Terms of Reference on

Research Software Development for the Bach Mai Hospital Stroke Unit.

1. Introduction and Background Information

1.1. Humanity & Inclusion

Humanity and Inclusion (HI) – previously known as Handicap International- is an independent and impartial aid organization working in situations of poverty and exclusion, conflict and disaster. We work alongside people with disabilities and vulnerable populations, taking action and bearing witness in order to respond to their essential needs, improve their living conditions, and promote respect for their dignity and fundamental rights. HI is working in more than 60 countries all over the World.

HI has been working in Vietnam for over 30 years, mostly in the fields of health and prevention (mother and child health and road safety), rehabilitation (rehabilitation care for people with spinal cord injury and brain lesions), education (access to inclusive education for children with disabilities) and livelihoods (access to decent work for people with disabilities). Please visit our website for further information at www.hi.org

1.2. Bach Mai Hospital (BMH)

Bach Mai Hospital (BMH) is a leading comprehensive general hospital, the highest level of the healthcare system, with more than 100 years of history with many leading specialists and staff with high qualifications. The hospital is the primary practice facility of Hanoi Medical University in the training of doctors, specialist training for medical doctor level 1 and 2, MD, PhD, and other specialties. The hospital has an important role in all professional operations of the health sector, especially the training of human resources and supportive missions. It is located in the Capital City of Vietnam, Hanoi.

The stroke unit of Bach is equipped with 55 beds in-patient facilities. In response to the large number of cases, the clinic can only offer emergency and acute care management. There are 13 doctors and 32 nurses working in the stroke unit. The rehabilitation unit, next to the stroke unit, offers acute rehabilitation services in the inpatient unit. After discharge stroke unit, a patient can continue to receive rehabilitation care at the rehabilitation unit.

To improve evidence-based practices, patient outcomes, and research capabilities, the Stroke Unit seeks to develop specialized software for enhanced data management, clinical decision-making, and research analytics.

2. Research Software Detail

2.1. Objective

The research software development aims to:

- Improve Evidence-Based Practices: Facilitate real-time access to patient data and research findings for clinicians to make informed decisions during acute stroke management and rehabilitation.
- Enhance Data Collection & Research Capabilities: Allow seamless data collection from patient care and follow-up activities to conduct detailed research and analysis.
- Support Clinical Research: Enable the Stroke Unit to analyze data trends, track patient outcomes, and publish findings to improve stroke care in Vietnam.

3. Scope of Work

The software development team will be responsible for:

1. **Needs Assessment:**
- Conduct interviews with clinicians, researchers, and administrative staff at the Stroke Unit to gain insights about the volume and complexity of data management for the research software. Additionally, discuss the installation and management of this software, which will be exclusively used for research purposes and separate from the existing data management system.

2. **Software Design and Development:**
- Designing intuitive interfaces for clinicians to input, access, and analyze data efficiently.
- Building a secure database for patient records, including stroke outcomes, imaging results, and progress.
- Developing tools for research staff to perform data analytics and generate reports on patient trends and treatment efficacy.

3. **Data Security & Compliance:**
- Implementing stringent security measures to protect sensitive patient data in compliance with Vietnam's healthcare data privacy regulations (Regulation of Ministry of Health and Bach Mai Hosptial).

4. **Testing & Quality Assurance:**
- Performing thorough testing, including user acceptance testing (UAT), with hospital staff to ensure the system meets operational needs.

5. **Training & Support:**
- Providing comprehensive training to the Software users, including doctors, nurses, and administrative staff on the use of the software.
- Offering on-site technical support during the initial rollout phase.
- Implementing a robust bug management process and offering continuous maintenance and software updates for a period of three years from the date of delivery, ensuring optimal performance and the incorporation of necessary enhancements.

4. Deliverables

All deliverables are expected to be provided in both English and Vietnamese, a built-in translation facility with the software:

A. **Needs Assessment Report** based on discussions with the Stroke Unit.
B. **Software Prototype** that demonstrates the core functionalities required by the Stroke Unit.
C. **Fully Functional Software**, a separate data management, analytics, and decision support tool.
D. **Training Materials and User Manuals** to assist staff in learning and utilizing the software.
E. **Post-launch Support and Maintenance Plan** with service level agreements for ongoing support.

5. Timelines

The project will follow a phased approach with key milestones as follows:

Phase 1: Needs assessment and system design (4 weeks)
Phase 2: Development of prototype of software (8 weeks)
Phase 3: Testing and quality assurance – software is fully functional (3 weeks)
Phase 4: Training and implementation (2 weeks)
Phase 5: Post-launch support (Ongoing)

6. Profile of the Developer

The selected software developer must meet the following criteria:

- Proven experience in developing healthcare or hospital management software, particularly for research and clinical decision support.
- Expertise in integrating healthcare software with research software.
- Familiarity with healthcare data security and privacy laws in Vietnam.

- Previous experience working with academic, or research institutions is desirable.
- Language skill: good at English

7. Reporting

- The developer will provide bi-weekly progress reports (in bullet point format via email) to Humanity & Inclusion (HI).
- Regular meetings will be held with HI and Bach Mai Hospital (Research and Stroke Unit) to ensure both parties are consulted before each phase of the project and to validate every deliverable throughout the development process.

8. Proposal and Payment Modalities

The research software company should submit HI the financial proposal including every costs to produce the identified deliverable services (transportation, accommodation, personnel, translation, computer, printing questionnaires, specific tools/software, office materials…) and any applicable tax in the country (VAT or withholding tax).

Please note that no travel allowance (per diem) will be paid to the software development company, and they will be responsible for their own security in all countries, HI will not cover any insurance fee during the consultancy period.

The proposed payment modality is as follows:
1st payment: 30% after submission of validated needs assessment report.
2nd payment 30% after submission of 3rd delivery - validated fully functional software.
Final payment 40% after all deliverables and signing agreement of post service support.

 If the consultant requests a different payment instalment, and delivery plan, please mention it in the proposal.

Please note that the final payment is conditional on the validation of the final deliverable product and not solely on its submission. Validation means ensuring that the deliverables meet the quality standards as per the information provided above.

9. Application

Proposals from interested developers must include the following (all documents in English):

i. Profile of the software development company or individual developer, along with a cover letter explaining how the expertise requirements in the ToR are met.
ii. Curriculum Vitae (CV) detailing the consultant's (Individual Developer or Focal Developer if a company) experience and qualifications.
iii. A comprehensive financial proposal, inclusive of all consultancy fees, transportation, and applicable taxes (VAT or withholding tax).
iv. Legal registration documents of the company, identification document of legal representative, and financial statement of 2022, 2023. (for company)
v. Methodological approach/work plan for the service.
vi. Sample of previous work related to the required service.

Proposals must be submitted electronically to procurement@vietnam.hi.org with the subject line "**Consultancy on Research Software Development for the Bach Mai Hospital Stroke Unit – Candidate/agency's full name**".

10. Evaluation Procedure

Evaluation of proposals will be made by a Selection Committee in two phases:

1. Administrative selection: The committee will first check completeness of the application and verify that all compulsory items listed above are included. Incomplete applications will not be considered for technical selection.

2. Technical and commercial selection: The best application will be selected based on the quality of the technical proposal, the competitiveness of the financial proposal, the skills and previous experiences of the consultant, the delivery lead time, the payment terms, and the demonstrated expertise of the applicant to successfully undertake the assignment.

Only candidates who pass the administrative selection will be considered for the technical assessment. Shortlisted applicants may be invited for an online interview (or offline interview).

HI reserves the right to contact the applicants for additional information or clarification before the final selection by the selection committee. After interview only selected candidate will be contacted.