Faculty of Science, Engineering and Technology

# Introduction to Programming

## Pass Task 7.1: Text Based Music Player with Menu

## Overview

This task allows you to extend your text-interface music application to provide a menu for users to use to play music.

**Purpose:** To design code that integrates various modules.

**Task:** Demonstrate the use of:

- Functions
- Procedures
- File Handling
- Structured Design

in the context of the requirements for the Music application described in this document.

**Time:** This task should be completed before the start of week 11.

**Resources:**

Frieder, O. Frieder, G. & Grossman, D. 2013 Computer Science Programming Basics in Ruby, O'Reilly Media (Chapter 6)

Flanagan, D. & Matsumoto, Y. 2008 The Ruby Programming Language, O'Reilly.

**Pine, C 2014, *Learn to Program (2nd Ed), Chapter 11*, The Pragamatic Programmer (library version – follow the link)**

### *Submission Details*

You must submit the following files to Canvas:

- Code for the program, and a screenshot of it working at the terminal, also any text files you use.

Make sure that your task has the following in your submission:

- Code must follow the Ruby coding convention used in the unit (layout, and use of case).
- You are storing and working with multiple values in an array.
- You are using records and an enumeration to store the values.
- The code must compile and you must capture a screenshot that shows it working in accordance with the requirements as described here along with any clarifications provided by your tutor.
- Your tutor is your client for this application. The application must aim to meet the client's requirements as specified below along with any clarifications provided by your tutor.

## Instructions

In this task you will extend the implementation of your Text Based Music Player.

You will be given feedback on how well you design your code as well as how well you name your artifacts. There is a minimum requirement for naming and design before your code can be accepted at the following grade level – regardless of how well the code is functioning.

The grade achievable for this task (within the Pass range) are:

Middle Pass Level – 55

(if you have completed all the Tutorial Tasks adequately, otherwise your grade will be lower).

***You can see a demonstration of how this program works at the link below:***

***Text Music Player Demonstration (acknowledgement to Mathew Wakefield)***

## Pass Level Requirements - 55

Your extended Text Based Music Application must add the following functionality:

1. Display a menu that offers the user the following options:
    1. Read in Albums
    2. Display Albums
    3. Select an Album to play
    4. Update an existing Album
    5. Exit the application

**Menu option 1** should prompt the user to enter a filename of a file that contains the following information:

- The number of albums
- The first album name
- The first artist name
- The genre of the album
- The number of tracks (up to a maximum of 15)
- The name and file location (path) of each track.
- The album information for the remaining albums.

**Menu option 2** should allow the user to either display all albums or all albums for a particular genre. The albums should be listed with a unique album number which can be used in Option 3 to select an album to play. The album number should serve the role of a 'primary key' for locating an

album. But it is allocated internally by your program, not by the user.

**Menu option 3** should prompt the user to enter the primary key (or album number) for an album as listed using Menu option 2. If the album is found the program should list all the tracks for the album, along with track numbers. The user should then be prompted to enter a track number. If the track number exists, then the system should display the message “Playing track ” then the track name, “ from album ” then the album name. You may or may not call an external program to play the track, but if not the system should delay for several seconds before returning to the main menu.

**Menu option 4** should allow the user to enter a unique album number and change its title or genre. The updated album should then be displayed to the user and the user prompted to press enter to return to the main menu (you **do not** need to update the file at this level)..

At this level minimum validation is required.

End of Task