

# **GO Mobile User's Guide**

*for Release 12.4*

Revision 1.0

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# Table of Contents

<b>1.0</b>	<b>INTRODUCTION</b> .....	<b>1</b>
1.1	Introduction to GO Mobile .....	1
<b>2.0</b>	<b>GO Mobile SERVER (Web Enterprise Suite (WES))</b> .....	<b>2</b>
2.1	Acquiring the GO Mobile Application .....	2
2.2	GO Mobile Website .....	4
2.2.1	Log In .....	4
2.3	Creating and Initializing A Portfolio .....	5
2.3.1	Creating a Portfolio Folder.....	5
2.3.2	Portfolio Creation.....	7
2.3.3	Assigning Users/Permissions to a Portfolio.....	17
2.3.4	Adding Portfolio Content.....	18
2.3.4.1	Adding Alerts .....	20
2.3.4.2	Adding Bookmarks .....	21
2.3.4.3	Adding Content From a Map Service Published in the Catalog.....	22
2.3.4.3.1	Adding Mapping Services to the Catalog.....	24
2.3.4.4	Adding a File.....	32
2.3.4.4.1	Importing a GeoPackage .....	33
2.3.4.4.2	Importing ESRI Geodatabase (GDB) Content .....	38
2.3.4.5	Adding a Folder .....	43
2.3.4.6	Adding an RSS Feed .....	43
2.3.4.7	Adding a Service .....	44
2.3.4.8	Adding Other Portfolio Content.....	47
2.4	Exporting A Portfolio for Side-Load to Mobile Devices.....	47
2.5	Exporting Portfolio Data to Workspace XML .....	48
<b>3.0</b>	<b>GO MOBILE APPLICATION</b> .....	<b>51</b>
3.1	Installing the Application.....	51
3.1.1	Installing on an Android Device.....	51
3.1.1.1	Updating an Existing GO Mobile Android Installation .....	51
3.1.1.2	Removing the GO Mobile Android Application .....	52
3.1.2	Installing on a Windows Device.....	52
3.1.2.1	Updating an Existing GO Mobile Windows Installation.....	52
3.1.2.2	Removing the GO Mobile Windows Application .....	52
3.1.3	Creating a User Account .....	53
3.1.4	Application Data Backup/Restore.....	56
3.1.5	Log In to the App .....	56
3.1.6	Changing the GO Mobile Server .....	57
3.2	GO Mobile App Main Screen .....	58
3.3	Go Mobile Map Interface.....	59
3.3.1	Map-Based Display .....	60

3.3.2	Main Menu.....	60
3.3.3	Context Menu Icon .....	61
3.3.4	Discover Mode .....	61
3.3.4.1	Searching Keywords and Place Names .....	62
3.3.4.2	Location / Follow.....	66
3.3.5	Contribute Mode.....	68
3.3.5.1	Portfolio Context Pane.....	69
3.3.5.2	Open Portfolio Pane .....	70
3.3.5.3	Data Discovery Pane .....	70
3.3.5.4	App General Feature Pane.....	78
3.3.6	Wireless Activity Indicator and Sharing and Task Progress Window.....	80
3.3.7	Group Mail.....	81
3.3.8	Sync Button .....	81
3.3.9	Map Controls .....	81
3.4	Overview of Online and Offline Workflows .....	82
3.4.1	Online Workflow .....	82
3.4.1.1	Portfolio Selection.....	82
3.4.1.2	Downloading a Portfolio.....	85
3.4.2	Syncing Data to the Server.....	87
3.4.3	Offline Workflow .....	88
3.4.3.1	Using a Public Account.....	89
3.4.3.2	Loading Offline Data into GO Mobile .....	89
3.4.3.2.1	Importing Data into a GO Mobile Windows Master Device.....	90
3.4.3.2.2	Exporting Portfolio Data from the Master Device to Child Devices..	91
3.4.3.2.3	Loading Data into GO Mobile Android via MTP .....	91
3.4.3.2.4	Loading Data into GO Mobile Android Manually via USB.....	93
3.4.3.2.5	Loading Data into GO Mobile Windows Manually via USB .....	94
3.4.3.3	Data Synchronization Between Mobile Devices .....	94
3.4.3.3.1	Synchronizing Changes from Android using MTP .....	95
3.4.3.3.2	Synchronizing Changes from Android Devices Using USB.....	95
3.4.3.3.3	Synchronizing Changes from Windows Devices using USB .....	96
3.4.3.3.4	Resolving Conflicts During the Synchronization Process .....	97
3.4.3.3.5	Uploading the Merged Data to the Android Devices.....	97
3.4.3.3.6	Migrating Changes Back to the GO Mobile Server.....	97
3.5	Data Collection.....	99
3.5.1	Adding Features or Markers.....	99
3.5.1.1	Duplicating a Feature .....	104
3.5.2	Adding a Feature or Marker to the Feature Gallery.....	104
3.5.3	Modifying Features or Markers.....	106
3.5.4	Measure Tool.....	107

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3.5.5	Media Capture .....	111
3.5.6	Route Capture .....	115
3.6	Map Layers Manager .....	117
<b>4.0</b>	<b>ACRONYMS.....</b>	<b>121</b>

# List of Figures

Figure 2-1:	The Initial Landing Page for the GO Mobile Website (???).....	3
Figure 2-2:	Login Page .....	4
Figure 2-3:	The GO Mobile Web Application.....	4
Figure 2-4:	Portfolio Add Menu.....	5
Figure 2-5:	Portfolio Folder Creation Wizard .....	6
Figure 2-6:	Portfolio Creation Wizard: Symbol Selector Window .....	7
Figure 2-7:	Add Menu... .....	8
Figure 2-8:	Portfolio Creation Wizard .....	9
Figure 2-9:	Portfolio Creation Wizard: Symbol Selector Window .....	10
Figure 2-10:	Portfolio Creation Wizard: Search for a Geographic Location .....	11
Figure 2-11:	Portfolio Creation Wizard: Location Results Window .....	12
Figure 2-12:	Portfolio Creation Wizard: Draw an Area .....	13
Figure 2-13:	Portfolio Creation Wizard: Enter Coordinates .....	14
Figure 2-14:	Portfolio Creation Wizard: Calendar Picker.....	15
Figure 2-15:	Portfolio Interface .....	16
Figure 2-16:	Portfolio Control Pane .....	17
Figure 2-17:	Assigning Users and Setting Portfolio Permissions .....	18
Figure 2-18:	Portfolio: Add Content.....	19
Figure 2-19:	Adding an MQTT Alert .....	21
Figure 2-20:	Adding a Bookmark.....	22
Figure 2-21:	Adding Content From a Map Service Published in the Catalog .....	23
Figure 2-22:	Selecting a Service Layer .....	24
Figure 2-23:	Tools Menu: Publish.....	25
Figure 2-24:	Actions: Publish New Content.....	25
Figure 2-25:	Publisher Wizard .....	26
Figure 2-26:	Format Choice Window.....	26
Figure 2-27:	Upload Capabilities Window .....	27
Figure 2-28:	Metadata Preview Window.....	28
Figure 2-29:	Metadata Summary.....	29
Figure 2-30:	Harvesting Window .....	29
Figure 2-31:	Display Layers Window.....	30
Figure 2-32:	Select Keywords .....	31
Figure 2-33:	Select Browse Graphic Window.....	32
Figure 2-34:	Harvesting Summary Window.....	32
Figure 2-35:	Adding a File .....	33
Figure 2-36:	Add Content: GeoPackage File.....	34
Figure 2-37:	Add Content: GeoPackage File Summary .....	35
Figure 2-38:	Portfolio: GeoPackage Content.....	36
Figure 2-39:	Portfolio GeoPackage Content Expanded .....	37
Figure 2-40:	GeoPackage Control Window .....	38
Figure 2-41:	Add Content: GDB File.....	39

Figure 2-42:	Add Content: File Summary .....	40
Figure 2-43:	Portfolio: GDB Added as GeoPackage .....	41
Figure 2-44:	Portfolio GeoPackage Content Expanded .....	42
Figure 2-45:	Adding Folders .....	43
Figure 2-46:	Adding RSS Feeds.....	44
Figure 2-47:	Adding A Service: WMTS Server URL.....	45
Figure 2-48:	Adding a Service: Specifying the Capabilities URL.....	46
Figure 2-49:	Adding a Service: Adding Layers .....	47
Figure 2-50:	Portfolio: Export Link.....	48
Figure 2-51:	Selecting a Geopackage for Export .....	49
Figure 2-52:	Exporting Geopackage as XML .....	49
Figure 2-53:	Creating XML Document(s).....	50
Figure 3-1:	GO Mobile: Create Account .....	53
Figure 3-2:	GO Mobile: Privacy Policy.....	54
Figure 3-3:	GO Mobile: Create Account .....	55
Figure 3-4:	GO Mobile: Account Created Pop-up.....	56
Figure 3-5:	GO Mobile App Login Screen .....	57
Figure 3-6:	GO Mobile: Portfolio Selection Screen.....	58
Figure 3-7:	Go Mobile: Opening a Portfolio .....	59
Figure 3-8:	GO Mobile App Main Screen .....	60
Figure 3-9:	GO Mobile: Discover Mode .....	62
Figure 3-10:	GO Mobile: Keyword/Place Name Search .....	63
Figure 3-11:	GO Mobile: Keyword/Place Name Search Results .....	64
Figure 3-12:	GO Mobile: Search Result Window.....	65
Figure 3-13:	GO Mobile: Local Marker Window .....	66
Figure 3-14:	GO Mobile: Manually Enter Location .....	67
Figure 3-15:	GO Mobile Context Menu.....	68
Figure 3-16:	Go Mobile: Browse Contents .....	69
Figure 3-17:	GO Mobile: Data Discovery Window.....	70
Figure 3-18:	GO Mobile: Collections .....	71
Figure 3-19:	GO Mobile: Time Frame.....	71
Figure 3-20:	GO Mobile: Results Size .....	72
Figure 3-21:	GO Mobile: Search Results.....	73
Figure 3-22:	GO Mobile: Search Result Displayed on Map.....	74
Figure 3-23:	GO Mobile: Metadata .....	75
Figure 3-24:	GO Mobile: Full Metadata .....	76
Figure 3-25:	GO Mobile: Turn Browse Imagery Off.....	77
Figure 3-26:	GO Mobile: Display Overview Image .....	78
Figure 3-27:	GO Mobile Settings Window .....	79
Figure 3-28:	Data Synchronization Window .....	80
Figure 3-29:	Wireless Activity Indicators .....	80
Figure 3-30:	Sharing and Task Window.....	81
Figure 3-31:	GO Mobile: Portfolio Selection Screen.....	83
Figure 3-32:	GO Mobile: Opening a Portfolio: Options.....	84

Figure 3-33:	GO Mobile: Open Portfolio: View Option.....	85
Figure 3-34:	GO Mobile: Download Screen.....	86
Figure 3-35:	GO Mobile: Downloading Portfolio.....	87
Figure 3-36:	GO Mobile: Sync Button.....	88
Figure 3-37:	GO Mobile: Launching GO Mobile Windows in Offline Mode .....	90
Figure 3-38:	GO Mobile: Opening an Imported WES Portfolio.....	91
Figure 3-39:	GO Mobile: Setting the USB Mode to MTP.....	92
Figure 3-40:	GO Mobile: Selecting Peer-To-Peer Synchronization .....	93
Figure 3-41:	GO Mobile: Exporting an Portfolio Change-File in Android.....	95
Figure 3-42:	GO Mobile: Importing an Portfolio Change-File .....	96
Figure 3-43:	Conflict Resolution when Importing a Change-File .....	97
Figure 3-44:	Selecting a WES Portfolio for Change-File Import.....	98
Figure 3-45:	Importing a WES Portfolio Change-File .....	98
Figure 3-46:	GO Mobile: Portfolio Online Mode: Add Feature.....	100
Figure 3-47:	GO Mobile: Add New Feature Screen.....	101
Figure 3-48:	GO Mobile: Geometry Type .....	102
Figure 3-49:	GO Mobile: Adding Feature .....	102
Figure 3-50:	GO Mobile: Feature Information Window.....	103
Figure 3-51:	GO Mobile: Remote Marker Window .....	104
Figure 3-52:	GO Mobile: Edit Feature Gallery .....	105
Figure 3-53:	GO Mobile: Feature Information Balloon.....	106
Figure 3-54:	GO Mobile: Feature Information Window.....	107
Figure 3-55:	GO Mobile: Measure Tool Options.....	108
Figure 3-56:	GO Mobile: Measure Distance .....	109
Figure 3-57:	GO Mobile: Measure Area .....	111
Figure 3-58:	GO Mobile: Media Options.....	112
Figure 3-59:	GO Mobile: Create New Feature Window.....	113
Figure 3-60:	GO Mobile: Feature Information Window with Media.....	114
Figure 3-61:	Route Capture Initial Screen .....	116
Figure 3-62:	Route Capture Interface.....	117
Figure 3-63:	GO Mobile: Context Menu - Map Layers.....	118
Figure 3-64:	GO Mobile: Map Layers .....	119
Figure 3-65:	GO Mobile: Edit Map Layers .....	120

## 1.0 INTRODUCTION

### 1.1 Introduction to GO Mobile

The GO Mobile app allows users to go into the field and collect data related to portfolios. The app works in conjunction with the GO Mobile server (online mode), however, it also supports data collection in totally disconnected environments (offline mode). GO Mobile provides users with the capability of collecting, reviewing, and sharing data with team members and/or with the server in connected environments.

Using GO Mobile, data can be collected by individuals, merged, and then re-synchronized with team members. In online mode, this can be done in real-time by uploading/downloading the data to the server using a HTTP interface. The data is then available for other users to acquire by re-synchronizing their dataset with the latest merged collection. In offline mode, the individual datasets can be merged at a later time in the field or on the server by side-loading the datasets using physical media.

GO Mobile makes extensive use of GeoPackages, both as a data storage platform and as a transport mechanism for moving data between devices and/or between devices and the server. In addition, the application provides unique capabilities for conversion of ESRI Geodatabase files to GeoPackage files and extraction of an underlying data model to be used in the data collection process.

GO Mobile has been implemented using Compusult's standards-based commercial-off-the-shelf (SCOTS) software application Web Enterprise Suite (WES). Web Enterprise Suite is a complete geospatial portal solution for data product discovery, access, delivery, and publishing via the Web. Its tightly integrated, open standards-based applications and toolkits provide a complete, interoperable, end-to-end portal solution.

The GO Mobile app has been implemented using Compusult's GO Mobile technology. GO Mobile is a mobile application for devices such as Android phones and tablets, as well as Windows tablets and desktops, that extends WES capabilities out to mobile devices and gives users the ability to easily access products through WES.

## 2.0 GO Mobile SERVER (Web Enterprise Suite (WES))

The GO Mobile server application is built using CompuSult's commercial off-the-shelf (COTS) Web Enterprise Suite (WES) toolkit. The GO Mobile server interacts with the GO Mobile mobile app installed on mobile devices (Android and Windows).

The following sections detail GO Mobile activities carried out on the server.

### 2.1 Acquiring the GO Mobile Application

To acquire the GO Mobile mobile application, do the following:

1. Enter the URL for the GO Mobile website. The initial page displayed provides links to acquire the GO Mobile app, along with instructions on how to install the app. Two links are provided:
  - For Android devices, the **APK** link will initiate the download of a GO Mobile Android .apk file which can be moved to an Android device and installed using standard Android app installation procedures.
  - For Windows-based devices (Win 7/8.1/10), the **Bundle** link will initiate the download of a GO Mobile .zip installation file which can be moved to a Windows device and unzipped for installation of the app. Once unzipped, execute the *run.exe* file which will install all software necessary to install the application.
2. To access the GO Mobile website, select the **Proceed to Website** link at the bottom of the page. Figure 2-1 illustrates the initial landing page of the GO Mobile website.

Web  
Enterprise  
suite
COMPUSULT

Web Enterprise Suite - GO Mobile Application

**GO Mobile Installation**

**Steps for installing GO Mobile for Android:**

- Uninstall any previous versions of GO Mobile from your device.
- Ensure that the device is set up to allow installation of applications from unknown sources.
- Download the latest [GO Mobile for Android](#).
- Use the Android notification for this download to activate the installation once the APK is downloaded.
- You will be prompted to install the application. Tap INSTALL. This should take around 30 seconds.
- Tap OPEN to launch the application.
- Tap the Log In button on the Launch Page.
- If this is your first time, tap "Don't have an account? Create one."
- Accept the Privacy Policy.
- Provide the information to create your account.
- Once your account is created, you can log in using the GO Mobile login page.



**Steps for installing GO Mobile for Windows:**

- Delete any previous versions of GO Mobile.
- Download the latest [GO Mobile for Windows](#) bundle.
- Unzip the bundle to a location such as "C:\Program Files\".
- Run the application using the *run.bat* executable in the folder.



**Accessing the Website**

Once you have created your account using GO Mobile, you can use your newly created username and password to log in to the website using the link below.

[Proceed to Website](#)

**Figure 2-1: The Initial Landing Page for the GO Mobile Website**

## 2.2 GO Mobile Website

### 2.2.1 Log In

After selecting **Proceed to Website** from the landing page, you will be prompted to enter your **Username** and **Password**, as shown in Figure 2-2, in order to log in to the site.

Please enter your Web Enterprise Suite Username and Password.

Username:

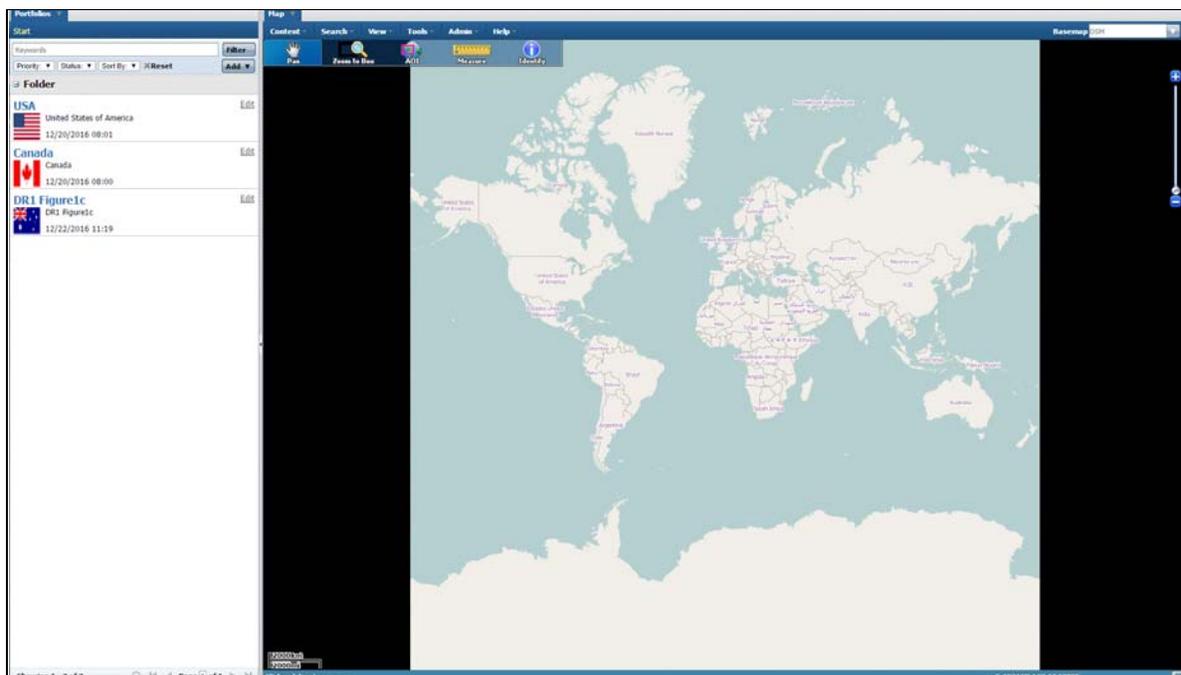
Password:

Login

**Figure 2-2: Login Page**

If you do not have an account, an administrator can set one up for you, or you can self-register using the GO Mobile application on a mobile device, as described in Section 3.1.3.

Figure 2-3 shows the initial GO Mobile web application after login.



**Figure 2-3: The GO Mobile Web Application**

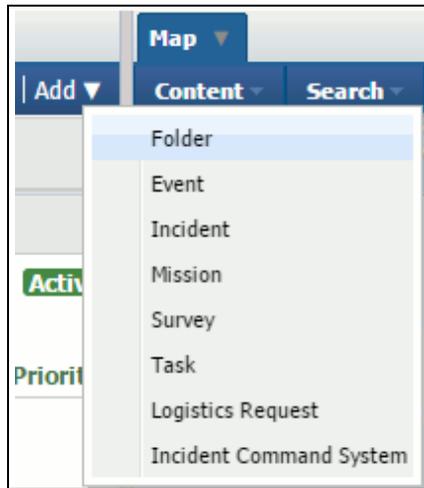
The site shows the map and related toolbar to the right, with the **Portfolios** pane to the left. The GO Mobile application will utilize Portfolios to create and group them as desired by the user.

## 2.3 Creating and Initializing A Portfolio

### 2.3.1 Creating a Portfolio Folder

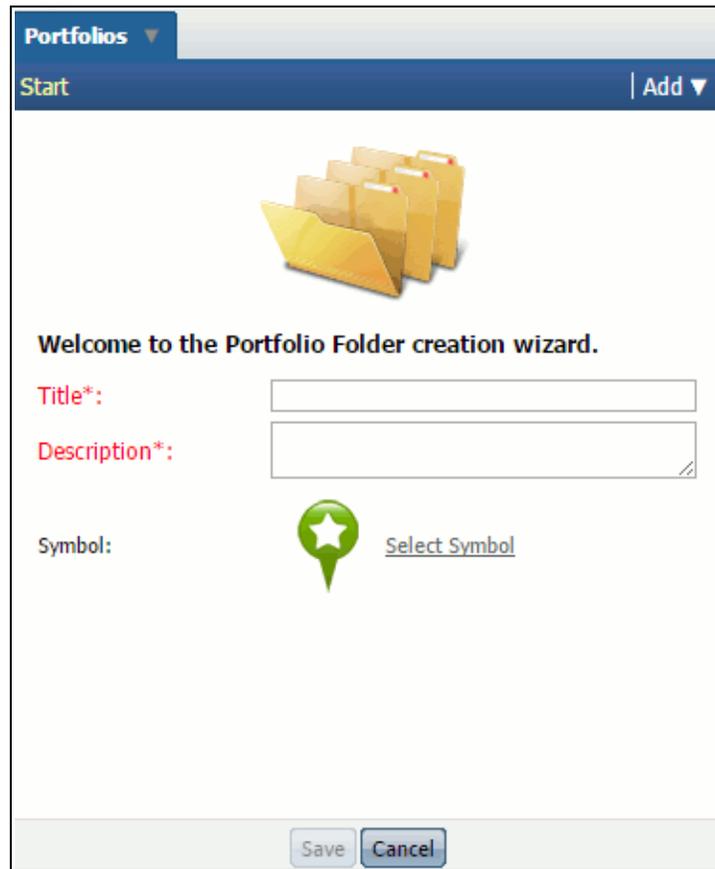
To create a GO Mobile portfolio folder, do the following:

1. On the **Portfolios** pane, click the **Add** button. A menu will be displayed, as shown in Figure 2-4.



**Figure 2-4: Portfolio Add Menu**

2. Click **Folder**. The **Folder Creation Wizard** will be displayed, as shown in Figure 2-5.
3. Enter a **Name** and **Description** for your folder. These fields are mandatory as indicated by the red text and asterisks.
4. Select a symbol for the folder other than the default. Click the **Select Symbol** link. The **Symbol Selector** window will be displayed, as shown in Figure 2-6. A number of choices are available.
  - Enter the URL to an image. Provide a scale factor if desired and specify X and Y values for a hot spot (the (x,y) value on the icon which will precisely locate the symbol on the map).
  - Select a Symbol Group. Figure 2-6 shows Symbol Group: Countries which are country flags.
    - Another Symbol file can be uploaded to the Symbol Groups from this window by selecting the **Add Symbology** button in the lower left corner.
  - Click the image for the symbol of your choice and click the **Ok** button.
5. Click the **Save** button at the bottom of the pane to complete the folder creation.



**Figure 2-5: Portfolio Folder Creation Wizard**



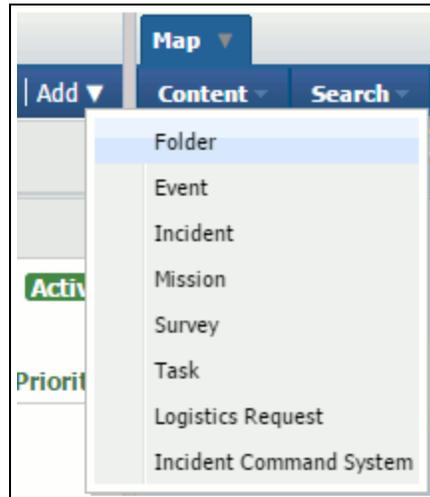
**Figure 2-6: Portfolio Creation Wizard: Symbol Selector Window**

### 2.3.2 Portfolio Creation

For GO Mobile, portfolios can be created and grouped under folders. Prior to creating a portfolio, create a folder to contain the portfolio.

To create a portfolio, do the following:

1. On the **Portfolios** pane, click the **Add** button. A menu will be displayed, as shown in Figure 2-7.



**Figure 2-7: Add Menu**

2. Click **Portfolio**. The **Portfolio Creation Wizard** will be displayed, as shown in Figure 2-8.

Portfolios ▼ × Map Layers ▼

Start



**Welcome to the Survey creation wizard.**  
Please enter the metadata for your Survey to get started.

**Name\*:**

**Description\*:**

Basemap:  ▼

Symbol:  [Select Symbol](#)

Define an area on the map using one of the following:

- Search for a Geographic Location
- Use Current Map Extents
- Draw an Area
- Enter Coordinates

Priority:  ▼

Status:  ▼

Cover Image Upload:  No file chosen

Security:  ▼

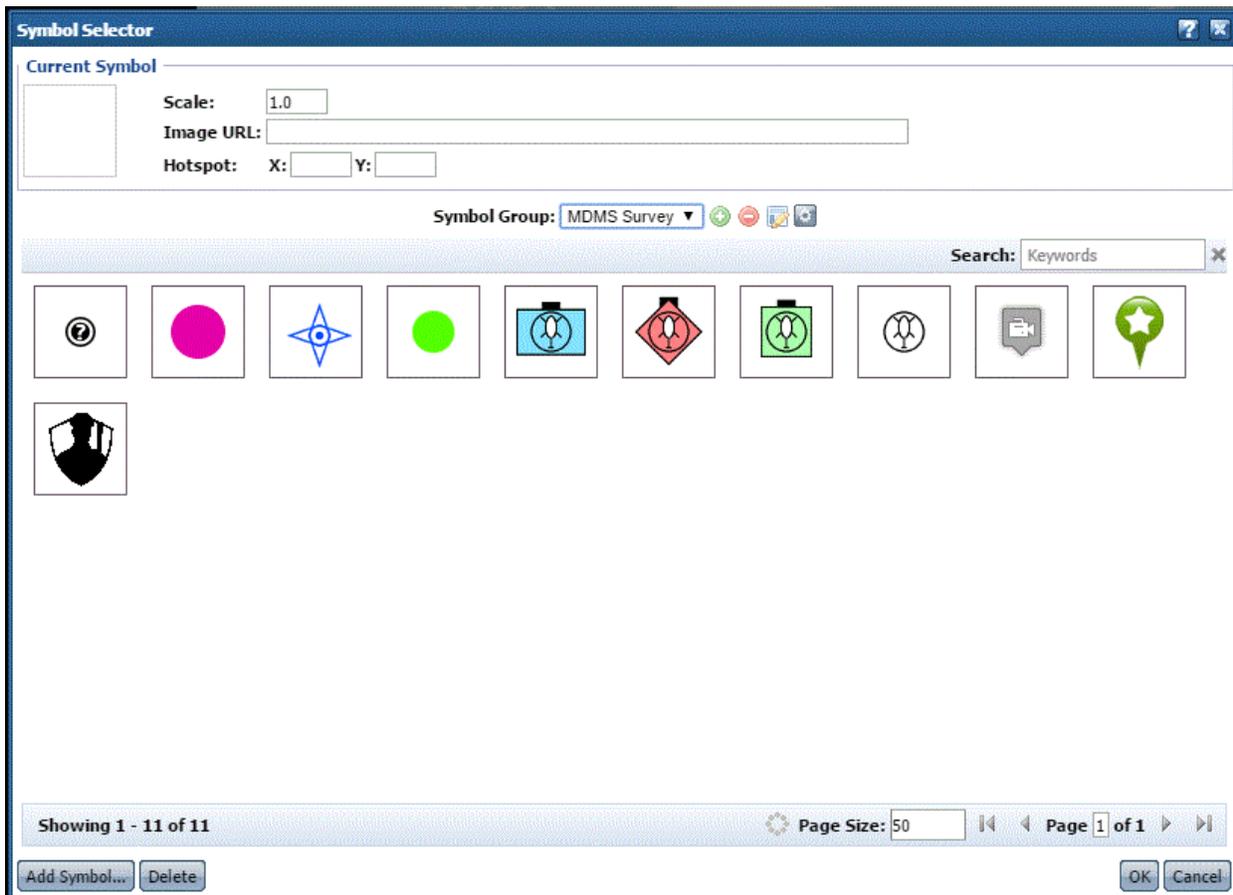
Start Date:  

End Date:  

**Figure 2-8: Portfolio Creation Wizard**

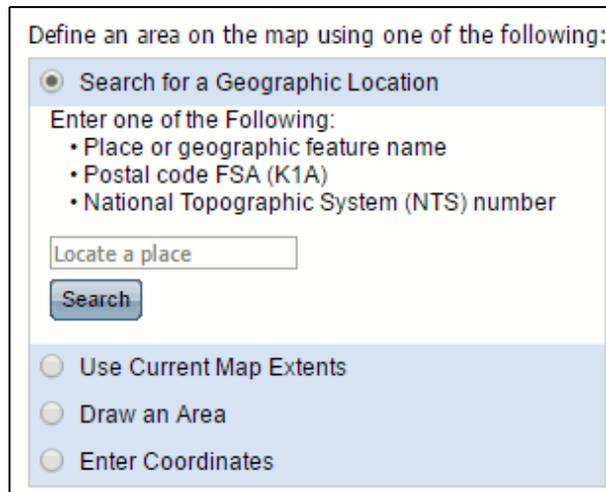
3. Enter a **Name** and **Description** for your portfolio. These fields are mandatory as indicated by the red text and asterisks.
4. Select a basemap from the **Basemap** pull-down list.

5. Select a symbol for the portfolio. A symbol indicates the portfolio's location on the map. If you would like to change the symbol to something other than the default, click the **Select Symbol** link. The **Symbol Selector** window will be displayed, as shown in Figure 2-9. A number of choices are available:
  - Enter the URL to an image. Provide a scale factor if desired and specify X and Y values for a hot spot (the (x,y) value on the icon which will precisely locate the symbol on the map).
  - Select a Symbol Group. Figure 2-6 shows Symbol Group: Countries which are country flags.
    - Another Symbol file can be uploaded to the Symbol Groups from this window by selecting the **Add Symbology** button in the lower left corner.
  - Click the image for the symbol of your choice and click the **Ok** button.



**Figure 2-9: Portfolio Creation Wizard: Symbol Selector Window**

6. Click the radio button next to one of the following options to indicate the method you want to use to define an area on the map:
  - **Search for a Geographic Location** - Expands to allow you to enter a place or geographic feature name, postal code, Forward Sortation Area (FSA) or a National Topographic System (NTS) number, as shown in Figure 2-10.



Define an area on the map using one of the following:

- Search for a Geographic Location**
  - Enter one of the Following:
    - Place or geographic feature name
    - Postal code FSA (K1A)
    - National Topographic System (NTS) number
  - Locate a place
  -
- Use Current Map Extents
- Draw an Area
- Enter Coordinates

**Figure 2-10: Portfolio Creation Wizard: Search for a Geographic Location**

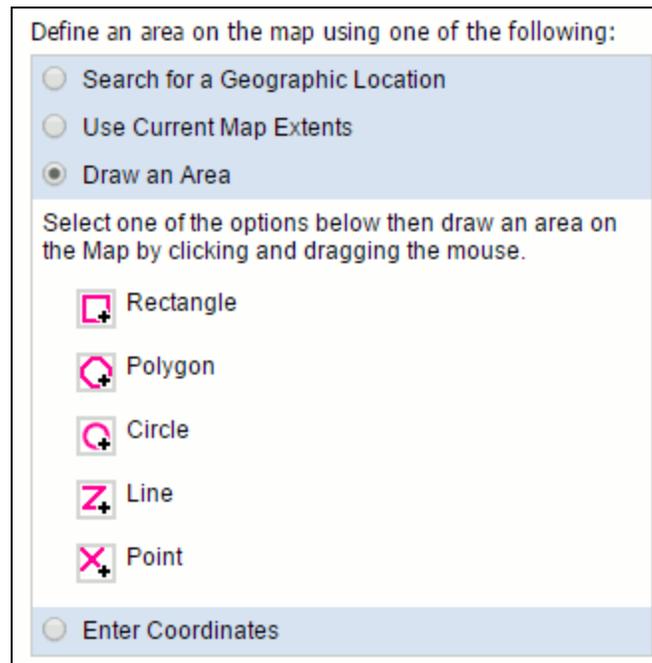
After entering a value in the field provided, click the **Search** button to execute the search. The **Location Results** window will be displayed, as shown in Figure 2-11.



**Figure 2-11: Portfolio Creation Wizard: Location Results Window**

Select the location of interest, and click the **Display** button. The map will refresh to display the AOI.

- **Use Current Map Extents** - Uses the currently displayed map extents.
- **Draw an Area** - Expands to allow you to define an area of interest on the map. Select one of the options displayed and then draw an area. The options are:
  - **Rectangle** - Click on the map in the desired locations for the first and final points on the rectangle, or click and drag your mouse to draw the rectangular AOI.
  - **Polygon** - Click on the map in the desired location for each point on the polygon. Double-click for the final point on the polygonal AOI.
  - **Circle** - Click on the map in the desired location for the center point of the circle. Draw a radius, clicking your mouse again for a point on the circumference of the circle to complete the process. You may also click on the center point of the circle and drag to draw the radius.
  - **Line** - Click on the map in the desired location for each point on the map. Double-click for the final point on the linear AOI.
  - **Point** - Click on the map in the desired location to draw a single point AOI.



**Figure 2-12: Portfolio Creation Wizard: Draw an Area**

- **Enter Coordinates** - Expands to allow you to enter coordinates. Select the coordinate format (**Decimal**, **DMS**, **MGRS**, **UTM/UPS**) from the **Format** pull-down list and either **Polygon** or **Line** from the second pull-down list. Enter an optional **Radius** and then select either **Kilometers**, **Meters**, **Miles** or **Nautical Miles** from the pull-down list. **Meters** will be selected by default.

Define an area on the map using one of the following:

- Search for a Geographic Location
- Use Current Map Extents
- Draw an Area
- Enter Coordinates

Format:

Decimal Format: DD.DDDDD, DDD.DDDDD  
45.00000, 145.00000  
-45.00000, -145.00000

Radius:

**Figure 2-13: Portfolio Creation Wizard: Enter Coordinates**

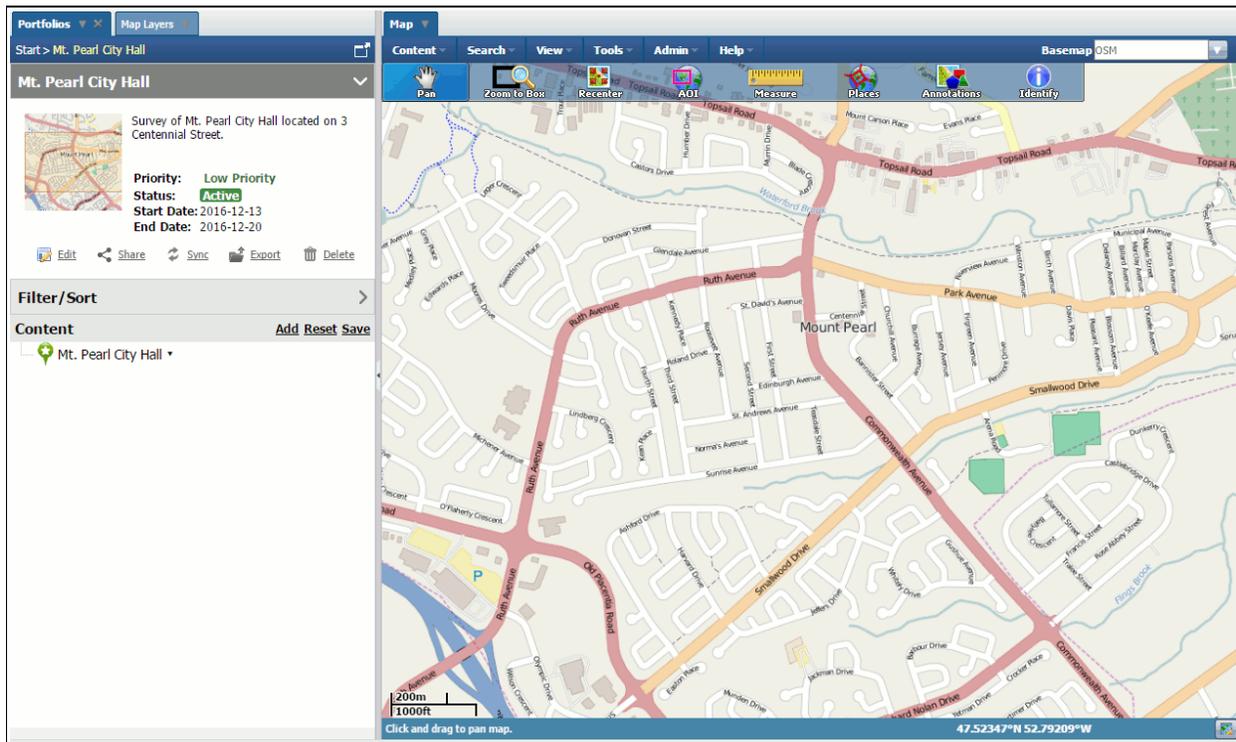
7. Select a priority from the **Priority** pull-down list. The options are **Low**, **Medium**, **High** or **Critical**.
8. Select a status from the **Status** pull-down menu. The options are **Active** or **Closed**.
9. Upload a cover image by selecting the **Choose File** button next to the **Cover Image Upload** option.
10. Select a security marking from the **Security** pull-down menu. The options are **Top Secret**, **Secret**, **Confidential** and **Unclassified**.
11. Select a **Start Date** and **End Date** by clicking the calendar icon and clicking on the date of your choice, as shown in Figure 2-14.

The screenshot displays a mobile application interface for creating a portfolio. On the left, there are several input fields: "Radius" with a value of 0, "Priority:", "Status:", "Cover Image Upload:", "Security:", "Start Date:", and "End Date:". On the right, a calendar picker is shown for December 2016. The calendar has a header with "December" and "2016". The days of the week are listed as "Mon", "Tue", "Wed", "Thu", "Fri", "Sat", and "Sun". The dates are arranged in a grid, with the 14th of the month highlighted in yellow. Below the calendar is a "Clear" button. The "Start Date" and "End Date" fields have small calendar icons next to them.

**Figure 2-14: Portfolio Creation Wizard: Calendar Picker**

12. Click the **Finish** button. Your portfolio will be displayed in the **Portfolios** pane, and the map will be refreshed to the geographic extents you specified.

Figure 2-15 shows the Portfolio Interface screen with the **Control** pane, **Content** pane, and map viewer showing the AOI for the portfolio.



**Figure 2-15: Portfolio Interface**

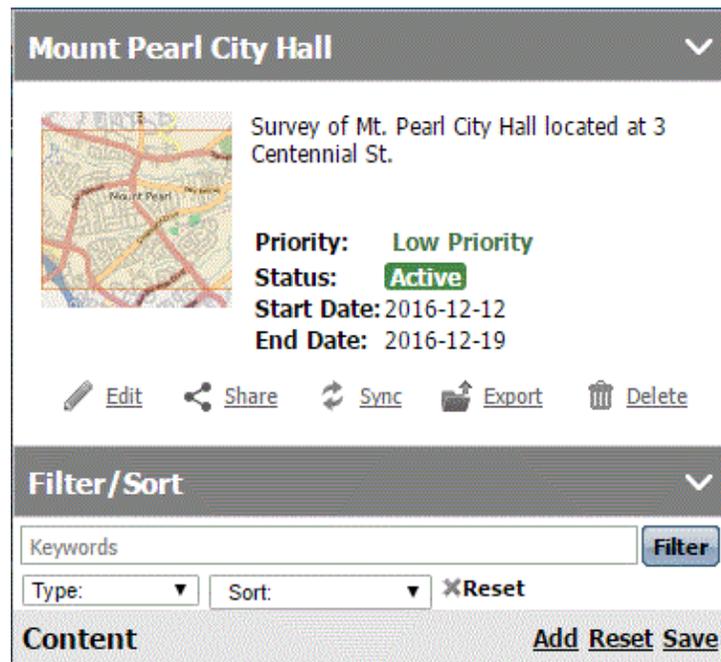
Portfolio data which has been uploaded will appear in the map viewer.

Figure 2-16 shows the **Portfolio Control** pane. From the **Portfolio Control** pane, a number of actions are available:

- **Edit** - Modify portfolio information and/or settings.
- **Share** - Set permissions for the portfolio.
- **Sync** - A change-file containing portfolio data can be uploaded and merged with the portfolio.
- **Export** - The entire portfolio can be exported for side-loading to a mobile device.
- **Delete** - The portfolio can be deleted.

Also from the **Control** pane, a **Filter/Sort** tool is provided to organize content within the portfolio.

Content can also be added to the portfolio from the **Control** pane by selecting the **Add** menu item on the **Content** control. Section 2.3.4 provides more information on adding content to a portfolio.



**Figure 2-16: Portfolio Control Pane**

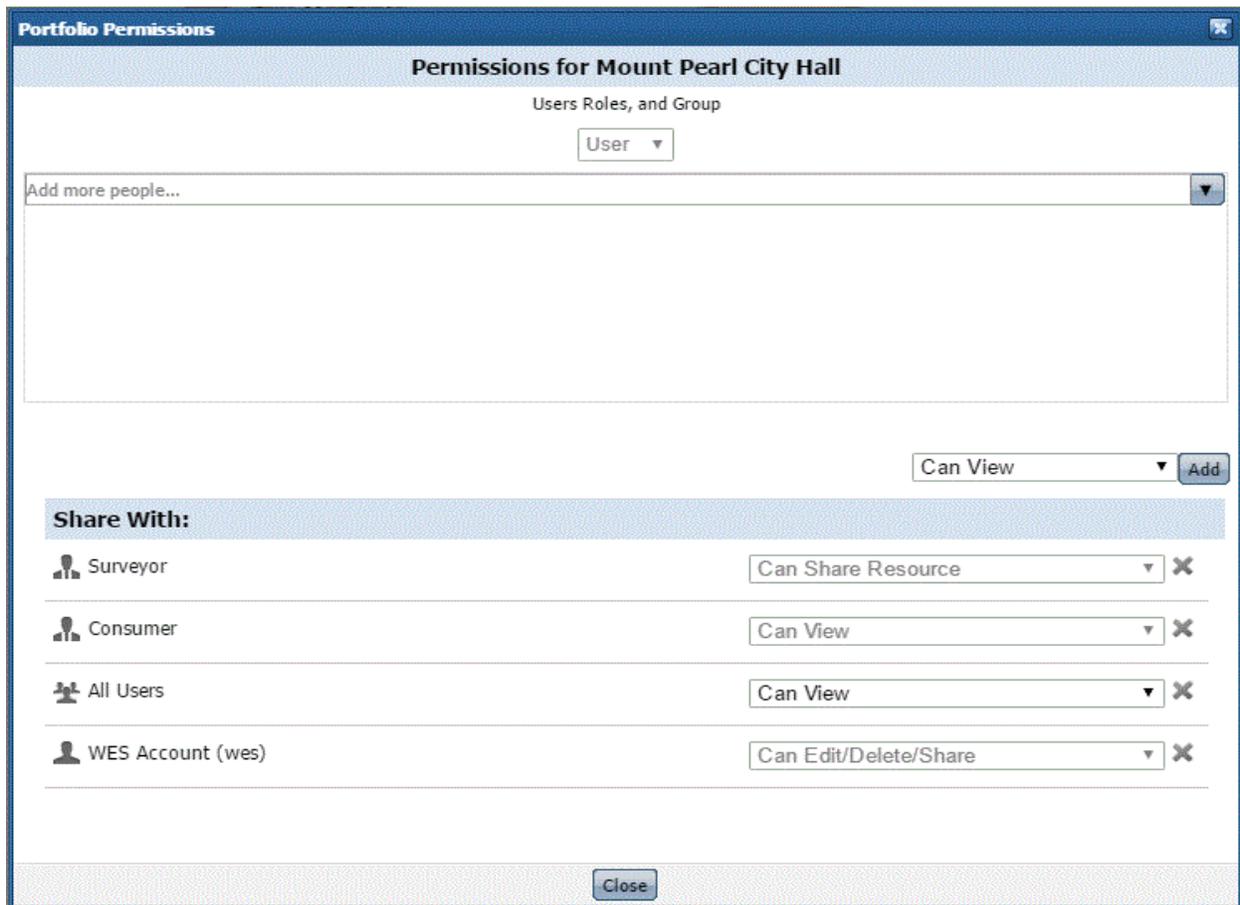
### 2.3.3 Assigning Users/Permissions to a Portfolio

Once the portfolio has been created, users can be assigned access to the portfolio and associated roles/permissions can be set. To access the **Permissions** window, select **Share** from the **Portfolio Control** pane, as shown in Figure 2-16.

The **Permissions** window is shown in Figure 2-17. From this window, an individual user can be selected from a pull-down list of user accounts defined on the system, and permissions can be granted to that user. User permissions include:

- Can View;
- Can Edit/Delete; or,
- Can Edit/Delete/Share.

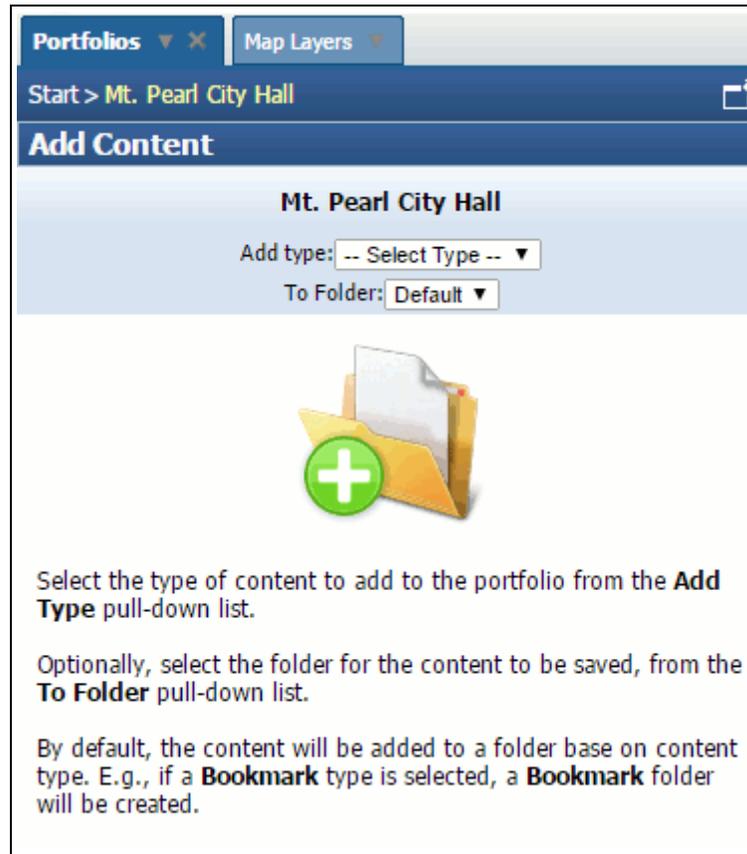
Users can also be removed from a portfolio from this window by clicking the 'X' to the right of the user's name in the **Share With** list.



**Figure 2-17: Assigning Users and Setting Portfolio Permissions**

### 2.3.4 Adding Portfolio Content

Once a portfolio has been created, content can be added by selecting the **Add** menu item on the **Content** control, as shown in Figure 2-16. Selecting **Add** will display the **Add Content** control, as shown in Figure 2-18.



**Figure 2-18: Portfolio: Add Content**

To add content, select a type from the pull-down list. Several different types of content can be added to a portfolio, including:

- **Alert** - Subscribe to alerts from any MQTT server.
- **Bookmark** - Bookmark a URL.
- **Catalog** - Select content from services published in a catalog.
- **Files** - Load a file.
- **Folder** - Load a directory of data.
- **RSS Feeds** - Subscribe to an RSS feed.
- **Service** - Import maps/layers from an external map service or source (WMS, WMTS or ArcGIS map server).
- **Event** - Create an event within the portfolio.
- **Incident** - Create an incident within the portfolio.
- **Mission** - Create a mission within the portfolio.
- **Task** - Create a task within the portfolio.
- **Logistics Request** - Create a logistics request within the portfolio.

- **Incident Command System** - Create an incident command system within the portfolio.

A hierarchy of folders can be created inside of the portfolio where files and data can be organized. When adding content, a folder in which to store the specific content can be selected.

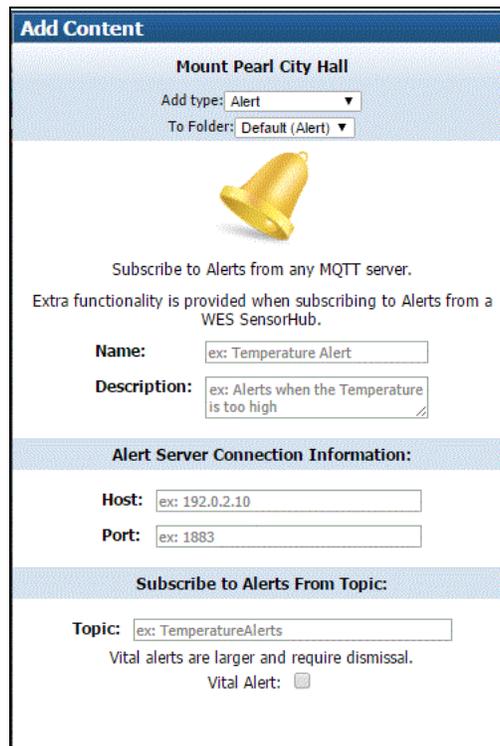
#### 2.3.4.1 Adding Alerts

Alerts sourced from an MQTT server can be added to a Portfolio.

MQTT (MQ Telemetry Transport) is an ISO standard (ISO/IEC PRF 20922) publish-subscribe-based "lightweight" messaging protocol for use on top of the TCP/IP protocol. It is designed for connections with remote locations where a "small code footprint" is required or the network bandwidth is limited. The process for adding an Alert is straightforward.

To add an alert:

1. Select **Alert** from the **Add Type** pull-down.
2. Enter the **Host** IP address to the MQTT server and the associated **Port** along with a **Name** and **Description**. If desired, all alerts related to a **Topic** can also be acquired.
3. When complete, click **OK** at the bottom of the page. Alerts will be stored in the folder specified in the **To Folder** pull-down. If no folder is specified, the default **Alert** folder will be used. Figure 2-19 shows the dialog for including alerts.



The screenshot shows a mobile application interface for adding content. At the top, it says "Add Content" in a blue header. Below that, the location is "Mount Pearl City Hall". There are two dropdown menus: "Add type:" set to "Alert" and "To Folder:" set to "Default (Alert)". A yellow bell icon is centered. Below the icon, there is text: "Subscribe to Alerts from any MQTT server. Extra functionality is provided when subscribing to Alerts from a WES SensorHub." There are two text input fields: "Name:" with the example "ex: Temperature Alert" and "Description:" with the example "ex: Alerts when the Temperature is too high". Below these is a section titled "Alert Server Connection Information:" with two text input fields: "Host:" with the example "ex: 192.0.2.10" and "Port:" with the example "ex: 1883". The next section is "Subscribe to Alerts From Topic:" with a text input field for "Topic:" containing "ex: TemperatureAlerts". Below this, there is text: "Vital alerts are larger and require dismissal." and a checkbox labeled "Vital Alert:" which is currently unchecked.

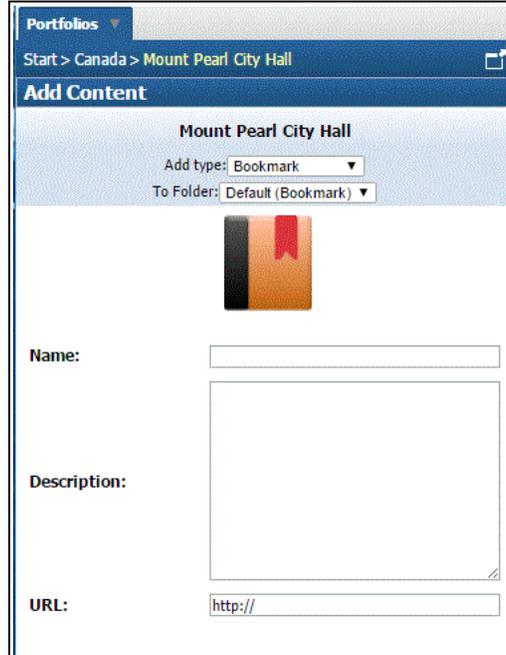
**Figure 2-19: Adding an MQTT Alert**

#### 2.3.4.2 Adding Bookmarks

A bookmark to a web resource can be added to the portfolio by entering the Universal Resource Locator (URL) to the resource. The process for adding a bookmark is straightforward.

To add a bookmark:

1. Select **Bookmark** from the **Add Type** pull-down.
2. Enter the URL along with a **Name** and **Description**.
3. Click **OK** at the bottom of the page. The bookmark will be stored in the folder specified in the **To Folder** pull-down. If no folder is specified, the default **Bookmark** folder will be used. Figure 2-20 shows the dialog for adding a bookmark.



**Figure 2-20: Adding a Bookmark**

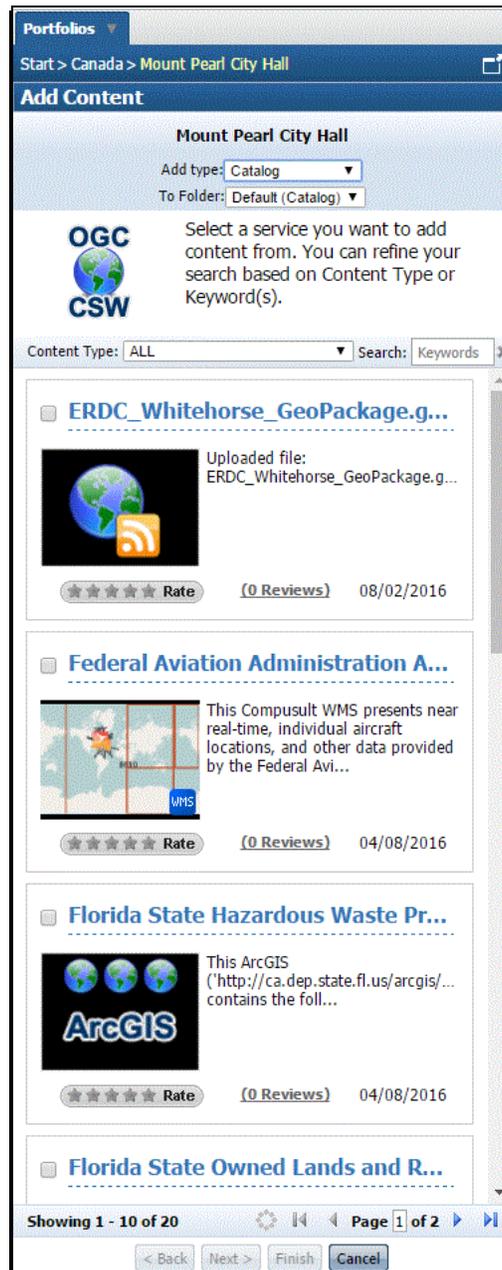
### 2.3.4.3 Adding Content From a Map Service Published in the Catalog

Content from published map services can be added to a portfolio. These services include:

- OGC-compatible Web Map Service (WMS);
- OGC-compatible Web Map Tile Service (WMTS); or,
- ArcGIS map service.

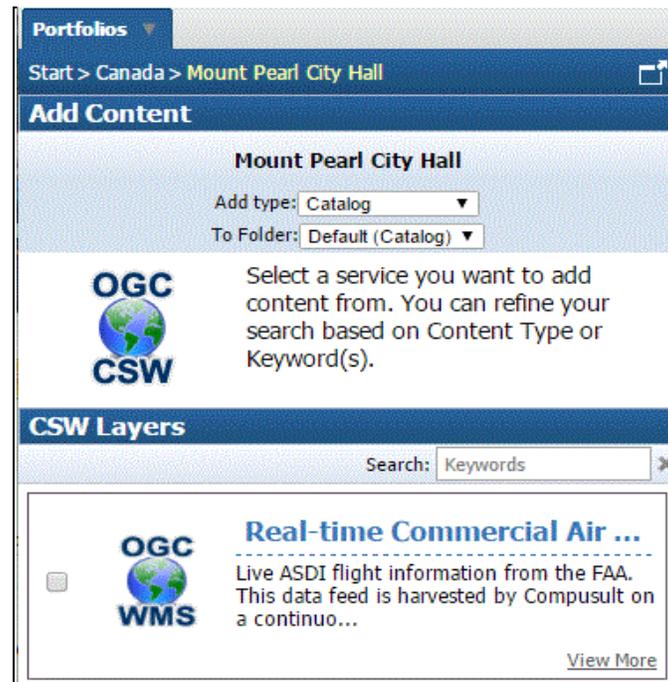
To add content from a map service published in the catalog, follow the steps below.

1. Click the portfolio to which you want to add map layers. The portfolio's summary will be displayed.
2. Select the **Add** button in the **Content** section, as shown in Figure 2-16.
3. Select **Catalog** from the **Add Type** pull-down. A list of published services is displayed as shown in Figure 2-21.
4. If desired, displayed services can be filtered based on **Content Type** and/or **Keyword**.
5. Select the service of interest by clicking in the checkbox next to the service title.
6. Click **Next** at the bottom of the page.



**Figure 2-21: Adding Content From a Map Service Published in the Catalog**

7. Select the **CSW Layers** to add by clicking in the checkbox of the layer of interest, as shown in Figure 2-22 and then click the **Finish** button at the bottom of the page.



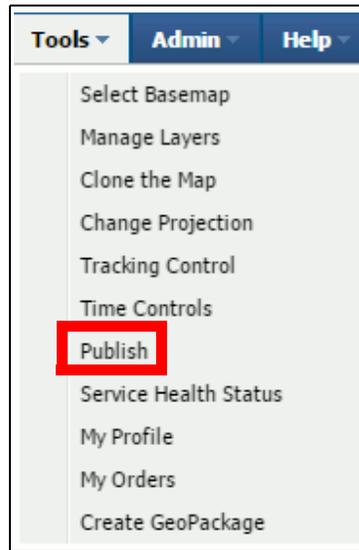
**Figure 2-22: Selecting a Service Layer**

8. The layers will be added to the map.

#### **2.3.4.3.1 Adding Mapping Services to the Catalog**

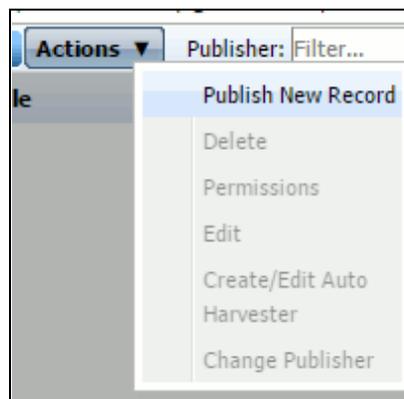
To add mapping services to the catalog, follow the steps below:

1. Log in to the GO Mobile server.
2. Click the **Tools** menu and then click **Publish**, as shown in Figure 2-23.



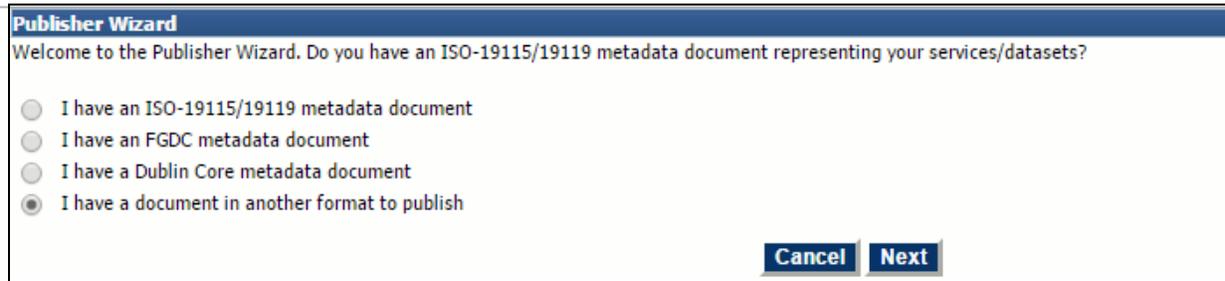
**Figure 2-23: Tools Menu: Publish**

3. The **Published Content** window will be displayed. On the **Published Content** window, click the **Actions** menu and then click **Publish New Record**, as shown in Figure 2-24.



**Figure 2-24: Actions: Publish New Content**

4. The **Publisher Wizard** window will be displayed. On the **Publisher Wizard** window, click the radio button next to **I have a document in another format to publish** and click the **Next** button, as shown in Figure 2-25.



**Publisher Wizard**

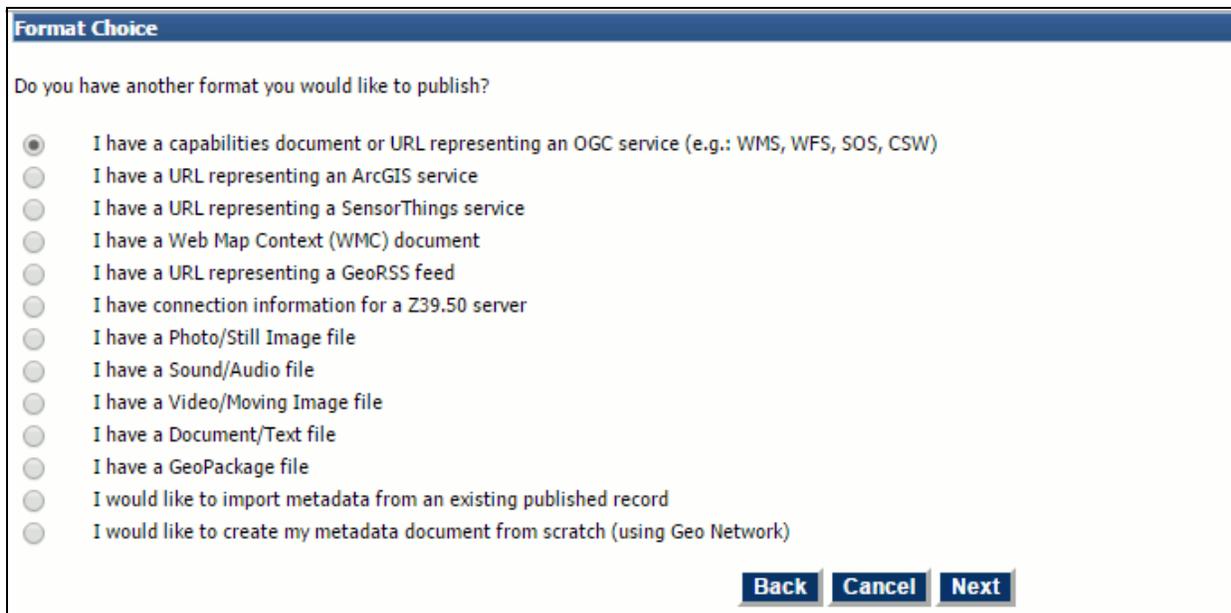
Welcome to the Publisher Wizard. Do you have an ISO-19115/19119 metadata document representing your services/datasets?

- I have an ISO-19115/19119 metadata document
- I have an FGDC metadata document
- I have a Dublin Core metadata document
- I have a document in another format to publish

**Cancel** **Next**

**Figure 2-25: Publisher Wizard**

5. The **Format Choice** window will be displayed. On the **Format Choice** window, click the radio button next to **I have a capabilities document or URL representing an OGC service (e.g., WMS, WFS, SOS, CSW)** and click the **Next** button as shown in Figure 2-26.



**Format Choice**

Do you have another format you would like to publish?

- I have a capabilities document or URL representing an OGC service (e.g.: WMS, WFS, SOS, CSW)
- I have a URL representing an ArcGIS service
- I have a URL representing a SensorThings service
- I have a Web Map Context (WMC) document
- I have a URL representing a GeoRSS feed
- I have connection information for a Z39.50 server
- I have a Photo/Still Image file
- I have a Sound/Audio file
- I have a Video/Moving Image file
- I have a Document/Text file
- I have a GeoPackage file
- I would like to import metadata from an existing published record
- I would like to create my metadata document from scratch (using Geo Network)

**Back** **Cancel** **Next**

**Figure 2-26: Format Choice Window**

6. The **Upload Capabilities** window will be displayed. On the **Upload Capabilities** window, click the radio button next to **I have an OGC Capabilities URL**, enter the map service URL in the **URL** field and click the **Next** button, as shown in Figure 2-27.

**Upload Capabilities**  
Please enter a valid OGC capabilities URL below or select an OGC capabilities document to upload from your computer.

My URL/document is for a  service.

**I have an OGC Capabilities URL**  
URL:   
(Example: <http://wms-metar.compusult.net/ServiceDBWMS/DBWMS/METAR?REQUEST=GetCapabilities&SERVICE=WMS>)

**I have a valid OGC Capabilities document to upload**  
Capabilities Document:  No file chosen

**Figure 2-27: Upload Capabilities Window**

7. The **Metadata Preview** window will be displayed. On the **Metadata Preview** window, click the radio button next to **Keep the current metadata** and click **Next**, as shown in Figure 2-28.

The screenshot shows a 'Metadata Preview' window with a blue header. At the top, there are two radio buttons: 'Keep the current metadata.' (selected) and 'Manually edit the current metadata.'. Below these are three buttons: 'Back', 'Cancel', and 'Next'. A 'View Source' link is centered below the buttons. The main content area is titled 'METAR Weather Reports Web Map Service by Compusult' and contains a numbered list of sections: 1. General Information, 2. Contact Information, 3. Identification Information, and 4. Data Quality Information. The 'General Information' section is expanded, showing fields like File Identifier, Language, Character Set, Hierarchy Level, Date Stamp, Metadata Standard Name, and Metadata Standard Version. The 'Contact Information' section is also expanded, showing contact details for Rob Cass at Compusult, including phone, address, and email. The 'Identification Information' section is partially visible, showing a citation title.

**Metadata Preview**

Keep the current metadata.  
 Manually edit the current metadata.

**Back** **Cancel** **Next**

[View Source](#)

**METAR Weather Reports Web Map Service by Compusult**

- [General Information](#)
- [Contact Information](#)
- [Identification Information](#)
- [Data Quality Information](#)

**General Information:**

**File Identifier:** 32118bef-7ccf-41b0-a15f-b8676f85b8bf  
**Language:** en\_US  
**Character Set:** utf8  
**Hierarchy Level:** service  
**Date Stamp (YYYY-MM-DD):** 2016-12-21T14:14:34  
**Metadata Standard Name:** ISO 19119/2005  
**Metadata Standard Version:** 1.0

[Return to the top](#)

**Contact Information:**

**Contact:**  
**Individual Name:** Rob Cass  
**Organization Name:** Compusult  
**Contact Information:**  
**Phone:**  
**Voice:** +1 888-307-7707  
**Facsimile:** +1 709-745-7927  
**Address:**  
**Delivery Point:** A1N 3C9  
**City:** Mount Pearl  
**Administrative Area:** NL  
**Postal Code:** A1N 3C9  
**Country:** Canada  
**E-mail address:** support@compusult.net  
**Role:** pointOfContact

[Return to the top](#)

**Identification Information:**

**Citation:**  
**Title:** METAR Weather Reports Web Map Service by Compusult

**Figure 2-28: Metadata Preview Window**

- The **Metadata Summary** will be displayed. Click the **Next** button on the **Metadata Summary** window, as shown in Figure 2-29.



Figure 2-29: Metadata Summary

9. The **Harvesting Information** window will be displayed. On the **Harvesting Information** window, click the radio button next to **Do not use Automatic Harvest** and click **Next**.

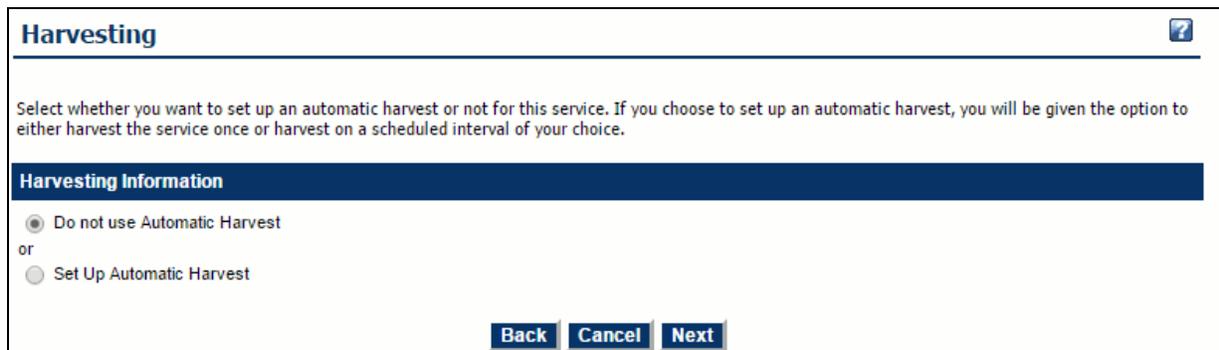


Figure 2-30: Harvesting Window

10. The **Display Layers** window will be displayed. On the **Display Layers** window, check all layers to be added and click the **Next** button, as shown in Figure 2-31.

**Map Server:** http://wms-metar.compusult.net/ServiceDBWMS/DBWMS/METAR?REQUEST=GetCapabilities&SERVICE=WMS

**Service:** METAR Weather Reports Web Map Service by Compusult  
**Title:** METAR Weather Reports Web Map Service by Compusult  
**Abstract:** This Compusult WMS provides Aviation Routine Weather Reports (METAR) for airports and permanent weather observation stations worldwide. These reports are collected by Compusult on an hourly basis and then exposed through this Web Map Service. METAR is the international standard code format for hourly surface weather observations which is analogous to the SA coding currently used in the US.

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The following table contains the WMS layers being advertised by the map server's capabilities document located at the URL: http://wms-metar.compusult.net/ServiceDBWMS/DBWMS/METAR?REQUEST=GetCapabilities&SERVICE=WMS

In the Publish column unselect, any layers that are not to be included in the publication process and select the **NEXT** button. You will be provided with a preview of the metadata document that will be used to populate the Portal Repository with metadata for the map server Context Document.

**Auto Sync with live Service**

Publish	Layer Name	Layer Title	Metadata Type	Dynamic	Refresh Rate	Enable Alerts for Layer
<input checked="" type="checkbox"/>	metar_weather_report	Metar Weather Report Observations	simple	<input checked="" type="checkbox"/>	<input type="text" value="10"/>	

**Figure 2-31: Display Layers Window**

11. The **Select Keywords** window will be displayed. On the **Select Keywords** window, check any keywords to associate with this entry and click the **Next** button, as shown in Figure 2-32.

**Select Keywords**  
Select keywords to associate with this entry from the categories below.

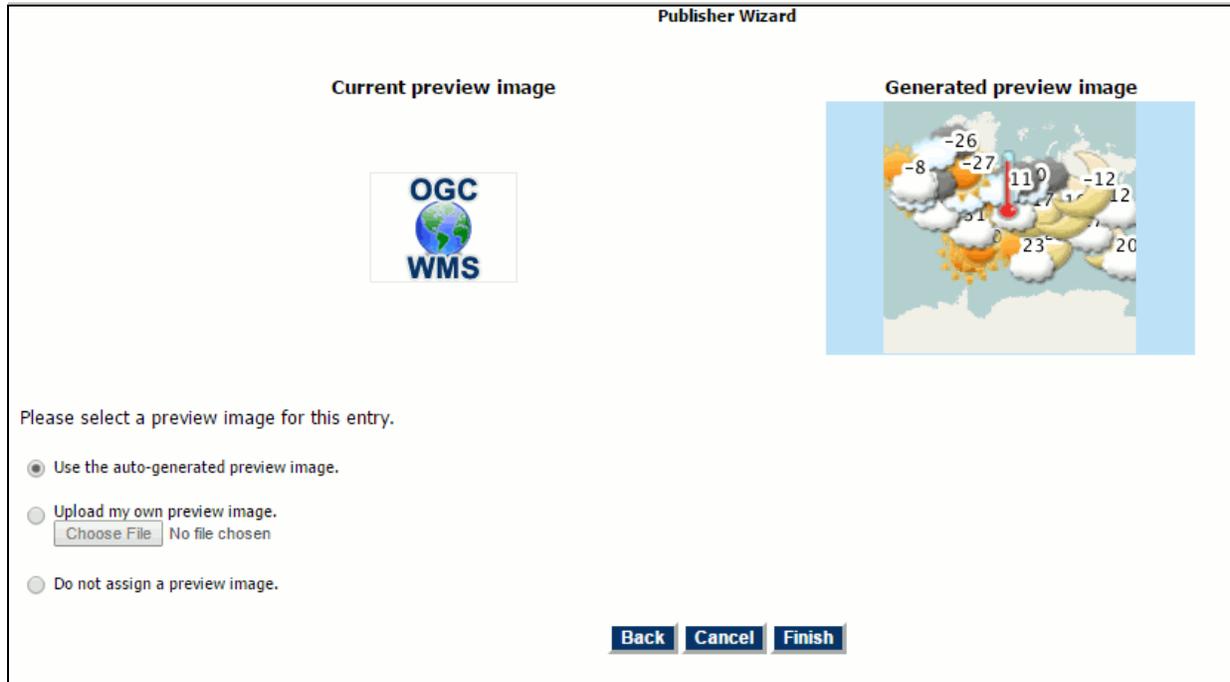
**ISO Topic Category**

- Biota
- Boundaries
- Climatology/Meteorology/Atmosphere
- Economy
- Elevation
- Environment
- Farming
- Geoscientific Information
- Health
- Imagery/Base Maps/Earth Cover
- Inland Waters
- Intelligence/Military
- Location
- Oceans
- Planning Cadastral
- Society
- Structure
- Transportation
- Utilities/Communications

**Back** **Cancel** **Next**

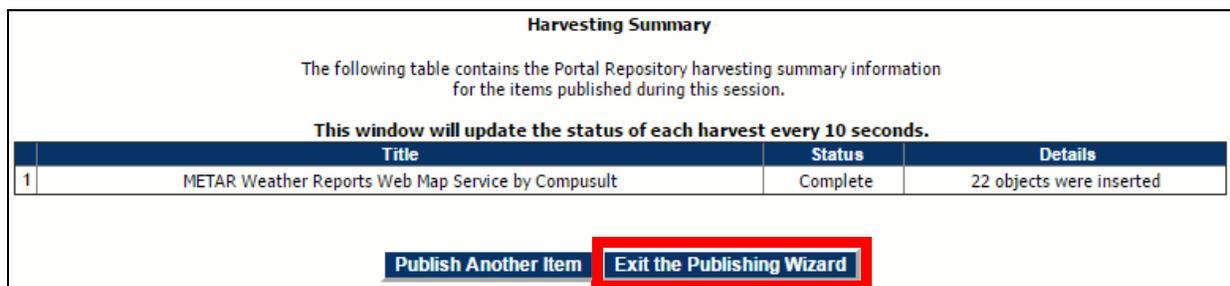
**Figure 2-32: Select Keywords**

12. The **Select Browse Graphic** window will be displayed. On the **Select Browse Graphic** window, click the radio button next to **Use the auto-generated preview image** and click the **Finish** button, as shown in Figure 2-33.



**Figure 2-33: Select Browse Graphic Window**

13. The **Harvesting Summary** window will be displayed with a **Status** of **Complete**. On the **Harvesting Summary** window, click the **Exit the Publishing Wizard** button, as shown in Figure 2-34.



**Figure 2-34: Harvesting Summary Window**

#### 2.3.4.4 Adding a File

The process for adding a file to a portfolio is straight forward. To add a file:

1. In the **Add Content** pane, select **Files** from the **Add Type** pull-down.
2. If desired, a folder for storing the file may be specified in the **To Folder** pull-down. If no folder is specified, the default **Files** folder will be used.
3. Click the **Choose File** button to display a standard File-Open dialog.
4. Navigate to the file of interest, select it and press the **Open** button

5. When complete, click **OK** at the bottom of the page. Files will be stored in the folder specified in the **To Folder** pull-down. If no folder is specified, the default **Files** folder will be used. Figure 2-35 shows the dialog for including files.

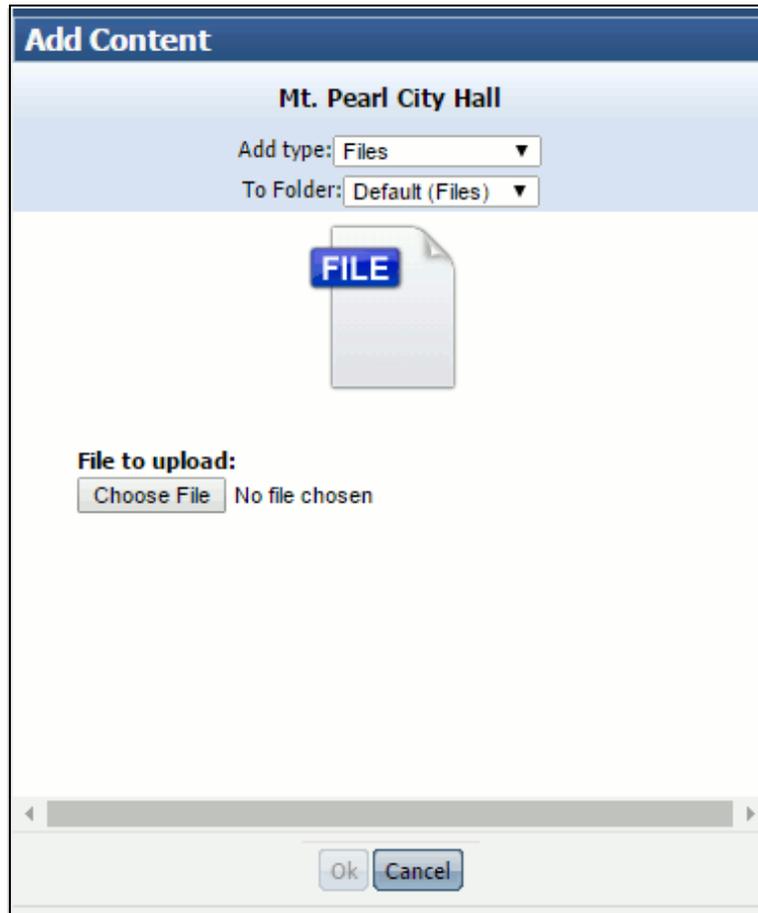
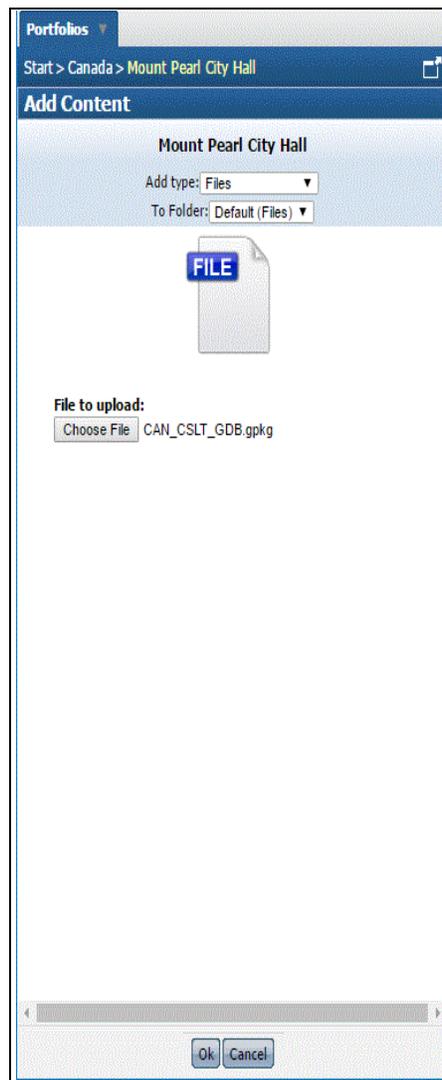


Figure 2-35: Adding a File

#### 2.3.4.4.1 Importing a GeoPackage

You can import GeoPackage content into an existing portfolio by following the steps below:

1. Navigate to and select the portfolio of interest.
2. Select **Files** from the **Add Type** pull-down list. Optionally, select the portfolio folder in which to save the content from the **To Folder** pull-down list. A folder may be specified or the default **Files** folder may be used.
3. Click the **Choose File** button to launch a File-Open dialog.
4. Select the file that contains the GeoPackage from your computer, then click **Ok**.



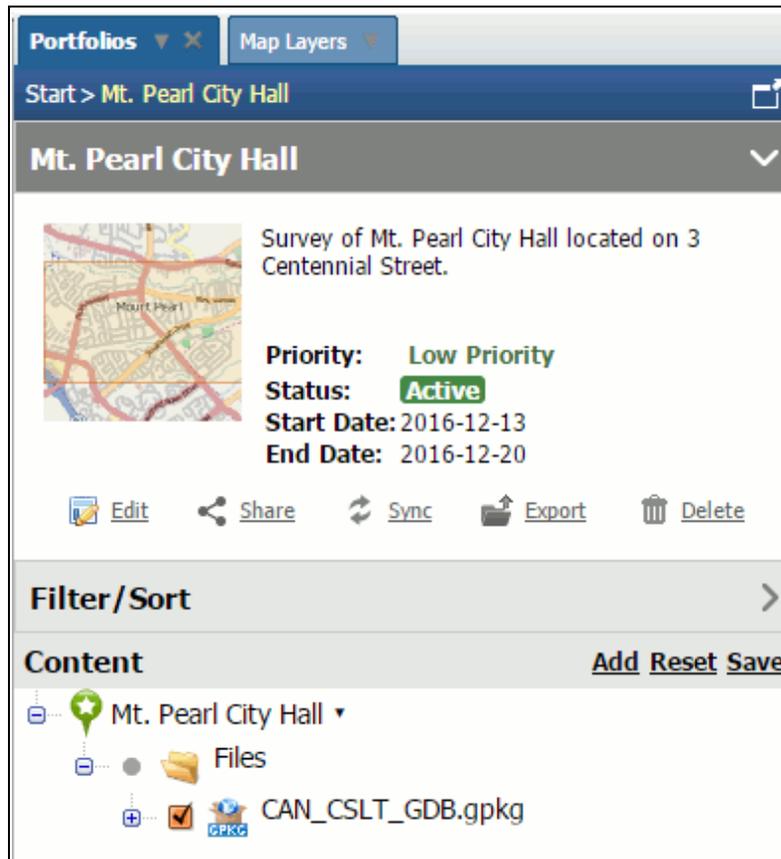
**Figure 2-36: Add Content: GeoPackage File**

5. The following screen will be displayed any time a GeoPackage file is added. The fields displayed vary depending on what was added. The defaults that are automatically selected are sufficient, but you can optionally change or add to them.

The screenshot shows a mobile application interface for adding content. At the top, it says 'Portfolios' and 'Start > Canada > Mount Pearl City Hall'. Below that is a blue header 'Add Content' and a sub-header 'Mount Pearl City Hall'. There are two dropdown menus: 'Add type: Files' and 'To Folder: Default (Files)'. A central icon shows a document with a blue 'FILE' label. Below this is a 'File Summary' section with the following fields: 'File Name: CAN\_CSLT\_GDB.gpkg', 'File Type: application/vnd.ogc.gpkg', '\*Title: CAN\_CSLT\_GDB.gpkg', and 'Description: CAN\_CSLT\_GDB.gpkg'. Below the summary is a 'File Coverage' section with the instruction 'Define an area on the map using one of the following:' and six radio button options: 'No Area', 'Search for a Geographic Location', 'Use Current Map Extents', 'Draw an Area', 'Enter Coordinates', and 'Use Coverage from file' (which is selected). At the bottom is a 'Date Range' section and two buttons: 'Save' and 'Cancel'.

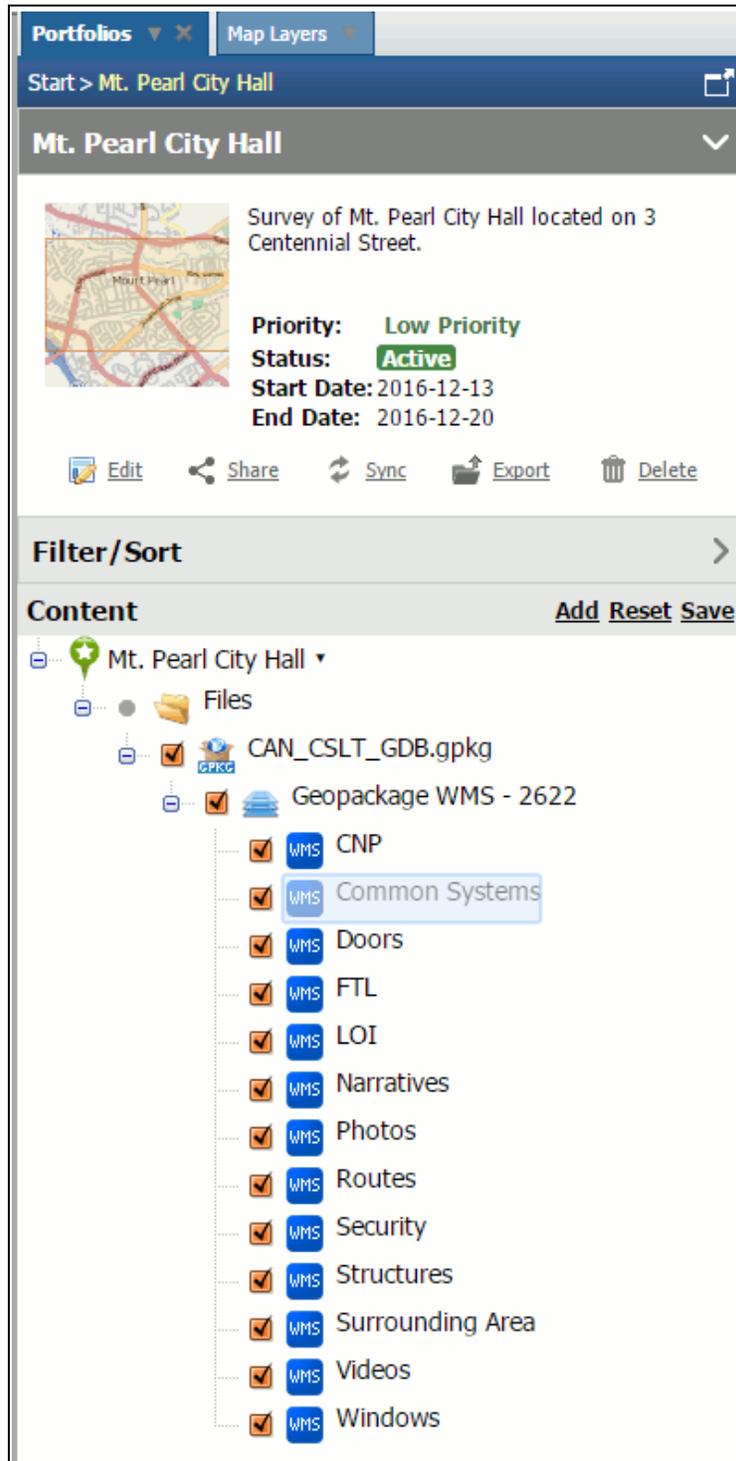
**Figure 2-37: Add Content: GeoPackage File Summary**

6. Click the **Save** button. The GeoPackage file you uploaded will be displayed as a GeoPackage under the portfolio's **Content** section, as shown in Figure 2-43.



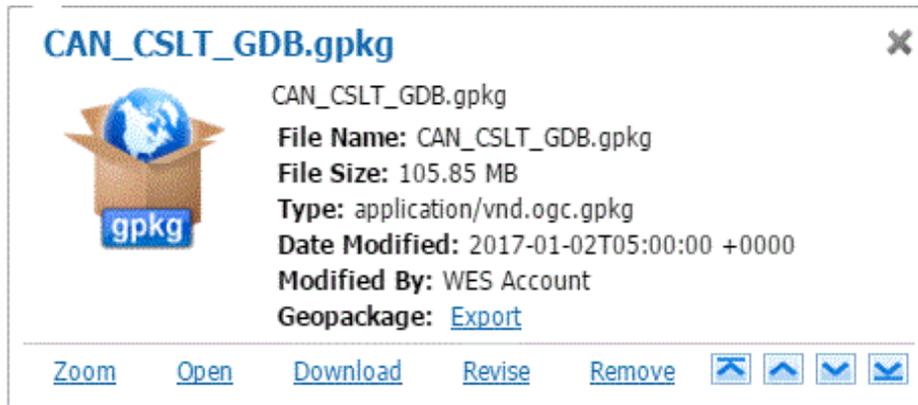
**Figure 2-38: Portfolio: GeoPackage Content**

7. Click the plus (+) symbol next to the GeoPackage to display the WMS layers, as shown in Figure 2-44. These can be unchecked if you do not wish to display them on the map.



**Figure 2-39: Portfolio GeoPackage Content Expanded**

Selecting a GeoPackage in the **Content** pane will display the control illustrated in Figure 2-40.



**Figure 2-40: GeoPackage Control Window**

#### 2.3.4.4.2 Importing ESRI Geodatabase (GDB) Content

You can import ESRI Geodatabase (GDB) content into an existing portfolio by following the steps below:

1. Navigate to and select the portfolio of interest.
2. Select **Files** from the **Add Type** pull-down list. Optionally, select the portfolio folder in which to save the content from the **To Folder** pull-down list. A folder may be specified or the default **Files** folder may be used.
3. Click the **Choose File** button to select the file that contains the GDB from your computer, and then click **Ok**.



**Figure 2-41: Add Content: GDB File**

4. The following screen will be displayed any time a GDB file is added. The fields displayed are dependent on what was added. The defaults that are automatically selected are sufficient, but you can optionally change or add to them.

Portfolios ▼ × Map Layers ▼

Start > Mt. Pearl City Hall

### Add Content

Mt. Pearl City Hall

Add type: Files ▼

To Folder: Default (Files) ▼

FILE

**File Summary**

File Name: CAN\_CSLT\_GDB.gdb.zip

File Type: application/zip

\*Title: CAN\_CSLT\_GDB.gdb.zip

Description: CAN\_CSLT\_GDB.gdb.zip

**GeoPackage Generation**

Allow Editing with GO Mobile: Yes ▼

Keep Original File: No ▼

Projection: Auto Detect ▼

Style: Use Predefined ▼

**File Coverage**

Define an area on the map using one of the following:

- No Area
- Search for a Geographic Location
- Use Current Map Extents
- Draw an Area
- Enter Coordinates
- Use Coverage from file

**Date Range**

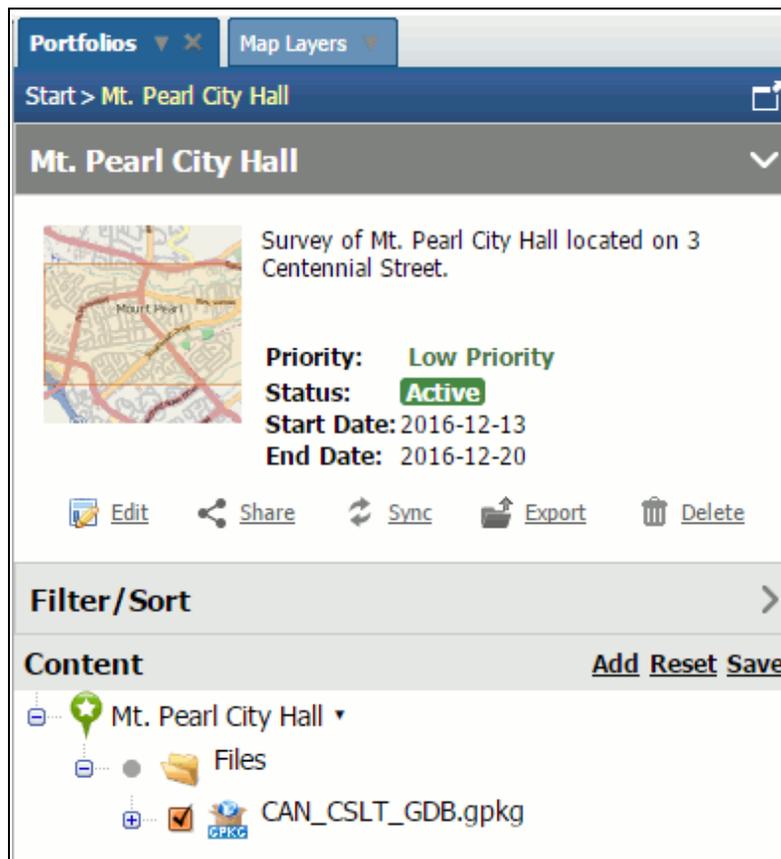
Start Date:

End Date:

Save Cancel

**Figure 2-42: Add Content: File Summary**

5. Click the **Save** button. The GDB file you uploaded will be converted and displayed as a GeoPackage under the portfolio's **Content** section, as shown in Figure 2-43.



**Figure 2-43: Portfolio: GDB Added as GeoPackage**

6. Click the plus (+) symbol next to the GeoPackage to display the WMS layers, as shown in Figure 2-44. These can be unchecked if you do not wish to display them on the map.

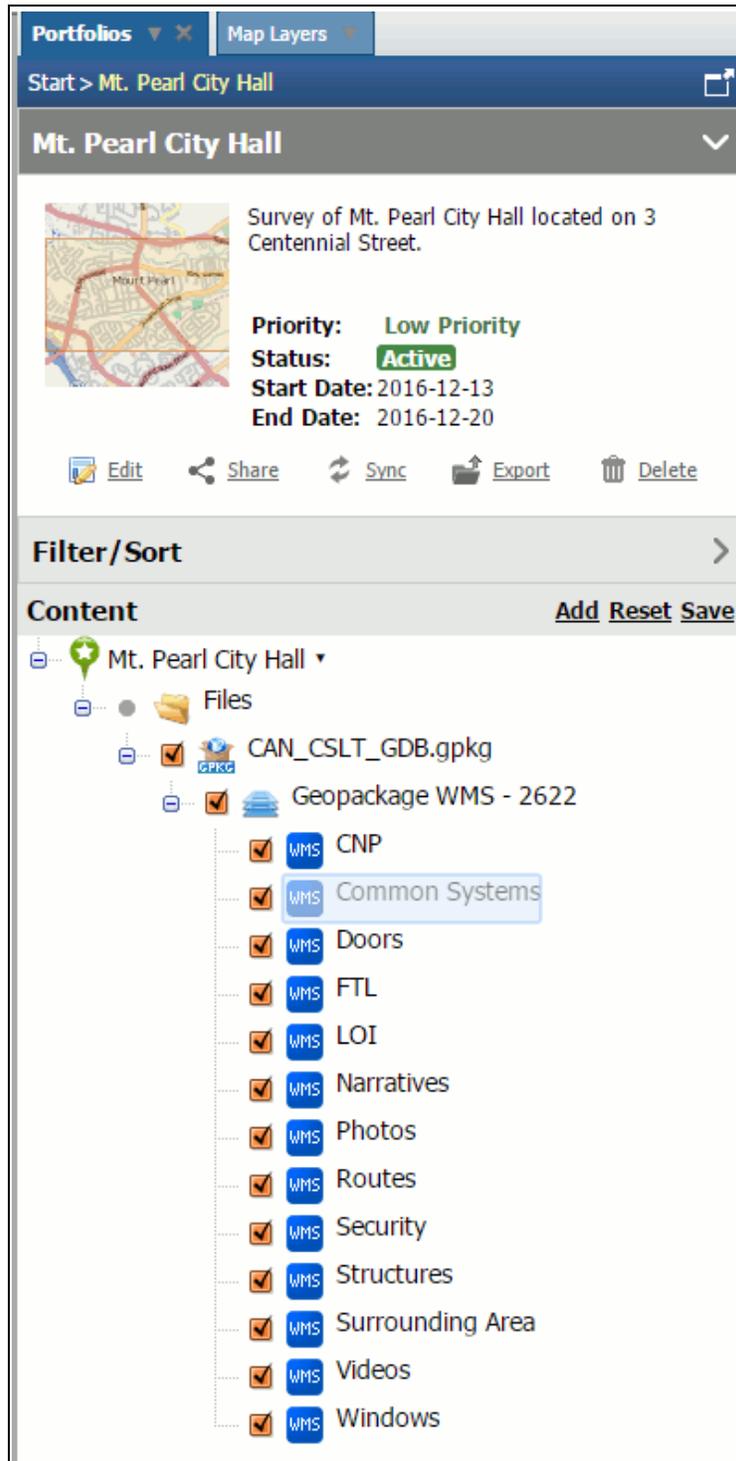
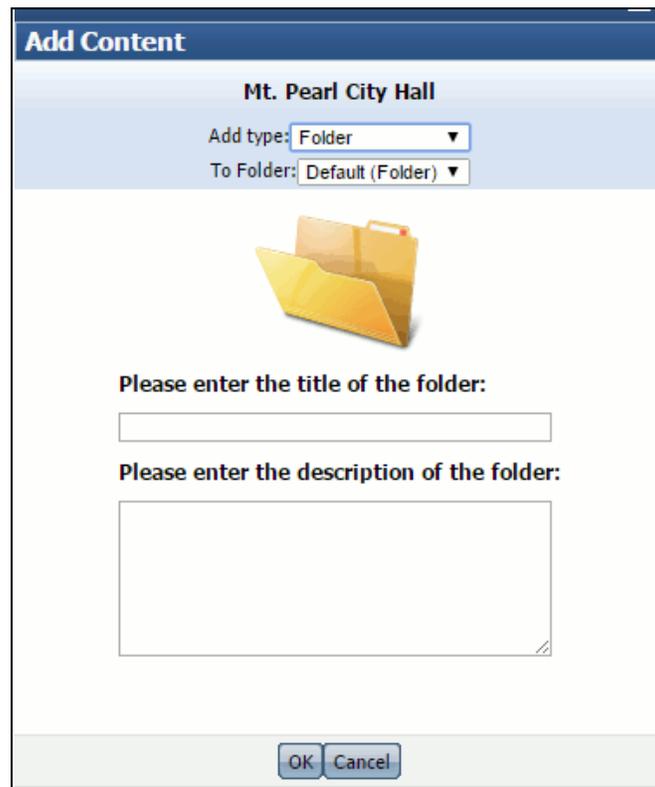


Figure 2-44: Portfolio GeoPackage Content Expanded

### 2.3.4.5 Adding a Folder

The process for adding a folder to a portfolio is straight forward. To add a folder:

1. In the **Add Content** pane, select **Folder** from the **Add Type** pull-down.
2. If desired, a folder for storing the folder may be specified in the **To Folder** pull-down. If no folder is specified, the default **Folders** folder will be used.
3. Enter the title of the folder.
4. Enter a description for the folder.
5. When complete, click **OK** at the bottom of the page. Folders will be stored in the folder specified in the **To Folder** pull-down. If no folder is specified, the default **Folders** folder will be used. Figure 2-45 shows the dialog for including folders.



The screenshot shows a dialog box titled "Add Content" for "Mt. Pearl City Hall". It features two dropdown menus: "Add type:" set to "Folder" and "To Folder:" set to "Default (Folder)". Below these is a folder icon. The dialog prompts the user to "Please enter the title of the folder:" with a single-line text input field, and "Please enter the description of the folder:" with a multi-line text input field. At the bottom are "OK" and "Cancel" buttons.

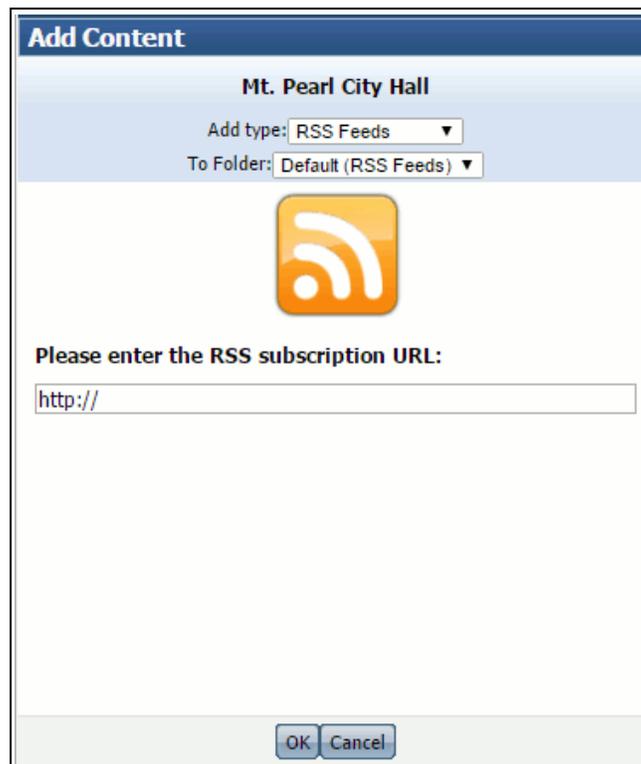
Figure 2-45: Adding Folders

### 2.3.4.6 Adding an RSS Feed

The process for adding an RSS to a portfolio is straight forward. To add an RSS:

1. In the **Add Content** pane, select **RSS Feeds** from the **Add Type** pull-down.

2. If desired, a folder for storing the RSS feed may be specified in the **To Folder** pull-down. If no folder is specified, the default **RSS Feeds** folder will be used.
3. Enter the **RSS subscription URL**.
4. When complete, click **OK** at the bottom of the page. RSS Feeds will be stored in the folder specified in the **To Folder** pull-down. If no folder is specified, the default **RSS Feeds** folder will be used. Figure 2-46 shows the dialog for including RSS Feeds.



**Figure 2-46: Adding RSS Feeds**

### 2.3.4.7 Adding a Service

Adding a service is very similar to adding a catalog to the map. To add a service:

1. In the **Add Content** pane, select **Service** from the **Add Type** pull-down.
2. If desired, a folder for storing the service may be specified in the **To Folder** pull-down. If no folder is specified, the default **Services** folder will be used.
3. Select the type of service to be added to the map, as shown in Figure 2-47, e.g., **WMTS Server URL** and click the **Next** button.

**Add Content**

**Mt. Pearl City Hall**

Add type: Service ▼

To Folder: Default (Service) ▼



The import map wizard will lead you through the process of importing maps/layers from an external map service or source. This map may then be used as a backdrop map for all subsequent map Portfolios in this session. Options are provided to replace the current map or to add new layers to the map.

WMS Server URL      Enter the URL of an OGC-based Web Map Service.

WMTS Server URL      Enter the URL of an OGC-based Web Map Tile Service.

ArcGIS Map Server URL      Enter the URL of an ArcGIS Map Server.

< Back   Next >   Finish   Cancel

**Figure 2-47: Adding A Service: WMTS Server URL**

4. Specify the capabilities document URL, as shown in Figure 2-48 and click the **Next** button.

**Add Content**

**Mt. Pearl City Hall**

Add type: Service ▼

To Folder: Default (Service) ▼

**OGC WMTS**

Specify the Capabilities document URL of an OGC-Based WMTS server. See the example below. You may add layers from this server to the existing map or replace the map with selected layers from the service.

URL :

Example:  
http://wmts-flash.compusult.net/1.0.0/osm.xml

< Back   Next >   Finish   Cancel

**Figure 2-48: Adding a Service: Specifying the Capabilities URL**

5. Select the layers you wish to add to the map, as shown in Figure 2-49 and click the **Finish** button.



**Figure 2-49: Adding a Service: Adding Layers**

6. The layers will be added to the map. The service will be stored in the folder specified in the **To Folder** pull-down. If no folder is specified, the default **Services** folder will be used.

#### 2.3.4.8 Adding Other Portfolio Content

You can add portfolio content the same as you can add any other type of content. The process for adding a portfolio is described in Section 2.3.2.

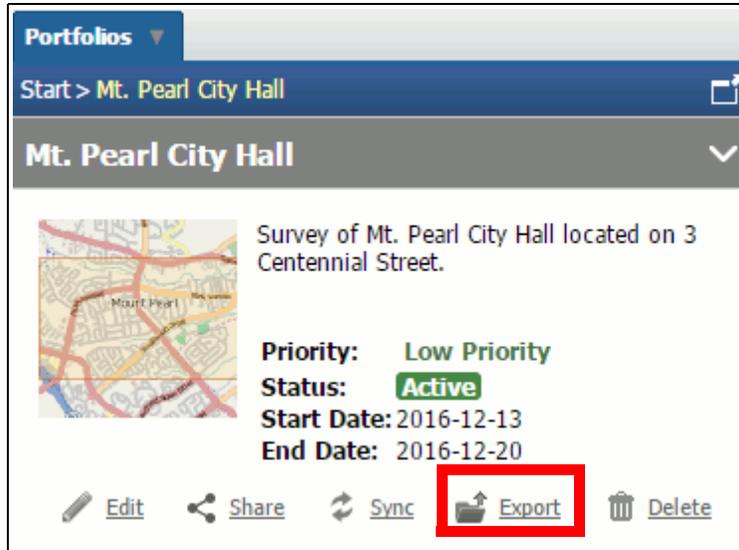
There may also be other types of content configured in this list to be added, such as: **Event**, **Incident**, **Mission**, **Survey**, **Task**, **Logistics Request**, or **Incident Command System**. These are added in the exact same manner as adding a portfolio. For more information, refer to Section 2.3.2.

## 2.4 Exporting A Portfolio for Side-Load to Mobile Devices

A portfolio and its associated data can be exported as a file which can then be side-loaded (by physical media) to a GO Mobile mobile device, or devices, running the GO Mobile mobile app in support of an offline data collection workflow.

1. Log in to the GO Mobile server.
2. Navigate to and select the portfolio that you wish to export.

3. Tap the **Export** link to export the entire portfolio as a Portfolio (PF) file to be downloaded to the mobile device, as shown in Figure 2-50.



**Figure 2-50: Portfolio: Export Link**

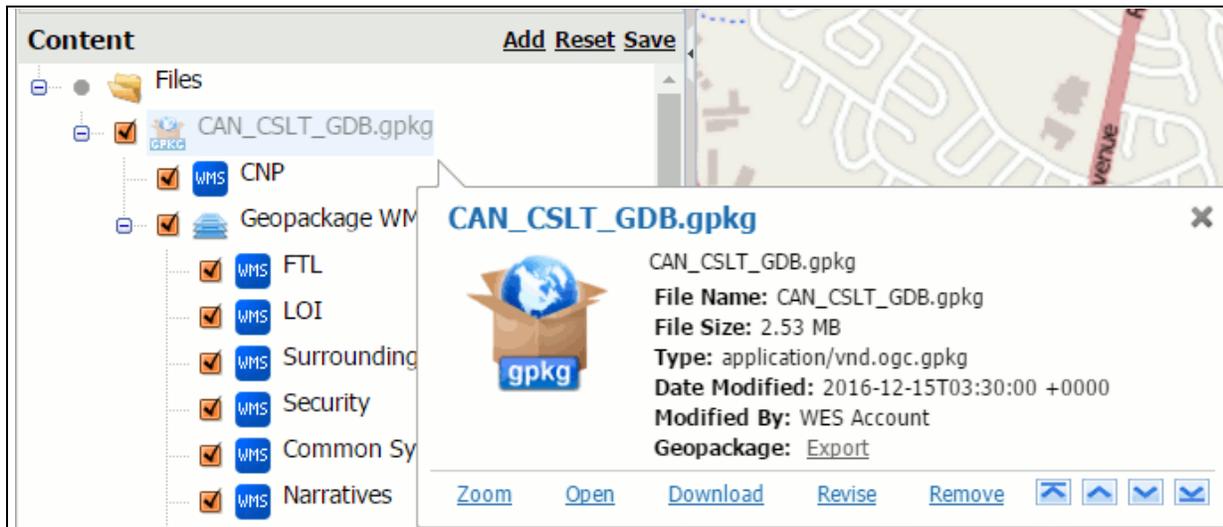
The file will be downloaded to your computer. For information on how to import the data to the GO Mobile device, see Section 3.1.2.2.

## 2.5 Exporting Portfolio Data to Workspace XML

Data collected by people in the field using GO Mobile and stored in a portfolio on the GO Mobile server can be exported for use in other ISP systems. In support of this, a portfolio GeoPackage can be exported as ESRI Workspace XML. Using ESRI tools, this XML can be converted to a file Geodatabase. The following subsections outline the steps to perform these exports.

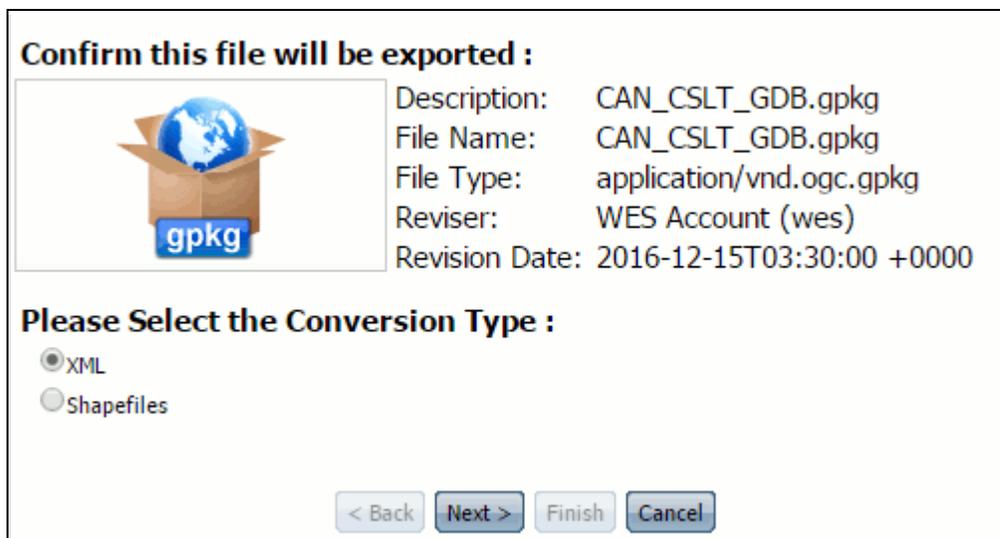
To export a portfolio GeoPackage as ESRI Workspace XML, follow the steps below.

1. Log in to the GO Mobile server.
2. Navigate to and select the portfolio that contains the data you wish to export by clicking its title within the portfolio.
3. Click on the name of the GeoPackage from the portfolio's file list. The file details will be displayed on the right, as shown in Figure 2-51.



**Figure 2-51: Selecting a Geopackage for Export**

- From this pop-up window, tap the **Export** link next to **Geopackage**. A confirmation window will be displayed, as shown in Figure 2-52.



**Figure 2-52: Exporting Geopackage as XML**

- Tap the radio button next to **XML** for the **Conversion Type**, as shown in Figure 2-52.
- Select the **Next** button. A window will be displayed indicating that the XML document(s) are being created, as shown in Figure 2-53.



**Figure 2-53: Creating XML Document(s)**

7. Tap the **Download** link to download the XML file to your computer.

### 3.0 GO MOBILE APPLICATION

The GO Mobile app is built upon CompuSult's GO Mobile technology. GO Mobile extends the capabilities of CompuSult's commercial off-the-shelf (COTS) Web Enterprise Suite (WES) server application to remote devices. The GO Mobile server is built using WES, and both the GO Mobile server and mobile app have been tailored to support ISP workflows.

#### 3.1 Installing the Application

The GO Mobile app may be installed on Android devices or on Windows-based devices (Windows 7/8.1/10).

##### 3.1.1 Installing on an Android Device

To install GO Mobile on an Android device, follow the steps below:

1. Ensure that the device is set up to allow installation of applications from unknown sources by going to **Settings > General** and then tapping on **Security**. Ensure the checkbox next to **Unknown Sources** is checked.
2. Download the latest Android Application Package (APK) from the server (see Section 2.1).
3. Use the Android notification for this download to activate the installation once the APK is downloaded. You will be prompted to install the application.
4. Tap **Install**. This should take around 30 seconds.
5. Tap **Open** to launch the application.
6. Tap the **Log In** button on the **Launch** page.
7. If you don't have an account, tap the **Don't have an account? Create Account** link.
8. Accept the **Privacy Policy**.
9. Provide the requested information to create your account.
10. Once your account is created, you can log in using the GO Mobile login page. You can use your newly created username and password to log in to the website.

##### 3.1.1.1 Updating an Existing GO Mobile Android Installation

The process of updating a GO Mobile Android installation follows the same steps as the initial installation process as outlined in Section 3.1.1. When installing an APK on a device containing a previous version of GO Mobile, an upgrade of the existing application will be performed. All existing user data and settings will be preserved.

When first launching the GO Mobile app, if connectivity to the server is available, a notification will be sent to you if the current GO Mobile app version is out of date. You will be asked if you want to upgrade.

The current app version can be determined from the bottom of the initial splash screen of the app as shown in Figure 3-1.

### 3.1.1.2 Removing the GO Mobile Android Application

To completely remove the GO Mobile application from a device, follow the steps below.

1. Launch the Android **Settings** application.
2. Under the **General** section, tap **Application Manager**.
3. Tap the **GO Mobile** application in the displayed list. You may need to swipe right or left to find it.
4. Tap the **Uninstall** button.

### 3.1.2 Installing on a Windows Device

To install GO Mobile on a Windows device, follow the steps below:

1. Download the latest bundle from the server (see Section 2.1).
2. Unzip the bundle to a location on the Windows file system, e.g., *C:\Program Files\*
3. Run the application using the *run.exe* file in the folder in which the bundle was unzipped.

#### 3.1.2.1 Updating an Existing GO Mobile Windows Installation

Updating an existing copy of GO Mobile Windows can be done by extracting the zip archive containing the new application into the directory containing the old application. When prompted about file conflicts, choose to overwrite existing files with the new files. All existing user data and settings will be preserved.

When first launching the GO Mobile app, if connectivity to the server is available, a notification will be sent to you if the current GO Mobile app version is out of date. You will be asked if you want to upgrade.

The current app version can be determined from the bottom of the initial splash screen of the app as shown in Figure 3-1.

#### 3.1.2.2 Removing the GO Mobile Windows Application

The GO Mobile Windows application does not store any data outside the original application directory, so it can be removed by deleting this directory.

### 3.1.3 Creating a User Account

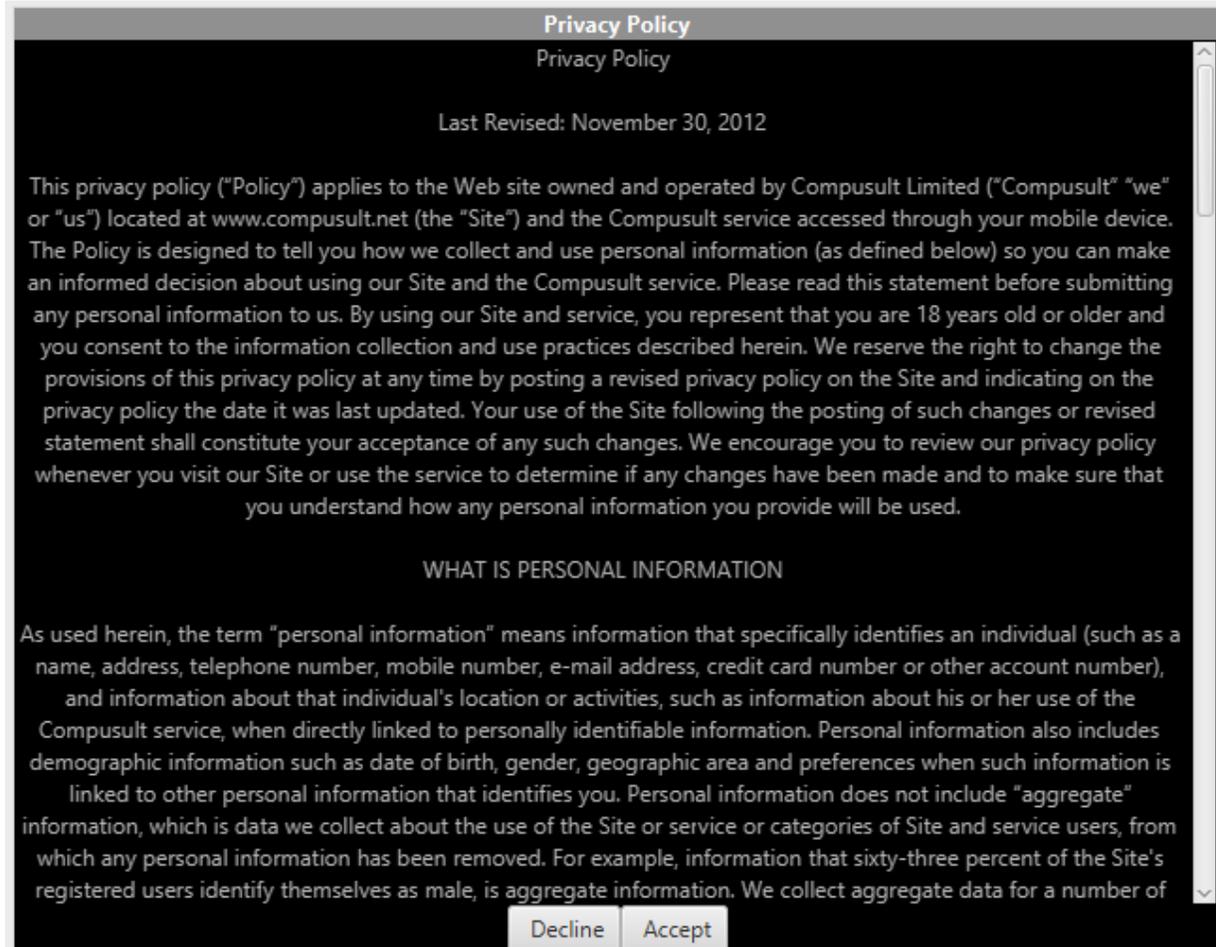
To use GO Mobile on a mobile device, you will need to create an account. To create an account, follow the steps below:

1. Open the GO Mobile application.
2. Tap the **Create Account** link, as shown in Figure 3-1.



**Figure 3-1: GO Mobile: Create Account**

The **Privacy Policy** will be displayed, as shown in Figure 3-2.



**Figure 3-2: GO Mobile: Privacy Policy**

3. Tap the **Accept** button to continue to create your account, or the **Decline** button to cancel account creation. The **Create Account** screen will be displayed if you tap **Accept**, as shown in Figure 3-3.



**Figure 3-3: GO Mobile: Create Account**

4. Enter your **Email Address**.
5. Enter your **Password** and then re-enter it in the **Confirm Password** field.

Note that passwords must be at least eight characters long, contain at least one lowercase letter, at least one uppercase letter and at least one special character (~!@#\$%^&\*()\_+={|}~|'";:<>?/,.).

6. Enter your **First Name** and **Last Name**.
7. Tap the **Create Account** button at the bottom of the screen. An **Account Created** pop-up, as shown in Figure 3-4, will be displayed stating that your user account has been successfully created, as shown in Figure 3-4.



**Figure 3-4: GO Mobile: Account Created Pop-up**

8. You can now log in using the credentials you specified.

### 3.1.4 Application Data Backup/Restore

A GO Mobile mobile app backup/restore function is available from the main login screen. This functionality is accessed by tapping the icon in the upper right corner of the screen, as shown in Figure 3-1. Tapping this icon opens a window with the following choices.

- **Backup Application Data** - Create a backup of all application data on the device.
- **Restore Application Data** - Replace all application data on the device with data from a backup (this will delete any existing data).

### 3.1.5 Log In to the App

The GO Mobile mobile app login screen is shown in Figure 3-5.

Enter your account email (username) and password on this screen and click **Log In**. You will then be logged in to the GO Mobile server. It is only possible to log in to the server in online mode. If you selected **Use Offline** when first launching the app, the app would be launched in offline mode.



**Figure 3-5: GO Mobile App Login Screen**

If you have logged in to the application server before on the device you are currently using, the GO Mobile mobile app will still allow you to log in even if the device is in offline mode. The app will have “remembered” you and will provide a local login capability. Once connectivity is established in online mode, the app will log you in to the server automatically.

If you have never logged in to the application server using the device you are currently using, the GO Mobile mobile app will use a special public account in offline mode. Data collection for a portfolio is still possible using this account, however, the collected data must be side-loaded back to the server using physical media. There is no way to upload the data in online mode.

### **3.1.6 Changing the GO Mobile Server**

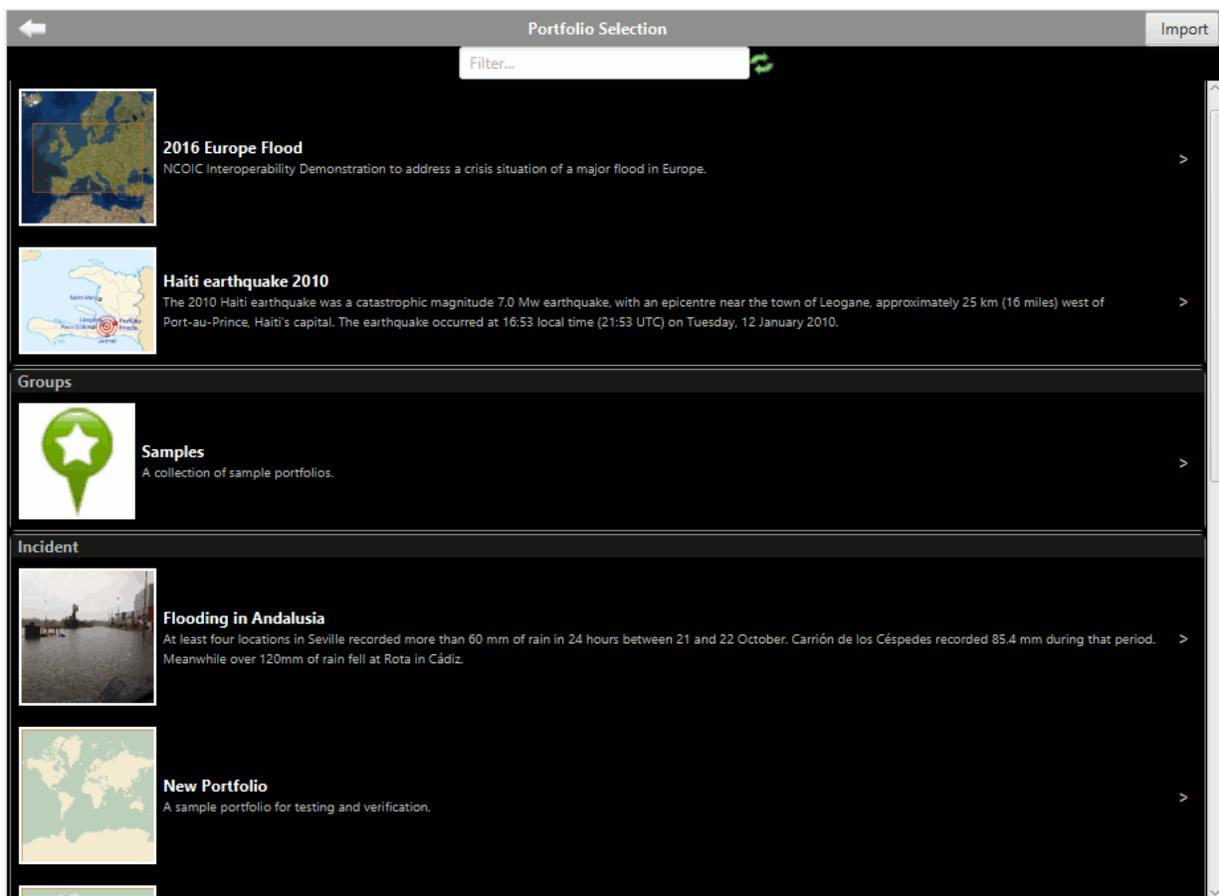
At the bottom of the login screen, there is a **Change Server** button, as indicated in Figure 3-5. Clicking this button will display a screen that allows you to select the application server. From this screen, you can pick a pre-configured server from a list or add a new server to the list. To specify a new server, a **URL** for the server is required along with a **Title** and **Description**.

In addition, pre-configured servers can be edited from the **Select Application Server** screen.

### 3.2 GO Mobile App Main Screen

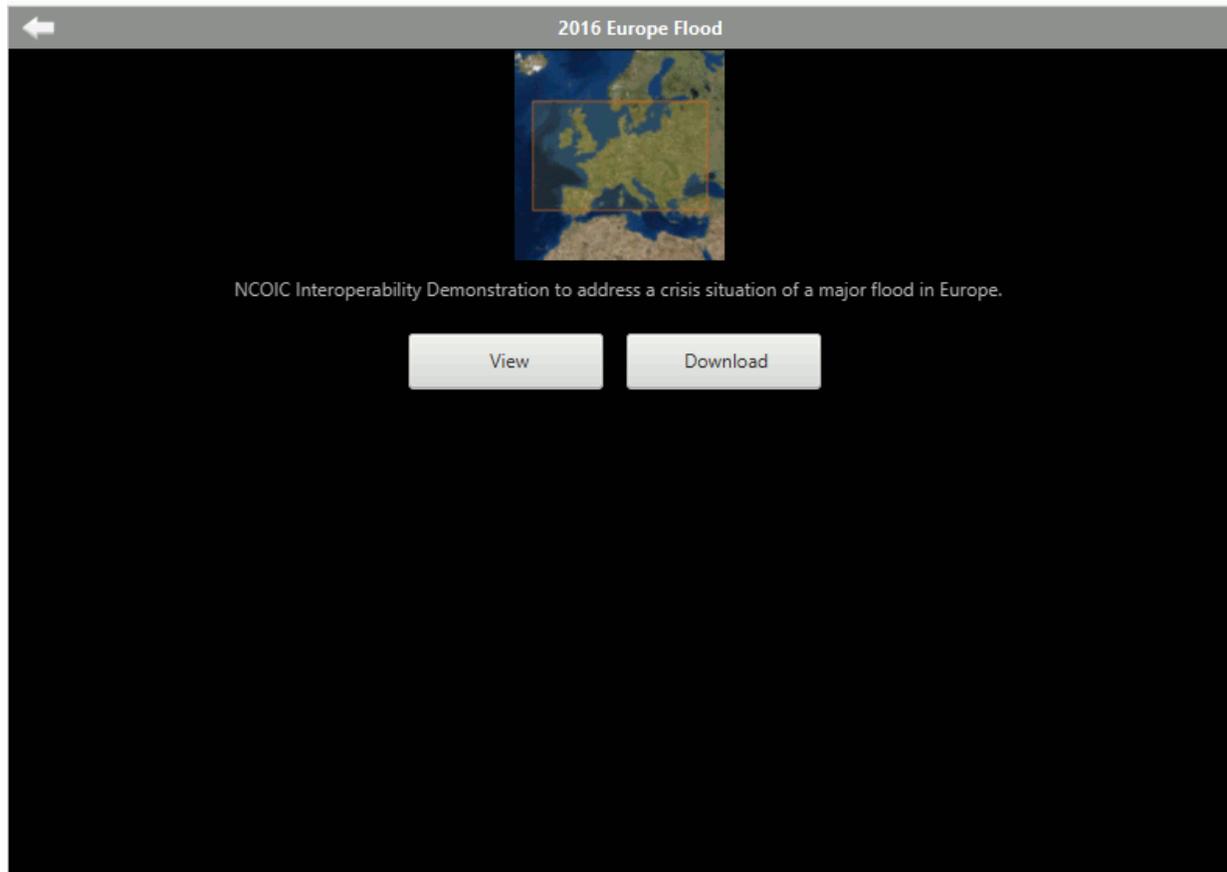
The Go Mobile app's main screen is the **Portfolio Selection** screen, as shown in Figure 3-6. The **Portfolio Selection** screen displays all Portfolios by type, i.e., **Event**, **Groups**, **Incident**, **Mission**, **Survey**, etc.

There is a **Filter** at the top-center of the screen. If you want to display portfolios that mention "flood" in their title or description, enter "flood". Portfolios pertaining to "flood" will be displayed. The green **Refresh** icon located next to the **Filter** text box will reset the filter and display all results.



**Figure 3-6: GO Mobile: Portfolio Selection Screen**

Tap a portfolio to open it. The portfolio will be displayed with two buttons, **View** and **Download**, as shown in Figure 3-7.



**Figure 3-7: Go Mobile: Opening a Portfolio**

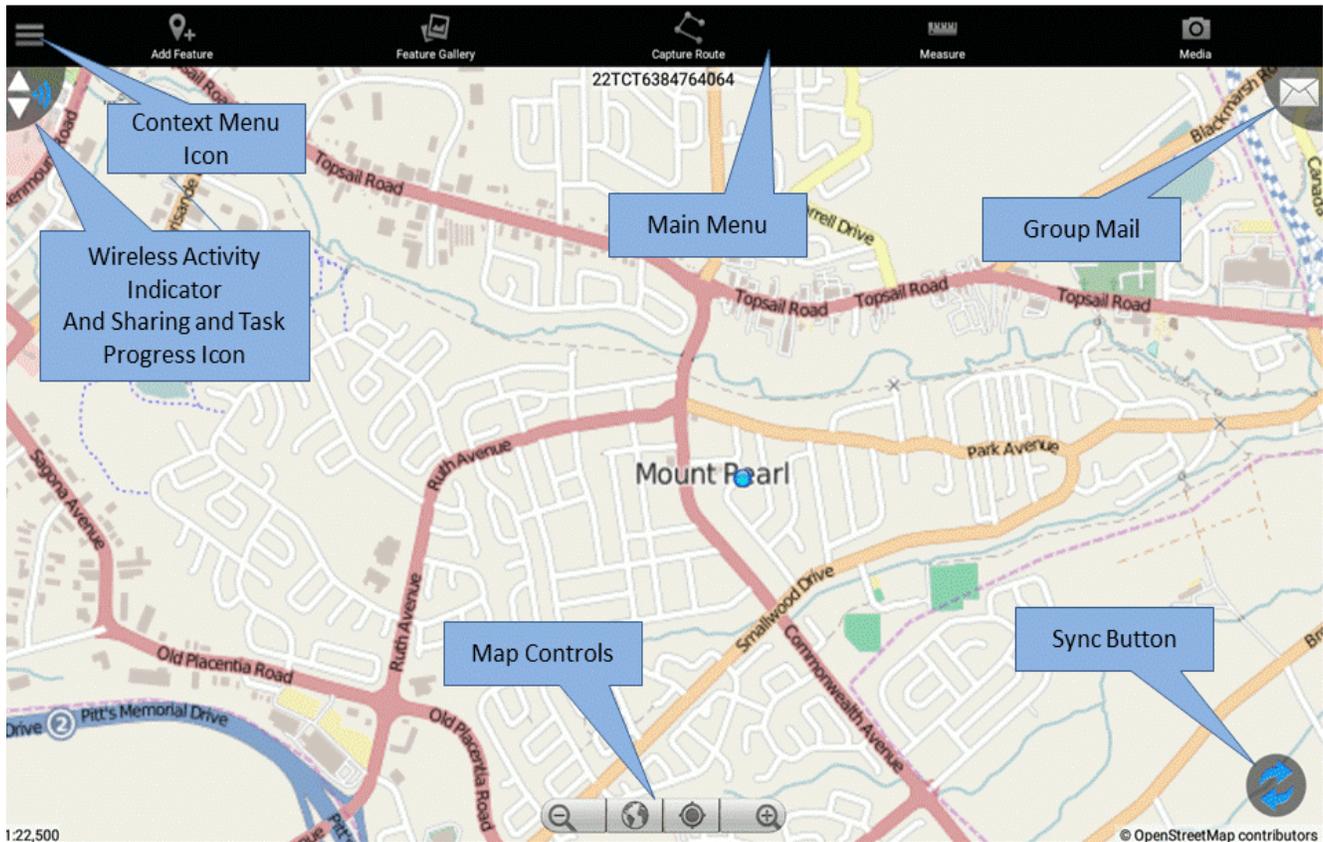
Tap the **View** button to load the portfolio. Tap **Download** to download the portfolio to the device.

### 3.3 Go Mobile Map Interface

The GO Mobile mobile app main screen is a map-based display surrounded by associated menu items and controls. The main screen display is shown in Figure 3-8 which illustrates the map interface and the surrounding menu icons and controls as follows:

- Map Interface;
- Main Menu;
- Context Menu Icon;
- Wireless Activity Indicator/Sharing and Task Progress Icon;
- Group Mail Icon; and,
- Sync Button.

The following sections describe these features in more detail.



**Figure 3-8: GO Mobile App Main Screen**

### 3.3.1 Map-Based Display

When online, the main screen provides a full geospatial map capability with pan and zoom functions, and georeferenced portfolio data is displayed on the map. The basemap used in the display can be selected from the **Map Layers** menu on the **Context Menu**.

When online, the map will communicate with the GO Mobile server to update the map based on user inputs (e.g., panning and zooming). The app provides a caching capability such that a portion of the map is cached for display in the event the device is in offline mode.

Typically, the map will display the Area-of-Interest (AOI) for the loaded portfolio. However, the map can be panned and zoomed to different locations as desired. To return to the portfolio AOI, select **Zoom to Bounds** from the **Context Menu**.

### 3.3.2 Main Menu

The Main Menu is displayed in a bar at the top of the map display. The Main Menu icons are associated with portfolio data collection functionality. If no portfolio is loaded, all Main Menu icons, with the exception of **Measure**, will be grayed-out (not selectable). In addition, for devices with no inherent GPS capability, the **Route Capture** icon will not appear.

The Main Menu functions include the following:

- **Add Feature** - Adds pre-defined portfolio features to the map (i.e., to the portfolio);
- **Feature Gallery** - Accesses the selectable gallery, which contains standard features, with associated attribute metadata that have been previously saved by a user;
- **Route Capture** - Captures data and media associated with a driven route (uses GPS);
- **Measure** - Measures distances or areas on the map; and,
- **Media** - Accesses an accelerated media capture capability for standard features.

### 3.3.3 Context Menu Icon

Selecting the Context Menu icon, as indicated in Figure 3-8, displays the GO Mobile Context Menu, as shown in Figure 3-15.

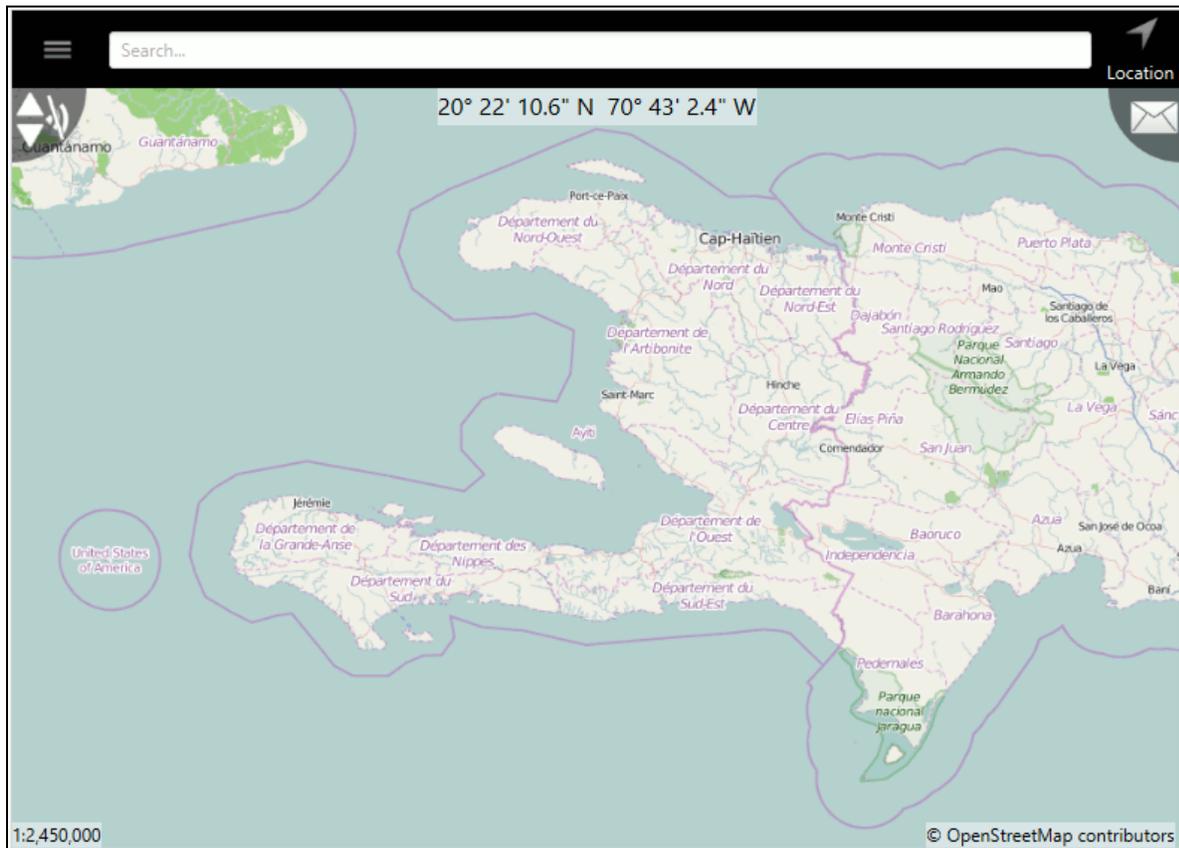
The **Context Menu** provides two high-level modes: **Discover** and **Contribute**.

The **Discover** mode allows searching of: files contained in the portfolio, queried by filename (not file contents); data discovery; GeoPackage features, queried by feature ID; and, place names (online mode only).

The **Contribute** mode is associated with the data collection activities related to Go Mobile portfolios.

### 3.3.4 Discover Mode

**Discover Mode** allows the user to perform keyword searches on place names and portfolio data. It also allows you to track your GPS location. The view for Discover Mode can be seen in Figure 3-9

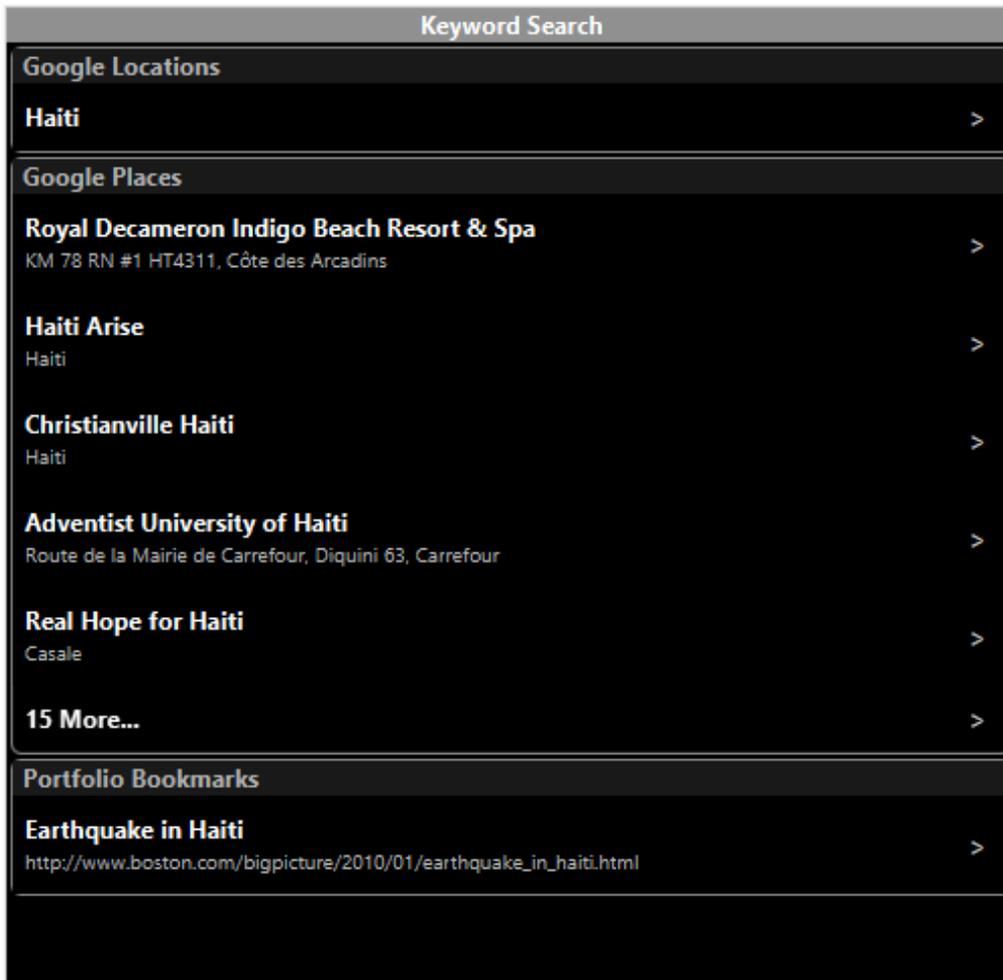


**Figure 3-9: GO Mobile: Discover Mode**

### 3.3.4.1 Searching Keywords and Place Names

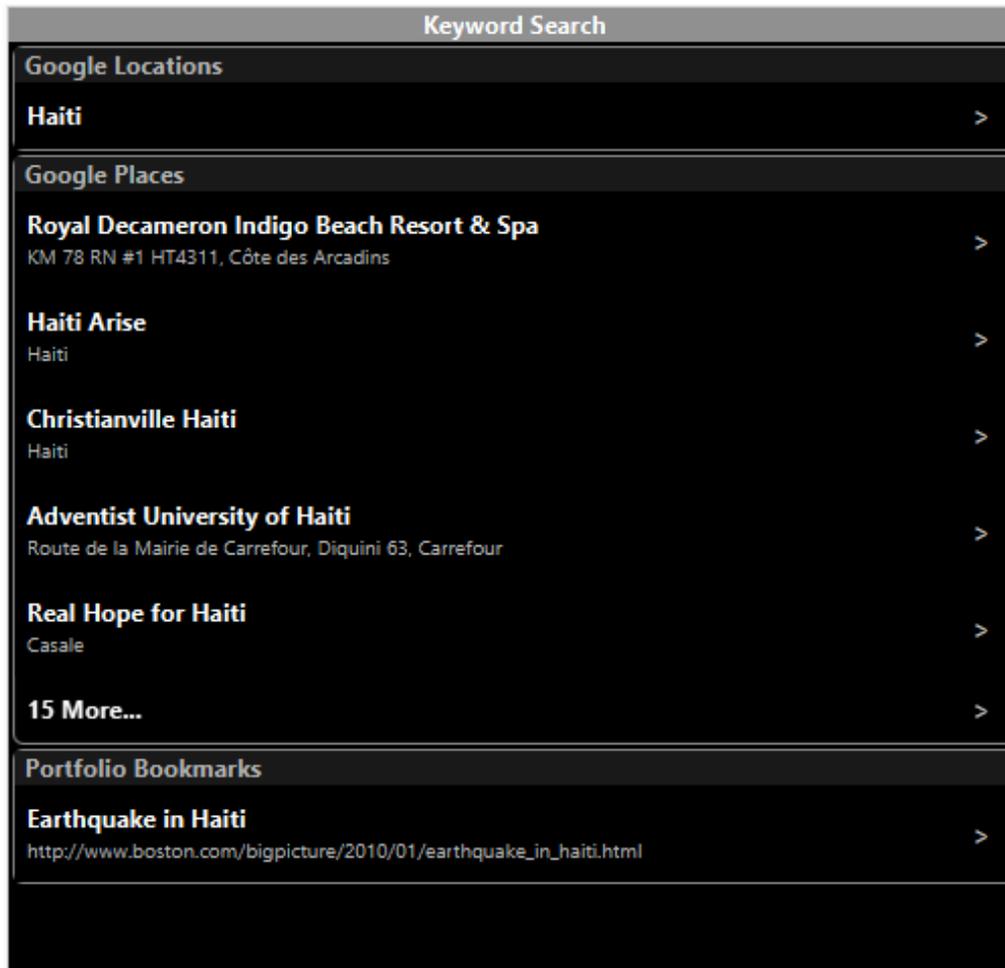
In **Discover Mode**, there is a search bar across the top of the screen. To perform a Keyword or Place Name search:

1. Enter a Keyword or Place Name for which you want to search. In Figure 3-10 below, Haiti was entered as a search term.



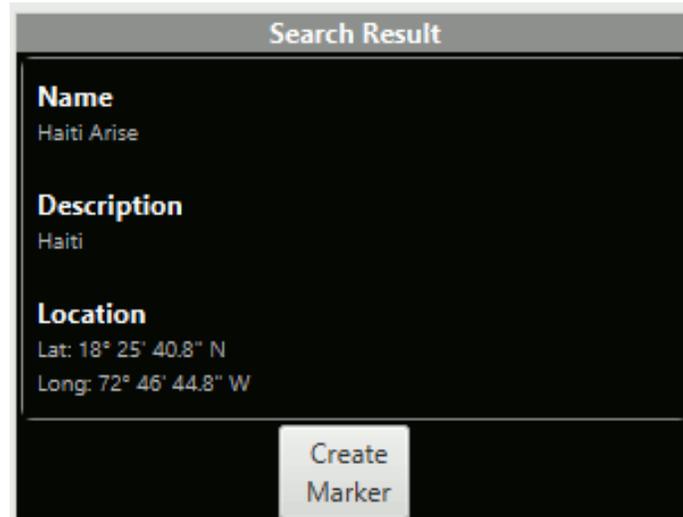
**Figure 3-10: GO Mobile: Keyword/Place Name Search**

The **Search Result** window will be displayed, as shown in



**Figure 3-11: GO Mobile: Keyword/Place Name Search Results**

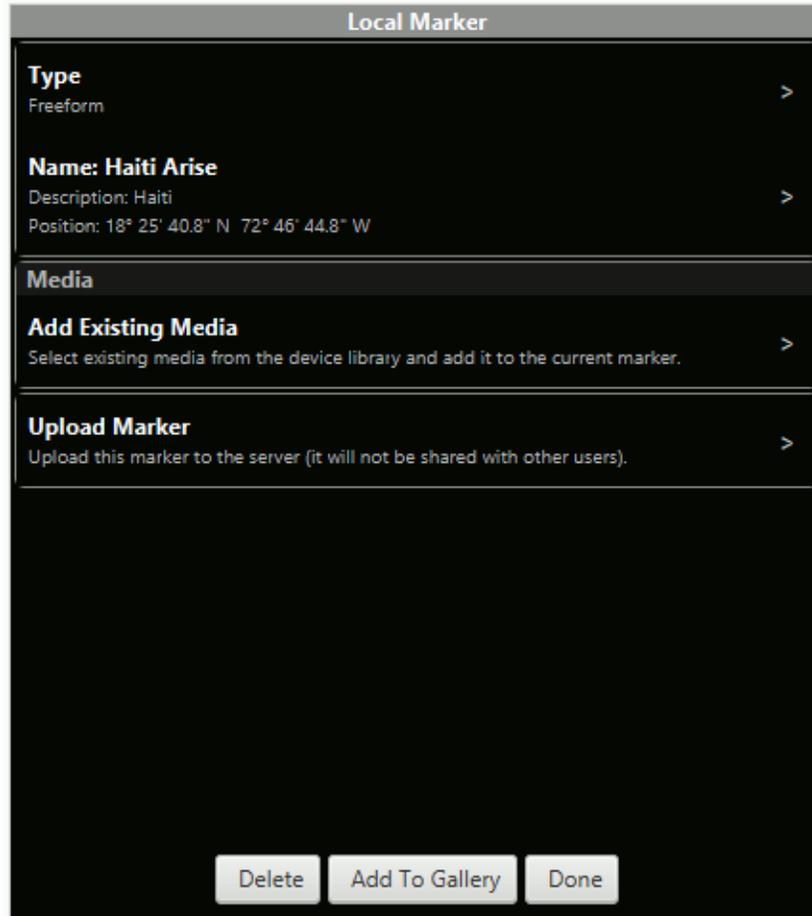
2. Tap the result of interest. Results will be displayed under the **Google Locations** or **Google Places** section if its a Place Name, as well as listed under any portfolios that may have data pertaining to the keyword you searched. The **Search Result** window will be displayed, as shown in Figure 3-12.



**Figure 3-12: GO Mobile: Search Result Window**

The **Search Result** window shows the **Name**, **Description** and **Location**.

3. Tap the **Create Marker** button to create a marker on the map for your search. The **Local Marker** window will be displayed, as shown in Figure 3-12.



**Figure 3-13: GO Mobile: Local Marker Window**

4. Tap **Delete** to delete the maker. Tap the **Add To Gallery** button to add the marker to the Gallery.
5. Tap **Done** to add the marker and return to the map.

#### 3.3.4.2 Location / Follow

In **Discover Mode**, a **Location** or **Follow** icon will be displayed in the top-right corner. **Follow** will be displayed if you are using a device with GPS, otherwise, **Location** will be displayed.

If **Location** is displayed:

1. Tap the **Location** icon in the top-right corner of the screen. A **Manually Enter Location** window will be displayed, as shown in Figure 3-14.

The screenshot shows a mobile application interface for manually entering a location. The title bar at the top reads "Manually Enter Location". Below the title bar, there is a section for "Coordinate Format" with a dropdown menu currently set to "DMS". Underneath, there are two main sections: "Latitude" and "Longitude". Each section has three input fields labeled "Degrees:", "Minutes:", and "Seconds:". At the bottom of the screen, there are two buttons: "Set Location" and "Clear".

**Figure 3-14: GO Mobile: Manually Enter Location**

2. Enter the **Latitude** and **Longitude** information.
3. Tap the **Set Location** button to display a dot on the map indicating your location.

If **Follow** is displayed:

1. Tap the **Follow** icon in the top-right corner of the screen. The GPS in the device will lock to your location.
2. If the device you are using has a compass, a navigation arrow will be placed on the map. If not, your location will be represented by a dot.

### 3.3.5 Contribute Mode



Figure 3-15: GO Mobile Context Menu

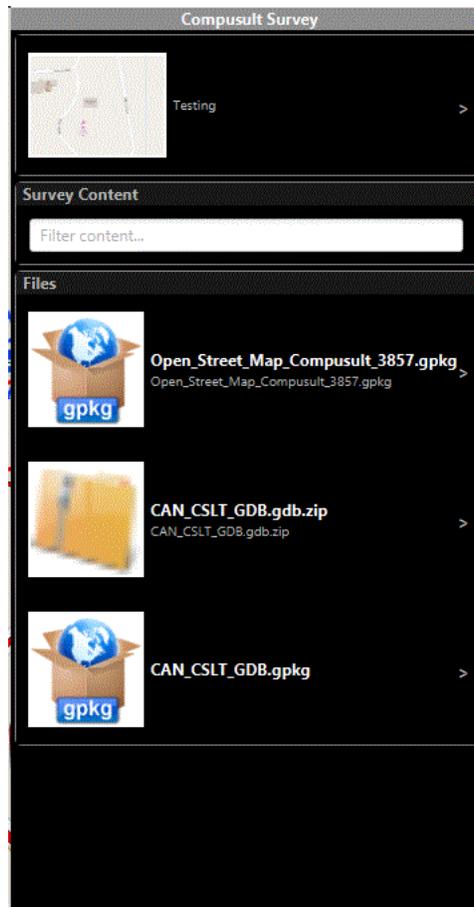
Just below the **Discover** and **Contribute** menu items, the **Context Menu** is divided into four sections. The first is related to the currently loaded portfolio, with the portfolio name displayed at the top of this pane. The second pane allows a user to select and load a different portfolio, i.e., to change portfolios. The third pane pertains to data discovery and orders. The fourth pane provides

access to general app features not associated with a particular portfolio. These context panes are described in more detail in the next sections.

### 3.3.5.1 Portfolio Context Pane

The Portfolio Context pane contains the following items:

- **Browse Contents** - Selecting **Browse Contents** from the **Context Menu** displays the **Portfolio Contents** window, as shown in Figure 3-16. From this window, the contents of the currently loaded portfolio may be examined.



**Figure 3-16: Go Mobile: Browse Contents**

- **Download Portfolio Data** - When initially loading a portfolio, you are given the option to **View** the portfolio or to **Download** the portfolio. This is illustrated in Figure 3-31. Selecting **View** does not allow for any interaction and/or additions to the portfolio data. To interact with and/or add to portfolio data, the portfolio must be downloaded. This is described in more detail in Section 3.4.1.2.

- **Map Layers** - This menu item launches a control that allows the interaction with and management of map layers. This feature is described in more detail in Section 3.6.
- **Zoom to Bounds** - Selecting this menu item returns the map display to the original portfolio AOI bounds. This can be helpful to return the map display to a known location if the map is panned to an unknown location or over/under zoomed.

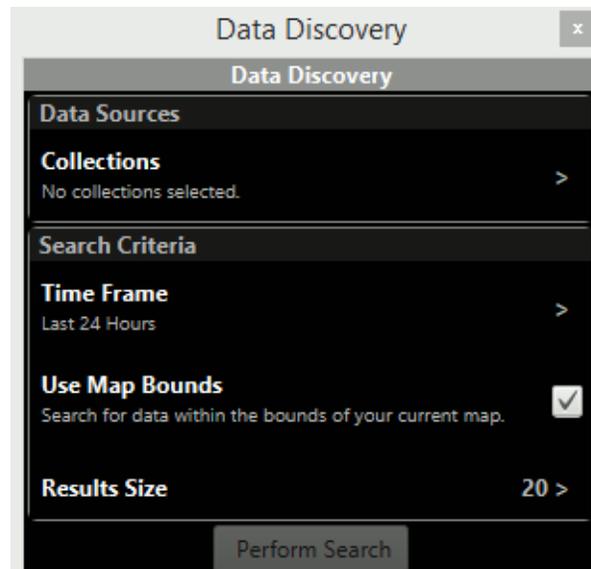
### 3.3.5.2 Open Portfolio Pane

To open a portfolio, select this item from the Context Menu. This process will allow a portfolio to be opened in online mode or to be side-loaded in offline mode and opened for viewing only or for downloading and contributing. The process for opening a portfolio is described in detail in Section 3.4.1.1.

### 3.3.5.3 Data Discovery Pane

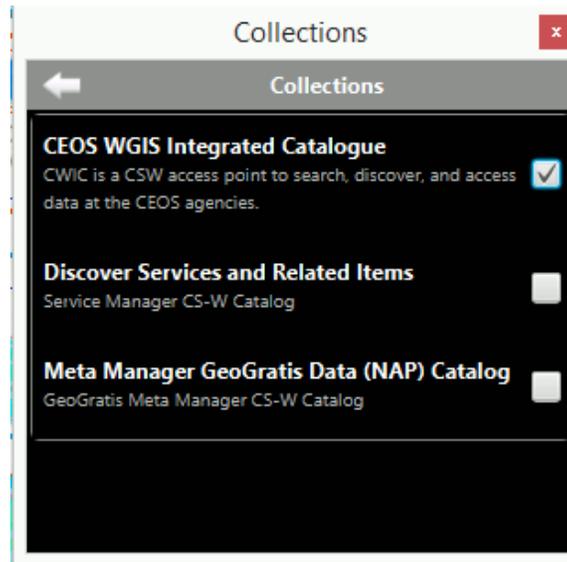
To perform a search, follow the steps below:

1. Tap the **Context Menu** icon (three lines in the top-left corner). The **Data Discovery** window will be displayed, as shown in Figure 3-17.



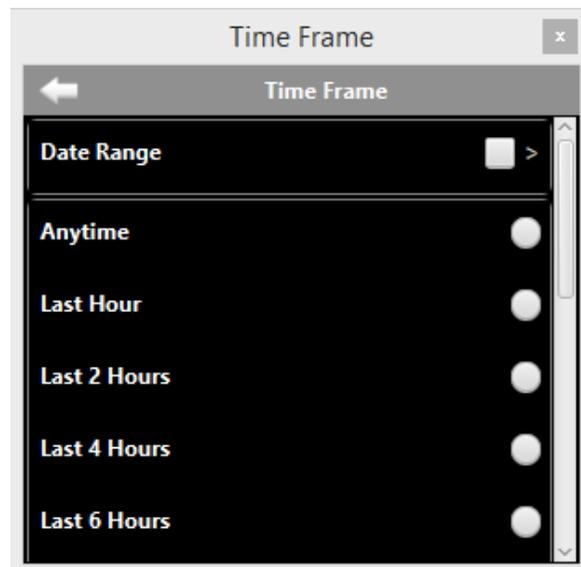
**Figure 3-17: GO Mobile: Data Discovery Window**

2. Tap the **Collections** option to specify a collection in which to search. The **Collections** window will be displayed, as shown in Figure 3-18.



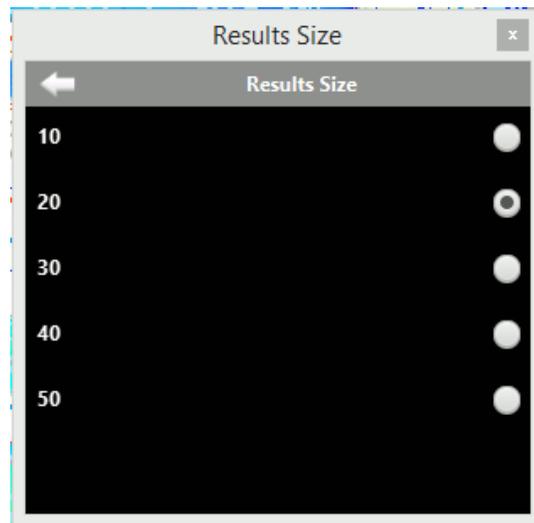
**Figure 3-18: GO Mobile: Collections**

3. Tap the checkbox of the collection(s) you want to search. Multiple collections can be searched at the same time.
4. Tap the **Back** arrow located in the top-left of the screen to return to the **Data Discovery** window.
5. In the **Search Criteria** section, tap **Time Frame** to specify time/date restrictions. The **Time Frame** window will be displayed, as shown in Figure 3-19.



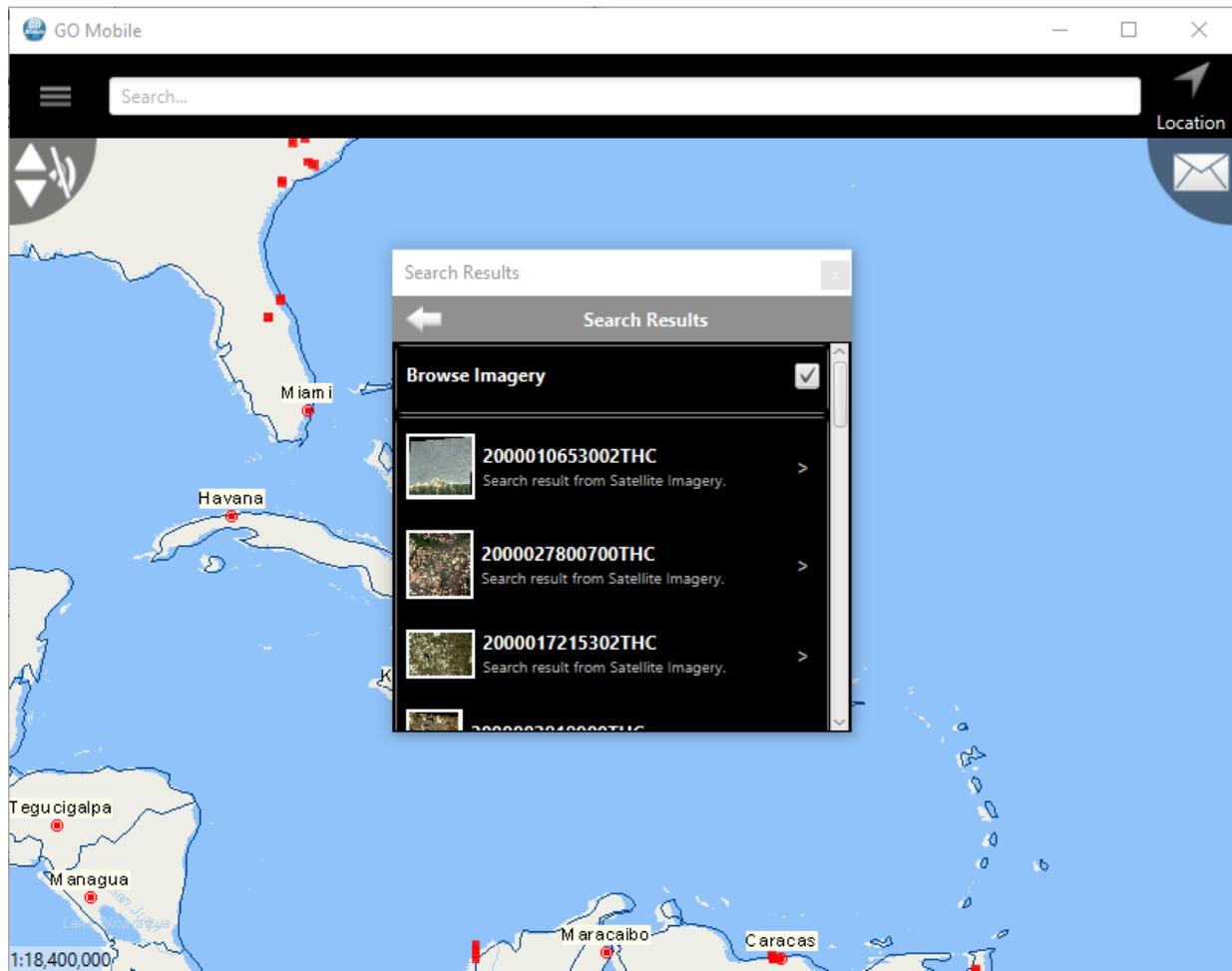
**Figure 3-19: GO Mobile: Time Frame**

6. Tap **Date Range** to enter a **Start Time** and **End Time** ranging over a period of time or tap one of the specified times, such as **Anytime**, **Last Hour**, **Last 2 Hours**, **Last 30 Days**, etc.
7. Tap the **Back** arrow located in the top-left of the screen to return to the **Data Discovery** window.
8. Tap the checkbox next to **Use Map Bounds** to search for data within the bounds of your current map. This is selected by default.
9. Tap **Results Size** to specify the number of results to be displayed. The **Results Size** window will be displayed, as shown in Figure 3-20.



**Figure 3-20: GO Mobile: Results Size**

10. Tap the radio button next to the number of results for which you want to search.
11. Tap the **Back** arrow located in the top-left of the screen to return to the **Data Discovery** window.
12. Tap the **Perform Search** button to initiate the search.
13. The **Search Results** window will be displayed, as shown in Figure 3-21.



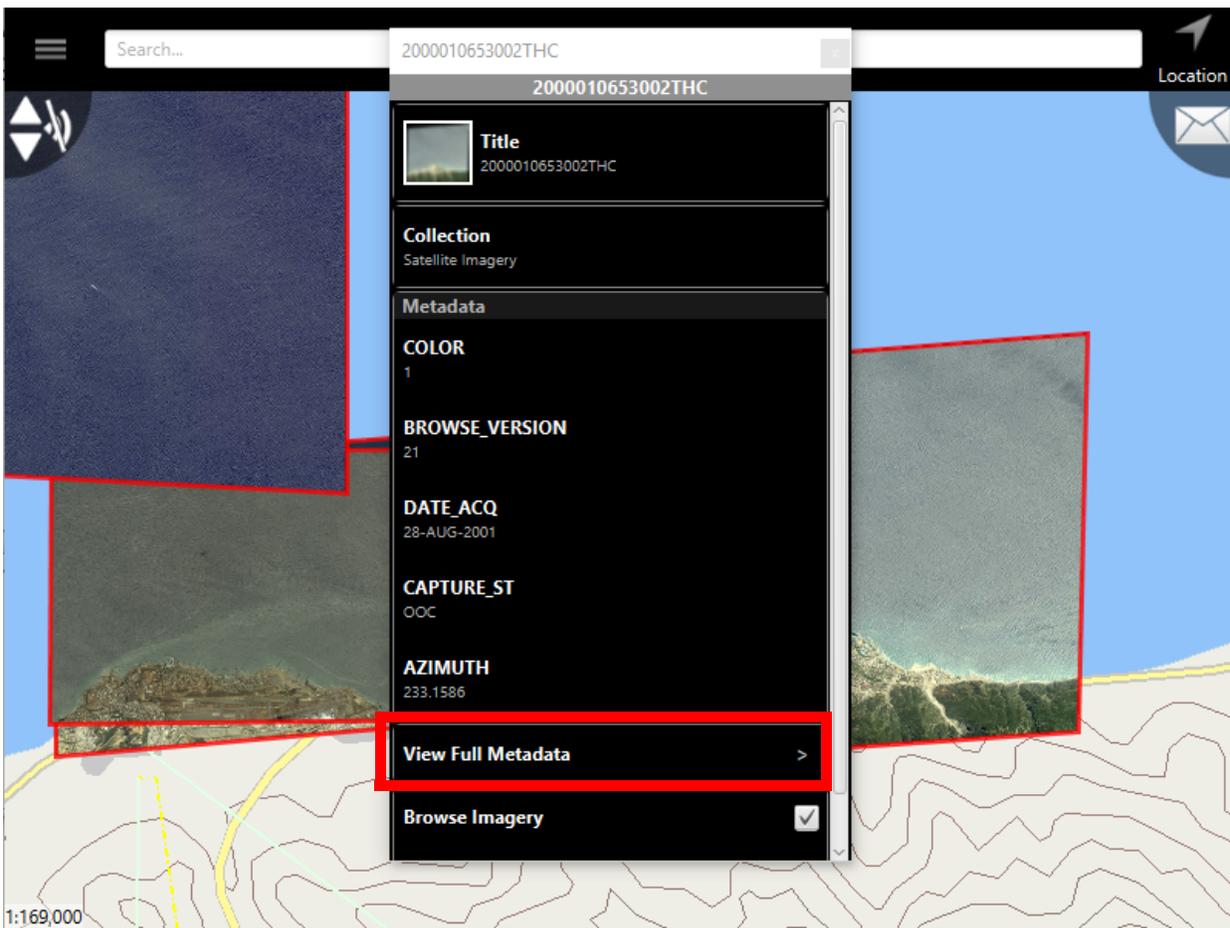
**Figure 3-21: GO Mobile: Search Results**

14. Tap a result to display it on the map, as shown in Figure 3-22.



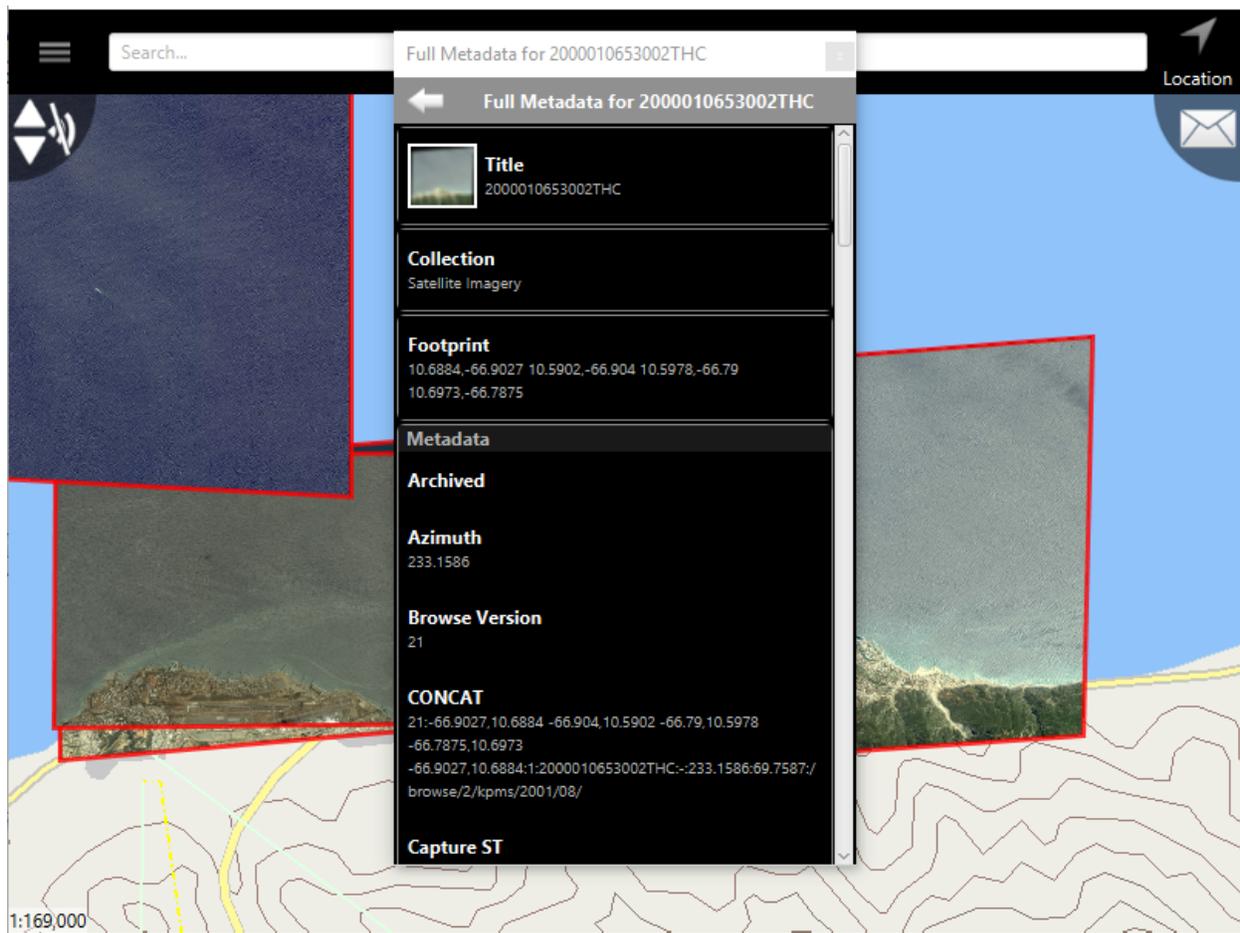
**Figure 3-22: GO Mobile: Search Result Displayed on Map**

15. Tap the information balloon to display metadata for the result, as shown in Figure 3-23.



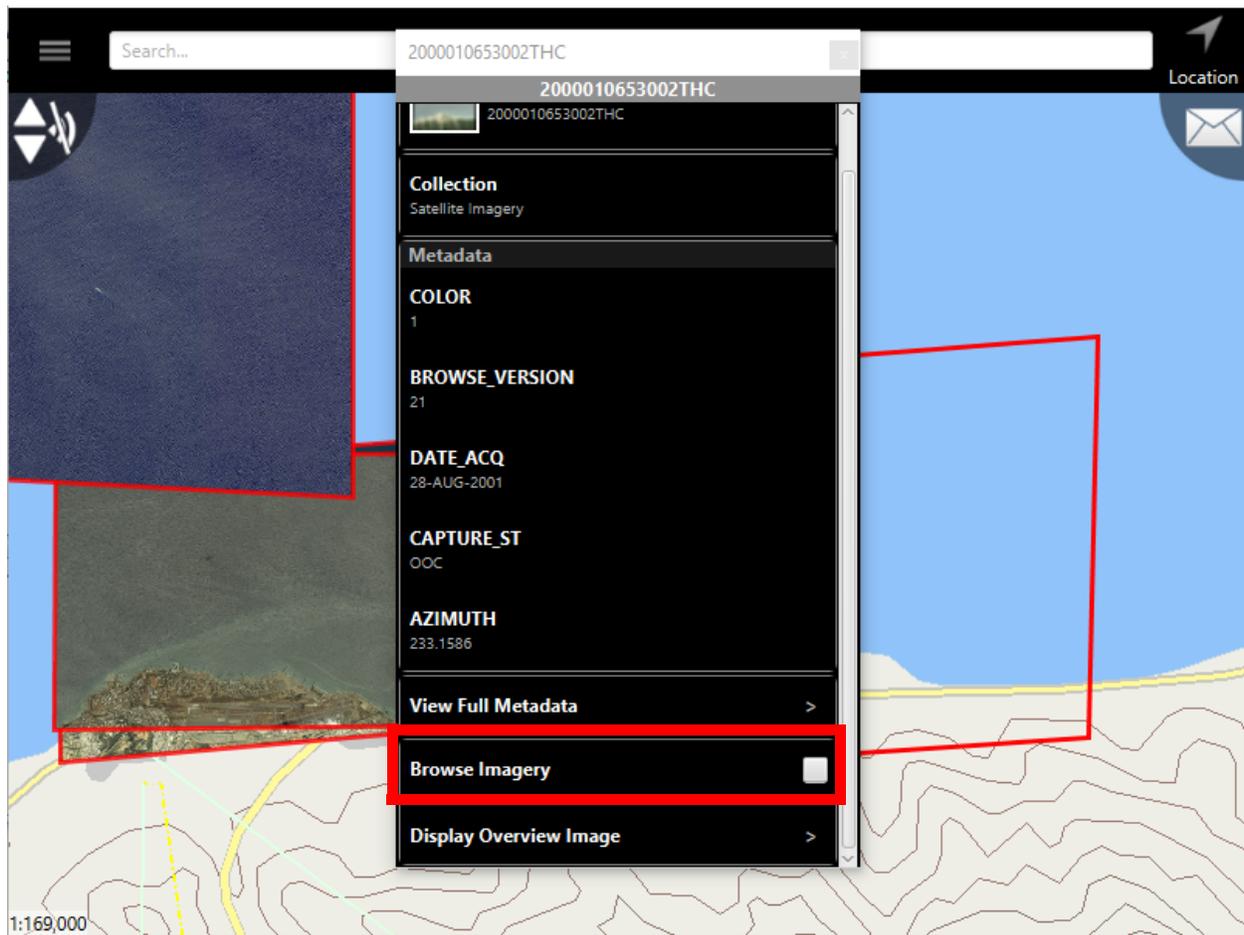
**Figure 3-23: GO Mobile: Metadata**

16. Tap the **View Full Metadata** link to view more detailed metadata, as shown in Figure 3-24.



**Figure 3-24: GO Mobile: Full Metadata**

17. Uncheck the **Browse Imagery** checkbox to turn the browse imagery off for the result, as shown in Figure 3-25.



**Figure 3-25: GO Mobile: Turn Browse Imagery Off**

18. Tap **Display Overview Image** to display the image in the Image Preview Client window, as shown in Figure 3-26.

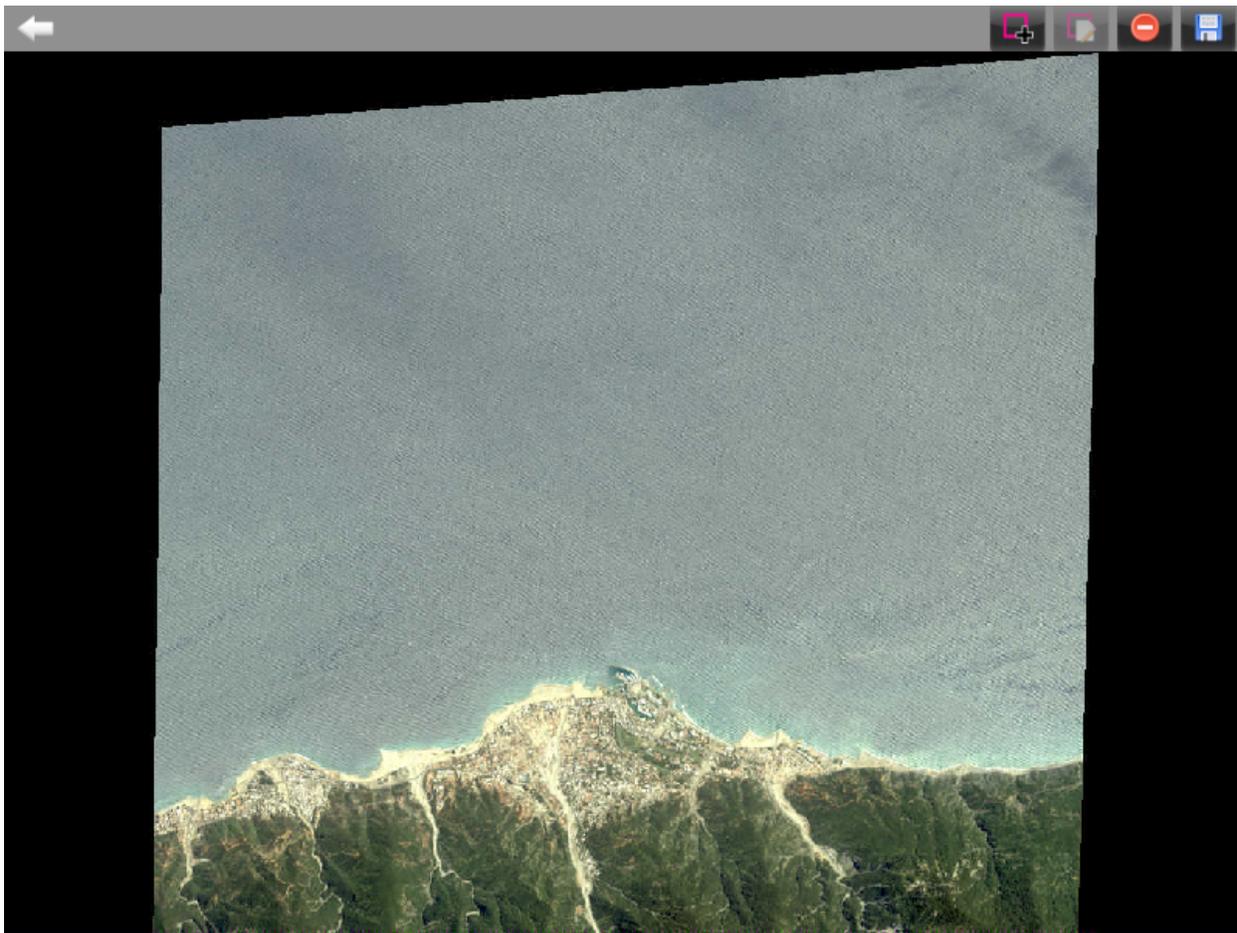


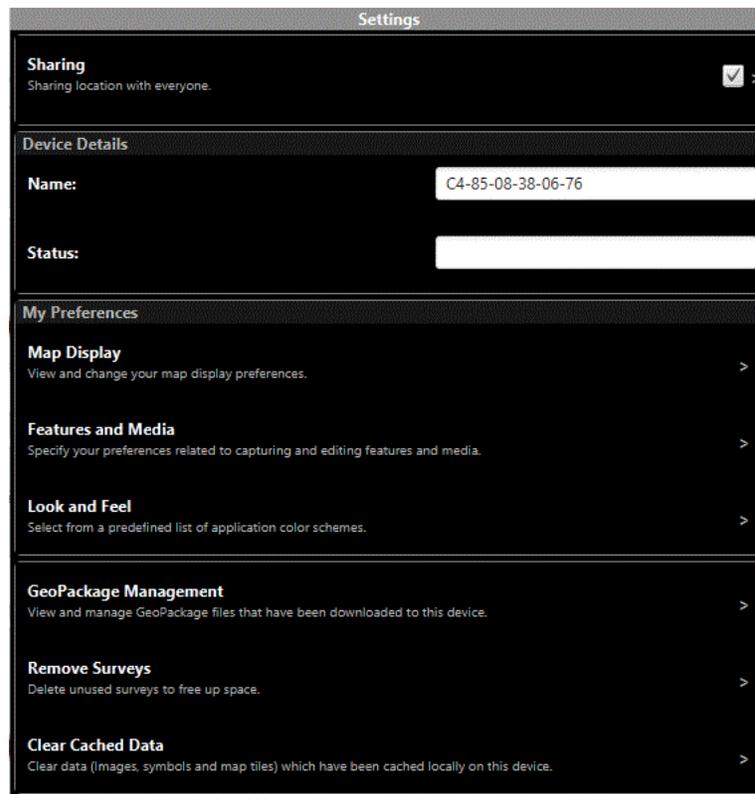
Figure 3-26: GO Mobile: Display Overview Image

#### 3.3.5.4 App General Feature Pane

The general features of the app provided in this pane are described below.

- **Settings** - Accesses the general app settings window. The **Settings** window is shown in Figure 3-27. This window provides access to the app settings listed below.
  - **Sharing** - Toggle for sharing your location with other group members.
  - **Device Details** - Shows device-specific details.
  - **My Preferences**
    - **Map Display** - Map display preferences including coordinate system, scale, over-zooming capability, and icon deconfliction.
    - **Features and Media** - Preferences related to capturing features and media, including Auto Download Portfolio Files, Default Media Destination, and Media Duplication.

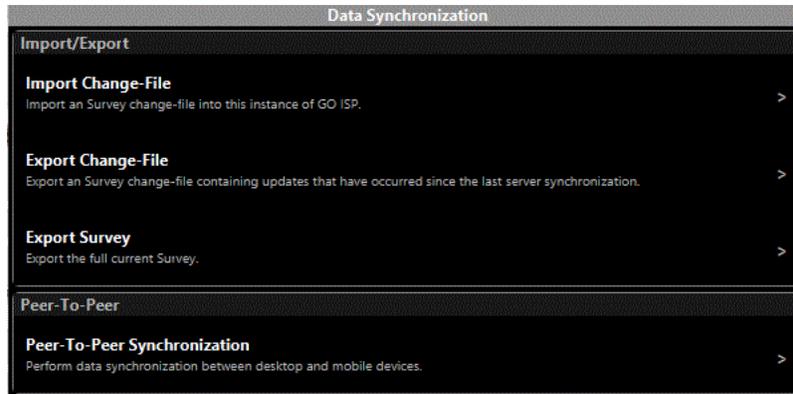
- **Look and Feel** - Preferences related to the “look and feel”, including display settings for bright or dark environments.
- **GeoPackage Management** - View and manage GeoPackage files that have been downloaded to the device.
- **Remove Portfolios** - Delete unused portfolios from the device.
- **Clear Cached Data** - Clear data (images, symbols, and map tiles) that have been cached locally on the device.



**Figure 3-27: GO Mobile Settings Window**

- **Data Synchronization** - Accesses the **Data Synchronization** window, as shown in Figure 3-28, which allows you to import/export change-files and/or synchronize data between mobile devices;
  - **Import Change-File** - Launches a File-Open dialog to allow you to select and import a portfolio change-file that has been side-loaded to the device.
  - **Export Change-File** - Export a portfolio change-file (containing updates that have occurred since the last synchronization with the server) to the local file system for side-loading to another device.
  - **Export Portfolio** - Export the full content of the portfolio as a file to the local file system for side-loading to another device.

- **Peer-to-Peer Synchronization** - Perform portfolio data synchronization between mobile devices.



**Figure 3-28: Data Synchronization Window**

- **Go Offline** - Toggles the app between Wi-Fi online and offline modes.
- **Log Out** - Log the current user out of the GO Mobile app.
- **About** - Provides information about the GO Mobile app and its current usage, such as app version, current server, and current user.

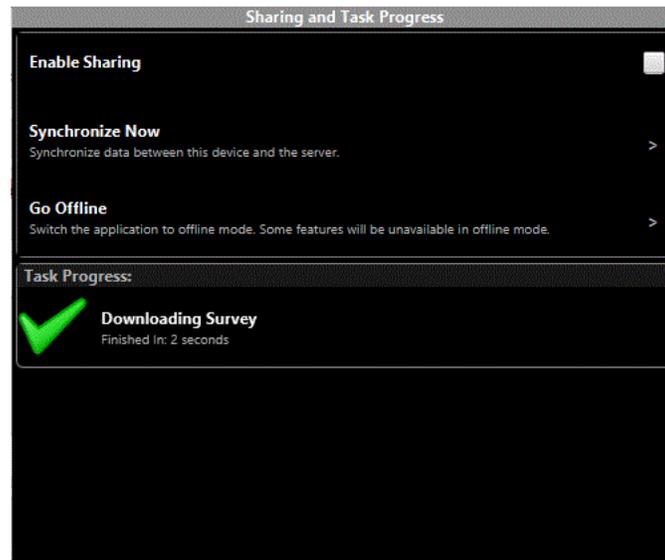
### 3.3.6 Wireless Activity Indicator and Sharing and Task Progress Window

The Wireless Activity Indicator icon provides an indication of the current wireless state of the device, i.e., offline mode or online mode and whether sharing is enabled or disabled. If the icon is blue, the device is connected to a Wi-Fi server. If the icon is red, there is no Wi-Fi connectivity and the device is in offline mode. Toggling the device to online or offline mode from a menu (Context Menu or Sharing and Task Menu) will cause this icon color to reflect the current device state. When there is a stroke through the icon, sharing is disabled. Figure 3-29 illustrates these status indicators.



**Figure 3-29: Wireless Activity Indicators**

Figure 3-30 illustrates the **Sharing and Task Progress** window that is displayed when this icon is clicked.



**Figure 3-30: Sharing and Task Window**

The window contains the following options:

- **Enable Sharing** - Enables sharing of your location with group members.
- **Synchronize Now** - Synchronizes data between the device and the server.
- **Task Progress** - Provides an indication of the progress of any synchronization tasks currently being executed.

### 3.3.7 Group Mail

Clicking **Group Mail** launches an email window which provides a means of communication between group members. A search of group members can be conducted and recipients can be added from a list.

### 3.3.8 Sync Button

When this icon is visible, it indicates that there is new data on the device that can be synchronized with the server. Clicking the icon will initiate the synchronization process. Any new data available on the server will also be downloaded.

### 3.3.9 Map Controls

This control provides zooming and location functions on the map. Use the magnifying glass icons with the '+' and '-' symbols to zoom the map in or out. The world icon sets the map to world extents (use the **Zoom to Bounds** function on the Context Menu to return to the portfolio AOI), and the compass point icon zooms the map to your current location. If your device does not have a built-in GPS capability, this icon will not appear.

### 3.4 Overview of Online and Offline Workflows

The GO Mobile mobile app supports data collection in one of two modes: Online mode or Offline mode.

The following sections provide details related to both data collection workflows. The actual data collection workflow is the same for both online mode and offline mode. This workflow is described in Section 3.5.

#### 3.4.1 Online Workflow

In a GO Mobile online workflow, connectivity to the GO Mobile server is generally available. This applies for the following activities:

- downloading portfolio data;
- syncing collected data with the server; and,
- updating (syncing) data from other devices.

While conducting a portfolio in online mode, it is possible to go into an offline mode where there is no connectivity to the server and continue data collection. Once connectivity to the server is re-established, portfolio data can be synchronized.

The general online portfolio workflow is as follows:

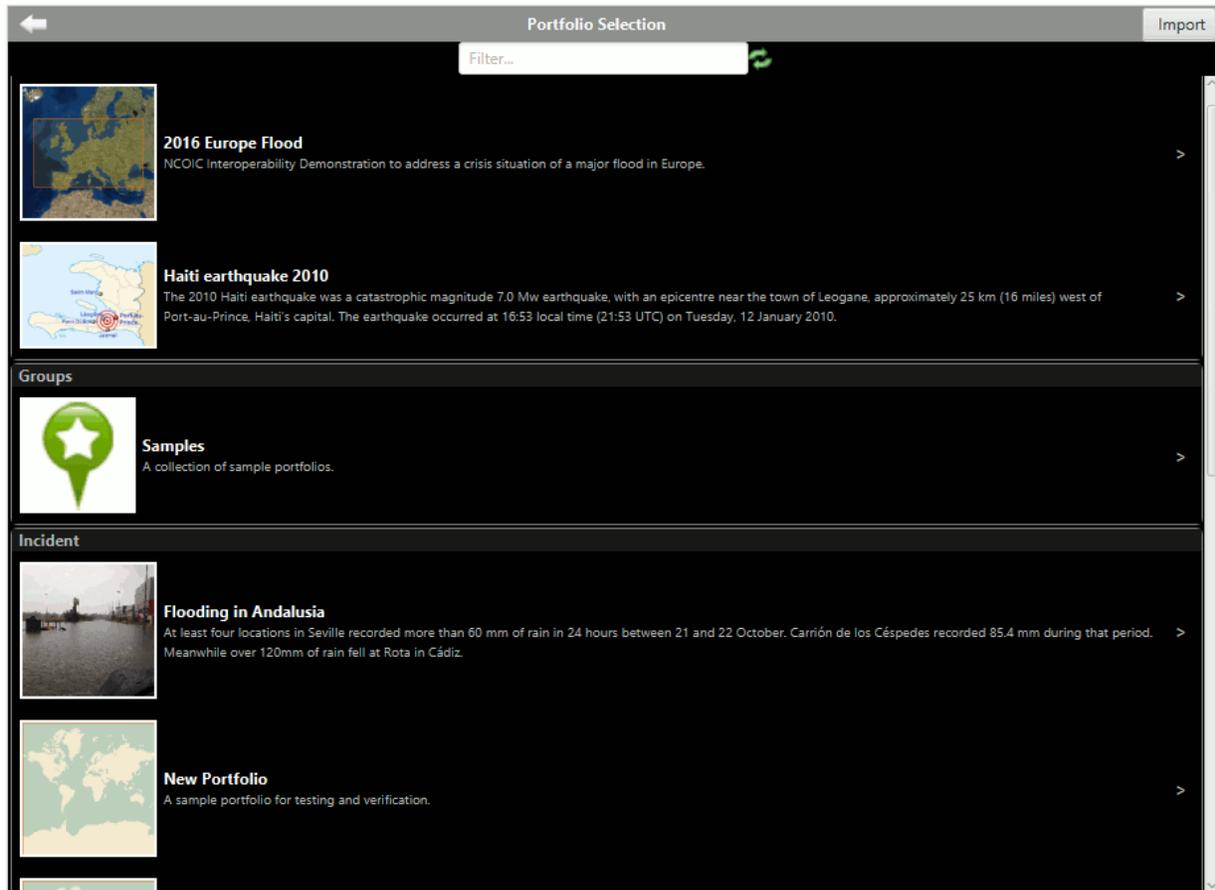
1. Log in to the GO Mobile application.
2. Tap the portfolio for data collection.
3. Tap **Open** or **Download**. If you tap **Download**, GO Mobile extracts the data and the associated files onto the device. Tapping **Open** only allows you to review the data.
4. The portfolio is conducted using the styling of the GeoPackage.
5. Sync the data back to the GO Mobile server.
6. The administrator exports the portfolio as an ESRI workspace XML and the XML is merged back to the original GDB.

More details on these steps can be found in the following subsections.

##### 3.4.1.1 Portfolio Selection

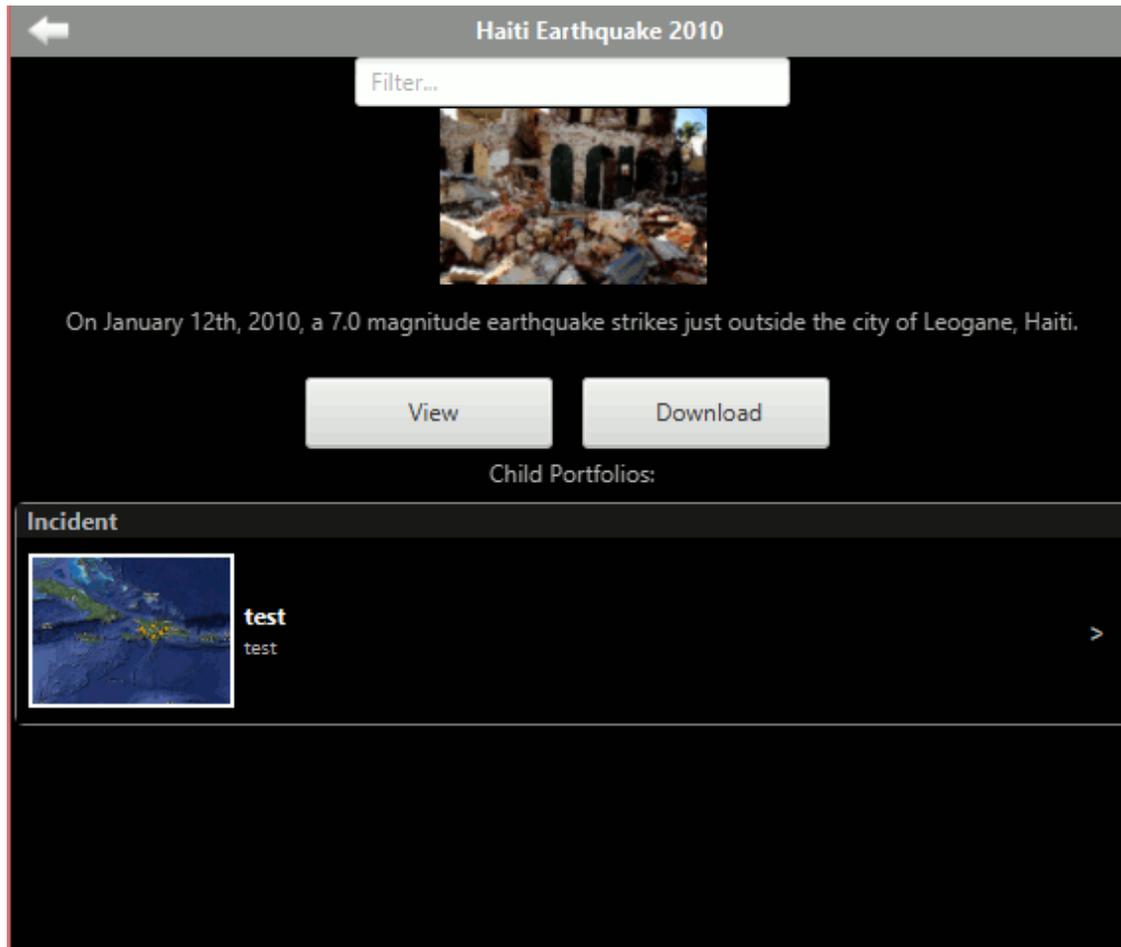
To select a portfolio, follow the steps below:

1. Log in to the device running GO Mobile. You'll be prompted with the **Portfolio Selection** screen, as shown in Figure 3-31.



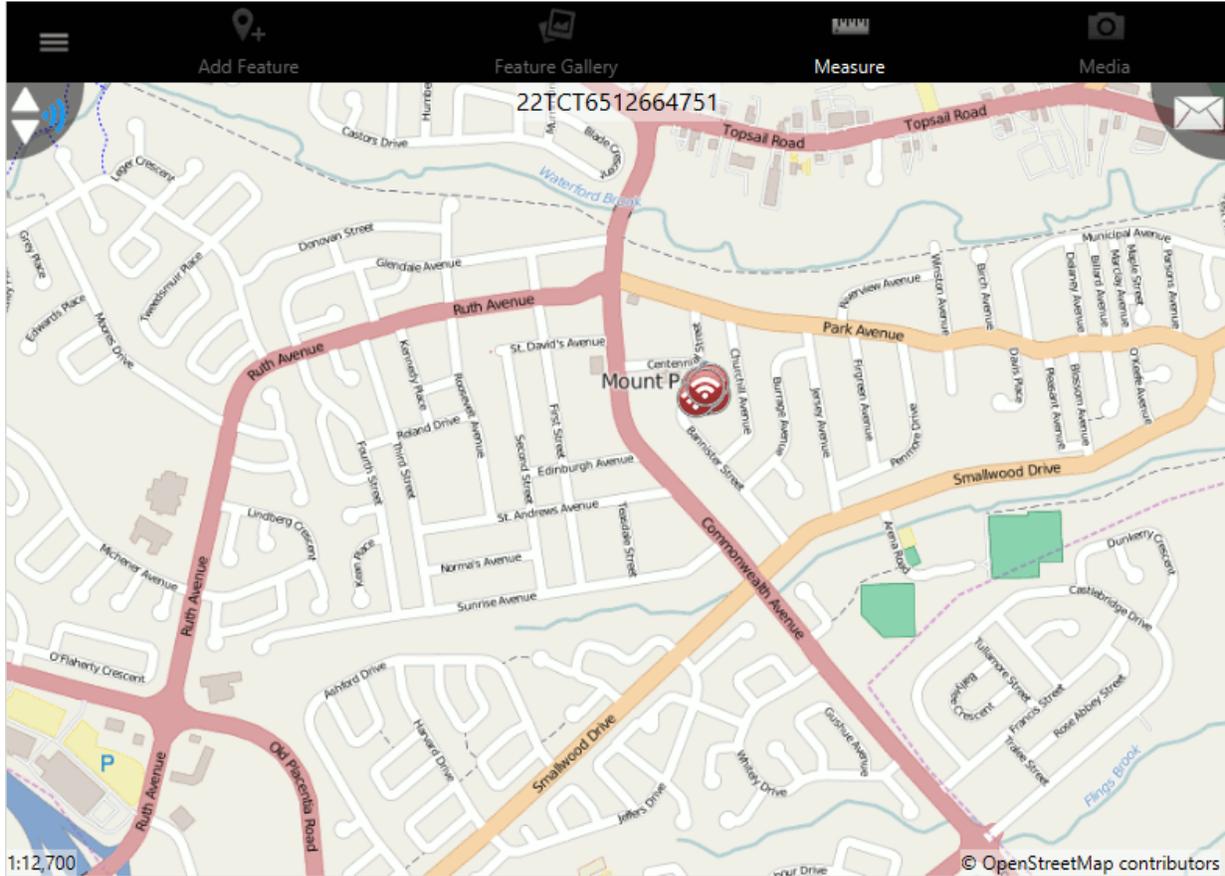
**Figure 3-31: GO Mobile: Portfolio Selection Screen**

2. Tap the portfolio of interest. It will be displayed on the screen with two options, **View** and **Download**, as shown in Figure 3-32.
3. Alternatively, a portfolio can be side-loaded in offline mode by selecting the **Import** button in the top right corner of the window. This will launch a File-Open dialog to allow you to select the portfolio export file which has been copied to the device.



**Figure 3-32: GO Mobile: Opening a Portfolio: Options**

Tap **View** to load the portfolio for review, as shown in Figure 3-33. The options at the top of the screen, with the exception of **Measure**, will be inactive unless you choose the **Download** option.



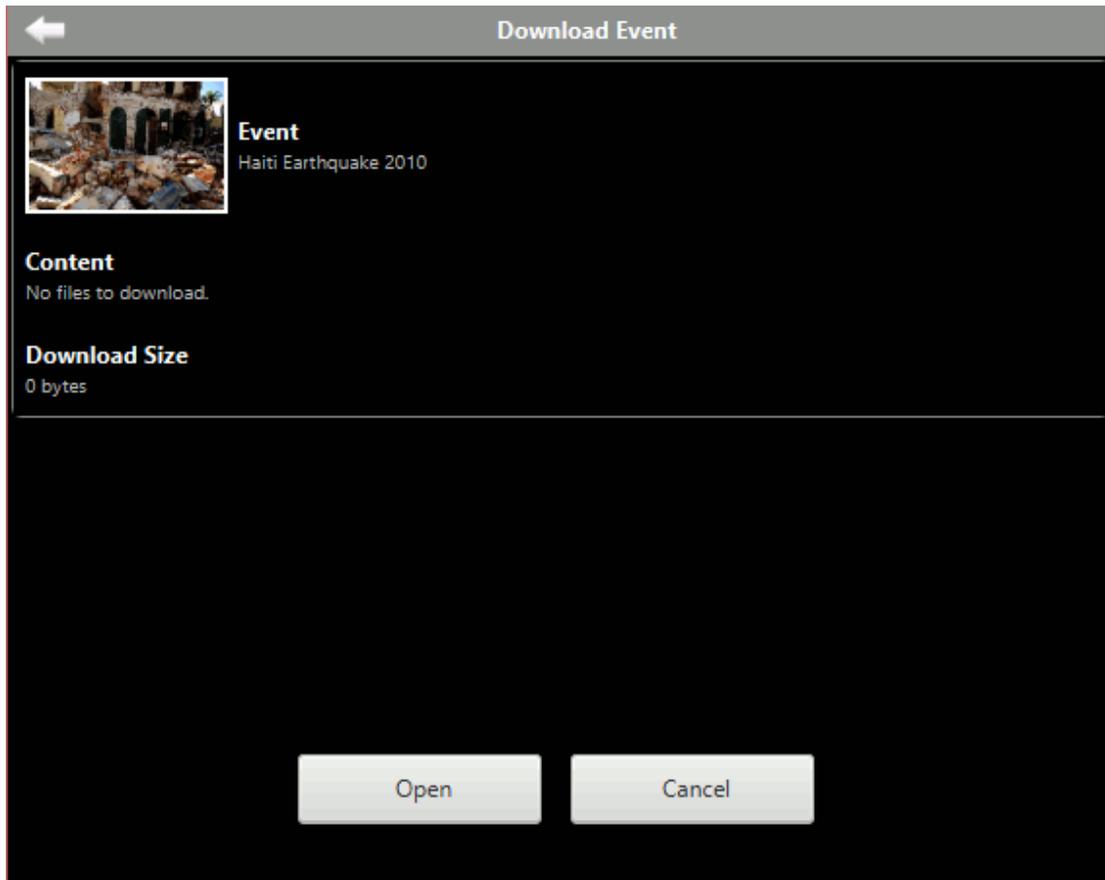
**Figure 3-33: GO Mobile: Open Portfolio: View Option**

Tap **Download** to download the GeoPackage and all associated files to the device. See Section 3.4.1.2 for information on downloading a portfolio.

### 3.4.1.2 Downloading a Portfolio

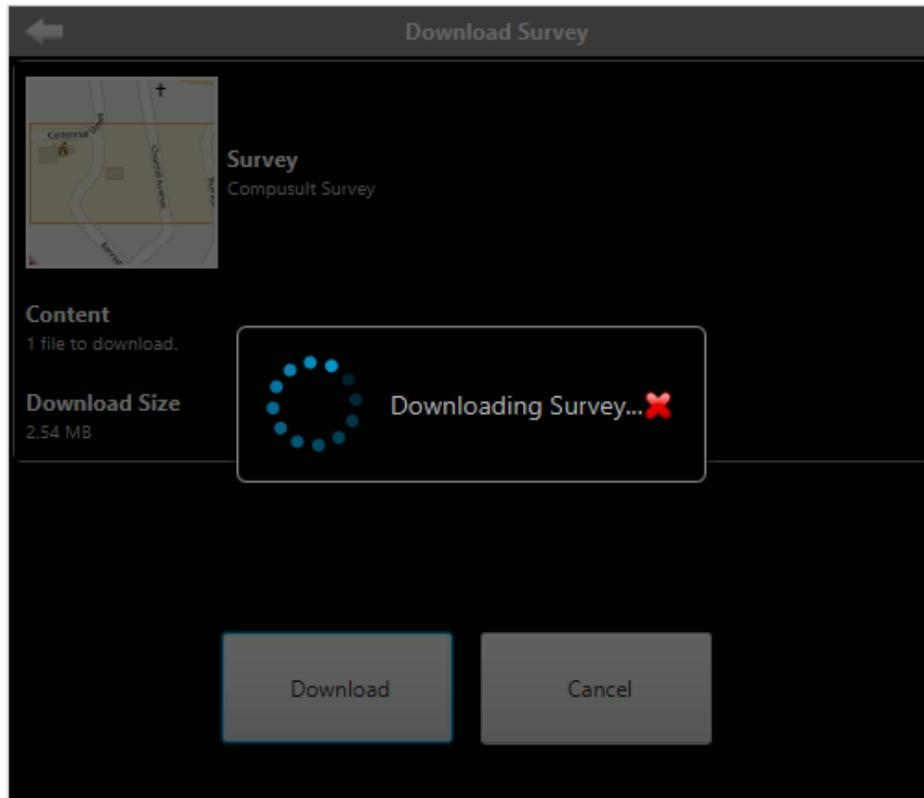
To download a portfolio and contribute content, follow the steps below:

1. Log in to the device running GO Mobile. You'll be prompted with the **Portfolio Selection** screen, as shown in Figure 3-31.
2. Tap the portfolio of interest. It will be displayed on the screen with two options, **View** and **Download**, as shown in Figure 3-32.
3. Tap **Download**. The **Download Portfolio** screen will be displayed, as shown in Figure 3-34.



**Figure 3-34: GO Mobile: Download Screen**

4. The portfolio, its overview image, the **Content** and **Download Size** will be displayed on the **Download** screen. Tap **Open** to continue with the download process. The download will begin, as shown in Figure 3-35.

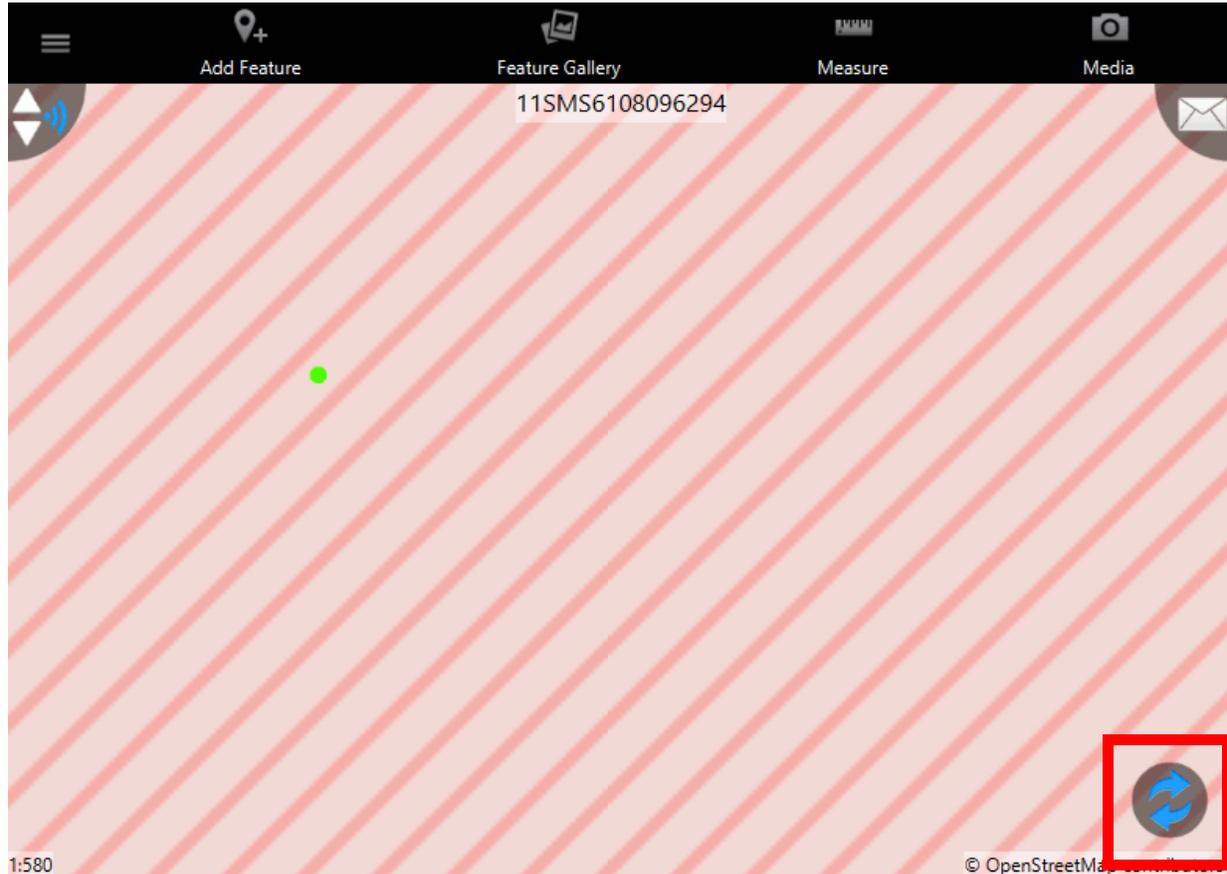


**Figure 3-35: GO Mobile: Downloading Portfolio**

Once downloaded, the portfolio will be displayed and all options across the top of the screen will be enabled. For more information on adding and modifying features, see Section 3.5.

### 3.4.2 Syncing Data to the Server

When you are working with a portfolio online, you can sync any changes made to the server as soon as you make them. When a change is made, the **Sync** button will be displayed in the bottom right corner of the screen, as shown in Figure 3-36.



**Figure 3-36: GO Mobile: Sync Button**

If multiple people are working on the portfolio, the **Sync** button will be displayed if someone else makes a change so you can sync and work with the latest data.

### 3.4.3 Offline Workflow

Connectivity with the server is not possible for an offline workflow. Portfolio data is initially side-loaded from the GO Mobile server to the mobile devices using physical media, data is collected in the field using the mobile devices and then the data is returned to the server by the same side-loading method.

The general offline portfolio workflow is as follows:

1. Log in to the GO Mobile application.
2. Load the portfolio data onto the device.
3. Open the GO Mobile application in offline mode by tapping the **View** button when you open the portfolio. You can also tap the Context Menu (the icon with three horizontal lines in the top left corner) and then tap **Go Offline**. The GO Mobile application will alert the user that some features will not be available.

4. The side-loaded portfolio is detected by GO Mobile. GO Mobile then extracts the GeoPackage and associated files onto the device.
5. Open and review the portfolio.
6. Conduct the portfolio by creating and modifying features in the GeoPackage.
7. Create an export change-file, as described in Section 3.4.3.3.3.
8. Copy the change-file from the device and upload it to the GO Mobile server using the portfolio **Sync** option. The changes contained in the change-file will now be contained in the WES portfolio.
9. The administrator exports the portfolio as an ESRI workspace XML and the XML is merged back to the original GDB, as described in Section 2.5.

### 3.4.3.1 Using a Public Account

In offline mode, if a user has not previously logged in to the GO Mobile server while using a specific GO Mobile device, then the GO Mobile app on that device has no way of authenticating the user. However, data collection is still possible using a special public account. The GO Mobile app will maintain the collected data in this special local account.

If the user has previously logged in to the server using the GO Mobile device, the GO Mobile app will remember that user and login using that user's credentials is still possible. Any data collected will be associated with that user.

### 3.4.3.2 Loading Offline Data into GO Mobile

In offline mode, devices running GO Mobile will not connect to the GO Mobile server directly, so portfolio data must be side-loaded from the server to the mobile devices using physical media. Exporting portfolio data is described in Section 2.4. In offline mode, data collection can be managed in one of two ways:

1. The portfolio data can initially be side-loaded into GO Mobile Windows running on what will be designated as the master device. This device will then coordinate with all other GO Mobile Windows and Android child devices to keep the data in sync. After the portfolio has been completed, a change-file containing the updated data can be exported from the master device and imported back into the GO Mobile server.
2. The portfolio data can be side-loaded to a number of Android and/or Windows devices. Data collection can be carried out on the separate devices and then individual change-files can be exported from the devices for collection and synchronization on a single device in the field or brought back to the GO Mobile server and combined there.

The following subsections outline the procedure for exporting data from GO Mobile and side-loading it into GO Mobile Windows and Android devices using a USB drive.

### 3.4.3.2.1 Importing Data into a GO Mobile Windows Master Device

1. Connect a USB drive containing the WES portfolio export to the Windows computer.
2. Copy the WES portfolio export (i.e., the PF file) from the USB drive to the local hard drive.
3. Disconnect and unplug the USB drive.
4. Launch the GO Mobile Windows application by running **GOMobile.exe**.
5. Tap the **Use Offline** button.



**Figure 3-37: GO Mobile: Launching GO Mobile Windows in Offline Mode**

6. When prompted with an alert warning about feature unavailability in offline mode, click **Continue**.
7. When asked whether you would like to import a WES portfolio, tap **Yes**.
8. Navigate to and select the WES portfolio export file you copied previously in Step 2.
9. Tap the portfolio in the displayed list and tap the **Open** button.



**Figure 3-38: GO Mobile: Opening an Imported WES Portfolio**

### 3.4.3.2.2 Exporting Portfolio Data from the Master Device to Child Devices

The process of moving data from the master device to child devices differs based on the type of child device and its capabilities. The transfer can be accomplished using a USB drive or for Android devices, by means of the Media Transfer Protocol (MTP).

1. Launch GO Mobile Windows on the master device in offline mode and load the WES portfolio that is to be transferred to the Android device, as described in Section 3.4.3.2.1.
2. Connect a USB drive to the master Windows device.
3. Open the Context Menu by tapping the button in the top-left corner of the screen.
4. Tap the **Data Synchronization** list item.
5. Tap the **Export Portfolio** list item.
6. Navigate to and choose a folder on the connected USB drive.
7. Once the export completes, acknowledge the **Export Complete** pop-up by tapping **Ok**.
8. Safely eject the USB drive from the master Windows device.

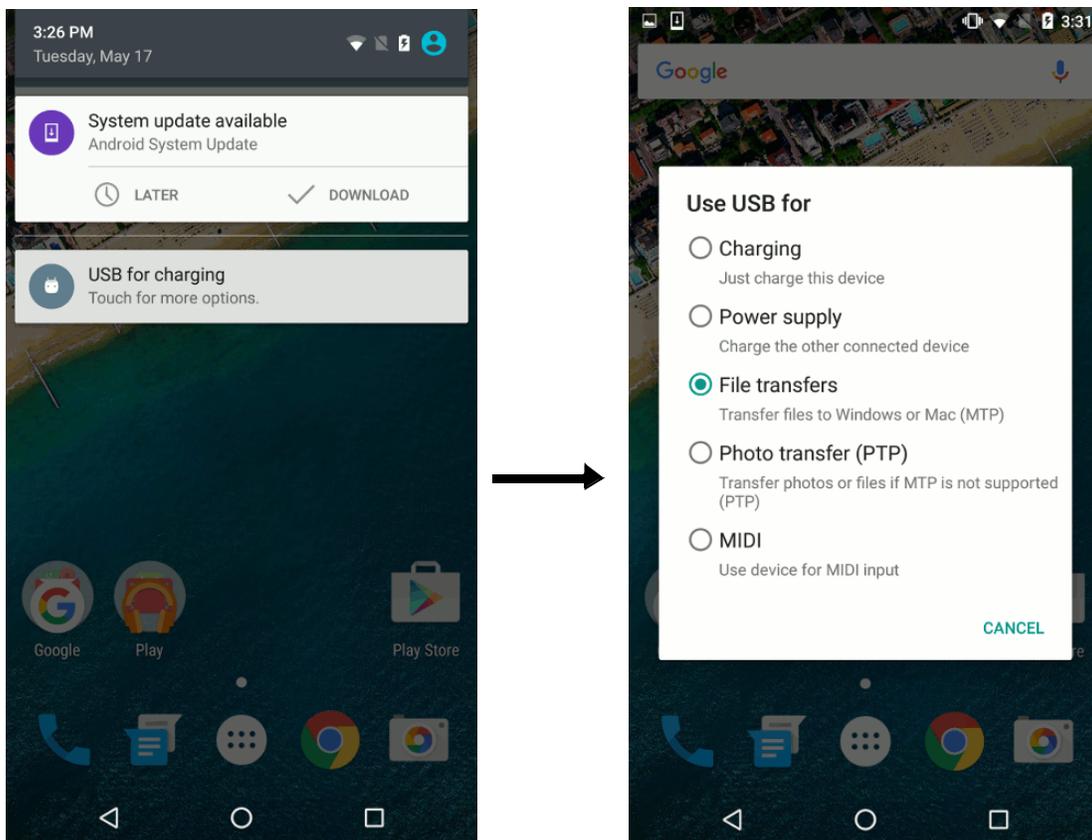
The USB drive can now be used to move the portfolio data to child devices. The next section describes data transfer using the MTP.

### 3.4.3.2.3 Loading Data into GO Mobile Android via MTP

Most Android devices support the Media Transfer Protocol (MTP) for data transfer between devices via USB cable. GO Mobile Windows can transfer data directly to these devices using the

following steps:

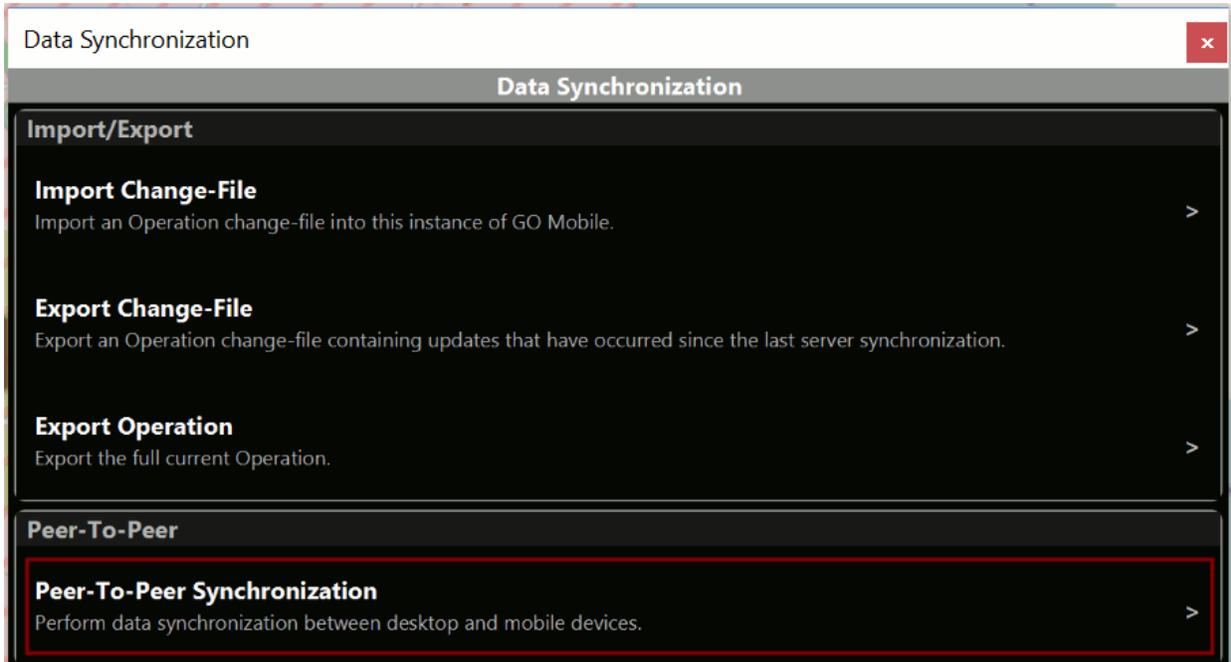
1. Attach the Android device to the Windows computer using a USB cable.
2. Ensure that the Android device is connected as a Media Device (MTP):
  - Swipe down from the top of the screen to open the Android Notifications Menu.
  - Tap the USB item in the displayed list. Note that the exact text of this list item may vary on different devices.
  - Tap the option containing the text **MTP** if it is not already selected.



**Figure 3-39: GO Mobile: Setting the USB Mode to MTP**

3. Launch GO Mobile Windows in offline mode and load the WES portfolio that is to be transferred to the Android device, as described in Section 3.4.3.2.1.
4. Open the Context Menu by tapping the button in the top-left corner of the screen.
5. Tap the **Data Synchronization** list item.

- In the pop-up window, tap the **Peer-To-Peer Synchronization** item.



**Figure 3-40: GO Mobile: Selecting Peer-To-Peer Synchronization**

- If you have more than one device connected, you will be prompted to tap the device you wish to use for synchronization. Otherwise proceed to the next step.
- Tap the **Upload Portfolio** item to push the local portfolio export to the connected Android device.
- Once the upload process completes, disconnect the Android device from the Windows computer.
- Launch GO Mobile on the Android device and tap the **Use Offline** button.
- After acknowledging the alert about feature unavailability in offline mode, you will see the imported portfolio and all of its associated data.

#### 3.4.3.2.4 Loading Data into GO Mobile Android Manually via USB

When using an Android device that does not support MTP, data transfer must be manually using a USB drive. The portfolio data can be sourced from a master device or from the GO Mobile server. The steps to perform this transfer are as follows:

- Attach the USB drive with the portfolio data to the device.
- Using a file manager application (e.g., ES File Explorer), copy the exported PF file from the USB drive to the root folder on the device.
- Safely eject the USB drive from the Android device.
- Launch GO Mobile on the Android device and tap the **Use Offline** button.

5. After acknowledging the alert about feature unavailability in offline mode, you will see the imported portfolio and all of its associated data.

### 3.4.3.2.5 Loading Data into GO Mobile Windows Manually via USB

When using a Windows device data transfer must be done manually using a USB drive. The portfolio data can be sourced from a master device or from the GO Mobile server. The steps to perform this transfer are as follows:

1. Attach the USB drive with the portfolio data to the device.
2. Copy the exported PF file from the USB drive to the local hard drive on the device.
3. Safely eject the USB drive.
4. Launch GO Mobile on the Windows device and import the PF file by doing the following:
  - If you **have not** previously imported this portfolio on this device:

Tap the **Use Offline** button and tap the export file on the local hard drive when prompted.
  - If you **have** previously imported this portfolio on this device:

Open the Context Menu, tap the **Open Portfolio** list item, then tap the **Import** button at the top-right of the screen and tap the export file on the local hard drive.

### 3.4.3.3 Data Synchronization Between Mobile Devices

Once data collection has been completed using the GO Mobile devices in the field, the collected data will need to be collated and synchronized. This can be achieved in one of two ways.

1. The portfolio data (change-files) can be side-loaded from each device onto a specific GO Mobile device (typically running Windows) designated as the master device. This device will then combine all the individual change-files into a single portfolio data file. After the portfolio has been completed, a change-file containing the updated data can be exported from the master device and imported back into the GO Mobile server.
2. Data collection can be carried out on the separate devices and then individual change-files can be exported from the devices for collection and synchronization on a single device in the field or brought back to the GO Mobile server and collated there.

This section outlines the process of collecting data from each Android device into GO Mobile Windows and then sharing the merged data back to each user.

The following subsections outline the process of transferring changes from child devices to a master device.

### 3.4.3.3.1 Synchronizing Changes from Android using MTP

1. Connect the Android device to the Windows computer using a USB cable.
2. Ensure that the Android device is connected as a Media Device (MTP). See section 3.4.3.2.2 for instructions.
3. On the Android device, tap **Data Synchronization** in the GO Mobile Context Menu.
4. Tap the **Export Change-File** item. An alert will be displayed when the export is complete.

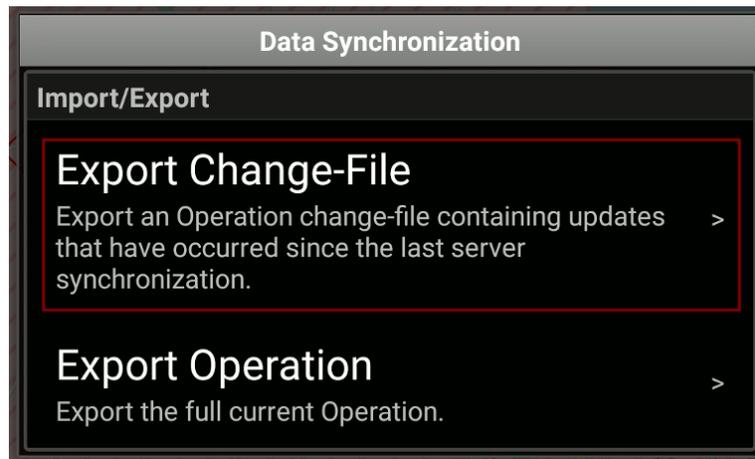


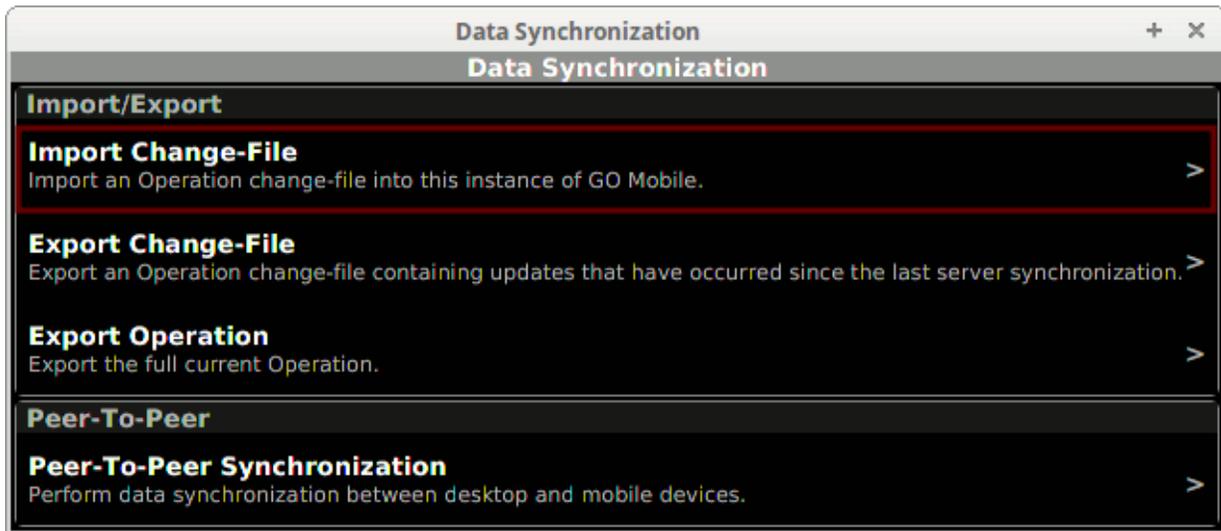
Figure 3-41: GO Mobile: Exporting an Portfolio Change-File in Android

5. On the Windows device, ensure that the same WES portfolio is loaded as on the Android device and tap **Data Synchronization** in the GO Mobile Context Menu.
6. Tap the **Peer-To-Peer Synchronization** list item.
7. If you have more than one device connected, you will be prompted to select the device you wish to use for synchronization. Otherwise, proceed to the next step.
8. Tap the **Pull Portfolio Changes** item to retrieve the Android change-file and merge changes to the Windows device.

### 3.4.3.3.2 Synchronizing Changes from Android Devices Using USB

1. On the Android device, tap **Data Synchronization** in the GO Mobile Context Menu.
2. Tap the **Export Change-File** item. An alert will be displayed when the export is complete.
3. Connect a USB drive to the Android device.

4. Using a file manager application (e.g., ES File Explorer), copy the Portfolio Change (PFC) file from the root of the Android device to the connected USB drive.
5. Safely eject the USB drive from the Android device and connect it to the master Windows device.
6. On the Windows device, ensure that the same WES portfolio is loaded and tap **Data Synchronization** in the GO Mobile Context Menu.
7. Select the **Import Change-File** list item.



**Figure 3-42: GO Mobile: Importing an Portfolio Change-File**

8. Navigate to the USB drive and tap the PFC file exported in a previous step.

### 3.4.3.3.3 Synchronizing Changes from Windows Devices using USB

1. Connect a USB drive to the child Windows device.
2. In GO Mobile on the child Windows device, tap **Data Synchronization** in the GO Mobile Context Menu.
3. Tap the **Export Change-File** item, and navigate to a folder on the connected USB drive. An alert will be displayed when the export is complete.
4. Safely eject the USB drive from the child device and connect it to the master device.
5. In GO Mobile on the master Windows device, ensure that the same WES portfolio is loaded as on the child device and tap **Data Synchronization** in the **Context** Menu.
6. Tap the **Import Change-File** list item.
7. Navigate to the USB drive and tap the PFC file exported in a previous step.

#### 3.4.3.3.4 Resolving Conflicts During the Synchronization Process

During the synchronization process, GO Mobile will detect if any incoming GeoPackage feature changes conflict with previously merged changes (or changes made on the local master device itself). In the event that a conflict is detected, GO Mobile will display a prompt containing the conflicting metadata and ask whether you want to keep the existing feature or accept the change from the incoming change-file.

For example, it may happen that two users provide an answer for the same Query Point. If this occurs, the conflict alert from GO Mobile Windows will display both answers and ask which feature to accept.

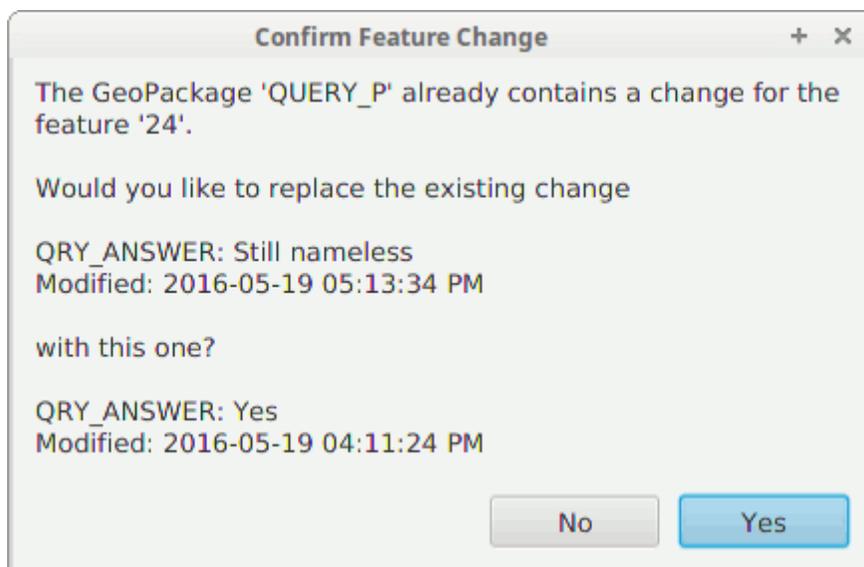


Figure 3-43: Conflict Resolution when Importing a Change-File

#### 3.4.3.3.5 Uploading the Merged Data to the Android Devices

Once the synchronization process outlined above has been completed, the master device will contain the master copy of the portfolio with all of the captured/merged data. To continue capturing data with the child devices, each device will need to be resynchronized with the master device so that all users are working with the same data.

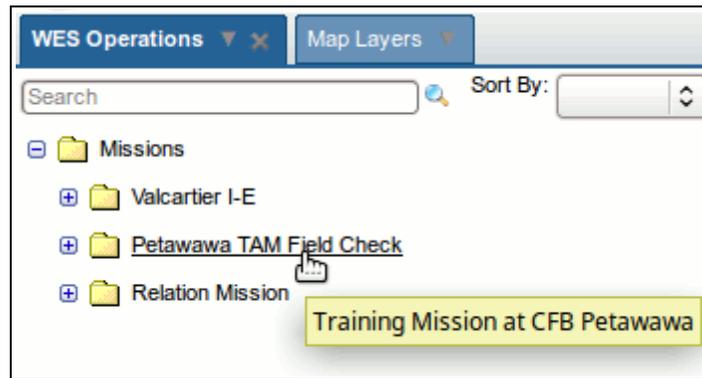
This process of resynchronization is the same process that was used to load the data initially onto the child device, so each device should once again go through the procedure outlined in Section 3.4.3.3.

#### 3.4.3.3.6 Migrating Changes Back to the GO Mobile Server

After several iterations of the data capture and synchronization process, the merged data on the master Windows device will need to be migrated back to the GO Mobile server. The steps to

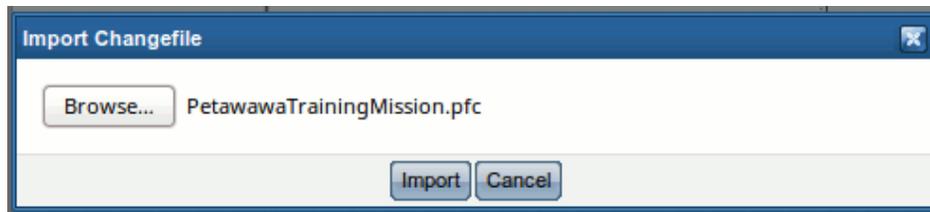
perform this process are as follows:

1. Tap the **Data Synchronization** list item in the GO Mobile Context Menu.
2. Tap **Export Portfolio** and choose an export folder in the file selection dialog.
3. Tap **Ok** on the **Export Complete** alert once the export finishes. There will now be a WES portfolio change-file (with a PF file extension) in the folder selected in the previous step.
4. Transfer the exported change-file to a USB drive.
5. Connect the USB drive to the WES server and transfer the change-file to the server hard drive.
6. Log in to the GO Mobile server.
7. In the Portfolio Manager, tap the portfolio to which your change-file applies.



**Figure 3-44: Selecting a WES Portfolio for Change-File Import**

8. Click the folder to view the portfolio metadata.
9. Click the **Import/Export** button at the bottom of the screen, then click **Import WES Portfolio Change-file**.
10. Click the **Browse** button and select the change-file that was previously transferred to the server hard drive.



**Figure 3-45: Importing a WES Portfolio Change-File**

11. Click the **Import** button.

## 3.5 Data Collection

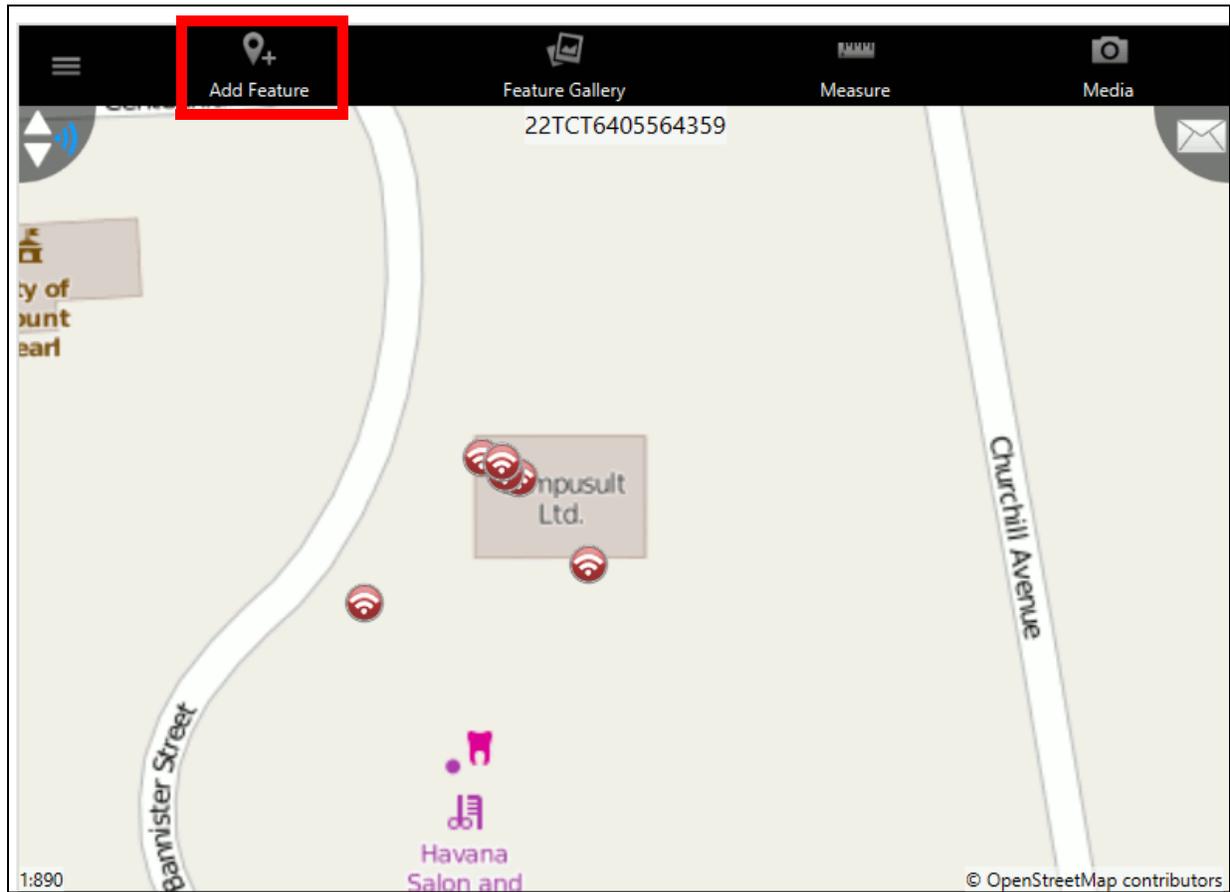
Whether using GO Mobile in online mode or offline mode, the data collection workflow is the same. The following sections detail data collection activities.

### 3.5.1 Adding Features or Markers

The process to add features or markers to a portfolio is the same in online and offline mode, however, when you add them in online mode, you can sync to the server right away. For more information on syncing in online mode, see Section 3.4.2. In offline mode, you cannot sync immediately. For more information on syncing in offline mode, see Section 3.4.3.2. Features can only be added to a portfolio with a GeoPackage, otherwise markers will be added.

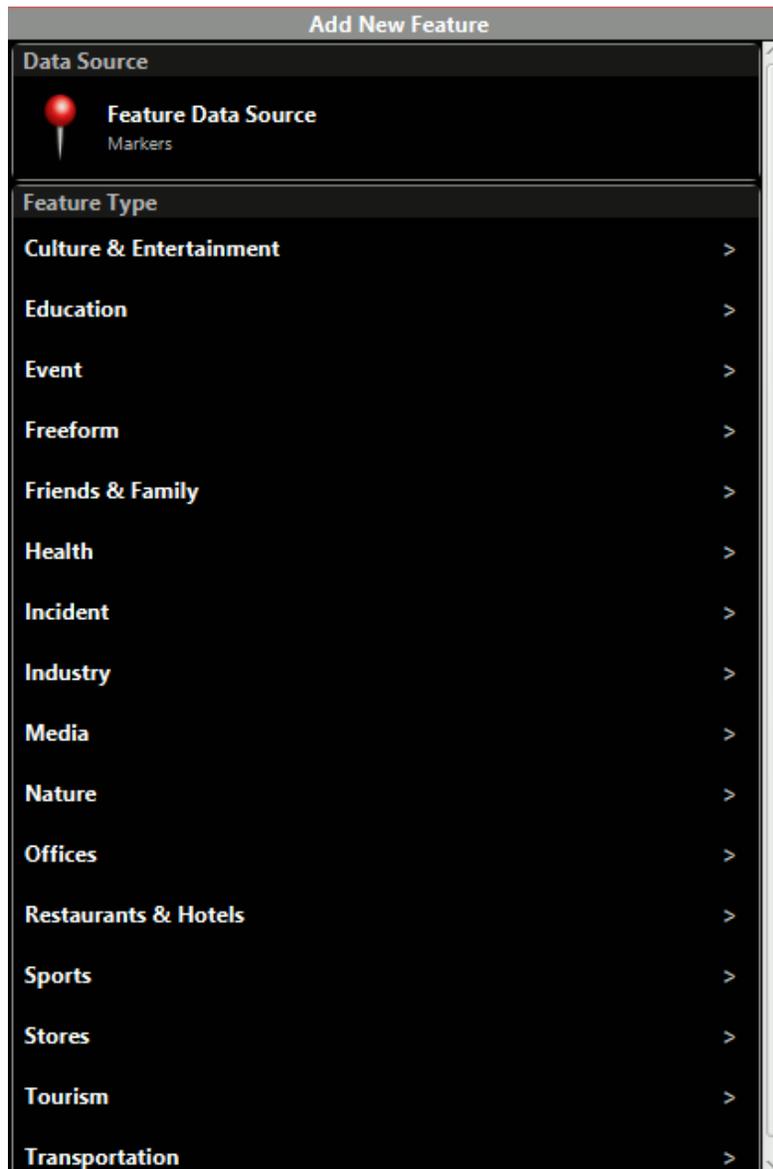
To add features or markers to a portfolio, do the following:

1. Log in to the device running GO Mobile. You'll be prompted with the **Portfolio Selection** screen, as shown in Figure 3-31.
2. Tap the portfolio of interest. It will be displayed on the screen with two options, **View** and **Download**, as shown in Figure 3-32.
3. Tap **Download**. The **Download Portfolio** screen will be displayed, as shown in Figure 3-34.
4. Tap **Open** to continue with the download process. Once downloaded, the portfolio will be displayed.
5. Tap the **Add Feature** menu at the top of the screen, as shown in Figure 3-46.



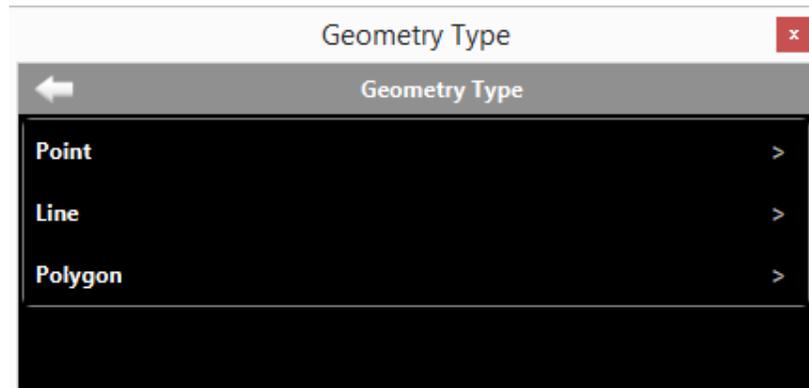
**Figure 3-46: GO Mobile: Portfolio Online Mode: Add Feature**

The **Add New Feature** screen will be displayed, as shown in Figure 3-47.



**Figure 3-47: GO Mobile: Add New Feature Screen**

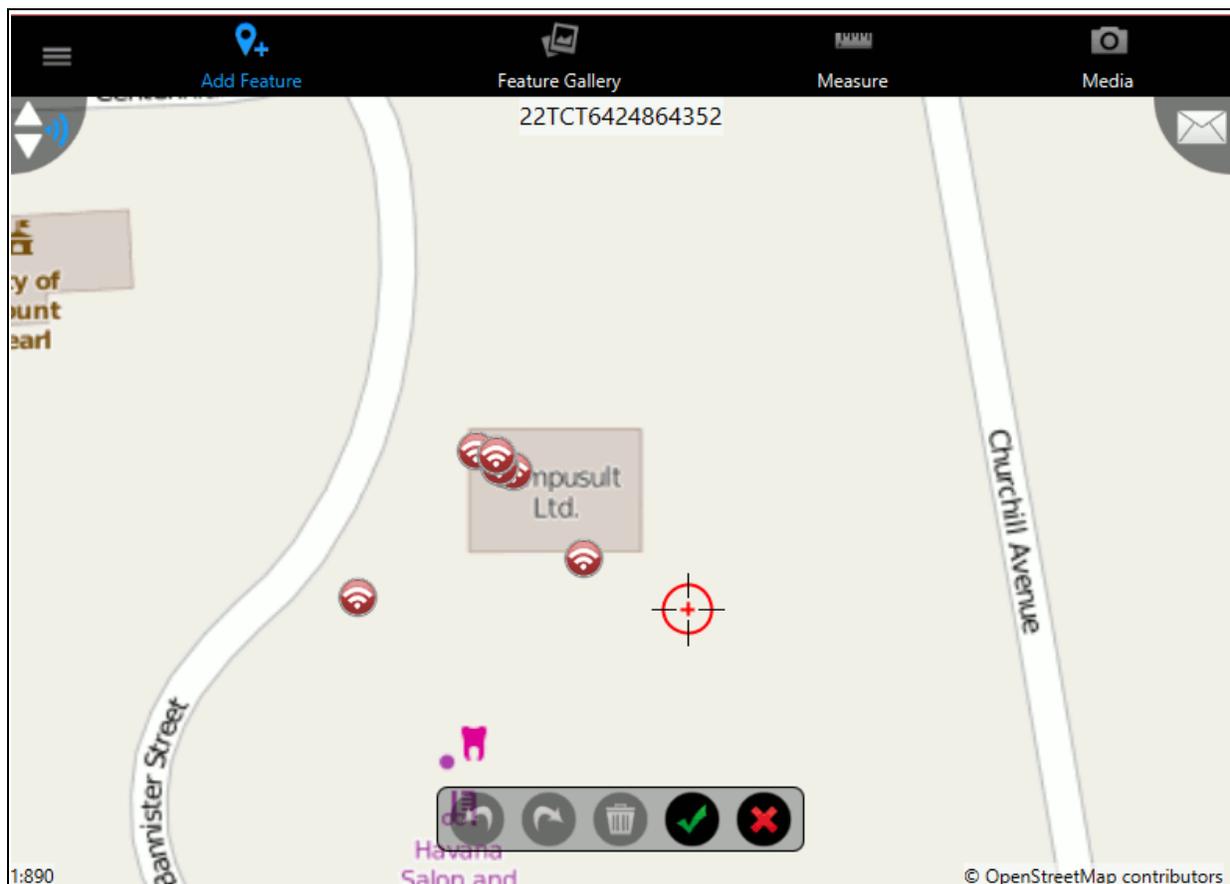
6. Tap the type of feature you want to add to the portfolio. For example, if you want to add an office feature, tap **Offices**. The **Geometry Type** screen will be displayed, as shown in Figure 3-48.



**Figure 3-48: GO Mobile: Geometry Type**

7. Select the geometry type that you want to add to the map.

The screen will be refreshed to include a reticle icon which you can move around when deciding on placement for your feature, and a menu will be displayed across the bottom, as shown in Figure 3-49.



**Figure 3-49: GO Mobile: Adding Feature**

The functions of the icons in the menu from left to right are as follows: Undo, Redo, Trash, Confirm, Delete.

- When you have the feature in place, tap the green check mark icon to confirm. The **Feature Information** window will be displayed, as shown in Figure 3-50 if a feature was added. Otherwise the **Remote Marker** window will be displayed as shown in Figure 3-51.

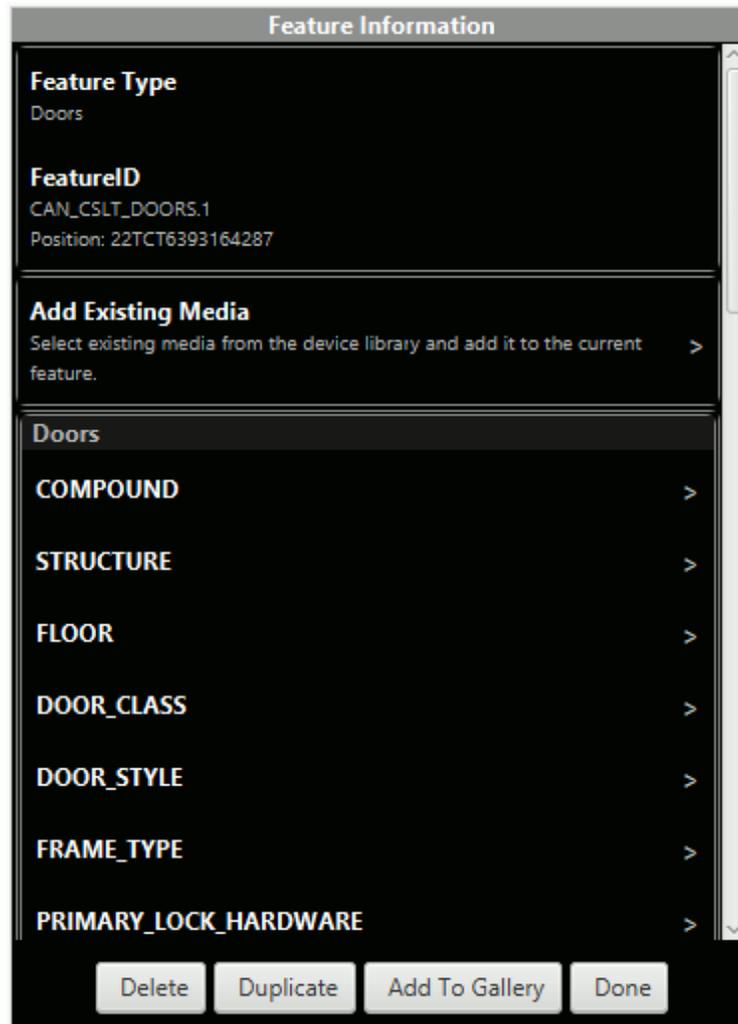
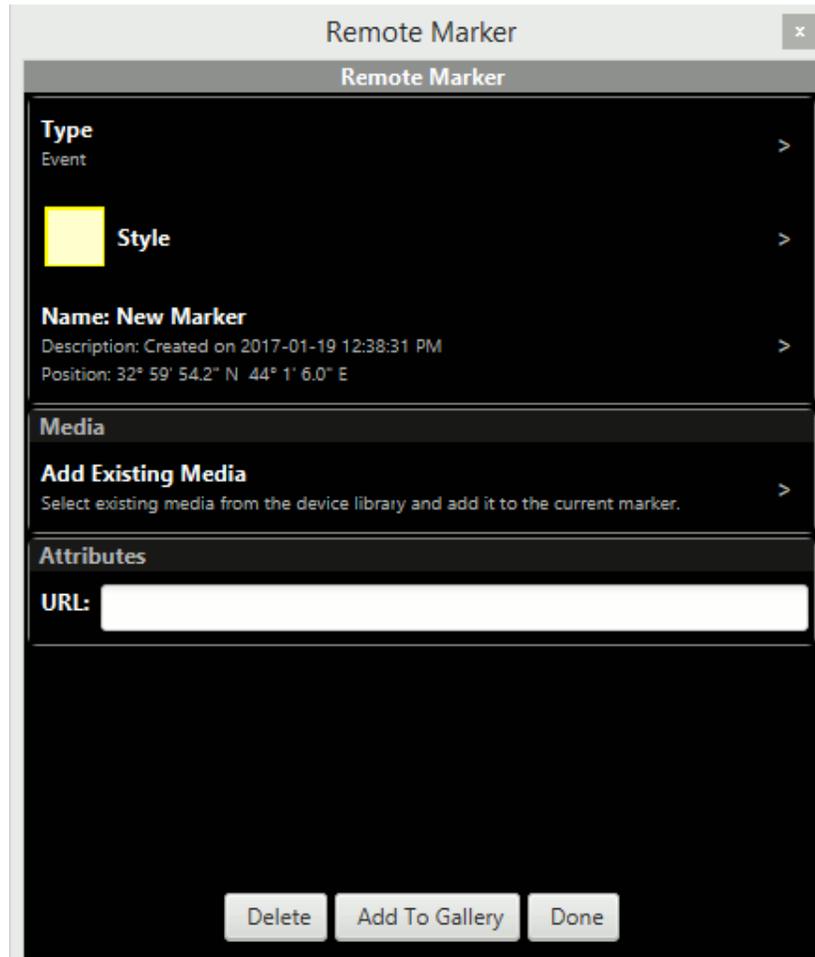


Figure 3-50: GO Mobile: Feature Information Window



**Figure 3-51: GO Mobile: Remote Marker Window**

Use the scroll bar on the right to scroll through the feature's metadata. Enter any relevant information, and tap the **Done** button when complete. The feature will be added to the portfolio.

### 3.5.1.1 Duplicating a Feature

On the **Feature Information** window, as shown in Figure 3-50, there is a **Duplicate** button located on the bottom of the screen. Tapping this button will replicate the feature and allow you to place another identical feature containing the same metadata on the map in a location of your choice.

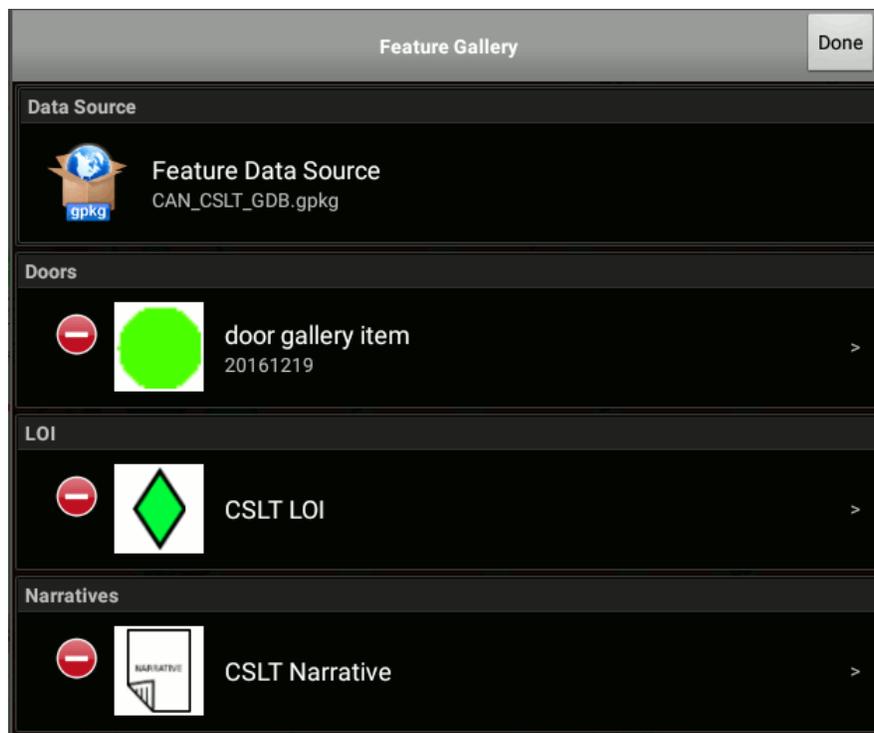
### 3.5.2 Adding a Feature or Marker to the Feature Gallery

When you add a feature or marker to the map, you can also add it to the **Feature Gallery** for quick access. For information on adding features or markers to the map, refer to Section 3.5.1.

To add a feature to the **Feature Gallery**:

1. Tap the feature or marker on the map to display the **Feature Information** or **Remote Marker** window.
2. Tap the **Add to Gallery** button on the bottom of the screen. The **Add to Gallery** window will be displayed.
3. Enter a **Title** and **Description** and tap the **Add to Gallery** button. An alert will be displayed stating that the item was successfully added to the **Feature Gallery**.
4. Tap the **Ok** button to exit the alert.

The **Feature Gallery** displays all features that were added. To access a feature, tap the **Feature Gallery** icon at the top of the screen. The **Feature Gallery** window will be displayed. Tap the feature that you want to access. To delete a feature from the gallery, tap the **Edit** button in the top right corner of the **Feature Gallery** window and then tap the red delete symbol next to the feature you want to delete, as shown in Figure 3-52.



**Figure 3-52: GO Mobile: Edit Feature Gallery**

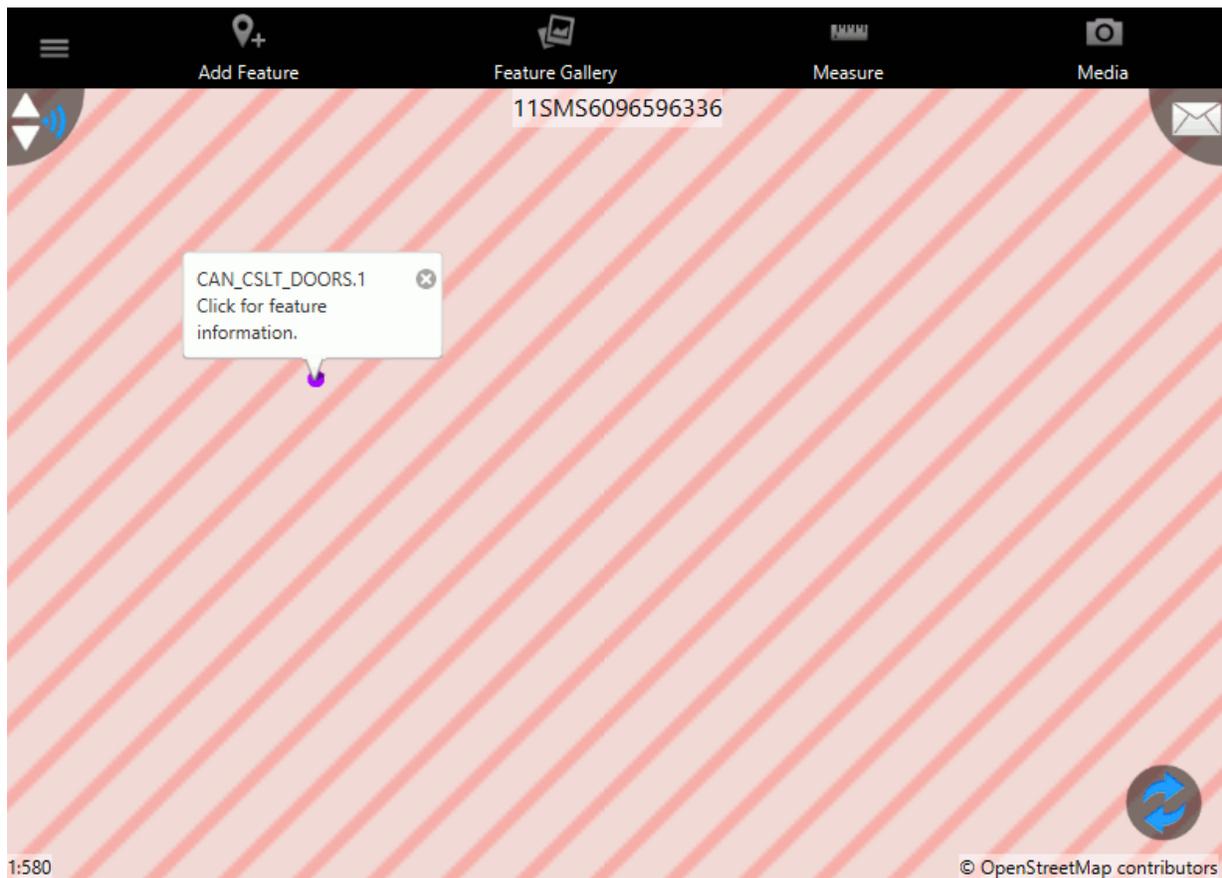
You will be prompted with an alert asking if you are sure you want to delete the feature, tap **Yes** to delete it or **No** to return to the **Feature Gallery**. Tap the **Done** button (in place of the **Edit** button) when you are finished editing.

### 3.5.3 Modifying Features or Markers

You can modify features or marker that were previously added to a portfolio. For information on adding a feature, see Section 3.5.1.

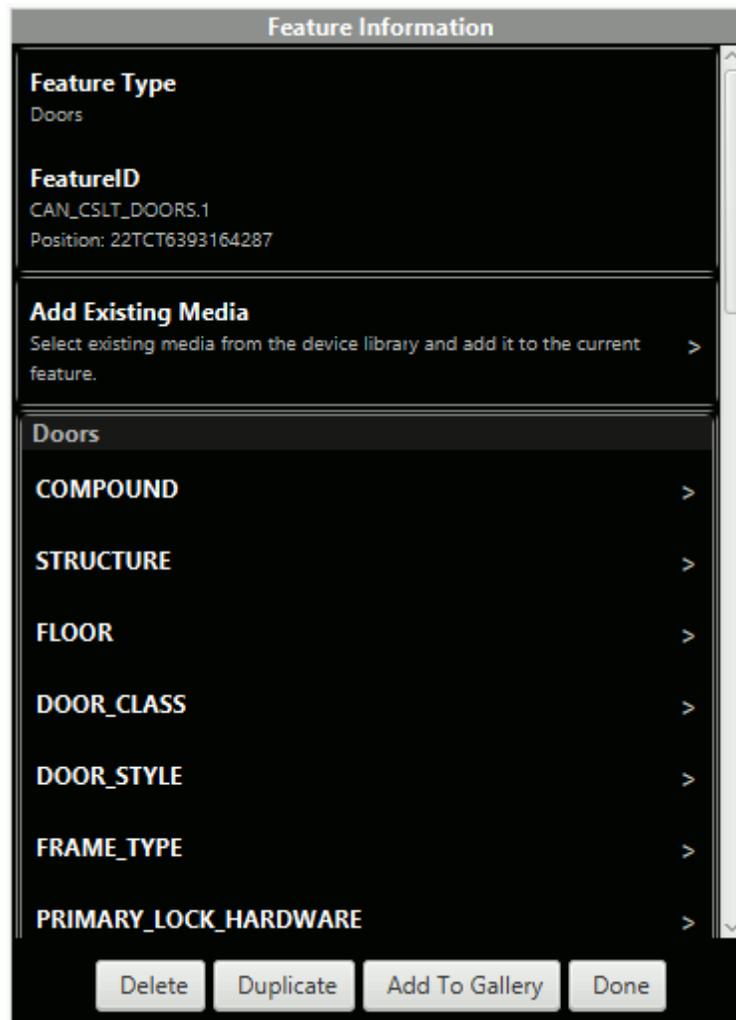
To modify a feature or marker, do the following:

1. Click on the feature or marker you want to modify. An information balloon will be displayed, as shown in Figure 3-53.



**Figure 3-53: GO Mobile: Feature Information Balloon**

2. Tap the text in the information balloon for detailed feature information. The **Feature Information** window will be displayed, as shown in Figure 3-54.



**Figure 3-54: GO Mobile: Feature Information Window**

3. Make any changes or add any newly learned metadata by scrolling through and tapping the attributes for which you want to enter information.

Tapping the **Done** button will save any additions/changes to the feature metadata attributes.

Tapping the **Duplicate** button will allow you to place another feature with all the same metadata. For more information on duplicating a feature, refer to Section 3.5.1.1.

Tapping **Delete** will remove the feature from the portfolio.

### 3.5.4 Measure Tool

GO Mobile allows you to measure a distance between any number of points, or measure an area.

To measure distance:

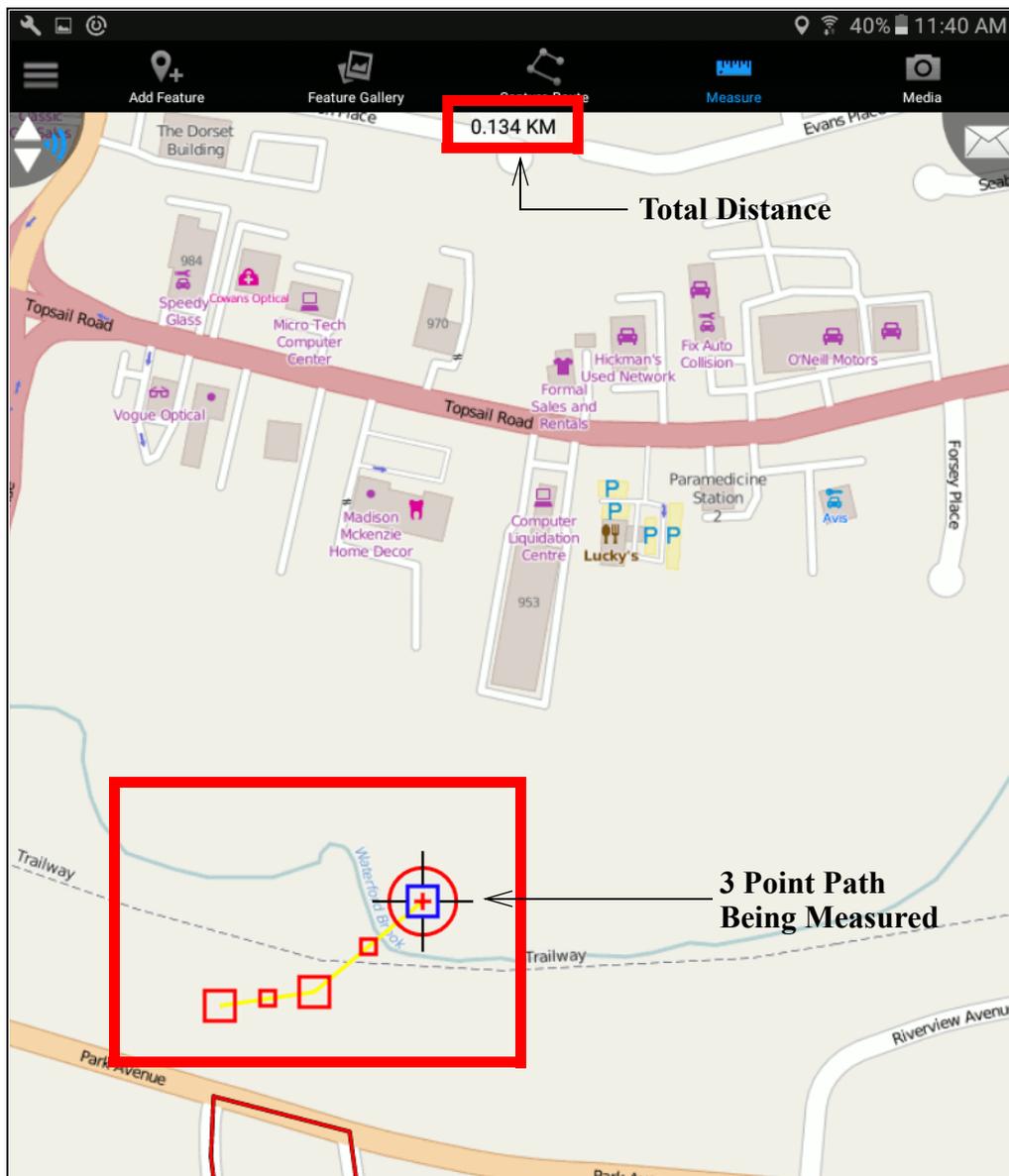
1. Tap the **Measure** icon (ruler) located at the top of the screen. A window will be displayed, as shown in Figure 3-55, with the following two options:
  - **Measure Distance** - Measures distance between fixed points.
  - **Measure Area** - Measures surface area between at least three points.



**Figure 3-55: GO Mobile: Measure Tool Options**

2. Tap the **Measure Distance** option.
3. Tap the start point on the map. A red reticle icon will be displayed. Tap it a second time to display a yellow X in the center of the reticle indicating that you can begin measuring.
4. Tap the next point on the map. To confirm the point tap it again. There is a blue square in the center of the reticle that will turn red. This point is now fixed and you can place your next point in any direction.

You can continue adding as many points as you want. The distance will be displayed at the top of the screen, as shown in Figure 3-56.



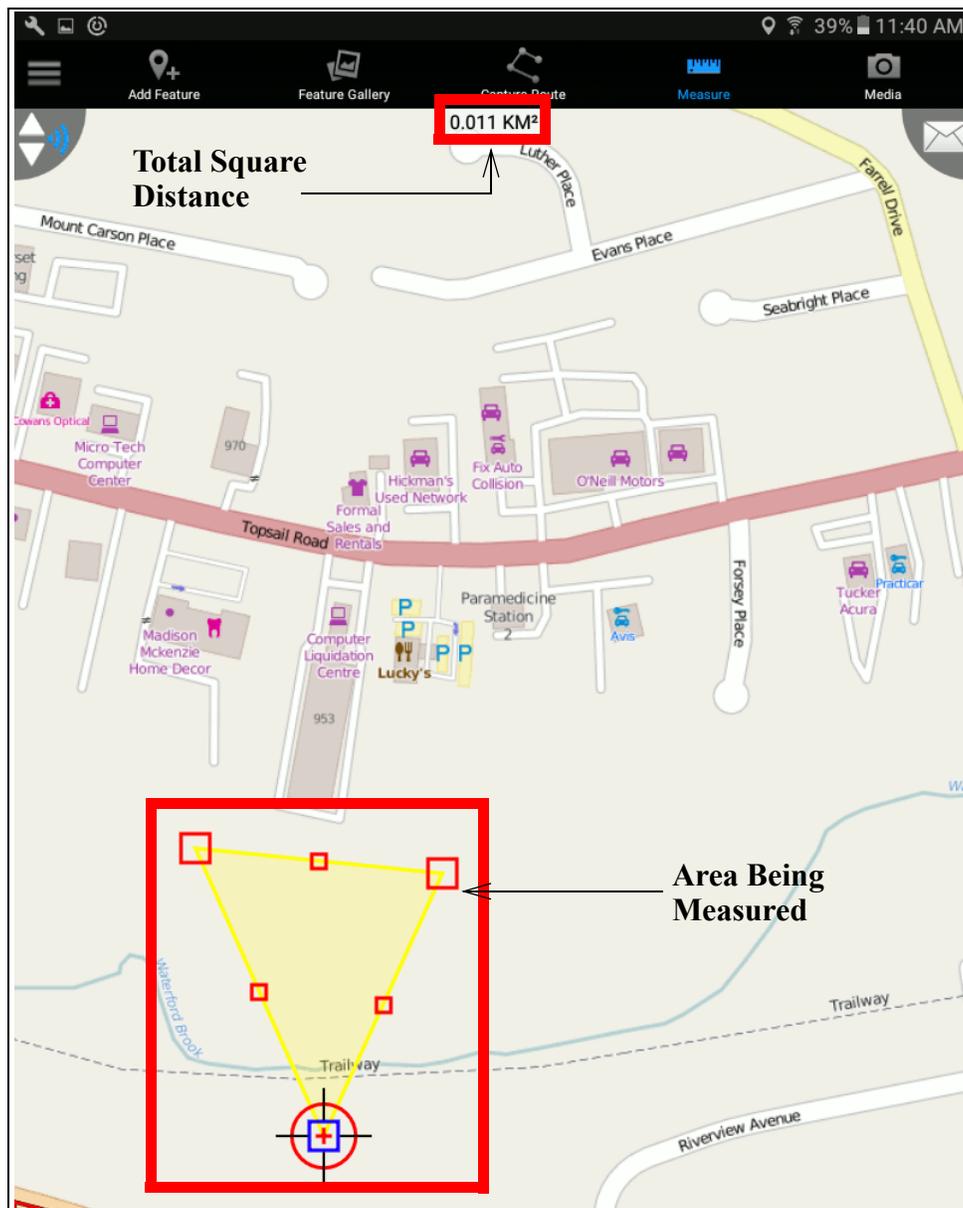
**Figure 3-56: GO Mobile: Measure Distance**

To measure an area:

1. Tap the **Measure** icon (ruler) located at the top of the screen. A window will be displayed, as shown in Figure 3-55, with the following two options:
  - **Measure Distance** - Measures distance between fixed points.
  - **Measure Area** - Measures surface area between at least three points.
2. Tap the **Measure Area** option.

3. Tap the start point on the map. A red reticle icon will be displayed. Tap it a second time to display a yellow X in the center of the reticle indicating that you can begin measuring.
4. Tap the next point on the map. To confirm the point tap it again. There is a blue square in the center of the reticle that will turn red. This point is now fixed and you can place your next point in any direction.
5. Tap the third point on the map. To confirm the point tap it again. There is a blue square in the center of the reticle that will turn red. The area between the three points will be shaded in yellow and the surface area will be displayed at the top of the screen.

You can continue adding as many points as you want. The distance will be displayed at the top of the screen, as shown in Figure 3-57.



**Figure 3-57: GO Mobile: Measure Area**

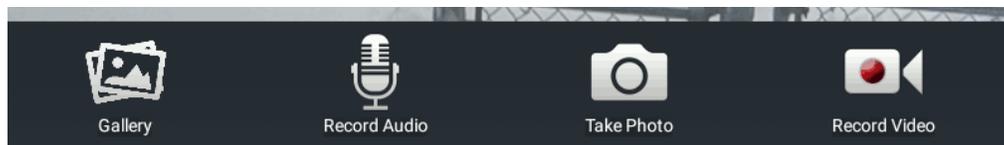
To exit the **Measure** tool, tap the **Measure** icon at the top of the screen. When you are measuring it will be highlighted blue. When you tap it to stop measuring, it will be grey.

### 3.5.5 Media Capture

You can capture media to add to any of the features you've added to a portfolio.

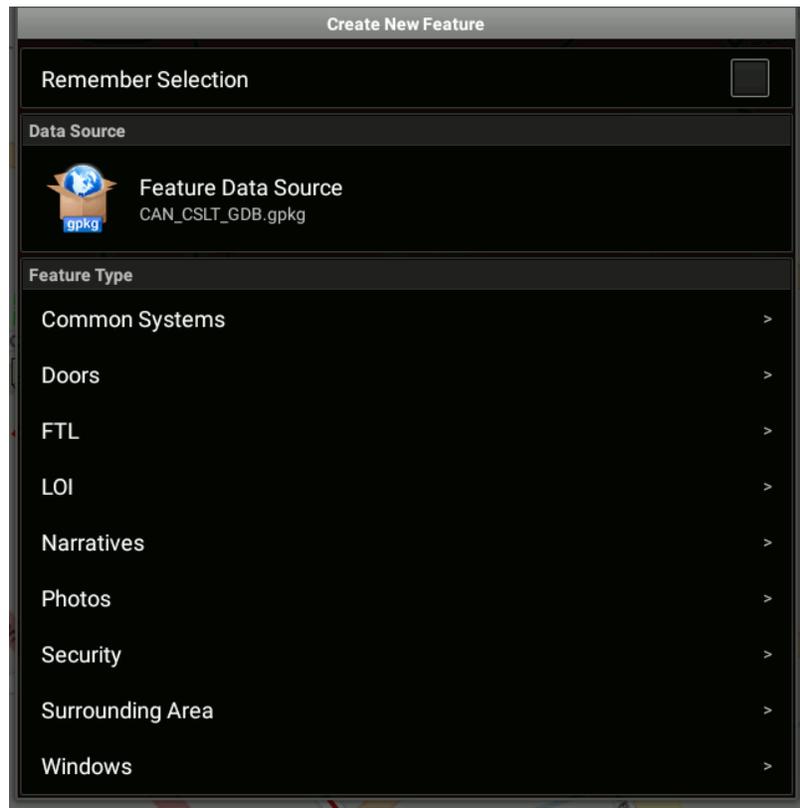
To capture media:

1. Tap the **Media** icon (camera) on the top right corner of the device. The device's camera will be enabled, as well as four additional menu items added across the bottom of the screen, as shown in Figure 3-58:
  - **Gallery** - Tap the **Gallery** icon to view the photos and videos captured on the device.
  - **Record Audio** - Tap the **Record Audio** icon to record an audio clip.
  - **Take Photo** - Tap the **Take Photo** icon to capture a still image.
  - **Record Video** - Tap the **Record Video** icon to capture a video clip.



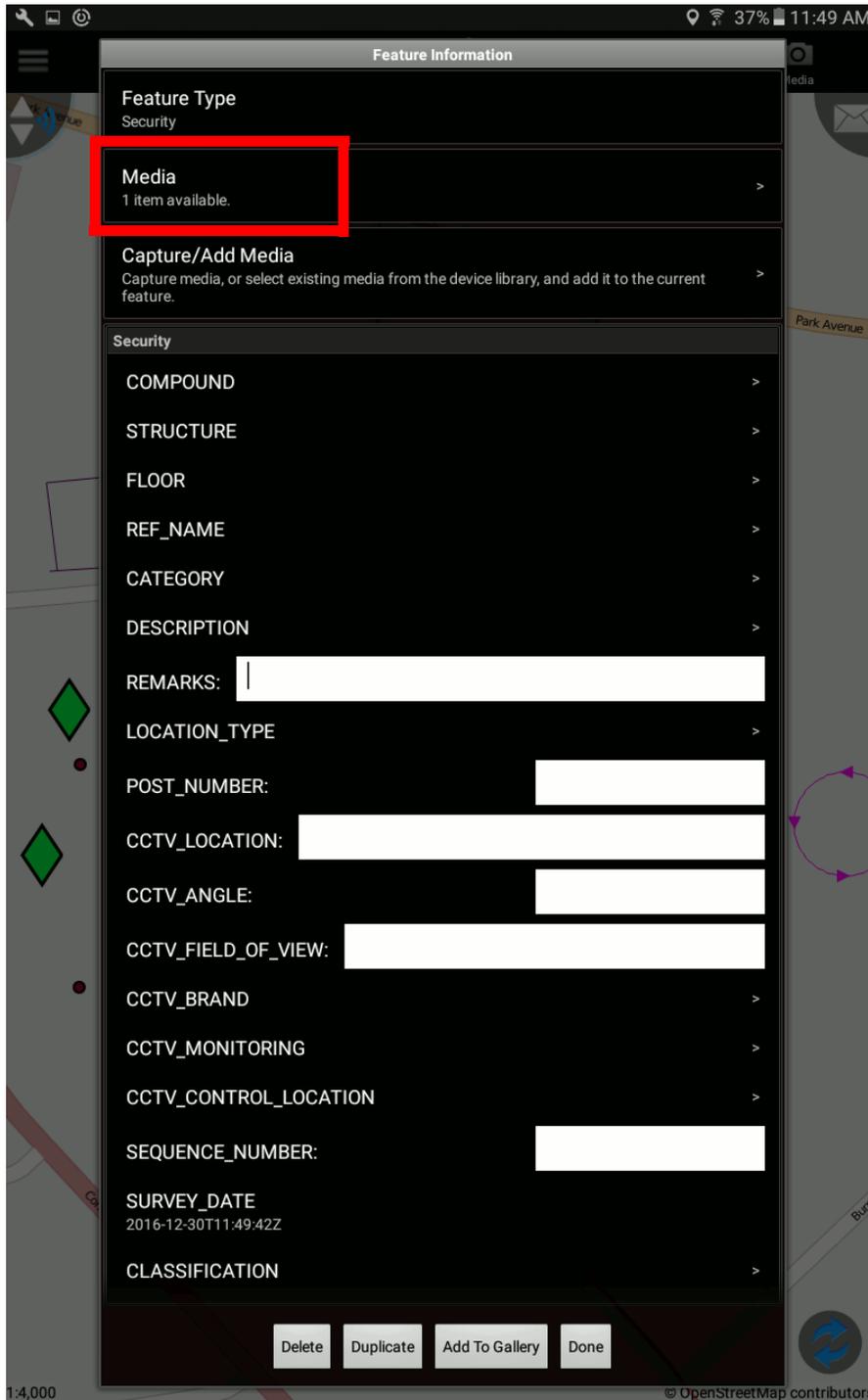
**Figure 3-58: GO Mobile: Media Options**

2. Tap the icon for the action you want to perform, i.e., if you want to record a voice clip, tap the **Record Audio** icon. Any media captured will be displayed in the bottom left corner.
3. When you've captured the media, tap the green checkmark in the top right corner of the screen. The **Create New Feature** window will be displayed, as shown in Figure 3-59.



**Figure 3-59: GO Mobile: Create New Feature Window**

4. Tap the **Feature Type** you want to add. The **Feature Information** window will be displayed. You'll notice that towards the top of the **Feature Information** window, in the **Media** section, it will state the number of items available, as shown in Figure 3-60.



**Figure 3-60: GO Mobile: Feature Information Window with Media**

5. Tap the **Done** button when complete.

Alternatively, you can also add media to an existing feature by doing the following:

1. Tap the feature to which you want to add media.
2. Tap the information balloon to display the **Feature Information** window.
3. Tap **Capture/Add Media**. The device's camera will be enabled, as well as the **Gallery**, **Record Audio**, **Take Photo** and **Record Video** icons, as mentioned above.
4. Tap the icon for the action you want to perform, i.e., if you want to record a voice clip, tap the **Record Audio** icon. Any media captured will be displayed in the bottom left corner.
5. When you've captured the media, tap the green checkmark in the top right corner of the screen. You will be returned to the **Feature Information** window and the media item will be added.
6. Tap the **Done** button when complete.

### 3.5.6 Route Capture

A route can be captured in two ways: manual entry or by using the GPS-based, specialized Route Capture interface available from the GO Mobile Main Menu. The specialized Route Capture interface is not available on devices without a GPS capability, and the menu item will not appear on the Main Menu.

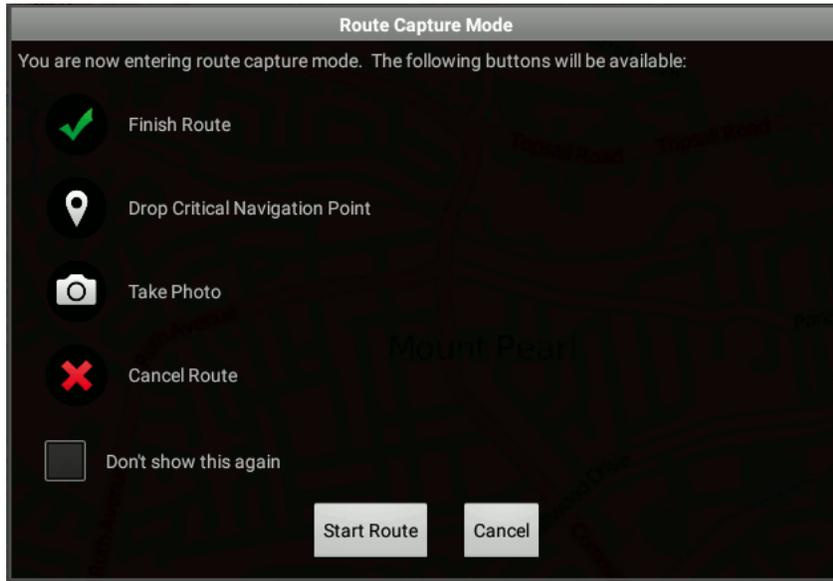
Route capture involves capturing route points and associated images along a map route.

The manual route capture mode is accessed through the Main Menu **Add Feature** function. In this mode, a route is drawn on the map by dropping route points on the map. Images are captured or selected and associated with the points either as the points are captured or after the route is complete.

To enter a route manually, follow the process for adding a feature, as described in Section 3.5.1, choosing **Routes** as the feature type in Step 6.

The GPS-based specialized Route Capture interface is accessed from the **Route Capture** option on the Main Menu. Tapping on this icon will launch the initial **Route Capture** screen, as shown in Figure 3-61.

For route capture, the functions available in manual mode or in the specialized interface are the same and are listed on the initial Route Capture screen in Figure 3-61.



**Figure 3-61: Route Capture Initial Screen**

The functions available on the **Route Capture** screen are listed below.

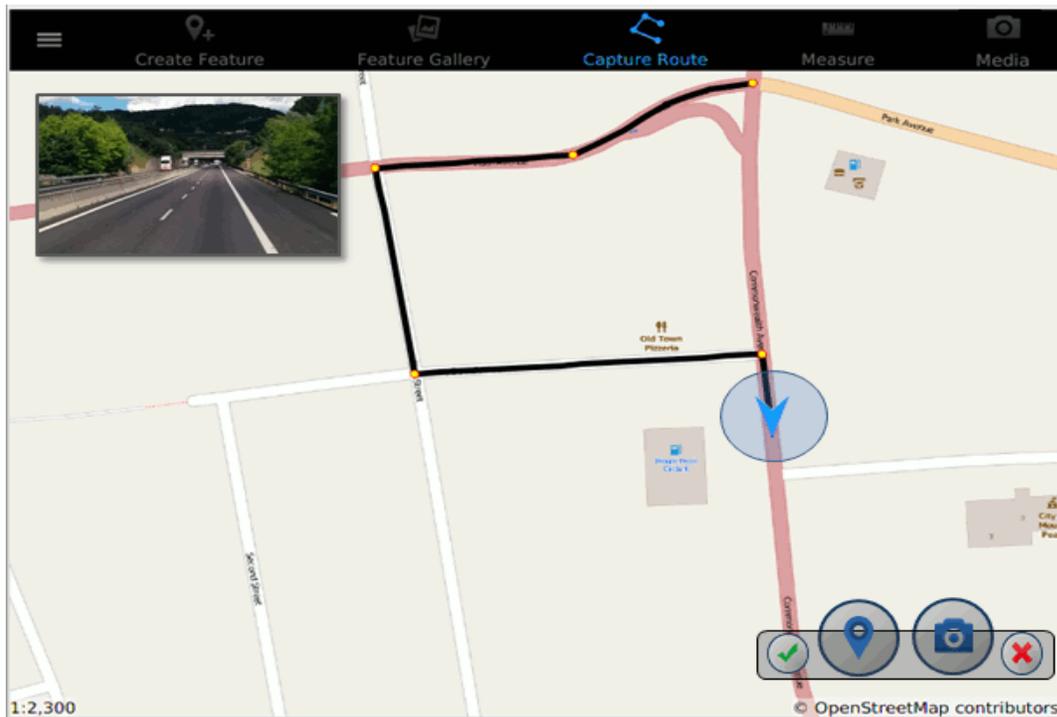
- **Finish Route** - Finish route capture.
- **Drop Critical Navigation Point (CNP)** - Record a CNP from the GPS at that point in the route.
- **Take Photo** - Capture an image georeferenced to that point in the route.
- **Cancel Route** - Cancel route capture.

The specialized Route Capture function is shown in Figure 3-62.

Using this mode, a device can be taken in a vehicle and the route points and images can be captured as the vehicle moves. The captured points and images will be georeferenced using the device GPS, and the route will be automatically captured and drawn on the map.

The app uses an internal algorithm to associate multiple images with a point if the images are all captured within a given radius of a point or points.

The capture functions are available in the bottom right corner of the window. In the top left corner, a live picture-in-picture view from the device camera is shown. As the vehicle moves, you can tap the appropriate icon to record route points and/or images.



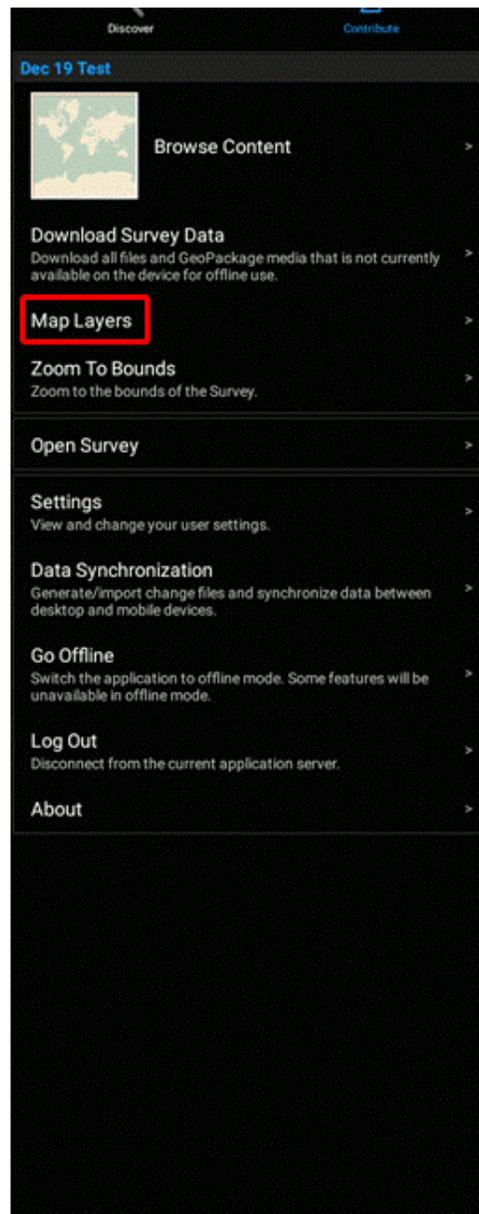
**Figure 3-62: Route Capture Interface**

To capture a route using the GPS, do the following:

1. Open the portfolio in which you want to add the route feature.
2. Tap the **Route Capture** icon at the top of the screen. The initial **Route Capture** window will be displayed.
3. Tap the **Start Route** button.
4. Tap the **Red 'X'** icon to cancel route capture at any point.
5. Add route points and/or images as the vehicle moves by tapping the **Route Point** icon or the **Camera Image** icon.
6. Tap the green checkmark when the route is complete.

### 3.6 Map Layers Manager

The **Map Layers** manager can be accessed from the Context Menu, as shown in Figure 3-63. The **Map Layers** manager controls what data is displayed on the map and the order in which the data is displayed.



**Figure 3-63: GO Mobile: Context Menu - Map Layers**

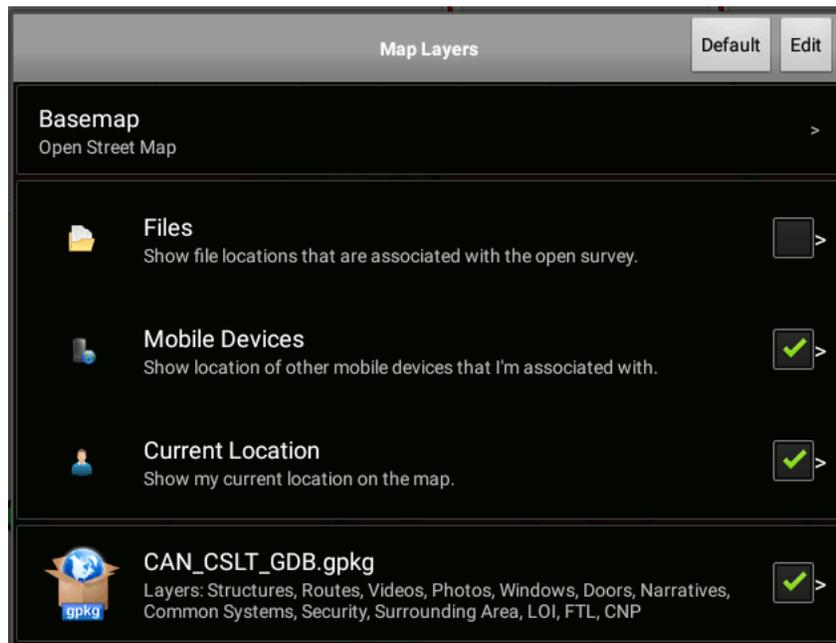
To launch the **Map Layers** manager using the GO Mobile app, do the following:

1. Log in to a device running the GO Mobile mobile app.
2. Tap the **Context Menu** icon (identified by the three horizontal lines in the top left corner).
3. In the **Context Menu**, tap **Map Layers**, as shown in Figure 3-63. This will display the **Map Layers** window, as shown in Figure 3-64.
4. The **Basemap** used for the display can be set from this window. In addition, the location of features with associated **Files** can be shown, as well as the locations of other **Mobile Devices** in your group. You can also choose whether to view your **Current Location** on the map.

- In this window, tapping the **Edit** button will allow GeoPackages listed in the bottom pane to be dragged and dropped to change the order in which they are displayed. This is similar to the functionality described below for layers.

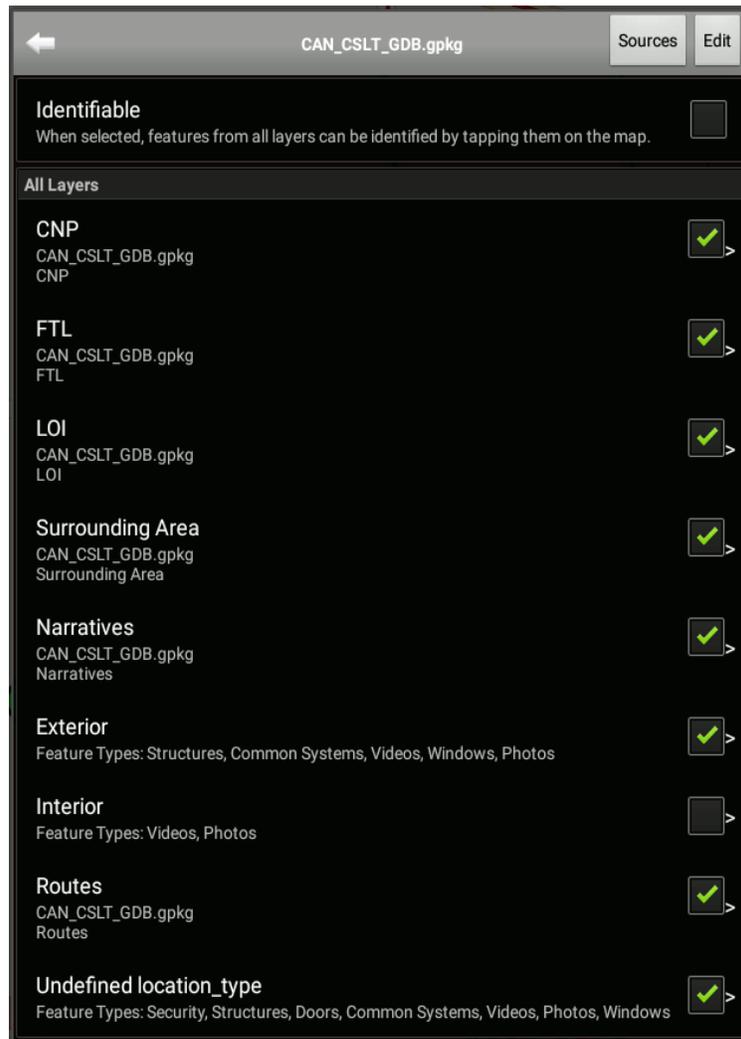
To manage map layers contained in a GeoPackage listed in the bottom pane, do the following (the following example uses a GeoPackage called **CAN\_CSLT\_GDB.gpkg**; each portfolio will have different content).

- Tap the **CAN\_CSLT\_GDB.gpkg** item in the list, as shown in Figure 3-64. A layer window will appear as shown in Figure 3-65.



**Figure 3-64: GO Mobile: Map Layers**

- All features associated with all layers can be set to “identifiable” by tapping the checkbox next to the **Identifiable** control on the window. When identifiable, the selected features associated with this layer can be identified by tapping on them on the map. This ability can be controlled on individual layers as described below.
- For each layer in the list, tap the checkbox to the right of the layer to control whether or not the layer is displayed on the map.
- Tap the **Edit** button in the top right corner of the window to put the control in edit mode. In this mode, touch and hold a layer to drag it in the list to change the order in which the layer is displayed on the map



**Figure 3-65: GO Mobile: Edit Map Layers**

5. Tap the **Sources** button in the top right corner of the window to identify the GeoPackage containing the layer. Tap the **Views** button in the top right corner of the window to return to the layer view.
6. Tap a layer to display a window that allows the layer to be set as **Identifiable**. This window also allows you to set the **Alpha** (transparency) value for the layer and gives you the option to have the layer **Zoom to Bounds**.
7. Tap the layers to download and tap **Edit**. All selected layers will appear in a list, as shown in Figure 3-65.
8. Tap **Done** and close the window.

## 4.0 ACRONYMS

AOI	Area of Interest
APK	Android Application Package
CSW	Catalog Service for the Web
DMS	Degrees Minutes Seconds
FSA	Forward Sortation Area
GDB	Geodatabase
GPS	Global Positioning System
HTTP	Hypertext Transfer Protocol
IP	Internet Protocol
LOI	Location of Interest
MGRS	Military Grid Reference System
MQTT	Message Queuing Telemetry Transport
MTP	Media Transfer Protocol
NTS	National Topographic System
OGC	Open Geospatial Consortium
PF	Portfolio
PFC	Portfolio Change-File
RSS	Rich Site Summary
SCOTS	Standards-based Commercial-Off-The-Shelf
TCP	Transmission Control Protocol
URL	Uniform Resource Locator
USB	Universal Serial Bus
UTM/UPS	Universal Transverse Mercator/Universal Polar Stereographic
WES	Web Enterprise Suite

WFS	Web Feature Service
Wi-Fi	Wireless Fidelity
WMS	Web Map Service
XML	eXtensible Markup Language

## **A**

- Actions 25
- Add Content 22
  - Add Type 33, 38
- Add Feature
  - Route 115
- Add New Feature 100
- Add Type 33, 38
- Adding Features 99
- Adding Mapping Services to the Catalog 24
- Authenticating an Account 4

## **C**

- Capture/Add Media 115
- Capturing a Route 115
- Context Menu 118
- Cover Image Upload 14
- Create Account 53
- CSW Layers 23

## **D**

- Data Synchronization 98
- Data Synchronization Between Mobile Devices 94
- Delete 107
- Display Layers 29
- Done 107
- Download 83
- Downloading a Survey 85
- Downloading Map Layers Using the GO ISP Application 117
- Draw an Area 12
  - Circle 12
  - Line 12
  - Point 12
  - Polygon 12
  - Rectangle 12
- Duplicate 107

## **E**

- End Date 14
- Enter Coordinates 13
- Export 48
- Export Operation 98
- Exporting Data from WES 47

## **F**

- Feature
  - Delete 107
  - Done 107
  - Duplicate 107
- Feature Information 103, 106
- Follow 66
- Format Choice 26

## **G**

- Gallery 112
- GDB Content 38
- Geodatabase 38
- Geodatabase Content 38
- GeoPackage WMS 119

## **H**

- Harvesting 29
- Harvesting Information 29
- Harvesting Summary 32

## I

- Importing Data 90
- Importing GDB 38
- Importing GDB Content 38
- Importing Geodatabase Content 38
- Installing GO ISP 51
- Installing GO ISP Android 51
- Installing GO ISP Windows 52
- Introduction 1

## L

- Loading Data from the Master Device to Windows and Android Child Devices 91
- Loading Data into GO Mobile Android via MTP 91
- Loading Offline Data 89
- Loading Offline Data into GO ISP 89
- Location 66
- Location / Follow 66

## M

- Measure area 109
- measure distance 108
- Measure Tool 107
- Media Capture 111
- Metadata Preview 27
- Migrating Changes Back to the WES Server 97
- Modifying Features 106
- MTP 91, 93, 95

## O

- Offline Workflow 88
- Online Workflow 82

## P

- Portfolios 5, 7
  - Add 5, 7
- Priority 14
- Privacy Policy 51, 53
- Publish 24
- Publish Content 24
- Publish New Record 25
- Publisher Wizard 25

## R

- Record Audio 112
- Record Video 112
- Removing GO ISP Android 52
- Removing GO ISP Windows 52
- Route 115

## S

- Search for a Geographic Location 11
- Searching Keywords and Place Names 62
- Select Browse Graphic 31
- Select Keywords 30
- Start Date 14
- Status 14
- Survey
  - Add Feature 99
  - Cover Image Upload 14
  - Description 5, 9
  - Download 83, 85
  - Draw an Area 12
  - End Date 14
  - Enter Coordinates 13

- Modify Feature 106
- Name 5, 9
- Priority 14
- Search for a Geographic Location 11
- Start Date 14
- Status 14
- Use Current Map Extents 12
- View 83
- Survey Creation 7
- Survey Creation Wizard 8
- Survey Selection 82
- Sync 87
- Synchronizing Changes from Android using MTP 95
- Synchronizing Changes from Android using USB 95
- Synchronizing Changes from Windows using USB 96
- Syncing Data to Server 87

## **T**

- Take Photo 112

## **U**

- Updating GO ISP Android 51
- Updating GO ISP Windows 52
- Upload Capabilities 26
- Uploading Merged Data to Android Devices 97
- USB 93, 94
- Use Current Map Extents 12

## **V**

- View 83