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Acknowledgement

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The special last thank is given to the author's parent because of all the supports they give in terms of financial also some motivation and encouragement. With the help of them, the author could face the pressure during the development time of this project.

About Author

The author was born in 11th April 1990 in South Sumatera, Indonesia. He had completed his primary school at Xaverius 2 primary school, completed there the author proceed to Xaverius Maria junior high school, moving to Xaverius 1 for Senior High School. Three of those schools are located in South Sumatera.

During his school time at senior high school, the author join chemistry club at the first year, physic club for the second year, and English club for the third year. In senior high school, the author had learnt some basic programming language like Ms Access, HTML, and CSS.

Graduating from senior high school, the author then had decided to study abroad which country was Malaysia and the chosen university is INTI Laureate International University. When studying in INTI, the author has learnt some language like VB.NET, ASP.NET, Java, XHTML, and Microsoft SQLserver, etc.

In INTI, the author took directly Degree Programme in Computer Science. The author now is the final year student in INTI Laureate International University who is pursuing his 3+0 Honours Degree in Computer Science from Coventry University.

Executive Summary

Major Findings

During the development time of this project, the author has learnt some new languages and knowledge. Since the author is developing an application for Android. Therefore the author needs to get knowledge about Android and its programming language which differentiate into two parts which are Java for Android and XML.

Not only programming language, the author has learnt about the audio file structure. The author also gets some knowledge on the byte operation like shift to left and right to convert bytes value.

From the soft skills side, the author has learnt how to build a diagram to show the flow of progress. Also the author has learnt about how to manage time so that the project is not overdue.

Project Selling Points

After investigating for music editor that available in the market right now, the application that the author developed has more features compare to them which available in market.

The features like converting file, change pitch, and cutting the song part can become the selling point in this case. Furthermore, this application can be useful for broader research in sector of manipulating audio which can be used for recognising the human's sound that recorded.

Since it will be implemented into mobile, this application will offer mobility to the users too. The users can do editing activity not only in their desktop PC or laptop. They can do it on a small device which will be more convenient to hold during travelling time.

Problem Definition

Problem Statement

Recently, a lot of smart phone appeared in the market. With the help of current technology, those smart phones can do almost the same with those in PC although right now the memory and processor is far from near to desktop PC. But in fact, the mobile phone can do some simple processing that allows them to have some certain application.

For that reason, it is very beneficial if a useful application implemented into the mobile phone. For the first thing is the mobility that mobile phone can provide so that users can do processing anywhere anytime.

In this case, the author wants to develop an application that can be embedded into that particular smart phone. The author plans to do some audio manipulation that can be beneficial at the future for recognising the audio file in term of crime investigation.

For that reason, the author has come out with the idea to do some application that can do some manipulation on audio file. In this case, the author has chosen music editor as the study case, which this project can be broadening to other usage.

Scope of Research

Scope of research from this project is audio and mobile computing. In this chance, the languages that will be used for coding activities need to do some research in order to get the idea about how that programming language is working. The author also needs to do some research on audio file structure in order to manipulate them.

Since it deals with audio files, a lot of audio files recently. Therefore the author will narrow down the scope to only two audio file types that will be supported by application developed. Some limitation might appear during the research undergoing.

Limitation of Research

The author does not have any knowledge on mobile computing and audio file structure along with simple bytes conversion. Therefore, the author needs to start this project from zero to build up the basic understanding about programming language that will be used to build the proper mobile application.

It is insufficient time for the author to get all the knowledge just in few months along with overlapping project undertaken. Hence, it will be very hard for the author to understand all of the information so coming with a perfect system is very difficult.

For that reason, when the author is facing some problems in developing the application, the author cannot find the problems from the text books. The only thing that the author could do is to solve those problems by himself or asking someone in the forum who has large knowledge on that area of study.

Research Methodology

In this project, the author is applying background reading from text books and from online sources to do the research on the area of study from this project. Text books that related to this project can be found in the library of the university where the author studies on. While, the online sources that used by the author can be vary from normal website to forum where the author can ask some questions concerning the project.

Good and Bad Experiences

In the development time, the author experiences a lot of experiences either that are good experiences and bad experiences. Firstly, the bad experiences that happened to the author is when starting to use J2ME at the middle of development, just realised that J2ME and J2SE has different library and cannot called each other. And unfortunately J2ME also has stopped their development so the library is not expanding.

For that reason, the author needs to migrate from J2ME to other programming language. Because of Android OS is rocketing and estimated in the future will be lead of mobile platform, the author decided to take on challenge to develop an application using this platform. During the studying of this platform, the author found out that Android can use Java programming language and also enabling the users to import library from J2SE.

The good experiences during this development time is to get known a lot of knowledge concerning this project like audio file structure, bytes conversion, bitwise operator, and a new programming language.

Conclusion

With the help of people around the author, the author has completed the system on time. Although, it is not the same with what the author planned in the Gannt Chart. After developing this application, the author gets a lot of new knowledge that for sure can be useful for the future time. At last, the author hopes that this project can be useful for those who studied the same field with this project does and can be acted as a reference from them. So the author hereby presents the project documentation to the readers.

Preface

This project seeks for some knowledge for manipulating the audio file into other usage such crime investigation that related to sound evidence. This project is emphasizing on the mobile computing which platform is taken from current mobile platform that booming in the market. Inside the project, it will clearly discuss about how the development of the project.

In this case of study, the author made an application that applying one of audio manipulating. During the development of each stage, it will be documented well so that this project can be used for broaden usage.

Chapter 1: Literature Review

In this chapter, the author will do background study on mobile computing for its advantages and disadvantages, it also will cover up the review on available mobile phone, and mobile platform available.

Chapter 2: System Development Methodologies

In this chapter, the author will list out some methodologies to review. Then at the end of chapter, the author will choose one methodology that most suitable to the project. Also after choosing the methodology, the author will list out and briefly explanation tools and techniques used in this project by applying that particular methodology.

Chapter 3: Requirement Engineering

In this chapter, the author will do some fact-findings activity to gather the requirements from the users. After gathering up the feedbacks, the author will analyse that result. At the end of this chapter, the author will come out with two sets of requirements which are functional requirements and non-functional requirements.

Chapter 4: System Analysis

In this chapter, the author will draw a diagram that depicts the flow of process and boundary of the application developed. This chapter will end up with physical structure of the application.

Chapter 5: System Design

In this chapter, the author will draw a diagram that defines the logical implementation of the application. It will define the design scope of the

application. Also, the author will draw some prototype to show the action that will be produced when triggering some action.

Chapter 6: System Development

In this chapter, the author will explain on the snippet of the code that used for each class to build up the application.

Chapter 7: System Testing

In this chapter, the author will do some system testing to ensure the application is run before it delivers to the public. The testing result will be documented to give some evidence.

Chapter 8: User Evaluation

In this chapter, the author will do some user evaluation where the application will be tested by the users. And to gather the feedback, the author spreads out the set of question in form of questionnaire.

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