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South Metropolitan TAFE

Product Design Specification (PDS)

Programming III AT3

Version 1.1

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# Version History

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| **Version #** | **Implemented**  **By** | **Revision**  **Date** | **Approved**  **By** | **Approval**  **Date** | **Reason** |
| 1.0 | Jun Yang LEE | 11/12/19 | Jun Yang LEE | 11/12/19 | Initial Design Definition draft |
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# Introduction

## Purpose of the Product Design Specification (PDS) Document

The PDS is a formal specification document that created during the planning phase or prior starting of the project. It records the requirements of designs and ensure that the design is actually addresses the client needs. It’s also give a bigger picture to understanding the project outcomes for the involved members such as project manager, developers, client and stakeholders.

# General Overview

This section describes the principles and strategies to be used as guidelines when designing and implementing the system.

## Assumptions / Constraints / Standards

The project will need to be develop a music player application that requires **Q7 -** Graphic User Interface (GUI) design, **Q2 -** hashing techniques, with coding **Q1** – dynamic data structures, **Q3** - sorting and **Q4** - searching technique and also include of **Q5** - third party libraries.

## Architecture Design

This section outlines the system and hardware architecture design of the system that is being built.  
**Q1 –** Music Player used Double Linked List and CSV used List<string> as dynamic data structures **Q2** – User Login has used hashing technique  
**Q3 –** Music Library used Bubble Sort algorithm  
**Q4** – Binary Search has implement into Music Library once the csv list has sorted  
**Q5 –** Lumen Works Csv Reader as third party library

User Login

Music Player (Double Linked List)

Music Library

## Hardware Architecture

This application is built for Windows OS environment and desktop base. It needed Input/Output (I/O) devices like monitor, keyboard, mouse and speaker to runs the application well.

## Software Architecture

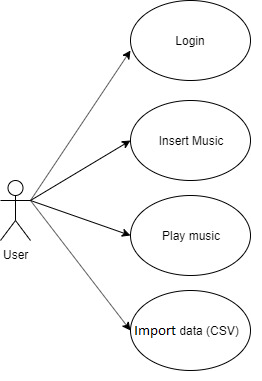
The application will be developed with Microsoft Visual Studio 2019 with C# language and also included third party library – LumenWorkCSVReader.

## Security Architecture

Hashing technique will be implement into this application in order to have login function prior access to the Music Player.

# System Design

## Use Cases

A use case is a list of actions or event steps, typically defining the interactions between a role (known in the Unified Modeling Language (UML) as an actor) and a system to achieve a goal.

## Data Conversion

Data conversion is the conversion of computer data from one format to another. This application allows import from csv files into music library.

# Product Design Specification Approval

The undersigned acknowledge they have reviewed the Programming III AT3 Product Design Specification document and agree with the approach it presents. Any changes to this Requirements Definition will be coordinated with and approved by the undersigned or their designated representatives.

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# Appendix A: Glossary of Acronyms

The following table provides definitions for terms relevant to this document.

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| --- | --- |
| **Term** | **Definition** |
| PDS | Product Design Specification |
| GUI | Graphic User Interface |
| I/O | Input/Output |
| UML | Unified Modeling Language |