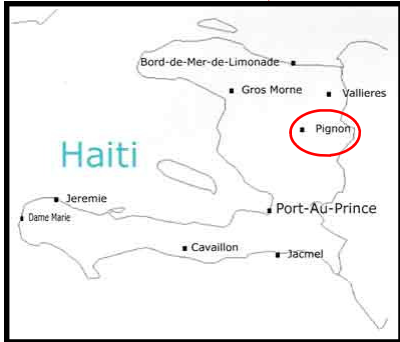


PIGNON, HAITI

ACCOMPLISHMENTS

The accomplishments in this IPRO continuation have been immense. The water distribution system has come together with the completion of the pipe network design, pump selection, water kiosk specifications, and the water storage tank design. A map of the town of Pignon has also been completed and will be given as a gift to the mayor of Pignon with the design specifications.



NEXT STEP

The design will be handed over to Haiti Outreach for the IIT chapter to assist in finalizing the design. The water purification will need to be looked at extensively and decided upon. After a final design is completed, tests should be run on simulations and it should be reviewed by professionals to determine its feasibility in Haiti. Haiti Outreach will also need to work with the leadership in the town to see through with the proper implementation of the design and to assist in the building process.



CONCLUSIONS

In recent years, numerous volunteer organizations from around the world have worked to help stabilize the country of Haiti and to provide a better quality of living for its citizens. The IPRO 327 group teamed up with Haiti Outreach to aid in these efforts by bringing a reliable water distribution system to a town that desperately needed it. The design of the system, from the pipe network itself to the water kiosks where residents will go to get their water, has been completed. Now, it is time for the project to be handed over to the town where building can start and relief can be brought to the men and women of Pignon.



Sponsors/Collaborators:

- ♦ IIT IPRO Office
- ♦ Haiti Outreach
- ♦ David Baker

IPRO 327

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Sustainable Water Distribution System in Pignon, Haiti

IPRO 327



Team Members:

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Nicole Dennis	Mark Rokita
Mudassir Hussaini	Fuzel Shethwala
Jonathon Kohler	Ermin Skrebo
Gustavo Mendoza	Peter Smagur
Ashfaq Mohammed	Meredith Stella
Ivan Nockov	Joanna Szwajnos
Enis Omeralic	Kinjal Tailor
Ionut Parv	Nastasa Terry
Eric Radloff	

Faculty Advisor:

Arthur Kurzydlo

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PIGNON, HAITI

OBJECTIVES

1. Determine the water needs of the town and design a pipe network based on expected usage.
2. Select a pump adequate for providing the needed quantity of water.
3. Design a water kiosk that can be built using readily available and inexpensive materials.
4. Design a water storage tank adequate for the system and large enough to accommodate a population growth over 20 years.
5. Research and design erosion protection measures to prevent a system breakdown.
6. Complete a set of design drawings and specifications to be delivered to Haiti Outreach.



BACKGROUND

Pignon is a town of about 10,000 citizens sitting in the mountains of north-central Haiti, one of the poorest and underdeveloped nations in the western hemisphere. Haiti Outreach, the sponsor of this IPRO, is a non-profit, non-governmental organization that seeks to improve the quality of living for Haitians by bringing water distribution systems and other community improvements to towns throughout



the small island nation. The IIT chapter of Haiti Outreach has teamed up with this IPRO to design a water distribution system suitable for the needs of Pignon, where the current system is literally falling apart. Currently, running water is available to only 20% of the population from 2-5 hours a day, every 5 to 15 days. When water is not running, the townspeople must walk great distances to water sources that are often severely polluted. The IPRO is a continuation from last spring semester, and is seeking to provide a safe, reliable, and clean water source to the people of Pignon with this new water distribution system.



TEAMS



Team 1: Pump Design

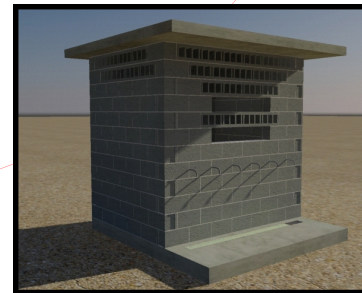
- ◆ Peter
- ◆ Ermin

Research alternate power sources and water purification. Pump selection and design.

Team 2: Kiosk Design

- ◆ Gustavo
- ◆ Ivan N.
- ◆ Ivan R.
- ◆ Fuzel

Research alternate construction materials and design water kiosks.



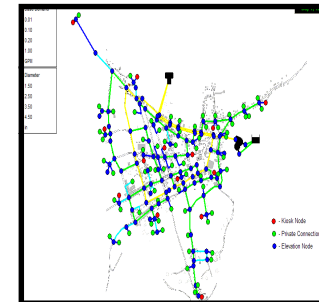
Team 3a: Storage Tank Design

- ◆ Ionut
- ◆ Joanna

Research construction materials, and design water storage tank.

OBSTACLES

- ◆ Language/Cultural Barriers– Native language is a mix of Creole and French.
- ◆ Lack of design experience– A lot of time was spent researching how to do the design and not enough on designing the system.
- ◆ Design Standards- The water distribution system was designed based on US standards. Due to the availability of resources in Haiti there is no guarantee that construction materials will be of the same quality.



Team 3b: Piping System

- ◆ Mudassir
- ◆ Ashfaq
- ◆ Enis
- ◆ Mark
- ◆ Kinjal
- ◆ Natasja

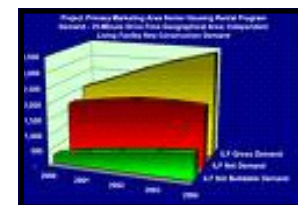
Research pipe feasibility and design piping system.

Team 4:

IPRO Deliverables

- ◆ Nicole
- ◆ Meredith

Prepare and submit necessary IPRO deliverables.



Team 5: Feasibility

- ◆ Jonathon
- ◆ Eric

Project feasibility research, user fees designation, budget and fundraising.