

APPENDIX F: SYSTEM DESCRIPTION DOCUMENT

MOBILE APPLICATION FOR GEOLOCATION OF IMAGERY AND COLLABORATION MAGIC



Prepared for:
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System Component Context Overview

MAGIC System

This part of the document provides a detailed list of the inputs, triggers and outputs of the main component of the Core file, which is the MAGIC system. This main component is allocated to the main function of the system which is to provide the user with geolocation services.

Allocated Functions:

- F.0 Provide Geolocation Services

Inputs from External Source(s):

- App Store
- Image(s) Selected
- User's Google ID or 3rd Party ID
- User's Input to Add an Image
- User's Input to Open App
- User's Input to Set Up CC
- User's Input to Share Image/Data
- User's Inputs for Browsing Files Selection
- User's Inputs to Perform Maintenance & Servicing
- User's Personal Information
- User Selection to Preview Previous Image
- User Selections

Triggers from External Source(s):

- Agency Request to Set Up CC
- MAGIC Mobile App
 - Source of Trigger(s):
 - F.1.1 Enable Application Download
- Systems Feedback to Perform Sustainment Capabilities
- User's Request to Preview Previous Picture
- User's Request to View Files by Specific Criteria
- User's Request within Viewing Selected Image
- User's Requests
- User Request to Share Image/Data

Outputs To External Destination(s):

- Application Closed
- Basic Capabilities Enabled
- CC Established
- Comment added to Image/POI
- Downloaded Image &/or POI Saved on Local Memory
- Enlarged Selected Picture
- Full Capabilities Enabled
- Home Screen
- Identified POI with Images and Metadata
- Image/Data/POI Added to Magic Public Server
- Link Sent to FB/Twitter
- Links Shared with FB and/or Twitter

MAGIC's Website Interface
 MAGIC Homescreen
 On/Off Settings
 POI & Data Selected to Download
 Previous Image

Destination of Output(s):

F.2.4.3 Select to Add Image for Registration

Sharing Notification to User
 Successful Maintenance & Service
 View of Google Map Interface
 View of Image Thumbnails

Destination of Output(s):

F.2.2.2 Choose to View by Folder

F.2.2.3 Choose to View by Location

F.2.2.4 Choose to View by File Type

F.2.2.5 Choose to View by Shared Files

F.2.2.6 Select an Image from Browser to View Image&Data

View of Previous/Next Image

View of Sharing Interface

The following diagram provides a hierarchy decomposition of MAGIC System Component Context.

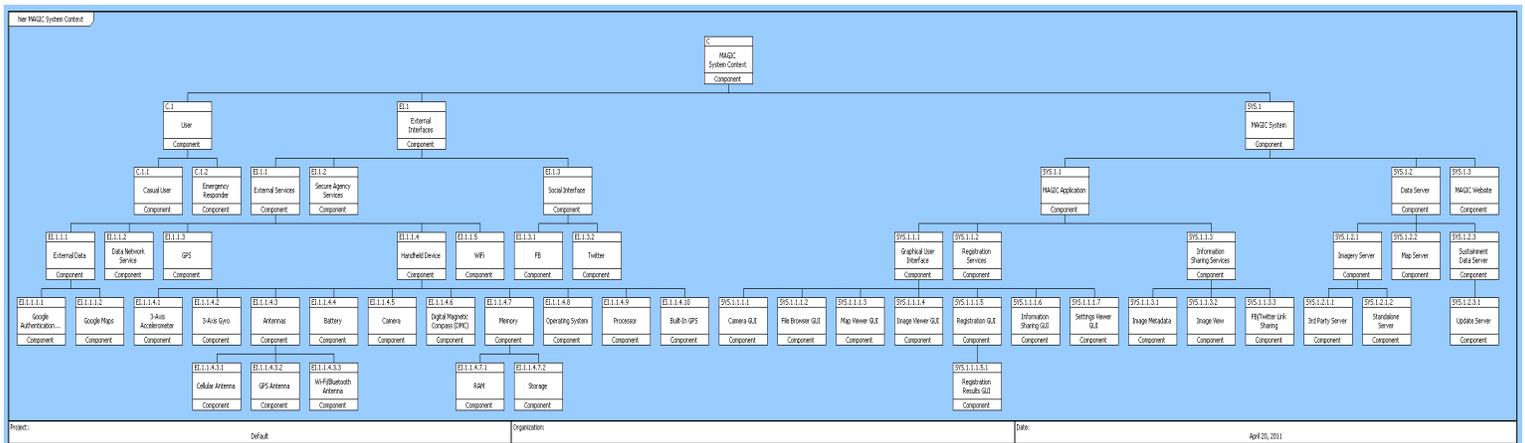


Figure 1 MAGIC System Component Context

MAGIC System Component Context is decomposed in the following 3 subcomponents: User, External Interfaces, and MAGIC System components. This decomposition's broken down is shown in the following three diagrams.

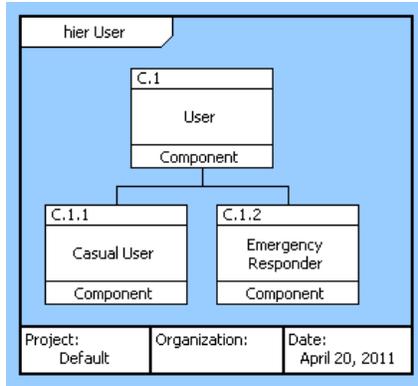


Figure 2.1 MAGIC User Component Context

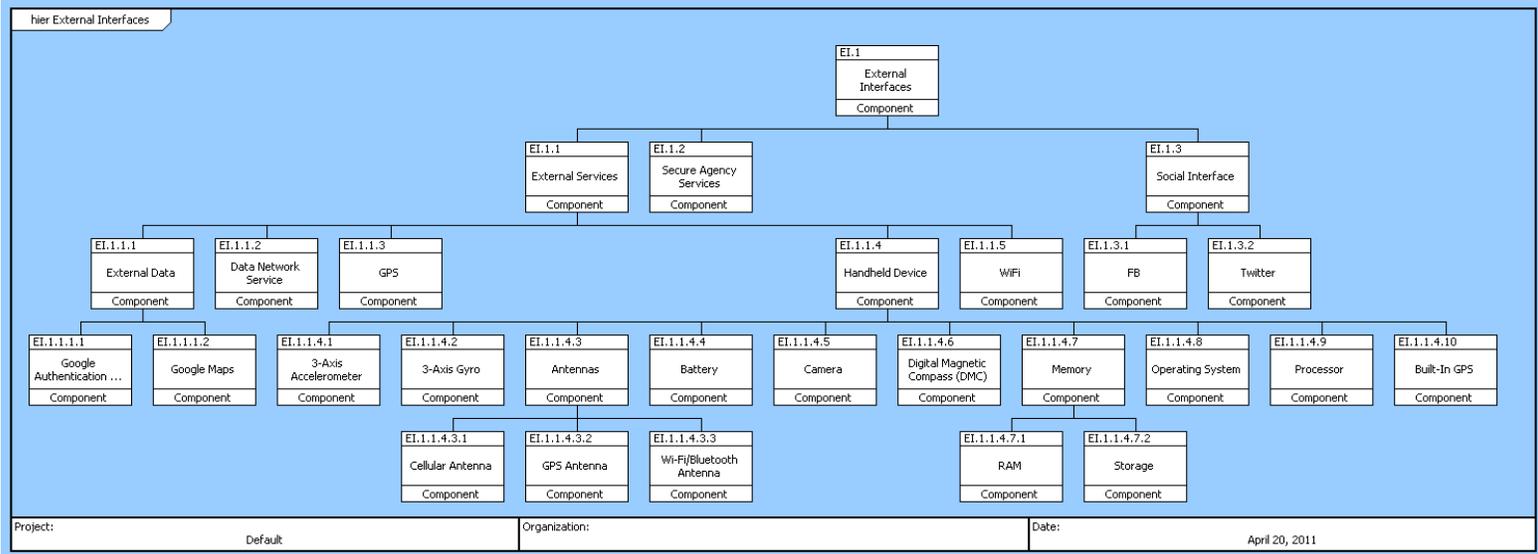


Figure 2.2 MAGIC External Interface Component Context

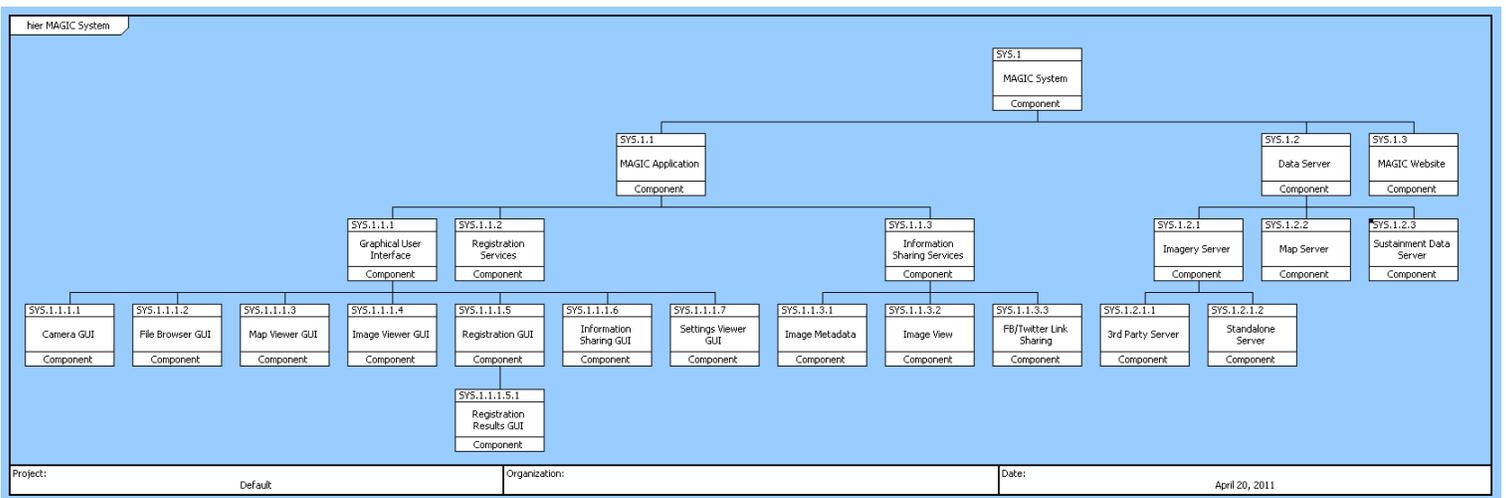


Figure 2.3 MAGIC System Component Context

System Functions Overview

Part I - Hierarchical Function List

Part I of this document provides a list of all the functions of the systems and the sub-functions needed to perform a major function of the MAGIC system.

F.0 Provide Geolocation Services

F.1 Provide Access to MAGIC Services

- F.1.1 Enable Application Download
- F.1.2 Enable Access to Basic MAGIC Capabilities
- F.1.3 Enable User to Set Up Account
- F.1.4 Authenticate User
- F.1.5 Enable Access to All MAGIC Capabilities
- F.1.6 Deny Access to User
- F.1.7 Notify Magic System of any Log-In Issues

F.2 Process Geolocation Services

F.2.1 Perform a Registration

- F.2.1.1 Select Image from File Browser
- F.2.1.2 Label Pixel on Image
- F.2.1.3 Add Additional Image to Registration
- F.2.1.4 Calculate Image Geolocation
- F.2.1.5 Name & Save POI & Images
- F.2.1.6 Cancel Registration

F.2.2 Select to Browse Files

- F.2.2.1 Browse Image Thumbnails
- F.2.2.2 Choose to View by Folder
- F.2.2.3 Choose to View by Location
- F.2.2.4 Choose to View by File Type
- F.2.2.5 Choose to View by Shared Files
- F.2.2.6 Select an Image from Browser to View Image&Data
- F.2.2.7 Choose to go Back to File Browser
- F.2.2.8 Choose to View Previous Image
- F.2.2.9 Choose to View Next Image
- F.2.2.10 Choose to Share Image
- F.2.2.11 Choose to Perform a Registration
- F.2.2.12 Click Thumbnail to Enlarge Picture

F.2.3 Select to Browse Map

- F.2.3.1 Browse Map
- F.2.3.2 Select to View POIs on Map

- F.2.3.3 Select to View Images on Map
- F.2.3.4 Select to Choose Map Layers
- F.2.3.5 Perform Search for Specific Place
- F.2.3.6 Select to "Center my Location"
- F.2.3.7 Select a POI to View Associated Images
- F.2.3.8 Select an Image On Map to View Associated Data
- F.2.3.9 View Map with Selected Option
- F.2.3.10 Comment on POI and/or Image
- F.2.3.11 Download Image and/or POI to Local Memory
- F.2.4 Select to Take a Picture
 - F.2.4.1 Take Picture
 - F.2.4.2 Choose to Preview Previous Saved Picture
 - F.2.4.3 Select to Add Image for Registration
- F.2.5 Select to Share Image/Data
 - F.2.5.1 Public Share Image, Data and/or POI
 - F.2.5.2 Private Share Image, Data and/or POI
 - F.2.5.3 Push Sharing Notification to Specified User
 - F.2.5.4 Sharing Link With FB/Twitter
- F.2.6 Access & Edit Account Settings
 - F.2.6.1 Turn On/Off Public Sharing
 - F.2.6.2 Turn On/Off Proximity Alerts
 - F.2.6.3 Turn On/Off Helpful Hints
 - F.2.6.4 Activate/Deactivate Link Sharing with FB and/or Twitter
 - F.2.6.5 Provide/Clear Google ID
- F.2.7 Access Web Interface
- F.2.8 Close Application
- F.2.9 Go Back to Home Screen
- F.3 Enable Set Up of a Command Center
- F.4 Enable Effective Maintenance and Servicing
 - F.4.1 Enable Instrument Calibration
 - F.4.2 Allow Application Updates
 - F.4.3 Back Up User's Data
 - F.4.4 Enable Problem Reporting and Troubleshooting

Part II - Behavior Model

Part II of this document provides a detailed description for the list of all the functions in Part I. For each function, the following information is provided:

- **Description:** a short description of what the function is supposed to do.
- **Allocated to:** a list of the components that are to perform the function
- **Source Document:** Document of where the function was derived from
- **Based on:** lists the system requirement from where the function was based from
- **Interfacing Items:** table with a detailed list of all the items (inputs, outputs, triggers) that interface with the function and its sub-functions

The following diagrams are also provided for major functions which are decomposed into sub-functions:

- **FFBD** - The Function Flow Block Diagram (FFBD) - An FFBD shows the functions that a system is to perform and the order in which they are to be enabled (and performed). The order of performance is specified from the set of available control constructs. The control enablement of the first function is shown by the reference node(s) which precede it, and the reference node(s) at the end of the function logic indicate what functions are enabled next. The FFBD also shows completion criterion for functions as needed for specification. The FFBD does not contain any information relating to the flow of data between functions, and therefore does not represent any data triggering of functions. The FFBD only presents the control sequencing for the functions. (Long, March)
- **IDEF0** - The primary content of the IDEF0 Diagram is the specification of data flow between system functions. The IDEF0 diagram does allow the specification of control as an input to a function. The IDEF0 Diagram also represents the mechanism (usually the component to which the function is allocated) which performs the function. (Long, March)

F.0 Provide Geolocation Services

Description:

This is the main function of the system which is to provide a user MAGIC geolocation services.

Allocated To:

EI.1.1.4 Handheld Device

SYS.1 MAGIC System

Source Document(s):

MAGIC ConOps

Based On:

SR.1.0 Provide Geolocation Services

Interfacing Items: Table located on the Appendix – MAGIC System Functions Interfacing Items Tables

Provide Geolocation Services (FFBD) – Diagram located on the Appendix - MAGIC System Functions FFBD's

Provide Geolocation Services (IDEF0 A-0 Context Diagram) - Diagram located on the Appendix - MAGIC System Functions IDEF0's

Provide Geolocation Services (IDEF0) - Diagram located on the Appendix - MAGIC System Functions IDEF0's

F.1 Provide Access to MAGIC Services

Description:

Systems provides user access to Magic

Allocated To:

EI.1.1.4 Handheld Device
SYS.1.1 MAGIC Application

Source Document(s):

MAGIC ConOps

Based On:

SR.1.1 Provide Access to Magic Services
SR.2 Non-Functional Requirements

Table 2 F.1 Provide Access to MAGIC Services Interfacing Items

Interfacing Items	Source / Destination
App Store	Input To: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.1 Enable Application Download
Home Screen	Output From: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.2 Enable Access to Basic MAGIC Capabilities F.1.5 Enable Access to All MAGIC Capabilities F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.6 Cancel Registration
MAGIC Mobile App	Triggers Function(s): F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.2 Enable Access to Basic MAGIC Capabilities F.1.3 Enable User to Set Up Account F.1.4 Authenticate User F.1.5 Enable Access to All MAGIC Capabilities F.1.6 Deny Access to User F.1.7 Notify Magic System of any Log-In Issues Output From: F.1.1 Enable Application Download
Report Log-In Issue	Input To: F.4 Enable Effective Maintenance and Servicing F.4.4 Enable Problem Reporting and Troubleshooting Output From: F.1 Provide Access to MAGIC Services F.1.7 Notify Magic System of any Log-In Issues
User's Google ID or 3rd Party ID	Input To:

Table 2 F.1 Provide Access to MAGIC Services Interfacing Items

Interfacing Items	Source / Destination
	F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.4 Authenticate User F.2 Process Geolocation Services F.2.6 Access & Edit Account Settings F.2.6.4 Activate/Deactivate Link Sharing with FB and/or Twitter F.2.6.5 Provide/Clear Google ID
User's Input to Open App	Input To: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.2 Enable Access to Basic MAGIC Capabilities
User's Personal Information	Input To: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.3 Enable User to Set Up Account
User Request to Download App	Triggers Function(s): F.1 Provide Access to MAGIC Services F.1.1 Enable Application Download

Provide Access to MAGIC Services (FFBD)

The logic behind the FFBD below is:

There are two types of users who can request access to MAGIC:

1. User with MAGIC App already installed on their device – Once they open MAGIC the user has access to Basic MAGIC capabilities (such capabilities are to be specified later in design phase). Then the user has the option to authenticate himself/herself by providing their Gmail user ID or they have the option to set up a MAGIC user ID (such capability is to be implanted on next upgrade of the App). Once user has been authenticated, the user has now access to All capabilities of MAGIC. If the authentication fails, the user is asked 3 times to input user ID into system and if it fails the third time, user is sent back and is given access only to basic capabilities.
2. User with No MAGIC App installed on their device- User has access to MAGIC’s application download from their iPhone’s App Store or Droid’s Market Place. Once MAGIC is downloaded on their device, they have the same options as type 1 above.

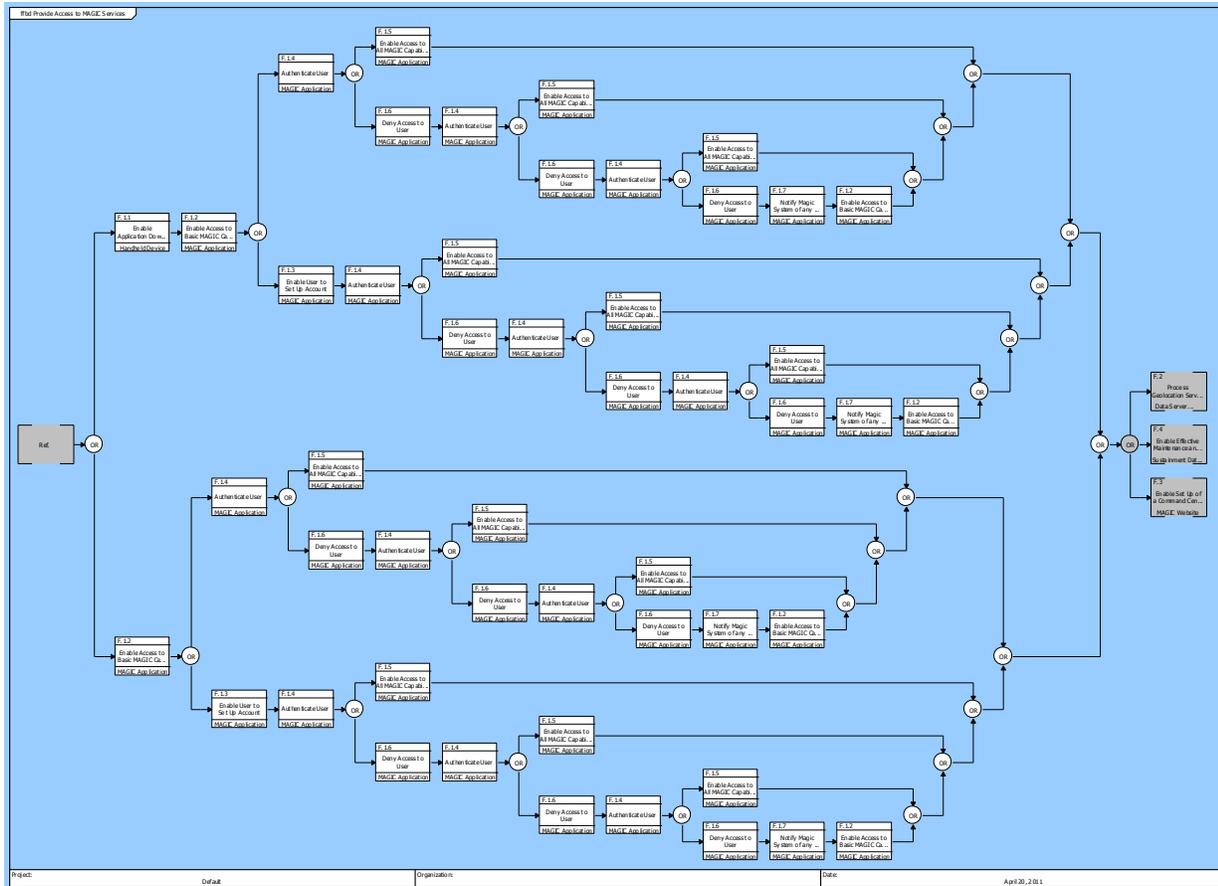


Figure 6 Provide Access to MAGIC Services (FFBD)

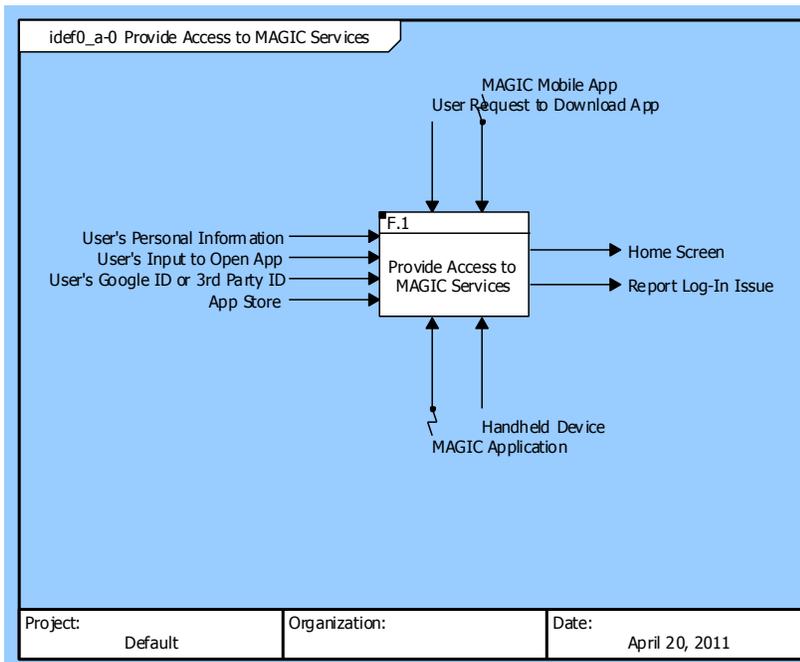


Figure 7 Provide Access to MAGIC Services (IDEF0 A-0 Context Diagram)

Provide Access to MAGIC Services (IDEF0 Diagram)

For the IDEF0 below, the sequence of all

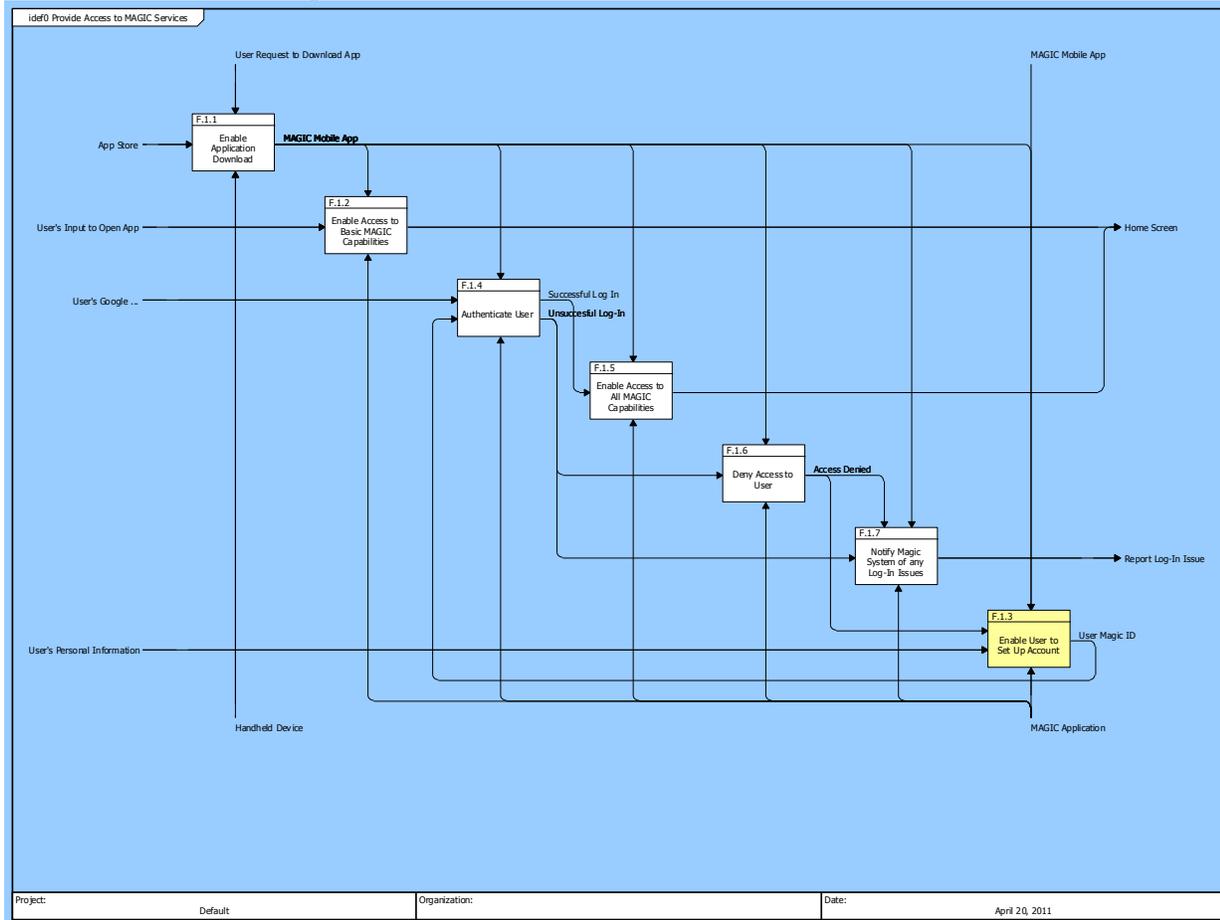


Figure 8 Provide Access to MAGIC Services (IDEF0 Diagram)

F.2 Process Geolocation Services

Description:

This function is supposed to perform all functions needed to perform the actual geolocation service provided to the user. Therefore this is the most critical function to the MAGIC system.

Allocated To:

- SYS.1.1 MAGIC Application
- SYS.1.1.1 Graphical User Interface
- SYS.1.2 Data Server
- SYS.1.3 MAGIC Website

Source Document(s):

MAGIC ConOps

Based On:

- SR.1 Functional Requirements
- SR.1.2 Process Geolocation Services

The table below provides a detailed list of the mapping of all the items to the sub-functions that composed the processing of geolocation services function.

Table 10 F.2 Process Geolocation Services Interfacing Items

Interfacing Items	Source / Destination
Application Closed	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.8 Close Application
Basic Capabilities Enabled	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.6 Access & Edit Account Settings F.2.6.5 Provide/Clear Google ID
Comment added to Image/POI	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.3 Select to Browse Map F.2.3.10 Comment on POI and/or Image
Downloaded Image &/or POI Saved on Local Memory	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.3 Select to Browse Map F.2.3.11 Download Image and/or POI to Local Memory
Enlarged Selected Picture	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files F.2.2.12 Click Thumbnail to Enlarge Picture
Full Capabilities Enabled	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.6 Access & Edit Account Settings F.2.6.5 Provide/Clear Google ID
Home Screen	Output From: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.2 Enable Access to Basic MAGIC Capabilities F.1.5 Enable Access to All MAGIC Capabilities F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.6 Cancel Registration
Identified POI with Images and Metadata	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services

Interfacing Items	Source / Destination
	F.2.1 Perform a Registration F.2.1.5 Name & Save POI & Images
Image(s) Selected	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.2 Label Pixel on Image
Image/Data/POI Added to Magic Public Server	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.1 Public Share Image, Data and/or POI
Link Sent to FB/Twitter	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.4 Sharing Link With FB/Twitter
Links Shared with FB and/or Twitter	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.6 Access & Edit Account Settings F.2.6.4 Activate/Deactivate Link Sharing with FB and/or Twitter
MAGIC's Website Interface	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.7 Access Web Interface
MAGIC Homescreen	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.9 Go Back to Home Screen
On/Off Settings	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services
POI & Data Selected to Download	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.3 Select to Browse Map F.2.3.7 Select a POI to View Associated Images
Previous Image	Input To: F.2.4.3 Select to Add Image for Registration Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services

Interfacing Items	Source / Destination
	F.2.4 Select to Take a Picture F.2.4.2 Choose to Preview Previous Saved Picture
Sharing Notification to User	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.3 Push Sharing Notification to Specified User
User's Google ID or 3rd Party ID	Input To: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.4 Authenticate User F.2 Process Geolocation Services F.2.6 Access & Edit Account Settings F.2.6.4 Activate/Deactivate Link Sharing with FB and/or Twitter F.2.6.5 Provide/Clear Google ID
User's Input to Add an Image	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.1 Select Image from File Browser F.2.1.3 Add Additional Image to Registration
User's Input to Share Image/Data	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.1 Public Share Image, Data and/or POI F.2.5.2 Private Share Image, Data and/or POI F.2.5.3 Push Sharing Notification to Specified User F.2.5.4 Sharing Link With FB/Twitter
User's Inputs for Browsing Files Selection	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files
User's Request to Preview Previous Picture	Triggers Function(s): F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.4 Select to Take a Picture F.2.4.2 Choose to Preview Previous Saved Picture
User's Request to View Files by Spetic Criteria	Triggers Function(s): F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files F.2.2.2 Choose to View by Folder F.2.2.3 Choose to View by Location

Interfacing Items	Source / Destination
	F.2.2.4 Choose to View by File Type F.2.2.5 Choose to View by Shared Files
User's Request within Viewing Selected Image	Triggers Function(s): F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files F.2.2.7 Choose to go Back to File Browser F.2.2.8 Choose to View Previous Image F.2.2.9 Choose to View Next Image F.2.2.10 Choose to Share Image F.2.2.11 Choose to Perform a Registration F.2.2.12 Click Thumbnail to Enlarge Picture
User's Requests	Triggers Function(s): F.0 Provide Geolocation Services F.2 Process Geolocation Services
User Request to Perform a Registration	Triggers Function(s): F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.1 Select Image from File Browser F.2.1.2 Label Pixel on Image F.2.1.3 Add Additional Image to Registration F.2.1.4 Calculate Image Geolocation F.2.1.5 Name & Save POI & Images F.2.1.6 Cancel Registration F.2.2 Select to Browse Files F.2.2.6 Select an Image from Browser to View Image&Data F.2.4 Select to Take a Picture F.2.4.3 Select to Add Image for Registration
User Request to Share Image/Data	Triggers Function(s): F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.1 Public Share Image, Data and/or POI F.2.5.2 Private Share Image, Data and/or POI F.2.5.3 Push Sharing Notification to Specified User F.2.5.4 Sharing Link With FB/Twitter
User Selection to Preview Previous Image	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.4 Select to Take a Picture F.2.4.2 Choose to Preview Previous Saved Picture
User Selections	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services

Interfacing Items	Source / Destination
View of Google Map Interface	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.3 Select to Browse Map F.2.3.1 Browse Map
View of Image Thumbnails	Input To: F.2.2.2 Choose to View by Folder F.2.2.3 Choose to View by Location F.2.2.4 Choose to View by File Type F.2.2.5 Choose to View by Shared Files F.2.2.6 Select an Image from Browser to View Image&Data Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files F.2.2.1 Browse Image Thumbnails
View of Previous/Next Image	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files F.2.2.8 Choose to View Previous Image F.2.2.9 Choose to View Next Image
View of Sharing Interface	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.2 Select to Browse Files F.2.2.10 Choose to Share Image

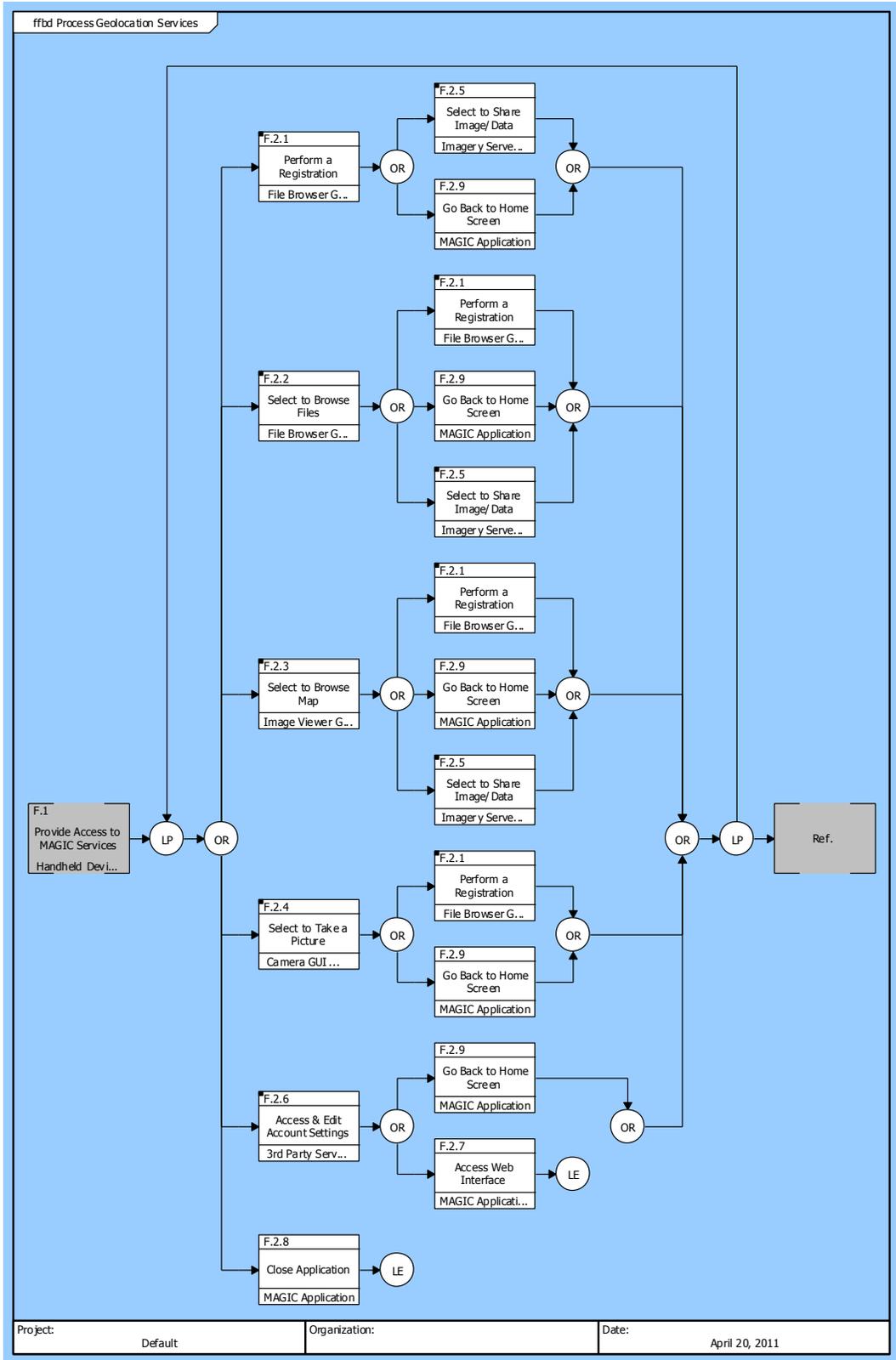


Figure 9 Process Geolocation Services (FFBD)

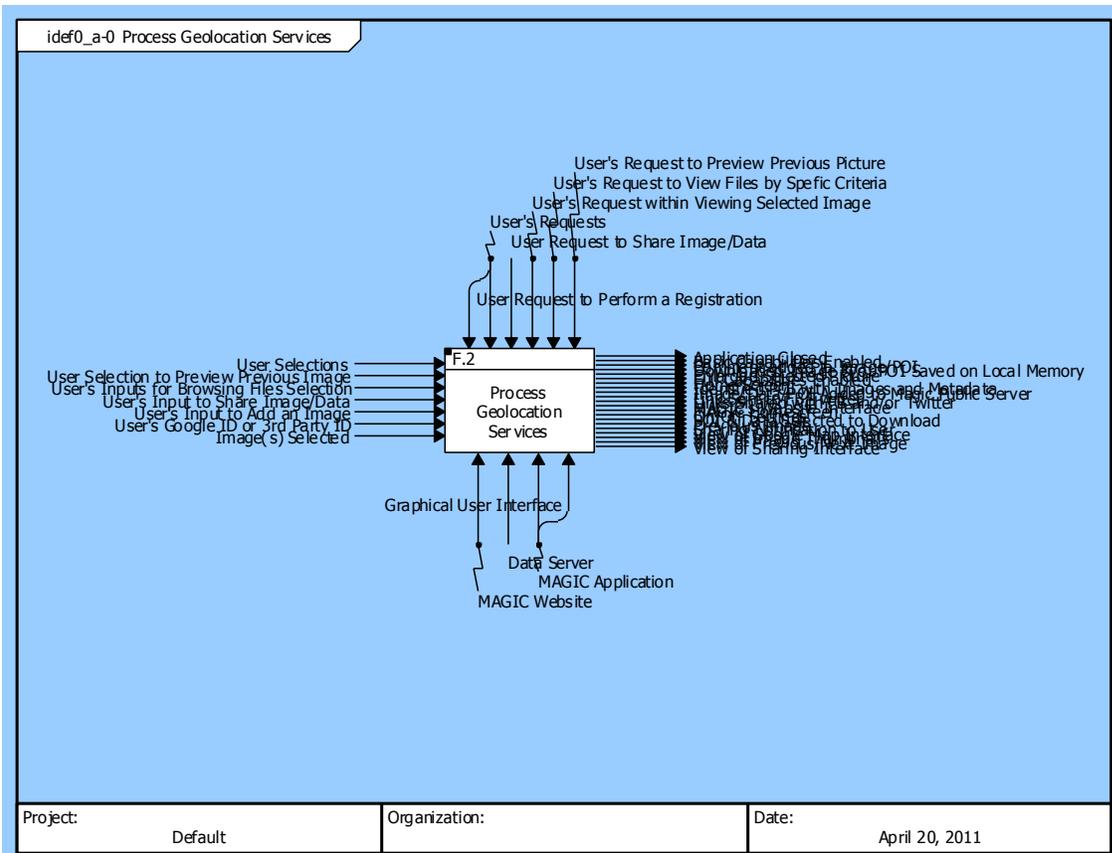


Figure 10 Process Geolocation Services (IDEF0 A-0 Context Diagram)

- F.2.4 Select to Take a Picture
- F.2.5 Select to Share Image/Data
 - F.2.5.1 Public Share Image, Data and/or POI
 - F.2.5.2 Private Share Image, Data and/or POI
 - F.2.5.3 Push Sharing Notification to Specified User
 - F.2.5.4 Sharing Link With FB/Twitter
- F.2.6 Access & Edit Account Settings
- F.2.7 Access Web Interface
- F.2.8 Close Application
- F.2.9 Go Back to Home Screen

F.2.1 Perform a Registration

Description:

Estimates the object’s geographic location, and stores it as a point-of-interest.

Exits:

Home Screen

Allocated To:

- SYS.1.1 MAGIC Application
 - SYS.1.1.1.2 File Browser GUI
 - SYS.1.1.1.4 Image Viewer GUI
 - SYS.1.1.1.5 Registration GUI

Based On:

- SR.1.2.1 Perform Registration

Table 11 F.2.1 Perform a Registration Interfacing Items

Interfacing Items	Source / Destination
Home Screen	Output From: F.0 Provide Geolocation Services F.1 Provide Access to MAGIC Services F.1.2 Enable Access to Basic MAGIC Capabilities F.1.5 Enable Access to All MAGIC Capabilities F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.6 Cancel Registration
Identified POI with Images and Metadata	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.5 Name & Save POI & Images
Image(s) Selected	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.2 Label Pixel on Image

Interfacing Items	Source / Destination
User's Input to Add an Image	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.1 Select Image from File Browser F.2.1.3 Add Additional Image to Registration
User's Input to Cancel Registration	Input To: F.2.1 Perform a Registration F.2.1.6 Cancel Registration
User's Input to Go Back to Home Screen	Input To: F.2.9 Go Back to Home Screen Output From: F.2.1 Perform a Registration F.2.1.6 Cancel Registration F.2.3 Select to Browse Map F.2.3.10 Comment on POI and/or Image
User Request to Perform a Registration	Triggers Function(s): F.2 Process Geolocation Services F.2.1 Perform a Registration F.2.1.1 Select Image from File Browser F.2.1.2 Label Pixel on Image F.2.1.3 Add Additional Image to Registration F.2.1.4 Calculate Image Geolocation F.2.1.5 Name & Save POI & Images F.2.1.6 Cancel Registration F.2.2 Select to Browse Files F.2.2.6 Select an Image from Browser to View Image&Data F.2.4 Select to Take a Picture F.2.4.3 Select to Add Image for Registration

Perform a Registration (IDEF0 A-0 Context Diagram)

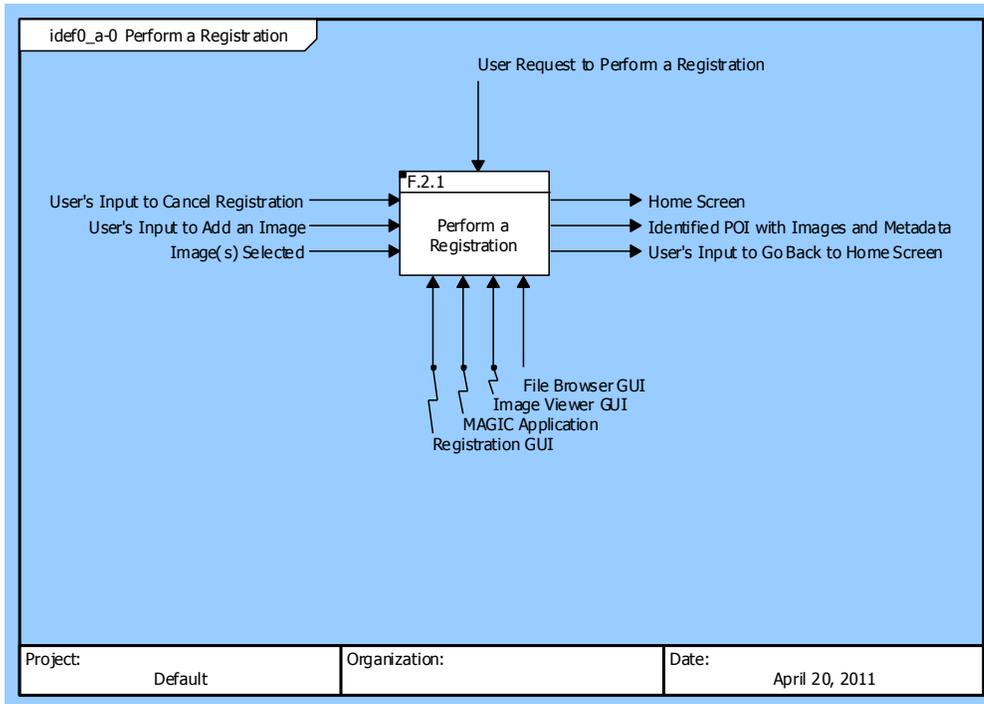


Figure 13 Perform a Registration (IDEF0 A-0 Context Diagram)

Perform a Registration (IDEF0 Diagram)

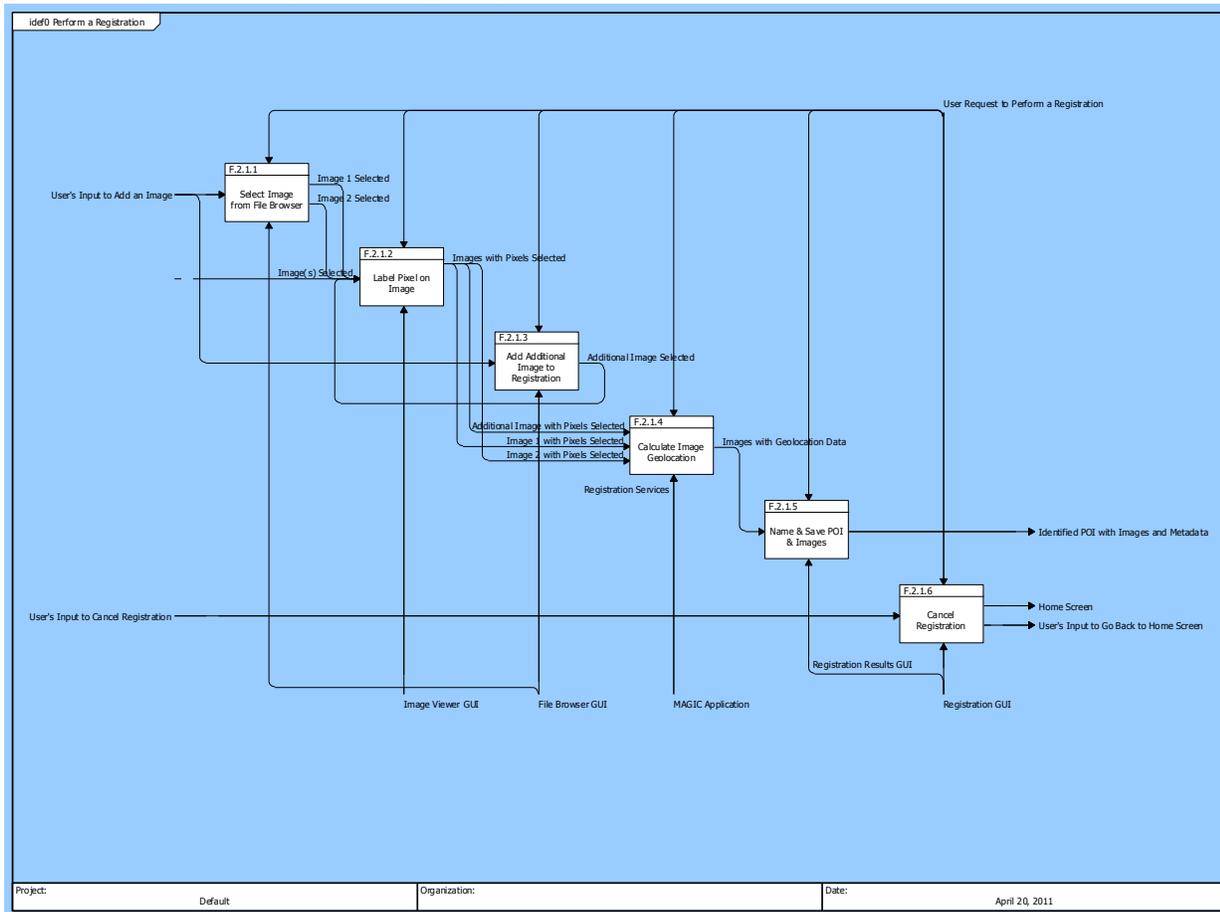


Figure 14 Perform a Registration (IDEF0 Diagram)

F.2.5 Select to Share Image/Data

Allocated To:

- SYS.1.1.1.6 Information Sharing GUI
- SYS.1.1.3 Information Sharing Services
- SYS.1.2.1 Imagery Server

Based On:

- SR.1.2.5 Select to Share Image/Data

Table 47 F.2.5 Select to Share Image/Data Interfacing Items

Interfacing Items	Source / Destination
Image/Data/POI Added to Magic Public Server	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.1 Public Share Image, Data and/or POI
Link Sent to FB/Twitter	Output From: F.0 Provide Geolocation Services

Interfacing Items	Source / Destination
	F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.4 Sharing Link With FB/Twitter
Sharing Notification to User	Output From: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.3 Push Sharing Notification to Specified User
User's Input to Share Image/Data	Input To: F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.1 Public Share Image, Data and/or POI F.2.5.2 Private Share Image, Data and/or POI F.2.5.3 Push Sharing Notification to Specified User F.2.5.4 Sharing Link With FB/Twitter
User Request to Share Image/Data	Triggers Function(s): F.0 Provide Geolocation Services F.2 Process Geolocation Services F.2.5 Select to Share Image/Data F.2.5.1 Public Share Image, Data and/or POI F.2.5.2 Private Share Image, Data and/or POI F.2.5.3 Push Sharing Notification to Specified User F.2.5.4 Sharing Link With FB/Twitter

Select to Share Image/Data (FFBD)

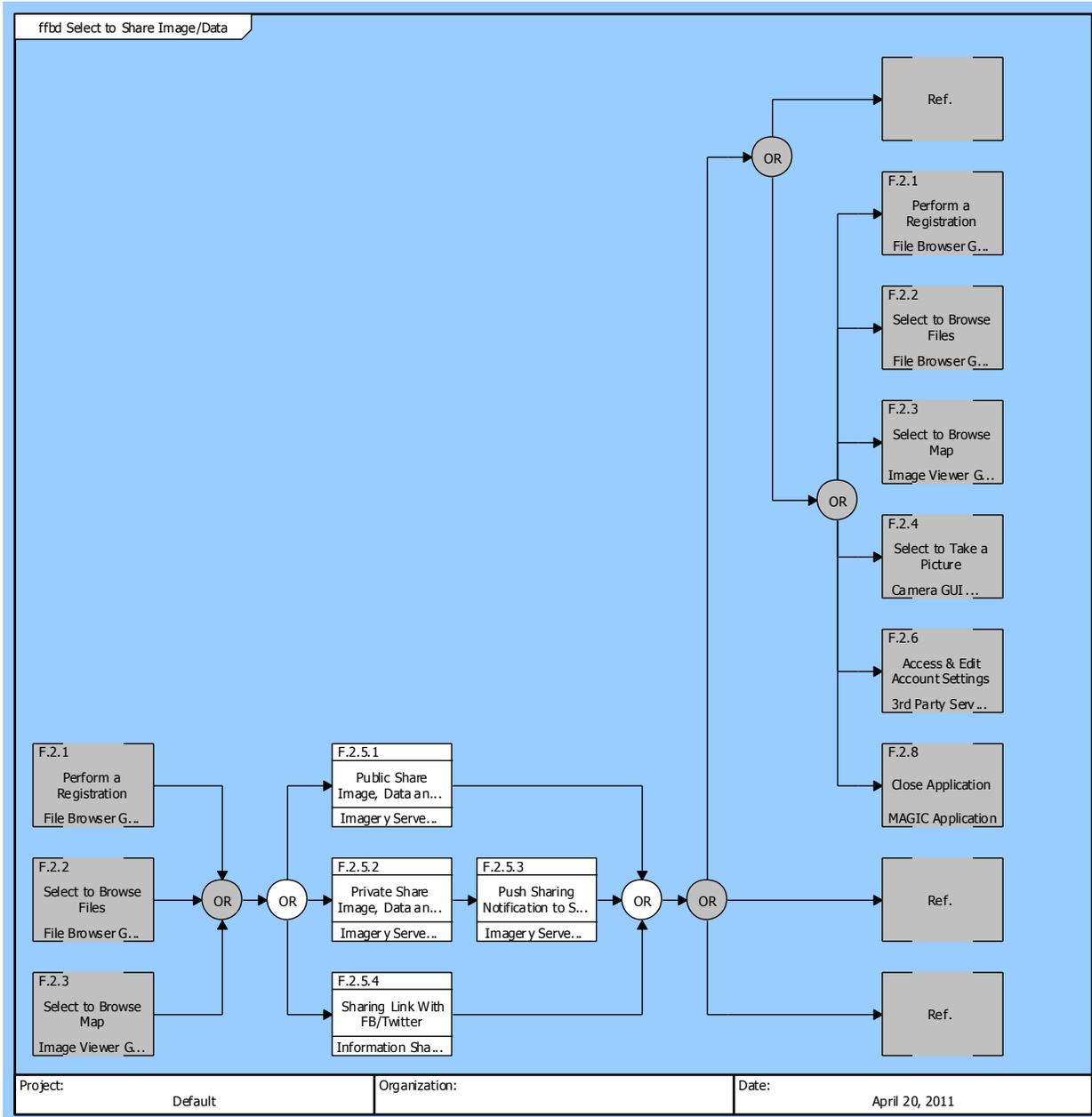


Figure 24 Select to Share Image/Data (FFBD)

Select to Share Image/Data (IDEF0 A-0 Context Diagram)

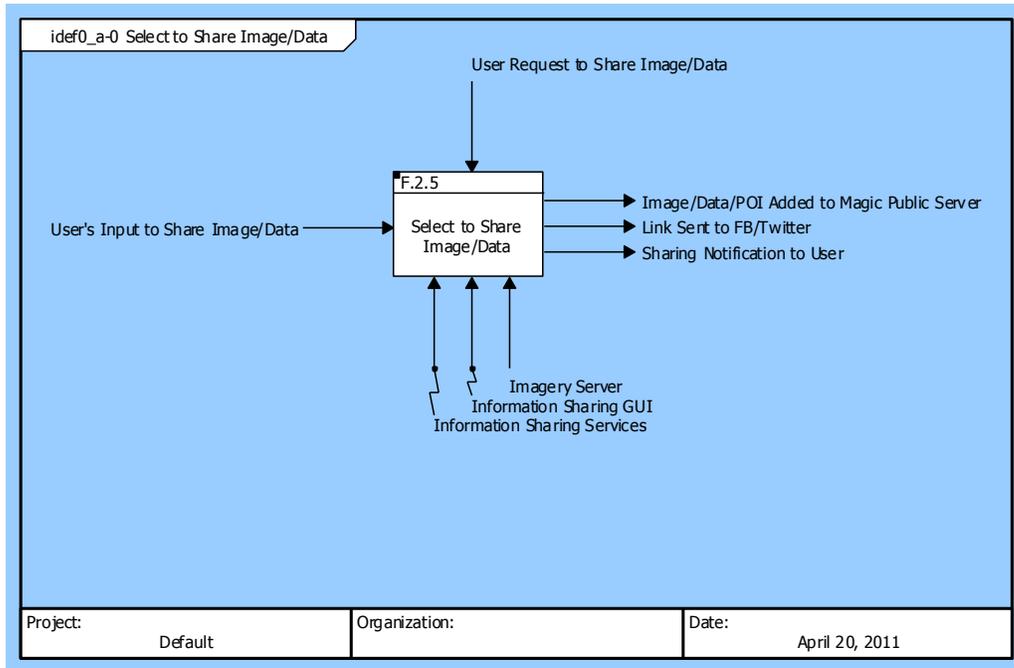


Figure 25 Select to Share Image/Data (IDEF0 A-0 Context Diagram)

Select to Share Image/Data (IDEF0 Diagram)

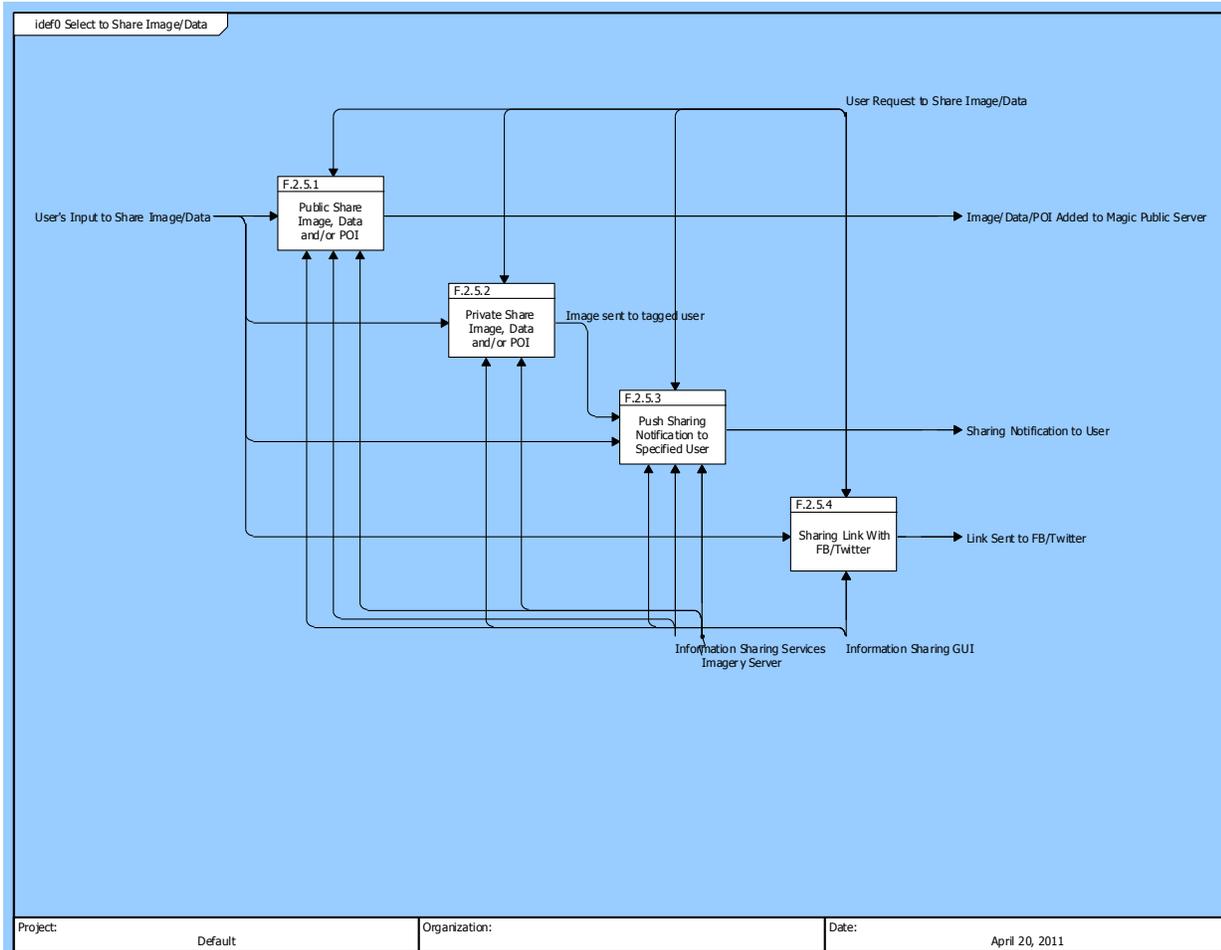


Figure 26 Select to Share Image/Data (IDEF0 Diagram)

F.3 Enable Set Up of a Command Center

Description:

Enables an Authorized User to set up a web-based Command Center where an emergency response personnel will have access to all images, pixels, and points-of-interest in the disaster zone from all available sources. The workstation-based tools will enable user to perform activities such as:

- Search the material provided by many MAGIC users in the field
- Preview images
- View sets of images whose field-of-view and range overlap
- Identify and compute new points-of-interest
- Share specific images and/or points-of-interest with specific emergency responders in the field

Allocated To:

SYS.1.3 MAGIC Website

Source Document(s):

MAGIC ConOps

Based On:

SR.1 Functional Requirements
 SR.1.3 Enable Set Up of a Command Center

Table 61 F.3 Enable Set Up of a Command Center Interfacing Items

Interfacing Items	Source / Destination
Agency Request to Set Up CC	Triggers Function(s): F.0 Provide Geolocation Services F.3 Enable Set Up of a Command Center
CC Established	Output From: F.0 Provide Geolocation Services F.3 Enable Set Up of a Command Center
User's Input to Set Up CC	Input To: F.0 Provide Geolocation Services F.3 Enable Set Up of a Command Center

F.4 Enable Effective Maintenance and Servicing

Description:

This function is to update the Magic Application and provide an effective and efficient system to the user

Allocated To:

SYS.1.2.3 Sustainment Data Server

Source Document(s):

MAGIC ConOps

Based On:

SR.1.4 Enable Effective Maintenance and Servicing

SR.2 Non-Functional Requirements

Table 62 F.4 Enable Effective Maintenance and Servicing Interfacing Items

Interfacing Items	Source / Destination
Report Log-In Issue	Input To: F.4 Enable Effective Maintenance and Servicing F.4.4 Enable Problem Reporting and Troubleshooting Output From: F.1 Provide Access to MAGIC Services F.1.7 Notify Magic System of any Log-In Issues
Successful Maintenance & Service	Output From: F.0 Provide Geolocation Services F.4 Enable Effective Maintenance and Servicing
Systems Feedback to Perform Sustainment Capabilities	Triggers Function(s): F.0 Provide Geolocation Services F.4 Enable Effective Maintenance and Servicing F.4.1 Enable Instrument Calibration F.4.2 Allow Application Updates F.4.3 Back Up User's Data

Table 62 F.4 Enable Effective Maintenance and Servicing Interfacing Items

Interfacing Items	Source / Destination
	F.4.4 Enable Problem Reporting and Troubleshooting
User's Inputs to Perform Maintenance & Servicing	Input To: F.0 Provide Geolocation Services F.4 Enable Effective Maintenance and Servicing

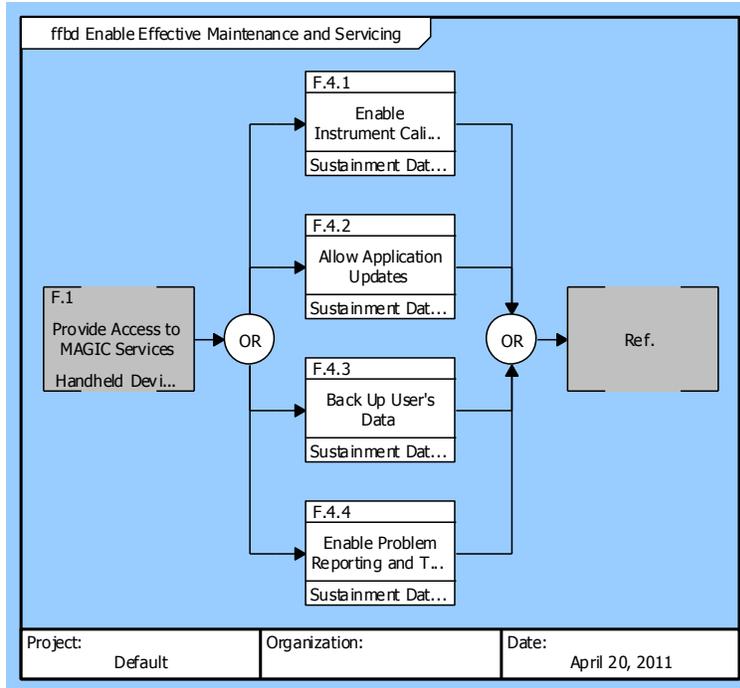


Figure 30 Enable Effective Maintenance and Servicing (FFBD)

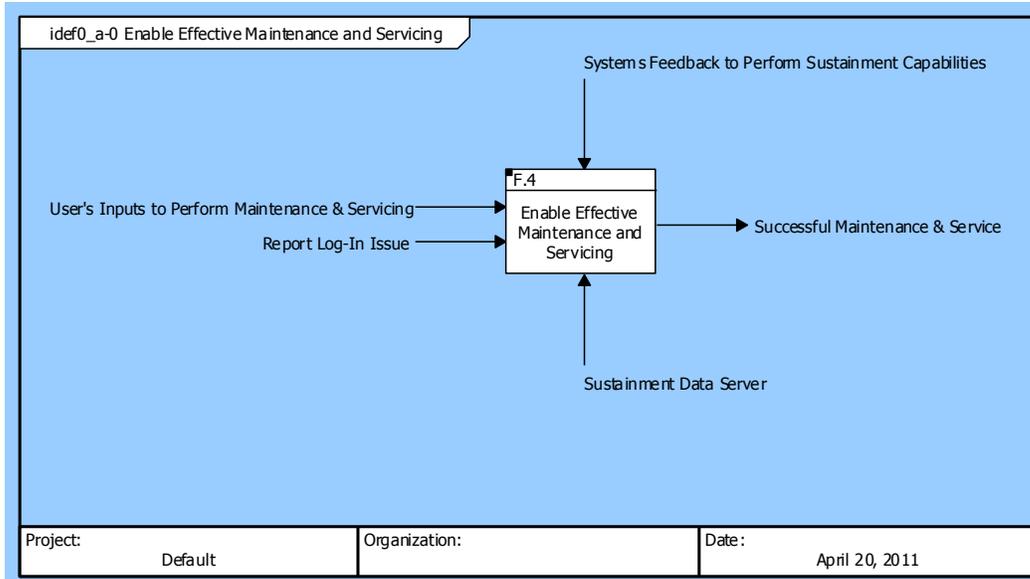


Figure 31 Enable Effective Maintenance and Servicing (IDEF0 A-0 Context Diagram)

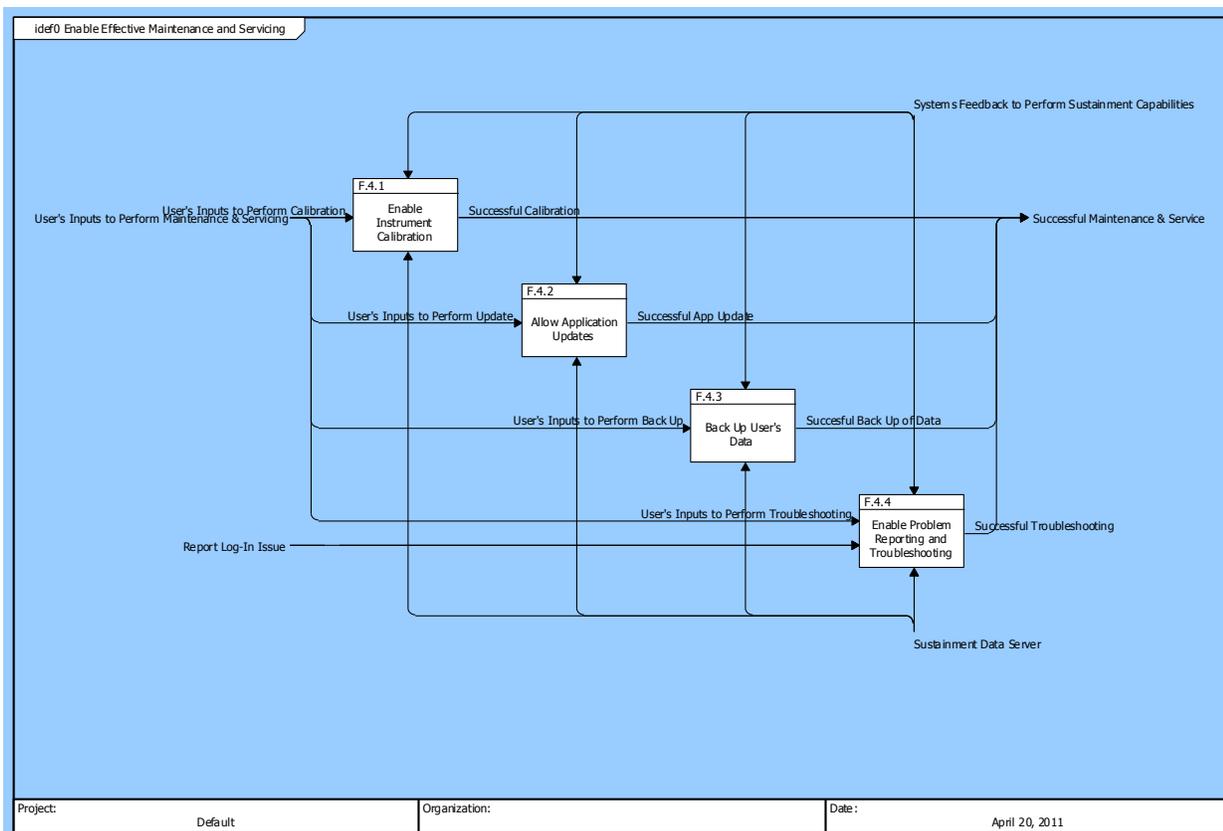


Figure 32 Enable Effective Maintenance and Servicing (IDEF0 Diagram)

System Components

Part I - Hierarchical Component List

- SYS.1 MAGIC System
 - SYS.1.1 MAGIC Application
 - SYS.1.1.1 Graphical User Interface
 - SYS.1.1.1.1 Camera GUI
 - SYS.1.1.1.2 File Browser GUI
 - SYS.1.1.1.3 Map Viewer GUI
 - SYS.1.1.1.4 Image Viewer GUI
 - SYS.1.1.1.5 Registration GUI
 - SYS.1.1.1.5.1 Registration Results GUI
 - SYS.1.1.1.6 Information Sharing GUI
 - SYS.1.1.1.7 Settings Viewer GUI
 - SYS.1.1.2 Registration Services
 - SYS.1.1.3 Information Sharing Services
 - SYS.1.1.3.1 Image Metadata
 - SYS.1.1.3.2 Image View
 - SYS.1.1.3.3 FB/Twitter Link Sharing
 - SYS.1.2 Data Server
 - SYS.1.2.1 Imagery Server
 - SYS.1.2.1.1 3rd Party Server
 - SYS.1.2.1.2 Standalone Server
 - SYS.1.2.2 Map Server
 - SYS.1.2.3 Sustainment Data Server
 - SYS.1.2.3.1 Update Server
 - SYS.1.3 MAGIC Website

Part II - Component Definitions

SYS.1 MAGIC System

Built In Higher-Level Component(s):

- C MAGIC System Context

Built From Lower-Level Component(s):

- SYS.1.1 MAGIC Application
- SYS.1.2 Data Server
- SYS.1.3 MAGIC Website

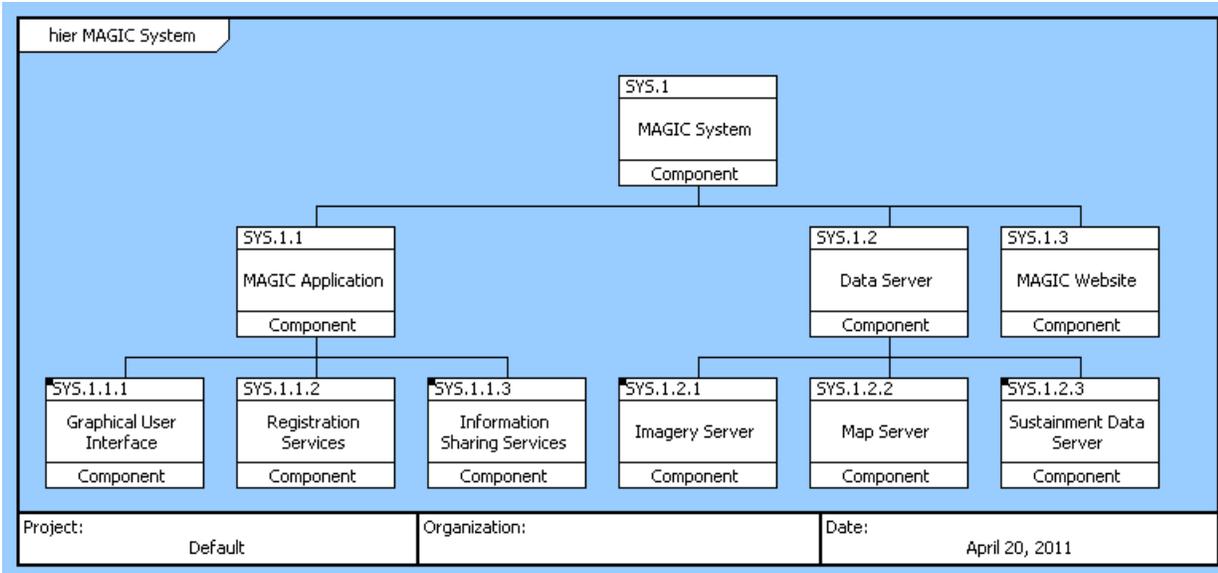


Figure 33 MAGIC System

Performs Function(s):

- F.0 Provide Geolocation Services

SYS.1.1 MAGIC Application

Built In Higher-Level Component(s):

- SYS.1 MAGIC System

Built From Lower-Level Component(s):

- SYS.1.1.1 Graphical User Interface
- SYS.1.1.2 Registration Services
- SYS.1.1.3 Information Sharing Services

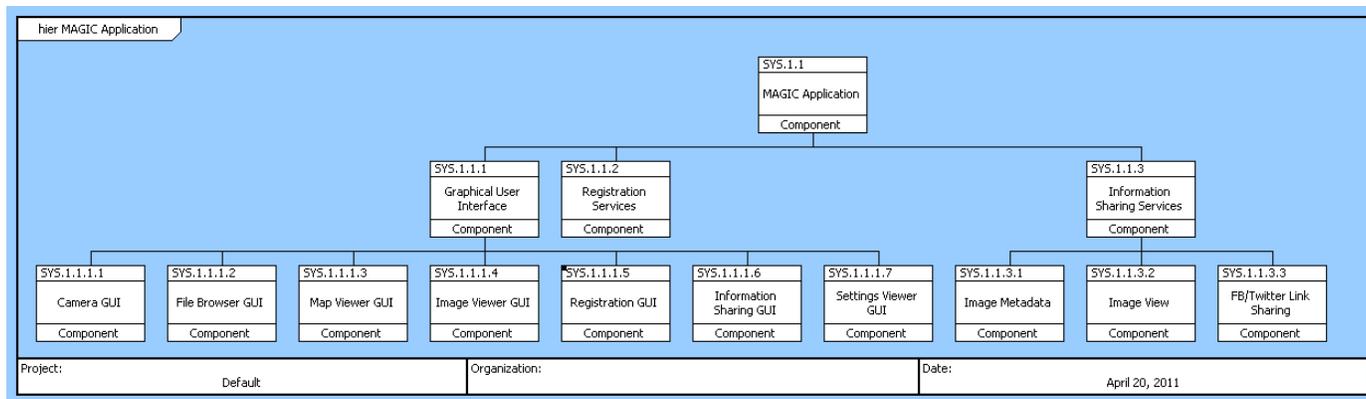


Figure 34 MAGIC Application

Performs Function(s):

- F.1 Provide Access to MAGIC Services
- F.1.2 Enable Access to Basic MAGIC Capabilities
- F.1.3 Enable User to Set Up Account
- F.1.4 Authenticate User

- F.1.5 Enable Access to All MAGIC Capabilities
- F.1.6 Deny Access to User
- F.1.7 Notify Magic System of any Log-In Issues
- F.2 Process Geolocation Services
 - F.2.1 Perform a Registration
 - F.2.7 Access Web Interface
 - F.2.8 Close Application
 - F.2.9 Go Back to Home Screen

SYS.1.1.1 Graphical User Interface

Built In Higher-Level Component(s):

SYS.1.1 MAGIC Application

Built From Lower-Level Component(s):

- SYS.1.1.1.1 Camera GUI
- SYS.1.1.1.2 File Browser GUI
- SYS.1.1.1.3 Map Viewer GUI
- SYS.1.1.1.4 Image Viewer GUI
- SYS.1.1.1.5 Registration GUI
- SYS.1.1.1.6 Information Sharing GUI
- SYS.1.1.1.7 Settings Viewer GUI

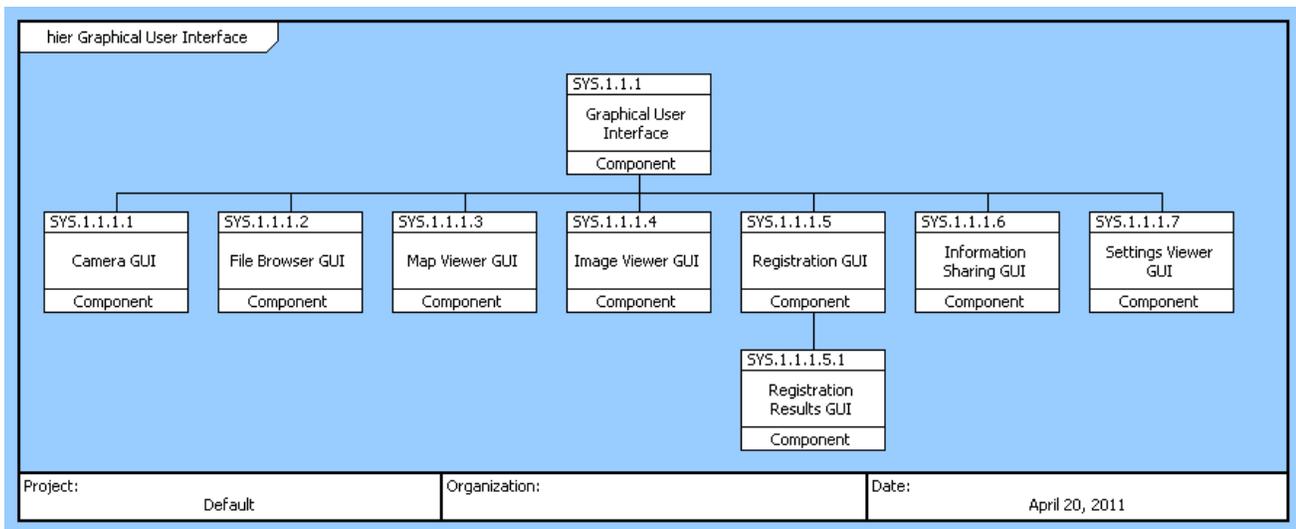


Figure 35 Graphical User Interface

Performs Function(s):

F.2 Process Geolocation Services

SYS.1.1.2 Registration Services

Built In Higher-Level Component(s):

SYS.1.1 MAGIC Application

Performs Function(s):

F.2.1.4 Calculate Image Geolocation

Specified By:

- SR.2.1 Emergency User Standoff Distance Requirement
- SR.2.2 Emergency User Accuracy Requirement
- SR.2.3 Casual User Standoff Distance Requirement
- SR.2.4 Casual User Accuracy Requirement

SYS.1.1.3 Information Sharing Services

Built In Higher-Level Component(s):

SYS.1.1 MAGIC Application

Built From Lower-Level Component(s):

- SYS.1.1.3.1 Image Metadata
- SYS.1.1.3.2 Image View
- SYS.1.1.3.3 FB/Twitter Link Sharing

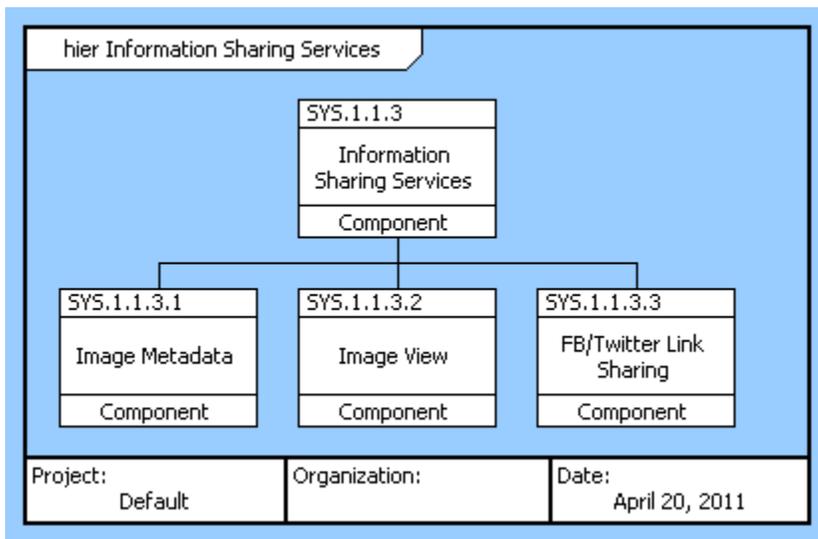


Figure 37 Information Sharing Services

Performs Function(s):

- F.2.5 Select to Share Image/Data
 - F.2.5.1 Public Share Image, Data and/or POI
 - F.2.5.3 Push Sharing Notification to Specified User
- F.2.6 Access & Edit Account Settings
 - F.2.6.1 Turn On/Off Public Sharing

SYS.1.2 Data Server – Detailed information provided on Appendix of this document

SYS.1.3 MAGIC Website - Detailed information provided on Appendix of this document