

Project factsheet information

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Grant recipient	iSolutions Micronesia P.O. Box 670 (691)330-7554
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Country where project was implemented	Federated States of Micronesia
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Partner organizations	Inveneo Illinois Institute of Technology PeaceCorp WorldTeach FSMTelecom, Akoykoi School Chuuk Women Counsel Chuuk Department of Education
Total budget approved	AUD \$27,320
Project summary	<p>The PISCES Project is bringing solar powered Internet connectivity and related computing technology to remotely located schools in Chuuk, Federated States of Micronesia (FSM). At present, remotely located schools across the Pacific lack two key conditions for realizing technology-in-the-schools project success: electricity and Internet connectivity. To help advance these schools and provide new educational opportunities, the PISCES Project has initiated a multi-partnered endeavor comprising training, local capacity-building, deploying solar-powered computer labs and establishing Internet connectivity that will demonstrate the feasibility of an affordable, repeatable, and sustainable solution for connecting schools on remote islands both regionally and globally.</p> <p>This project builds upon the recent success of a single pilot installation of precisely this technology at Udot School in Chuuk Lagoon, and this grant has allowed the project to expand. It has also allowed for recently established partnerships to be cemented. Expanding the project to multiple participant schools has not only proven the concept, it has also allowed for the continuation of local training and capacity building. Our longer-term goal is that this project will continue to scale across Chuuk State. This grant has allowed us to carry out five additional site surveys and to lay the groundwork for three additional deployments at currently un-connected schools in the Chuuk lagoon.</p>

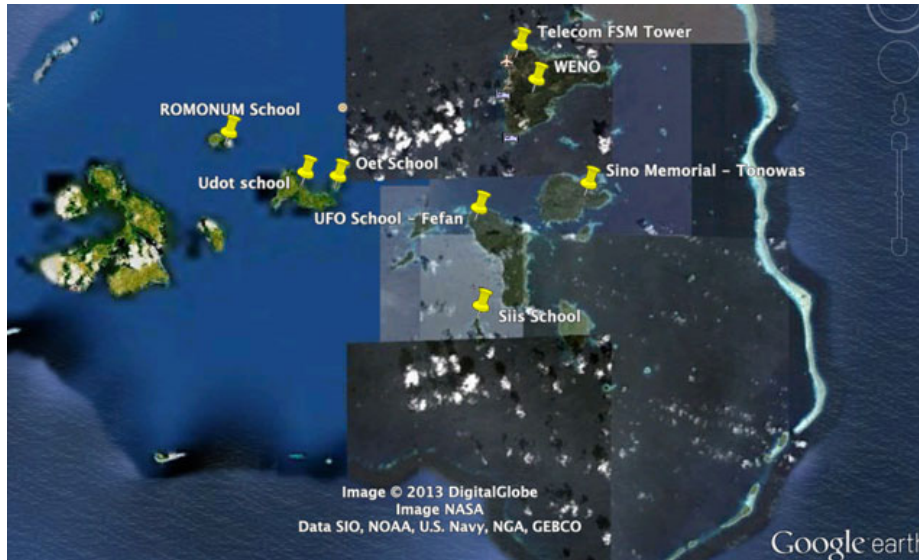
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This template was developed as a collaborative product of the Seed Alliance, based on the previous reporting templates implemented by FRIDA and ISIF Asia, with valuable mentoring from the Developing Evaluation & Communication Capacity in Information Society Research (DECI) project. See <http://evaluationandcommunicationinpractice.ca> (as accessed on 3/7/2013)

Project Summary

The PISCES Project is bringing solar powered Internet connectivity and related computing technology to remotely located schools in Chuuk, Federated States of Micronesia (FSM). At present, remotely-located schools across the Pacific lack two key conditions for realizing technology-in-the-schools project success: electricity and Internet connectivity. To help advance these schools and provide new educational opportunities, the PISCES Project has initiated a multi-partnered endeavor comprising training, local capacity-building, deploying solar-powered computer labs and establishing Internet connectivity that will demonstrate the feasibility of an affordable, repeatable, and sustainable solution for connecting schools on remote islands both regionally and globally.



This project builds upon the recent success of a single pilot installation of precisely this technology at Udot School in Chuuk Lagoon, and this grant has allowed the project to expand. It has also allowed for recently established partnerships to be cemented. Expanding the project to multiple participant schools has not only proven the concept, it has also allowed for the continuation of local training and capacity building. Our longer-term goal is that this project will continue to scale across Chuuk State. In

March 2013, Invaneo conducted trainings on tower climbing and technical site surveys using ODK and FormHub on android based devices. After the training the team carried out six additional site surveys on Udot Elementary, Nomwinsofo Junior High School, Eot Elementary School, Tsiis Elementary School, UFO Elementary School, Sino Memorial School, Romolumn Elementary School. All schools were found possible if the point of connection on the main island is on the FSM Telecom owned tower on Tonachaw Mountain. By February 2015, 3 schools (Udot Elementary School, Nomwisofu Junior High, and Eot Elementary) were connected and equipped with solar powered computer labs.

During the life of this project, iSolutions Micronesia has formed partnerships with Bruce Baike (Invaneo), Laura Hossman (Illinois Institute of Technology), Gardenia Aisek (Chuuk State School System), Paul Hadik (Chuuk State School System – DOE), Melody Alvarez (PeaceCorp), Joe Johnny (FSM Telecom), and Christina Kiki Stinnett (Chuuk Women Counsel).

Background and Justification

After years of growth and evolution, the Internet has become an indispensable tool for the purposes of commercial transactions, financial services, social interaction, information dissemination, education, and numerous other services in many countries of the world. However, the gap between developed and developing regions in this technology's adoption and use has also grown over the same time frame. Bringing high speed, low cost Internet connectivity to the Pacific islands has been the focus of attempts to bridge the digital divide in this region, yet much work remains to be done in this geographic area—the challenges are great.

Most Small Island nations suffer from financial, geographical, infrastructural, and power constraints that have largely prohibited development of reliable communications networks and local ICT-related activity—all of which could be contributing to socio-economic growth and development, including in education. This situation is

particularly unfortunate since the Pacific Island nations are often remotely located, and therefore stand to gain a great deal from the benefits associated with telecommunications and related ICT advances that make distance obsolete. Yet ICT-related development cannot move forward until sufficient, affordable, and reliable power exists, and local capacities are developed to implement and support ICT-related technology. Regrettably, in developing island regions, diesel generators are used to power nearly everything in the absence of a stable electrical power grid. A great irony contributing to this inauspicious situation is that the vast majority of these states have tremendous amounts of solar energy that can be harnessed and used in place of imported fossil fuels.

The genesis of this project came over 7 years ago, when TR Mori was with Pacific Education Research and Learning (PREL), met Bruce Baikie (of Green WiFi) in Honolulu for the annual PTC Conference. Mori expressed his desire to bring Internet connectivity to Chuuk to improve the educational opportunities available to students at remotely located schools on outlying Islands in Chuuk that currently have neither electricity nor Internet connectivity.

This endeavor represents a multi-partnered team reflecting the numerous participants it takes to make such a project feasible and sustainable. A similarly-multi-partnered team recently carried out a long-distance solar-powered long distance Wireless Connectivity workshop at the University of Guam, as well as the pilot deployment in Chuuk, FSM. A pilot school was recently connected to both solar powered Internet and set up with a solar-powered computer lab in Chuuk. During the week of deployment in Chuuk, a number of additional partnerships were also established, all favorable towards moving this project forward to eventual scaling.

This ISIF grant for Chuuk represents a step forward, involving even more partners, including stakeholders with local interests in seeing the project through to fruition and to ensuring its sustainability and scalability. In other words, our multi-partnered team represents those with experience in successfully carrying out Internet connectivity deployments in resource constrained locations; those with experience leading educational training vis-à-vis the technology required to realize the deployment; those with expertise in monitoring and evaluation of technology-in-the-classroom projects; and those with strong motivation to empower and improve the educational opportunities and technology and communications capabilities for their fellow citizens in Chuuk and across Micronesia.

Project objectives

Objectives originally planned in the grant proposal were as follows and were not modified during the course of the grant implementation.

- 1. Identify 5 pilot school locations in the Chuuk lagoon**
- 2. Establish long distance solar-powered WiFi links and solar-powered computer labs at 3 schools in the Chuuk Lagoon**
- 3. Solidify partnerships between local and international partners**
- 4. Surveying research and data collection and analysis**
 - a. Baseline survey of user attitudes and experience
 - b. Post-implementation survey of use, user attitudes, and experience
 - c. WiFi link monitoring based on weather, distance, over water, and usage
- 5. Local capacity building for support and replication**
 - a. Working with PREL
 - b. Working with Chuuk State DOE to incorporate Internet connectivity and computer-in-schools technology into planned reforms to improve local education offerings and outcomes
- 6. Provide pilot project results – Research Paper(s) and Internet Website**
 - a. Website documenting project work, findings, and reporting on Internet usage
 - b. Project report
 - c. Additional documentation sources: videos, press releases, blog posts, news articles/reports, white papers, case studies, research papers

Users and uses

The users of technology in this project were intended to include: the teacher(s) and students (and their family members) at the rural island pilot installation schools in Chuuk who would be able to utilize Internet- and ICT-related technology in the classroom to support and enhance the educational experience. We continue to anticipate that the school communities will be able to benefit from being able to use the school's computer lab to communicate with relatives and friends over long distances, which will be enabled by the Internet (and now intranet) connections at the school.



Our original project plan was to establish an Internet connection and place a localized server at each (island) school. However, upon testing the speed of the long-distance WiFi link at Udot Island, which took place during the technical training enabled by this ISIF grant, it became apparent that we could build an extremely high-speed intranet, linking the island schools to a centralized server on the main island, while also supporting better inter-island communication, even at the level of video conferencing. This discovery prompted us to pivot our focus to include an emphasis on developing the intranet for educational and communication purposes. The project team wishes to increase skills related to the development, deployment, and maintenance of this newly-established intranet.

While in the planning stages for our training sessions, our team reached out to Telecom FSM and invited them to be a part of the long-distance WiFi site survey training, which they enthusiastically accepted. This participation was a turning point for the project, as it brought Telecom FSM in as a partner in the project.

A project to create a server with localized content was also launched by Professor Laura Hosman from Illinois Institute of Technology. The server has been set up in Chuuk in August, 2013, but the project's original design had been for one-server-per-school. It is anticipated that dozens of schools, as well as the DoE, would begin utilizing this server's content, accessed over the intranet, within the next calendar year. This means that a significantly upsized server—or a small sized data center server—will be a far more appropriate solution for housing content for this intranet.

An additional unanticipated partnership opportunity vis-a-vis this grant surrounds Chuuk-based U.S. Peace Corps volunteers. At the time of this grant application, we were not aware of the opportunity to work with this dedicated group. However, once in Chuuk, we discovered a highly committed group of volunteers with a mandate to train teachers in technology use (if there is technology) in the rural schools in which they are based. To date, there has been no technology in their rural schools, yet the Peace Corps volunteers are eager to work with us, are already familiar with technology, and are enthusiastic about training the teachers with whom they are partnered. We have therefore begun to work with the Peace Corps, and are setting up three island school computer labs on the islands in the lagoon where the Peace Corps volunteers are stationed.

Due to political circumstances surrounding the newly elected government, the Department of Education in Chuuk State has been without an Executive Director, and has been unable to commit to new initiatives, for the past eight months. This has held up our ability to work with the DoE. However, in the interim, the DoE has hired a new teacher-trainer and curriculum developer, with whom we are eagerly anticipating working in the future.

Indicators

Baseline	Indicators	Progress	Assessment	Course of action
Refers to the initial situation when the projects haven't started yet, and the results and effects are not visible over the beneficiary population.	How do you measure project progress, linked to the your objectives and the information reported on the Implementation and Dissemination sections of this report.	Refer to how the project has been advancing in achieving the indicator at the moment the report is presented.	Descriptions should be clear and ideally contain operational terms where needed. Please describe the quality dimensions.	What is the project team planning to do next is very important to document, specially if changes to the original plan have to be implemented for the success of the project.
Objective 1: Identify 5 Chuuk pilot locations	Have the pilot locations been identified?	8 pilot locations have been identified as the following: Eot Elementary, Romolumn Elementary, Udot Elementary, Nomwisofu Junior High School, Tsiis Elementary, UFO Elemenatry, Sino Memorial	Sites were surveyed and all deemed possible. Site surveys were carried out as part of the technical training of this project.	They survey data can now be used to design and engineer the network.
Objective 2: Establish long distance solar-powered WiFi links and solar-powered computer labs at 3 schools in the Chuuk Lagoon	How many links are active and school labs in use?	3 links have been established and 3 solar powered Computer labs at Udot Elementary, Nomwisofu Junior High, and Eot. Tablet computing devices have been distributed to three Peace Corps volunteers to lay the groundwork for establishing computer labs Sino Memorial, Romolumn Elementary UFO Elementary.	The links are assessed using a tool to check bandwidth speed. When testing the first long-distance link the results from the first link testing was 137 mbps which is well above the baseline of 20 mbps we were attempting to achieve.	Long Distance Access point placed on FSMTC's tower on Tonachaw linking Udot Elementary, from Udot Elementary to Nomwoneas Junior High School, and Udot Elementary to Eot Elementary
Objective 3: Solidify partnerships between local and international partners	How many active partnerships have been established?	iSolutions Micronesia has solidified partnerships with Inveneo, IIT, Chuuk State DoE, Chuuk High School, U.S. Peace Corps, FSM Telecom, and PREL.	As the project has progressed, new partnerships have been established. Some of the partnerships have also been redefined as the project has matured.	Long term partnerships formed through this project, as evidence by MoU between FSM Telecom and DOE to share the tower with no additional costs. iSolutions providing technical support to DOE on how to replicate this project to connect more schools.
Objective 4: Surveying research and data collection and analysis	How many interviews and surveys have taken place? Has this data been analysed?	Interviews and surveys were carried out at five lagoon island schools where the technical site surveys were also carried out.	The interviews (in conjunction with the technical site surveys) helped to determine which schools would be the most promising schools to receive computing technology, and in which order. Results of the post interviews shows that the current internet speed is not adequate for all computers to be used at once. Results also show teachers need more computer training to be comfortable using it in the classroom. Students seem much more comfortable with the technology.	Used Data to choose school that needs the technology the most. Post results shared with DoE. DoE is developing an IT Plan and a Technology Curriculum.
Objective 5: Local capacity building for support and replication	How many schools (teachers and administrators) have received on-site training in the use of computers and the Internet?	At the Udot Elementary where the long-distance link was established and the computer lab was set up, teachers and administrators have received training in basic computer use. Preliminary training has been given to the Peace Corps volunteers, who in turn will train teachers at their schools. Educational Content Server Training provided to Akoyikoyi staff and Chuuk High School.	Internal team discussion on impact of training. Teachers will always desire more training, and those teachers who have never used computing technology before will be in great need of tech training to feel comfortable using computers for educational purposes.	Training should continue to take place at the schools where the Peace Corps volunteers are stationed, given that this is their work mandate. This means that teachers should be ready for using the technology by the time it arrives at their schools.
Objective 6: Provide pilot project results – Research Paper(s) and Internet Website	Have progress and reports on the project been conveyed?	Multiple blog postings on various websites have conveyed progress from the ongoing project and shared on social media networks. One Pagers passed out to the public.	Number of hits on the websites, number of inquiries specifically on the project.	Blog postings will continue.

Project implementation: understanding the chain that leads to results

Narrative - project implementation

While in the planning stages for our training sessions, our team reached out to Telecom FSM and invited them to be a part of the long-distance Wi-Fi site survey training, which they enthusiastically accepted. This participation was a turning point for the project, as it brought Telecom FSM in as a partner in the project.

An additional unanticipated partnership opportunity vis-a-vis this grant surrounds Chuuk-based U.S. Peace Corps volunteers. At the time of this grant application, we were not aware of the opportunity to work with this dedicated group. However, once in Chuuk, we discovered a highly committed group of volunteers with a mandate to train teachers in technology use (if there is technology) in the rural schools in which they are based. To date, there has been no technology in their rural schools, yet the Peace Corps volunteers are eager to work with us, are already familiar with technology, and are enthusiastic about training the teachers with whom they are partnered. We have therefore begun to work with the Peace Corps, and are setting up three island school computer labs on the islands in the lagoon where the Peace Corps volunteers are stationed.

Chuuk Women's Counsel President Christiana Stinnett, an active education supporter reached out to the team upon hearing the work being done. She supports the effort by replicating the lab setup at the Chuuk Women Center for women's access. Her support and influence in the community is a valuable asset to our team.



Partnership with Department of Education was established through the director Gardenia Aisek, giving us her blessings to work with the schools. The team strengthened that bond when Paul Hadik, a local consultant to the Department of Education, actively proposing and requesting funding to replicate the project to all the schools.

Partnerships with Akoykoi and Chuuk High school teachers and staff enabled us to work with teachers already familiar with technology. These partners are able to help us test the local content servers and identify proper content that should be on the servers.

Involvement of beneficiaries:

1. iSolutions staff and Telecom FSM staff were trained on carrying out long-distance Wi-Fi site survey using an advanced automated tool based on the Android platform. They subsequently carried out site surveys on six island schools. Additionally, this team set up a permanent long-distance Wi-Fi link between Udot island school and the central Telecom tower on the main island of Weno.
2. The teachers at Udot school were trained on basic computer use for their computer lab, once the link was established between Udot and the main island of Weno. The teachers are now supervising the students' usage of the computer lab at Udot school.

3. The Peace Corps volunteers have received training on tablet computer usage and on the pre-packaged solar kit that our program provided for charging the technology at their schools that currently lack electricity. They will, in turn, be training their partner teachers on how to use this tablet technology (and on how to charge the tablets with the solar charging system). They will also be reporting back to the project team on what can be improved about the training syllabus our team created for them, as well as about the hardware supplied to them, so that all of these can be optimized in the future as the project scales.
4. WorldTeach Teachers trained on Educational Content Server on how to access it, the different types of contents on it, media, text books, audio books, etc. They were also asked to look at the contents to weed out relevant and non-relevant contents.
5. Akoykoi School staff trained on Educational Content Server on how to access it, the different types of contents on it, media, text books, audio books, etc. They were also asked to look at the contents to weed out relevant and non-relevant contents.



The teachers at Udot and the other island schools had not used technology prior to this time, except Sino Memorial School—which may have been related to the fact that they are all older adults. As a result, they were hesitant to use the computers at all until they received basic skills training in how to use them. After they received the training and began using the computers themselves, they began allowing the schoolchildren to use them, and they have been surprised at how fast the schoolchildren pick up the hang of using the laptops and at how fearless they are to use them.

As collaboration among so many partners was implemented, we found it difficult to align their schedules and priorities without a more formal agreement for Internet connectivity for the schools. That generated delays in project implementation, but the problem has been addressed, as an MoU has been signed between those two parties.

Input	Project activities	Outputs	Outcomes	Timeline	Status	Assessment
Financial, human and material resources	Actions taken, work performed.	Result and/or deliverable produced as a direct result of the project activity. Outputs are under direct control of the project team.	Likely or achieved short and medium term effects. Focus on the changes facilitated by the project for its beneficiaries. Outcomes tend to be under the influence of the project team but not under direct control.	Dates where the listed activity was developed.	Indicate when the activity started, on-going or completed.	Assessment indicating how the activity has been conducted. Describe technologies implemented, methods and techniques used and any challenges that have been identified.
1. Site Survey Training	Training carried out using automated survey tool on Android-based smartphone.	Six local Chuukese received training	Survey data uploaded into an online database for engineering design of the network.	March 2013	Completed	Training took place at a one-on-one level with Inveneo staff. Training was considered a success as all participants were able to carry out site surveys on island school immediately following training. The automated tool allowed for consistent and standardized survey inputs.
2. Long-distance Wi-Fi Link	Team divided into two on both ends of the link and were trained in installation and align link to Udot Elementary Trained local team install two additional links to Nomwinsofo Junior High and Eot Elementary	One permanent long-distance Wi-Fi link was established between Udot Elementary School Site and Weno island Tonachaw Tower.	Capacities were established among local Chuukese to be able to implement long-distance Wi-Fi links. Future links will be set up by the local team	March 2013-February 2015	completed	The goal of the links is to have a minimum of 20 mbps. On the first link we established a link speed of 137 mbps for an intranet connection, far exceeding team expectations
3. Peace Corps Training	Solar kit training (due to lack of electricity on islands), distributed tablets to Peace Corps volunteers for teacher-training purposes.	Post-training, Peace Corps volunteers felt comfortable taking technology with them and commence using them once school year starts	Solar Kit and Tablets used in the classrooms for class activities successfully.	April 2014	Completed	After discussion with the project stakeholders, they are enthusiastic about the partnership with the Peace Corps and the work they have agreed to take on as a part of the project. The Peace Corps volunteers are also eager to commence with teacher technology training in order to fulfill their mandate

Project Timeline

Objective 1: Identify 5 Chuuk pilot locations

Month of November 2012 (completed):

- 1 week: Identify school sites that meet criteria to set up line-of-sight connection and local materials needed to build poles and towers, and local vendors

- 1 to 2 days: Invite stakeholders from the Chuuk State DOE to review and approve 3 identified school sites
- 1 week: Meet with community members and interested NGOs to discuss potential use of technology, questions, key people and their roles and responsibilities; develop timeline for installation and share with community members

Objective 2: Establish long distance solar-powered WiFi links and solar-powered computer labs at 3 schools in the Chuuk Lagoon

Month of December 2012 (**completed in March 2013**):

- 3 weeks: Conduct 2 to 3 site visits per school to implement surveys
- 1 week: Purchase and transport local materials based on data collected from surveys, and purchase materials from outside of Chuuk as needed

Month of January 2013: (**partially completed in March 2013, November 2014, February 2015**)

- 3 weeks: Complete installation of solar-powered WiFi links and computer labs at each school site

Objective 3: Solidify partnerships between local and international partners

Month of January 2013 (**partially completed in March 2013 and ongoing**)

- 1 week: Communicate with existing partnerships (Chuuk State DOE and PREL) on status of installation and computer labs at school sites, and develop timeline and plan for technology use at schools
- 1 week: Communicate with local and international partners to develop plan for technology training for teachers, principals, and community members at school sites

Objective 4: Surveying research and data collection and analysis

Month of February 2013 (**completed March 2013**)

- 1 week: Baseline survey of user attitudes and experience at each of the 3 school sites

Month of June 2013 (**completed April 2014**)

- 1 week: Post-implementation survey of use, user attitudes, and experience

Ongoing

- WiFi link monitoring based on weather, distance, over water, and usage

Objective 5: Local capacity building for support and replication

February through August 2013 (**Completed March 2015**)

- 3 weeks: Complete on-site training for teachers, principals, and community members at school sites on use of Internet and computer labs
- Monthly: Communicate with partners such as PREL on updates of use of Internet and computer labs for teachers participating in DLA project at pilot schools
- **Ongoing:** Collaborate with Chuuk DOE to incorporate Internet connectivity and computer-in-schools technology into planned reforms to improve local education offerings and outcomes

Objective 6: Provide pilot project results – Research Paper(s) and Internet Website

Partially Completed with blog postings in March and August 2013 and Ongoing

- Upload multimedia and notes to document project work

End of October 2013

- Completion of website documenting project work, findings, and reporting on Internet usage
- Finish final report for project

- Finalize additional documentation sources: videos, press releases, blog posts, news articles/reports, white papers, case studies, research papers

Project outputs, communication and dissemination activities

Project outputs	Status	Assessment	Dissemination efforts
Output No. 1 (use the same names as per the listed outputs in the table above, see Project implementation)	Please select the option that better describes the status into the development of this output: - Work in progress - Completed. Please indicate date. - Not started. Please clarify, why? - Not completed. Please clarify, why?	Descriptions should be clear and ideally contain operational terms where needed. Please describe the quality dimensions.	Please specify what dissemination efforts were made, with special attention to those intending to reach target groups by gender, age, ethnic and socio-economic profiles to impact marginalized and disadvantaged groups.
1. Site Survey Training	Completed. March 2013	<i>Training took place at a one-on-one level with Inveneo staff. Training was considered a success, as all participants were able to carry out site surveys on island school immediately following training. The automated tool allowed for consistent and standardized survey inputs.</i>	Two blog posts, one Facebook post with description and photos. The Facebook post is targeted at a local audience with over 580, most of whom are based in Chuuk
2. Long-distance Wi-Fi Link	- Complete February 2015 - Three remote sites connected	<i>The goal of the links is to have a minimum of 20 mbps. On the first link we established a link speed of 137 mbps for an intranet connection, far exceeding team expectations</i>	Two blog posts, one Facebook post with description and photos. The Facebook post is targeted at a local audience with over 1,330, most of whom are based in Chuuk
3. Peace Corps Training	- Completed April 2014	<i>After discussion with the project stakeholders, they are enthusiastic about the partnership with the Peace Corps and the work they have agreed to take on as a part of the project. The Peace Corps volunteers are also eager to commence with teacher technology training in order to fulfil their mandate</i>	One blog post to date for this ongoing project, multiple pictures posts on Facebook

Project outcomes

The outcome of this project, shows the possibility of adding technology into the classroom environment, using it as a secure and robust communication medium, and has shed a light into the world of technology for our islands. The uses are necessary, and the users are many, municipal governments, government departments, and communities. This is an alternative to transmitting timesheets, student information, test results, and other sensitive information from remote schools to the central DOE office via open radio or transporting by boats, which can be hazardous in bad weather.

With the high migration rate in the islands, the ability to stay connected has been a challenge and is a rising demand. By building local capacity, we are able to support any future replications of the project to bridge the digital divide in our islands.

iSolutions has grown in size due to additional services and new service areas as more and more unconnected rural communities request for services. These services wouldn't have been available if it wasn't for the capacity building efforts of this project.

Project management and sustainability

The iSolutions administration has strengthened project planning skills, project reporting skills, budgeting, and other administrative skills as a result of this project. This skill-building initiative has been a team effort between the project leads, representing iSolutions, Inveneo and IIT. The technical skills learnt and the technology used by the project is now part of the services provided by iSolutions Technical staff, adding room to grow. It was a great experience and becoming a passion and sense of duty to provide this type of service to our remote communities.

Job creation has taken place as a result of this project: the iSolutions staff has doubled in size, growing from three full time employees, to six full time employees and two additional part-time employees. The iSolutions staff has also strengthened their skills in technology related to long-distance Wi-Fi.

This project has generated a great deal of local and international interest. The Rotary Club in Chuuk that is affiliated with Tokyo has expressed interest in connecting an outer island of Tol, and this organization has funding to carry out the project. Our team would be able to provide expertise in establishing the long-distance Wi-Fi links. The FSM Petroleum Company has expressed an interest in potential future funding for the project. The Mortlocks Development Authority (a governmental organization) has also expressed interest in becoming part of the project in the future. Department of Education expressed its interest and seeks advice from iSolutions on how to replicating the project to connect all of the schools.

Impact

Now that some of the other schools in Chuuk see that it is possible to open and connect a solar computer lab in the remote islands, they are pursuing to put in solars and computers to bring technology and its resources to their schools. We hope this change continues to more islands to give our children more learning opportunity. Department of Education has contacted iSolutions to seek advice on how to replicate the project to 20 more schools.



Another major immediate impact this project has had, to date, is the increase in employment opportunities for iSolutions, which represents a more-than-doubling in staff size. The iSolutions staff has more than doubled in size, growing from three full time employees, to six full time employees and two additional part-time employees.

It is the team's vision to see a digitally connected Chuuk that uses low cost and energy efficient technology such as this to promote efficient communication inter-island and to relatives off island. We hope this will reduce dependency on fuel for motorboats and high cost commercial communication mediums.

Overall Assessment

The project has met its objectives. The staff at iSolutions have built up their capacity to service unconnected rural communities, carried out the site surveys on 6 different sites, connected 3 remote computer labs and build out our partnerships. Our only regret is that we did not connect one of the islands we felt that could really use the resource. This was due in part with documents got help at FSMTC to gain access to the FSM Telecom tower, and the untimely resignation of the Director of Education who was our point of contact for the project.

It would be difficult to overstate the importance of this project in terms of connecting remote and off-grid schools in Chuuk to ICT. The schools that will be connected to the intranet, which will be as a direct result of this project, will have access to an entire server full of educational material, much of which has been localized for Micronesia. The number of children who will have access to ICT and will therefore be able to build their ICT skills is considerable.

The inter-island communications capabilities will be changed from current 2G mobile phone capabilities to video-level quality of telephony. To provide but one example along these lines, the logistics involved with planning a teacher in-service or training session are considerable as the vast majority of teachers live on islands other than the main island of Weno, and must take a boat to the main island for the organized sessions. The ability to offer training sessions over a high-speed intranet would save a considerable sum of money, and would not make such sessions weather-dependent.

We are also extremely excited about the job creation at iSolutions which has happened as a direct result of improving the staff's ICT skills. We anticipate that demand for their skills and the potential for additional job creation will only increase as ICT becomes more prevalent across Chuuk.

As an individual and as my first time as Project Lead, it has been a learning experience. The partners in the group have helped along the way and share their experiences and ideas. The more work we do with the schools, the more we connect the schools, the more we realize these are only the first few. There are a whole lot more kids out there in our schools that we still need to help. Without ISIF's help, the first step wouldn't have been taken.

Some of the important findings during the project is that teachers and staff may need basic technology training as first time users or novices. This finding was shared with the DoE and is working on a computer curriculum.

Recommendations

It is always good practice to have a plan and a backup plan. A lesson learned in this project is that plans don't always follow the suit, but you have to be ready to go forward.

We have learned and grown a whole lot working on this project. One of our struggles was ensuring all the partners have the same schedule and deadlines. For our next projects, we will create a calendar and disseminate to all parties to ensure everyone is aware of dates and timelines. Since there were a handful of partners on this project, it might have been a good idea to have a legal adviser draft contracts/MOUs to bind the partnerships legally in a timely manner. Not having this caused us to stall work for 8 plus months.

It's a good idea to have a dedicated photo journalist. Anyone directly working on the project hands on might not have the opportunity to take quality pictures.

ISIF Asia has been more than helpful with information, guide, assistance, etc.

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