

This is a work draft

Being dyslexic I'm in the process of editing the document

"Providing an 'empowerment' model for learners to create and disseminate content via streaming to mobile devices"

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Abstract

The aim of the research is to discover the learning potential of how streaming education video & audio content to cell phone and other electronic devices.

This will look at how to create and disseminate content with existing applications. Within the content creation the publication stages, the main objective is to have and display content that conforms to open standards and not proprietary closed standards. Thereon giving learners access to existing tools to create ubiquitous learning objects. (Bottom up empowerment).

Key words

open standards - 3gp - wml - xhtml mobile - streaming - ubiquitous learning

Introduction

This paper aim to look at exsisting open sores and technologies as well as closes sores technologies and also open staneds incontent creation, in relation to mobile learning enviroments.

This aim of this research is to enable educators to create their own learning assets that would support their normal pedagogical role within the teaching environment. and One of the objectives of the research is to look at what the possibilities are in creating and self sustaining their learning assets. (bottom up empowerment) issues - learning dictated through books - not always a suitable method when teaching

books cost a lot to produce - traditional means are not always the best means - may not fit into the work flow of how a teacher wants to deliver their subject - teacher then being self empowered to create their own educational content, it means that the learning is more focused and better suited to the student.

BOTTOM UP EMPOWERMENT "The power of the printing press (monks - religion total control) which revolutionised teaching methods before, this is now the new evolution of generation. now allowing people to shape their own future. want to allow people to be stake holders in the creation of content - there for everyone to share = people put knowledge out there and shape their knowledge - students can become stake holders in knowledge assets.

top down and distributed accordingly then came along the printing press and shock all that up.

The model is very much that in which everyone is a stakeholder in the creation. over time the delivery of information has revolutionised how it can be disseminated within a technical context. With the introduction of the printing press and now the internet where people have been enabled to create their own content and without tradition authoritarian of how info disseminated - a modern day example being Wikipedia

phase 2 learning resources have been tailor made to provide/enable empowerment M-learning - what is it? and how my mark / research applies to it, and the target audience (young) (see other report)

Rationale

What we need to find out

What is the potential in video steaming to mobile phones within education

What applications could produce the video content

What way or way's could the content could be published

What phones can support video steaming

What platform would be the best way of doing it

What phone networks support video streaming

Why we need to find it out

We need to find a way of been ubiquitous in disseminating information

Find a way of making the production delivery of content cheap

We need to find out if GPRS can stream video to a satisfying level

Bottom up empowerment for sustainability of content

With traditional educational content that has been published in book form in the past, this content has been repurposed to animations, movies that can be viewed as video streams on your desktop computer. The potential of video steaming to mobile phones within education with mobile phones having the capability to receive streams

1)The potential of video streaming to mobile phones within education is very high because 2.5G 3G phones have the capability of receiving video streams and with over 5 million people having access to mobile phones with in the united kingdom there is a huge audience to which education can be provided for/to. This is illustrated with phone companies targeting young males; showing video clips of sports highlights from football matches.

What applications could produce the video content? The key factor behind what applications can produce the video content, be they open-source or closed-source, is the fact that they are used in everyday practice by educators or students and can produce the necessary open standard 3gp video format that mobile phones can support.

What phones can support video streaming? Existing 2.5G phones are the main target as any content that is streamed to them can also be accessible to 3G phones.

What platform would be the best way of doing it? The platform for creating content should not have to rely on being the same operating system etc. as the deployment system. So in essence content could be created on a mac as well as a pc for example. The platform for disseminating information. This platform should be cost effective and be totally transparent to the end user so that there is no special requirements or any technical barriers that could possibly hinder the content producer publishing their work.

What phone networks support video streaming (look at phone networks) One would need to create a test as to which phone networks allow other peoples content to be viewed or streamed across their networks this would conform to doing a survey by creating a test stream that then people could email their results back as to whether or not they could view the stream on their phone

Why we need to find out? because young learners that have fallen from the main stream are more susceptible - it is the first stage in getting learning content across in an affordable way, as they may not have access to internet at home or a computer. This also means learning does not have to be within the confines of an institution it can be expanded further ie. a study meeting at Royal Festival Hall. This also makes content delivery cheap.

Why ubiquity?

Find a way of making the production delivery of content cheap? The way that content can be created cheaply is if the applications that educators and students use are existing ones which give you the options to export their content in the preferred open-standards format as this would save time in terms of training costs and also costs in additional software and hardware. the aim would be to use open-source software to keep the cost down and also to be platform independent.

We need to find out if GPRS can stream video to a satisfying level because phone consumers can then make informed decisions on what network provider to go for.

Bottom up empowerment for sustainability of content By the educators being able to create their own learning tools/assets and students likewise. (they can also create their own learning tools for revision). Then this would result in a practical solution that could be adopted as a core activity if the curriculum allows it to be so. By it being a practical solution also makes it a sustainable solution with everybody having their part to play within the process.

Technology

Content creation Apples I-life suite of applications which are based around quicktime come free with every single mac, with that being that quicktime supports the open-standards of 3gp this meant the suite of applications that are ideal for creating content could produce the necessary file by just manipulating a few options. these applications are also heavily used within schools around the U.K. making it an ideal candidate - I-photo -creating slide shows of 2d image work - I-tunes -for exporting archived audio work - I-movie -for creation of video work - Garageband -for creation of audio work Quicktime Pro offers a cheap solution for mac as well as pc users to be able to translate their content from one format to the 3gp format that is required thus acting like a swiss army knife that can be used in all levels of education

Server side technology The most instrumental technology to look at is the streaming server technology. After seeing the various offerings out on the market and how hugely expensive they are, that left only one enterprise streaming server solution and in this case it was Quicktime streaming server to which there is also an open-source version of it called Darwin streaming server. Which meant there is no cost for the streaming server software and also makes it platform independent. With uploading work A traditional way of uploading files would be to use the command line interface to FTP your work up to the server. this is fine if you come from a very technical background but to find a solution that could be used in a very simple graphical way by just dragging and dropping files from one location to another without adding cost would be to use WebDAV. To which this is platform independent and open-source. Apache Apache is an open-source web server that can be run on any hardware, it can also be used to host the mobile website as well as also traditional website.

Methodology

Evaluating the progress Two phases of research were undertaken for the methodology. The first phase was to test the initial concept (the validity of the self-empowering concept) with FWS a special needs school that caters for students from the age of 4-16 and the second phase was to refine the research, again with FWS and also to test it with a cross section of educators themselves; delegates at the Apple Teachers Institute. This phase tested the validity of ease of use in reflection to being sustainable. Identify issues: _FWS proceeded with

Non human contact (via internet), to test the validity of self empowering process(the whole philisophy behind it all - that it be self-sustainable) this was carried out:- Phase 1 1) FWS looked at my m-learning website in order to export their content 2) To put into practice what they learnt from the website 3) Upload content 4) To create html and wml sites 5) To view their site on the phone Phase 2 (reflecting on results of Phase 1 and developing it) 1) ATI delegates and again FWS looked at my m-learning website in order to export their content 2) To put into practice what they learnt from the website 3) Upload content 4) For them to enter their entry on the blog server (they followed my Blog site for instructions) 5) To view their site on the phone

Study - Frank Wise School

Phase 1 - analysis of what they did - and how they used it User trials conducted in one centre - Nominated head learner (staff member) was instructed via e-mail where to locate the online tutorial on how to create the learning assets, therefore initiating the programme without peer-support (online tutorial alone). - Then learned information was disseminated to 2 other staff members - these informed staff members then took their new skills set into the classroom to put into practice with their learners (students)

Findings of Phase 1

The findings from FWS, the outcomes were: Frank Wise School have excelled in this process of rich content within the use of the online learning resource. They have identified that you also have to look at the movie making process in a different way, there being two main factors 1st shooting video for the small screen and the 2nd being the length the footage. The aim being to have short bite size clips, say 1 to 3 min's. The hole WebDAV concept proved to be very successful for the school. They had no problem in uploading there content for publication and also with the local education authorities (LEA) wall garden. Depending on how service providers, be it LEA's, mobile phone companies etc ,set up their wall garden, determines what services you can access, like WebDAV, video streaming and over web based services . When it came to web & wap page content the school did not have the in house expertise to produce the content. This I feel is an area that can be solved with proper staff development training. This could be conducted on site or off site and also be instructor or self study lead. The school could view their new web site hosted from our servers at Ravensbourne. The only difficulty that they ran into was that they could not view their streamed video content from our QuickTime streaming server, this was due to there being LEA blocking video streaming on their wall garden. The way to remedy this problem would be to set up a rule for their wall garden to allow streamed video from .ac.uk sites. In regard to the wap site on

phone all the mobile phone providers that offer GPRS or 3G access to users allow you to view the site, but not all allowed you to view the video content due to their set up on their wall gardens.

Study - ATI 2005

At Apple Teacher Institute 2005 Sean O'Sullivan and myself ran an m-learning workshop.

Phase 2 - analysis of what they did - and how they used it User trials were conducted in one centre - information was disseminated to 15-20 learners in a hands-on workshop session, this entailed a 15 min explanation (teaching) on possible applications and learning tools that can be created using the various I-life applications. - half an hour with a hands-on element using existing projects that the learners (delegates) had created in other workshops - Learners then took their new skills set to follow tutorials without peer-support (in an online tutorial alone). - After the tutorial, which included; creating the movies, uploading and testing them, then it was necessary to de-brief. - The practical experience opened up the debate to give the learners an insight into how to understand the process, the possibilities, and put them into practice within their classroom or institution.

Findings of Phase 2

The findings from ATI 2005, the outcomes were: Frank Wise School have excelled in this process of rich content within the use of the online learning resource. They have identified that you also have to look at the movie making process in a different way, there being two main factors 1st shooting video for the small screen and the 2nd being the length the footage. The aim being to have short bite size clips, say 1 to 3 min's. The whole WebDAV concept proved to be very successful for the school. They had no problem in uploading there content for publication and also with the local education authorities (LEA) wall garden. Depending on how service providers, be it LEA's, mobile phone companies etc ,set up their wall garden, determines what services you can access, like WebDAV, video streaming and over web based services . When it came to web & wap page content the school did not have the in house expertise to produce the content. This I feel is an area that can be solved with proper staff development training. This could be conducted on site or off site and also be instructor or self study lead. The school could view their new web site hosted from our servers at Ravensbourne. The only difficulty that they ran into was that they could not view their streamed video content from our QuickTime streaming server, this was due to there being LEA blocking video streaming on their wall

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Conclusions

M-learning is the way forward to a ubiquitous learning environment. To begin with; the server side, is not tied down to one operating system platform therefore making it flexible and scalable with the use of open-source software which costs nothing.

The project has shown that self-produced (tailor-made) learning tools give learners (teachers) a way to reflect upon making the curriculum more relevant to their educational needs. By streaming it meant that you were not limited/capped to the amount of storage capacity of your mobile device as the streaming resolved this issue by tapping into your rich content Blog repository.

From my findings from the first phase and identifying that there is a need if need be, that learners (teachers) need to be trained in writing code for the web. This is possible but knowing the demands that are placed on teacher's time, it would be unfeasible for them to learn but reflecting on that and introducing Blogging as a form of a light-weight content management system with a few alterations whereby adding necessary code to view your content on your mobile device closed the loop in the relationship of making it sustainable for learners to be self empowered in generating their learning tools and assets.

Also by students partaking in this it also helps the future of video making.

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References