

Communications Group

WERCware (WERC)

Project Leader: Stephen Powers

Client: SymBionyx

Location: United States

Project: It is a marketable headset that includes a microphone, speaker, and camera along with software that will help life coaches (for people with Asperger's and high functioning Autism) through means of internet and different smart phone capabilities remain in contact with their clients while not physically being close by. We have the first prototype created, and are working on another improved one that will solve problems including getting the camera and microphone to automatically shut off in a private area.

Multi Modal Tudor (MMT)

Project Leader: Nick Martin

Client: The Collaboratory Education Group

Location: Burkina Faso

Project: It is a handheld device that will enable handicapped students in Burkina Faso to be able to get specialized help in learning to read and do simple math. The device is like a kindle in that it will have French books, and it will also have a couple simple math games to help students add. This project, while we have a prototype, is still a research project in its beginning stages.

Education Group

Burkina Summer Enrichment Program (BSEP)

Project Leader: n/a

Client: Serving in Mission: The Center for the Advancement of the Handicapped

Location: Mahadaga, Burkina Faso

Project: The project was to create teaching programs to aid the children's learning during the school year and during the summer. This project ended in Summer 2012.

Currently looking for new projects

Transportation Group

Light Sport Aircraft (LSA)

Project Leader: Richard Dufrenne

Client: Flying Club

Location: United States

Project: The Light Sport Aircraft is a small, inexpensive aircraft design that will be suitable for remote mission locations. The fuselage has been designed and constructed. Other systems are in the design and construction stages. (ex. Engine and Power systems, control systems, etc.)

Currently looking for new projects

Potential Projects: Electric Vehicle, Mission Aviation Projects, BUV competition

Energy Group

Biodiesel Project

Project Leader: Tyler Newswanger

Client: US Department of Energy

Location: on campus

Project: The Biodiesel Project works to develop a usable, renewable fuel from waste vegetable oil. The project worked under a grant from the US Department of Energy. The team takes used oil from local restaurants, including Lottie Nelson Dining Hall and the Student Union, puts it through a series of processes to remove impurities, and the result is a fuel that is used in some vehicles around campus. The US Department of Energy grant has expired and the group is now working towards full automation of the biodiesel process. Additionally, they are working on pressing seeds for oil. This would allow the team to have uses outside of the United States. The goal of pressing is to hopefully find a seed that can be pressed in Africa that will allow biodiesel to be produced in other countries.

Kilowatt-Hour (KWHR) Meter Project

Project Leader: Ryan Slater

Client: Serving in Mission: Matt Walsh

Location: Mahadaga, Burkina Faso

Project: The Kilowatt-Hour Meter Project works to design and construct a device capable of providing feedback on the amount of electrical energy used by a house or small building and also limiting usage based on a set energy quota. The device will help to limit overdrawn on batteries from a solar array in Burkina Faso in an attempt to make electricity more reliable. The KWHR team sent a site team to Burkina Faso in January of

2012 where they installed one meter for testing and are in the process of getting feedback from Matt Walsh on the prototype.

Thermoelectric Generator (TEG) Research Project

Project Leader: Lee Drummond

Client: James Lowther, Energy Group

Location: n/a

Project: The Thermoelectric Generator Research Project works currently as a research project to learn more about the functionality of thermoelectric generators. The thermoelectric generator is a newly developed alternative energy device that converts heat directly into electrical energy using the Seebeck effect. The project plans to identify an ideal design for the ventilation hood that uses the generator and implement the design in a region where open-fire cook stoves are commonly used.

Disability Resources

Mobility Tricycle Project

Project Leader: Seth Betteridge

Client: The Center for the Advancement of the Handicapped

Location: Madahaga, Burkina Faso

Project: The Mobility Tricycle Project aims to provide short and long distance transportation through the use of hand powered or electric powered tricycles for persons with disabilities at The Center for the Advancement of the Handicapped in Mahadaga, Burkina Faso. Members of the project are currently working on improving design, decreasing costs and strengthening relations between the client and the Collaboratory.

Africa WASH and Disabilities Study

Project Leader: Collin Miller

Client: World Vision

Location: Mali, Niger, Ghana

Project: The Africa WASH and Disabilities Study has recently received a new grant from World Vision enabling them to expand to the countries of Niger, Ghana, and Malawi in Africa. The majority of the engineering phase has been completed and the business expansion and marketing phase is beginning.

Macha Oxygen Concentrators

Project Leader: Emily Lewis

Client: Macha Mission Hospital in Zambia

Location: Zambia

Project: The purpose of the Macha Oxygen Concentrators project is to provide more affordable and robust oxygen concentrators for the Macha Mission Hospital in Zambia, Africa. The project is currently working on training hospital staff to diagnose and repair concentrators and they are also applying information gained from the summer 2011 site team trip.

Bridging Therapy

Project Leaders: Lauren Clune and Stephanie Miller

Client: Center for the Advancement of the Handicapped

Location: Mahadaga, Burkina Faso

Project: The Bridging Therapy project aims to do an evaluative study on the effectiveness of the physical therapy rehabilitation program of the Center for the Advancement of the Handicapped in Mahadaga, Burkina Faso. The current stage the project is in is the renovation of certain training manuals and working on training DVDs.

Water Group

Village Water Ozonization System (VWOS)

Project Leaders: Tim Yoder and Eric Kauffman

Client: Forward Edge International and the Verbo Church

Location: Nicaragua

Project: VWOS is a village scale water purification system which uses ozone generation and physical filtration to create an effective and sustainable solution to the lack of potable water in much of the world.

Garden Water Access Project (GWAP)

Project Leader: Tyler Kratz

Client: Serving in Mission

Location: Mahadaga, Burkina Faso

Project: Design a handpump and drilling rig that can be built in Burkina Faso, Africa, economically and with nationally sourced materials, so that local families there can access groundwater for irrigation purposes during the dry season in order to increase their production of self-sustaining and income generating crops.

Filtration and Purification Alternatives (FAPA)

Project Leader: Jared Franklin

Client: Forward Edge International

Location: Nicaragua

Project: FAPA is dedicated to enabling people get clean, healthy water by understanding their unique situations and circumstances. This includes clean water education, appropriate technologies, and relationship building.

Hollow Fiber Membrane System (HFM)

Project Leader:

Client: Forward Edge International

Location: Nicaragua

Project: The HFM project is a water filtration system designed to provide a small community with clean drinking water.

Water Testing Project

Project Leaders: Bethany Bender and Victoria Hawk

Client: The Collaboratory Water Group

Location: on campus

Project: The Water Testing Project serves as the Collaboratory's in-house water testing department and assists in performing testing on treatment systems as well as sampling and testing water sources on site team trips.

India MKII Pump Project

Project Leader: Zach Sizemore

Client: World Vision

Location: West Africa

Project: Through a grant from World Vision, this project aims to minimize the down time on the India MKII Pump as well as expenses necessary to maintain the pump.

Micro-Economic Development Group

Forgotten Voices International

Project Leader:

Client: Forgotten Voices International

Location: local

Project: This project creates marketing materials about Forgotten Voices International's programs to meet their varying needs. Most recently the work focused on creating briefings on microfinance.

Zambia Savings-Led Project

Project Leader:

Client: Brethren in Christ Church – Zambia

Location: Simaubi and Simwaanda Economic Development Zones in Zambia

Project: This project begins savings-led micro-finance associations in Zambia. These savings-led micro-finance associations provide people with an opportunity to save regularly, accumulate and aggregate the community's capital, and provide loans to group members as needed.

Staff Group

Marketing Team

Team Leader: Kevin Clancy

Client: The Collaboratory

Project: The Marketing Team seeks to communicate the mission of The Collaboratory to students, families, and donors through professional material including videos, presentations, newsletters, and brochures. Members of the team uphold the organization's branding in a professional manner.

Publications Team

Team Leader: Jessica Barnett

Client: The Collaboratory

Project: As a subgroup of the Marketing Team, the Publications Team main focus is to produce The Collaboratory's newsletter, *Dokimoi Ergatai*, each semester.

Finance Team

Team Leader: Kate Johnstone

Client: The Collaboratory

Project: The Finance Team works with The Collaboratory bookkeeper to track finances and communicate the financial status of the organization to the varying levels of leadership.

Information Management Team

Team Leader: Avery deGruchy

Client: The Collaboratory

Project: This team researches, implements, and improves upon new and existing technologies to assist and serve the needs of projects in The Collaboratory as well as organization as a whole.