"Tamil Educational Multimedia Software Creation made Easy - An Experience"

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Abstract

Thousands of multimedia software titles are available for the teaching and learning of English Language. But if we try to look for commercial CBL software in Tamil language, we would be lucky to find any more than fifty titles. Most of them had been developed in Singapore, Malaysia, India and one title even from the USA. Most of us think that we need to invest much money and time to develop such software. There was a time when a high degree of technical knowledge was also required to create multimedia educational software. But the fact is many easy-to-use authoring tools are available quite freely. With such freeware individuals, teachers, small educational institutions can develop their own multimedia software programs of acceptable quality to teach Tamil. The Tamil Diaspora need not look to Tamil Nadu for pedagogical resources, which usually have media, which cause cultural shock to the Tamil children in the western countries. For example, a picture of an 'Indian stove' would seem alien to the stove the American-Indian child see in his or her kitchen. Furthermore some parents may not accept the Tamil pronunciation differences that are so striking in the software developed in Tamil Nadu and Sri Lanka. It is hoped that interested individuals and Tamil immigrant educational institutions in e.g. Australia, Denmark, South Africa, U.K. and U.S.A. would develop Tamil educational multimedia software customized in their own cultural environment. To have maximum benefit, the developed software should be freeware and be shared freely.

This paper would try to prove that educationists in the Tamil Diaspora can create their own pictures, sounds and other multimedia elements and develop their own educational software that are custom-built for their own children - in their own cultural settings. The presenter had conducted short 3-day courses, at the National Institute of Education (Singapore), after which, Tamil trainee teachers produced acceptable quality multimedia computer-based learning software. The authoring tool used was Mediator (http://www.matchware.net/). The processes, the experience and some projects will be shared in the presentation during the conference.

In addition, a list of all the required necessary freeware, and how to obtain them will be listed during the presentation.

Introduction

Information technology is completely redefining the way we live and work. In the field of education, computers are already introducing and even forcing new developments in the way pupils are taught and learn. Using computers, pupils are able to view content or materials customized for their class with the advantage of interactivity.

The advent of easy-to-use multimedia authoring tools, and the widespread availability of computers, and the ease with which educational material can be produced have all created an environment in which traditional classroom teaching can be transformed and made more exciting for students and teachers.

I have conducted a series of three-day courses in multimedia authoring (using the "Mediator" authoring tool) for the Tamil teacher trainees in my teacher-training institute. Based on Tamil language teaching, the course covered storyboarding, multimedia basics and design, principles of navigation and instructional design. After a successful testing in the local schools these projects were compiled into a CD ROM.

Teaching Tamil and the Tamil Diaspora

It was this successful program that set me thinking on the problems faced by the Tamil Diaspora communities in various regions like Sydney, San Francisco, Chicago, Atlanta, Mauritius, South Africa and Denmark. Members in these communities have been very eager to preserve the Tamil language. They conduct Tamil language classes for their children. Such classes are held outside curriculum time for few hours in weekends. With limited time and facilities, it is hard to imagine the effectiveness of these classes. Most of these institutions adapt and use teaching material from Tamilnadu, Malaysia and Singapore. But these materials, based on the local policies and cultures, are developed by educationists essentially for 'local consumption'. A young Tamil language learner in San Francisco, for example, would find difficulty in relating to the content in these materials. If you want to teach the word 'aduppu' and show a graphic of an 'Indian Stove', it would look alien to the stove, an American Tamil, child born and bred there, would see in his or her kitchen. If the audio instructions carried a strong Sri Lankan Tamil accent or had Sri Lankan Tamil vocabulary, it would be difficult to understand if the user is not of Sri Lankan origin. These issues would impede the learning process, as the learner cannot involve the learner with the lesson. When you don't speak the language or understand the culture, the challenge is overwhelming. This is where IT would be of great help to the educationists, teachers, and parent-support groups in these communities. This would not be very difficult as the majority of the emigrant Tamils are skilled professionals.

Multimedia development by the content experts (teachers)

The development of material that takes full advantage of computer-assisted learning used to be much more involved and typically employed interactive learning and multimedia. A team comprising of interactive designers, graphic designers, programmers, testing team and a manager, usually develops such materials. A multimedia project may take up to six months of development time costing as much as $70 000. Despite this, not many commercial products seem to have a substantial shelf life. Many outstanding titles done by big companies like Broderbund are seemed irrelevant (content-wise) in many countries – even in globalised Singapore. Like most teaching resources, multimedia packages vary greatly in complexity, quality and perceived usefulness. As with most educational materials, there are many approaches to teaching a topic, and even a well-produced program is unlikely to satisfy everyone. Therefore such commercial titles are difficult, if not impossible, to be updated modified or improved by content experts for their specific needs. For that, the original programmer must be available to access the source code. Since the expertise to use new teaching tools stays with the IT developers, rather than with the teachers, the typical teacher makes little or no progress in the use of interactive media tools.

To date there are less than 20 quality Tamil language based educational CD ROMs available worldwide. Most of these titles are produced in Singapore and Malaysia. The content in these titles are based on the countries of their origin. Even though these titles score high in pedagogical value, the fact is there are still based on the local curriculum.

Authoring tools have improved rapidly. Some of these tools are easy to master. Time has come too drop the need for systems that make strong collaborations between IT technicians and content experts (i.e. teachers). Now educationists can independently develop effective and customized instructional software for their own classrooms. In the old days of programming, the developer had to everything in such arcane general purpose compiler languages like Assembler, Basic or C. However, now, many sophisticated resources are available readily. These include vast libraries of media, which can be copied and pasted in a program. Such clip-arts and sound clips are available on the Internet and CD ROM packages. There is also a range of tools available for each medium. From high-end professional packages to less sophisticated but still powerful and useful freeware offerings are available for the initiative programmer. (See appendix for a list of freeware). The advent of easy-to-use multimedia authoring packages (like Mediator), and the widespread availability of computers, and the ease with which traditional classroom teaching can be put into instructional software have all created an environment in which, traditional classroom teaching can be transformed and made more exciting for students and teachers.

Mediator – Multimedia Authoring Tool (PC only)

An authoring tool can be defined as 'an application development environment for non-programmers'. There are many authoring tools available. Director, Authorware are high-end tools that have a high learning curve and programming skills are needed to script in their built in languages. Though very powerful, they are also very costly. There a much easier authoring tools available. Multimedia Builder, Illuminatus Pro and Mediator are easy to learn and are much cheaper. I use the Mediator tool for a variety of reasons. When Mediator version 6 was released, the previous version was given away as cover-cd of a PC magazine (PCAuthority issue July2001). I made all my trainees buy the magazine for this software conducted three-day courses. They selected various components of Tamil grammar such as nouns, verbs and tenses and using different teaching strategies developed their own instructional software. They have tested their instructional software successfully in schools.

The Mediator tool places the media resources used in a particular program in a folder without compiling them. This means that other developers can replace the media (e.g. wav files or jpegs) with their own. With this great advantage, and with a 'let's share' mindset, the Tamil Diaspora communities, can share Mediator based instruction software, changing the media to suit their requirements. For example, the instructions in a particular program may be recorded in a Tamilnadu pronunciation. A Sri Lankan Tamil teacher in, Sydney for example, can re record the same instructions in her own accent and replace the respective files. This program can be used in their lessons and the pupils will be more at home, listening to their own Tamil. If a Tamil teacher in Bay Area finds that the graphics in another program are based on scenes in Malaysia and feels that her young American born and bred pupils might have a culture shock, she can replace the graphics with appropriate ones she had prepared. She does not need to know advance programming to do this. It is very easy to do all these in Mediator.

The important fact is that instructional programs that are developed and shared by the regionally scattered Tamil Diaspora act as shells. Individual teachers can develop small modules of flexible content that can be changed easily. Each group can, then, modify the

modules to their own requirements – saving much time, costs and effort. Modifying an existing program or using a tutorial shell will greatly reduce the programming effort required, and may provide you with a good quality user interface that has already been through a testing and evaluation cycle with the students.

Such CBI materials would:
     i)   be less costly,
     ii)   be more effective,
     iii)   take less time to reach criterion,
     iv)   provide higher quality instruction,
     v)   be more versatile,
     vi)   most importantly, make Tamil a 'fun to learn' subject.

Multimedia packages have a number of benefits for the Tamil Diaspora over the traditional methods of Tamil Language instruction. A good multimedia instructional package can provide:
     i)   a self paced learning
     ii)   a consistent level for all students
     iii)   a degree of assessment for both the students and teachers
     iv)   availability outside normal teaching hours
     v)   an increased level of student motivation
     vi)   a reduction in the time required to learn the subject

The process of authoring instructional software involves:

- The Design Process
  - Content
  - Designing
  - Flowcharting
  - Storyboarding
  - Conceptual Mapping

- Graphic Design
  - Interface
  - Screen design
  - Icons/Symbols
  - Image scanning

- Sound digitizing
  - Sound effects
  - Digitizing feedback and instructions

- Video Digitizing (if necessary)

- Clearing copyright Laws (a must)

- Testing and Debugging

- Packaging and Distributing
  - cd roms

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- o internet
- o floppies

Conclusion

I get the chance to meet Tamil educationists from many countries at the World Tamil Teachers conferences, Tamil Internet conferences and during various other seminars and meetings. The perennial problem faced by emigrant Tamil communities is getting quality resources to teach Tamil to the younger generation. Multimedia development has actually become quite easy. I hope that this presentation would inspire the audience to get together and develop their own multimedia teaching and learning software instead of going to India or Singapore to shop for books and other pedagogical materials.

Appendix:

Useful programs for low cost multimedia development

For PC users

www.goldwave.com
GoldWave is a sound editor, player, recorder, and converter for Windows.
Shareware. You can download and try it for free, but you are required to register it if you decide to keep it

www.cdex.n3.net
Cdex is a utility which can extract Digital Audio (DA) tracks from an Audio CD into files on the hard disk. The extracted audio tracks can be stored as WAV or MP3 (MPEG-1 Audio Layer-3) files. This is a FREEWARE

www.arcsoft.com
Lite edition: PhotoStudio 2.0SE is a powerful and easy-to-use 32-bit photo image editing program. Free download

www.matchware.net
Mediator Pro 6 is an easy-to-use authoring tool that enables you to create sophisticated multimedia without having to learn a programming language. Free demo available.

www.illuminatusforum.com/
Illuminatus Opus is a "multimedia authoring tool" that allows you to create other programs. Without having to learn any programming languages, you will be able to combine text, graphics, sound, video, and other elements into your own creation that can run by itself, viewed as part of a web page, or as a screensaver.

www.mediachance.com/download.htm
Multimedia Builder MP3 is simply a powerful, full-featured multimedia program that will not break the bank. What's quite remarkable is that it is a shareware program.

For the Mac Users

www.hyperstudio.com/
For over 10 years, HyperStudio has been the de facto standard classroom multimedia authoring program for desktop and online multimedia communications for educators and students.

www.supercard.us/
SuperCard is a powerful and easy to use authoring tool used by Mac professionals and hobbyists alike to create just about any type of application including games, teaching aides, utilities, personal productivity tools, automation tools, kiosks, and other multimedia rich projects.

www.tribeworks.com/
iShell is most easily compared with Macromedia's Director as an interactive authoring tool capable of complex interactivity.

For PC and Mac Users

http://web.uvic.ca/hrd/halfbaked/
The *Hot Potatoes* suite includes six applications, enabling you to create interactive multiple-choice, short-answer, jumbled-sentence, crossword, matching/ordering and gap-fill exercises for the World Wide Web. Hot Potatoes is not freeware, but it is free of charge for non-profit educational users who make their pages available on the web