Trinidad & Tobago Computer Society

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Laptops in Schools Programme

Introduction

According to the People's Partnership manifesto (page 11-12) :

"*Every child going on to secondary school from the SEA will be provided with a laptop to begin their secondary school education.*"

While the concept of use of ICT in education is important, several issues should be considered before the Government of Trinidad and Tobago decides on the specifications and mechanisms by which such laptops will be obtained and deployed. This document serves to bring forward a number of these issues raised by our members regarding the proposed Laptops in Schools Programme. We, at the Trinidad and Tobago Computer Society (TTCS; http://www.ttcsweb.org/) also remain amenable and open to providing further clarification and recommendations to chart the path forward to ensure the programme's success.

Suggested uses of the laptops

In order to determine the laptop specifications most suitable to SEA graduates, we must assess the laptop areas of usage. The usage may vary depending on the subject, the specific needs of the child (eg. where the student is disabled/impaired) etc. In order to encapsulate all the factors that influence usage we will need to assess :

- what are the benefits/aims of supplying laptops to SEA graduates both in terms of improved academic performance and otherwise?
- what activities the Government envisages that the SEA graduates will undertake with the laptops?
- will these laptops be integrated into the existing curriculum or will curricula need to be updated?

We propose that these laptops be utilised by students for learning activities with the following educational goals in mind :

- creation of lifelong learners

- the development of higher-order cognitive skills
- learning of critical thinking and problem solving skills
- fostering creativity and innovation to benefit society
- use computers and understand ICT
- change teaching to a student-centered process
- teach research and analysis
- better prepare students for the workplace
- make education more relevant
- improve students' collaborative skills

Issues to consider when implementing laptops

Each of these issues has its own set of repercussions and benefits and as such must be evaluated in detail, from procurement, purchase, supply, distribution, ongoing maintenance (if applicable) and recycling/disposal.

Procurement of laptops

The main issue regarding procurement is the Ministry's capacity to provide the approximately 17,000 annual SEA graduates laptops in a timely, transparent, cohesive, consistent and structured manner. The Ministry must assess if there will be a tender process involved; whether it is preferable to source from a single hardware vendor or multiple vendors; or whether they may approach international manufacturers directly as opposed to buying through local resellers.

However, we would like the MoE to consider the following points:

- Any procurement process used must be fair and transparent.
- Purchase of this large a number of laptops annually will have a knock on effect on local computer suppliers, this may be positive (whereby they will have an increased market for the provision of

service and support) or negative (whereby resellers would have a decrease in sales). Buying from local manufacturers will help stimulate the local computer sales businesses, however there are issues such as a higher cost per unit and questions about the ability of local suppliers to provide a suitable level of support.
- On the other hand, buying from large international vendors may result in a lower price per unit and there is comfort of having support from established companies. This will also encourage local computer suppliers to diversify their business into value-added services and support.

Additionally, the software (if any) bought with these laptops must be assessed in a similar fashion.

Training and Distribution

- Do secondary schools have the necessary training staff and IT support for both the teachers and students to effectively use the laptops? While we are aware that there have been a number of initiatives to introduce computers to students in schools, there is very little information available about how effective these programmes have been. Have processes been put in place to ensure that the persons trained are done so properly and that their skills are kept up to date?
- How does the distribution of these laptops fit within the framework of the current ICT initiative within the schools? It would be preferable that the distribution of these laptops be linked to a larger ICT plan for all students where there will be learning resources created to maximise the use of these laptops by the students.

Servicing and Support

The most common warranty period of a laptop is one to three years. In the event of component failure, how does the student access the manufacturer's warranty for replacement or repairs? The government will need to have an arrangement with the manufacturer either to transfer the warranty to the student, or somehow to coordinate repairs on an ongoing basis. With thousands of laptops in the field, this will be an logistical challenge for the Ministry of Education. The Ministry should consult with organisations such as The University of the West Indies who have run progammes which provide hardware to their students so that they can benefit from their experience.

Securing laptops from theft

Laptops are tempting targets for theft. SEA graduates carrying laptops may be targeted. Robberies may include violence to the students' person. What measures will be put in place to ensure that these students can safely carry these laptops? What systems will be put in place to track and recover stolen laptops?

The laptops can be customized, such as having logos or other identifying marks on the laptops, in order to indicate that they are issued by the government for educational purposes. If the laptops are procured from a single hardware vendor, perhaps such customisation can be done at the time of the order.

Software maintenance

The software on laptops (the operating system and applications) will require a system of software updating/patching on a regular basis by authorised persons, another logistical challenge that must be addressed.

Responsible use of laptops

The laptops are tools, which can either be used for learning, or can support negative activity. Social awareness of parents, teachers and students, along with tools to support them, are requirements in the effort to ensure responsible use of laptops by students.

Students will also need to:

- Adhere to the Acceptable Use Policy (AUP) as developed by the MoE. Links to some sample AUPs can be found at the end of this document. These generally are very explicit, including penalties for misuse under a variety of conditions.
- ensure that the laptop is kept in good condition

- ensure that it is used for education

Negative effects include:

- Inappropriate material and activities (filming fighting, downloading or creating pornography, etc)
- Distraction from school work. (both for classes using the laptop for learning and classes in which the laptop is not used)

Laptop Ownership

Will thse laptops be owned by the individual students, by the school or other educational institution or by the Ministry of Education or some other body? What software is to be installed on the laptops, under what license terms, and who owns these licenses?

Recycling/Disposal of Laptops

All computers, laptops (including electronic devices such as cell phones) contain various chemicals used in their manufacture. Such chemicals can leak into the environment when such devices are not disposed of properly. Since many of these laptops will have to be disposed of after several years of use, the government should have a programme in place for the collection and safe disposal of such electronic waste.

Measuring the effect of laptops for schools programme

How will the Government measure the success or failure of the project? There should a program to get feedback from all the participants (students, teachers, etc) involved and the program evaluated against various metrics so that the government will know that the laptops are having the intended benefit.

Sample Acceptable Use Policy Links

Here are several Acceptable Use Policies relating to the use of laptops in schools :

- Sidney Community School Acceptable Use Policy (AUP)
  http://sidneyschools.org/pages/uploaded_files/Student%20Laptop%20AUP.pdf
- Springside School Acceptable Use Policy (AUP)
  http://www.springside.org/home/content.asp?id=5488
- Episcopal High School - Laptop Acceptable Use Policy
  http://www.ehshouston.org/ehs/Laptop_Acceptable_Use_Policy.asp?SnID=2

Possible Ideas for laptop solutions

- Conventional Laptop : essentially a desktop replacement - all the functions of a desktop with DVD drive ; typical laptop monitor size : 12" and up
- Netbook : typically smaller screen (10" and lower) with no DVD drive ; well suited to internet and office type applications
- Ruggedised laptop specifically designed for students. Hard drive protection, antibacterial keyboards
- Tablet computer : laptops equipped with either a pen like stylus and/or a touchscreen. Some tablets include a keyboard; some do not; typically more expensive than plain netbooks and conventional laptops

This document is by no means exhaustive, and we are willing to encourage further discussions as the program progresses.

The Trinidad and Tobago Computer Society thanks you for the opportunity to submit this preliminary advice. Our email address is admin@ttcsweb.org and our website is http://www.ttcsweb.org/

Kind Regards,

Trinidad and Tobago Computer Society

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