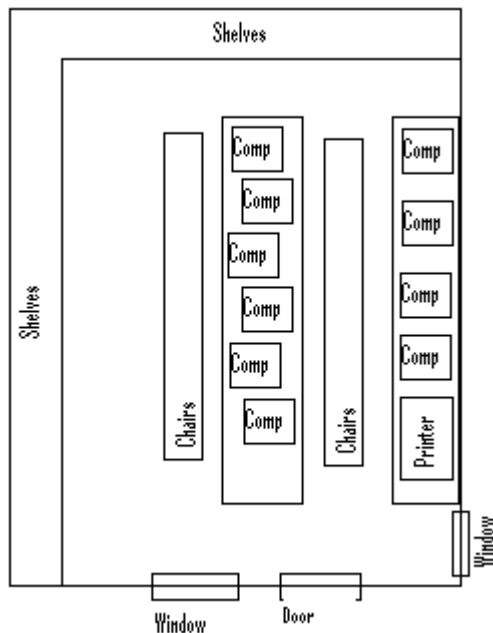


Candlelight School's Computer Lab (Research Notes) – 07/20/09

Room:

The room that will house the computer lab is 2.5m x 4.5m with a 1.3m ceiling. As proposed, the room will have a dual function as a library and a computer lab – there will be bookshelves along two walls of the room. There will be one table with computers on it along the opposite wall and a table in the middle with back-to-back computers so that there will be chairs on either side. The following highly-detailed illustration should help:



The room is currently a classroom, which will be moved upstairs to where the current library is. Candlelight staff will move items, but outside contractors will primarily be responsible for electrical work and networking, etc. Based on Computers for Schools Kenya (CFSK) criteria for computer labs, it may be worthwhile to improve the room to make it more suitable to computers. Reducing dust is important and can be achieved by improving the walls and ceiling, but especially through covering the floor (potentially just cheap linoleum), putting drapes in windows, and covering the computers when not in use (plastic covering or just an old sheet). The computer lab consultant recommended that the computers be serviced every 3-4 months for maintenance, which he thought would be a \$50 cost per month.

Computers:

Based on the above layout, 10 computers would be an appropriate amount if the funding is available. The computer lab consultant thought that decent computers would be \$350 each or less (all of his estimates were on the high end). At that price, the specs are about: 1.7 GHz processor, 512 MB RAM, 20 GB hard drive, and a CD-ROM. The computers likely don't need to be very powerful – just enough to manage an operating system, internet browser and office applications.

Software:

The computer lab consultant mentioned that Microsoft Windows is the only option given its' relevance and prevalent use. The only typing software I have heard about is 'Typing Tutor by Mavis. CFSK mentioned it.

Internet:

For networking, the computer lab consultant estimated that he and an electrician could do the installation for about \$400 (approximate since he hasn't seen the place). It may also be worth having a cheap wireless router in case somebody wants to use a laptop, but an open Ethernet cable would be about as good.

Our consultant recommended that we call multiple ISPs to have someone come out and test their signal at the site (the internet is essentially wireless from the ISP) and to give their prices for different options. A couple of the ISPs that I've heard of are Wanachi, Access Kenya, SafariCom and KenCom. I've heard from a few people that Access Kenya is the most reliable and has the best service. When selecting an internet option, you can opt for a dedicated or a shared connection – dedicated is typically faster but also more expensive.

Electricity:

Candlelight already has electricity in their office, they simply need to run a line across the courtyard to the computer lab. The electrician came over today and estimated the total cost of materials and labor to be approx. \$240. I also think that it would be prudent to have a power generator if possible since electricity is inconsistent in Kayole / Matopeni – costs yet to be determined. In lieu of a generator, many labs have utilized uninterrupted power supply (UPS) devices, which are essentially a battery that gives you about ten minutes to save your documents and properly shut down the computer. PowerCom makes these UPSs at about \$75 each.

When the electrician wires the room, it would be good to have him install a surge protector for the main power supply – which could potentially save the cost of surge protectors for each computer.

Tables:

Tables will be required for the computers – costs TBD. Most options will be sufficient – CFSK uses a table that essentially has a built in keyboard tray (by way of a slanted edge to the table) – photos taken of this. Since 1010 indirectly partners with a few carpenters (such as Charles in Kibera), it may be an opportunity to keep the funds among our network of small businesses.

Security:

The room is secure as is. A steel door (estimated at \$90) and two steel windows (\$90 each) will be necessary to make it fully secure. Candlelight will also hire a guard to patrol the premises at night and on Sundays when nobody will be at the school.

Training:

Program – computer training will become a regular class for the students where they will be educated in typing, office applications, internet and basic computer competency. It is expected that this will set Candlelight students apart in the local job market upon graduation. Similar classes will be offered to community members at a fee (fee TBD).

Trainers – the present librarian (Nancy) has attended a 1.5 month computer training program already and will receive further training so that she can help students. Additionally, another trained staff member will work in the lab to service students and community members. Costs of training are TBD, the salary for the additional staff member will start at \$60/month (same as librarian) and will increase if income grows. Fred said that it may be possible for a graduating safehouse resident to serve as the trainer for the lab. Either way, job created.

Income Generation Potential:

There are a few potential sources of income: community training, internet usage (cyber), mobile charging, copying/document services.

Community Training – There are other training programs in Kayole which receive significant traffic, so it is feasible that as it becomes more known the Candleligh program could draw customers. It will also be the only (or one of the only) such services in Matopeni, which should set it apart.

Cyber-

Fred believes that Matopeni residents travel outside to get internet access, so there is a viable market for internet service in the area. Most cybers in Nairobi charge 1 Kenyan shilling per minute, which would probably be the competitive rate. The cyber could benefit from cyber café software such as Café con Leche (a commonly used network application in town) – cost TBD. Fred thought that initial income from the cyber services might be around Ksh 300 per day, which is not bad as long as it continues to grow. Fred considers the practical hours to be during the day (the time the school opens to 8 pm) – night time is too dangerous because of thieves, even with a guard. The lab would likely be open Monday-Saturday since Sunday is a day for church for most.

Mobile Charging-

This is a minor source of income, but as long as the lab has electricity (and the surrounding community largely does not) they can charge a fee to charge mobile phones and other items. This service typically goes for Ksh 20 per item.

Other Services-

Copying, printing, document creation...typical cyber café services that can generate income. Fred thought that a laser jet copier/network printer would cost about \$400 and the replacement cartridges are \$90 (each cartridge should last at least 3000 pages). Paper is about \$4/ream – a ream is about 1500 pages.