



Federated States of Micronesia
National Department of Education
P.O Box PS 87, Palikir Station
Pohnpei, FM 96941
Phone: (691) 320-2609 Fax: (691)320-5500

**Call for Letter of Interest
for
Senior Student Information System Expert**

Position	Senior Student Information System Expert (International)
Project budget (maximum)	USD 50,000
Nature of the assistance	Remote
Tentative Duration	10 June 2020 to 30 September 2020 (possibility of extension).
Deadline for Submission of Letter of Interest	5 June 2020.
Implementing Agency	National Department of Education, FSM
Contact Person	TO: Wayne Mendiola (Wayne.Mendiola@national.doe.fm) TO: Kalwin Kephas (kkephas@national.doe.fm) CC: Quincy Lawrence (Quincy.Lawrence@national.doe.fm)

Background

In order to improve Education Management Information System (EMIS) a joint-project¹ was launched in the Federated States of Micronesia (FSM) in FY 2016/17. Through this joint project, an integrated system has been set-up by developing a platform for EMIS, equipping National Department of Education (NDOE) and State Department of Education (SDOE) with appropriate hardware and software upgrades, and has already digitized most of the historical data that were available in different formats and at the different State departments. Moreover, through the joint initiatives, capacity of school principals and data managers at SDOE has been built by giving them a thorough orientation on data management and hands on training to the data managers about the integrated platform called FedEMIS.

FedEMIS has laid down a platform that can cater basic data requirements at the national and State Department of Education. However, the needs in each State Departments vary to some extent and hence the need to incorporate them in the FedEMIS is crucial. While FedEMIS has been initially designed largely to addresses national interests and requirements², there has been requests for specific data requirement from SDOEs to be included in the EMIS or as a separate component to be integrated. This particular need is a simple Student Information System (SIS).

¹ Technical Assistance was received from the US government under the Supplementary Education Grant (SEG) and ADB's regional grants for National Educational Planning and Management (NEPM).

² JEMCO recommended 21 education indicators to be covered by the FedEMIS, however, it was not possible at this stage to include all 21 indicators. Hence, FACSSO agreed to go ahead with the indicators that are possible in terms of its cost and feasibility.

Meanwhile, FSM has recently made an agreement with the Asian Development Bank for the implementation of a six-year long project which broadly aims to Improving Quality of Basic Education (IQBE) in the FSM. The primary outcome of the IQBE is to improving student's learning achievement in reading to 50%, from its baseline, by 2023. This will require regular collection and reporting on student performance data. Similarly, FSM as a signatory to Sustainable Development Goal has commit to achieve SDG targets by 2030.

In view of all of these and also considering the nature and complexity involved in the development of an efficient EMIS, NDOE has already draft a five-year master plan for EMIS for the FSM. The Master plan has laid down some initial thoughts on having an integrated model of education data management system that incorporates State specific data needs by having State's own sub-platform that are almost like independent but are integrated within the main EMIS. This plans also integrates a SIS as an essential component.

Hence, the NDOE intends to solicit Letter of Interest (LOI) from qualified and competent individuals to provide technical assistance to provide support in refining and consolidating the SIS chosen the by the NDOE Data team to be used in the pilot phase.

Objective

The objective of this solicitation is to provide continued assistance to NDOE to support the improvements of the FedSIS to better support low bandwidth connections to schools and provide user and staff support to the currently deployed FedSIS our existing open source Student Information System (SIS).

Scope of Work

- Build a new REST API on the backend for the following features:
 - Installer/Upgrader
 - Login/Logout, Reset password
 - User account settings, reset password, etc.
 - School setup (Portal Notes, Marking Period, Calendars (use third party library, DO NOT reinvent wheel,) Periods (support for rotating and fixed built it from the start), Grade Levels, Sections, Rooms)
 - School setup (School: School Information, Add a School, School System Preferences, Custom School Fields)
 - School setup (Courses: Course Manager, Course Catalogue, Print Catalogue by Term, Print Catalogue by Grade Level, Print all Courses, Teacher Re-Assignment)
 - Students (Student Info, Add a Student, Group Assign Student Info, Student Re-enroll)
 - Students (Setup: Student Fields, Enrollment Codes)
 - Users (Parents: Parent Info)
 - Users (Staff: Staff Info, Add Staff)
 - Users (Setup: Profile, Parent Fields, Staff Fields)
 - Scheduling (Student Schedule, View Schedule, Student Requests, Group Schedule, Group Requests, Group Drop,
 - Scheduling (Report: *)
 - Scheduling (Setup: Run Scheduler)
 - Grades (Report Cards, Setup: *, Final Grade Input, Full Gradebook feature)

- Tools (Rollover, Data Import Utility)
- Build the Angular frontend for all the above features.
- UI must function smoothly over low bandwidth links

Items with differences with OpenSIS CE

- Audit trail feature built in like most modern platform offers these days out of the box
- Efforts based grading supported
- Rotating bell schedule

For more details on needed feature refer to the complete list of features of OpenSIS CE at <https://drive.google.com/open?id=15dMeLmHTRmLEPeM5u9zU1ZTuVaYFdRSk> . The column FSM (with Yes under it) outlines the more important and relevant items for this scope of work along with the details of this document.

Technology Constraints

- Backend must be built in .NET Core in C# and tested to run on Linux, Mac OS and Windows
- Frontend must be built in Angular latest stable (9.1.7 at time of writing) in TypeScript
- Any other tools, libraries, etc. **MUST** be discussed with NDOE data team prior
- When possible, adopt existing open source libraries as oppose to “reinventing the wheel”. Discuss choice of open source libraries with NDOE Data team prior to adopting
- Any online charts shall make use of the eChart library (<https://echarts.apache.org>). Refer to FedEMIS project for possible re-use of code for eCharts integration into Angular and Typescript
- Database must be a RDBSM such as PostgreSQL, MySQL or MS SQL Server
- All reports shall be designed using the modern open source reporting platform JasperReports from Jaspersoft. User shall be able to generate them directly online in the app, or produce a PDF, Word, Excel, CSV, etc. all easily supported by JasperReports out of the box. All reports will include a non-branded default template where the logo and header/footer can be edited. More advanced report modifications shall be possible by loading another JasperReport.
- Proper relational design with good referential integrity constraints, etc. which is largely absent in the current OpenSIS database.
- All code must be developed as open source in a Github repository that NDOE can follow and others can eventually contribute

Outcome

- A FedSIS upgraded with latest technology to enabling better usage over low bandwidth Internet that is fully compatible with the current FedSIS. The new FedSIS will support all commonly needed features in phase 1 and features more advanced and used less often in phase 2

Budget and Timeframe

Maximum budget for this project is USD50,000. Tentative timeframe is between 10 June 2020 to 30 September 2020. Consultant should provide his daily rates and estimated schedule of intermittent work.

Most of the work is expected to be done remotely with constant available support to our staff on use of FedSIS.

Reports To

Consultant reports to the National Department of Education (NDOE) technical team. Consultant must confirm with the NDOE team before proceeding with any of the work as the team will define priorities based on the needs on the grounds here in the FSM and its states.

Experience Required

A minimum of 10 years of experience in:

- Training schools and other stakeholders in student information systems
- Education data
- Work in developing countries, small Pacific Island nation more specifically
- Managing teams of software developers to deliver reliable software features

Desirable experience

- Proficient in PHP/Python/NodeJS/C# programming language
- Proficient in HTML, CSS, Javascript, TypeScript framework to design responsive web applications (Angular)
- Proficient in SQL, in particular MySQL
- Excellent English communication skills

Submission of Letter of Interest (LOI):

NDOE encourages submission of Letter of Interest (LOI) from qualified and competent individuals that meet the basic requirements. Submit your LOI including your detailed CV, proposed plan of activity with schedule and expected daily rates to the National Department of Education secretary Kalwin Kephas (kkephas@national.doe.fm), assistant secretary Wayne Mendiola (Wayne.Mendiola@national.doe.fm) and CC the assistant secretary Quincy Lawrence (Quincy.Lawrence@national.doe.fm) **no later than 5 June 2020**.