**Player**

**1. Introduction**

**1.1. Program name Program name: "Player on various platforms"**

**1.2. Purpose and scope**

The program is intended for listening to musical compositions, contains the following data:

• Song title

• Cover (track / album / group)

• Duration of the composition

• Album name, artist name, file information (sampling rate, track width, file size)

The application provides a user-friendly user interface for mobile devices and PCs (on Windows)

**2. Requirements for the program**

**2.1. Performance requirements**

The program must be able to play audio files in various formats (MP3, WAVE, FLAC, AAC, AC3, WMA, Raw data, OGG-Vorbis (through NVorbis)). The application should allow the user to select directories for scanning audio files. Whenever possible, the application should be able to add various audio effects (DSP algorithms) as well as equalizer settings.

**3. Operating conditions**

**3.1. Requirements for the composition and parameters of technical means**

The technical means must include a personal computer (on Windows), a mobile device (on Android or IOS)

**3.2. Requirements for information and software compatibility**

The application works on the MVVM architecture using the MVVMCross framework. To work with audio, the CSCore - .NET Audio Library is used. Mandatory use of multithreading. A pre-allocated stream will be used for audio playback.

**3.2.1 Basic structure of the application (description of fields, objects, classes, etc.)**

• Process for playing audio - musicThread

• Class for scanning catalogs named CatalogScanner - inherited from the ICatalogScanner interface and implements the following methods: ScanFolder, RemoveFolderFromScan, property for reading ScannedFiles.

• Class for playing songs - MusicPlayer

• Class for getting information about a track - TrackInfoGrabber

• Class for changing information about a track – TrackInfoEditor

**3.3 Special requirements**

All private fields are named with a lowercase letter, methods / classes / properties - with a capital letter. When creating a new functionality, add a name and a short description (if necessary) to the documentation.