RAINFOREST FOUNDATION UK
SECURING LANDS, SUSTAINING LIVES

Call for proposals: Consultancy for the redevelopment of the Frontend of the Real Time monitoring platform - ForestLink (RTM- Forestlink)

Terms of reference - May 2020

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1. Context

The Rainforest Foundation UK

The mission of the Rainforest Foundation UK (RFUK) is to support indigenous peoples and traditional populations of the world's rainforest to:

- Secure and control the natural resources necessary for their long-term wellbeing and managing these resources in ways which do not harm their environment, violate their culture or compromise their future.
- Develop means to protect their individual and collective rights and to obtain, shape and control basic services from the state.

RFUK considers that an essential first step to protect and manage the tropical forests and to reduce poverty in tropical forest countries is to realise the rights of the traditional and indigenous communities who live in those forests. With secure rights to land and livelihoods, forest peoples can effectively manage forest resources and direct and manage their own development.

RFUK tackles the underlying causes of deforestation linked to the problems of disenfranchisement of forest peoples globally and locally. From the field to the international policy arena, RFUK reinforces the active participation of forest peoples in the decisions that affect them. We work with over 15 partner organisations in tropical forest countries and our programme work is split into the following thematic areas:

- Threats to forests from the extractive industries, infrastructure development and agro industrial expansion;
- Conservation effectiveness and monitoring of initiatives to reduce deforestation and degradation (REDD);
- Community-based forest management, land-use planning and tenure reform;
- Community mapping and forest monitoring;
- Indigenous peoples' rights.

Forestlink Real-Time Monitoring system (Forestlink RTM)

In 2015, the Rainforest Foundation UK successfully developed and launched **ForestLink community based Real Time Monitoring** (RTM) system. RFUK's ground-breaking ForestLink technology enables forest communities anywhere in the world to collect and transmit accurately geo-referenced reports of forest illegalities to a central database in real-time, even from areas where there is no mobile phone or internet connectivity. This initiative is being implemented in Cameroon, the Democratic Republic of Congo (DRC), Ghana, and the Republic of Congo with the support of the British Department for International Development (DfID), as well as in Peru (supported by the Waterloo Foundation and Fondation Ensemble) and Liberia (with the support of Tropenbos International).

RFUK's ForestLink Real Time Monitoring system comprises a set of software and methodologies which are used to collect and transmit alerts about forest illegalities. It has been built in house at RFUK and is comprised of four main components: Collector (data collection mobile app); Monitor (Web application); Centaur (backend) and the Community Hub (a nano-computer that stays with communities).

2. Objectives

Considering the evolution of the platform and new requirements, RFUK have decided **to rebuild the system's frontend** – where the collected data/alerts are managed.

The new platform should respond to several objectives:

- Have a visually attractive and fresh look, with improve functionalities for data analysis and interactive exploratory spatial analysis;
- It should be adaptable to work in countries with low-bandwidth;
- Be user friendly and more intuitive;
- Have **all the functionalities of the current platform plus several additional new features** (listed below);
- Allow integration of new functionalities as it evolves over time.

3. Platform functionalities

Existing functionalities

Authentication

Only authenticated users can have access to the data collected. Authentication is done using a username and a password.

Authorisation

There are three levels of access to the platform:

- The highest level, 'coordinator', can create read edit and delete users and forms. They can also mark alerts as true alerts and delete them;
- The second highest level of access is 'verificator'. Its main purpose is to update the data based on the verification information collected on the ground. This level can only verify alerts which have been previously acknowledged by 'coordinator';

- The third level of access is 'administration'. It is mainly used to visualise the data that have been verified by the verifiers.

Statistics

The statistics page provides information about the data collected e.g. how much data has been collected so far, how many alerts were collected each day, and by which community etc.

User management

This is used to create, edit or delete users.

Forms

Data are collected by filling out a set of questionnaires (forms). The forms are comprised of a set of structured questions with options to 'select one', 'select multiple', free text, number, GPS point or camera (to upload a photo). The platform offers an intuitive interface to build and test these forms in a tree-like structure.

Alert / data

This interface is used to browse the collected data. There are several filters available to display subsets of data. Alerts can be filtered by date of collection, their category (form used to collect the alert), their location, their acknowledgment status and their verification status.

Alert details

The alert detail page provides detailed information of the selected alert, such as a verification report in the form of an attachment. Once verification is complete, users can add follow up information to the alert.

The interactive map

As the majority of the data collected have GPS locations, the map interface displays the location of each alert. The interactive map includes functionality to filter the alerts based on different criteria e.g. based on the form used to collect the alert, the verification status, or by community name.

New required functionalities

Authorization

We want to give more granular access to specific users (e.g. some non-'coordinator' users to be able to manage forms) whilst some other users will have access to form download functionality only.

Alert page

- Should be able to filter alerts according to their verification status;
- Should be able to filter alerts according to a combination of variables;
- This interface should allow users to download all or a subset of the data in an appropriate formats as CSV and GEOJSON;
- Should be able to search alerts by its alert ID.

Interactive map

- The map should include other third-party datasets such as land use data (logging concession, protected areas, etc.);
- These should be used to perform basic analysis on the alerts e.g. determine the number of alerts which falls within a specific land user layer.

Dashboard

- The dashboard should provide a series of dynamic data displays as indicators in numbers, graphs and maps;
- The dashboard should provide highly interactive exploratory data analysis by filtering data or combining variables.

To have a better understanding of how the platform currently works we can provide temporary access to it upon applicant's request.

4. Deliverables

- A functional, intuitive and visually attractive application with improved functionalities for analysing data and for visual exploration of spatially referenced data;
- An application that integrates all the functionalities described above (those existing in our current platform and the new ones required), and that integrates well with the backend application;
- An application that loads fairly quickly on the browser in countries with low internet bandwidth. We would expect the platform to load in browser in 20 seconds or less with a connection of 500kb;
- A documentation of the application that explains the architecture and each component, including the basic steps involve for adding new component.

5. Qualifications and experience required

- Excellent skills in Frontend web development;
- Relevant experience in developing similar applications;
- Experience with either VueJS or ReactJS, RESTful APIs;
- Experience with mapping tools (Mapbox, Leaflet, OpenLayers, etc.);
- Experience with JavaScript, Html, CSS and other frontend frameworks;
- Good design skills;
- Good communication skills;
- Being a small and diversified team, we are quite interactive and would expect the consultant to be regularly available for catchups;
- CI/CD with CircleCI and Bitbucket desirable.

6. Timeframe

The consultancy work is expected to be completed by the end of September 2020, with work to begin ASAP. We anticipate a maximum of 40 working days for the completion of all work.

7. Application

- A CV;
- A brief technical proposal, including: proposed technical methodology and a timeline for implementation;
- A budget including consultant's daily rate;
- Examples of relevant previous work.

Deadline for applications: **26th June 2020**

Applications should be submitted to adminrtm@rainforestuk.org with '**ForestLink-Frontend redevelopment**' in the subject line. Any questions should also be directed to this email address.