



Introduction



Description

Open Tenure is a mobile application that supports community based mapping and recording activities, allowing capturing details of land parcels, owners/tenants information and their rights to those parcels. It is open source, developed by UN Food and Agriculture Organization and distributed free under a “Modified BSD License”;

Open Tenure should always work in conjunction with SOLA Community Server, which is a Web-application, used for uploading and processing collected claims. SOLA Community Server also provides initial configuration settings for Open Tenure application (see more details in SOLA Community Server Quick Reference Guide).

Key features

- Fully open source, based on the best practices and well-known platforms and tools;
- Multilingual – supports 10 languages (English, Arabic, French, Italian, Spanish, Khmer, Russian, Portuguese, Albanian, Vietnamese);
- Implements multi-project concept, allowing data collection for different communities;
- Works online and offline;
- Can use Google maps and WMTS layers (including offline mode);
- Supports local database encryption;
- Works over slow and unreliable Internet connection;
- Supports dynamic forms handling – additional fields configured by the user¹;
- Has a tutorial component for guiding users how to use the application;
- Allows capturing land-related claims and submit them for further processing;
- Allows capturing disputing claims, challenging existing ones;
- Allows capturing additional land features (e.g. big tree, building, rock, etc.);
- Allows import and export of collected claims in the form of archive, protected by the password;
- Allows capturing community area boundaries (e.g. village boundary) and use this information further, when recording a claim;
- Auto saves claim details, preventing from losing information;
- Supports capturing evidences in the form of documents, attached to the claim;
- Allows adding and submitting additional documents for the claims already submitted;
- Implements reliable and convenient mapping tools, allowing administrative or parcel boundary capturing and their accurate editing;
- Supports boundary points snapping and automatic geometry validation;
- Allows downloading claims, captured by other recorders;

¹ Dynamic forms configuration should be made on the SOLA Community Server.

Requirements

Prerequisites

Open Tenure application works tightly with **SOLA Community Server**. It receives configuration parameters and existing claims from SOLA Community Server and sends captured claims to it. Therefore, SOLA Community Server must be running on a server, accessible to Open Tenure application. It could be a local server or hosted on the Internet.

Minimum requirements for mobile device

- Android 4.4
- 1 GB memory
- 2 GB of disk
- Rear Camera
- GPS sensor
- Compass sensors

Preparation













Installation

Installation of Open Tenure is a straightforward process. You can search it in Google Play Store or install from APK file, provided by your administrator.

Overview

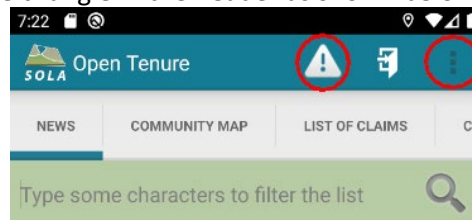
The main screen of Open Tenure application contains the following tabs:

Tab	Description	Toolbar and menu
NEWS	List of news from Open Tenure community	 Log in  Encrypt local database > Reinitialize > Switch project (for multi project) > Settings > View Tutorial > Export Log
COMMUNITY MAP	Shows the map with claims, zoomed to Community Area	 Zoom to Community Area  Zoom to current location (based on GPS data)  Download claims from Community Server  Download imagery (when zoom in closely) > Log in > Reinitialize > Switch project (for multi project) > Settings > Configure data encryption > View Tutorial > Export Log
LIST OF CLAIMS	Contains list of captured or downloaded claims	 Import a claim from the file, exported on other device

		 Create new claim <ul style="list-style-type: none"> > Log in > Reinitialize > Switch project (for multi project) > Settings > Configure data encryption > View Tutorial > Export Log > Backup local data > Show deleted
COMMUNITY AREAS	Contains list of captured or downloaded community areas	 Create new community area  Download community areas <ul style="list-style-type: none"> > Log in > Reinitialize > Switch project (for multi project) > Settings > Configure data encryption > View Tutorial > Export Log

Initialization

Once application is installed and running, you will see first a tutorial, guiding through the main application features. You can go through it or skip. To start using the application it has to be initialized from SOLA Community Server. Uninitialized application has a white triangle in the header as shown below.



By default, Open Tenure is configured to communicate with SOLA Community Server at <https://demo.opentenure.org>. This demo server might be down and you have to use your server in case of establishing a new project or doing local testing. For changing this setting, tap on the menu options icon (triple vertical dots) and select **Settings** option.

Settings page can be used to configure various settings like language, dynamic forms and others. For configuring SOLA Community Server URL, tap on it and enter your address as shown below. Make sure to add port number if your server is using non-standard HTTP port (e.g. <http://my-server.org:8080>).

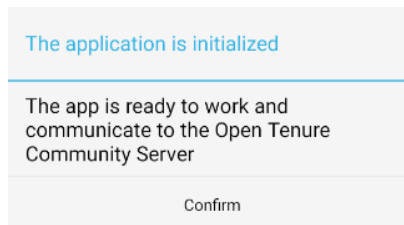
Enter the URL of your OpenTenure Community Server

<http://my-server:8080>

Cancel
OK

Once correct address is entered and saved, you can go back to the main screen by clicking back navigation button of your device.

Since system settings depend on a specific project, the application will ask to login first displaying a login window. Upon successful login, one or multiple project settings will be pulled, depending on the user access and display a readiness message.



If a user has access to more than one project a popup window will be displayed offering to select a project to be opened/used.








Claims




New claim

Start creating new claims by switching to the **LIST OF CLAIMS** tab and tapping **New Claim** icon. You will be asked to confirm creation of a new claim and upon confirmation claim form will be opened. For the first time, a tutorial will be displayed, guiding you through the main steps of creating a new claim. You can go through it or skip.

Claim form consist of the following tabs:

Tab	Description	Toolbar and menu
CLAIM	General information about the claim and claimant	 Validate claim form for any issue  Generate PDF from this claim > View Tutorial
OWNERS	List of ownership shares	 Add new share
DOCUMENTS	List of attached documents	 Add new document
ADJACENCIES	Description of neighboring adjacencies from four side and list of neighboring claims, detected automatically	
MAP	Map component for drawing parcel boundaries	 Add a point from GPS  Make a map snapshot and attach it as a document  Open map mode menu > Rotate map using device compass > Stop rotating the map > Export geographic data

		<ul style="list-style-type: none"> > Go to <p>The map has a background layer selection icon:</p>  <p>The following layers can be selected:</p> <ul style="list-style-type: none"> > Google Maps > Google Hybrid > Google Earth > Tiles/WMS Server > Local data > Empty > User layers
CHALLENGES	Automatic list of disputing claims, challenging this claim	
OTHER TABS	Additional tabs can appear as well, if they are configured through dynamic forms feature of SOLA Community Server	

Add Claimant

Start with the **CLAIM** tab and provide general information. At the bottom of this tab, tap **Add Claimant** button to add claimant information. Once the claimant is added, ownership information will be automatically created as well. You can observe and adjust it on the **OWNERS** tab.



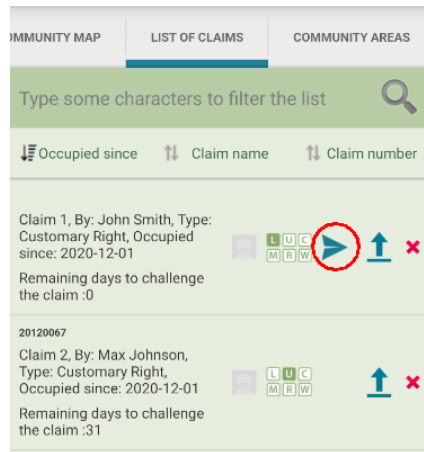
Continue to the other tabs and capture required information. While mapping parcel boundary use **Add GPS point** icon to create a point at your current position, or use long click on the map to add it manually.



Once you are done with attributes and parcel boundary, go back to the **CLAIM** tab and tap **Validate** icon to check if all rules and requirements are met. This is optional step and you can leave the form even if something is missing and come back to it later.

Submitting claims

Claim submission is done from the **LIST OF CLAIMS** tab of the main screen. Depending on the claim's status, it will have different buttons available next to it. The image below shows **Claim 1** available for submission and **Claim 2** already submitted. Claim 2 has claim number assigned by the server (#20120067).

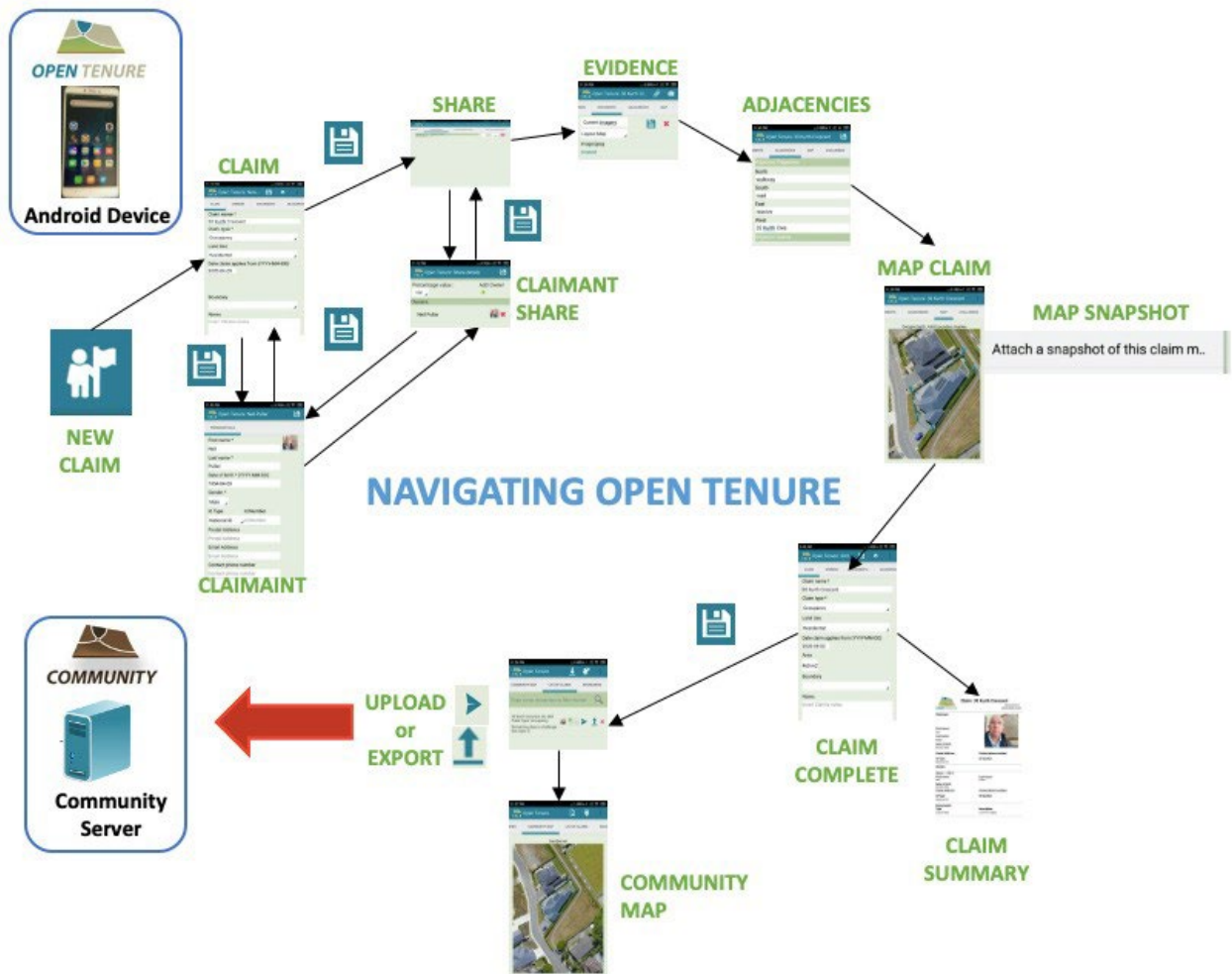


Click **Submit** icon (paper plane) next to the claim to initiate its submission. Before submitting a claim you will have to login and if you are not, appropriate message will be displayed. If you are logged in, the application will run claim validation again to make sure all is correct. If any issues found, submission will be stopped and an error message displayed. Otherwise, upon successful submission, the claim will be assigned a unique claim number and become available on the server for public display and further processing.



Submitted or downloaded claims can be deleted only locally, but not from the server. Not submitted claims can be deleted permanently.

Navigating



TO ADD BOUNDARY & OTHER POSITIONS



Press screen to add new position (and drag "tail" to correct position)

YOU CAN "SNAP" TO EXISTING POSITIONS DEFINED BY OPEN TENURE

To add GPS position

Tap  icon

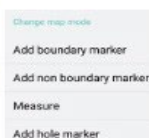
OR

Tap  icon and



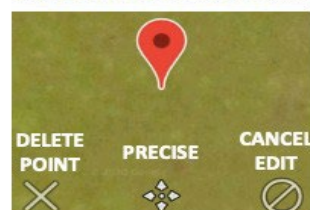
TO CHANGE MAP CAPTURE MODE

Tap  icon and select one of

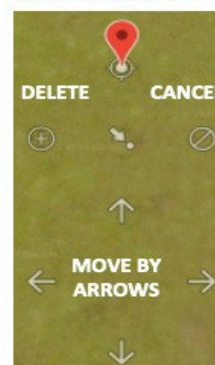


TO EDIT POSITIONS

Tap to select point to be edited



PRECISE MODE

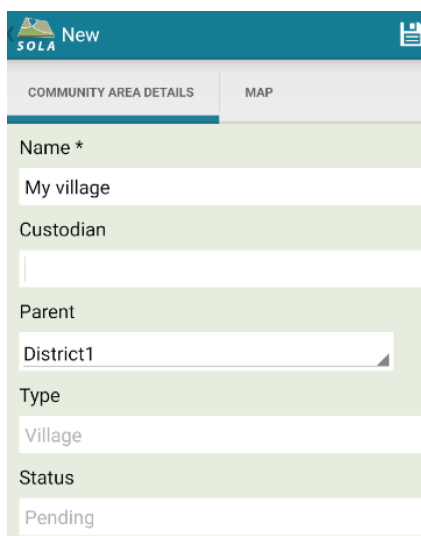


Community Areas



New area

Apart from capturing claims, Open Tenure allows mapping of various community areas, like village boundaries. Start creating new community area by switching to **COMMUNITY AREAS** tab on the main screen and tapping **Create new community area** icon. It will take you to the simple form as shown below.

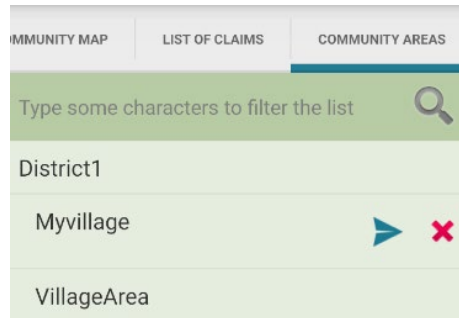


The minimum required attribute here community area name. Additionally you can provide Custodian information and select parent area (e.g. district name).

Next step is switching to the **MAP** tab and drawing community area boundary in a similar way as with capturing claim boundary. You can add new points by selecting menu option **"Add marker from GPS"** or do it manually by long pressing on the map.

Submitting area

Once community area attributes and its boundary are captured, tap **Save** icon on the **COMMUNITY AREA DETAIL** tab or select it from the menu options on the **MAP** tab. Newly created community areas will have submit and delete buttons next to it.



Tap **Submit** button to send community area to SOLA Community Server, where it will be further reviewed and processed.