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IPRO 335
One Laptop Per Child-Haiti

October 14, 2010

The Problem

- The One Laptop Per Child (OLPC) project provides laptops to developing countries to enrich children's education through technology.
- In 2009 Haiti received 11,000 donated XO laptops.
- However, 95% of Haiti's primary schools have no electricity.

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Our Project Goals

- Design an affordable replicable solar charging solution for Haitian schools
- Develop a method of regular communication with partners in Haiti to facilitate collaboration
- Raise money to pay for a prototype and deployment trip to Haiti

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Organization of Our Team

- We decided that our work would be divided into three main initiatives:
  - Solar
  - Communication
  - Funding
- Each initiative has a dedicated set of three members assigned to it but the entire group can be mobilized to address any specific issue as necessary.

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Solar Initiative

- Researched and familiarized ourselves with solar technology
- Gathered a list of necessary specifications for three potential schools
- Came up with a few potential design possibilities for a pilot deployment
- Acquiring components to build a demonstration model of the pilot system to charge 4 XOs

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Communication Initiative

- Met with project sponsor (Guy Serge) about the current situation in Haiti
- Contracted a group of engineering students at State University of Haiti to help with gathering more information on the situation
- Created an internal website to facilitate collaboration using www.pbworks.com
- Created an external website to promote the project www.iitempowerhaiti.org

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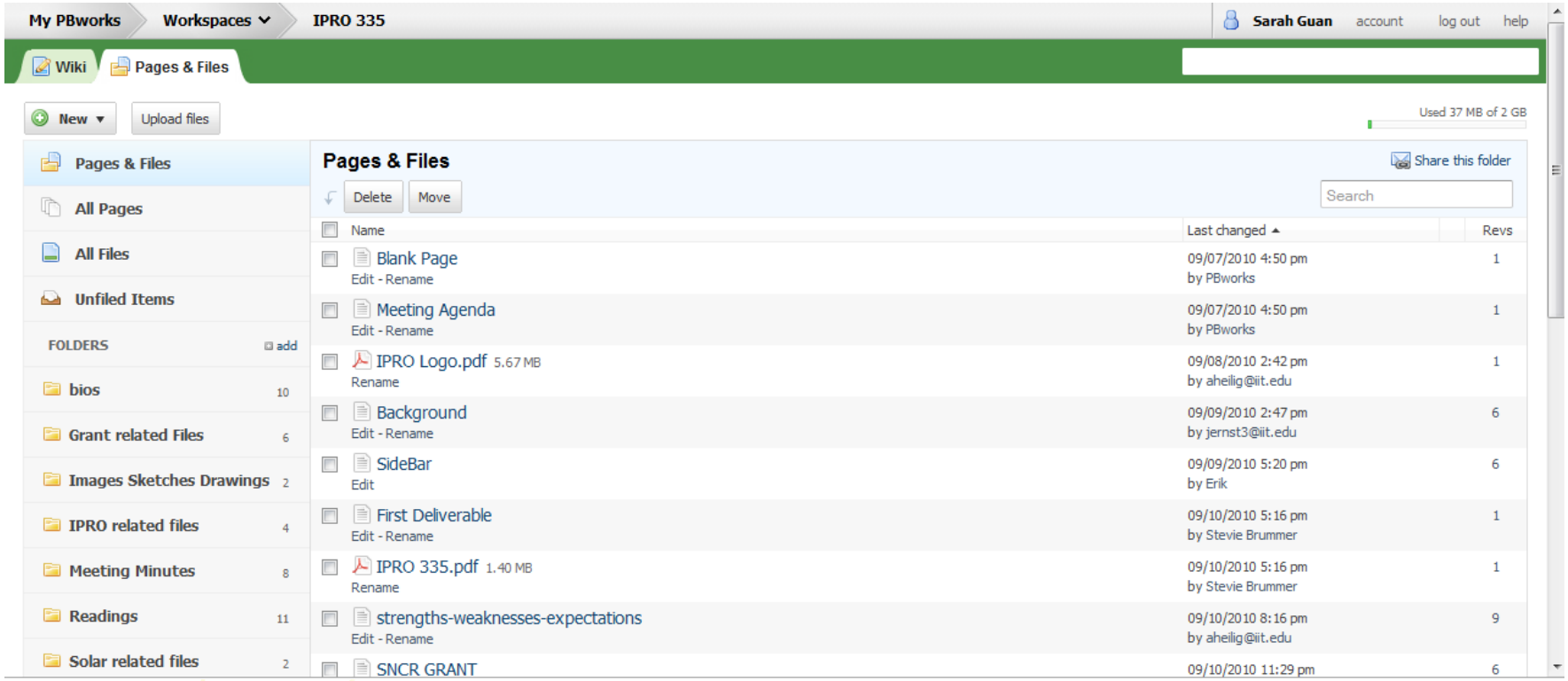

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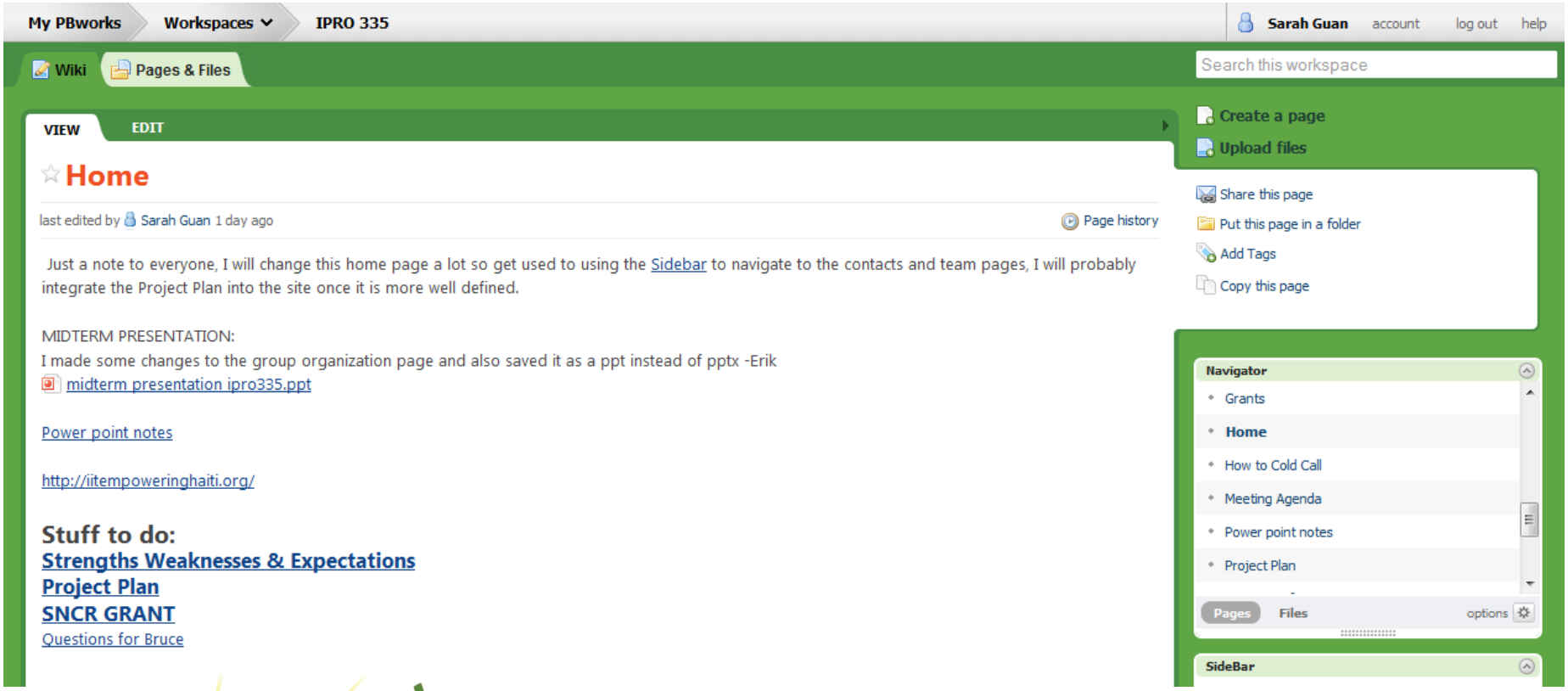

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Home

Haiti is the poorest country in the western hemisphere with the lowest per capita income in Latin America. More than 65% of the about 9 million population lives below the poverty line and about 50% of the people who could work are unemployed and half of the population is underfed. Haiti has a literacy rate of about 50% even if they have a school attendance of 6 years.

There is a vast need for help to improve the education possibilities in Haiti. The schools do not have enough materials or equipment and they face a shortage of well-educated teachers.

The non-profit-organization One Laptop Per Child (OLPC) has donated approximately 11,000 laptops to Haitian students from grades 2 to 5 in about 40 schools located in 4 regions of Haiti. This donation was performed in hopes of improving the quality of primary-level education across the country.

Unfortunately, most of the schools do not have a reliable electrical source to charge the laptops. The sad result is that the laptops cannot be used during class because their batteries die prematurely. In the whole country, only 12.5% of the population has regular access to electricity. Most of the infrastructure in Haiti is very old and expensive to maintain and operate. There are currently three large thermal plants and one hydroelectric plant

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About

Empowering Haiti IIT is a group of students committed to bringing solar energy to schools in Haiti to power XO laptops provided by the One Laptop Per Child (OLPC) program. The OLPC Program is a program that brings education through technology to revolutionize the poorest of countries. With help of programs and teachers, students will learn more about the world and how to use technologies that other parts of the world are familiar with. The goal is to help connect the third world countries with information and technology to help the future of the countries. The problem is that most of these countries do not have a way to charge the computers to continue bringing the information into the classrooms. We are trying to construct a model to be used for other OLPC projects.

Along with bringing a replicable model for solar energy, we are also committed to bringing communication between the different OLPC projects and help fund an everlasting impact for the future.

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Funding Initiative

- Applied to the following grants:
  - Internet Society Community Grants
  - Society for New Communications Research
  - NCIIA Sustainable Vision Grants
- Improved upon the budget details
- Setting up a donation link for the website

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Progress Toward Goals

- The following is our progress towards our goals:
  - Specifications and rough designs (bill of materials/diagrams)
  - More concrete budget estimate
  - More informed about situation in Haiti
  - Met with an engineer specialized in sustainable power solutions in the developing world
  - Met with OLPC coordinator in Haiti (project sponsor)
  - Created a project website to advertise and gather funding
  - Created an internal collaborative website for the team
  - Made grant process and will apply for more

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Major Obstacles Encountered

- Obstacles that our group has encountered:
  - Communication between partners in Haiti
  - Learning about considerations of a solar installation
  - Deciding on the scope of the project
  - Lack of resources (equipment)

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Anticipated Major Challenges

- Obstacles that our group will encounter:
  - Language barrier, cultural considerations, unstable politics
  - Installation
  - Customs
  - On-site unpredictability
  - Giving them a hand up and not a handout
  - Internet connectivity at schools

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Our Needs

- We would like some of the following:
  - Solar equipment to test the model
  - A person who knows more about solar power
  - Money for the trip or fundraising for the trip to Haiti as well as purchasing equipment
  - Donation Link

Questions?

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one at a time

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