QtGroove Documentation

Object Oriented Programming

Software Engineering Program,

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Preface

This project, QtGroove, was undertaken as part of Object Oriented Programming course in Software Engineering at KMITL. Throughout this project, We have gained valuable insights into developing Qt C++ based application, teamwork management and developing workflow. This preface serves to outline the journey that led to the final outcome, which aims to contribute to the field of Software Engineering by providing and demonstrating the power of C++ in building efficience multi-platform graphical user interface (GUI) application.

Abstract

This project, titled QtGroove, presents the design and implementation of a music player application developed in the C++ programming language with Qt GUI framework. As part of the Object Oriented Programming course in Software Engineering at KMITL, QtGroove was created to develop a user-friendly multi-platform music player in C++ programming language that provide users with typical features found in general music player.

Contents

Chapter 1

Introduction

1.1 Project Overview

QtGroove is a graphic-based music player written in C++ using the Qt framework. The project aims to be a lightweight music player with a friendly user interface.

QtGroove will have the functions of a typical music player like a file browser, the ability to make playlists, showing music file info, and having a bit of extra functions like speed up playback or player customization.

1.2 Background

We wanted to created our own multi-platform GUI music player, which is efficience to navigate through the UI with low learning curve.

1.3 Objective

This project aims to create a lightweight and multi-platform music player as an alternative to other music players. The app can great for listening to local music files. The making of this app also serves as an experience for us to learn C++ and work with the qt framework.

Since this is a duo project, it is a great opportunity to learn teamwork and strive to make the best products.

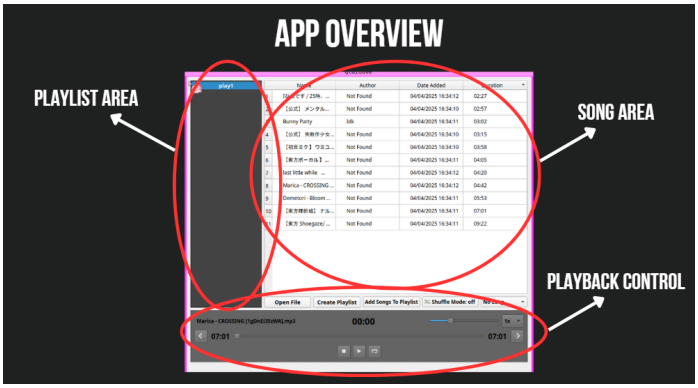
Chapter 2

Project Overview

2.1 Design

2.1.1 Program Overview

We have 3 main sections in our application.



And here are our buttons.

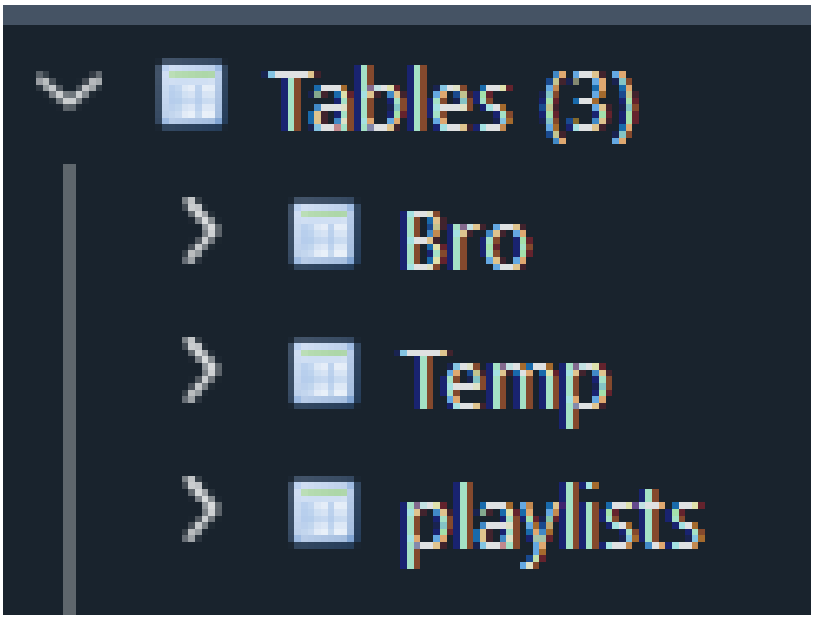
2.2 Database

We use SQLite for our database.

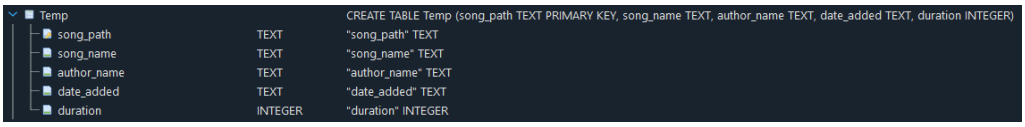
2.2.1 playlist.db

We created playlist.db in the 'db' directory and that file will be our main database file.

Our 'playlist.db' has default table named 'playlists' to keep track about our playlists' existences



And in each playlists has their own columns which store the data.



Chapter 3

Installation and Execution Guide

3.1 Git Clone from the Remote Repository

```
git clone https://github.com/Pottarr/QtGroove.git
```

After that open project in Qt Creator, and run the program.

3.2 Alternative way for Windows users

You can download pre-release version (v0.1) from GitHub too. (Link in Appendix)

Chapter 4

Summary

4.1 Learning Outcomes

- We have learnt fundamental of concepts of creating good UX and UI.
- We have learnt how to develop multi-platform application using C++ Qt.
- We have learnt the workflow of project developing.
- We have learnt how to use Version Control to help developing application.

4.2 Accomplishment

We have created a user friendly multi-platform music player application.

Chapter 5

References

- Qt Group. (2025). *Qt Documentation*. Retrieved from `https://doc.qt.io/`

Chapter 6

Appendix

6.1 Github Repository

https://github.com/Pottarr/QtGroove