

RiACT

Real-time Individual Asset Collection Tool

User Manual for Port Vila training



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1 Introduction

RiACT (Real-time Individual Asset Collection Tool) is an application for collecting attribute data for individual assets, such as buildings. It operates on tablets running the Android operating system. This manual describes the key features of RiACT and how to use it.

For any questions or comments please contact Sheng-Lin Lin (s.lin@gns.cri.nz) or Finn Scheele (f.scheele@gns.cri.nz).

2 Installation of RiACT

If RiACT is not already installed on your device, you can follow these steps. For the purposes of this workshop, RiACT should already be installed.

1. Download or copy (using USB cord to connect with your computer) the installation file (i.e. RiACT_sd_port_vila.apk) and save it into your Android device.
2. Open **My Files** and find where the application is stored on your device. Select the RiACT installation file and press **Install**.
3. RiACT can be opened by finding it under **Apps**.

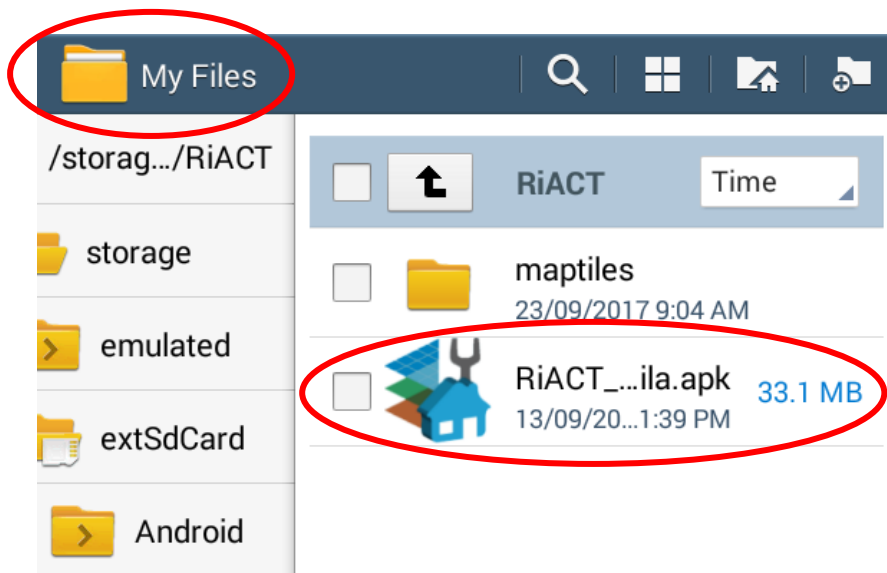


Figure 1: Finding RiACT installation file within My Files

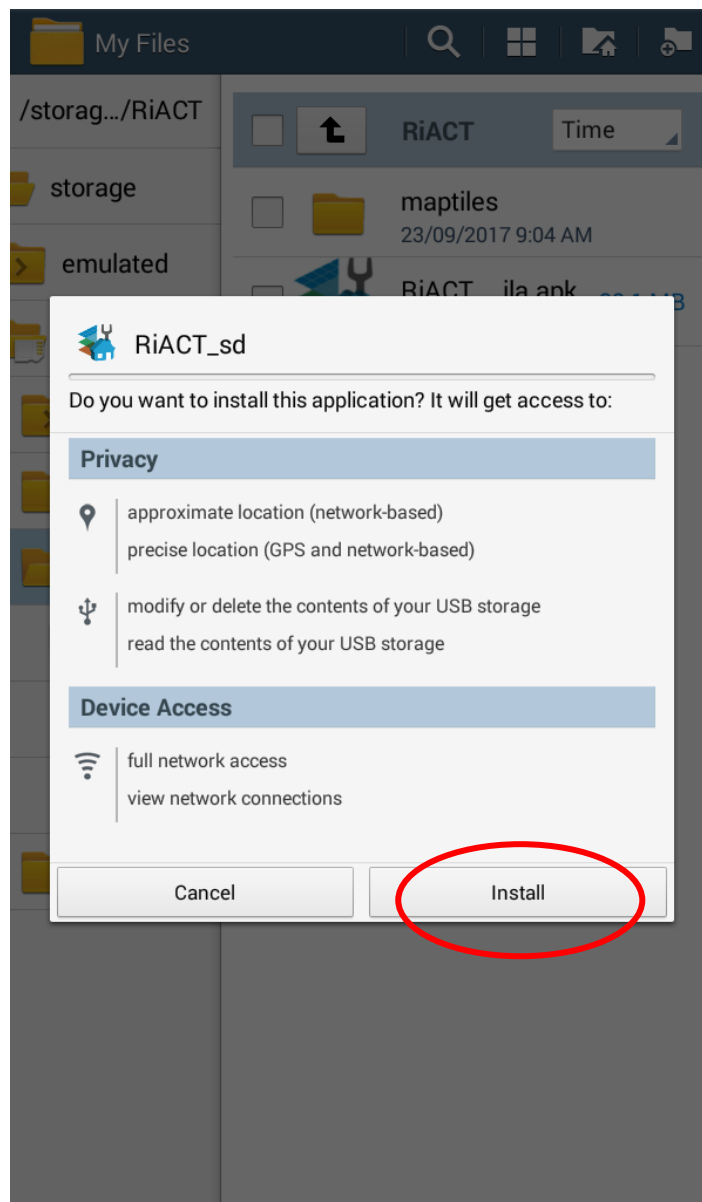


Figure 2: Installing RiACT

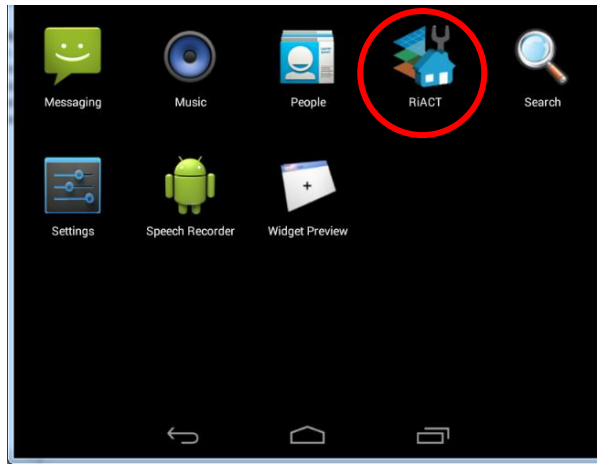


Figure 3: RiACT application

4. If you need to **uninstall** RiACT, open **Settings** and **Application Manager**, select RiACT and follow the on-screen instructions.

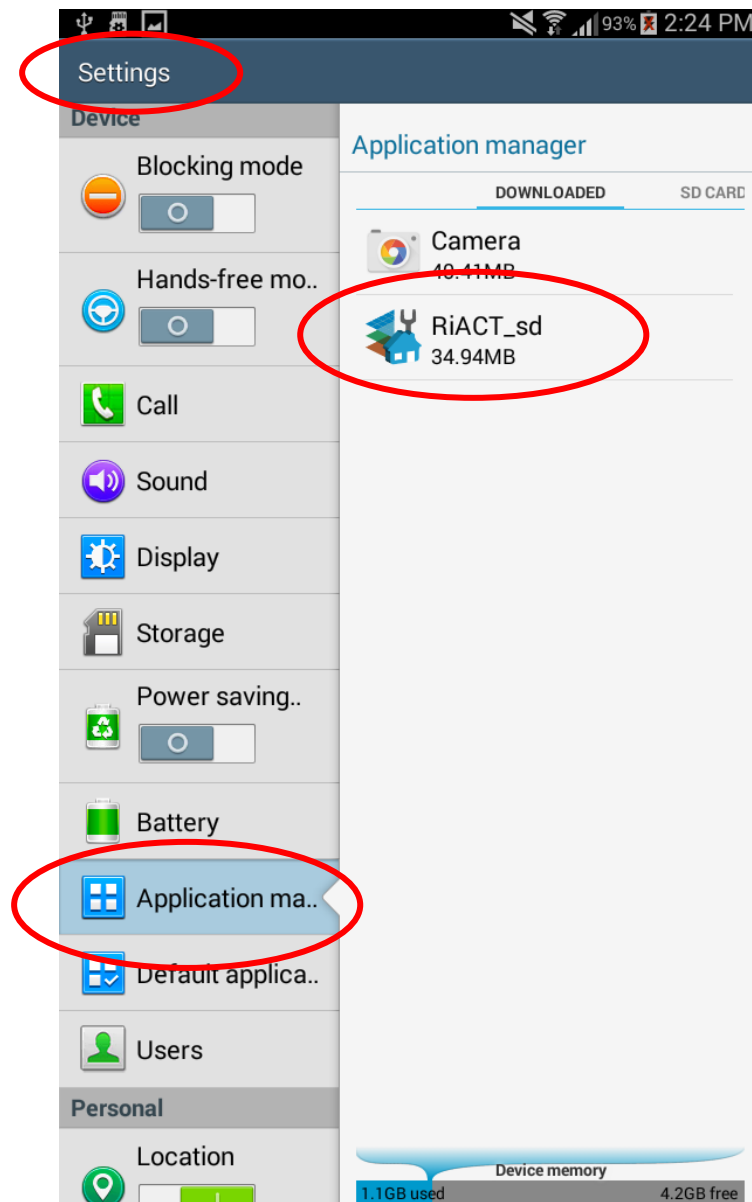


Figure 4: Uninstalling RiACT via Application Manager under Settings

3 Features of RiACT

This section shows the main features of RiACT (more details on how to use them are in the next section). Figure 5 below shows the key features within *Map View*, which is primarily used for locating yourself and the assets you want to survey, and viewing/editing the assets you have already surveyed.

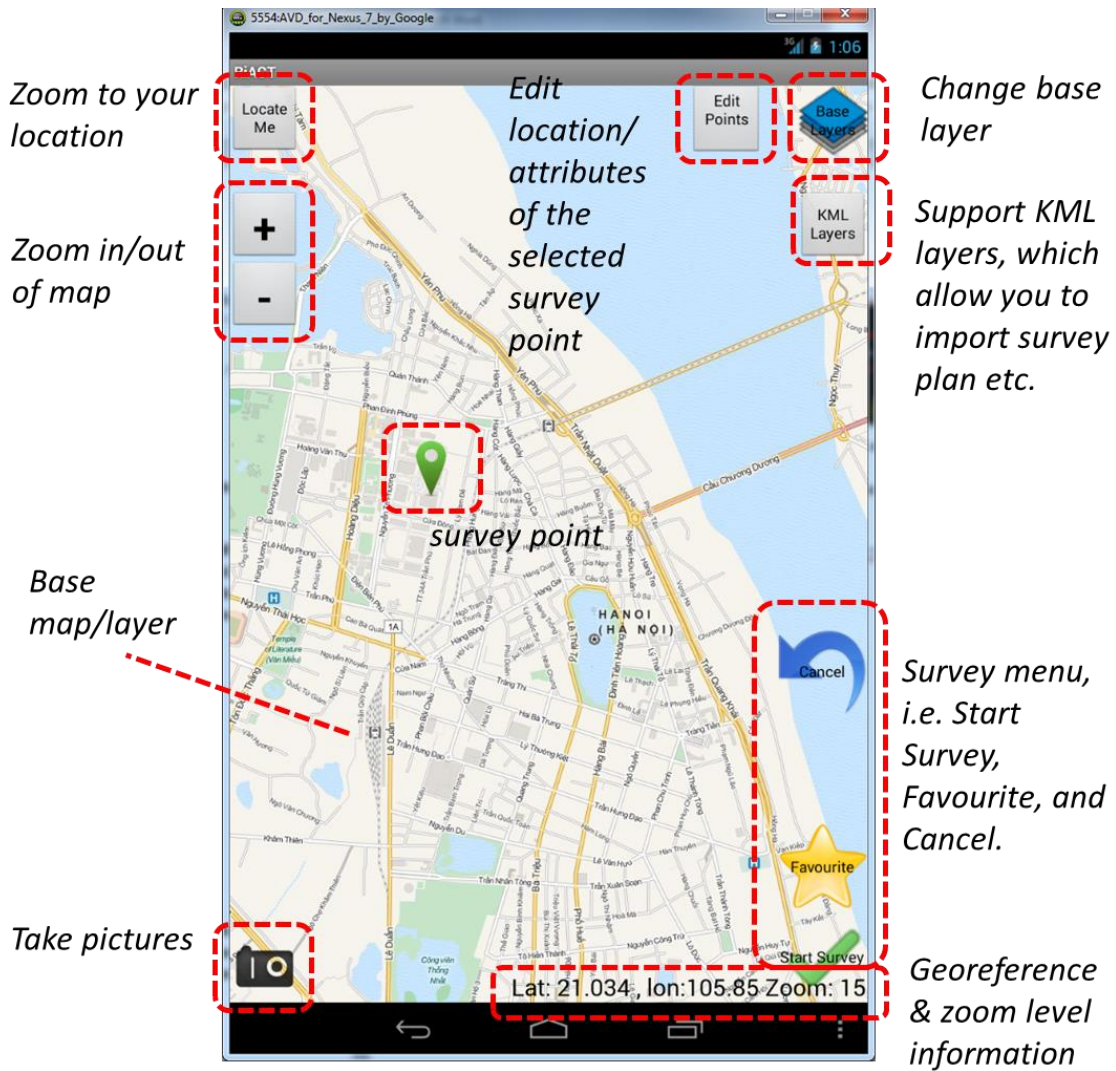
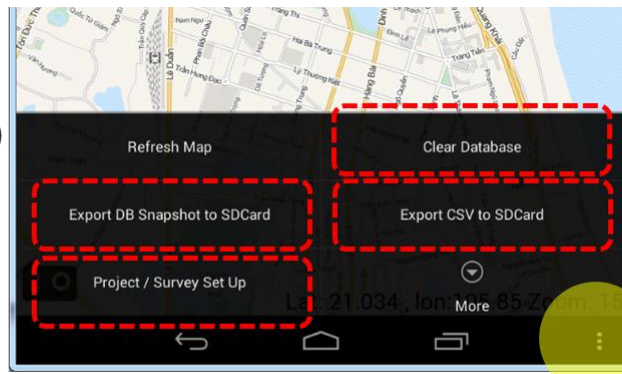


Figure 5: The main features of RiACT within Map View

Figure 6 shows more features that are available by pressing the **“more menu button”**. This may be a virtual button on your device, or a physical button as shown in Figure 7.

Export survey data in database format (i.e. xx.db3) into SD card

Project/survey setting



Clear survey data in this device

Export survey data in spreadsheet format (i.e. xx.csv) into SD card

more menu button

Figure 6: More features and options are available by selecting the “more menu button”

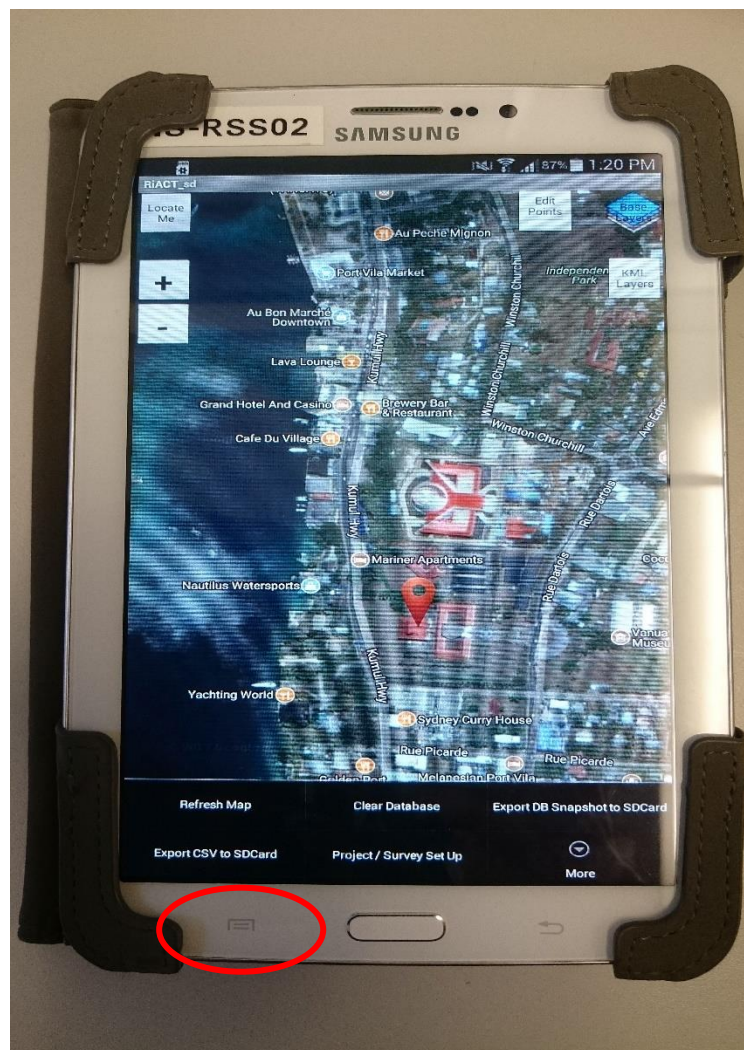


Figure 7: Location of the physical button on a Samsung tablet to bring up more menu options

Figure 8 below shows the *Survey Form View*, which is used for entering attributes about an asset. A picture of the asset can also be taken and stored with the attribute data.

Scroll tabs to access attributes in a different category

The screenshot displays the Survey Form View interface. At the top, there are three tabs: 'Building General', 'Building Construction', and 'Exposure'. The 'Building Construction' tab is selected. Below the tabs, the form is organized into sections: 'Construction Type' with a dropdown menu, 'Wall Cladding Class' with a dropdown menu, 'Floor Area (sqm)' with a text input field, 'Height of Ground Floor to Surface (m)' with a text input field, and 'Floor Type' with a dropdown menu. At the bottom of the screen, there is a menu with six options: 'Take Picture', 'View linked pictures', 'Save changes and close', 'Save changes and favourite', 'Delete record', and 'Help'.

Drop down menus have pre-determined categories

Some attributes have numerical or text input

The "more menu button" brings up several different options in Survey Form view

Take a picture of the asset

Save the attributes you have entered as a favourite to speed up future entries

Bring up this menu to save your changes or delete the record

Figure 8: The Survey Form view

4 Setting up your project

Before you begin surveying, you should normally set up some details of your project within RiACT. These details will ensure that the data you have collected are stored and labelled correctly, and enable the data to be uploaded to a server. Note that for the purposes of this workshop, the data will be uploaded manually and therefore this step is less important. It is included here for future reference.

1. Press the **“more menu button”** and click on **Project / Survey Set Up**.

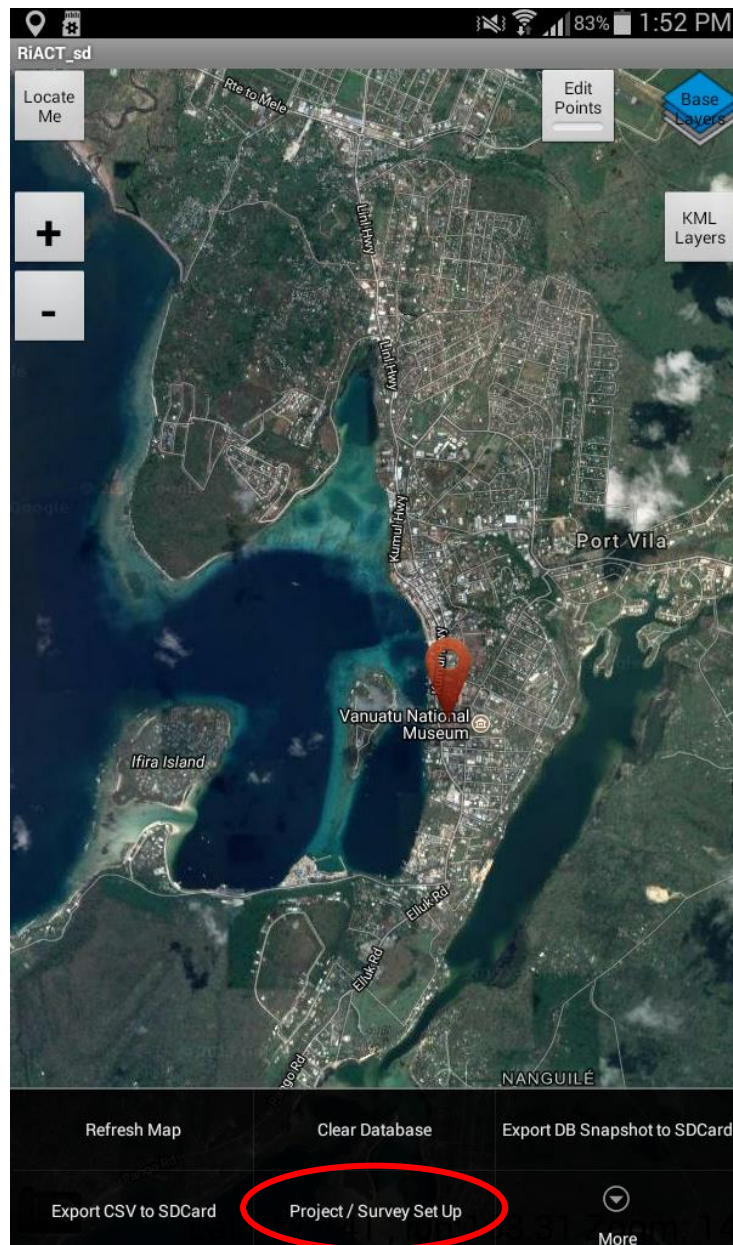


Figure 9: Project / Survey Set Up

2. Enter the details below (Figure 10) to set up your project. There is no need to enter details for a server for this workshop, but if you have a login for an online asset database you can set it up here. An online database allows the survey data to be uploaded wirelessly, however the data can also be downloaded by connecting the tablet to a computer.
3. Press **Save these project details** once you are done, and click the **back** button to return to Map View.

Enter your name

Enter the details of a server if you are using one, otherwise leave blank

The template determines the categories on the survey form

Give your dataset an appropriate title e.g. Port Vila Test Survey

Use the default storage option (saves to SD card)

Save the details once you are done, and then press the "back" button on your device to return to Map View

Figure 10: Project set up form

5 Collecting asset attributes

5.1 Locating yourself and an asset

It is important to locate any asset you are surveying as precisely as possible. The easiest way to do this is to select a layer that has aerial imagery and/or street map information. If you have internet access, you can use an online map service (such as Bing). However, generally in the field there is no internet access and so it is more effective to use maps that are installed onto the device.

1. Click the **Base Layers** button from *Map View*.



Figure 11: Base Layers button

2. Select an appropriate base layer. For this workshop, select the aerial imagery for **Port Vila** which is installed on the device.

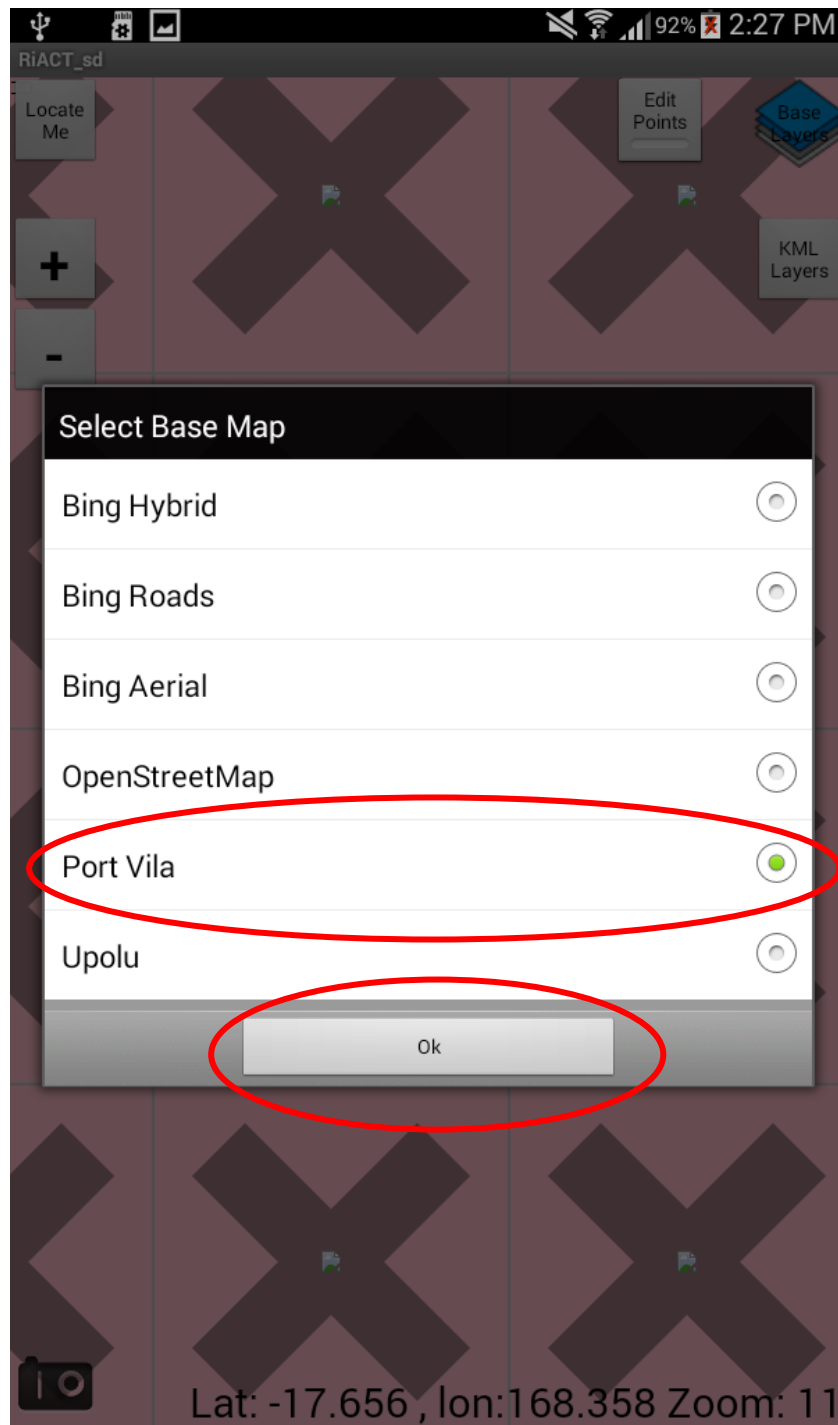


Figure 12: Port Vila map tile selection

3. Locate yourself on the map. This can be done by:
 - a. Pressing **Locate Me** (ensure that GPS is enabled on your device)
 - b. Using the **zoom in (+)** or **zoom out (-)** buttons
 - c. Pinching the screen to zoom in and out, similar to other mapping applications (e.g. Google Maps)

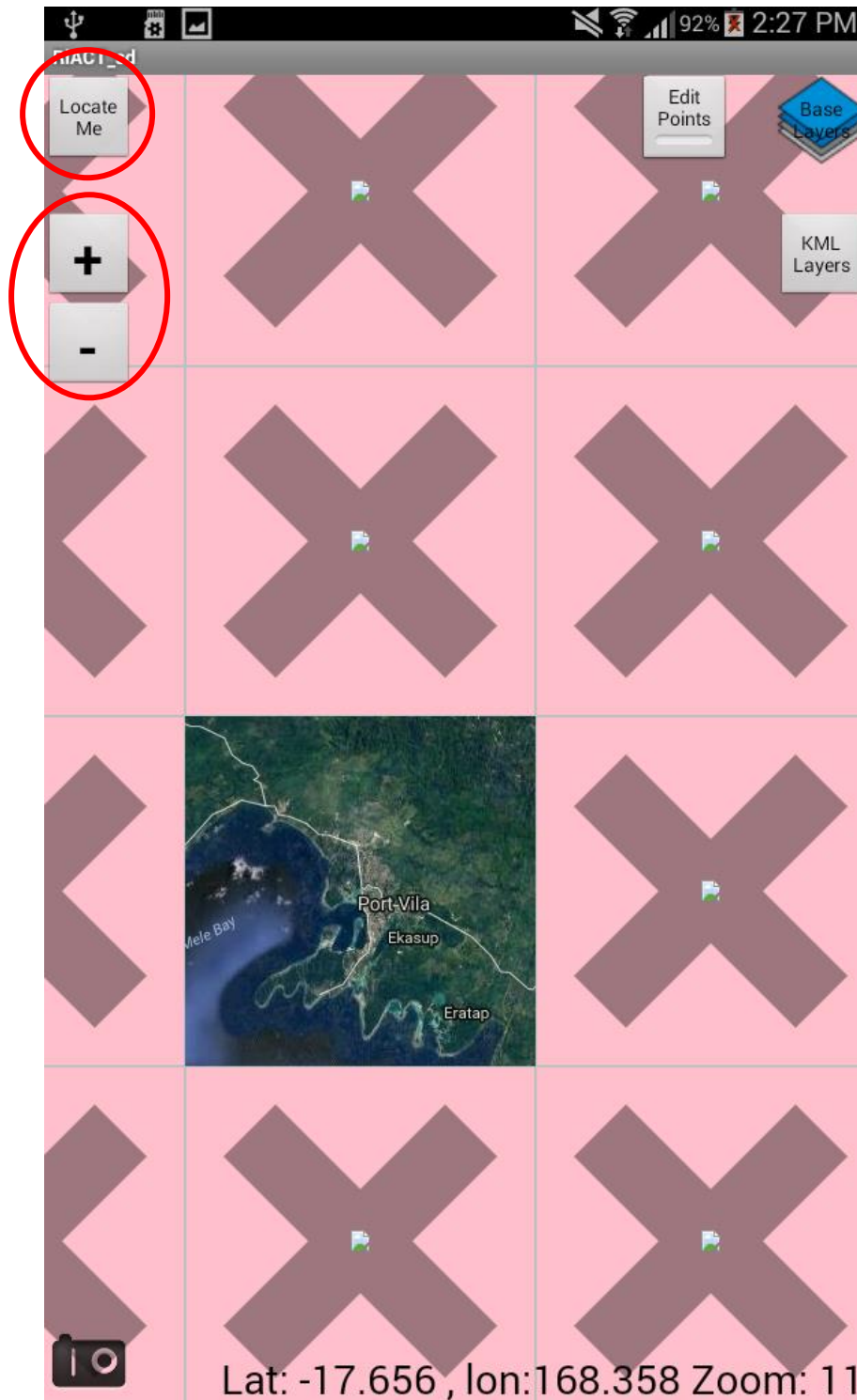


Figure 13: Locating yourself within the Port Vila area

- Zoom in close enough so that you can identify the asset (building) of interest. If GPS is turned on, you should also see a blue dot, which is your location. This can assist in identifying the asset you want to survey.

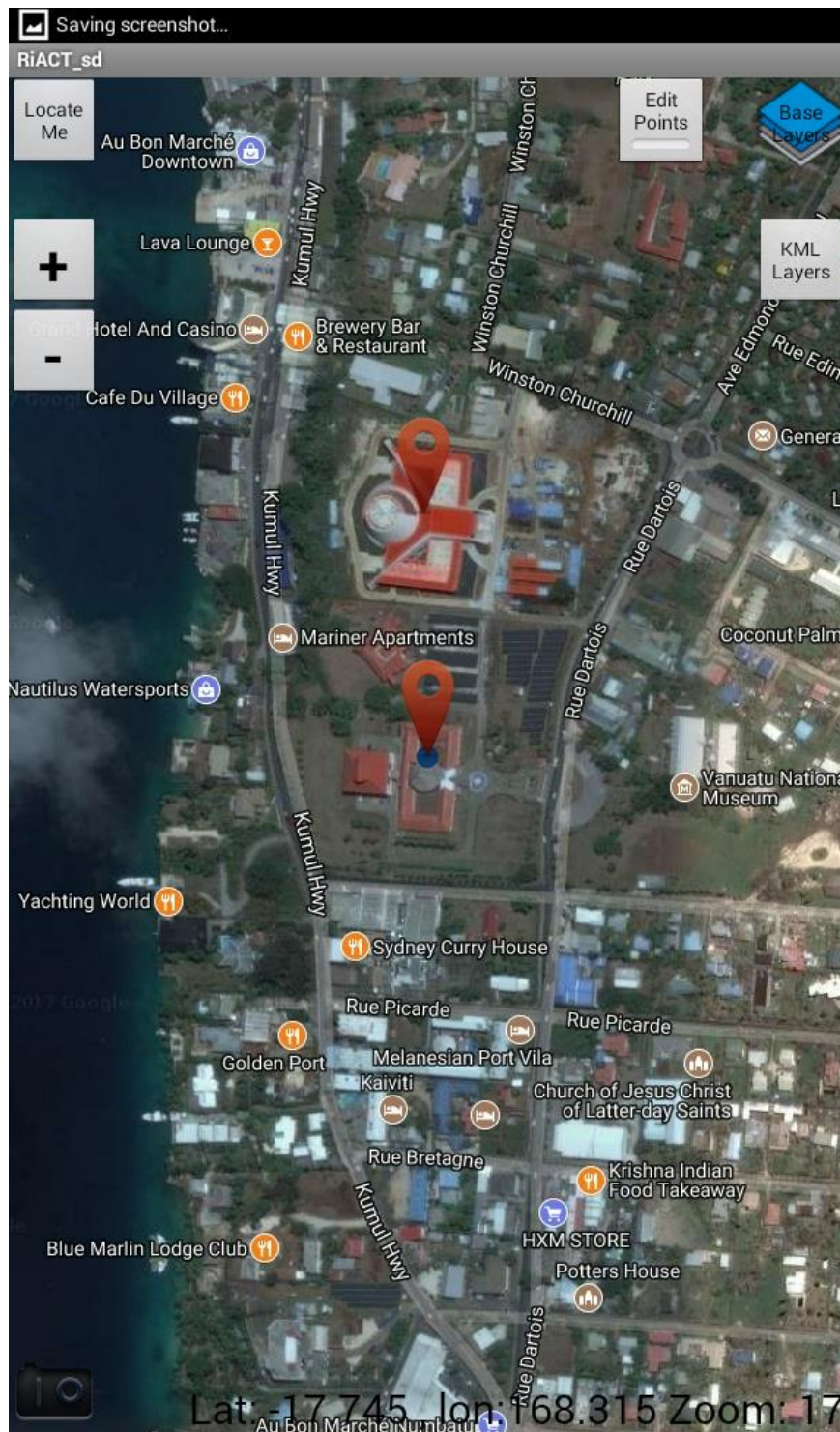
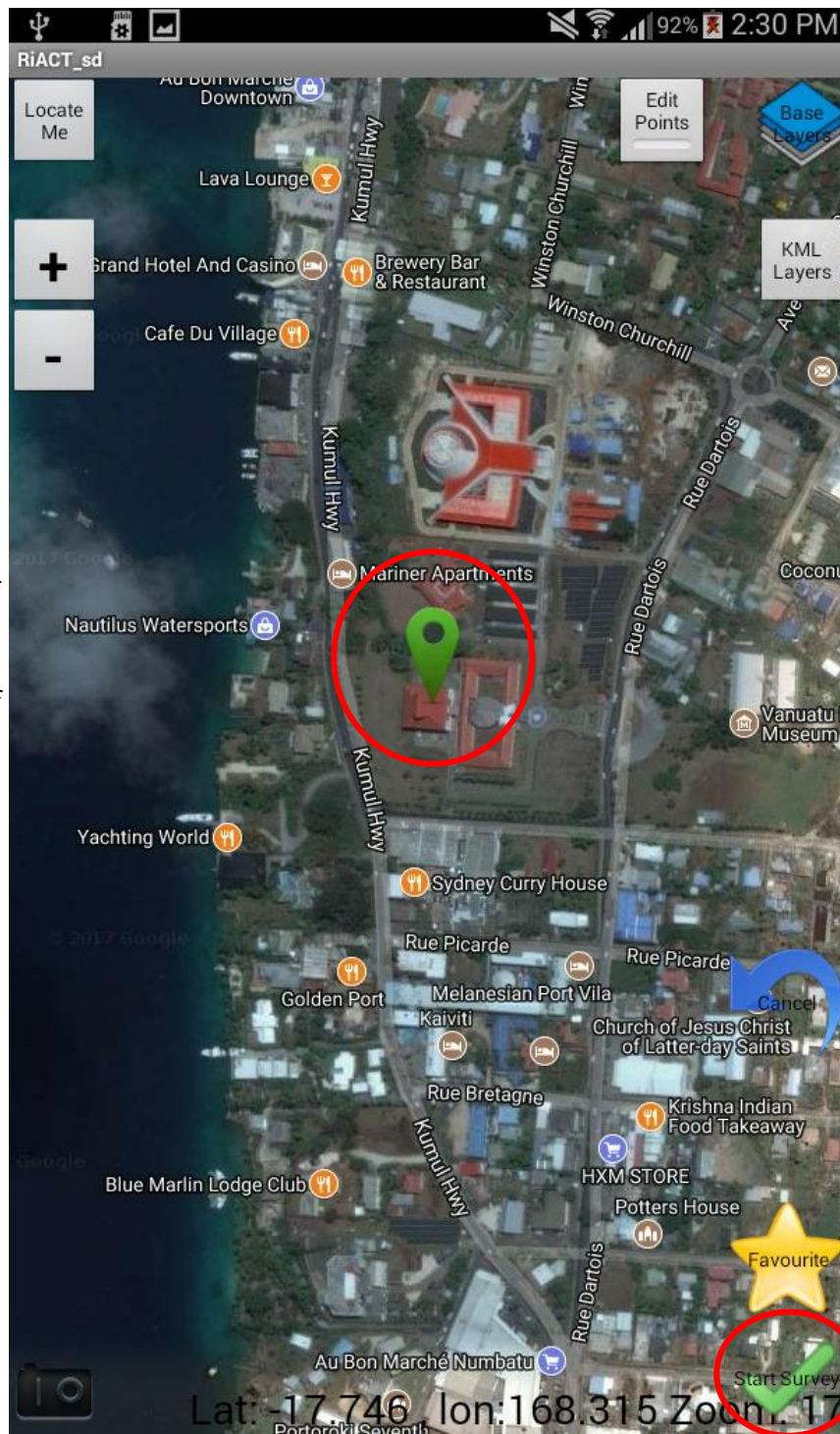


Figure 14: Zoom in close enough so you can easily identify the location of the building you want to survey. If there is a blue dot on the map, that is your location according to the GPS

5.2 Locate and survey an asset

1. Touch the screen where the asset (building) you want to survey is located.
2. If needed, you can hold and drag the building point to a more precise location. It is good to locate your survey points in the middle of the asset. The pointy end of the symbol is where the survey point will be recorded.
3. Press **Start Survey** to begin recording attribute data for the survey point.

Locate the survey point around the middle of the asset. Hold and drag the survey point if you need to move it



Press Cancel if you accidentally place a point or if it is in the wrong location

Press Start Survey to begin recording attribute data for your survey point

Figure 15: Locating an asset and beginning a survey

4. Clicking **Start Survey** will bring up the *Survey Form View*. This is where you can fill out the fields for the attributes you need. It is good to fill in as many attributes as you can, but it is not required to fill in every field. Attributes that you are unsure of when doing a field survey can be added later if necessary.
5. Click through each tab along the top of the form to enter the attributes you need.

Tabs turn green once values have been entered

The appropriate keyboard will appear when you select a field

Figure 16: Survey Form View

- Once you have filled in some attributes, press the **“more menu button”** and click **Save changes and close**. You can also press the **back** button, which will bring up a box asking if you would like to save the survey information.
- Alternatively, you can click **Save changes and favourite** if you would like to use the same attributes for multiple assets. This is useful if you are surveying many buildings that are very similar. A box will appear that will ask you to name your favourite. See page 20 for how to use a favourite.

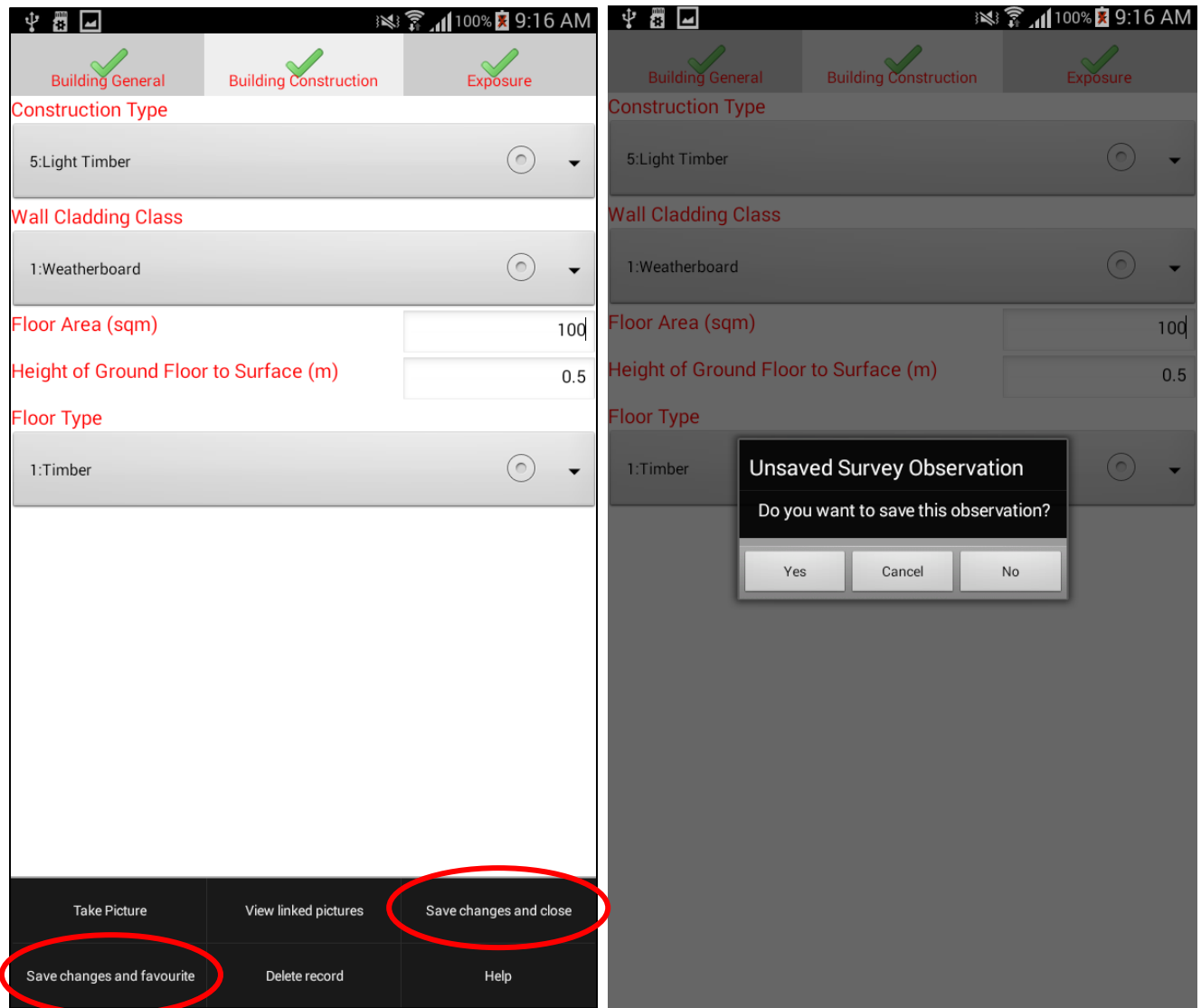


Figure 17: Two ways to save a survey observation. Left: using “more menu button”. Right: pressing the back button

8. Once the survey observation has been saved, the survey point will turn red.

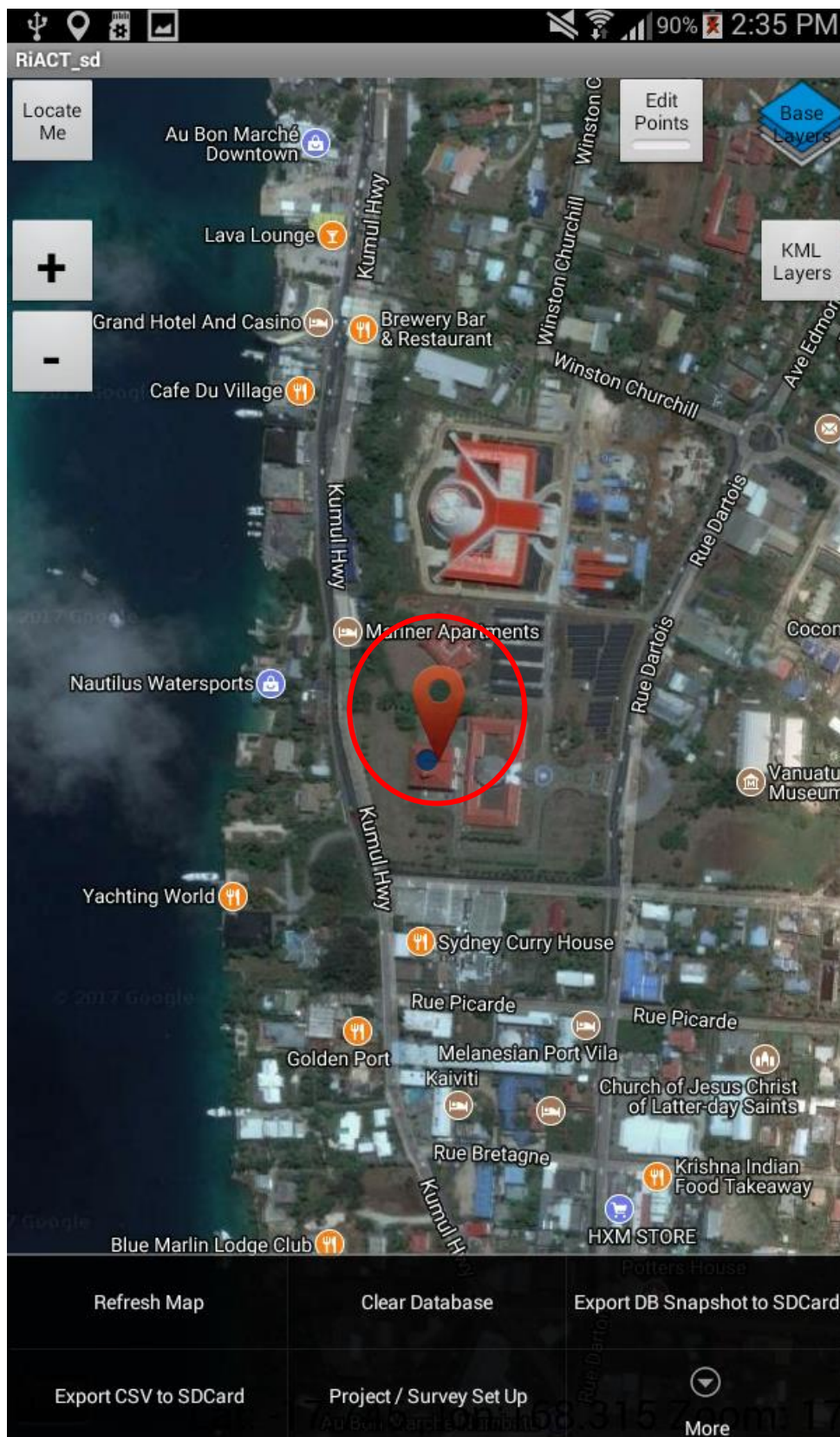
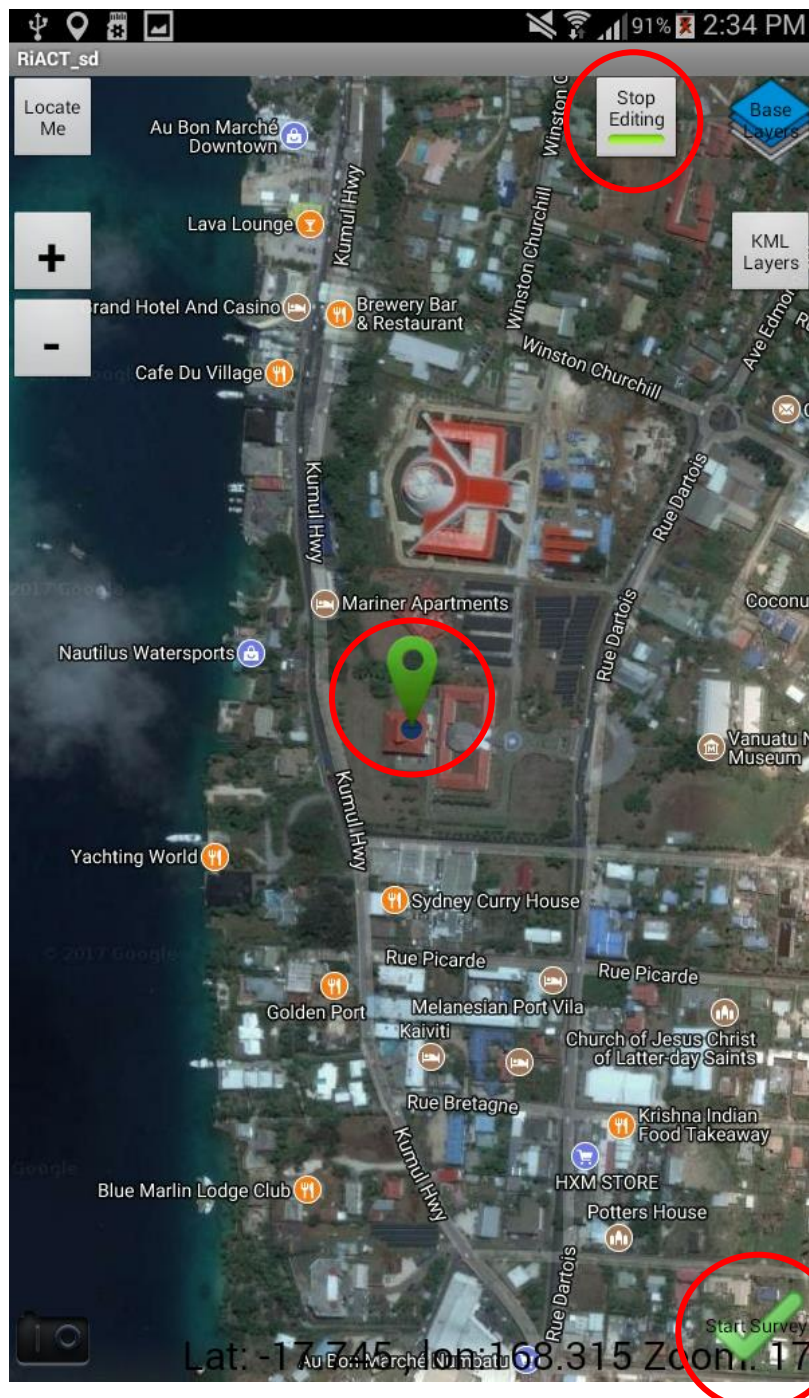


Figure 18: The saved survey point

5.3 Editing a survey point

1. You can edit survey points that you have already saved by clicking the **Edit Points** button in the *Map View*.
2. Click on the survey point you would like to edit.
3. Click **Start Survey** to enter the *Survey Form View* for the point you selected. You will see the attributes you have already saved and will be able to edit them or add new information.
4. If you need to move the survey point, once it is selected (green) you can hold and drag it to a new location.



1. Click Edit Points

2. Click on the survey point you would like to edit

3. Click Start Survey

Figure 19: Editing an existing survey point

5.4 Deleting a survey point

1. Edit a survey point to bring up the *Survey Form View* (steps on previous page).
2. Press the **“more menu button”** and click **Delete record**.

The screenshot displays a mobile application interface for editing a survey point. At the top, there are three tabs: 'Building General', 'Building Construction', and 'Exposure', each with a green checkmark. Below the tabs, the form is divided into several sections:

- Construction Type:** A dropdown menu showing '5:Light Timber'.
- Wall Cladding Class:** A dropdown menu showing '1:Weatherboard'.
- Floor Area (sqm):** A text input field containing '100'.
- Height of Ground Floor to Surface (m):** A text input field containing '0.5'.
- Floor Type:** A dropdown menu showing '1:Timber'.

At the bottom of the screen, there is a dark navigation bar with six buttons: 'Take Picture', 'View linked pictures', 'Save changes and close', 'Save changes and favourite', 'Delete record', and 'Help'. The 'Delete record' button is circled in red.

Figure 20: Deleting a record

5.5 Using a favourite

1. Make sure you have already saved a favourite following the steps on page 16.
2. Touch the screen where the asset (building) you want to survey is located.
3. Click **Favourite**.
4. A menu will come up where you can select any favourites you have saved.
5. The *Survey Form View* will appear with the attributes you saved already filled in. You can edit the survey observation and save as normal.

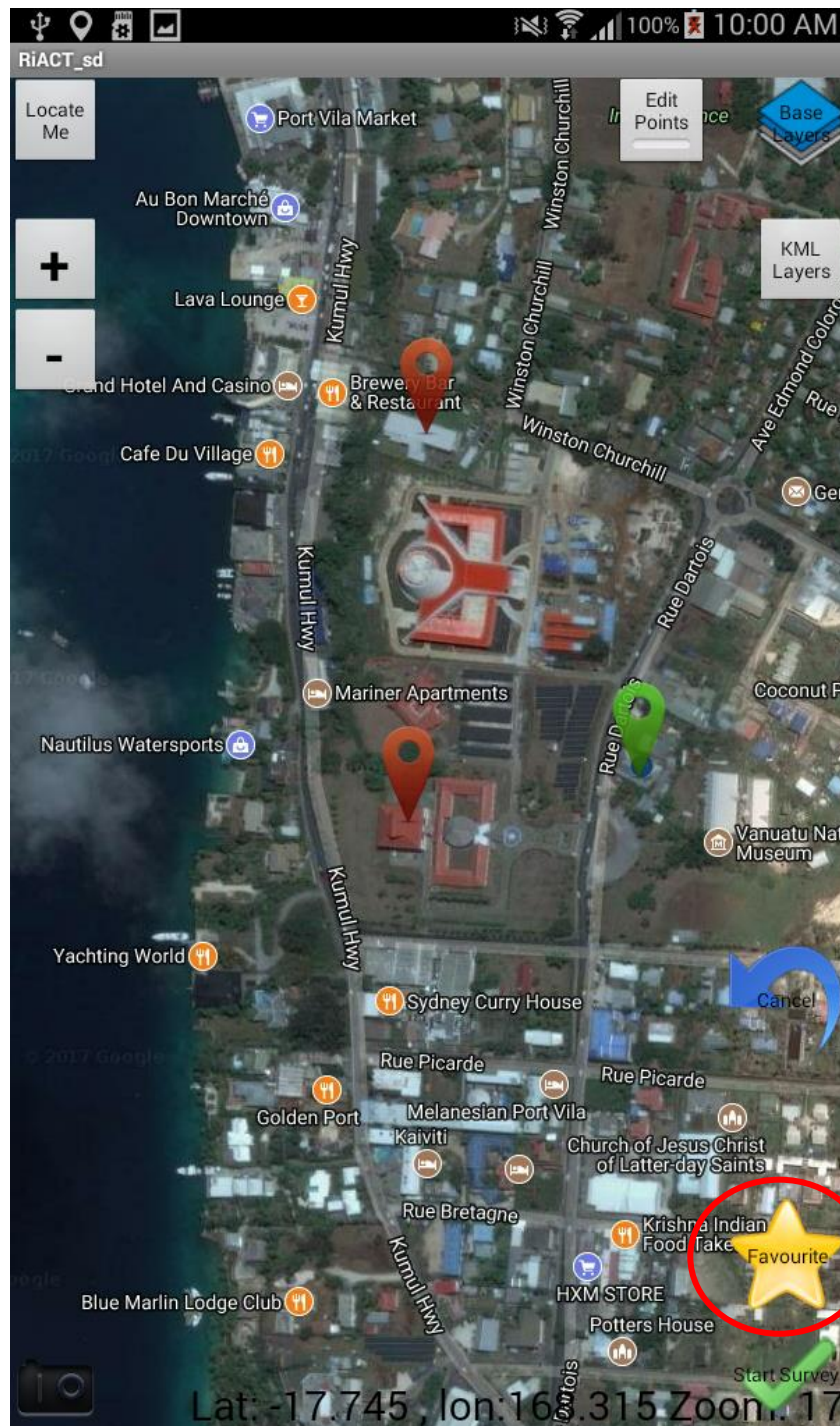


Figure 21: Using a favourite. Click Favourite instead of Start Survey once you have located an asset.

6 Data exporting

The survey observations are saved onto your device. There are two main ways to export the data so that you can use it for RiskScope or other purposes. The first way is to export the data as a file which can be copied onto a computer using a USB cable. The second by sending the data to an online database using the internet, if available. For this workshop, we will export the data as a .csv (Excel) file.

1. From *Map View*, press the **“more menu button”**.
2. Select **Export CSV to SDCard**. A file containing all of the asset locations and attributes will be saved to your device.

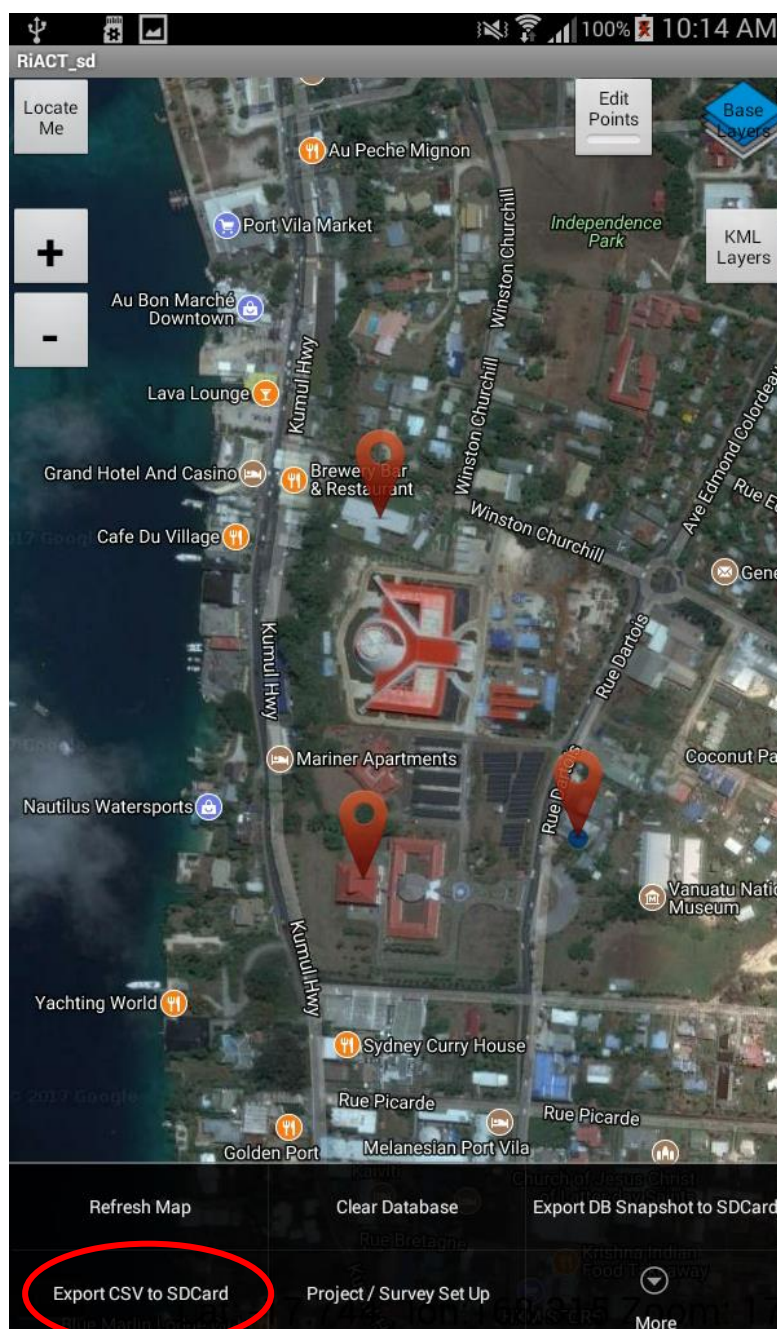


Figure 22: Exporting the data to a .csv (Excel) file

3. Connect the device to the computer using a USB cord.
4. Find the folder on the device where the exported .csv file is stored. The directory will vary depending on your device, but will always be under *RiACT/db_snapshots*. Note that the exported file is saved directly to the device storage, and not the SD card. See the example location in Figure 23.
5. Copy the file to your computer. If there are multiple exported files on your device, choose the most recent one.

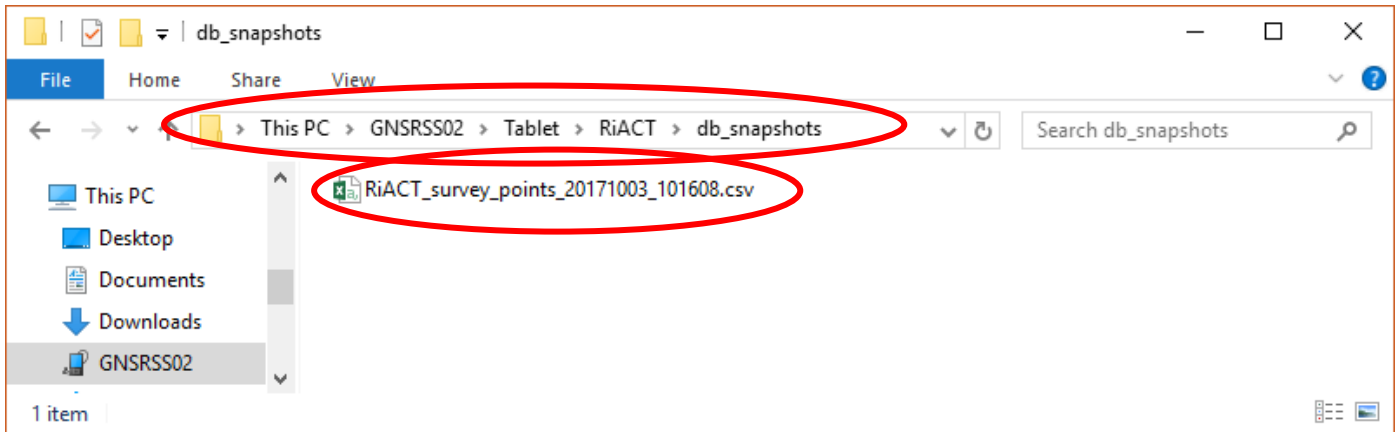


Figure 23: Location of the exported asset database on the device

6. If you took any pictures during your survey, they are stored under *RiACT/gemmedia* on your device.



Figure 24: Location of pictures taken during the survey