CCT College Dublin Continuous Assessment

Programme Title:	BSc (Hons) in Computing in IT		
Cohort:	Sept 2023 - Full time		
Module Title(s):	Cross platform Development, Interactive Application Development		
Assignment Type:	Group	**Weighting(s)**:	50%, 40%
Assignment Title:	Music Player		
Lecturer(s):	David González (dgonzalez@cct.ie), Sam Weiss		
Issue Date:	01/03/2025		
Submission Deadline Date:	TBC		
Late Submission Penalty:	Late submissions will be accepted up to **5** calendar days after the deadline. All late submissions are subject to a penalty of **10%** of the mark awarded. Submissions received more than 5 calendar days after the deadline above **will not** be accepted and a mark of 0% will be awarded.		
Method of Submission:	**Moodle**		
Instructions for Submission:	**Cross Platform Development Page:** Your work must be uploaded to the Moodle in a ZIP folder that contains: ● The code. ● Documentation. ● Team report for Interactive Application Development (Word document .doxc) Please remove the node_modules folder as otherwise your project would be too big to upload. **Interactive Application Development Page:** Individual reflections (500 words approx, Word document .docx)		
Feedback Method:	**Results posted in Moodle gradebook**		
Feedback Date:	TBC		

Music Player Application Assessment

Learning Objectives (Cross Platform Development)

- Develop a cross-platform desktop application using Electron
- Implement file system operations to scan and select music folders
- Create a functional audio playback system with controls
- Apply appropriate design patterns for media applications
- Implement a responsive and intuitive user interface

Learning Objectives (Interactive Application Development)

MLO 1 - Understand the relevance and importance of the Software Development Life Cycle

MLO 2 - Work collaboratively within a team, demonstrating planning, time management and appropriate organisational skills (time, team, quality and risk)

Assessment Overview

Students will develop a desktop music player application using Electron that allows users to select a folder containing music files, displays the available tracks, and provides playback functionality.

Requirements (Cross Platform Development)

Core Functionality (50%)

1. Folder Selection
    - Implement a mechanism to select a music folder from the file system
    - Store and retrieve the last used folder location between sessions
    - Parse and display all compatible music files (.mp3, .wav, .ogg, etc.)
2. Playback Controls
    - Play/pause functionality
    - Skip forward/backward between tracks
    - Volume control with mute option
    - Progress bar with seek functionality
    - Display of current track information (title, artist, duration)
3. Playlist Management
    - Display all tracks from the selected folder
    - Display MP3 id3 tags such as Artist, track name…

User Experience (25%)

1. Interface Design
    - Intuitive, responsive user interface
    - Keyboard shortcuts for common actions
    - Light/dark theme support
    - Resizable window with appropriate layouts
2. System Integration
    - System tray integration with mini-controls
    - Media key support
    - Notifications for track changes
    - Taskbar/dock progress and controls

Documentation and Testing (25%)

1. Documentation
    - Comprehensive README with setup instructions
    - User manual explaining features
    - Code documentation (comments, JSDoc, etc.)
2. Testing
    - Unit tests for core functionality
    - End-to-end tests for critical user flows
    - Documentation of testing methodology

Submission Requirements

1. Complete source code via GitHub repository
2. Documentation as specified above
3. Technical report explaining:
    - How to run the application
    - Challenges encountered and solutions implemented
    - Reflections on the development process
    - Potential future improvements

Grading Criteria

- **Distinction (70-100%)**: Exceeds requirements with additional advanced features, excellent code quality, and exceptional UX
- **Merit (60-69%)**: Meets all requirements with good implementation and UX
- **Pass (40-59%)**: Meets core requirements with acceptable implementation
- **Fail (0-39%)**: Fails to meet core requirements or has significant implementation issues

Suggested Extension Features (maximum 10 extra marks per item capped at 20 marks)

For higher grades, students might implement:

- Visualizations (spectrum analyzer, waveform display)
- Equalizer with presets
- Lyrics fetching and display

Requirements (Interactive Application Development)

Part 1: Software Development Life Cycle (SDLC) [30%]
As this is a small project with definite milestones, it will be approached with a Waterfall development methodology. As a result, it is important that you plan in detail what you will do at each stage of the SDLC.

For each phase of the SDLC, as seen in class, describe in detail what your **plans** are for that phase for **this** project**.**

Note: Marks will not be awarded for discussions that is too general eg talking about web development in general and not this site in particular.

Include a references section, if applicable, containing every reference source that you used (resources are available to aid with proper referencing).

Part 2: Software Development Life Cycle (SDLC) [30%]
Use appropriate tools to document your project plan and teamwork. This should include a breakdown of the overall project work, as well as individual team members' contributions.

Part 3: Reflections (SDLC) [40%]
Each team member should write a short reflection (500 words approximately, to be submitted to the Integrated Application Development page) in which they discuss:

- What they thought went well
- What they thought went poorly
- What they would do differently, if they had to do this again
- What they would do the same, if they had to do it again
- What did they learn about software projects

Submission Requirements

All assessment submissions must meet the minimum requirements listed below. Failure to do so may have implications for the mark awarded.

All assessment submissions must:

- Be submitted by the deadline date specified or be subject to late submission penalties

Cross Platform Development Page:

Your work must be uploaded to the Moodle in a ZIP folder that contains:

- The code.
- Documentation.
- Team report for Interactive Application Development (Word document .doxc)

Please remove the node_modules folder as otherwise your project would be too big to upload.

Interactive Application Development Page:

- Individual reflections (500 words approx, Word document .docx)
- Be a Word document with 750 words max (not including images, tables or references)
- Use Harvard Referencing when citing third party material is recommended
- Be the student's own work.
- Include the CCT assessment cover page.

Additional Information

- Lecturers are not required to review draft assessment submissions. This may be offered at the lecturer's discretion.
- In accordance with CCT policy, feedback to learners may be provided in written, audio or video format and can be provided as individual learner feedback, small group feedback or whole class feedback.
- Results and feedback will only be issued when assessments have been marked and moderated / reviewed by a second examiner.
- Additional feedback may be requested by contacting the instructor directly. Additional feedback may be provided as individual, small group or whole class feedback. Lecturers are not obliged to respond to email requests for additional feedback where this is not the specified process or to respond to further requests for feedback following the additional feedback.
- Following receipt of feedback, where a student believes there has been an error in the marks or feedback received, they should avail of the recheck and review process and should not attempt to get a revised mark / feedback by directly approaching the lecturer. Lecturers are not authorised to amend published marks outside of the recheck and review process or the Board of Examiners process.
- Students are advised that disagreement with an academic judgement is not grounds for review.
- For additional support with academic writing and referencing students are advised to contact the CCT Library Service or access the CCT Learning Space.
- For additional support with subject matter content students are advised to contact the CCT Student Mentoring Academy

- For additional support with IT subject content, students are advised to access the CCT Support Hub.