National College of Ireland
School of Computing
BAHTM 1

Creation and Implementation of an E-Learning Self-Publishing Podcast Application (SPPA)

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Honour's Thesis

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Supervisor: Eugene O'Loughlin

I hereby declare that this e-learning project is an original piece of work and has not been previously submitted to this college or any other institution. This project also complies with the guidelines set by the school of computing within the National College of Ireland.

Paul Hughes

Acknowledgements

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Abstract

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This Thesis describes the creation and implementation of a self-publishing podcast application designed to allow the user to efficiently record and publish their presentations from a computer to an online server. These podcast will then be accessed by students through their college's online teaching portal.

This application began with the proposal to create a simple podcast application which would allow the user to record both the visual activates of their screen and their own voice allowing for the creation of a video podcast. This application proposed to allow the user to easily start the recording, stop the recording and finally upload the recording to a secure server hosting the teaching portals files. The design of the interface for this application would display six large buttons, some of these allowing the user to record, upload or launch a support website in order to view tutorials on using the application.

Research began by looking at similar software which did not replicate this application but merely shared similar characteristics as it. By referring to user interface and Visual Basic tutorials the developer gained a better insight into how the application should look. The visual aspect of the application was important as one of its characteristics was its simplicity of use.

These application design decisions were taken and implemented using Microsoft® Visual Basic® 2010 Express were the first prototype was developed.

The application took advantage of both existing and new technologies included in the Visual Basic software and in the video podcast sector. These advantages encouraged the application to provide a greater user experience and allow for an easier understanding of the software.

A prototype was set up within the targeted College were it underwent user testing, the results of this test gave the developer a greater understanding of how well this application performed and if it had met its intended purpose to which it was designed for. As this process gains feedback from direct real time users a better overview of the application could be seen.

The outcome of the final software provided a user friendly and efficient platform for lecturers to record and upload presentations to a database within their teaching portals. It brought several different technologies and software programs together to create a programme which is both exciting and beneficial to the methods of e-learning.

Keywords: user-centred design**,** usability, user experience, design, interfaces

Table of contents

EXECUTIVE SUMMERY

The focus of this project and the research carried out by the author is to create and implement a self-publishing podcast application that will benefit both teacher and student, the intended client application will allow for the effective recording and uploading of lectures and lessons to the server of an online teaching portal.

The recording and uploading of video podcasts usually consists of several steps and can be extremely time-consuming and difficult when uploading, these disadvantages and many more has led to teachers and lecturers not using such tools and therefore not providing students with online resources such as video podcasts.

Looking at existing e-learning models the author found that video communications was still emerging, and with the advances in technologies today realised that this form of learning could be the closest model to that of face to face teaching.

The author found that although some e-learning models existed in this field none have been developed to a specific area. The project was developed for use within a college using online portals to upload their lecture notes and class content.

What the author had to take into account was how this application could allow for the effective recording of a video podcast and also the uploading of that podcast online.

This paper has been created to show the design and implementation of such an application and how user interface, video technology and uploading to the server issues were overcome.

INTRODUCTION

E-learning has become very prevalent in higher education in the last couple of years. The creation of increasingly powerful computers combined with the World Wide Web has meant that information is now much more accessible than ever before (Holmes, & Gardiner, 2006). The adoption of e-learning as a teaching medium within higher education has been known to influence creativity and drive innovation, this new medium for learning has been noted to revolutionise the interactions of the teacher to student relationship as well as the student to student relationship (Myrick, Caplan, Smitten, Rusk, 2011).

A survey carried out across universities in Austria showed that up to 60 per cent of third level students reported using e-learning platforms almost "frequently" or "sometimes" (Unger & Wroblewski, 2006).It is fair to say that this report is not the only one of its kind, with social media at its peak more and more young students and older students are coming online.

As far back as 1966 saw the prediction of e-learning in schools with Stanford University educationalist Patrick Suppes quoting that 'in a few more years, millions of school children will have access to … the personal services of a tutor as well informed and responsive as Aristotle' (Suppes, P., 1966).As e-learning today may not be as well informed as Aristotle this prediction was extremely accurate.

If we look ahead to later years it's clear that schools began adopting this practice with the help of companies such as Tesco who were creating initiatives for schools to collect cans for computers. The relationship between computer technology and learning can today be looked at as not weather it is to be implemented in schools, secondary or college but when where and how to implement it. (Pamela B.Childers, 2003) This outlook towards technology for learning has been adopted by many education sectors in several different countries around the world. The reason for this is not solely based on the growth of the internet in today's world but because e-learning as a teaching method has been so successful.

- Variations of e-learning within third level education

E-learning can be delivered in many different formats; in fact over the last 30 years email and bulletin boards have been a source of online teaching for many. These forms are still used today as many learners are in areas with low bandwidth and older limited technologies (Holmes, & Gardiner, 2006). These e-learning methods have evolved over time allowing for users to express themselves in such sophisticated ways such as the use of webcams.

Video communications such as video conferencing is to this day still emerging but with the introduction of fibre optic broadband and faster internet speeds is yet to reach its full potential. The author paid particular attention to the use of video conferencing as this method related best to the how the application would be used.

Role playing games were also seen as a method to e-learning, games or puzzles which could be played on a computer from a CDROM would challenge the user and create a learning environment.

Also virtual learning environments can be seen as another form of e-learning. Virtual learning allows the user to enter a place they might simulate the activities of the real world, even though the user will be completely away from the real world. Virtual learning can be such activities as games up to training to become an airline pilot. According to (Mills and Araujo, 1999) virtual learning has been noted to increase the student's motivation for learning by allowing the student to feel a sense of presence within the world. This form of e-learning is certainly one of the most advanced of its kind and shows how people can now learn by themselves. The client application being developed will share some similarities with that of virtual learning as the entire program will allow for the self-learning of students.

One of the most similar forms of e-learning researched by the author in relation to e-learning trough podcasts was distance learning.

Distance learning is a form of teaching or studying by which a lecture or class is thought through the medium of internet. The name distance would normally suggest that the teacher and student may be far apart from one another. The creation of podcasts being uploaded for viewing at any stage would be a form of distance learning online its methods would not be face to face like some of distance learning methods.

- Focusing on specific type of E-learning

The term podcasting can be looked at as the process of distributing any type of digital media file or number of related files, over the internet for playback use on media players within computers or portable players such as iPod's (Lazzari, 2009). With the popularity of podcasts and portable devices used to watch podcasts increasing the author believed this area of E-Learning had yet to be fully exposed. The author believed that the use of video podcasts for the benefit of learning within third level education could be explored more in depth, and that new ways of implementing and using this method were yet to be developed.

The idea of podcasts giving students the ability of learning on demand based on their own learning styles leading to the motivation of students to actively engage in the content of the particular course. (Fisher and Baird, 2006).

Recent studies in the US have shown that a massive 80 per cent of third level students own at least one portable device such as an iPod which are capable of downloading and playing recorded media files some of which can also download video recordings (Lum, 2006).

1.1 Objectives

The purpose of this project was to develop a simple application that recorded the user's desktop screen and user's voice for the creation of a video podcast, the application would then allow the user to efficiently upload the recorded video directly to their online teaching portal. The creation of this application required a simple and clear user interface which consisted of minimal buttons. The application would be developed in visual basic a Microsoft programing tool.

Both the applications functions and user interface would be tested during its development stages by surveying potential end users, developing prototypes and setting up user testing events.

By interviewing potential end users the author was able to build the application based on the findings and results, it was important for the author to better understand how end users might use this software were and what they liked and disliked about any piece of software. Two prototypes would be developed before the creation of the final application. These prototypes allowed for application flaws to be corrected and improvements of the early design bettered.

The participants who were seen as potential end users of this client application would be questioned on how technically minded they were, it was important that these interviews be carried out on both non-technical and technical users in order to get the best results overall.

All testing involved would be carried out across all stages of the application, this ranged from testing buttons to uploading sample podcasts through the application. The objective involved with test was to show that both the functionality and the user interface/application use ability were tested to perform at the best level possible.

1.2 Scope of Project

This project concentrates on developing and implementing a self-publishing podcast application that meets the standards of an efficient and user friendly interface. Its overall intention is not only to carry out a set of functions to assist in the recording of tutorials but to allow for users of any technical ability to download, install, use and upload video podcasts. This application has been developed to run as a program application on the user's PC opening as a form application.

Using an FTP browser client may not be part of the scope but as the application launches one it is defined in the application. The final project allows for users to view their online portal files trough an FTP browser.

By carrying out surveys on potential end users within a college the author was able to better define what type of user application needed to be developed. This project was also developed for use with the open source online teaching portal Moodle.

1.3 Project overview

This project has been divided into seven different chapters. The first chapter will give a short background on the subject of e-learning and its variations throughout the centuries, this chapter outlines the authors finding in relation to e-learning practices and studies gone before. This chapter also outlines the author's objectives and scope for the project.

The second chapter will focus on the technical background of the developed application and project overall. This will include the podcast software used along with the Visual basic programme used to execute it. This chapter will also define the background of setting up the FTP browser and also the build for the open source teaching portal Moodle.

The third chapter looks at the Requirements and specifications involved the client application. This chapter gives an outline of both the user and system requirements needed to develop and run the programme.

The fourth chapter will look at the design and development involved in building the application form. From here the author will talk about the GUI layout along with the colour scheme used. This chapter also looks at the applications purpose for use and the roles it's required to carry out.

The fifth chapter will define the different technologies involved in the research and development of the overall project. This will include technologies used and technologies researched.

The sixth chapter will focus of the implementation and setup of the developed application on a computer system and the creation of an FTP browser and hosting setup of the Moodle page.

The fifth chapter defines the user tests carried out and the findings returned which enabled the author to revaluate the application and to make changes. This chapter also looks at the early stages of interviews carried out in order to define how the application would be designed and to get an idea on how technical the standard user is and if they had used similar processes in the past.

2. BACKGROUND

2.1 Technical Background

The technical background of the client application involves the definition of several different pieces of software including browsers and FTP Client add-ons along with the application build details and the programs used to create it. The development of the form application was created using the visual basic language a third generation event driven programming language from Microsoft. These applications which are created in Visual basic are known as “Windows Form Applications” and are for installation and use on Microsoft machines only.

The user interface of the windows form application developed consisted of buttons which were created by applying a VBScript this is known as VBScripting.

2.1.1 Podcast software.

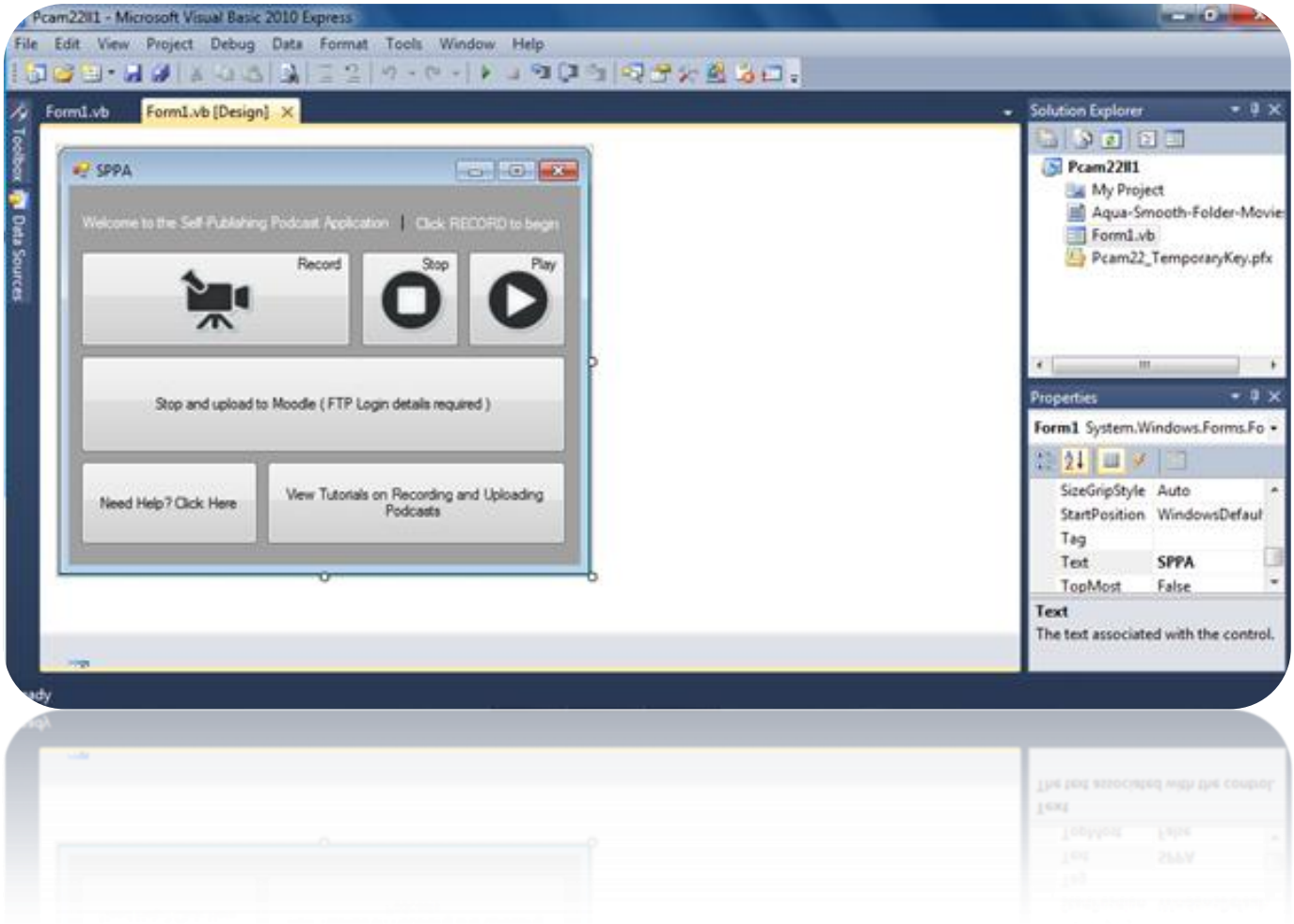
The client application has been developed by the author to execute a third party screen recorder which must also be installed on the user’s PC for the Application to correctly record the desktop and voice of the user. The software is known as “Hypercam2” from the hyperionics team (http://www.hyperionics.com/hc/) and is a free piece of software which records the user’s desktop and records their voice.

The Hypercam2 application can be run separately but is only needed to be installed for the client application to work. The Hypercam2 application is never seen and it only runs in the background after installation. This piece of software is linked to the client application which in this case is the self-publishing podcast application.

2.1.2 Visual Basic 2010

Visual basic was used to create the GUI Graphical user interface for the client application. The windows form application held a set of buttons for different processes within the form. Buttons were created to start stop and play the process of the recorder. An example of this GUI is presented in Figure 1.

Figure 1. Example of GUI in Visual Basic 2010.

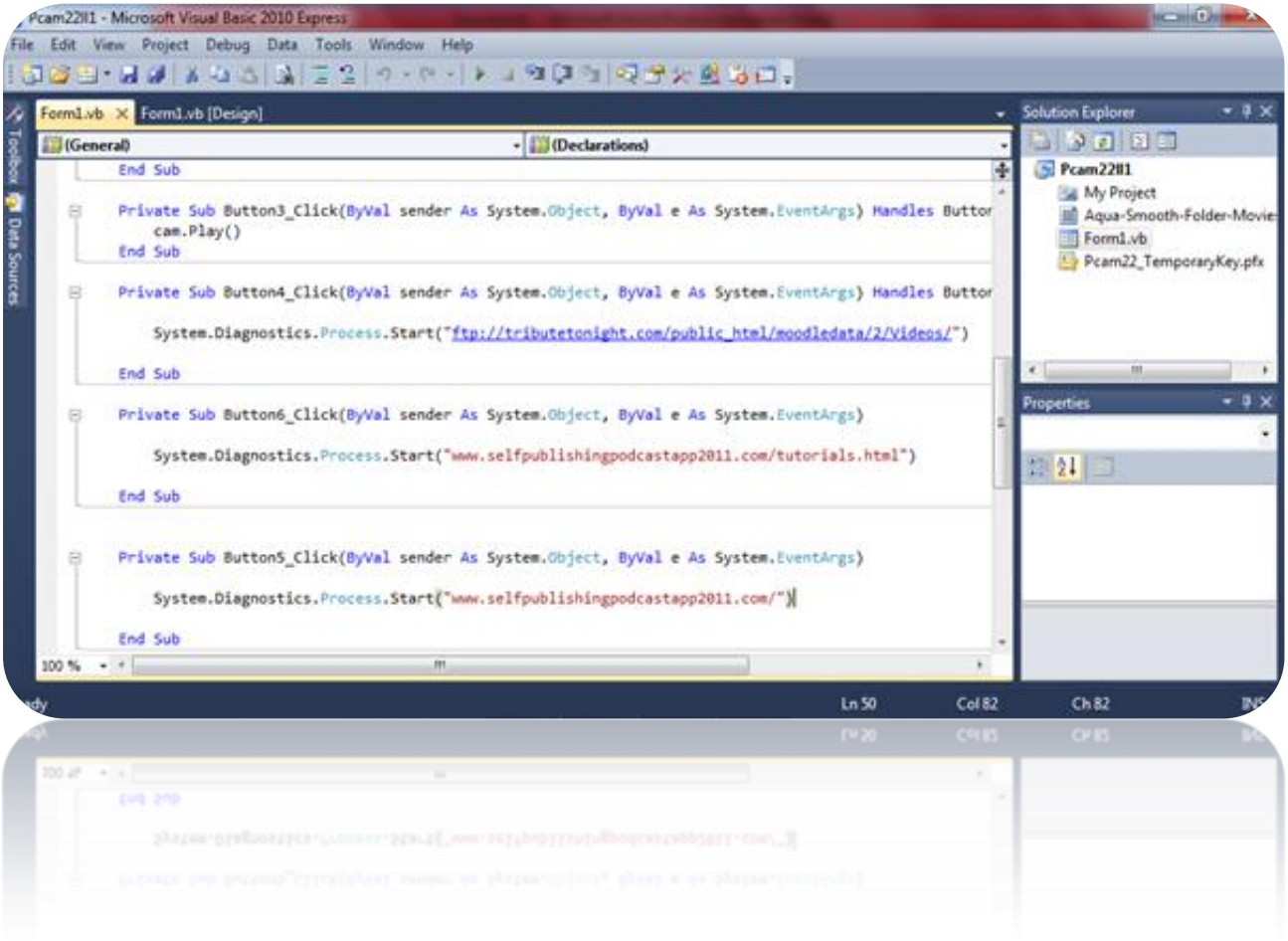


The Visual Basic program allows the developer to view the code side of the application along with the actual visual of the form (Figure 1). This allowed the author to design the application visually using a GUI to move buttons and type in text while also allowing him to make changes to code resulting in different processes being developed. This program also allowed for creative design to take place as the developer could insert images and physically see what the final application form would look like.

The coding section within Visual Basic is known as vbscribting, an example of this is presented in Figure 2.

This type of script allows for the creation of processes and executables. One process which can be seen in figure 1 is the linking of ftp website which can be seen under the Private Sub Button4_Click line, here is what the full line of code looks like for that button: (System.diagnostics.process.start("ftp://tributetonight.com/public_html/moodledata/2/videos/"). This line of code will begin the process of launching the ftp browser; this can be done by either using the application and clicking the ftp button or by directly entering the link ftp://tributetonight.com/public_html/moodledata/2/videos/ into the address bar of a browser. This project recommends the Firefox browser.

Figure 2. Example of vbscripting in Visual Basic.



2.1.3 User Interface

The user interface can be seen when the client application is launched, the decision was taken to design the application to be small and tidy, this meant minimum buttons. The Visual basic program allowed the author to physically see the user interface as a GUI for the program allowed for the free movement of buttons and forms. Images were also uploaded to the buttons to allow for the easier understanding of each buttons process.

A toolbar provided by Visual Basic allowed the author to drag and drop click buttons into the form and then to change the appearance of that button, this included changing the color and size. Unlike other programming language for example JavaScript the author had been able to see first-hand what the application being built would like. Check buttons and upload forms had been placed into the Self-Publishing Podcast Application during the earlier stages of development but due research carried out on potential end users the author choose not to use them as he felt many users would be of a non-technical background

Images of the Self-Publishing Application user interface can be found in (Appendix A.)

2.1.4 FTP browser

The author researched many browsers in relation to their FTP performances; both Internet explorer and Safari did not have the full capabilities to allow the writing of files only the reading. The one successful browser that did allow for this was Mozilla, Firefox. Not only could the author successfully open an FTP browser and access the files trough Firefox but a free add-on called FireFTP version 1.99.3 would make the already easy process much more efficient.

2.1.5 FireFTP

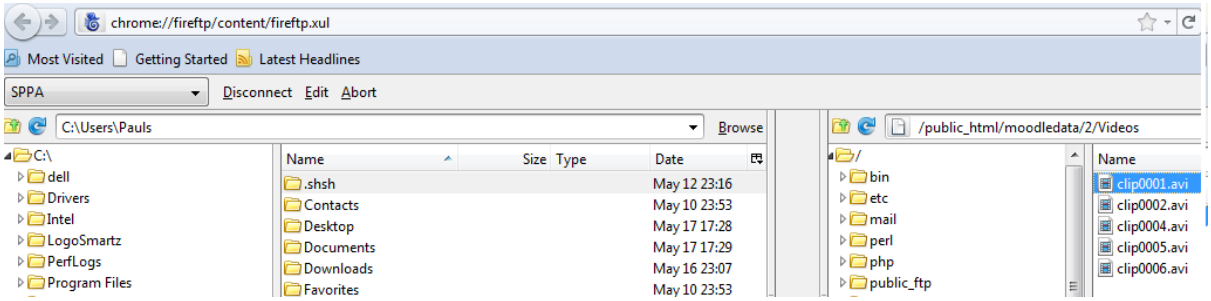
The add-on known as FireFTP is a free cross platform FTP client by (Mime Cuvalo, 2007 (http://fireFTP.mozdev.org/)) for the use within the Firefox browser. This client is also extremely secure and is well credited for its usability performance. Once this add-on has been launched the user can see both their local machine and the files which are based on their online server. The user is required to enter their database username and password first before accessing this area.

The FireFTP client developed for implementation into Firefox allows the user to access their ftp server by the simple click of a button.

The FireFTP client which can be downloaded from the website http://fireftp.mozdev.org can be installed directly into your browser.A simple process of connecting to the server hostname and entering the required password will launch the ftp client showing the user both their local files (for example their recorded podcast) and also it will show them their Moodle server and the names of the files that are there. All the user is required to do is simply drag and drop there podcast video into the file or folder they want. An example of the FireFTP client is presented in Figure 3.

As mentioned already one of the self-publishing podcast applications will launch an ftp client. Once the user has successfully logged in the will be instantly directed to the videos folder within Moodle. This file within Moodle can be seen as the main folder for storing all podcasts. And once student log into their Moodle account they will be able to access this folder and these videos.

Figure. 3 FireFTP server client.



2.2 Usability

2.2.1 Defining the term usability

Usability is the term used to explain the ease of use of using a certain object. Another form of usability is known as web usability, this approach is the coins the creation of easy to use web sites for the end user. In the terms of a website or application the quality of the user experience or usability is normally looked at in terms of:

- Look and feel.
- Navigation.
- Interface design.
- Architecture. (motive.co.nz,2004)

2.2.2 User experience

One definition of user experience has been:

"All the aspects of how people use an interactive product: the way it feels in their hands, how well they understand how it works, how they feel about it while they're using it, how well it serves their purposes, and how well it fits into the entire context in which they are using it" (Alben 1996)

It's almost impossible to create a piece of software such as the application being developed here and have everyone like it, even to have most people like it would be difficult. It's not enough to simply focus on usability issues here, the author needed to look at the end users in a more holistic way. User experience is all about how the user feels about a piece of software or product, it's also based on their past experiences or environment.

It was important for the author to research all aspects of user experience, not only usability but other area such as environments of the application.

3. REQUIRMENTS AND SPECIFICATION

The requirements and specifications define the projects work load and also the rules involved with creating the project.

The following has been laid out to assist the author or tester in understanding how the application is built and how it works.

3.1 User Requirements

The self-publishing podcast application has been developed to allow the end user to effectively record the desktop screen and voice of the user and allow for the prompt and easy uploading of this recording to a database.

The user requirements will define and describe the needs, goals and tasks of the end user. This can be used to give the author a bird's eye view of what is required for the application.

All of these requirements have been taken into account?

- The need for a simple user friendly application which can be clearly understood and used.
- The need for the development of an application that can be used by a non-technical user.
- The need to easily upload videos to an online database or portal.
- For the user to become a frequent user on this application due to its advantages.
- The availability of help and support with the use of the podcast application.
- The need to play back recordings before uploading of application.

3.2 System Requirements

The system requirements will take a look at the required specs in terms of hardware and software which are needed on the system in order to correctly run and use the application.

3.2.1 Software:

The operation system in which this application has been tested and run is Microsoft's Windows 7 operation system.

This application has been developed to run on 32-bit system-types only.

The installation of the Self-Publishing Podcast Application is crucial for the successful use of the application. This application is available from the author's application website www.selfpublishingpodcastapp2011.com/downloads.html

The user must have the browser type Mozilla, Firefox installed on their system and running as their default browser.

Once Firefox is installed the user must also download the FireFTP add-on for Mozilla. The FireFTP add-on is an FTP client used for uploading files trough a browser.

All of these software requirements and their links are available for download from the author's application website www.selfpublishpodcastapp.com/downloads.html.

3.2.2 Hardware:

The use of a Pentium dual core processor or higher is recommended to run this application effectively.

A microphone is needed for the successful recording of the user's voice.

Speakers are needed for the playback of any recorded video.

A required amount of space is needed on any one pc for the successful storing of the video recording locally.

3.3 Technical Specifications

Technical specifications are typically written the by developers and coders, and describe how they will implement the project. The developers work from the functional specifications, and translate the functions into their actual coding practices and methodologies.

For the creation of the podcast application interface the software program Visual Studio 2010 express or visual basic was used. The program allowed the author to build the application whilst also setting the functionality of each button.

A Visual Basic form was developed which required the coding of each button on the application. Three buttons were set to activate the screen recorder. These buttons used specific lines of code to execute a certain function within the screen recorder for example one button when clicked on would tell the recorder to begin recording both the screen and voice of the user. The coding required to execute the screen recorder was found trough online tutorials (Kanalar 2010) and coding project websites. Visual basic books and other VB tutorials were used in order to change the coding to meet different needs. For example the code found online would online record the outline of the recorder which was a small proximity. The author found a way of changing the code so that the application would record the full area of the screen.

Example of code used to record full screen of PC desktop:

```
Private Sub

Button1_Click(ByVal sender As System.Object, ByVal e As

System.EventArgs) Handles Button1.Click
cam.StartX = Me.Location.X
cam.StartY = Me.Location.Y
cam.Height = My.Computer.Screen.Bounds.Height
cam.Width = My.Computer.Screen.Bounds.Width
cam.StartRec()

End Sub

'Button1
        '
        Me.Button1.BackgroundImage =
CType(resources.GetObject("Button1.BackgroundImage"), System.Drawing.Image)
        Me.Button1.BackgroundImageLayout =
System.Windows.Forms.ImageLayout.Zoom
        Me.Button1.Location = New System.Drawing.Point(15, 58)
        Me.Button1.Name = "Button1"
Me.Button1.Size = New System.Drawing.Size(192, 93)
Me.Button1.TabIndex = 0
Me.Button1.Text = "RECORD"
Me.Button1.TextAlign = System.Drawing.ContentAlignment.TopRight
Me.Button1.UseVisualStyleBackColor = True
```

Example of code used to execute the stopping and playing of the completed recording:

Stop Recording:

```
'Button2
        '
Me.Button2.BackgroundImage =
CType(resources.GetObject("Button2.BackgroundImage"), System.Drawing.Image)
Me.Button2.BackgroundImageLayout = System.Windows.Forms.ImageLayout.Zoom
        Me.Button2.Location = New System.Drawing.Point(213, 59)
        Me.Button2.Name = "Button2"
        Me.Button2.Size = New System.Drawing.Size(95, 92)
        Me.Button2.TabIndex = 1
        Me.Button2.Text = "STOP"
        Me.Button2.TextAlign = System.Drawing.ContentAlignment.TopRight
        Me.Button2.UseVisualStyleBackColor = True

Private Sub Button2_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button2.Click
        cam.StopRec()
    End Sub


        '
```

Play recording:

```
        'Button3
        '
        Me.Button3.BackgroundImage =
CType(resources.GetObject("Button3.BackgroundImage"), System.Drawing.Image)
        Me.Button3.BackgroundImageLayout =
System.Windows.Forms.ImageLayout.Zoom
        Me.Button3.Location = New System.Drawing.Point(313, 58)
        Me.Button3.Name = "Button3"
        Me.Button3.Size = New System.Drawing.Size(95, 93)
        Me.Button3.TabIndex = 2
        Me.Button3.Text = "PLAY"
        Me.Button3.TextAlign = System.Drawing.ContentAlignment.TopRight
        Me.Button3.UseVisualStyleBackColor = True

Private Sub Button3_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button3.Click
        cam.Play()
    End Sub
```

Other buttons within the application were used to launch the PC's web browser; one was specifically developed to open an FTP browser for the completion of uploading files. A visual basic browser launcher code was used here.

Example of button created to launch the FTP browser within the VB Application:

```
'Button4
        '
Me.Button4.Location = New System.Drawing.Point(15, 160)
Me.Button4.Name = "Button4"
Me.Button4.Size = New System.Drawing.Size(393, 79)
Me.Button4.TabIndex = 6
Me.Button4.Text = "Click here to Upload to Moodle ( FTP Login details required )"
Me.Button4.UseVisualStyleBackColor = True

Private Sub Button4_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button4.Click
        System.Diagnostics.Process.Start("ftp://tributetonight.com/")
    End Sub
```

Example of button created to launch standard browser (in this case the website "wwww.selfpublishingpodcastapp.com") within the VB Application:

```
'Button6
        '
        Me.Button6.Location = New System.Drawing.Point(181, 247)
        Me.Button6.Name = "Button6"
        Me.Button6.Size = New System.Drawing.Size(227, 58)
        Me.Button6.TabIndex = 10
        Me.Button6.Text = "View Tutorials on Recording and Uploading Podcasts"
        Me.Button6.UseVisualStyleBackColor = True


Private Sub Button4_Click(ByVal sender As System.Object, ByVal e As
System.EventArgs) Handles Button4.Click
        System.Diagnostics.Process.Start("www.tributetonight.com/")
    End Sub
```

3.4 Function requirements:

Function requirements will define the inputs, outputs and behaviours which are to be expected with a software component.

- The application should respond to button actions when the user clicks start recording.

- The application should activate the screen recorder and voice recorder when the start recording process has been chosen.

- The application should stop and prompt user to save recorded file when user has selected the stop recording button.

- The application should allow the user to stop the recording and upload it directly to an online database.

3.5 Use Cases

Use case number 1 Start Record.

- The application should respond to button actions when the user clicks start recording.

Description

The goal of the start button is begin recording both screen and voice when the user has selected the start button.

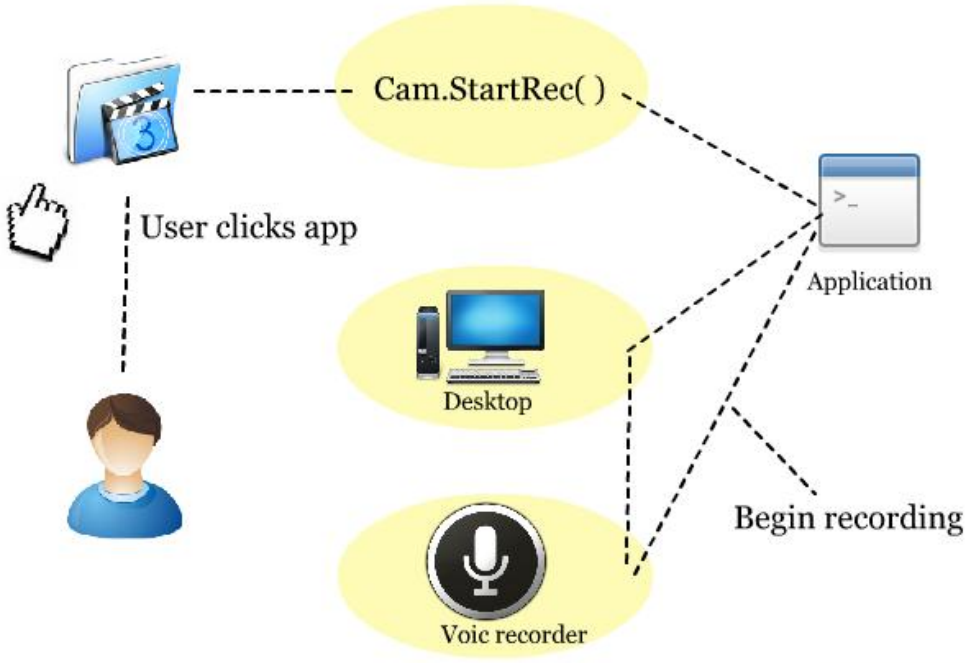
Steps

When start button“button1”has been selected it activates cam.StartRec(), cam.StartX and cam.StartY set the height and width proximities of the recorded area.

Non-Functional

HyCam must be pre-installed on user’s computer for code to activate it.

Use Case Diagram for Start Record.



Use Cases

Use case number 2 Activate Screen Recorder.

- The application should activate the screen recorder and voice recorder when the start recording process has been chosen.

Description

The application must activate the screen recorder once the start button has been selected.

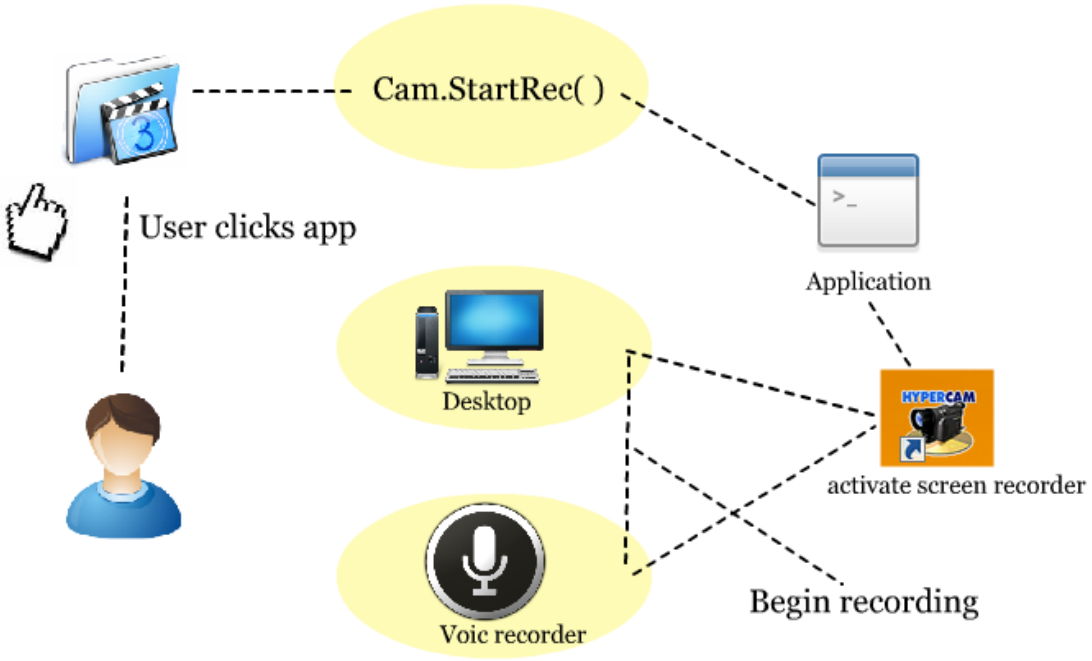
Steps

When a button is clicked in the application it must respond by activating the screen recorder.

Non-Functional

The self-publishing podcast application must be in running mode for this activation to take place.

Use Case Diagram for Screen Recorder Activation.



Use Cases

Use case number 3 Stop recording.

- The application should stop and prompt user to save recorded file when user has selected the stop recording button.

Description

The stop button “Button2”should stop the recording and automatically prompt the user to save the file.

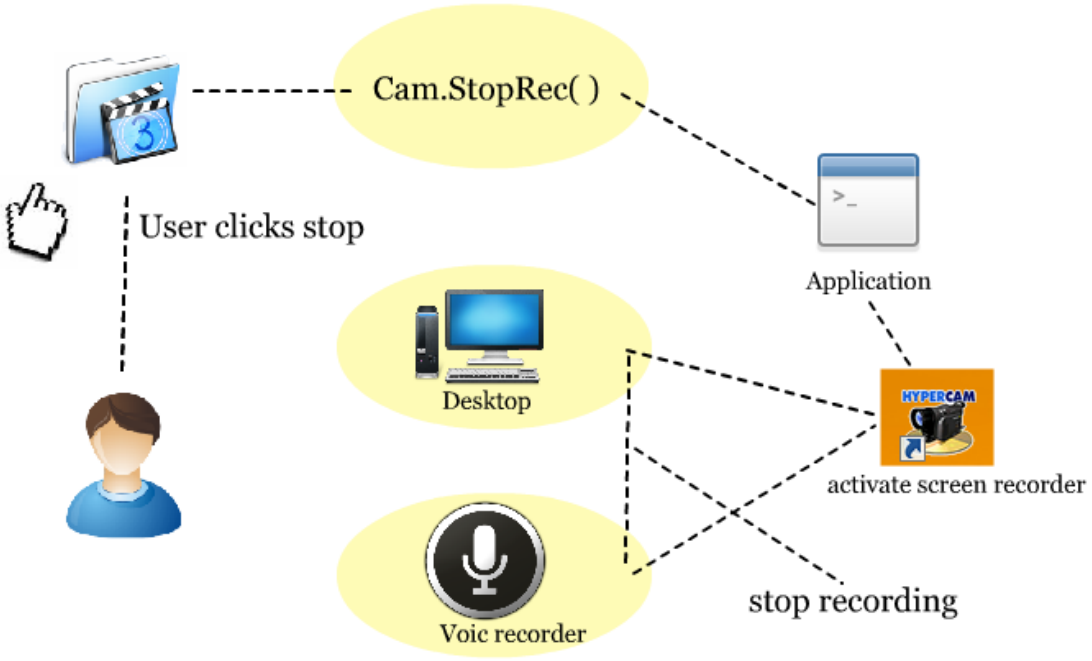
Steps

When stop button is clicked in the application it must respond by activating the screen recorder.

Non-Functional

The self-publishing podcast application must be in running mode for this activation to take place.

Use Case Diagram for End Recording.



Use Cases

Use case number 4 Play recording.

- The application should stop and prompt user to save recorded file when user has selected the stop recording button.

Description

The play button “Button3”should play back the recording using windows media player.

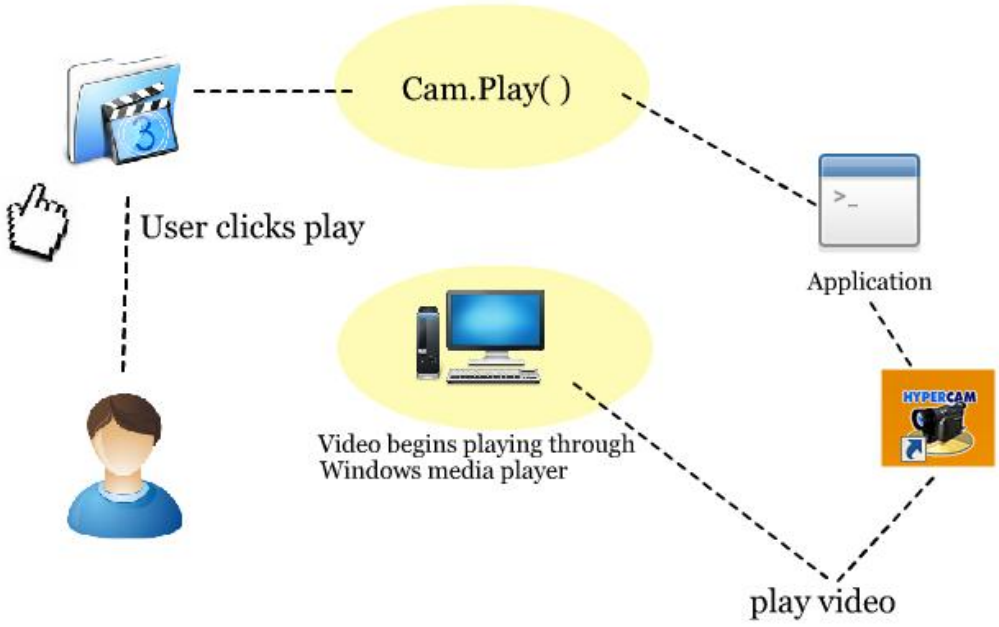
Steps

When play button is clicked in the application it must respond by finding the last recorded video and playing it through windows media player.

Non-Functional

For playback to work the computer must have a media player function such as windows media player to play back all types of media.

Use Case Diagram for Play Recording.



Use Cases

Use case number 5 Upload to Moodle

- The application should allow the user to stop the recording and upload it directly to an online database.

Description

The stop and upload button should stop the recording and prompt the user to upload to an online database.

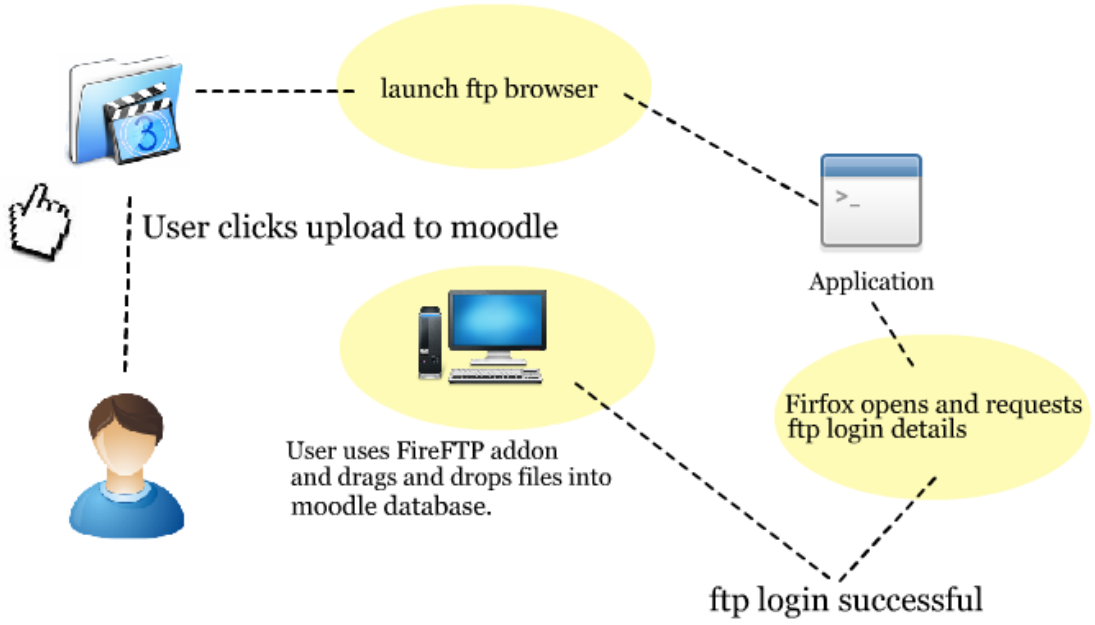
Steps

When the stop and upload button has been selected it must tell the application to stop recording but also activate the form to display the upload area for uploading the video.

Non-Functional

A online database must be created with the possibility of uploading videos directly to it.

Use Case Diagram for Stop and Uploading.



4. DESIGN AND DEVELOPMENT

The design and development chapter is based on the overall function of the self-publishing podcast application. This section will look at all features involved with the look and layout along with the roles of the application and user types.

4.1 Design of application

The author of this application looked to several GUI books and online tutorials in order to create a nice clean and easy to use application .Several factors needed to be looked at when taking into account the design of any application. For example where it will be used and for what type of user.

4.1.1 GUI layout

The GUI layout consists of 6 buttons; the overall size of the application is small but can be made bigger by the user at any stage. Large buttons with images were created to make the application easier to see and use. Each button consisted of a word or words describing what its purpose was.

4.1.2 Colour scheme

The colour of the application was left a light grey to avoid distraction from the buttons within the application. As this project was not being aimed at a young user group there was no great need to have bright vibrant colours. The application has neutral colours in the background with the buttons using white to allow for them to stand out. A bright user interface was developed for the prototype stage but was later changed to a darker colour to allow for easier viewing.

4.2 Application purpose

Every project or application must have a purpose or role, this will be defined here. This application will record the desktop screen and voice of user, and allow them to upload the videos online to portal.

4.2.1 Role of application

The role of this application is to allow the client user to install and run a self-publishing podcast application. This application should successfully execute the screen recorder and allow the user to then upload their video podcast creation to their own online teaching portal.

4.2.2 User group

The user group involved with this project were lecturers within the third level education sector. The application was not restricted to this group but for the purpose of this project a specific group within a college in Ireland, Dublin was targeted in order to meet a certain need.

4.3 HTML/CSS website

A support website called www.selfpublishingpodcastapp2011.com was developed for the downloading and support of the client application. This website was developed using HTML (Hypertext mark-up language) and CSS (Cascading style sheet). The author had previous experience developing HTML websites but still found this one to be quite challenging. The website was developed using text pad and hosted online using LetsHost.ie.

4.3.1 Website Layout

The website consisted of four pages, the reason for the small number of pages was to keep the page simple, it was there to serve a certain purpose and that it did. The first page known as the home page gives a few paragraphs on what the project is about and what its purpose is. It also explains the types of technologies used and provides the user with a small picture of the application itself.

The second page known as the download page allows the user to download all the necessary files and programs needed to run and use the application successfully. Each file downloads as a zip file, these zip files have been placed inside a hosting domain and when requested by the user can be downloaded from this area. To try this simply log on to www.selfpublishingpodcastapp2011.com/downloads.html

The third page known as the user manual page simply allows the user to download the user manual as a word document. This manual explains how to install and run the application.

The fourth and final page is the tutorials page, there are three video tutorials uploaded here. The videos were created using a screen recorder and uploaded via YouTube. A YouTube embed file was then applied to the html allowing for the videos to be played on the website.

Here is an example of the embedded code used to add the YouTube video:

```
<iframe width="560" height="349"
src="http://www.youtube.com/embed/Rs87kMpNH34" frameborder="0"
allowfullscreen></iframe>
```

All HTML/CSS code used to create the self-publishing podcast application website along with screenshots can be found in (Appendix B)

5 TECHNOLOGIES

5.1 Technologies used.

This chapter will look at the different technologies used for the development and research of the overall client application. Different technologies may include technologies used in and with the application along with technologies leading up to the creation of each individual factor.

5.1.1 Video podcasting.

Video podcast also known as vodcast is a term which has been created to define the online delivery of video on demand. The finished product of this application will upload a video online for users to view; this is video podcasting and is becoming increasingly more popular (Wikipedia ,2007).

The software used with this application is known as screencast software; its end product will create a video podcast of the user's desktop out along with the user voice over.

5.1.2 Screencast

A screencast is known as a digital recording of the out of a user's computer screen. A screencast will capture actions which will be taking place on a computer screen; this will also include the user voice. Screencasts are usually made with a narrator talking over their actions as they show the viewer how something is done. (http://whatis.techtarget.com/definition/screencast.html)

For a screencast to take place the user must have some form of screen capture software installed on their PC and also a microphone must be present to record sound. For example the author of this application has stated that a microphone is required, this has been mentioned under the hardware section of the system requirements.

A popular screen casting application out there today is Screen toaster. Screen toaster is a simple to use screencast product (Bradley,2007) which allows the user to record their desktop screen and create video podcasts, the unique thing about this service is that no download of software is required. The screen toaster website prompts the user to begin recording their desktop trough a virtual connection.

5.1.3 iTunes.

The author became aware of video podcasts and audio podcasts through his interest in iTunes. "ITunes is an audio playback program developed by Apple Computer" (http://www.techterms.com/definition/itunes) iTunes software allows the user to both organise their, music, photos and videos and also for the user to view, purchase and download media content. As a regular iTunes user the author noticed an increase in free audio podcasts and soon after in video podcasts, usually short sketches created to entice the user to purchase the full product.

As iTunes and the iPod became more popular the term podcast really began to grow. Now different media players were focusing on software which could play both audio and visual media files such as podcasts.

5.2 Technologies researched.

As the author had past experience with podcasts he did not with other areas of the project such as FTP clients. FTP stands for File Transfer Protocol, this term is the exchanging of file over the internet.(http://www.webopedia.com/TERM/F/FTP.html). This project uses an FTP client with the Firefox browser. Once launched the user can simply drag and drop files from their local desktop to a server online. We use FTP every day, for example if we are uploading a file online or even downloading a file, its all done trough FTP. During the research phase of this project the author looked to use several FTP clients but in the end none would meet the requirements for this application.

5.2.1 Filezilla FTP client

The Filezilla FTP client could be downloaded to the user's desktop and launched from there each time without having to access any browser. This client was safe and efficient but the author found difficulties in terms of its security. Filezilla was limited and near unusable when using certain Wi-Fi connections. This was due to firewalls affecting it connecting to the required server. This FTP client was well developed but unfortunately would not be used.

6 IMPLEMENTATION

6.1 Concept of application

The concept of this application was created by the author taking the general idea of e-learning trough podcasts and developing a product which allows for a more efficient way of achieving this. The self-publishing podcast application has been developed to bring the use of two different technologies together in order to speed up the process of using both individually.

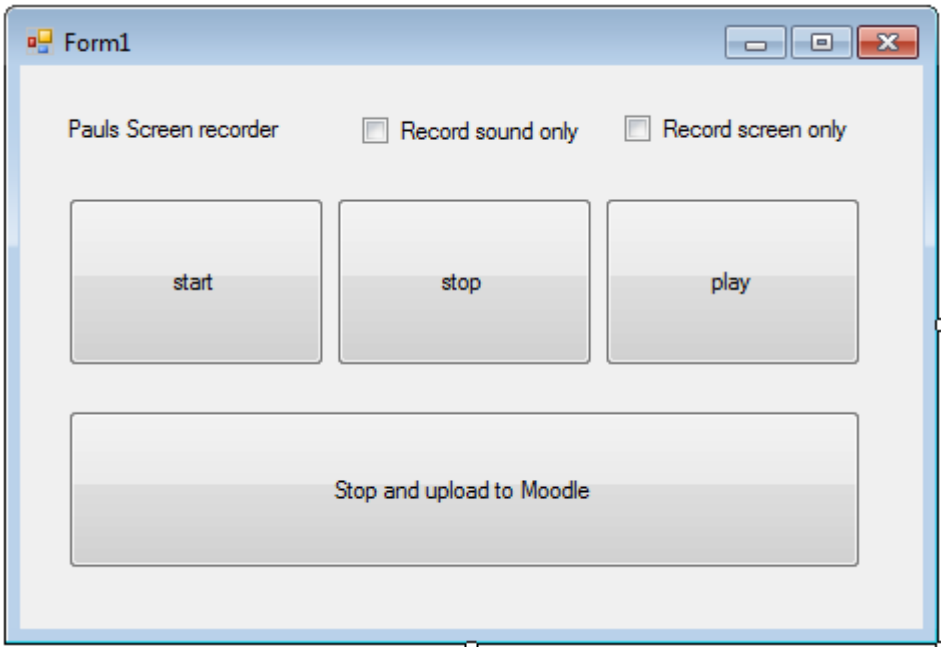
6.1.1 Paper design of prototype

The early stages of design for this application were created on paper by drawing out use cases and roughly drawing out what the product might look like. The objectives of the application were written down and goals needed to achieve these were laid out alongside.

6.1.2 Initial prototype

The initial prototype was developed for the first presentation of the project. Its functions were working but had yet adopted the ftp and website links. Figure 5 shows an image of the first prototype.

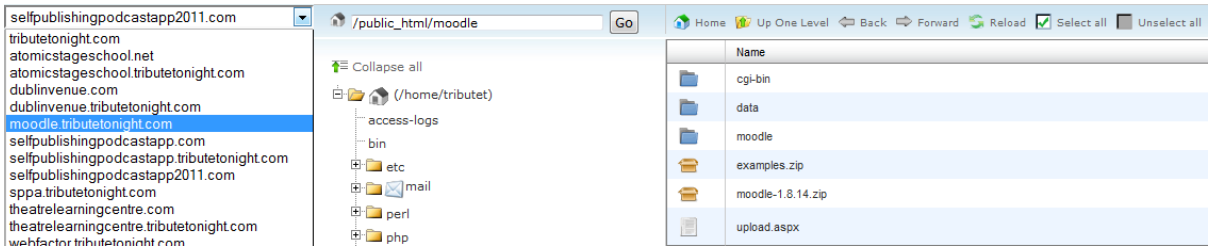
Figure. 5 First prototype.



6.2 Installation of Moodle

To test the application with a real online teaching portal the author needed to set up his own online teaching portal. He choose Moodle because he had experience with this portal before. The first step here was to download the latest build from Moodle. As Moodle was open source anyone can download and install their very own version of Moodle on a server. Once all the files had been downloaded the author Zipped to a folder and uploaded that zipped folder directly on to his hosted server. The server can be seen here in Figure 6.

Figure.6



The zipped file was then accessed and the Moodle setup was run. This brought the author trough several installation steps. Finally the author named the website domain that would allow access to this Moodle page. A username and password were created for the admin user to login.

The website domain http://moodle.tributetonight.com/moodle/login/index.php was now set up and the author was able to access it through his admin account.(For username and password required to access Moodle please see User Manual on CD-ROM) See Figure 6 for image of Moodle Portal created.

Once logged into the Moodle portal as seen in figure 6 we see a folder named Videos week 2, in here the user can find all the latest video podcast that the lecturer had uploaded trough the SPP Application. For now only one folder has been made, its named videos week 2, the lecturer can now log in as admin and create a new folder for week 3,and he/she may name the folder any name they wish. An example of a folder name might be Video Podcasts for HTML lecture. The Videos week 2 folder can be viewed in figure 8.

Figure. 6 Moodle account, logged in as user.

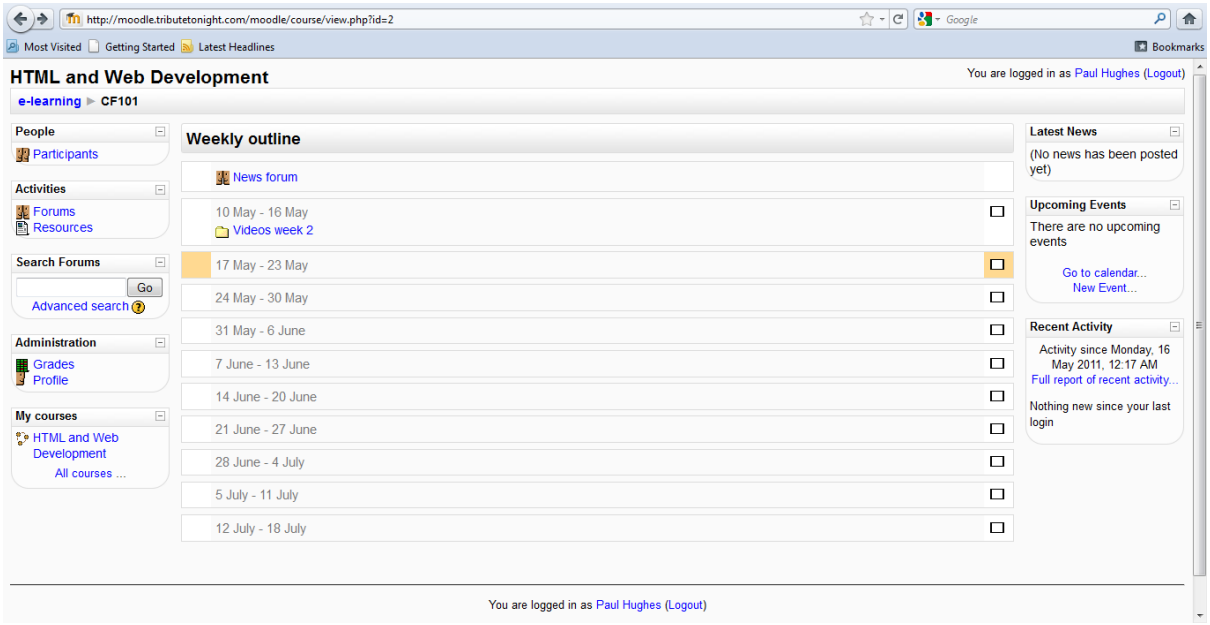


Figure. 7 Moodle account, logged in as admin.

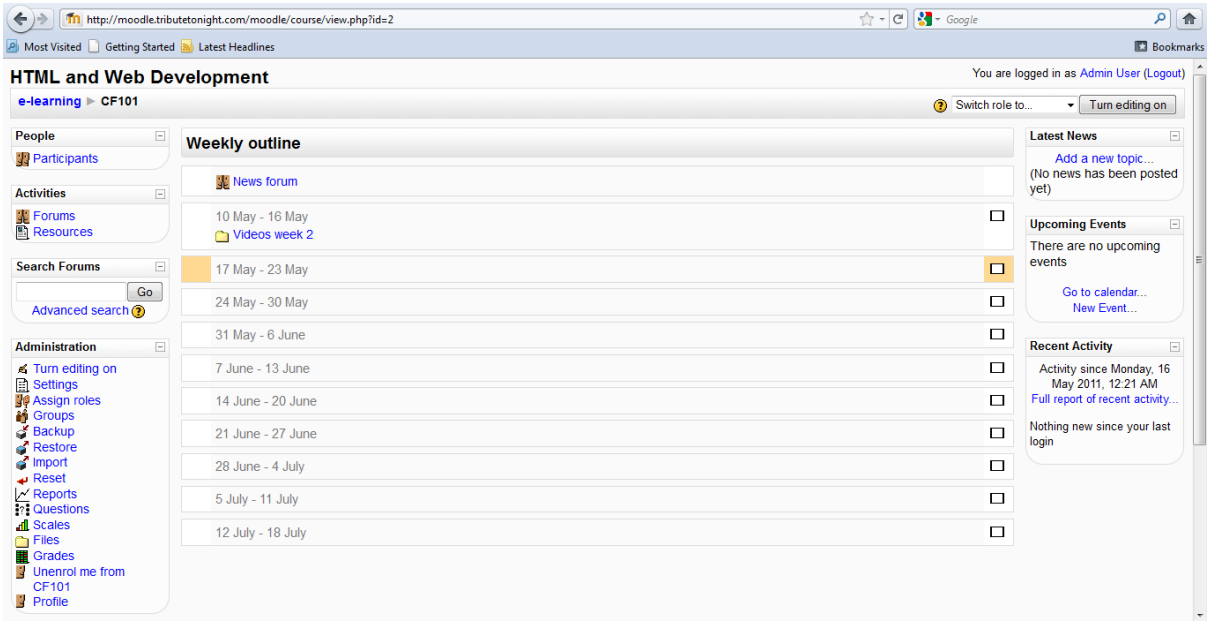
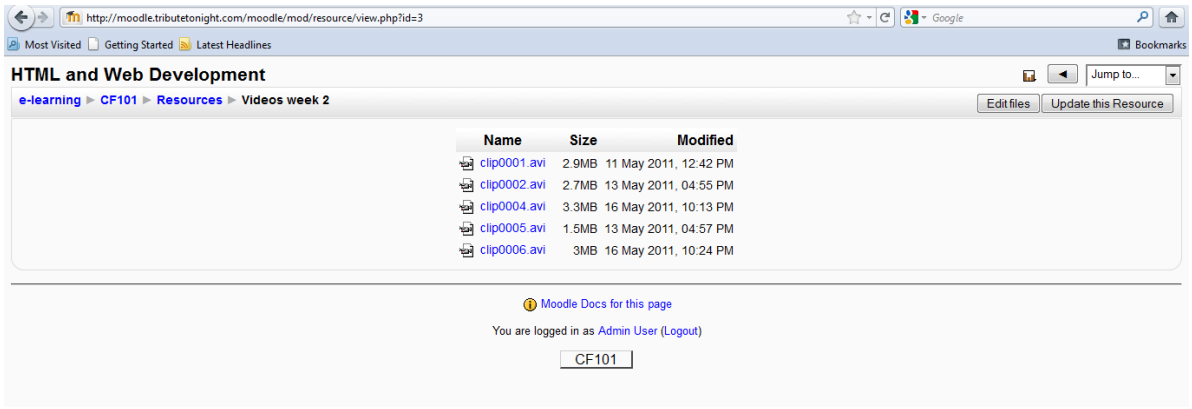


Figure. 8 Moodle account, Videos week 2 folder.



7 USER TESTING

7.1 Initial research and user interviews

A questionnaire consisting of 7 questions was developed by the author for the purpose of research. Six lecturers within the college in question were asked to participate in answering the questions. This questionnaire used by the author to help define the building of the application can be found in appendix (1.1).

The questions had been created to gain a better understanding of the skills found in lecturers of the college in relation to podcasting and computing. This questionnaire was carried out in both the early and late stages of the prototype.

7.1.1 Defining questions

The questionnaire contained 7 questions. We will now look closely at each of these questions in order to gain a better understanding of their purpose and reason, In other words what type of information was the author trying to get from each question.

- You can view the full questionnaire in (Appendix D)
- A transcript from one of the Interviews can be viewed in (Appendix E)

Question1.

Assuming there are two types of PC skilled users being advanced and basic, what type of skills would you say you have? And in average what type of skills would you say lecturers within the national college of Ireland have?

The author created this question for one reason, to find out how skilled users were on PC's within the college. This question not only told the author how skilled that particular lecturer was but asked him or her to determine the average in terms of skill on a PC within the college.

Question2.

As a user what do you look for in an application?

This question asked the participant to give a quick definition of what they would look for in an application. This could characteristics such as simplicity speed or usability. This question looked for a general answer and was not asking the participant to talk about this application but any application they have ever used.

Question3.

Would this Self-Publishing Podcast Tool be of interest to you?

The author had only gained feedback from his supervisor and the consultants he had met with before the creation of the application. This question was therefore created to find out what the participants thoughts were on the idea of the self-publishing podcast app.

Question4.

Have you ever created and uploaded a podcast before? If so did you come across any irritations when doing so?

The author was looking for past experience with both the creation and uploading of video or sound podcasts online. The question was asking if the participant had ever created or uploaded a podcast. This question was also asking if the user had any experience of any kind with podcasts.

Question5.

When using new applications or software do you read the instructions or prefer to figure it out yourself?

The author was asking how the participant dealt with new software in relation to understanding how the product worked. As the author had planned to supply a manual online to assist the user with the installation and use of the application it was required to know how complicated the manual would be.

Question6.

How long would the process of publishing a podcast online usually take you?

Assuming the participant had used podcast software before and had tried uploading or creating a podcast this question asks what time frame this process had took them.

Question7.

This tool will publish your video podcasts to the web application Moodle, as a user what other websites would you like to publish your podcast to?

The author was developing this client application to upload to a database through the online teaching portal Moodle, but as this research took place in the early stages of the project the author was keeping an open mind on allowing an upload option to other possible websites such a YouTube.

7.2 Usability testing

Usability testing is known as a technique used to evaluate an application or product by testing it on potential end users. What this testing measures is the products ability to meet the needs it was built for. In this case user tests were carried out on potential end users. The users were asked to follow the user manual for using the application and to use different features of the application from the user interface to the ftp client browser.

These test subjects were given a user manual which guided them through the creation and uploading of a video podcast to Moodle. At the back of this manual the test subjects were asked to fill in a short survey consisting of seven questions. These questions along with the user manual used on the day of testing can be found in (appendix 4.1.2)

7.2.1 Usability test process

The usability test process took place within the national college of Ireland, based in the IFSC, Dublin. Both students and members of staff were asked to participate in the short usability test. These participants were randomly selected and were of both technical and non-technical backgrounds, these users were also asked in the question to say whether they were students or lecturers. A laptop running the application was set up on a table with the user manual and questionnaire also, pens were provided along with a chair for participants to sit down and complete the testing.

The test began with a short explanation on what the product done and what it had been developed for. The author explained how the test would take place and what was required. The participant was given a user manual what defined and described each step from top down. The users were required to follow these steps which would lead to the successful launching and testing of the application from start to finish.

Once completed the participants were then asked to complete the short survey at the back which consisted of seven question as mentions in section (7.2) The manual and survey used can be found in (appendix C). Once completed the participant was thanked for their time given.

Figure 4. Participants of user testing.

7.2.2 Results of usability test

Results of the usability testing showed a positive reaction to the layout of the buttons and the application itself. Many commenting on how the size and neatness of the product created a simple looking application, this was the authors plan all along and was now being clarified by the test user group. Again the functionality of all buttons had been clear to understand due to what one participant described as “buttons were clear to understand due to both text and images”. Comments on how well the application could reduce the time of uploading videos were rife, the general idea of the application was liked by many and the purpose of the project was seen as a solution to a time consuming problem.

The majority of users which took the test said they would use this application but as they were not teachers and did not host online teaching portals for other, they said they had no reason to at this current time. Those who were lecturers and took the test had answered that they would use the application. The only issues noted from the entire test was that many said the application looked very bland in terms of colour and graphics, others had stated that the recorded videos were hard to find as they had been saved in a default folder within documents and not in the videos folder.

7.2.3 Changes applied from results.

From the results gained the author set out to first change the overall look of the application and to secondly change the file location of the videos. The application had been developed using dark colours which the author felt were needed to focus on the buttons, as each button had white colours. The solution to this was to keep the darker colours as the background but to change them to a slightly lighter shade of gravy as opposed to the dark grey that went before. The author also applied new graphics for the record, stop and play buttons of the application, this was to add a better more graphical user interface. Thanks to the comments provided by the participants of the usability survey the author was able to redefine the application into a more slick and colour friendly program for the client user. The final application design can be seen in (appendix 4.3)

8 CONCLUSION

As a result from this Thesis a user interface application was developed to record both the user's desktop screen and the users voice, it was successfully implemented with Moodle to allow for the prompt and efficient uploading of podcasts. The user interface was developed from a prototype after surveys and user testing was carried out. The user testing allowed for better implementation of important features, these features were defined by gathering the results of the user test and were changed by applying the results to the latest application.

During this thesis the author choose to research e-learning methods, types and the general definition of what it was. This research helped him determine what type of e-learning was being created. It also offered a clearer outlook on what type of e-learning as most effective and why. The application was developed around these methods. Also due to the strong research found on how big e-learning was becoming the author found this particular project exciting and extremely interesting.

The surveys carried out at the beginning showed the author that it was extremely hard to find a general and equal view from different users; we can never produce an application that pleases everyone. The method the author took to this was that he looked at the end users in a holistic view. The holistic view gave the author a vague outlook on what users individual needs were but allowed him to meet other recommended general needs better, Thus satisfying all users to some extent.

The author took his interest in podcasts and turned this into a project, the idea of the client application being potentially beneficial lead to the need to produce the best and most redefined application for creating screencasts. Several methods using different technologies were learnt and the overall experience has shown that even a small simple application may have a large amount of work behind it, but in the end it's simply done to make these old methods faster.

Creation and Implementation of an E-Learning Self-Publishing Podcast Application

Paul Hughes, x05491011, pol1@live.ie

B.A. (Hons) in Technology Management

1/10/2010

1. Objectives

The objective of this project is to design and create a self-publishing programme which will allow a user to efficiently record and publish their presentations from a computer to a preferred area. This self-publishing programme will be designed for implantation into the open source course management system Moodle.

The recorder programme will be available through a link on Moodle once the user has signed inform the link the application will open giving the user the option to begin recording the visual and audio of the presentation.

2. Background

As the popularity surrounding video podcasts increases so does the need to create a programme which simplifies the recording and publishing of one. Video podcasts or non-streamed webcasts is a term used for the creation and delivery of a video online. As e-learning grows more and more each year so does the popularity of video podcasts. Since the launch of iTunes and the iPod the internet has been awash with podcast tutorials.

As i have always been a fan of the video podcast i decided to create this application so i could work with the particular type of media. The idea of a simple application came to me as i noticed not enough lecturers were using this form of media. If i needed to recap on a particular class would i remember everything that was said? I wanted to design an application that made it effortless for the user to simply record and upload a podcast so that in the future this could become a common practice.

3. Approach

I have detailed my plan to carry out primary research the area in which the application will be used. I plan to perform interviews with individuals who may be in a position to use the application on a daily basis. The interviews will determine what the user is looking for in such an application and help me create a more user friendly and efficient piece of software.

I will carry out a big part of my research by searching the web for information relating to this project and similar applications. By carrying out this research i will have a clearer view of where i want to go with my project and what areas of the application i need to focus on most.

The list that follows names the books i will be reading in preparation for this project, they fall in the categories of programming types and streaming media online.

Building responsive web applications with AJAX and PHP / Christian Darie, Brinzarea Bogdan, Filip Chereches-Tosa and Mihai Bucicia Ajax for dummies / Steven Holzner. Mastering the Internet, XHTML and Javascript / Ibrahim Zeid. Flash ActionScript for designers : drag, slide, fade / Brendan Dawes. Streaming audio [electronic resource] : the FezGuys' guide / Jon R. Luini, Allen E. Whitman. by Luini, Jon R., Whitman, Allen E., Safari Tech Books Online Web developer.com guide to streaming multimedia / Jose Alvear.

4. Special resources required

Hardware.

Dell netbook, inspiron mini, with integrated camera.

Stand alone Webcam.

Microphone.

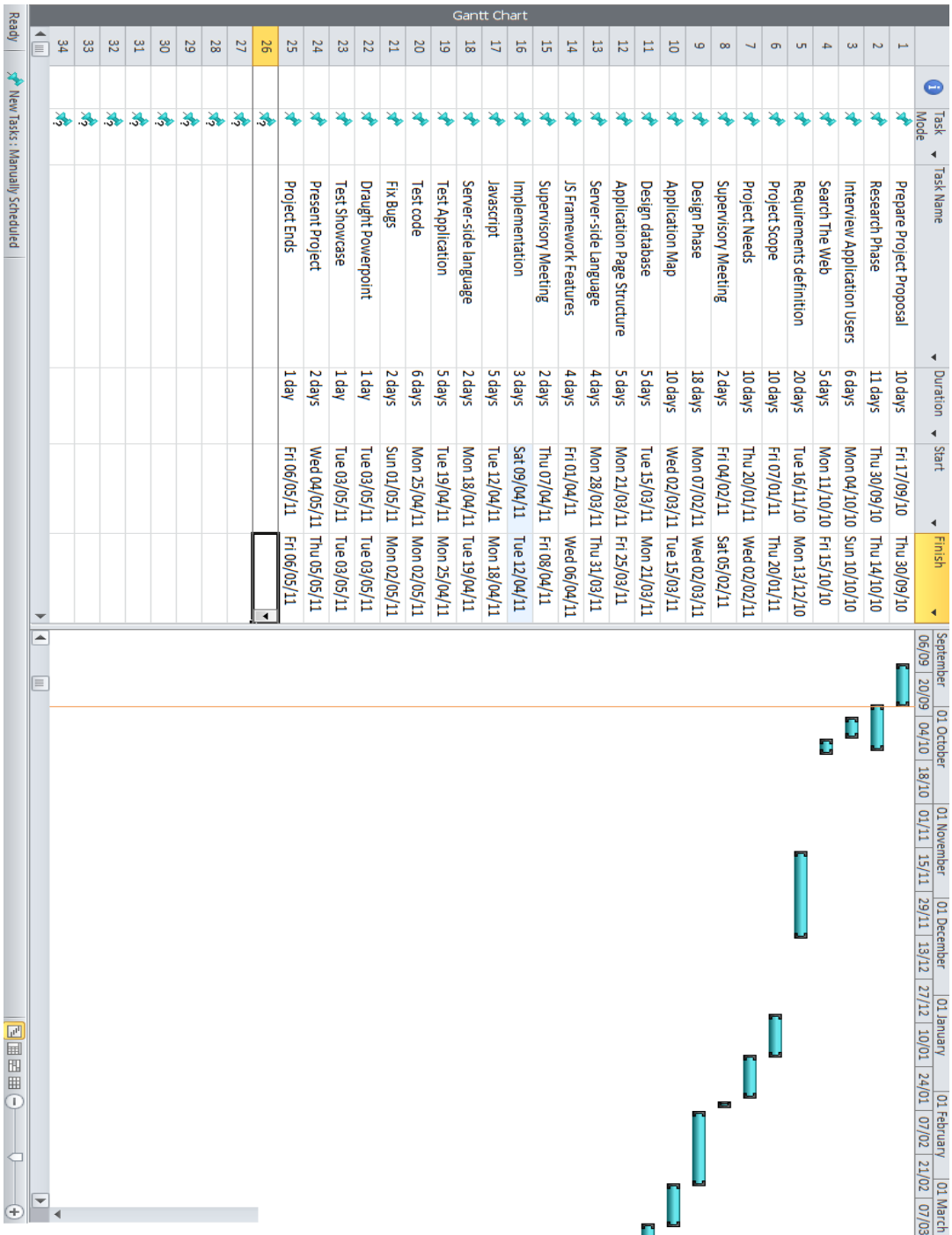
Software.

Render soft, CamStudio Software.

Moodle Open sourse.

5. Project Plan

Gantt chart.



6. Technical/Research Details

As this project is to build a self publishing application which will record both the screen of the users pc and their voice i will be using a pc desktop or laptop and a tie-clip or stationary microphone. I will be using CamStudio to help create the application to record the screen.A microphone audio tuner will be used to get the right pitch for the user listening to the podcast.To create the framework and user interface of the application i will be using JavaScript programming language.

7. Consultation 1

I first consulted Dr Eugene O Loughlin on my project idea,His feedback was very encouraging and gave me a lot of ideas as to where i wanted to take the project.He spoke about how the implementation of such an app could be used with the popular database moodle.

8. Consultation 2

My second consultation was with Keith Maycock,Keith liked my idea and was keen on following it up.I recieved great feedback from Keith and went away feeling even more positive and excited about the project then i did before.

_____

Paul Hughes 1/10/2010

B.A. (Hons) in Technology Management

Project

Requirements Specification Template.

for

(Self-Publishing Podcast Application)

For Dr Eugene O'Loughlin

By

Paul Hughes

Student Number: x05491011

1. The Purpose of the Project

a. The User Business or Background of the Project Effort

This document has been created to outline all the requirements for the development of the self-publishing podcast application. By outlining all the requirements the developer can determine which areas within the project will require the most attention.

The user group in which we will be targeting will be the educational sector, users such as lecturers and students, but the application will benefit many other forms of users such as business or social users.

The purpose of this project is to design and create a self-publishing programme which will allow a user to efficiently record and publish their presentations from a computer to a preferred area. This self-publishing programme will be designed for implementation into the open source course management system Moodle.

This self-publishing application will be available through a link on Moodle once the user has signed in. From the link the application will open giving the user the option to begin recording the visual and audio of the presentation.

b. Background

As the popularity surrounding video podcasts increases so does the need to create a program which simplifies the recording and publishing of one. Video podcasts or non-streamed webcasts is a term used for the creation and delivery of a video online. As e-learning grows more popular each year so does the popularity of video podcasts. Since the launch of iTunes and the iPod the internet has been awash with podcast tutorials.

As the developer had always been a fan of the video podcasts he decided to create this application so that he could work with the particular type of media. The idea of a simple application came to him as he noticed not enough lecturers were using this form of media. If the developer needed to recap on a particular class would he remember everything that was said? He wanted to design an application that made it effortless for the user to simply record and upload a podcast so that in the future this could become a common practice.

c. Goals of the Project

This developer of this project has set out many goals, the first goal he set out referred to the actual project itself and what the overall result would be? The goal of the project is to create a self-publishing application that allows users to record both their voice and what is being displayed on the monitor.

The developer has also created a Gantt chart that shows the timeframe and a deadline by which certain parts of the project must be completed by, his goal is to complete these individual parts on time. Another goal in which the developer will try to achieve will be a quality goal for the project, the application will be built to meet good quality standards so that by the final stage all parts should be working and responding as they are meant to.

The application will be accompanied by a website which will guide the user through tutorials on how to use the self-publishing podcast application, the website will also be used to contact the developer and also for the latest news on updates and new features to the application.

2. The Stakeholders

a. The Client

This application is being developed for the educational sector mainly for use within third level education such as colleges or universities. In this case the client will be the National College of Ireland.

b. The Customer

The customers for this application are the lecturers and speakers who work in the education sector and who give lectures to groups using slides and their voice. Again for the purpose of this project the users will be the lecturers and speakers of the National College of Ireland.

In order to establish the needs of the user the developer interviewed author and lecturer Dr Eugene O'Loughlin of the National College of Ireland. Many of Dr O'Loughlins points were implemented into the development of the application. The questions asked can be found in the appendix at the bottom of the document.

c. Other Stakeholders

Other stakeholders of the application would be the students who will view the content of these video podcasts online.

Stakeholder Analysis.

Self-Publishing video podcast tool Key Stakeholders			
	IT Department	**Dr Eugene O'Loughlin**	**Paul Hughes**
Organization	National college of Ireland	National college of Ireland	National college of Ireland
Role on project	Project Client	Project user	Project developer
Unique facts about stakeholder	Leading college in the field of technology and business.	Experience in the field of e-learning and video podcasts	Experience with development of applications and websites.
Level of interest	High	High	Very High
Level of influence	Can provide the tool needed to create application.	Has keen interest in the use of video podcasts.	Very interested in audiobooks podcasts.
Suggestions on managing relationships	Hold regular meetings with client to make sure direction we are going in is correct.	Allow user to give plenty of feedback about development of application.	Achieve goals on time so that time is giver for errors or arising issues.

3. Constraints

a. Solution Constraints restrictions

As the application requires the use of hardware such as microphones and computers the constraints will be getting the hardware to work with the tool. The speaker will have to be heard very clearly so the viewer of the podcast does not have to strain themselves to hear it. Another constraint the developer has mentioned is the issues of deleting or re-recording a certain area of the presentation, for example if the user was to swear he or she would like to be able to rewind the recording by 30 seconds so it was edited out.

As there are recording tools out already the developer looked at the constraints which limited their functionality, he noticed that many of them took a lot of time to edit and publish online, none of these podcast recorders would automatically publish a video online for you, and that could only be done separately. The developer wanted to create a tool that would simplify the process for the user so they could spend less time trying to upload it online.

b. Schedule Constraints

The project to build this application has a schedule deadline by which the final edition of this tool must be completed. The main constraint in relation to the schedule is that the application will not be built on time.

4. Naming Conventions and Definitions

a. Definitions of All Terms, Including Acronyms, Used in the Project

The term video podcast by definition is the online delivery of video on demand which can be streamed or downloaded. Its author describes this form of media as the new radio broadcast. Before the internet talk shows and interviews would have been broadcast trough radio. As the author of the application is developing a self-publishing video podcast tool it will be required to automatically save and publish the completed podcast to the required destination.

5. Relevant Facts and Assumptions

a. Relevant Facts

The author has made his feelings clear that this application has been developed in order to assist the user to create a video podcast and upload it without hassle. To get the maximum performance this application will need to work from a fast computer with extra ram to cope with fast screen movements and the processes the application will be running. As the application will use a microphone to pick up the users voice the developer has looked into wireless tie-clip microphones that use a receiver. It is important that the range of the microphones is good to allow the user to move around the room and still produce a clear recording.

b. Assumptions

The self-publishing podcast tool will be implemented into the online application Moodle. The video podcast should be available to students as soon as it has been uploaded. The application will automatically publish the content online for the user.

6. The Scope of the Work

a. The Current Situation

The developer to this stage of the project has prepared a project proposal which included an approach and a Gantt chart which listed the project objectives on a timeline. The project title has also been researched online and by using books. The applications users have been interviewed on what they would like to see in the application.

7. Functional and Data Requirements

The developer of the video podcast self-publishing tool must create an application that will both record the user's voice and the monitor screen in which the user is reading from. The applicant who will view this podcast must hear and see what the lecturer sees on his or her screen.

8. Look and Feel Requirements

a. Appearance Requirements

As this tool has been created to simplify the creation and publishing of video podcasts the developer must create a clear and basic user interface. The UI must use large buttons and short clear text.

b. Style Requirements

The developer will develop the application UI using simple font and dull colours.The application should be clear to read and not distracting.

9. Usability and Humanity Requirements

a. Ease of Use Requirements

Content

After interviewing one of the application users Dr Eugene O Loughlin the developer realised the user wanted the application to be very simple with minimal buttons to avoid confusion and make clear to him how to start and stop the recording. The application will be self-publishing so the user will simply have to select the stop button and the video will be published online.

The developer questioned Dr Eugene O Loughlin on the irritations he encountered while using other video podcast software found that the editing and uploading process took almost 45 minutes to complete.

Motivation

The developer of the application has taken into account that there is no application in the market quite like this. The designers have been motivated by the unique abilities of this application.

Fit Criterion

For the testing of this application 75% of a test group of four lecturers randomly chosen should be able to understand how the video podcast tool is used. With a very basic user interface it has been developed to simply its usage.

After the first two months of the application being available over 40% of lecturers within the college should be using the tool at least once a month.

Considerations

After interviewing Dr Eugene O Loughlin as one of the application users the developer found that many of Dr O'Loughlin colleges' were less advanced on computers them he was. Therefore taking into account the mix of users the application would be developed to be understood in the simplest way possible.

Form

The user will be given the option to rate this application by selecting the "rate this application" button which will be found in the options tab. The user will be given the chance to write down there comments or suggestions on the application. This will be done be opening a simple form where the user can give feedback which in turn can help the developer improve the tool.

b. Personalization and Internationalization Requirements

Content

The application will have two main buttons on the user interface. One button will be green to symbolise the start of the process and the other button will be red to stop the process. There will be a options tab available for the user where they can change the location of the uploaded file.

Motivation

As this application is being built to display a very simple user interface the user will be limited to what they can change, an option will be given to the user to change the location of where the podcast will be uploaded to.

10. Understandability and Politeness Requirements

Content

A big factor of this tool is the simplicity of it, it has been designed not to confuse of burden the user but to carry out a process without hassle and in speedy time which before now would of taken ages.

Motivation

In a recent interview with Dr Eugene O Loughlin the developer found that the greater majority of users within the college would not be of very technical minds in relation to computers. As different types of lecturers from different sectors will be using the application and not just computing lecturers it was important to design the tool to suit all, as stated already the idea to keep it very simple with minimal buttons.

Examples

The language and images used should be kept universal to suit the mix of users.

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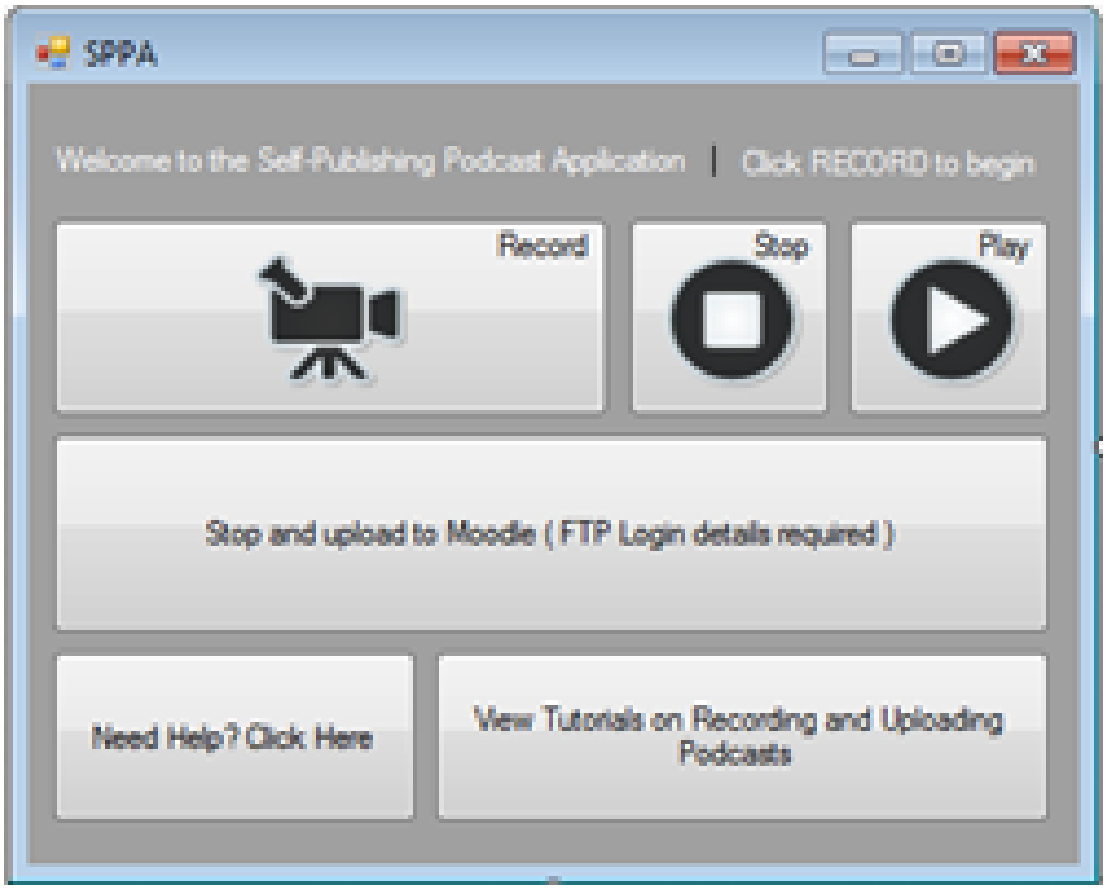
Appendix A

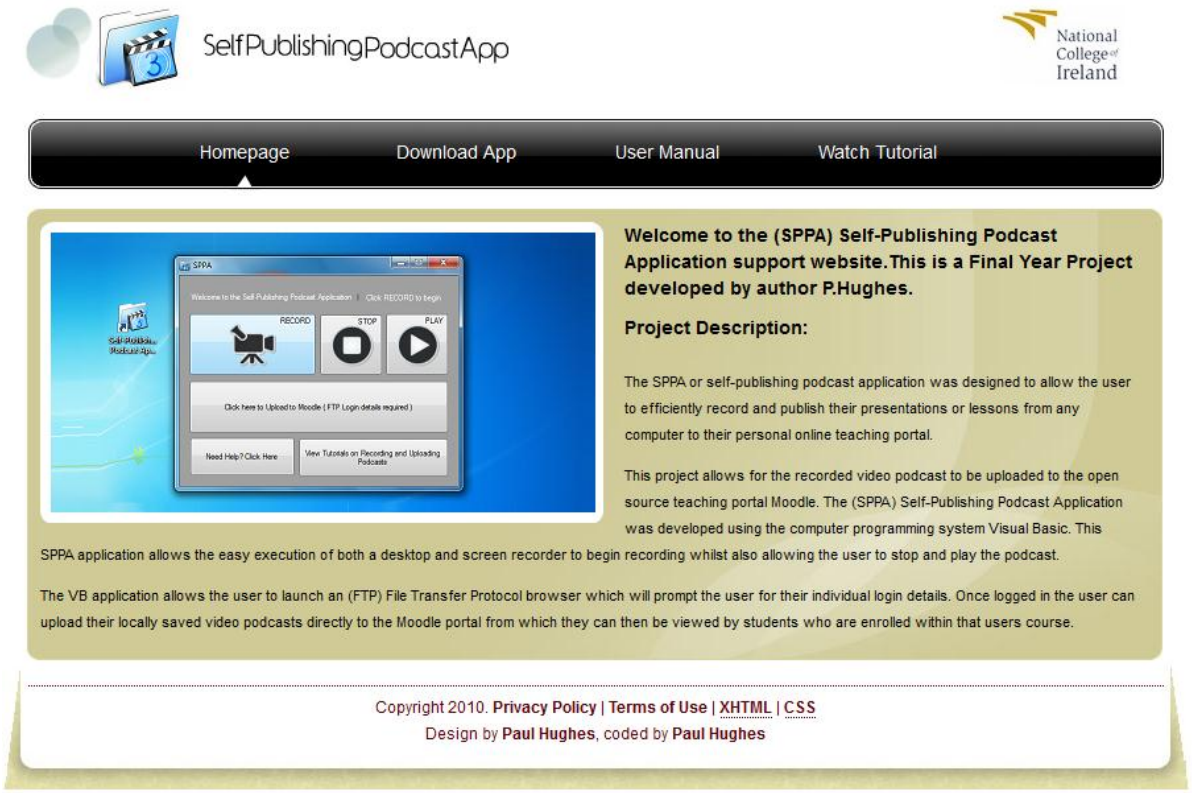
Final Version: Image of Self-Publishing Podcast Application User Interface.



Appendix B

Screenshots of Website.

www.selfpublishingpodcastapp2011.com/index.html website is live

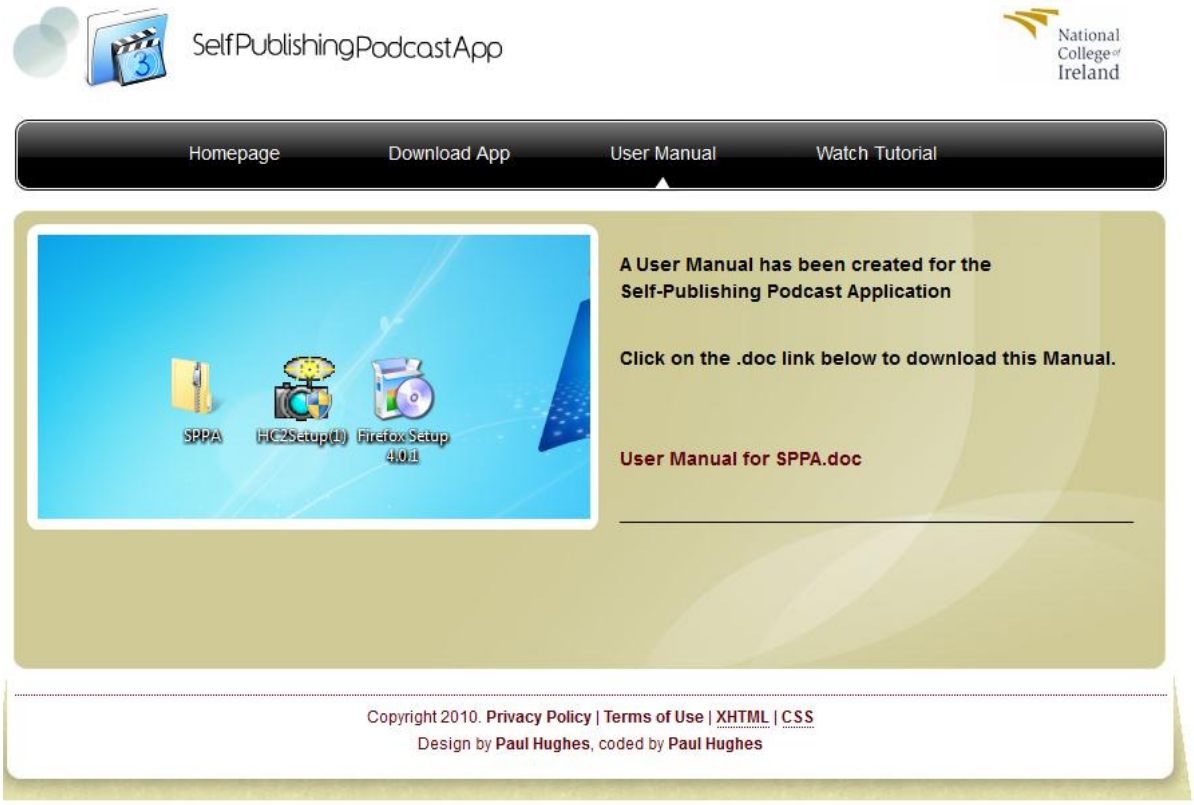


Please see CD-ROM included for all HTML/CSS code.

www.selfpublishingpodcastapp2011.com/Downloads.html website is live

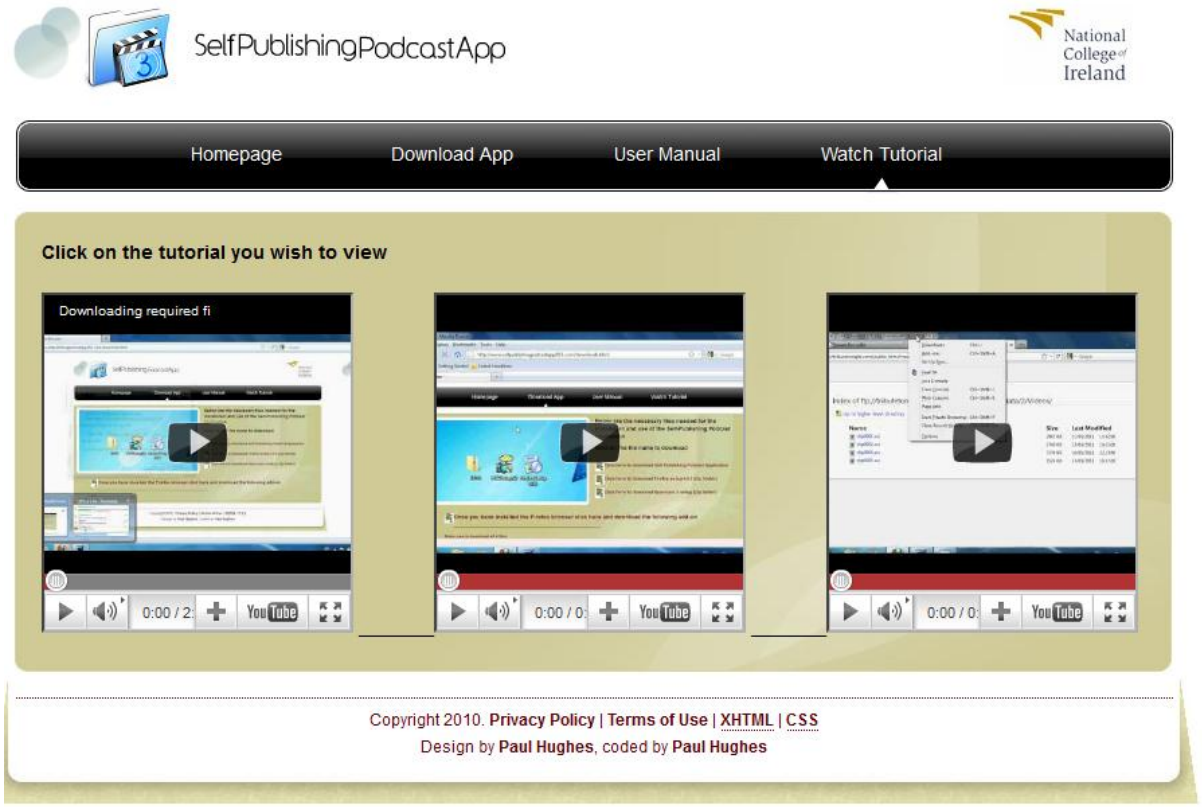
Please see CD-ROM included for all HTML/CSS code.

www.selfpublishingpodcastapp2011.com/Usermanual.html website is live



Please see CD-ROM included for all HTML/CSS code.

www.selfpublishingpodcastapp2011.com/tutorials.html website is live



Please see CD-ROM included for all HTML/CSS code.

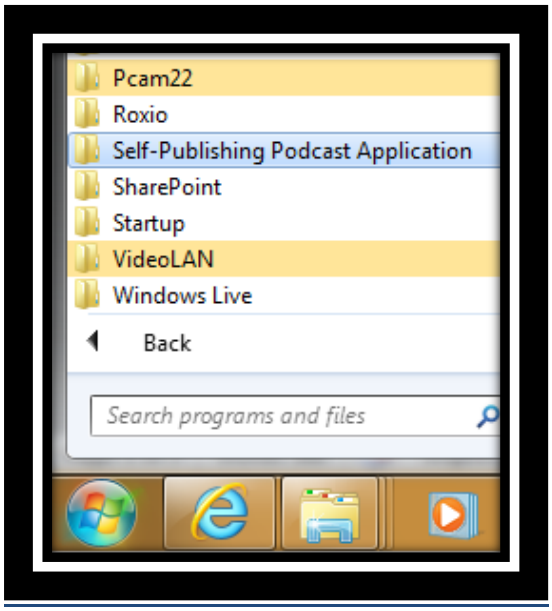
Appendix C

Self-Publishing Podcast Application

A Users Manual

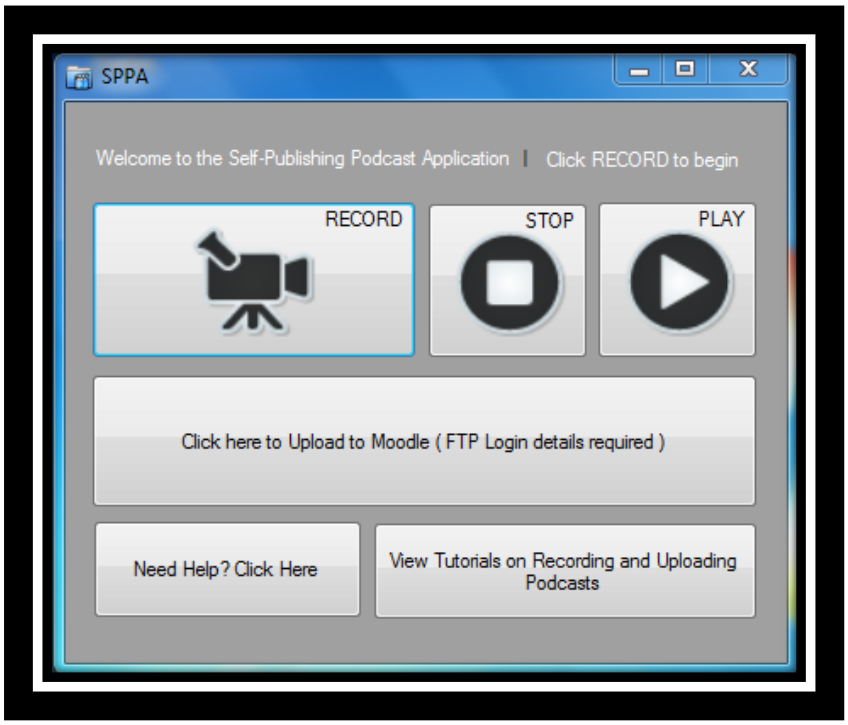
Using the Self-Publishing Podcast Application.

- Click and open the start menu down the bottom right. Find the folder named Self-Publishing Podcast Application.



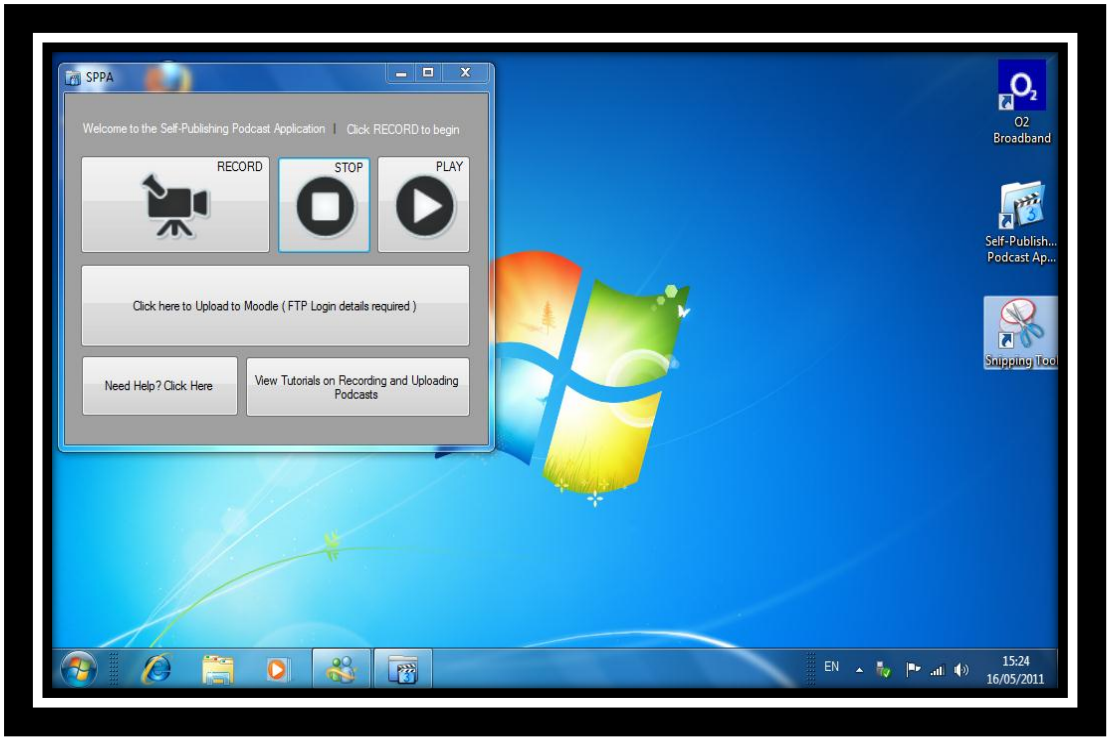
- You can also look for the desktop shortcut to the application which appers below.Simply double click here to launch SPPA.

- Once launched you will see the following application below. This application is known as the SPPA.

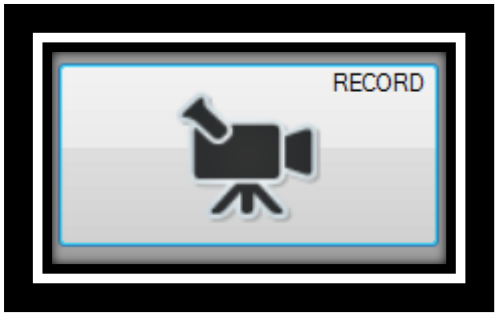


- You are now ready to begin recording.

It is important to know that the recorder begins recording from the top left

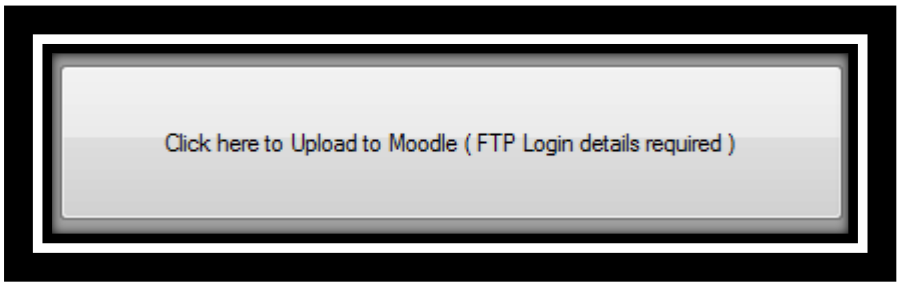


- The next step is to hover over the record button and left click one. This will begin recording.



- Once the recording has completed you can click the stop button to end recording or you can click play to launch the video through windows media player.

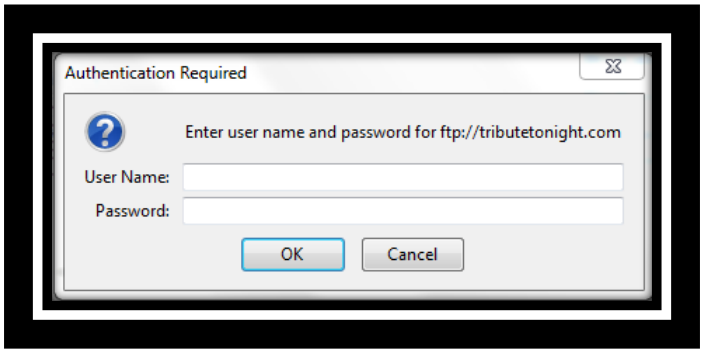
- The next step is to upload your video podcast to Moodle. Once ready click the button seen below. This will launch the Firefox browser and prompt the user to enter the ftp login details.



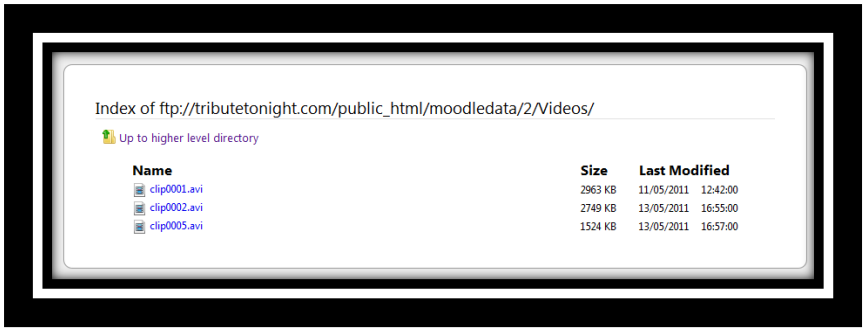
This is what the login prompt area looks like. Now sign in using your personal database details. In this case these are:

Username:

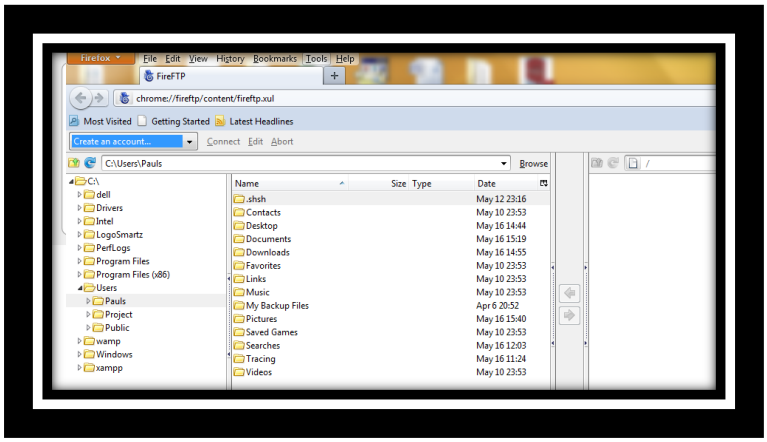
Password:



- Once logged in you will see the Videos folder which is a folder within Moodle.



- Now click Ctrl and navigate to tools, once here click on the FireFTP link and click the connect button in the top left corner. This will now launch the ftp client allow you to drag and drop your videos into the “VIDEO” shown Moodle.



Please fill out the attached survey and hand back to Tester.

The Self-Publishing Podcast Application Usability Test

Place a tick beside the answer you have chosen and complete the question as follows.

1. After launching the self-publishing podcast application in step 1 were you able to understand what each of the six buttons would do once clicked? -
YES_____ NO_____

If you ticked no please name which button you were unable to understand?
_____
_____
_____

2. Could you see yourself as a teacher or lecturer using this application for the purpose of uploading video podcasts?
YES_____ NO_____

3. If you could make one significant change to this application, what change would you make?
_____
_____
_____
_____
_____

4. What are your overall impressions of the Self-Publishing Podcast Application?

_____
_____
_____
_____
_____

5. How did you find the layout of the application?
_____

_____
_____
_____
_____

6. Could you please name your favourite thing about the application, and you're least favourite?

_____
_____
_____
_____
_____

7. Please select one of the following , I am a lecturer ☐ Student ☐

Appendix D

The Self-Publishing Podcast Tool (SPPT)

The Self-Publishing Podcast Tool will allow the user to simply create and publish a podcast online by recording their voice and screen during a presentation.

Q1.Assuming there are two types of PC skilled users being advanced and basic, what type of skills would you say you have? And in average what type of skills would you say lecturers within the national college of Ireland have?

Q2.As a user what do you look for in an application?

Q3.Would this Self-Publishing Podcast Tool be of interest to you?

Q4.Have you ever created and uploaded a podcast before? If so did you come across any irritations when doing so?

Q5.When using new applications or software do you read the instructions or prefer to figure it out yourself.

Q6.How long would the process of publishing a podcast online usually take you?

Q7.This tool will publish your video podcasts to the web application Moodle, as a user what other websites would you like to publish your podcast to?

Thank you for your time.

Appendix E

This is a transcript from an Interview which was carried out on a lecturer from the college in study.

Question 1

Answer: Certainly for me I would feel I'm an attentive user, I was for a long time pretty basic but I've learnt I'm pretty good, I mean I've done some pretty big reports on word becoming increasingly competent with using PowerPoint can use excel but everything that I've learnt has been trial and error. I use outlook as my email client but I just don't understand outlook. But that's because I haven't tried to use it, I haven't tried to do it so I would regard myself as basic plus. I think lecturers in this college would be fairly mixed in regard to their skills. That's my guess that they would be mixed, but with me I'd be basic, basic plus.

Question 2

Answer: I suppose simplicity, I'm an old fashioned mechanical engineer so I don't like things electronic I don't like things you can't see, so I want simplicity and I want ease of use. I don't want the thing to be complicated I just want to be able to use it and for it to be user friendly. And for me I would describe that as idiot proof.

Question 3

Answer: In one way yes and I think it would be brilliant to record and then I would literally if I had a lecture prepared I could do it once and have it there have capture red it and I could go back and look at what I had done and think well I didn't do that very well I need to change this and change that. I could edit it I could use it then the next time and then the next time in class I could use it I could listen to the reaction of the class and maybe add to it while I'm doing it. I think from a teaching point of view id be reluctant to do it because unless I was teaching remotely because I think there's learning to be had from participation in class from being there and id question whether people would get as much out of working with a podcast as much as they would in a class I really would.

And I'd be concerned that you wouldn't get the material across and the impact would not be as great, On the one hand I think it would be terrific especially from the point of improving myself, but from the point of view of using it as an alternative to me I'm not sure. But equally you could have one copy you make it you have a really good run, you might edit it and change it here and there and you've not got a really effective lecture and now at least you're able to deliver it consistently.

Question 4

Answer: No, no unfortunately no, I've never had the opportunity. I've never gone looking for this opportunity, But I'm sure that's just because of my technical ability, you know.

Question 5

Answer: Yes I would always read instructions but not before I've played around with it first.

Question 6

Not applicable.

Question 7

Answer: Well I suppose if I could upload a video to anywhere other than Moodle it would be to some form of storage system where I could save all my personal files.