University of California, San Francisco
Global Health Group

Independent Consultant to the Global Health Group

Scope of Work
November 1st 2015 – October 31st 2016

Background

The Global Health Group at the University of California, San Francisco (UCSF) is an 'action tank' dedicated to translating new evidence into large-scale action to improve the lives of millions of people. The Global Health Group's Malaria Elimination Initiative (MEI) was launched in 2007 to accelerate progress in countries and regions that are pursuing achievable and evidence-based elimination goals and paving the way to malaria eradication. In partnership with other forward-thinking researchers, implementers, and advocates, the MEI works across global, regional and national levels to conduct operational research on surveillance and response, develop new tools and approaches for aggressive elimination, document and disseminate country experience, determine the costs of and financing needs for achieving elimination, build consensus, and influence policy and financing to foster an enabling environment to shrink the malaria map. The MEI believes that global eradication of malaria is possible within a generation.

The MEI has unique and first-hand experience in implementing operational research optimizing, with partners, malaria surveillance and response systems designed for low transmission settings in Swaziland, Namibia, Indonesia and now Vietnam. These surveillance systems include GIS, spatial analyses, detailed socio-demographic information and molecular and serological testing. Results from these projects are informing malaria elimination strategies locally, regionally and globally. Data is utilized maximally through the network of partners, informing the research community, policy makers and financers all with the aim of supporting malaria elimination.

In 2014, the MEI was awarded a Google Earth Engine Research Award to develop an automated malaria risk mapping platform using remotely sensed satellite information and Google's cloud parallel computing. Further funding to implement a prototype version of this platform in Swaziland and Matabeleland South in Zimbabwe has been awarded from the Bill and Melinda Gates Foundation. This will allow the online platform to be integrated into the existing surveillance systems in the two countries. To achieve this goal, we are looking for an exceptional individual to manage this project on a full time basis, working closely with National Malaria Control Programmes, developers, local IT consultants and UCSF.

Key responsibilities

The primary objective of the project manager is the successful development of an online risk mapping platform, including dashboards, both in Swaziland and in Zimbabwe.

Specific key responsibilities of the consultancy will include:

- Support the requirements gathering, scoping and envisioning processes for the various systems and linkages that need to be developed in order to allow existing surveillance databases to automatically feed data into the mapping platform.
- Oversee the hiring and supervision of local IT consultants to generate necessary linkages/edits to the in country and online databases.
- Support the actual coding and development in order to meet deadlines; coordinate code reviews and appropriate source control methodologies; first-line system testing
- Using an Agile methodology: coordinate the development process to ensure that each developer has a defined scope; that all components work together; that deliverables match the requirements and technical design
- Coordinate with other developers involved in the project focused on development of mobile applications.
- Organize and conduct field-testing at regular intervals to obtain user feedback (in collaboration with the malaria control programmes).
- Communicate progress to stakeholders.
- Coordinate end user testing and user acceptance, communicate feedback to development teams and incorporate feedback.
- Coordinate version control and release management.
- Any other duties assigned in line with the SOW of this consultancy.
- Support documentation at various levels (data harmonization scripts, code, technical, progress etc.).

Qualifications

Required

- A degree in computer science, information systems or software engineering with a focus on software development or equivalent degree with five years of experience – or at least ten years of demonstrable experience in software development
- At least seven years of experience in developing information systems, ideally with a focus on health information systems, in popular languages such as JAVA, PHP or C#. Open-source languages are highly preferable.
- At least five years of demonstrable experience in project management
- Working experience with software development and maintenance tools like Spring, Hibernate, JQuery, Subversion, Liquibase, Git, Restful web services, Agile methodology, Maven, Jasper server, Android SDK
- Must have lived at least two years in Sub-Saharan Africa
- Demonstrated proficiency developing and troubleshooting complex software systems that run in mixed-environments including Linux, Unix and/or Windows on desktop, server, tablet, and mobile systems
- Demonstrable skills in enterprise application integration
- Experience collaborating with national government agencies, funder and donor agencies, district and health facility staff

Preferred

- Degree in public health, epidemiology, biostatistics or a similar field, or significant work experience in these areas
- Strong database background, including a strong understanding of SQL
- Affiliation with popular open-source tools currently used in Sub-Sahara Africa, including OpenMRS and ODK

Deliverables and Timeline

Key deadlines for the project period are highlighted below

Timeframe: November 1st 2015 – October 31st 2016 (renewable upon satisfactory performance)

Deliverable	Deliverable Description	Due Date
Requirements analysis	Document the platform development landscape in both countries, key stakeholders, key datasets and custodians of the data	December 31st 2015
Hire local IT consultants	Identify and hire suitable IT consultants to ensure surveillance databases are linked	December 31st 2015
Requirements analysis	Meeting with National Malaria Control Programmes to identify priority needs and platform outputs/design (user profiles, use cases, solution concept)	January 31st 2016
Conduct initial product design	Technical design of the database solutions, including dashboards, for each country	March 31st 2016
Link country surveillance databases to DiSARM platform	Working with local IT consultants, ensure that surveillance data flow into DiSARM platform back end	May 31st 2016
Pilot and gain feedback on prototype platform	Conduct formal pilot assessment with National Malaria Control Programmes, document and relay feedback	July 31st 2016
Integrate platform into DHIS2	Working with other developers and DHIS2 core team, integrate platform into DHIS2 dashboard (Zimbabwe) and standalone dashboard (Swaziland)	December 31st 2016
Produce technical documentation	Complete user profiles, use cases, and data element inventories, data harmonization scripts and implementation budgets for each country. Manage open source code.	Ongoing. Final delivery date March 31st 2017

Contact

For more information, please contact Hugh Sturrock at hugh.sturrock@ucsf.edu. To express interest, please forward your CV and a cover letter describing your interest and qualifications.