Roboting My World-Girl Empowerment Robotic Project

This project is aimed to promote -as a STEM program -the next topics: Robotics, Engineering, Innovation, Programming, Gender-equality, team work and the usability of robots to solve problems in our communities and in the World.

At the same time, the project promotes girls participation into a field that normally is not considered for women in Honduras. This goal is achieved promoting equal participation of boys and girls in the Workshops and for the participation of female engineering students volunteering as trainers generating positive role models not just for Girls but for Boys as well.

CATEGORY

Empowering Women and Girls

LOCATION

Honduras

WHAT IS THE CHALLENGE OR NEED YOUR PROJECT WILL ADDRESS AND WHAT INNOVATIVE METHODS WILL YOU EMPLOY?

Describe the specific need or challenge that your team will address with this project

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Briefly describe the specific solution or approach to address the need or challenge and explain why it is innovative

1. Uses LEGO MINDSTORM EV3 robots and ARDUINO Starter Kits to promote Engineering, Robotics, Innovation, Science, Technology and team work in a gender-equal setting.
2. Shows boys and girls that working together to solve technical problems is possible and that there are no boundaries related to gender in these tasks.
3. Shows that is possible to solve problems using technology in an easy way.
4. It is focused on elevating the level of science and solve-problem skills in kids at the public sector where normally these topics are not common.
5. Promotes volunteer work among engineering students (positive roles).

How will the project impact your community? What changes (in people, institutions, attitudes, practices) do you think you will see?

Effects at Community-Level can be measured in various ways:

1. Direct: To Kids/Young Adults-They will learn to work together, solve problems, create a program and think as an Engineer in an easy, fun and gender-equal environment.

2. Direct: To trainers and teachers-They will learn about the concepts related to Robotics and Engineering but at the same time, in the learning process, they will help others to understand how easy is to program, mount a robot or obtain information from

MEET THE TEAM

Project owner
Alba Garay
Honduras
Fulbright Faculty Development Program (LASPAU)

Project members
Manage members
Irene Cardona
Honduras
International Visitor Leadership Program (IVLP)
[remove from project]

Elizabeth Mejia
Honduras
English Access Microscholarship Program (Access)
[remove from project]

Alejandro Gomez...
Honduras
Fulbright Student Program
[remove from project]

Syed Faraz Liaquat
Pakistan
International Visitor Leadership Program (IVLP)
[remove from project]

Carla Reyes
Honduras
Fulbright Student Program

the World through sensors promoting as well good role models.

   3.   Indirect: Authorities and Staff will see that this kind of projects can be generated and that they have a big impact.

   4.   Indirect: Parents will see that abilities can be created in their kids/young adults and specially for parents with daughters that they can consider for them careers like Engineering or those related to Science.

   5.   For engineering students, it will promote technical volunteer.

WHO WILL BE INVOLVED?

Beneficiaries: who are your target groups (or communities) and how many people will directly benefit from your project?
Target groups:

1. Direct: 2 Public Schools where 52 kids will be trained-at least half of them would be girls and at least 12 teachers would be trained.
2. Direct: 2 Public High Schools where 52 young adults will be trained-at least half of them would be girls at least 12 teachers would be trained.
3. Direct: 1 Educational Fundation-CHIMINIKE-where at least 5 trainers will be trained. Here, they will multiply the experience using the robots that will be donated to CHIMINIKE and the spectrum of kids from Public to Private schools that they can cover. Approximately 300 kids can be reached in a year with the robots and the new trainers.
4. Direct: At least 15 trainers/volunteers trained about the use of the MINDSTORM EV3 Robots and the ARDUINO Starter Kits. These trainers would be available to replicate the experience at their universities.
5. Indirect: 15 staff members involved from Schools/High Schools
6. Indirect: 4 Staff members at Secretary Level

Approx: 452 people at different levels.

Local partners
In this project we count with support of:

1. IEEE Honduras-Women in Engineering Affinity Group, serving as **Trainers, volunteering** from different engineering-related backgrounds: Electrical Engineering, Computing and Systems Engineering, Mechatronics Engineering, etc working as volunteers to promote a gender-equal environment and at the same time, to show good role models to kids.
2. ACCESS Program-US Embassy Honduras-ALUMNI-, serving as **Trainers, volunteering** from different backgrounds showing that learning is fun and that goals can be achieved. At the same time, they will work to show good role models to kids.
3. Fulbrigh Association Honduras-Working as **Trainers and Project Staff, volunteering** from different backgrounds to show good role models and to ensure that the project will execute efficiently and attained the goals the project has set as priorities.
4. UN Women Honduras.- Working as **Promoters and Trainers, volunteering** from the perspective of promoting women and girls equal participation on solving problems and in technical careers as way of achieving a path of Development for Honduras.
5. Secretary of Education of Honduras as **Promoters and an Government entity in charge of future project replications.**
6. CHIMINIKE-Educational Fundation as **Promoters, Trainers and a Private entity in charge of future project replications.**
7. Students from 3 different universities (National University of Honduras, Catholic University of Honduras and Technological University of Honduras)as **Trainers and Project Staff** interested on promoting STEM related topics, gender equality and working for the project to be successful. At the same time, they will show good role models to kids.

Alumni team

1. *ACCESS Alumni*-Volunteering as trainers and helping out with Logistics and Media

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[remove from project]

Gabriela Cornejo
Honduras
English Access Microscholarship
Program (Access)
[remove from project]

Ana Carranza
Honduras
Teaching Excellence and
Achievement (TEA) Program
[remove from project]

Svetlana Samayoa
Honduras
Professional Exchanges (TPPs) -
Partners of the Americas
[remove from project]

Jeffrey Alverto
Honduras
English Access Microscholarship
Program (Access)
[remove from project]

David Perdomo
Honduras
Fulbright Student Program
[remove from project]

Outreach/Promotion)

2. *Fulbright LASPAU and Fulbright Student Program Alumni*-Volunteering as Administrative Coordinator, Trainers, Finance/Accountings, Logistics, Technical Supporters and helping out to promote the project (Media Outreach and Promotion)
3. *IVLP Alumni*-Volunteering as Trainers and helping out with Logistics and Media Outreach and Promotion of the project.
4. *E-Teacher Alumni*-Volunteering as Trainers and Technical supporters.
5. *Professional Exchanges (TPPs) Alumni*-Volunteering as Trainers.
6. *International Exchange Alumni in general-*Volunteering as Mentors and promoters of the project in other cities or countries.

There would be some Alumni that will participate in the project that in this moment has not an Account in the Alumni Website or they haven't logged into his/her account before the deadline for this first phase of the competiton.

Proposed Project Dates: July 01, 2015 - July 31, 2016

HOW AND WHEN WILL YOU IMPLEMENT YOUR PROJECT?

Implementing Plan and Timeline
1.   *Group Organization-*Selection of Schools, High Schools, Trainers and Staff for additional support: July to August 2015 (Alumni, Project Coordinator)
2.   *Ordering and Buying robots/kits and books*-MINDSTORM EV3 and Arduino Starter Kit-July to October 2015 (Alumni, Project Coordinator)
3.   *Training for Trainers*-August 2015-November 2015 (This activity can be done at an early stage and with the first robots, We don`t need all the robots with us to start the training) (Alumni, Volunteers, Project Coordinator)
4.   *Workshops*-October 2015- May 2016 (School and High School Staff, Alumni, Volunteers, Project Coordinator). In this phase, there is a "stop" for vacation time on November and a return to class start-date until February.
5.   *Publication of Results*-July 2015- June 2016(Project Coordinator/Alumni helping out with Media and Outreach Promotion). In this phase that will be started right away at the beginning of the project, we pretend to share all the experience of the project so the project itself could be replicated in other cities of Honduras or countries as well.
All the information about the project will be posted via:
1.   A Facebook webpage,
2.   A general webpage,
3.   A digital Bulletin
4.   A Pinterest account
5.   A Flicker album
6.   A Twitter account
7.   A YouTube Channel
6.   *Closing Period*-June –July 2016 (Project Coordinator/Alumni helping out with Finances). All the experience of the project will be compiled in a written report. This will help to replicate the experience similarly to what we have done at the IEEE Women in Engineering Regional Meeting in Monterrey (March 2015) where details of the pilot project we had last year was presented and all the Women in Engineering Affinity Groups of Latin America agreed on replicate the experience in 5 countries so far. Additionally to the written-report, we will spread the word about the project through all our local and international partners and 2 different local newsletters.

Communication Plan
From the beginning of the project, all the information related to it will be published via:

1.   A Facebook and a general webpage,
2.   A digital Bulletin
3.   A Pinterest/Twitter account
4.   A Flicker album
5.   A YouTube Channel

At the same time, at the middle and closing period of the project, we will have a publication at a local newspaper about the project and its impact. We are planning on generating an article about STEM Programs in Honduras with a Gender-equality setting and how Robotics helps to promote Engineering, Programming, Team-work and Creativity among Kinds and Young Adults as well.

All the experience of the project will be compiled in a written report to help to promote sustainability of the project and replication. The results will be published:

     1.   By a publication (Print News) of the projects results in 2 different newsletters in 2 different areas of Honduras.

     2.   By all our local and international partners websites. This list include: 1. (IEEE-Women in Engineering Affinity Group, CHIMINIKE, ACCESS, Fulbright Alumni Student Association, National University of Honduras –UNAH/IEEE Student Brach, Technological University of Honduras-UNITEC)-

Evaluation

With our previous experience, we learned that students change their perception about Engineering, Science, Robots, Programming and Girl-Boys team work through an empirical evaluation.

For this reason and considering what we learned empiracally, with the idea of getting data that could be used for designing similar STEM projects through all the educational system-including primary, middle, high school and higher education-, we will measure the impact of what the training has promoted among students and trainers as well, using a basic instrument (a Survey) to set a BEFORE/AFTER intervention -for knowledge and perceptions-and use it as a diagnosis of the previous situation.

A similar Survey will be used in the Trainer`s Training Sessions to improve the curricula generated for the Workshops-

For the staff from Schools, High Schools, Teachers and Parents and who will help to coordinate with other Local Partners, interviews will be held to learn how the project has helped to improve the way they did similar activities before, how the project can be replicated and how it can be improved. Especial emphasis will be given to measure the way they thought before in terms of Engineering, Robotics, Programming, Innovation and Gender-Equality.

Sustainability

Sustainability of the project is linked to basically 2 main areas:

1. Human Capital-Trainers and Staff that knows about the details of the project and are excited for the activities generated and really want to duplicate the workshops.

2. Availability of Robots-that will be provided as donation to schools, high schools and to CHIMINIKE to generate similar activities.

The business model for this project - can be detailed as described below:

1. Participation of an educational foundation-CHIMINIKE-that will receive part of the robots in donation and given that the project will train its staff, creating the basic setting for this activity to be replicated.
2. Participation of teachers and staff at Schools/ High Schools and Secretary of Education Level. At these instances, support to create an Educational Robotics Program to be replicated would be considered with authorities.
3. Involvement of Local Partners as IEEE Honduras, ACCESS and Students from at least 2 different universities will help to create enough Trainers that can help to replicate the activity.
4. Use of different media-esp web related-to spread the word about the initiative looking for new partners to replicate the project.

TOTAL FUNDING REQUESTED

$25,000.00

PROPOSAL DOCUMENT:

Download budget