

The should-have-been-quarterly newsletter of:

# HACKERS FOR CHARITY

November 2009

Issue 02

<http://hackersforcharity.org>

## Welcome to the second ever HFC newsletter from Uganda, Africa!

Hackers For Charity connects the hacker community with empowerment opportunities worldwide.

### INSIDE THIS NEWSLETTER

#### A DAY AT MACEDONIA

We meant to spend the day helping kids. Kids spent the day helping us.

*Continued on Page 2*

#### SPECIAL REPORT: INSIDE ST. JOHN'S WAKITAKA

It takes an awful lot of work to install a high-tech computer classroom in a developing country. Take a look at how personal and corporate donations and some old gear made a huge impact in Uganda.

*Continued on Page 4*

#### CATCHING UP WITH FRED

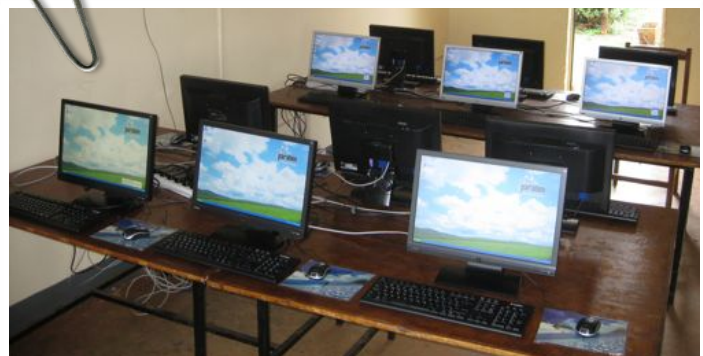
Mugisha Fred had all the passion, but none of the resources. Now, he's the first-ever HFC employee, and he's teaching our founder a thing or two.

*Continued on Page 24*

#### THE LONG JOURNEY TO AFRICA

Catch up with Johnny and his family.

*Continued on Page 25*



*St John's Wakitaka: A Lesson in how it's done (and how it's not).*



*The Long Journey... with friends.*



*Catching up with Fred*

Catching up with Hackers For Charity.



Trevor and Declan blowing bubbles



Declan coloring with the kids

## A GREAT DAY

This November, our family helped out with a vacation Bible school at the Macedonia Child Outreach Program center near Jinja. The center is a magnet for orphans and vulnerable children (OVC's) and on any given day, it's common to find fifty or a hundred children just hanging around. When our pastor invited us to join him and a team from the U.S., we jumped at the opportunity to help out.

We got an early start and bounced along a few back roads until we eventually came to the center. Almost immediately we were surrounded by young kids shouting "Mzungu! Mzungu!" ("White person!") and clamoring to hold our hands. They had such amazing energy and joy but it was immediately apparent that these kids were among the poorest of the poor.

Every time I'm in this situation, I'm reminded how easy it is to take our lives for granted. We have so much, but it's often a constant struggle to keep our heads above water emotionally. The things that make

"us Westerners" worry are often so inconsequential. Most of us have never gone without food, water or decent clothes. Most of us have never been afflicted with (often terminal) sickness and disease. But most of these kids were starving, thirsty, dressed in rags and dealing with terminal sickness and diseases--but every single child was smiling and laughing.

After our awesome reception, we got to work. We organized several stations that included craft making, singing, coloring and sports. About an hour into the day, the rain started coming down, but the children were not dissuaded, and neither were we. We huddled under every available bit of shelter and had a great time with the kids.

Eventually, we headed back home for our late afternoon plans and despite the super sticky mud that was *everywhere*, our spirits were high. We set out to help some orphans and vulnerable children find joy but in the end, we were the ones that benefitted the most.

They had such amazing energy and joy but it was immediately apparent that these kids were among the poorest of the poor.



*Jenny is so amazing with the little ones.*



*Makenna handing out bubbles.*



*Jen has a real gift with children. She ran the coloring station.*



NEEDS FOR CHARITY

**THE MAKING OF ST JOHN'S WAKITAKA:**  
CORPORATE AND PERSONAL DONATIONS AND A BIT OF OLD GEAR  
FUSE TO CREATE A STATE-OF-THE-ART COMPUTER CENTER IN ONE  
OF UGANDA'S POOREST AREAS.



# THE MAKING OF ST JOHN'S WAKITAKA

St. John's Wakitaka began with equipment donations. Individuals and corporations sent equipment to our volunteer's shipping center in North Carolina.

Dean, a member of the INFOSEC community, pitched our cause to his company. They donated 50 of their "end-of-life" Compaq N1610C laptops.



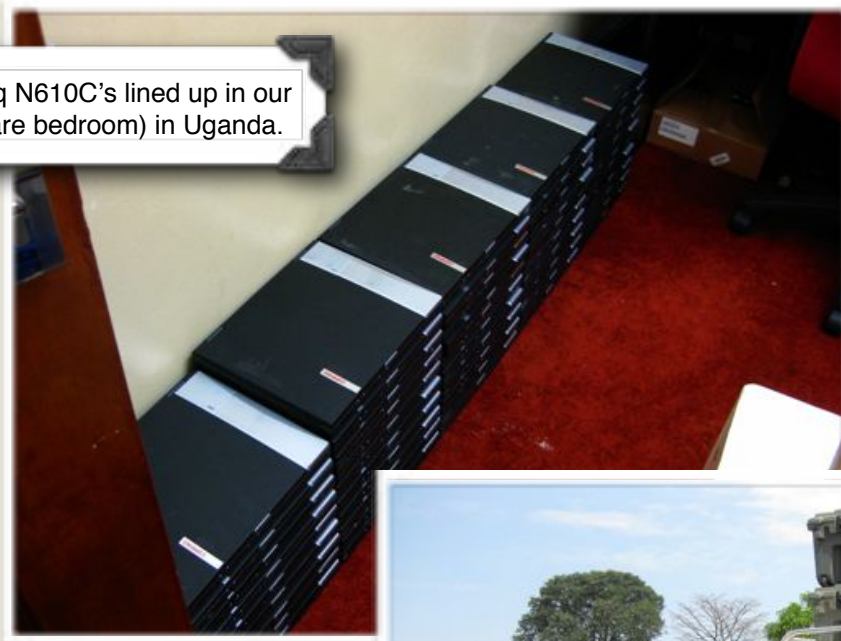
Chris Duke, who owns a shipping business in NC ([www.gonavis.com](http://www.gonavis.com)) donated shipping and worked through all the logistics to get the gear to us in Uganda.

Dennis (our long-time friend who has been staying with us) and Johnny drove to Kampala (three times) to secure this shipment.



Kampala traffic is so much worse than D.C. traffic. It's really hard to believe.

The Compaq N610C's lined up in our "office" (spare bedroom) in Uganda.



Our second shipment came from Keith Parsons, who worked with his company to provide 30 more laptops (Compaq M300's) and a huge lot of wireless gear and network equipment. This shipment came with some really amazing transport cases as well!



Testing the laptops was a family affair. The kids pitched in to help test the laptops and power supplies. Every single laptop arrived in perfect working order!



As the workload began to pick up, it became pretty obvious that I would need some help. I offered Fred a job with Hackers for Charity, and he was thrilled to accept it. He moved into our guesthouse with Dennis and became our first official employee!



Using the software introduced by Tim and Dwight from Whitewolf ([www.whitewolfsecurity.com](http://www.whitewolfsecurity.com)) we loaded the machines with Deep Freeze (to protect them from viruses and misconfigurations) and Net Support school (to allow a central teacher station to control and monitor the machines).

The computer room at St. John's was formerly a teacher's lounge. It was VERY small and dark. We began cleaning the room. A crew would paint, and a fumigator would be called.



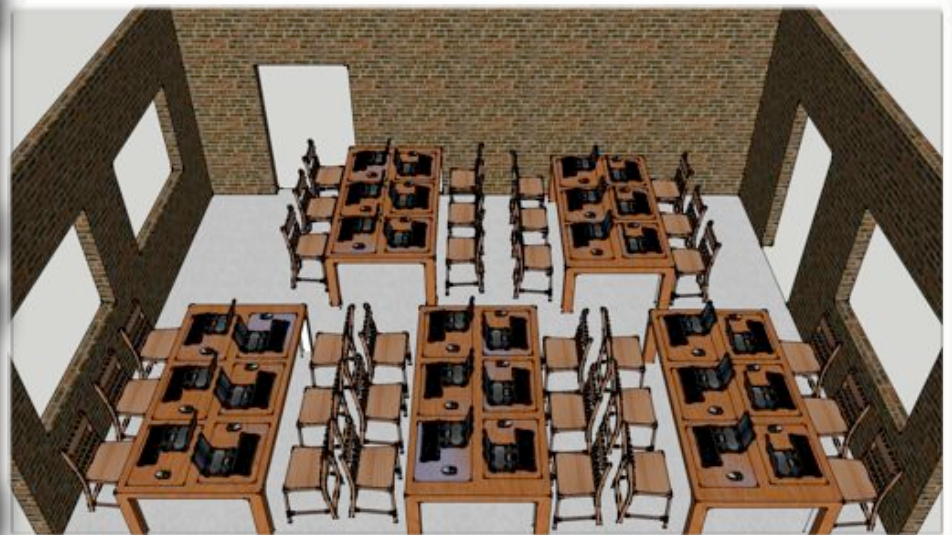
The computer room before cleanup: dark, dirty, buggy.



The computer room after cleanup.



Still, the layout was going to be very tight. I spent three days downloading Google Sketchup (remember our bandwidth issues?) and spent several days measuring equipment to prepare an accurate floorplan.



After lots of wrangling in Sketchup, I had a layout that worked. There was very little extra space in the room, but at least on paper, it seemed OK. I held my breath and we put in an order for five 8' x 4' tables.



We learned the hard way that two-prong European power plugs provide no ground circuit here. Ungrounded equipment is dangerous and problematic for our gear. We should have been suspicious: people here jam nails into the wall socket to force two-prong plugs in. We started the process of converting every two-prong plug.



Then came the process of making network cables for the room. The idea was to connect every single machine together for classroom control.



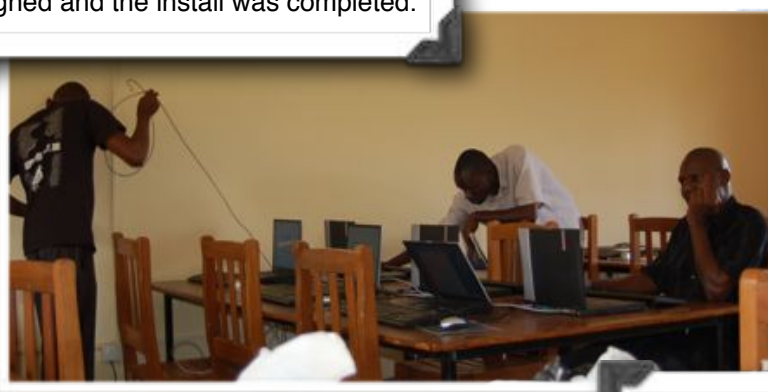
The room was to be divided into two sections: a "used" section for the laptops and a "new" section for our desktop solution. We started the installation of the "used" section first.



The students lent a hand with the installation, and Jen provided invaluable organizational support. We wanted the room to look as neat as possible.



The teachers couldn't wait to start using the equipment, but this slowed down our install team. On future installs, we decided to lock the classroom down until the contract was signed and the install was completed.



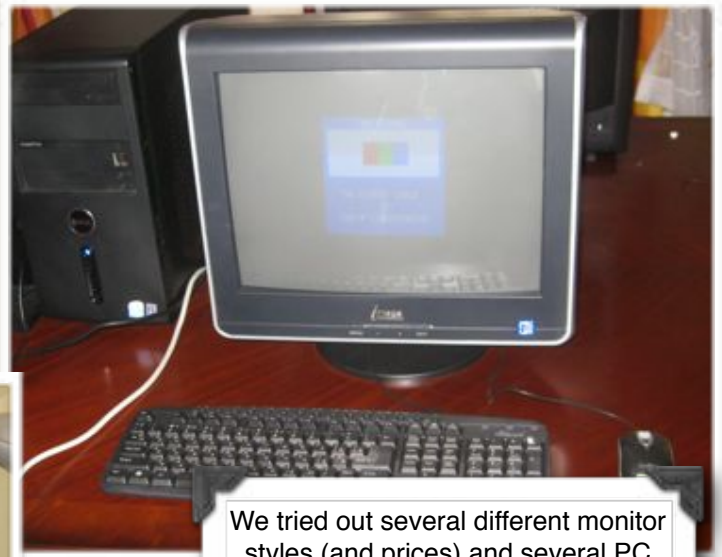
The students would peek in from every door and window to watch the installation.



After several trips, and several *long, hot* days, the laptop side was completed. The measurements worked out very well, and everything pretty much match up with our Sketchup document.



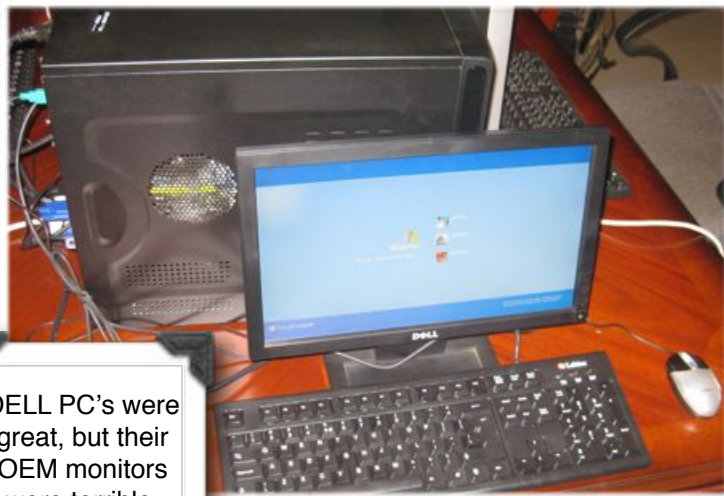
Next we started researching a desktop solution. Importing equipment would be troublesome and expensive. New, local equipment was cheap enough, but at over \$700US per student, we just couldn't afford one PC per student. So we started looking at solutions for PC sharing.



We tried out several different monitor styles (and prices) and several PC sharing solutions. This solution used dual-headed video cards which we could get locally, but the solution was buggy and way too flaky.



Generic CRT's were inexpensive, but bulky, power hungry and cheaply made.



DELL PC's were great, but their OEM monitors were terrible.



Eventually we settled on the DELL PC's and gorgeous BenQ G900WAD 19" widescreen Monitors. We wanted to give the kids something that was top notch that would last. The gear came with a one-year warranty.

After a ton of research and some mad spreadsheet action, we decided that nComputing's X550 solution offered the best bang for the buck. Up to 11 students could share a single (macked out) PC and the price dropped to \$300/student.

Item	Quantity	Subtotal	Budget NComputing %	Subtotal	Upgrade NComputing %
11X CPU	11	\$110.00	36.7%	\$110.00	36.7%
11X 1GB RAM	11	\$110.00	36.7%	\$110.00	36.7%
11X Keyboard	11	\$110.00	36.7%	\$110.00	36.7%
11X Mouse	11	\$110.00	36.7%	\$110.00	36.7%
11X Power Strip	11	\$110.00	36.7%	\$110.00	36.7%
11X Network Card	11	\$110.00	36.7%	\$110.00	36.7%
<b>Total</b>	<b>11</b>	<b>\$110.00</b>	<b>36.7%</b>	<b>\$110.00</b>	<b>36.7%</b>

We found an nComputing set in town and tested it out. It worked perfectly, but the kits had to be imported, so the locals charged through the nose. We decided to import them ourselves. Chris Duke stepped in to ship, and Tim Rosenberg placed the order stateside.

We ordered enough kits to finish our three active classrooms (St. John's and the two AOET schools) and the grand total just about flatlined our bank account.



Three weeks later, we got a call that the kits arrived. The FedEx guy quoted us 60,000/= (\$30) for taxes and handling. Two days later, the price was 2,400,000/= (\$1200) or 56% of the value of the items! (corruption here is terrible!) We had no choice but to pay it. We have "promises" to resolve the tax situation from the government. We'll see.

We set up a sample nComputing table and started "load testing". The solution worked perfectly. Six simultaneous users (Most on Encarta 2008) and no lag!



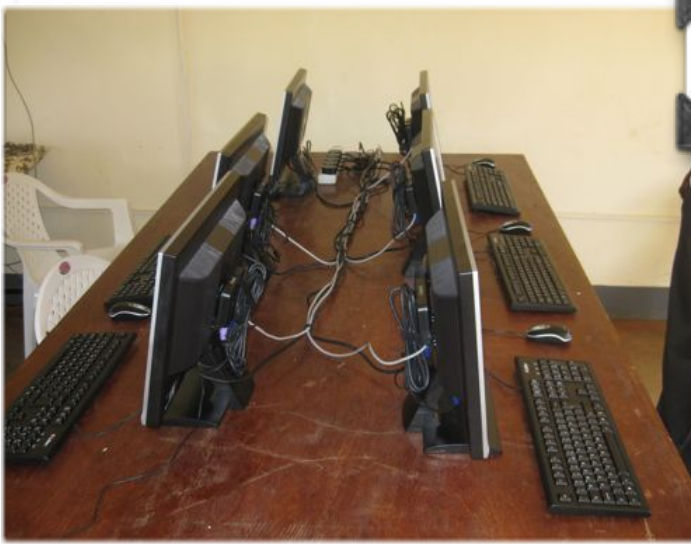
We loaded up the truck with gear and headed out to set up one nComputing desktop table.



One table requires one PC (either a DELL Vostro A180 or an Optiplex 360), six monitors, six keyboards, six mice, a power regulator and a power strip.



The installation started coming together, and pretty soon, we had what looked like a "real" computer center!



We branded the desktops with a Windows-esque background (a photo from Uganda, actually) and the Paraben logo since Paraben paid for all the equipment on the desktop side through their silent auction at PFIC 2008.



We brought the second table online, and connected them to the network we created on the laptop side of the room...



HAACKERS FOR CHARITY

That's when things went south. nComputing was not compatible with the old version of Deep Freeze (segfaults). We needed Deep Freeze to keep the student machines from getting trampled by viruses and configuration changes. We purchased a new license and started the download. Two days later...

Then we found out that Net Support wasn't working with the nComputing stuff either. We needed the newest version, but couldn't afford it. We needed to give the teacher the ability to monitor the students and show demos, so we tried out iTalc. It was terrible. I sent out an email to our volunteer list asking for help, and two reps from Net Support contacted us and donated licenses for our schools!



DEEP FREEZE



NETSUPPORT SCHOOL



**AVG**  
Anti-Virus System

We capped off the software installation with the AVG free anti-virus system.



We headed back to the school and started the final preparations for opening. We focussed on organizing the cables and making things look nice. We hired a specialist. It was a bonus that she was pretty.



The desktop side was a mess. We organized the cables on the backs of the monitors.





In order to keep the cables neat and clean, we bought a huge quantity of conduit from a local hardware store. I wish we could have bought it in smaller quantities, but it's used for high-end construction here. I paid \$100 for the whole mess, and hired a contractor to help untangle it. :-)



The tables were finally coming together. The conduit made the setup look really sharp.

Then we turned our attention to the power system. The cables were everywhere. We knew that the school would need to mop every day to keep the dust down, so we had to try to get everything off the floor.

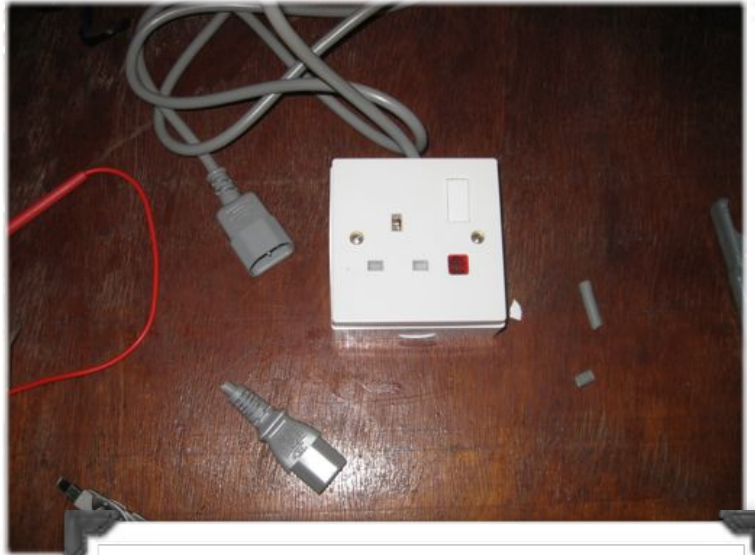


After a bit of cable management, things looked much better, and the staff could mop without moving anything.



With some locally made covers over the laptops, you can't even tell this is a computer table. The cable on the wall is the crossover to the other side of the room.

To clean up the power system even further, we had the carpenter cut a hole in the center of each table and install a shelf underneath for mounting the power supplies. Mounting the power like this took hours. At one point, I was laying on the floor under the table, soaking with sweat and attracting these annoying little ants. But the result was worth it.



We also custom cut our own UPS extensions, which we later replaced with two-socket blocks since each desktop table requires seven plugs (one 6-plug power strip plus the extra socket in this block).

After years of planning, several mistakes (and lessons learned) and months of work on the ground, we hit our stride. The next classroom would be so much easier. We sighed a huge breath of relief at a job well done. We had a beautiful classroom to show for our efforts.

But...

Within days, the classroom was a mess. We found soda bottles, food containers and even animal bones (!) strewn about the lab. Cell phones were plugged into various places, the conduit was undone so that machines could be moved around. The screens were smeared with fingerprints. The room was in complete disarray. It was a shadow of the lab we had left days before.



After stewing (fuming) for a few days, we came to the conclusion that the staff wasn't pure evil. Instead, they were excited about the computer lab and were anxious to jump in and use it. Most of them had never even touched a computer, and now, here in their lounge (where they used to eat) were all these computers. The staff and students needed training and incentive to care for the lab. I spent a week drafting a contract for our computer labs that set an enforceable policy for the care and maintenance of the lab. Highlights from the 15 page document:

- The lab is granted as a six-month trial in which the school must maintain the lab properly.
- During the first phase, the lab is locked down. HFC maintains all password (BIOS and otherwise) and the staff must simply keep the lab neat, clean and organized.
- During the second phase, the staff will be given passwords and must maintain the machines and keep them virus-free (an easy task with Deep Freeze).
- The trial can be terminated (and all equipment reclaimed) if the school accrues more than five penalty points in any one month period.
- Penalty points are accrued for every infraction and incur a financial charge to the school.
- The document is designed to teach proper maintenance and care, but initially it is a set of rules that cost the school money if broken.
- At the end of the trial, the school has learned proper care and maintenance, ensuring that the lab serves the school well for years to come.
- After successful completion of the trial, HFC turns the lab over to the school.

The document was rough. I doubted the school would sign it. But after a few days, they came back with additions to the contract (!) and we're on our way to signing it. The contract will be presented to all our schools before we do any work on a lab.



## St. John's at-a-glance

### Community-funded donations

- 18 Compaq laptops (Dean)
- 4 5-port Ethernet hubs (Keith)
- 2 sets of compact speakers (Watchcom)
- 1 Net Support School v.10 license (Net Support)
- Shipping services (Chris @ goNavis)

### Paraben-funded donations

- 12 BenQ G900WAD 19" widescreen monitors
- 2 Dell Vostro A180 PC's
- 2 nComputing x550 units
- 12 keyboards & mice

### HFC-funded Donations

- 5 100kva power regulators
- 1 650W UPS
- 5 Tripp-Lite power strips
- 18 keyboards/mice
- 30 mouse pads
- 1 8' x 4' computer table
- Cable conduit
- RJ45 cable and connectors
- Cable ties
- Power cord
- 3-prong power plugs
- Transport / fuel
- Grunt labor

### Cost per student

- \$50: Laptop station (donated laptop, shipping, keyboard, mouse and power)
- \$300: Desktop station (purchased six units per-table, includes BenQ monitor, Dell PC, keyboards, mouse and power)

## DONATE MONEY OR GEAR!

When you look at the numbers, it's staggering to think how far a couple hundred bucks will go. \$300 isn't much for a brand-new state of the art computer station. And those old laptops can be sent here and outfitted with a new keyboard and mouse for less than \$50. Even in this tough economy, that's such a small amount of money, and this training is absolutely life-changing in an environment where a single computer course can cost at least three months wages. Check out our web site and donate today!

# Catching up with Fred



Earlier this year, I introduced our community to Mugisha Fred. He was so hungry to learn everything he could about technology that he repaired laptops just to get some keyboard time.

I was so moved by his thirst for knowledge that I put together a video and started a fundraiser to buy him a laptop. I wanted to raise \$200US for a netbook.

But as always, the community surprised me. Instead of \$200, we raised more than twice that amount, then one donor matched that total! I was thrilled to go on a local shopping spree for Fred, and I came home with a pile of equipment including a monitor, a keyboard, a mouse, a power regulator and a power strip. I threw in an HFC T-Shirt, a donated USB DVD drive and a donated copy of Ubuntu for non-geeks, donated by No-Starch Press. The pile of goodies was quite impressive.

Fred was elated when I delivered the goodies, and I was elated, too. This was a potentially life-changing moment for Fred. This gear was giving him a jumpstart in his passions and would help accelerate his learning.

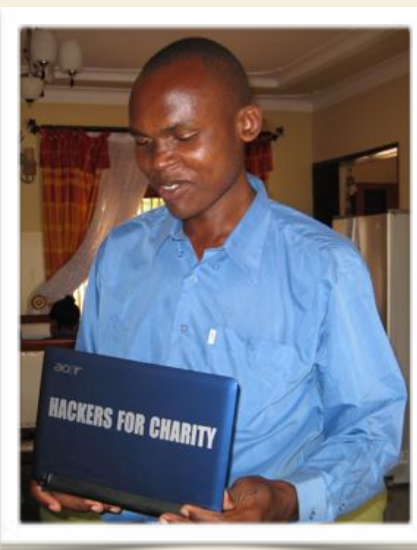
I also offered Fred a job with Hackers for Charity. I desperately needed someone to help with our work on the ground, and I couldn't think of a better candidate.

We packed up Fred's gear in the truck and we headed off to his home. His Mom, sister and brother were there to greet us. I felt a bit like Santa bringing home bags of gifts. I felt really, really great about the whole thing... until the next day when I picked Fred up for work.

"I've got to go pick up my netbook," he told me.

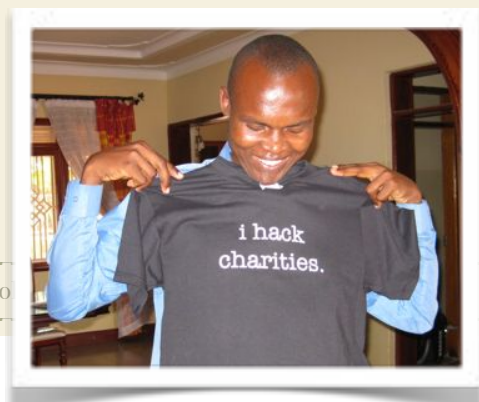
I asked him where it was and he told me it was at a friend's house... charging.

That's when it hit me: I had hooked Fred up with all manners of electronic gadgets without even bothering to ask if he had power. It was the first of many



lessons I would learn about doing "charity" work. It helps to listen and get to the heart of need before diving in and doing something.

After talking through the situation, Fred agreed to move into our guest house so he could be closer to the work we would be doing (and power, and an Internet connection). Fred is now an invaluable part of the team and I honestly don't know what I'd do without him. He's learning so fast. Turns out I'm learning quite a bit from him as well.





# The Long Journey To Africa

It's hard to believe it's been six months since we left our home to relocate to Uganda to focus on the work of Hackers For Charity. Here's a recap of the past few months of our personal lives.

## FAMILY HEALTH

Overall, we're doing really well. Johnny's struggled with two root canals (Norway) a filling (unnecessary, no painkillers, in Jinja) and a bout with something like IBS and Swine Flu but thankfully the junk has focussed on him and he's much better now. The kids are growing fast, and certainly getting their exercise.

## OUR HOME

Njeru has been great, but we're really situated too far outside of town. This month we were presented with an opportunity to rent a really amazing place in Jinja, and we were forced to make a decision within a two-day period. We've signed a one-year lease on the house in Njeru, but it's not our style and we've discovered that our rent is astronomical, and so we're taking a step of faith and praying that we'll find a renter for the Njeru property. The house in Jinja is a very sought-after place in town, and it's going to go VERY fast. We're a bit sad about the move because the only reason we got the place is because our new and closest friends are leaving the country after a rather tragic turn of events. We plan on moving in mid-December.



*A family shot from Njeru with our friend Allison from the States.*



*The scenery here is stunning. No Photoshop necessary.*

*Continued on next page*

## PERSONAL FINANCES

Johnny had a busy few months between a three-week training gig in Morocco, and a talk in Norway, but it provided some much-needed income. Financial support has really reflected the dip in the U.S. economy and over the last few months we've seen a significant drop in monthly contributions. We're blessed, though, because one-time supporters have filled in the gaps, and during one particularly bad financial stretch, Michael H. stepped up and made a one-time donation large enough to float us for an entire month! It's very strange to be living without a salary for the first time in our lives, and while we prefer to have the security of monthly donors, living by faith has made us stronger. Thanks to everyone that's supported us. We couldn't have made it this far without you. Please consider supporting us if you haven't already. Your support helps us keep our overhead at rock-bottom, ensuring that all the donations to the work of HFC goes right into projects where it belongs.



*Ridiculous beautifulness.*

## THE WEDDING

Makenna and Jenny had the honor of being in a real African wedding! It was a really long day for them (and we won't even go into the "hair debacle") but it was an experience they'll never forget. They did a great job and looked really amazing!

*Continued on next page*



*Makenna, Bethany, Jenny and Perris looked amazing!*

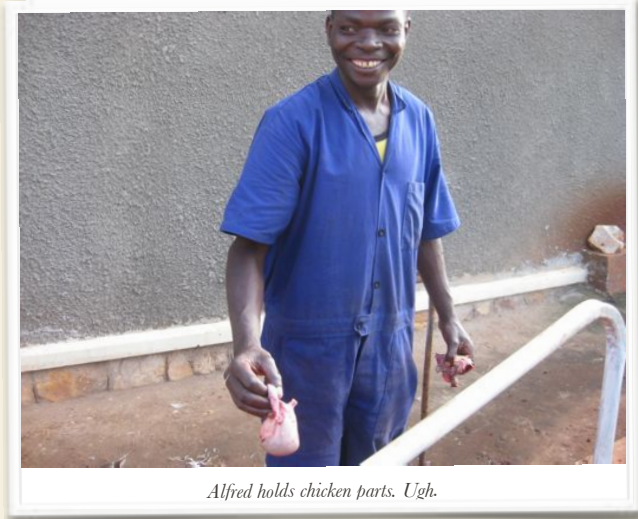
## A LITTLE HELP

Jen has really been doing an amazing job maintaining the house and homeschooling the kids, but after five months, the amount of work she was doing was really starting to weigh on her. As we met more Americans here, we started to notice that most of the women were busy working on projects outside of the home. They not only managed to homeschool their kids but their houses were well-kept, and somehow they managed to find lots of time to be involved in life-changing work outside the home. As it turned out, the secret to their success was really no secret.

It's customary to hire locals to help with various tasks around the house. It's not only a boost to the local economy, but it's a real life-saver for those that come to this country to do more than just maintain their own existence. In the past few months, we've hired four people to help us around the house. A young lady comes one a week to help with ironing. The going rate is 15 cents per item(!). To me this sounded like robbery, but remember, the exchange rate here is 2,000/= to \$1. These small jobs really do make a big difference in the community, and once I did the math, I calculated that with the other jobs she does around town, she's making a very good living for her family. (We of course can't help giving her extra money. Our friends just smile and shake their heads).

We learned of Alfred's situation from a friend of ours. Apparently he was working for a man that was beating him, but he had nowhere else to go. But his work shone, and he was an excellent gardener and did a wonderful job maintaining animals and looking after the compound. He does a great job at everything he does and always has a big smile and a great attitude.

When the subject of house help came up, I immediately felt odd. We've never had anyone around to do cooking and cleaning, and it just seemed strange and totally counter to the middle-American lifestyle we were used to. *Only rich people hire people like this*, I thought to myself. But when we sat down and calculated how much time and money we were spending on shopping and just maintaining our home, we quickly realized that it was just insane *not* to hire someone to help out. For the price of one meal out, we could hire someone to cook, clean and completely take care of our house for an entire week. So



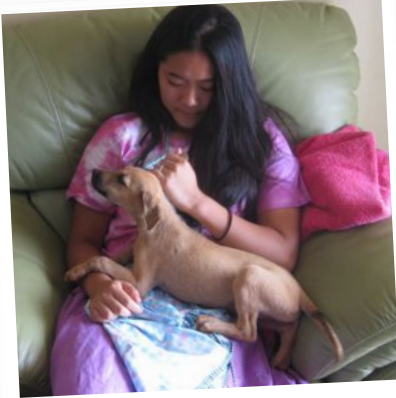
*Alfred holds chicken parts. Ugh.*

we hired Mary and Kate part time to help us out. They're both working part-time, but we hope to hire one of them full-time.

Since we've hired them, it's like a weight has been lifted off of us. We're eating great meals and suddenly life in Africa has become more than bearable. By not being weighed down by the day-to-day stuff, our work has really accelerated. Jen has finally realized her childhood dreams of Africa and is spending several days a week working with children at AOET. She's able to take the kids on clinics, and now the kids are involved in the work we're doing as well. We're not hermits, huddled in our house trying to just make it. Suddenly we're fully engaged, and as for me, I've never thought twice about the "expense" of our new family members.



*The girls working outside the house! Yay!*



Jenny and "her" dog, Frappuccino.



Trevor wants more bandwidth. Like Johnny.



Johnny and Jen still get along. Mostly. :-)



Declan throwing "salt" at "pepper".



Makenna is crazy like Chinese food in Uganda.



The girls being.. girls.



Jenny being domesticated



Our hens ("Salt" and "Pepper") had chicks! The children don't seem to like them. At all. We have an even dozen animals now.

