

Consultant Opportunity: Software Developer / Interoperability Engineer

The Digital Initiatives Group at I-TECH (DIGI) at the University of Washington in Seattle, WA is seeking a part-time (approximately 50%) consultant to fulfill software engineering needs, for an anticipated period of seven months.

DIGI develops and implements several open-source software packages, including OpenMRS, OpenELIS Global, and interoperability platforms based on the OpenHIE framework. Together, our work supports standards-based, interoperable health IT architectures, which can be managed in a sustainable manner by Ministries of Health and their in-country technical assistance partners.

Scope of Work

The Software Developer / Interoperability Engineer is responsible for technical development of standardized clinical and public health information system tools and architectures for the health sector in resource-limited settings. This position will be essential in leading the software engineering, quality assurance, and deployment support for these products. The position also supports the development of capacity among in-country counterparts in managing deployment, upgrade, and maintenance of software and technical products.

Specific Activities

- Collaborate with business analysts, product owner, domain experts, and other stakeholders to gather and translate user stories, business requirements and use cases into clear and appropriate functional, technical and operational specifications and designs for health informatics applications.
- Gather and refine requirements through in-person assessment and observation, as well as through remote communication with stakeholders by email, videoconference, Slack, Skype, or other channels.
- Develop and review detailed technical specifications and design documents.
- Conduct work breakdown planning for development and provide accurate and timely estimates for completing programming of features, bug fixes, and requests for scheduling into the SDLC.
- Evaluate, select, configure, augment, and integrate open-source software to support data collection, storage, integration, and use.
- Develop, test, and deploy software, tools, and projects, in line with documented requirements, specifications, and designs.
- Apply data and technology standards in software and engineering projects (HL7, FHIR, LOINC, ICD-10, etc).
- Collaborate with business analysts and practices in the software development lifecycle and technology project management, including the use of project management tools and software (e.g. Asana, Pivotal Tracker, Jira, etc.)
- Collaborate within existing open-source digital health / global goods communities to leverage standards and contributions of multiple interested parties for shared solutions to common problems.
- Assure quality of software products through rigorous testing at multiple levels (e.g. unit testing, integration testing, regression testing, user acceptance testing). Develop automated testing solutions using standard tooling (Gherkin, Cucumber, Selenium, Cypress) where appropriate.

- Perform direct development and management of reliable and secure environments for product testing and for production deployments, including the use of virtual machines/docker containers, Nagios, Cactus, openVPN, SSH/tunneling protocols, etc.
- Perform bug fixes and patch releases on software products and digital health tooling for projects
- Support documentation of technical work products, including, release notes, technical architectures and models, data dictionaries, workflow specifications, and other technical documentation.
- Serve as technical content expert for trainings, curriculum development, presentations, and publications.
- Advise and mentor software development personnel based in I-TECH and project partner country offices.

Anticipated Deliverables:

- Requirements documentation (functional requirements, mockups and wireframes, etc.)
- Interoperability profiles (FHIR implementation guides, OpenHIE workflows, etc.)
- Code checked in to the appropriate DIGI GitHub repositories
- Documentation to accompany code or new features
- SOPs covering software development and deployment associated with assigned projects

Requirements:

Knowledge of web/internet application standards, hardware and software technologies (including Java, Spring, React or other scripting technologies), relational database technologies (MYSQL, Postgres, MSSQL or equivalent), data modeling approaches (relational, NOSQL, EAV, FHIR). Knowledge of health informatics and interoperability standards (HL7, FHIR, IHE, LOINC, ICD-10, etc).

In addition, the consultant must possess:

- Effective collaboration skills with both local and remote members.
- Flexibility in schedule to accommodate collaboration with partners in international time zones.
- Willingness for international travel to low- and middle-income countries.
- Proven ability to quickly learn and apply new technologies.
- Excellent written and verbal communication skills in English. Must be able to communicate technical and non-technical issues to, and provide system level support for, a variety of collaborators and “customers” both internal and external to the University.

Consulting Assignment Details:

This is a telework consulting opportunity. Up to several times per week, the position requires participation in conference calls or meetings during the early morning and late evening to accommodate the time zones of the countries where I-TECH works.

The relationship between the University and any awarded bidder will be that of an independent contractor. The awarded bidder will be expected to enter into a contract with I-TECH. The University of Washington General Terms and Conditions, as well as Federal Grant Terms and Conditions, will be incorporated into any contract award as a result of this solicitation.

The successful contractor(s) will be selected based on:

- Demonstrated ability to provide the requested services
- Previous experience and expertise
- Cost proposal
- References

At its sole discretion, the University may require Vendors to participate in an interview or provide a presentation to the evaluation committee. If so, the score from the interview and/or the presentation may be combined with the score of the proposal to identify the apparent successful Vendor. The University will contact the Vendor directly to schedule the interview/presentation.

Interested candidates should submit the following items by email attachment to itechhr@uw.edu by March 26, with the subject line “DIGI Software Engineering Consultant”:

- Cover letter
- Resume
- Hourly consulting fee rate
- Contact information for three professional references