Executive Summary

The task was to improve the Android app for the NDOE school accreditation framework data collection and create a new Pacific Open Education Data app based on the Flutter framework for both Android and iOS platforms.
The initial scope of work was the following:
- Developing Android app using the Java programming language.
- Designing Material Design User Interfaces (UI) for Android devices.
- Designing data collection apps on Android devices.
- On-going on current Education Survey Tool.
- Designing data export feature (e.g. XML, Excel).
- Training on basic Android development and how this app here was designed.
- Develop a "version 2" of the School Accreditation component of the Education Survey Tool addressing all issues and new feature requests.
- Develop a new Android and iPhone apps to be made public on the Play Store and App Store. This new app will be a data analysis dashboard apps. It will contain a minimum of 5 dashboards each with a minimum of 5-10 components (e.g. Chart, tables) each

Accomplishments
The whole scope of work was performed on time and in accordance with the letter of interest.
The work took us 11 sprints (22 weeks) or 3 Milestones.

The Milestone 1 (sprints 1-3) we started from improving the database and adapting it to the enlarged app requirements. This improvement provides more possibilities for future development. The app structure was also changed to meet the new requirements and follow Google Material Design guidelines. We updated the wireframes and built the updated design basing on them as well as the interactive prototype to represent the proposed logic and receive the feedback as soon as possible. In this sprint the design of the key features was ready: Form B report, Master Password, WASH survey type, Offline synchronization.
The Android developer was focused on improving the app structure too. And switched to the Master Password and Form B report features for FSM and RMI divisions. We could also start the implementation of the WASH survey in this Milestone, code the display condition within the XML namely.

During the Milestone 2 (sprints 4-6) we finalized the design and made some improvements that appeared during the project review.
In the app, we implemented a Private Store feature for easier communication between backend and Android application. Another fundamental task in this milestone was Offline synchronization so-called Merge feature that allows transferring the data between 2 devices. The developer also finalized the WASH survey section and made a significant part of the Export to Excel feature: Export each completed School Accreditation survey and Bulk export of all completed school accreditations surveys.

In the Milestone 3 (sprints 7-9) we set up photo storage on the private service account, added metadata to the XML saved files. According to the feedback received, changes were

applied to the Merge feature, the devices were divided into primary and secondary, also POSITIVE, NEGATIVE and MERGED statuses were implemented. Bulk export of all completed school accreditations surveys was finished and successfully implemented. Another high priority task was done during Milestone 3 - Configuring settings for all tablets centrally or Firebase support. Also, end-user documentation is ready as per the plan https://docs.google.com/document/d/1_PN-YN3__PkhCpwVBaKaOQMVxnSCK8bk9YTmGxnLjpM/edit?usp=sharing

During the Milestone 4 (sprints 10-11) we did regression testing and bugfix based on the issues found by Omega-R and by NDOE teams. Sergey had a 2-weeks visit to The Federated States of Micronesia and Republic of the Marshall Islands with training sessions.

The total progress is tracked in the Gantt Chart https://docs.google.com/spreadsheets/d/1SfUC2DyP67G55VFZIr2AIXewEoSxhea3W_eSTmneF5w/edit?usp=sharing

The time reports for each sprint are available via the link https://docs.google.com/spreadsheets/d/1U2WYUMXVtjZKFkRJzBPDrSABg8MT6pKsftSNg6P_IUI/edit?usp=sharing

Pacific Open Education Data application.

Simultaneously, we worked on the Pacific Open Education Data application.
It was decided to build the app on the Flutter framework. Flutter is Google's UI toolkit for building beautiful, natively compiled applications from a single codebase. Thus, we have two ready to go applications from one code base: iOS and Android.

The work started with Architecture design and basic design wireframes. Within the work period, the next sections were implemented: Schools dashboards, Teachers dashboards, Exams dashboard, School Accreditation dashboards. Filtering and Data caching allowed us to support the app and provide a better user experience. The app supports two countries: The Federated States of Micronesia and Republic of the Marshall Islands. Optimization of the application speeded up loading and made the app work faster.

The total reports of the work done are available via the link https://docs.google.com/spreadsheets/d/1-Ve53kZ9dVkPh0MB6jbQ8g3xUt_8dbGdvVI659ssLrQ/edit?usp=sharing

Recommendations

As the next step, we recommend developing the existing functionality of public and service applications with the features that meet customer's requirements, basing on the feedback received while using. Moreover, we have several suggestions on how to improve usability of the dashboards that we could see in the admin panel of FedEMIS, these changes will allow making the charts more user-friendly and self-explanatory. These suggestions also relate to the Pacific Open Education Data application. We believe that the high-quality usability of the public app and an expanded list of sections will involve the population in the problems of education in the region.