the Oracle Spatial database.

Departments and users

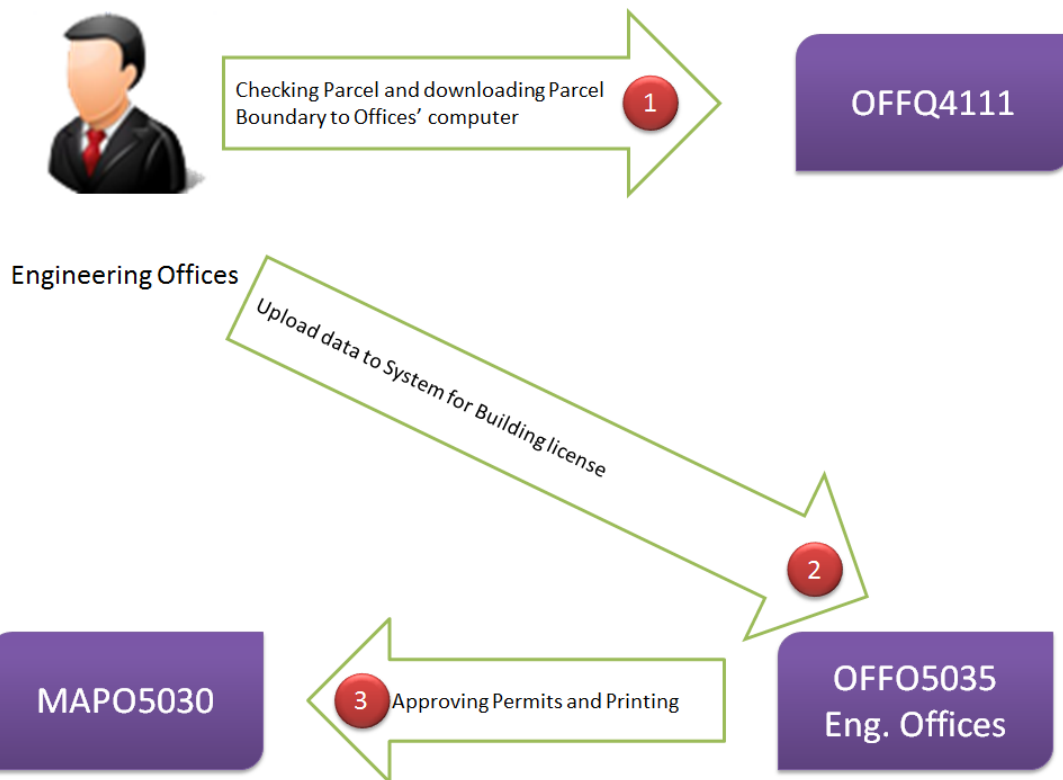
- Some departments that fall under the General Administration of Urban Planning.
- General Department of Environmental Health.
- The General Department of Market Affairs.

Job list

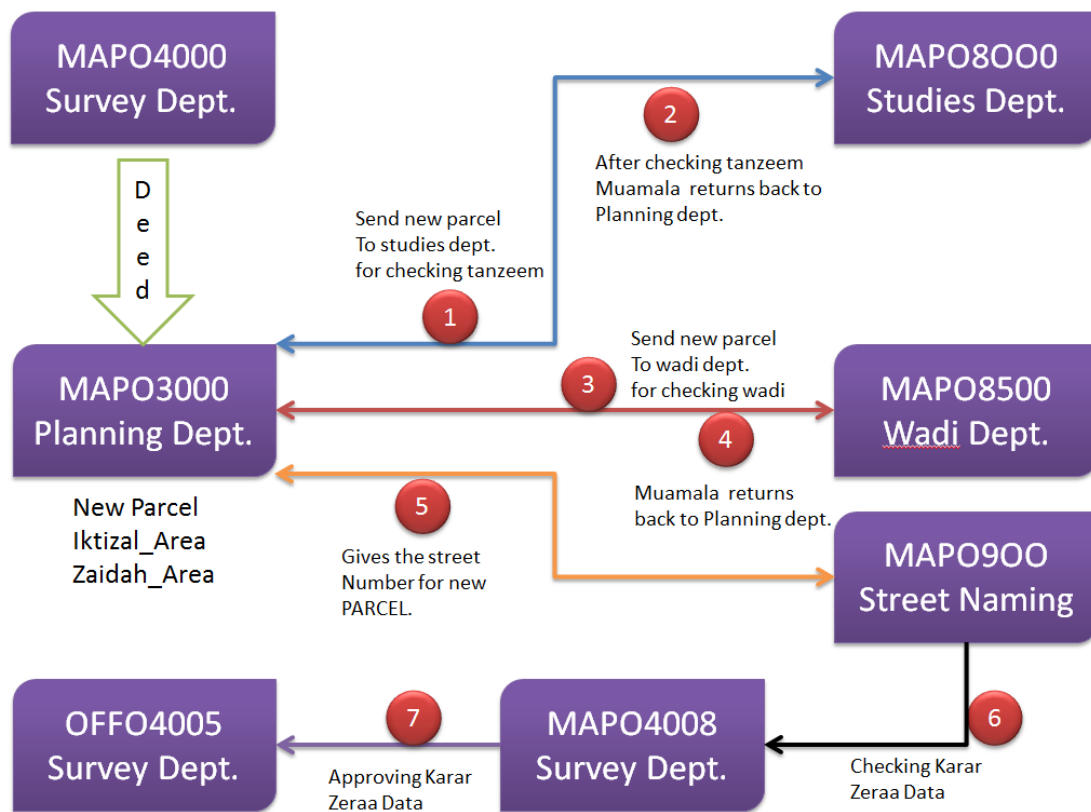
- Reviews download Sketchbook public website provided by the
- office. Preparing decisions for the requests (after regulation).
- Prepare and print location data (for random).
- Download the boundaries and coordinates of the
- land for the request. Download (sketch) the public site.
- Query and display of plot data. View and
- inquire about plot data.

Workflow

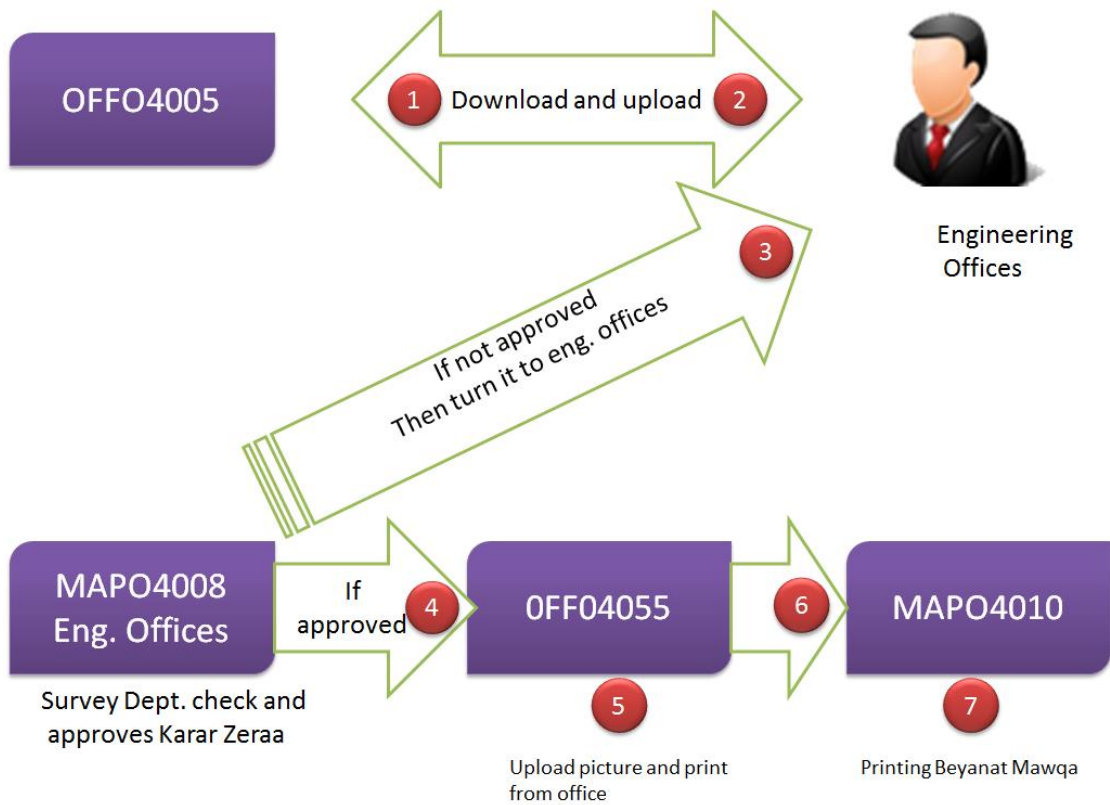
- Reviews download Sketchbook public website provided by the office.



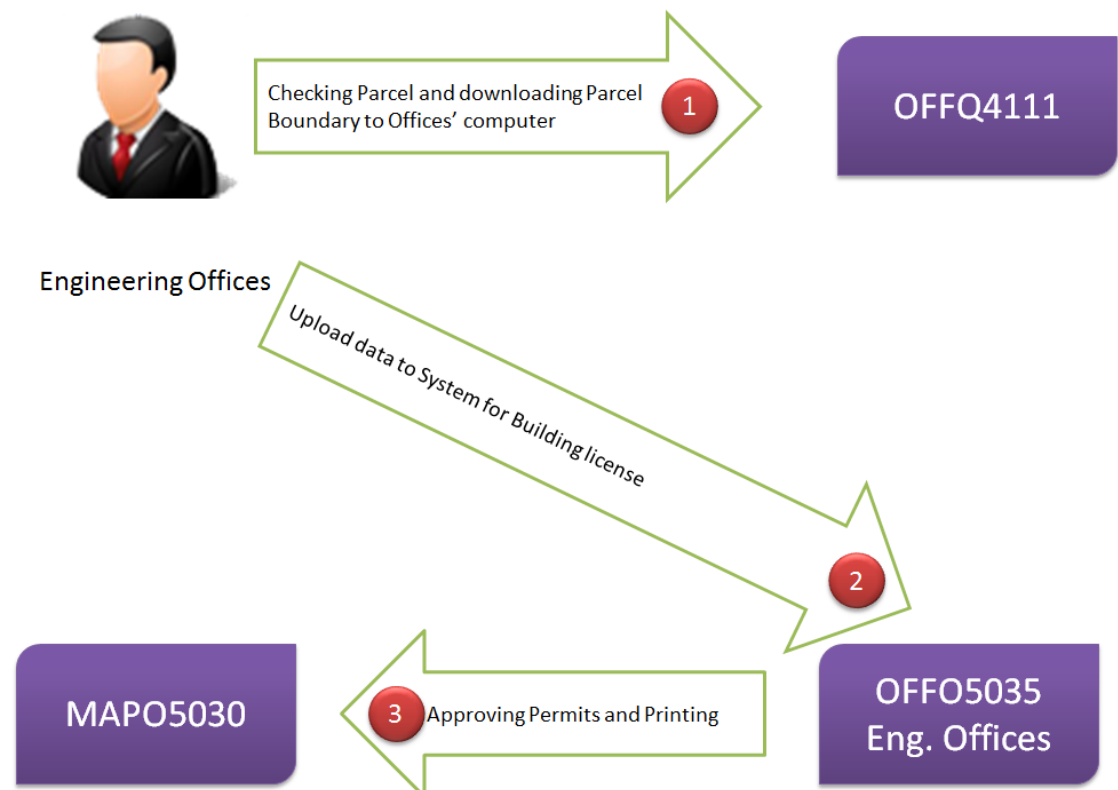
- Preparing decisions for the requests (after regulation).



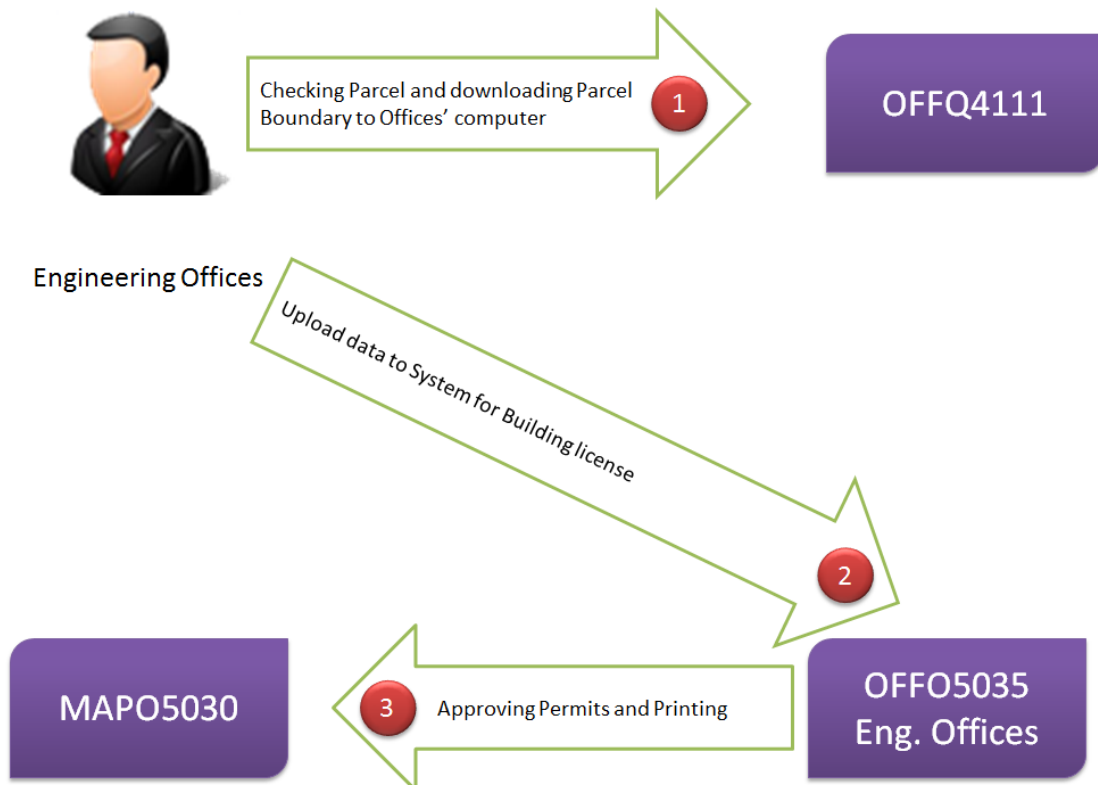
- Prepare and print location data (for random):



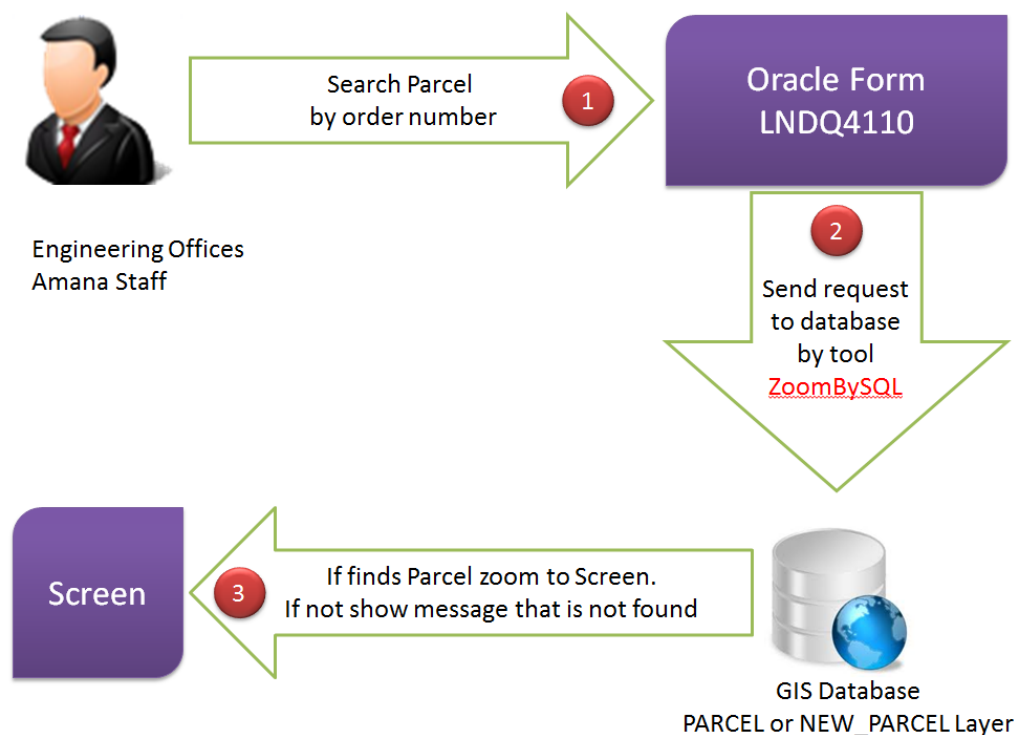
- Download the boundaries and coordinates of lands for the request:



- Download (sketch) the general site:



- Display and inquire about plot data.



User rating

Work is carried out daily on the various screens available to create licenses, but these screens need evaluation and technical and technical support to facilitate the follow-up and issuance of licenses, searches, transfers between screens, printing, and others.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Building violations

Overview

The "Building Violations" application is used to add or search for buildings in violation of the order number. The system searches for the building in the Oracle geographical database, and displays its geographical location and its metadata through the used screen.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Building Violations application runs on Windows 1 and Windows XP.

Linkage with other systems

The Building Violations application was linked to the Oracle Spatial.

Departments and users

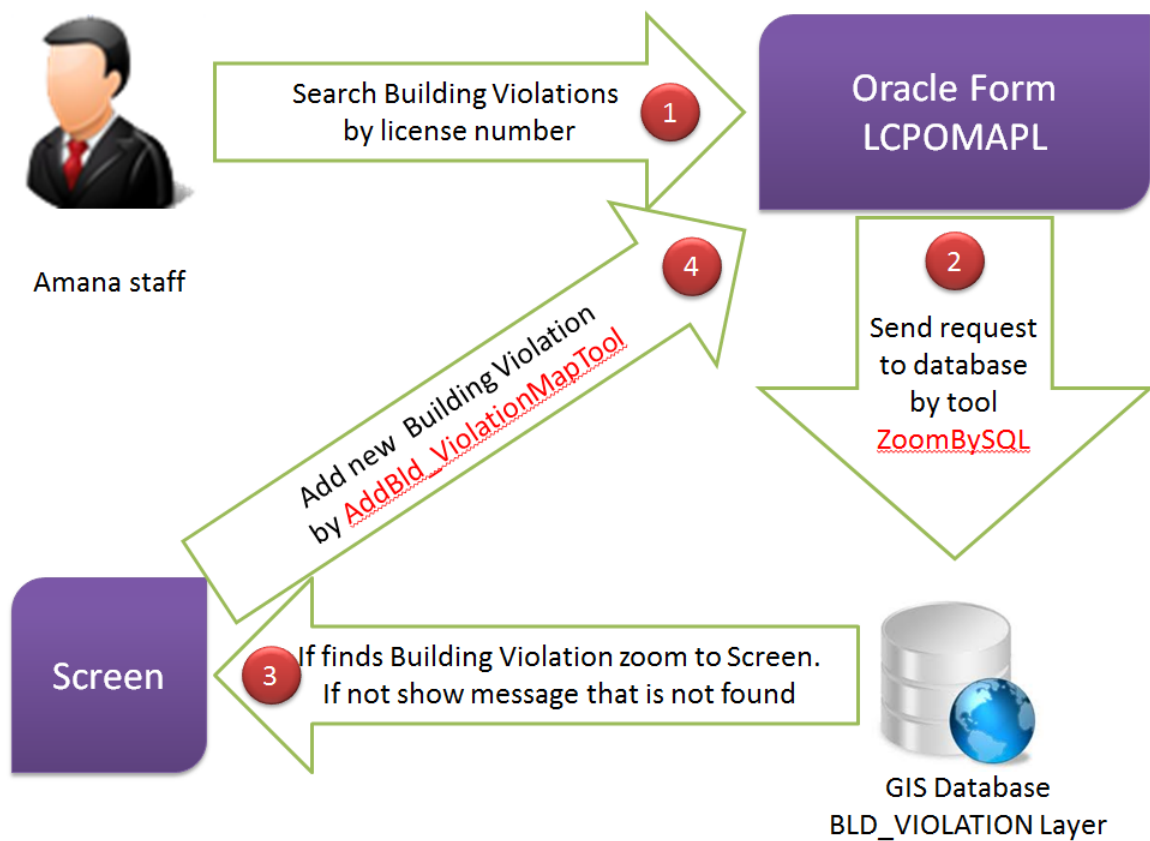
- Managing ramshackle buildings.

Job list

- Determine the location of the offending building.

Workflow

- Determine the location of the offending building:



User rating

The "Building Violations" application is used daily, but it needs to provide advanced search tools for the geographical data of the building layer, alleviate technical problems, add other tools that depend on daily work procedures, update the geographical and descriptive data for building layers, and others.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Naming and numbering

Overview

The "naming and numbering" application provides the ability to search for a specific street by entering the street number, and display the geographical and descriptive data of the site. The application also enables the ability to add or update the geographical and metadata of street layers on the Oracle geographical database.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The "naming and numbering" application runs on Windows 1 and Windows XP.

Linkage with other systems

The "naming and numbering" application is linked with the Oracle Spatial database.

Departments and users

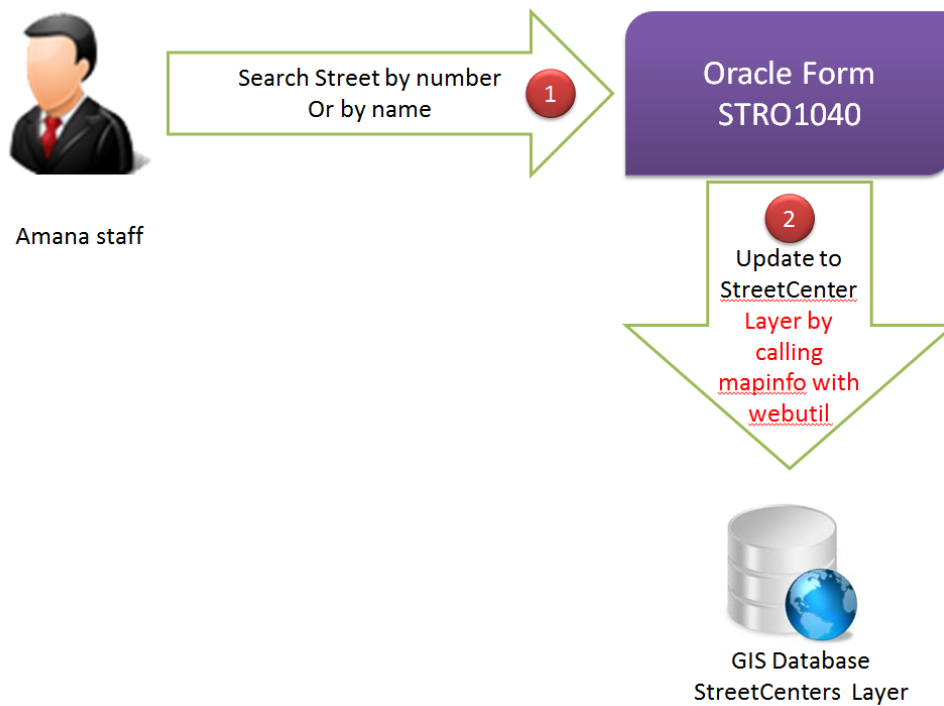
- Naming and Numbering Department.

Job list

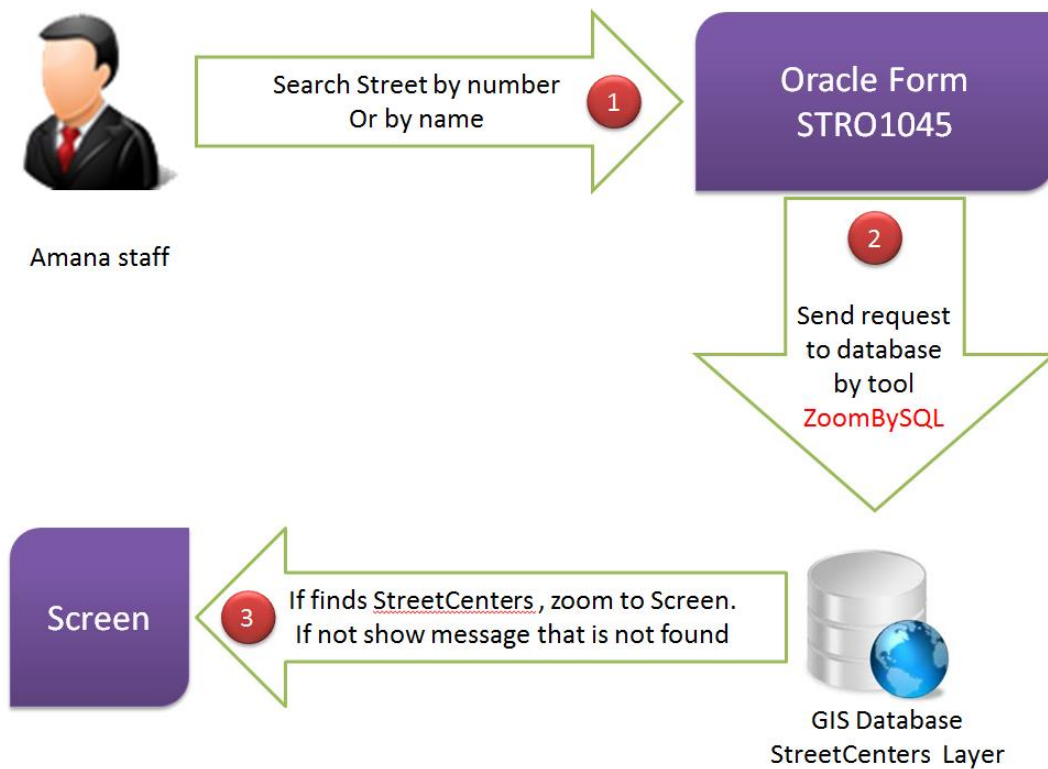
- Street data recording.
- Geographical location and aerial photography.

Workflow

- Street Data Recording:



- Geographical location and aerial photography:



User rating

The application of "naming and numbering" is used daily, but it needs to provide advanced search tools for the geographical data of the street layer, alleviate the technical problems related to the system from slow and other things, update the geographical and descriptive data of the building layers, prepare the street layer so that it can be used in navigation networks and others.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the user's absorption	1

the number	Status	Yes = 1 No = 1
. 7	Web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Store licenses system

Overview

The "Store Licensing System" application provides the ability to search for a specific store by entering the order number, and displaying the geographical and descriptive data for the location of the store. The application also provides the ability to add a store license on the Oracle geographical database.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The Store Licensing System application runs on Windows 1 and Windows XP.

Linkage with other systems

The Store Licensing System application was linked to the Oracle Spatial database.

Departments and users

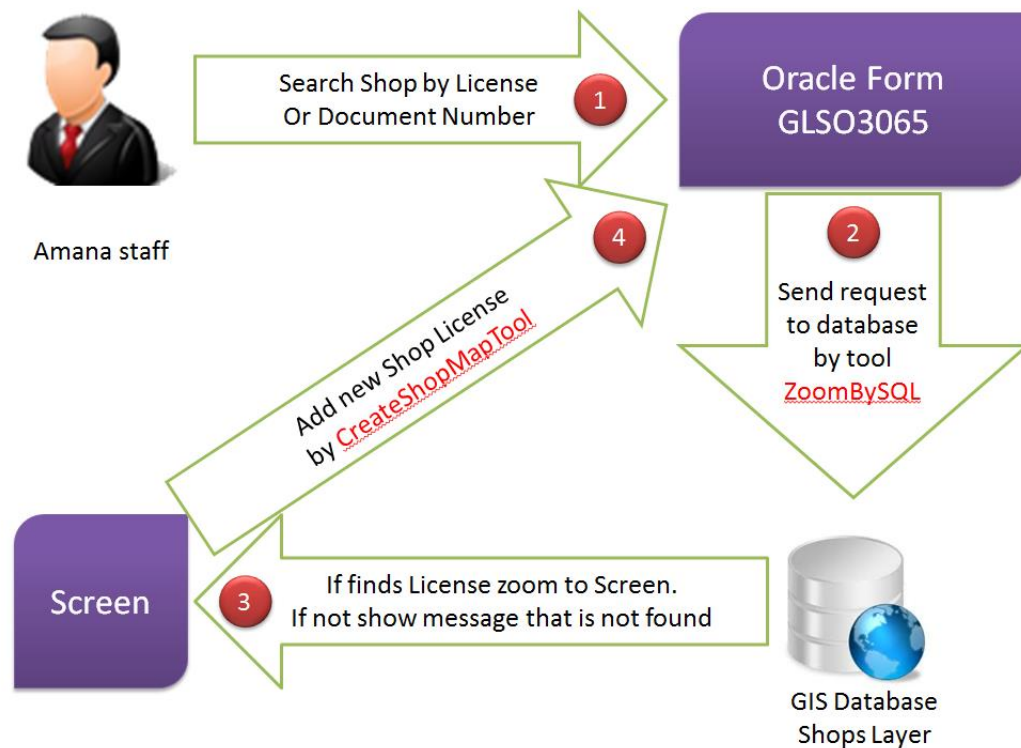
- General Department of Environmental Health.
- The General Department of Market Affairs.

Job list

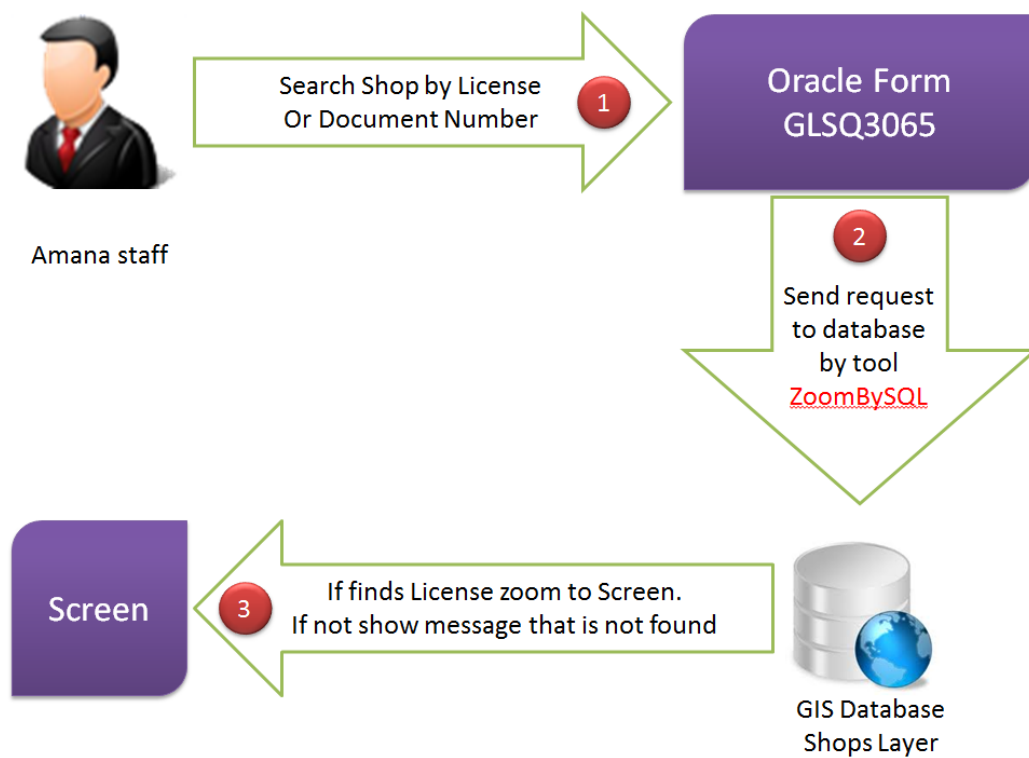
- Determine the geographical location of the location of the license.
- Inquire about the license site.

Workflow

- Determine the geographical location of the license location:



- Inquire about the license site:



User rating

The "Store Licensing System" application is used daily, but it needs to provide advanced search tools for geographical data on store licenses and their locations, solve some of the technical problems related to the system, update the geographical and descriptive data for store layers and their locations, and update the data through field surveys.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the user's absorption	1

the number	Status	Yes = 1
		No = 1
. 7	Web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

System of valleys and torrents

Overview

Work is currently underway at the General Administration of Valleys and Floods to implement the "Valley and Floods System" through several screens that help the user search for a specific valley by entering the valley number and updating its data. The application also helps in adding licenses, permits and violations of valleys or searching for them in the geographical database.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The "Valleys and Torrents System" application runs on Windows 1 and Windows XP.

Linkage with other systems

The "Valley and Stream System" application was linked to the Oracle Spatial database.

Departments and users

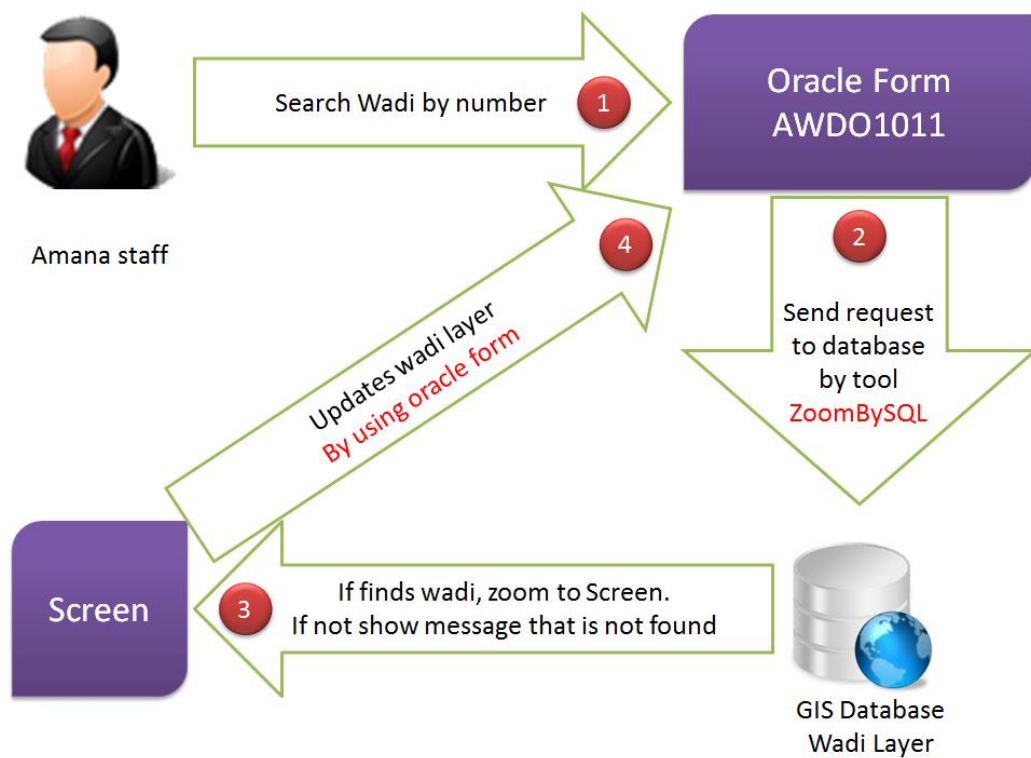
- General Administration of Valleys and Floods.

Job list

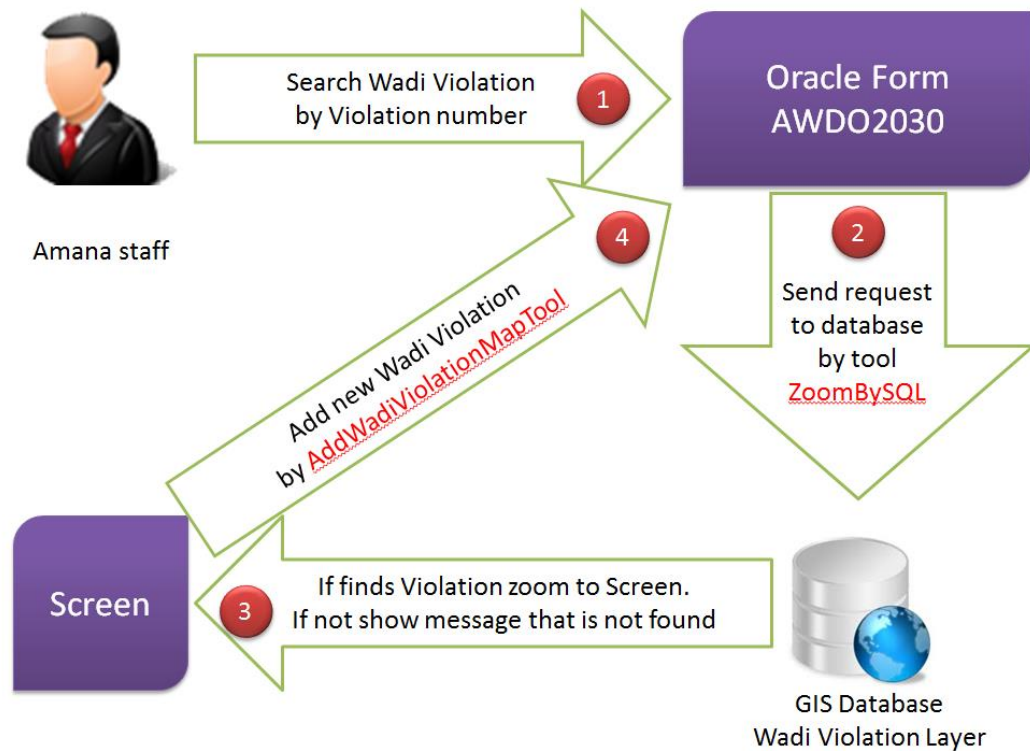
- Locate the valley on the map.
- Violation data.
- Data of permits and licenses with specifying the location.

Workflow

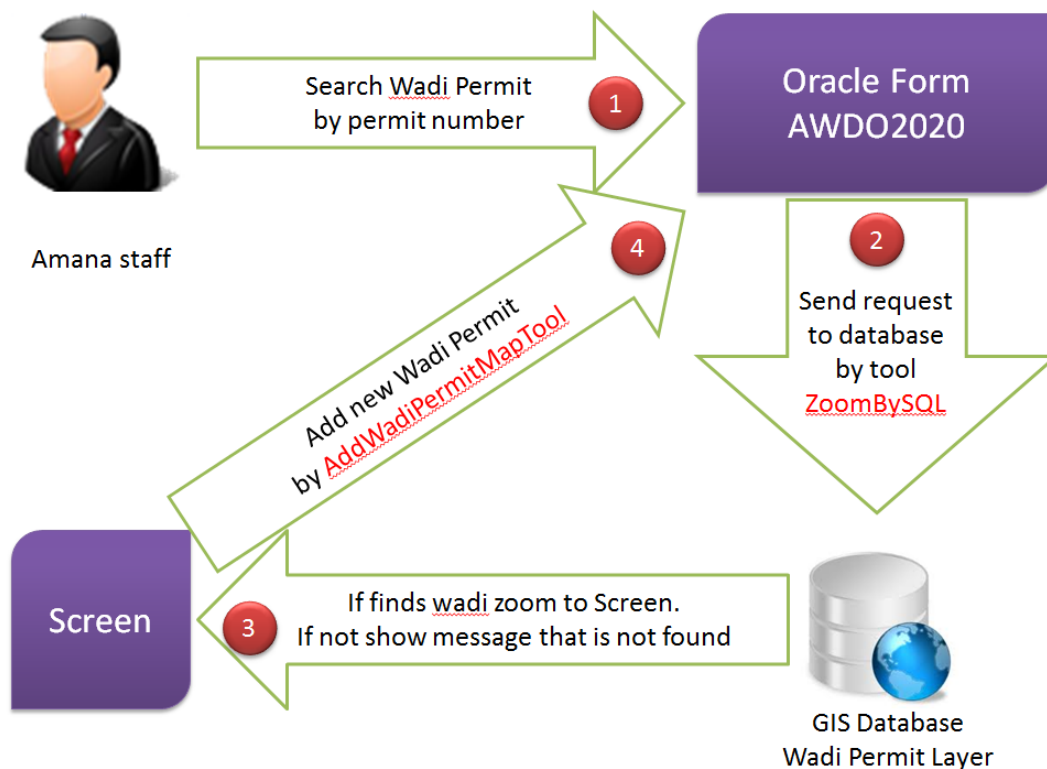
- Locate the valley on the map.



- Violations data:



- Data of permits and licenses with specifying the location:



User rating

The implementation of the "Valleys and Floods System" helps in facilitating the daily work related to licenses and violations, but quick and easy-to-use tools and interfaces must be provided. Technical and technical jobs must also be studied and provided to help facilitate all works related to geographical locations from valleys, Seoul and Jerryan, such as adding 3D analyzes, measurements and other needs that are lacking in the screens currently used.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Processing system

Overview

The implementation of the "processing system" helps in obtaining information about the deceased and determining the locations of the graves, by properly searching for the data in the Oracle geographical database. Where the search for the grave is done by entering the square number, the grave number or the hospital number.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The "Preparation System" application runs on Windows 1 and Windows XP.

Linkage with other systems

The Staging System application was linked with the Oracle Spatial database.

Departments and users

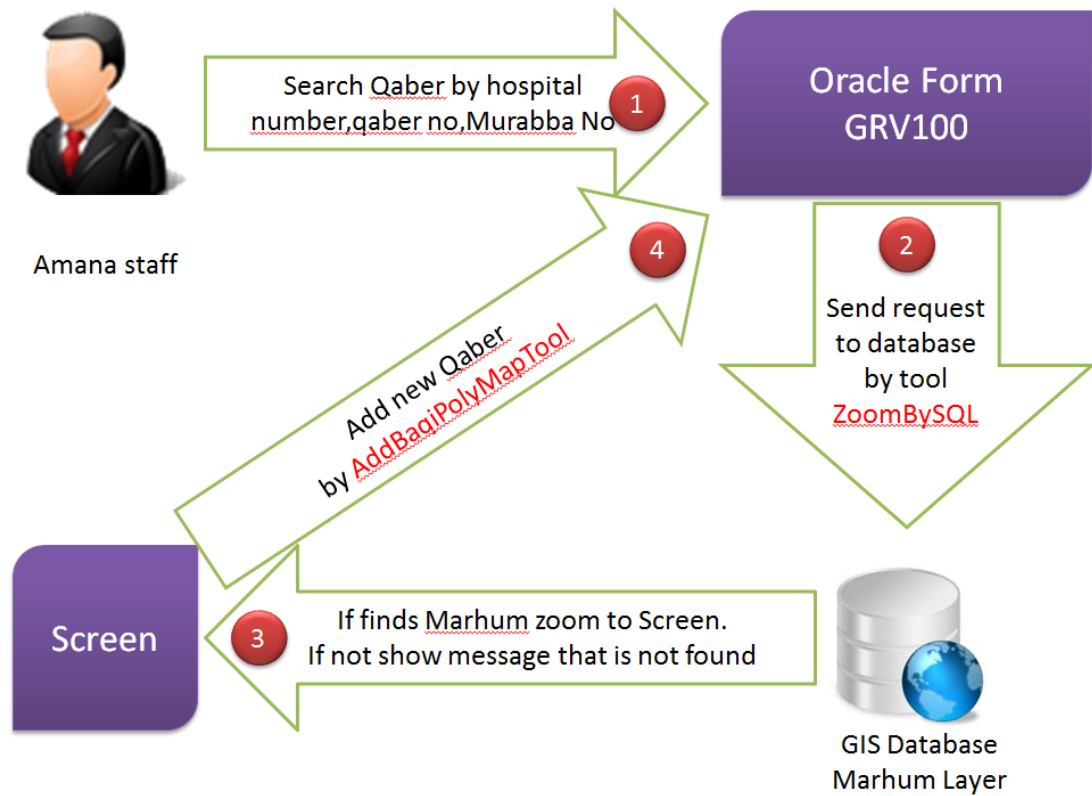
- General Administration of Safety and Social Services.

Job list

- Data of the deceased and determining the location of the Al-Baqi cemetery.

Workflow

- Details of the deceased and the location of the Al-Baqi cemetery:



User rating

Currently, the "processing system" application is used on a daily basis, but there is a lack of technical functions that help facilitate the work of users. In addition, most geographical and descriptive data need to be updated.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

The system of stale homes and abandoned homes

Overview

The application of the "Stall and Abandoned Houses" system helps in searching for abandoned or collapsing buildings by entering the application number in the Oracle geographical database. The user can also add other requests for the damaged buildings through the system.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The "Stunt Role System and Abandoned Role System" application runs on Windows 1 and Windows XP.

Linkage with other systems

The implementation of the "Stealth Role and Abandoned Role System" was linked to the Oracle Spatial database.

Departments and users

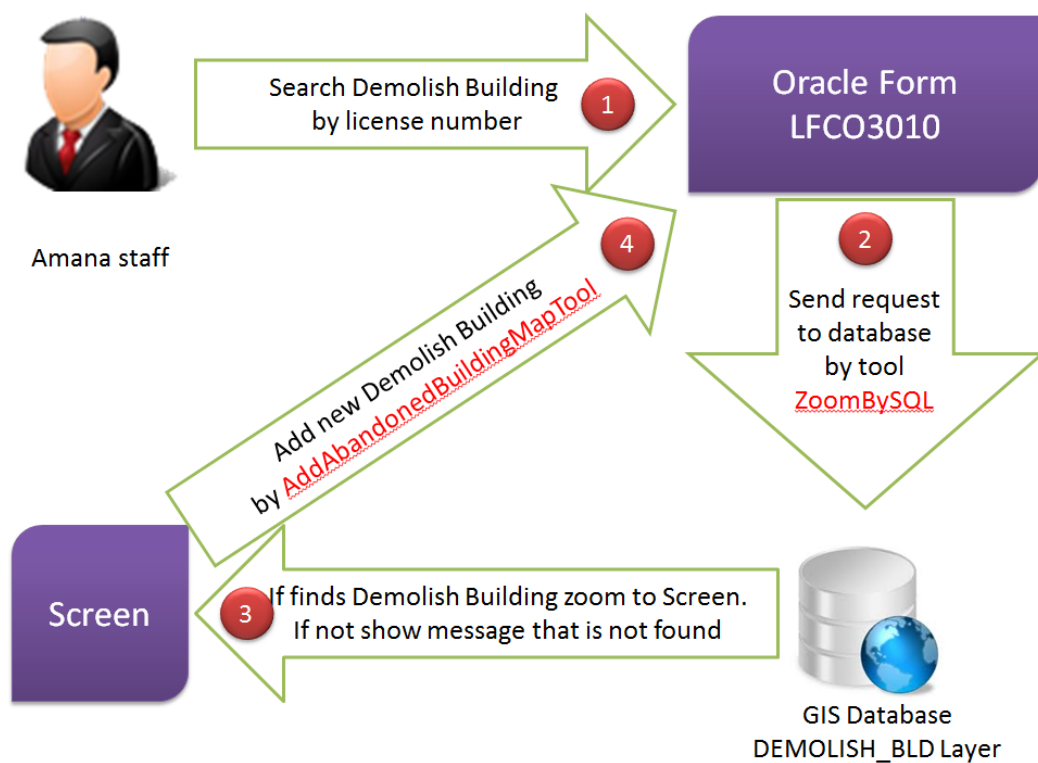
- Managing ramshackle buildings.

Job list

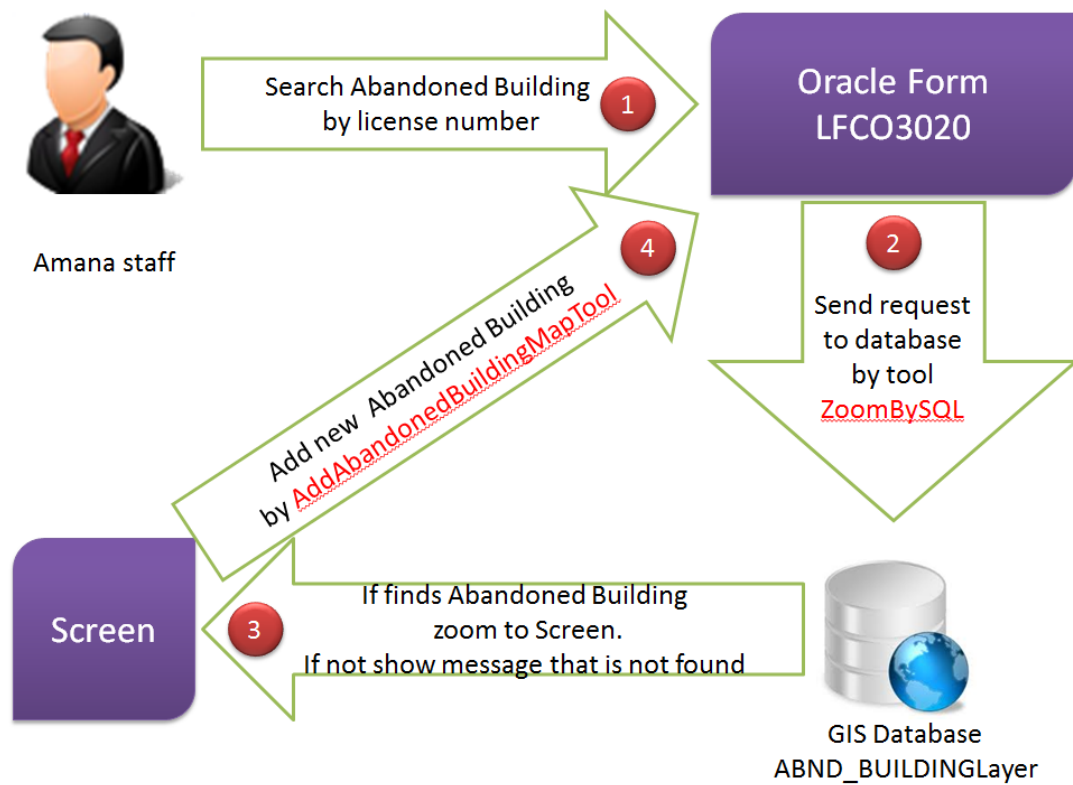
- The ramshackle role.
- Abandoned role.

Workflow

- The ramshackle role:



- Abandoned role:



User rating

Currently, applications are used very poorly. This is due to the lack of necessary tools and functions in the used screens. As the administration needs tools to help facilitate the daily work related to the sites of abandoned or collapsing buildings.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1

the number	Status	Yes = 1 No = 1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

System of encroachments

Overview

The application of the "infringement system" enables the possibility of adding violations (violations) related to lands in the form of a closed space, or searching for a specific violation by entering the application number stored in the Oracle geographical database.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The "Extensions System" application runs on Windows 1 and Windows XP.

Linkage with other systems

The "Encroachment System" application was linked to the Oracle Spatial database.

Departments and users

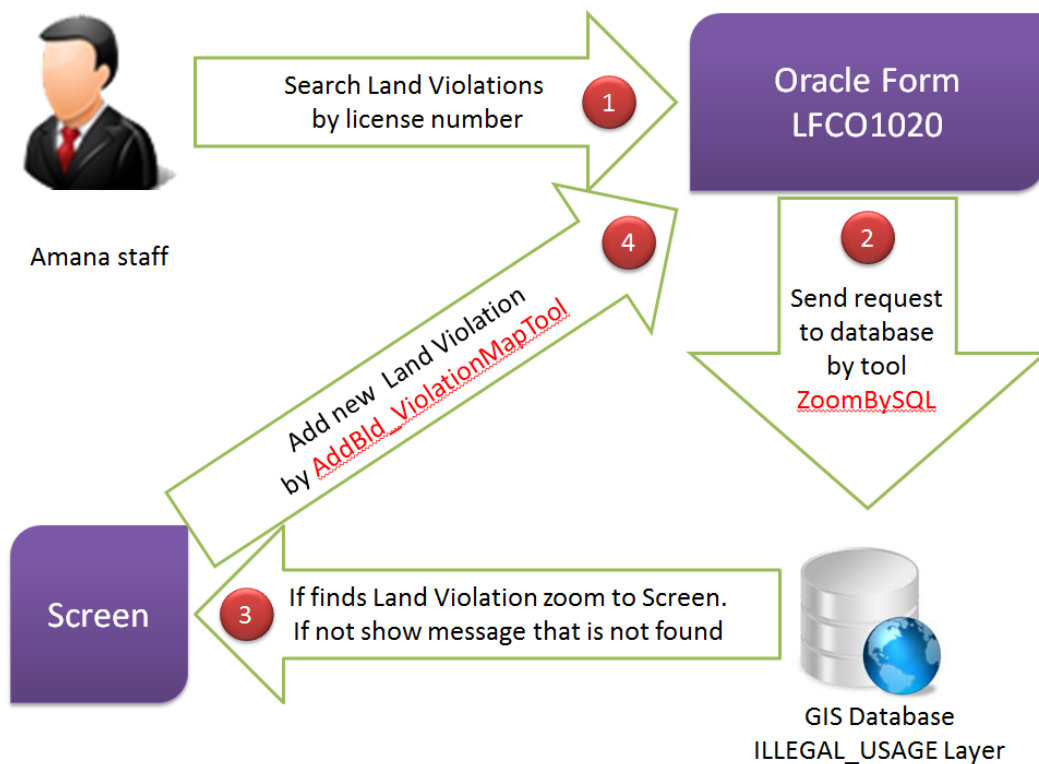
- Some departments that fall under the General Administration of Urban Planning.

Job list

- Proof of status.

Workflow

- Case Proof:



User rating

The application is used almost daily, but other tools and functions such as search, inquiry, speed of performance and others must be provided that help facilitate daily work, such as adding the violating area of the site in which the violation was detected.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Pilgrims housing system

Overview

The application of the "Pilgrims Housing System" allows adding or modifying data on pilgrims' areas.

The Platform ...

The platform used in the application is a web application using (Java Platform).

The Programs used

- .Oracle Developer
- .MapInfo

OS

The "Pilgrims Housing System" application runs on Windows 1 and Windows XP.

Linkage with other systems

The "Pilgrims Housing System" application was linked to the Oracle Spatial database.

Departments and users

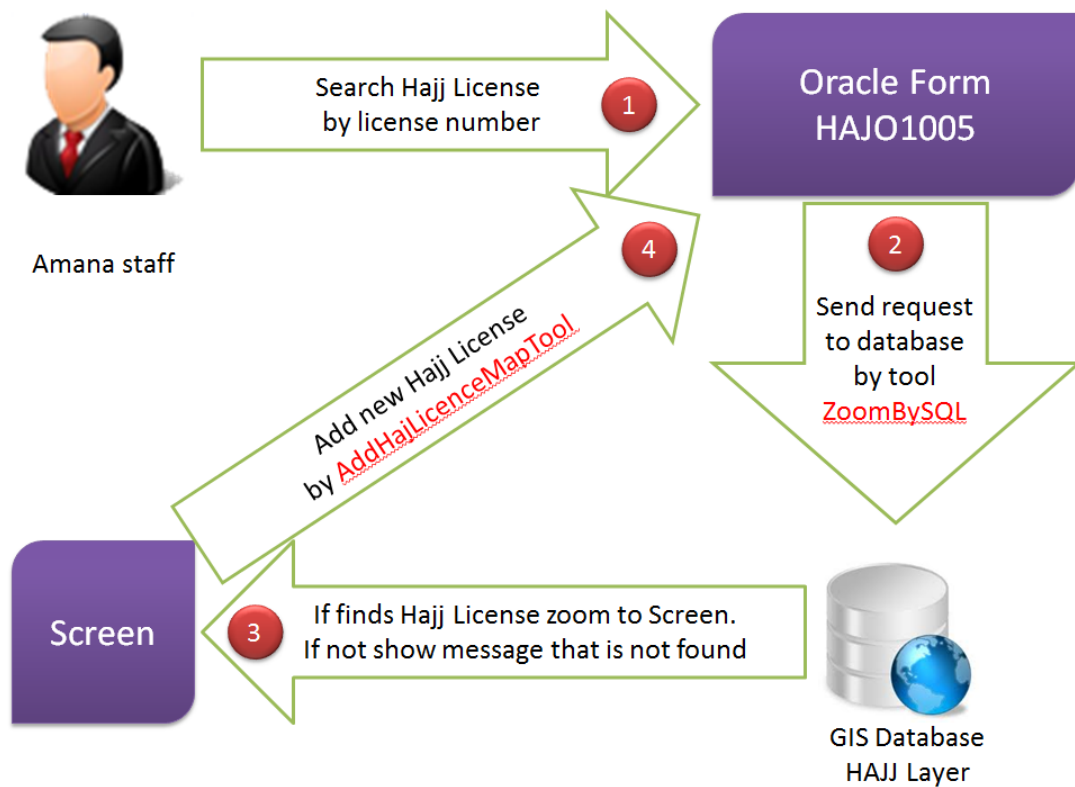
- Some departments that fall under the General Administration of Urban Planning.
- General Department of Environmental Health.

Job list

- Krooki (search and add location).

Workflow

- Croque:



User rating

Other tools and functions should be provided, such as advanced search, inquiry, speed of performance, and others that help in facilitating the work.

Evaluation consultant for the application

the number	Status	Yes = 1 No = 1
. 1	easy to use	1
. 2	Performance and speed	1
. 3	Can be upgraded	1
. 4	Availability programming source	1
. 5	code availability documentation	1
. 6	The possibility of increasing the users'	1
. 7	understanding of the web application	1
. 8	Smart device application	1
. 9	Desktop application	1
. 10	Modification support for multiple users	1
. 11	Supports trouble-free access to central	1
. 12	database application	1
. 13	The app is well supported	1
. 14	The application is under regular maintenance	1

Desktop applications

Applications of geographic information systems to support the work of the Secretariat or to external p

Overview

There is a set of electronic applications that have been developed to work in an integrated manner with geographic information systems, as it aims to give the user more flexibility in performing the work, as well as ensuring that the data or modifications made to the layers of the geographical database are properly configured and compatible with the nature of the requirements of the applications operating in the secretariat And these applications are distributed among the various departments within the Secretariat.

The Platform ...

The platform used in the app is a desktop application using MapInfo

OS

Applications run on Windows 1 and Windows XP.

Linkage with other systems

The applications are linked with the Oracle Spatial database and the MapInfo program

Departments and users

- Managing the studies unit and the general plan.
- Planning Department.
- General Administration of Valleys and Floods.
- Some consulting, engineering and surveying offices that deal with Medina Municipality.

Other applications

This paragraph includes an explanation of some of the systems that have been developed for the benefit of the Municipality of Medina on the web environment, as they have not been finally completed by the consultant in charge of developing and implementing them.

Coordination system and excavation licenses

Overview

The system serves all service entities in the Madinah region and contractors to implement construction works on roads, and its main goal is to regulate the process of obtaining licenses for drilling in roads and streets, through the Medina Municipality website on the Internet www.amana-md.gov.sa. The system was built in a way that ensures flexibility, speed and accuracy in the entered data. The number of users of the system from entities and contractors reached 2,111 users.

The Platform ...

The platform used in the application is a web application.

The Programs used

- .ASP.Net
- . Silverlight
- .MapXtream

OS

Applications run on Windows 1 and Windows XP.

Linkage with other systems

The applications are linked with an Oracle Spatial database.

Departments and users

- Medina Municipality.
- Madinah Development
- Authority. Road administrations.
- Water company.
- National Guard Signal Corps. Civil
- Defense.
- the traffic.
- Saudi Electricity Company.
- Saudi Telecom Company.
- Mobily company.
- Zain company.
- Atheeb Company.
- The Public Desalination Corporation.

Navigator cartographic system

Overview

The system aims to review the most important layers that pertain to the users of geographic parameter systems in various departments on the web environment.

The Platform ...

The platform used in the application is a web application.

The Programs used

- .MI Developer
- .Open Layers
- .JSP

OS

Applications run on Windows 1 and Windows XP.

Linkage with other systems

The applications are linked with an Oracle Spatial database.

Departments and users

- Medina Municipality.
- Municipalities of the Municipality of Medina.
- Some other government agencies.

Investment system

Overview

The investment system is a website through which investment sites are reviewed and displayed on the map of Madinah according to the geographical database of the Municipality. The website also provides the ability to review and sort sites according to the municipality, region and type of activity.

The Platform ...

The platform used in the application is a web application.

The Programs used

- .ASP.Net
- . Silverlight
- .MapXtream

OS

Applications run on Windows 1 and Windows XP.

Linkage with other systems

The applications are linked with an Oracle Spatial database.

Departments and users

- Medina Municipality (General Administration for the Development of Municipal Investments).
- Municipalities of the Municipality of Medina.

Regional scheme system

Overview

The regional plan system relies on geographic information systems to display maps related to the locations of the units on which the system relies in issuing reports for these units and places, to support decision-making, and how to link these villages that contain these units to each other, and the possibility of automatic localization of the units through knowing the terrain surrounding an environment These units.

The Platform ...

The platform used in the application is a web application.

The Programs used

- .ASP.Net
- . Silverlight
- .MapXtream

OS

Applications run on Windows 1 and Windows XP.

Linkage with other systems

The applications are linked with an Oracle Spatial database.

Departments and users

- Medina Municipality (General Administration of Urban Planning).
- Centers and governorates of the Municipality of Medina.

Summary of evaluation

Number Ash Special touched Kh blood J T. I Vectors for K To manage

the number	App name														
. 1	Cheap restoration	5	-	-	-	-	-	-	-	-	-	2	-	-	7
. 2	Planning	5	2	8	-	-	-	-	-	-	-	-	-	-	77
. 3	Space	2	-	-	-	-	-	-	-	-	-	-	-	-	2
. 4	Ownership check	11	11	11	11	11	11	11	11	11	11	11	-	-	77
. 5	Grants	11	11	11	11	11	11	11	11	11	11	11	-	-	77
. 6	Requests	11	-	-	-	-	-	-	-	-	-	11	-	-	17
. 7	Establishing licenses	11	-	-	-	-	-	2	1	-	-	-	-	-	77
. 8	Building violations	-	-	-	-	-	-	-	-	-	-	2	-	-	2
. 9	Naming and numbering	-	2	-	-	-	-	-	-	-	-	-	-	-	2
. 10	Store licenses system	-	-	-	-	-	-	2	1	-	-	-	-	-	1
. 11	System of valleys and torrents	-	-	8	-	-	-	-	-	-	-	-	-	-	6
. 12	Processing system	-	-	-	-	-	-	-	-	2	-	-	-	-	2
. 13	System of stolen and abandoned	-	-	-	-	-	-	-	-	-	-	2	-	-	2
. 14	System of encroachments	12	-	-	-	-	-	-	-	-	-	-	-	-	72
. 15	Pilgrims housing system	2	-	-	-	-	-	2	-	-	-	-	-	-	4
. 16	Desktop applications	2	-	2	2	-	-	-	-	-	-	-	-	-	6
. 17	Other applications	5	-	-	-	-	-	-	-	-	2	-	-	3111	1177

Table 1: The number of people using the applications

Summary of consultant evaluation of all applications

. 1	Cheap restoration	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 2	Planning	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 3	Space	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 4	Ownership check	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 5	Grants	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 6	Requests	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 7	Establishing licenses	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 8	Building violations	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 9	Naming and numbering	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 10	Licensing system Stores	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
. 11	Valley system And torrents	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
. 12	Processing system	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 13	Role system The Stag And abandoned	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
. 14	System of encroachments	1	1	1	1	1	1	1	1	1	1	1	1	1	1	<u>1</u>
. 15	Housing system Pilgrims	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

. 16	Applications Surface the desk	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
. 17	Applications Other	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Table 2: Summary of the consultant evaluation for all applications

Consultant evaluation

During our visit to all departments of the Municipality of Madinah, the applications based on the use of geographic information systems that are used on a daily basis by the departments were identified and reviewed. A description of all the applications available to the departments was obtained.

The meeting was held with the users of the applications to identify the main problems related to the tasks assigned to it through the applications in order to identify the functional needs and requirements that help in facilitating the daily work of inquiries, easy access to information, search methods, issuance of reports, system problems, etc. List all common problems between departments as follows:

- Slow performance
- Difficulty using
- Inability to use applications or link them with phones or smart devices
- Failure to support the ability to make adjustments to multiple users at the same time and with the required
- speed. There are some technical and technical problems related to applications such as closing the screen
- suddenly. The lack of basic tools for most applications such as printing, positioning, etc.

We have analyzed and evaluated all applications based on the use of geographic information systems, as we have identified an urgent need to develop the current systems from the MapInfo environment to the ESRI environment from its foundations, in order to avoid the current existing problems and to provide all the requirements and needs of users that can be supported and provided by ESRI products, which in turn help Directly by facilitating all technical and technical obstacles, such as securing jobs from searching, locating sites, linking with devices and smart phones, the ability to unify a common geographical database for all departments of the Secretariat by developing a geographical data repository that includes all spatial and descriptive data and meets all the needs of technical and technical applications To promote high performance and flexibility in dealing with the systems, special protection and registration systems must be available for all geographical segments and other tools and functions that are not technically or technically restricted.

Appendices

Appendix No. 7: List of numbers and functions of the screens

Requests	LND02500	Approval of registered applications from offices		
Planning	MAPO3000	Random applications for licenses referred from the area (licenses)		
	0 MAPO301	Requests for approval referred from ownership		
	0 MAPO800	examination Transactions of the systems unit referred from planning (licenses)		
	0 MAPO801	Transactions of the systems unit referred from planning		
	0 MAPO850	(consolidation) transactions of valleys and torrents transferred from		
	0 MAPO851	planning (licenses) valleys and torrents transactions referred from		
	0 MAPO900	planning (persistence) naming and numbering transactions transferred from planning (licenses)		
	2 LND0301	Special construction instructions for the scheme		
	2 OFFQ301	Inquire about building instructions related to the surveying		
Space	0 MAPO400	plan for construction permit applications (before planning)		
	5 MAPO400	Determine surveyors for applications that have been organized		
	0 MAPO401	Surveying applications for construction licenses (after organizing)		
	ew) ISO2021 (n G	Loading the areal lift before organizing.		
	ew) ISO4005 (n G	Determining the surveyors of the applications that have been organized		
Grants	0 LNDQ607	Inquire about donated lots		
Ownership check	0 MAPO700	Review of the surveying station provided by the office, data		
	1 MAPO702	of people on the ground (aerial photography), review of uploading		
Establishing licenses	0 MAPO503	the general website sketches provided by the office		
Establishing licenses	5 OFFO400	Preparing resolution decisions for requests (after		
	5 OFFO405	organizing) Preparing and printing site data (for random)		
	1 OFFQ411	Download the boundaries and coordinates of the land for the request		
	5 OFFO503	Download (sketch) General site Inquiry		
	0 OFFQ411	and display of plot data		
	0 LNDQ411	Display and inquire about plot data		
Cheap restoration	LMNO2010	Requests for restoration licenses		
	GIST2010	Requests for restoration licenses		
Building violations	LCPOMAPL	Determine the location of the violating building		
Naming and numbering	STRO1040	Street data recording		
	5 STRO104	Geographical location and aerial photography		
Ownership check	ew) ISO7021 (n G	Personal data on nature (aerial photography)		
Store licenses system	GLSO3065	Determine the geographical location of the location of the license		
	GLSQ3065	Inquiries about the license site		
System friendly and torrents	AWDO1011	Locating the valley on the map		
	30 AWDO20	Violations data (new)		
	AWDO2020	Data of permits and licenses with specifying the location		
Processing system	GRVO100	Data of the deceased and determining the location of the Al-Baqi cemetery		
The primary role system And abandoned houses	0 LFCO301	Falling role		
	0 LFCO302	Abandoned role		
Infringement system	LFCO1020	Proof of status		
Pilgrims housing system	5 HAJO100	Croque		