3.2 Data collection applications

This section provides:

- An overview of data collection application options
- Guidance on selecting a data collection application for your project needs
- Brief overviews of OpenDataKit, OpenMapKit, KoboCollect, and OSMTracker

Overview

Several mobile applications exist to assist with field data collection. Choosing an application to use depends on mobile device capability, varying set-up requirements, and survey needs. Options include OpenDataKit, OpenMapKit, KoboCollect, OSMTracker, and Maps.me

Management Guide

Choosing a Data Collection Application

Which data collection application should I use? Use the following table to decide which application is best for your project and resource restrictions. These are not the only options available, but instead, applications that HOT has used and tested in the field for mapping projects.

I want to collect…	ODK	Kobo	OMK	Maps.me	OSM Tracker	Mapillary
Qualitative survey data	☒	☒	☒	×	×	×
Quantitative survey data	☒	☒	☒	×	×	×
GPS Points	☒	☒	☒	☒	☒	×
Photos attached to GPS Points	☒	☒	×	×	☒	×
GPX Tracks	×	×	×	×	☒	☒
Streetview imagery	×	×	×	×	×	☒
Data attached to OSM points of interest	×	×	☒	☒	×	×
Data attached to OSM polygons (i.e. buildings)	×	×	☒	☒	×	×

Open Data Kit (ODK)

ODK is a free an open-source set of tools which help organizations author, field, and manage mobile data collection solutions. ODK Collect is part of ODK and is an Android app that replaces paper forms used in survey-based data gathering. It supports a wide range of question and answer types, and is designed to work well without network connectivity.

Skills and Technology Needed

- Computer
- Internet Connection
- Mobile devices (see Hardware for specifications.)
- ODK forms
- Spreadsheet software (such as Excel or LibreCalc)

Use OpenDataKit (ODK) if:

- You have access to mobile devices but they have limited RAM & storage
- You do not need to collect data for buildings in OSM OR you are able to manually transfer data collected as points to OSM polygons after data collection.
- You want or need to have an easy set-up option for data collection.

Resources

- OpenDataKit: https://opendatakit.org

- ODK Guide: https://docs.opendatakit.org/collect-intro
- ODK Build: https://build.opendatakit.org
- Building ODK Forms: http://xlsform.org/en

Download

- Google Play: https://play.google.com/store/apps/details?id=org.odk.collect.android&hl=en_US

Set-up

1. Create ODK forms
2. Add ODK forms to mobile data collection devices. See Device and Tools Set-up and Testing

OpenMapKit (OMK)

OMK is an extension that launches directly from within ODK Collect when the OSM question type is enabled in a standard survey. It is what allows you to browse OSM features, and to create and edit OSM tags.

Skills and Technology Needed

- Computer
- Internet Connection
- Mobile devices (see Hardware for specifications.)
- OMK forms
- Spreadsheet software (such as Excel or LibreCalc)
- Additional files
  - .mbtiles
  - OSM layer
  - Constraint file
- Recommended: Server

Use OpenMapKit (OMK) if:

- You have access to mobile devices with sufficient RAM & storage (see Hardware for specifications.)
- You need to collect data for buildings in OSM
- You have the capacity for more intensive set-up prior to data collection

Resources

- OpenMapKit: http://openmapkit.org

Download

- Google Play: https://play.google.com/store/apps/details?id=org.redcross.openmapkit&hl=en_US

Set-up

1. Create OMK forms
2. Create .mbtiles
3. Create .osm layer
4. Create constraint file
5. Download and set up ODK and OMK applications.
6. Add all above files to mobile data collection devices.

3. KoBoCollect

Kobo is in almost all ways similar to ODK Collect, and is built on top of the ODK platform. Kobo also has prebuilt analysis tools and is another popular option.

Skills and Technology Needed:

- Computer
- Internet Connection

- Kobo Account
- Mobile devices (see Hardware for specifications.)

Resources

- KoBo Collect: https://www.kobotoolbox.org
- UNHCR instance of KoBo Collect: https://kobo.unhcr.org/
- OCHA instance of Kobo Collect: https://kobo.humanitarianresponse.info/

Download

- Google Play: https://play.google.com/store/apps/details?id=org.koboc.collect.android&hl=en_US

4. Maps.Me

Maps.me is a navigation application that uses OpenStreetMap data, and can be used offline. It is suitable for collection Point of Interest (POI) information, as far as these fit within the types of data that Maps.me shows you on the map.

Skills and Technology Needed

- Internet Connection (for application download)
- Mobile devices (see Hardware for specifications.)
- Android or iOS device

Resources

- Maps.me: https://maps.me
- OSM Wiki: https://wiki.openstreetmap.org/wiki/MAPS.ME

Download

- Google Play: https://play.google.com/store/apps/details?id=com.mapswithme.maps.pro&hl=en_US

5. OSMTracker

OSM Tracker is "an offline GPS tracker designed for collecting points of interest (POI) to be added to the map and for recording GPX tracks." OSM Tracker is free and open-source.

Skills and Technology Needed

- Internet Connection (for application download)
- Mobile devices (see Hardware for specifications.)

Resources

- OSMWiki: https://wiki.openstreetmap.org/wiki/OSMTracker_(Android)
- LearnOSM: https://learnosm.org/en/mobile-mapping/osmtracker/

Download

- Google Play Store: https://play.google.com/store/apps/details?id=net.osmtracker&hl=en_US

Set-up

- Device and Tools Set-up and Testing

Resources and Training Materials

This section features a selection of resources targeted at project managers, trainers, or even self-learners on the topic(s) outlined above.

Watch

- HOT Community Webinar: Mobile Data Collection Best Practices and Tools