VIDIVOX

Design Decisions

User Manual

SOFTENG 206

Hannah Sampson

Software Engineering Design

# Summary of VIDIVOX

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# 1 Introduction

There are a number of different video editors and each has its own range of functionality aimed at specific target audiences. Our project was aimed around the idea of being able to create a documentary-type video, where the video plays and keeps its own original soundtrack but a voice is added over the top, describing the video. This meant a lot of emphasis was put on creating appropriate audio commentaries, and being able to dictate where each of these audio files fits into the video.

Our work has involved developing a tool that lets the user take a standard video file and add different audio files to it, whether these audios are music files of commentaries that the user creates. We worked primarily in Java, with a Java specific video manipulation tool: vlcj. By working in Linux, we could also implement Linux system calls to process the media files, as well as working in speech synthesis with festival to create audio files from text.

There are a number of different video editors available, all aimed at a different level of user. VIDIVOX is aimed at a home user, and hence is required to have obvious functionality, and easy use. All of the design decisions throughout this work has taken into account how this kind of user would feel using the product.

All design and implementation decisions had to work towards creating “an easy to use” Video Commentator, which would be easy for a non-technical person to use. The main points are:

* A well designed graphical user interface
* Help on how to use the different features of the tool
* File retrieving abilities
* The ability to create, play back, overlay and save multi-media material

In the discussion section of the report, I have detailed the design decisions made at each stage of development, why these decisions were made, any features of the product and how the GUI interacts with the user, e.g. error handling, system feedback.

The development is broken up into seven sections:

* GUI Design
* Functionality
* Code Design
* Evaluation and Testing
* Future Work
* Conclusions

Each of these subheadings is broken up into sections based on the stages at which feedback from the client and other users was received as this signalled obvious breaks and re-evaluation of design implementation in the project.

This report also includes a user manual, which includes documentation and help with all available functionality.

# 2 GUI Design

## 2.1 Choice of programming language and packages used

### 2.1.1 Discussion on Use of Java in Project

### 2.1.2 Other Libraries

## 2.2 Colour Consideration

## 2.3 Discussion of Layout

### 2.3.1 Layout of Panels

### 2.3.2 Layout of Buttons and Text within Each Panel

## 2.4 Presentation of Information

### 2.4.1 Pop-up Messages

#### 2.4.1.1 Error Messages

#### 2.4.1.2 Information Messages

#### 2.4.1.3 General Messages

### 2.4.2 Text Messages

## 2.5 Main Frame

## 2.6 Adding Audio

## 2.7 Create a New Audio

# 3 Discussion about functionality of product

## 3.1 Creating Commentary Audio Files

## 3.2 Playing a Video

## 3.3 Adding Audio Files to a Selected Video

## 3.4 Saving Videos

## 3.5 Festival Functionality

## 3.1 What was the motivation of the selected functionality?

## 3.2 What were the usability decisions?

# 4 Discussion about code design and development of product

## 4.1 Documentation of software design

## 4.2 Development Process

### 4.2.1 Development Process Implemented

### 4.2.2 How this Affected the Project

### 4.2.3 Discussion on Process

## 4.3 Innovative Implementation

## 4.4 Shortcut keys- motivations, implementation

## 4.5 Other developmental issues.

# 5 Description of Evaluation and Testing

## 5.1 Evaluation and Testing: Developer

## 5.2 Evaluation from Clients after Pair Project

### 5.2.1 Changes from Assignment 3

### 5.2.2 Justification for decisions

## 5.3 Results of Evaluation and Testing of product by allocated Class Peers

### 5.3.1 Changes from Beta version

### 5.3.2 Justification for decisions

## 5.4 Final Design Testing

### 5.4.1 Error handling

### 5.4.2 Bugs and Fixes

# 6 Future Work

# 7 Conclusions

# 8 Appendices

## 8.1 User Manual