AKROS

Reveal
REDEFINING PRECISION

Request for Short Proposals
UI for location management - Reveal

ISSUED BY: Akros Inc.
                                                      Represented by: **Anna Winters, CEO**

CONTRACT NAME: DSME: Digital Solutions for Malaria Elimination

1. Background

Reveal is a collection of tools, including an Android mobile client supporting field operations, and a web interface supporting planning, management, and decision making surrounding the field implementations. The tool provides geospatial functionality to improve the efficiency of field based interventions, and utilizes high resolution satellite imagery over which location hierarchies and enumerated structures are layered. The current process for validating and uploading these data is manual and requires a relatively high level of technical expertise. This RFP aims to identify a contractor who will develop a user-friendly interface that can be used for location management, allowing non-technical users from program or ministry teams to handle the process.

2. System Architecture

Currently the process to manage location upload to Reveal is a set of manual tasks, consisting of a number of disparate python scripts and the need to interrogate a postgres database. Locations can be uploaded to Reveal via the API, and must also be added to the OpenMRS location hierarchy for role based access control.

Location hierarchies are made up of 'jurisdictions', geographic entities that are generally either polygons or multipolygons and are arranged in a hierarchical structure, each with a parent identifier identifying the parent object. The root object is usually at the country level, and does not have a parent attribute.

The leaf node of the hierarchy is made up of structures, geographic entities that are generally either multipolygons, polygons or points, and whose parent is the lowest level jurisdiction of the hierarchy, usually referred to as an operational area.

Jurisdictions and structures are referred to as geoObjects or locations.

3. Objectives of this assignment

The aim of this assignment is to deliver a user friendly interface for location management. Locations will be supplied as a changeset consisting of a set of GeoJSON files. The developed application or service will include the following functionality:

1. Development Scoping
    i. Validation of GeoJSON files before upload. Any errors should be flagged and communicated to the team supplying the GeoJSON files, who will be responsible for fixing errors and resubmitting the files. Validations should include the following checks:
        1. Locations have all the required fields (see Annex A)
        2. The location hierarchy is complete, and all locations have a parent location (except the root location)
        3. Locations have only one parent (but can have many children)
        4. Locations are uniquely identified and have unique names
        5. Child locations are within the boundaries of their parents coordinates

6. Jurisdictions are not overlapping
7. External identifiers are unique and are maintained in a master list with the internal Reveal guid identifier (in some cases countries will not have externally set unique identifiers and these will need to be assigned as part of the management process)

2. Change management
    i. A robust process to manage change requests should be integrated into the user interface
    ii. Change requests should be logged
    iii. Changes to the existing hierarchy should be displayed to users, who can then approve or reject individual locations for upload. Users should be able to easily see:
        1. if the change is an insert or an update (including soft deletes where the location is marked as inactive)
        2. Which fields will be modified in the case of an update
        3. The area of the update in percent when coordinates are changed (new location size / original location size)
        4. Total number of updates, inserts and errors for the changeset
    iv. Upload of the selected locations (mergeset) to the Reveal server

3. Auditing and Security
    i. Change requests and any subsequent actions are logged at a granular level, indicating which locations in the change set were accepted or rejected by which user
    ii. The user who submits the mergeset for upload should be logged
    iii. User are authenticated and authorized to perform the above actions through the tool webUI

4. Documentation
    i. A standard operating procedure should be documented and followed by users
    ii. Software should be well documented
    iii. Any database schemas and technologies should be well documented

5. Master List Management [TBD]
    i. If an external persistent database is used then this list should be synchronised with Reveal in a robust manner

6. Location visualization [TBD]
    i. The location hierarchy and structures should be displayed in the user interface as geospatial layers, with the ability to toggle visibility and opacity of each layer
    ii. Locations should be able to be added, edited and deleted in the WebUI, with these changes going through the change management process for approval

4. Timing and Duration

Commencement: The assignment is expected to commence no later than April 13, 2020.
Duration & Completion: The duration of the assignment is between the month of April 2020 and June 2020.

5. Reporting

The contractor will report to and work under the leadership of the Akros Technical Product Manager (TPM), Livashan Soobramoney and the Akros Programme Manager, Anna Winters, who will both complete the final review on all required outputs; sign-off from the TPM is required for payment. Please see below, the reporting structure and lines of communication:

#	Type of Query	Point of Contact
1	Technical related queries	Livashan Soobramoney (Akros TPM)
2	Contractual related queries	Anna Winters (Akros PM)

6. Communication Protocols and Frequency

The contractor is required to engage with the Akros Product team on a regular basis (defined scheduled meetings, as well as, on an ad hoc basis). The cadence and purpose of these sessions are detailed below:

- 1.1. Weekly Touch Point: Scrum to discuss project progress, roadblockers, timeline constraints, etc.
- 1.2. Monthly Status Meeting: Project status update, feedback in relation to overall project objectives.
- 1.3. Milestone Feedback Meeting: two-way feedback session

7. Proposal

The contractor is requested to provide, as a response to the RFP
1. A short description of the firm, programming capabilities, team structure and two recent references.
2. A cost proposal which includes the total cost to be charged, as well as, a cost breakdown of the activities involved within the project.

Please submit the proposal by email to:

Anna Winters, awinters@akros.com with copy to Livashan Soobramoney lsoobramoney@akros.com no later than April 8 2020 for consideration. Proposals will be reviewed and the development team selected to initiate work by April 13 2020.

Please indicate "REVEAL LOCATION" in the subject line.

Expected Outputs, Deliverables

#	Deliverable Table	Dates (Estimated)
1	Technical proposal to include MVP proof of concept	April 2020
2	High level resource plan indicating assignment for the duration of the project	April 2020
3	Technical Project Plan detailing key milestones, deliverables and delivery dates	April 2020
4	Backend functionality	May 2020
5	WebUI	May 2020
6	Standard Operating Procedure documentation	May 2020
7	Technical Documentation to be captured within JIRA, this includes Technical Scoping Documentation; detailed JIRA ticket and Product Mockups	April 2020
8	QA plan detailing the QA approach and QA scripts to be used.	May 2020
9	Configuration and implementation of all changes made to Reveal Platform to Akros' staging and production environments.	May 2020
10	Formal reports on progress and accomplishments every week and month.	Weekly/Monthly

Annex A

Reveal Jurisdiction GeoJSON

```
{
  "type": "Feature",
  "id": "a7baf57d-ad31-46d2-8d28-0c81dd306b09",
  "geometry": {
    "type": "MultiPolygon",
    "coordinates": [
      [
        [
          [
            100.52448292208783,
            13.857601394292418
          ],
          [
            100.52421940023034,
            13.843559443886742
          ],
          [
            100.51516056060791,
            13.843559443886742
          ],
          [
            100.51516056060791,
            13.857601394292418
          ],
          [
            100.52448292208783,
            13.857601394292418
          ]
        ]
      ]
    ]
  },
```

```
    "properties": {
      "status": "Active",
      "parentId": "45042d61-2305-4b67-87f4-a451339f79c7",
      "name": "JurisdictionName",
      "geographicLevel": 5,
      "version": 0,
      "OpenMRS_Id": "eed81741-f168-4723-99d8-16a513445a35",
      "externalId": "ExternalID",
      "name_en": "JurisdictionNameEnglish"
    }
}
```

Reveal Structure GeoJSON

```
{
    "type": "Feature",
    "id": "4b6eff29-9f09-4bad-bdca-c64677c34043",
    "geometry": {
      "type": "MultiPolygon",
      "coordinates": [
        [
          [
            [
                105.4910018473965,
                15.4513492889871
            ],
            [
                105.49097185101992,
                15.451245252469056
            ],
            [
                105.49085827551887,
                15.451276056029416
            ],
            [
```

```
                    105.49088827185523,
                    15.451380092583115
                ],
                [
                    105.4910018473965,
                    15.4513492889871
                ]
            ]
        ]
    ]
},
"properties": {
    "status": "Active",
    "parentId": "a7baf57d-ad31-46d2-8d28-0c81dd306b09",
    "geographicLevel": 6,
    "version": 0,
    "externalId": "wayid:389287333"
}
}
```

Annex B – Payment and Deliverables.
    The total amount awarded for this work will be: (TBD)

#	Deliverable
1	Technical proposal to include MVP proof of concept
2	High level resource plan indicating assignment for the duration of the project
3	Technical Project Plan detailing key milestones, deliverables and delivery dates
4	Backend functionality
5	WebUI
6	Standard Operating Procedure documentation
7	Technical Documentation to be captured within JIRA, this includes Technical Scoping Documentation; detailed JIRA ticket and Product Mockups
8	QA plan detailing the QA approach and QA scripts to be used.
9	Configuration and implementation of all changes made to Reveal Platform to Akros' staging and production environments.
10	Formal reports on progress and accomplishments every week and month.