

STANDALONE APPLICATION FOR AUDIOADDICT'S RADIO STATION WITH THE SUPPORT FOR SOUNDCLOUD

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The object - a set of desktop software and website to play music from online radio stations: Digitally Imported, Rockradio, RadioTunes, ClassicalRadio and JazzRadio - with support for SoundCloud service. The goal - implementation of these programs and website. The above questions - subject area analysis, the choice of development tools and design techniques.

There are five very popular online radio stations: Digitally Imported, Rockradio, RadioTunes, ClassicalRadio and JazzRadio - each under a certain style of music. Each radio station has a web application and a mobile application. However, there is no desktop application. In addition, these applications allow only listen to the music in real time, but you cannot save a single song for later listening offline. To solve these problems, a set of programs has been developed, consisting of three desktop software (for Windows, macOS, Linux) and website for the distribution of these programs.

To implement this set of programs is necessary to analyze the subject area. During the analysis, the following features of online radio stations have been identified:

- log in to your account;
- control music playback (start / stop, increase / decrease the volume);
- possibility of selecting the channel with the songs of a certain musical style;
- selecting the sound quality;
- possibility to vote for the song (like or dislike).

After the analysis of the subject area, you need to define a set of features that the program will perform. The following features have been identified:

- possibility to log in the application and get the possibility to use the saved favorite channels and see favorite songs;
- display the channel list for each radio station and get the possibility to select one of them for playback;
- possibility to control music playback (start / stop, increase / decrease the volume);
- possibility to add a channel to favorites, or delete it from there;
- possibility to select the sound quality;
- possibility to vote for the song (like or dislike).

In addition, the following unique features have been identified:

- select a radio station to listen to in one application;
- possibility to listen to your favorite songs through SoundCloud service;
- possibility to control the player using global hot keys.

It was also decided to develop a cross-platform application, so that users of different platforms (Windows, macOS or Linux) had a possibility to take advantage of a convenient application.

Next, you must determine the development tools. The selection is made among 2 frameworks: Qt and C++ or Java and Swing. Both frameworks provide a possibility to implement cross-platform applications, however, framework Qt and C++ was chosen because of the following advantages:

- C++ is faster and requires less computer resources;
- The QML markup language, included in Qt, more powerful than the Swing, and gives more flexibility in the design of the user interface;
- Qt Multimedia is built-in module for audio content management capabilities.

Next, you need to design the user interface of the program. The user interface must allow the user to perform all the functions inherent in the program, to be comfortable, clear and beautiful. The following two application forms have been identified:

- the login form;
- the main form.

The following controls of main form have been identified:

- player;
- tabs for radio stations, channels, songs and settings.

Figure 1 shows the main form of the application.

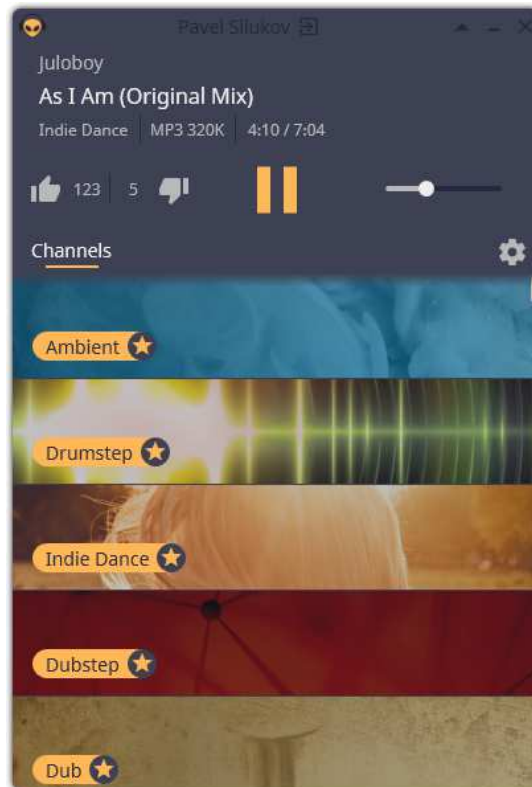


Fig. 1. The main form of the application

Next, you need to develop a website for distribution the program. The website should have the following functions:

- describe the features of the program to the user;
- give the possibility to download the latest version of the program;
- give the opportunity to connect with the developer via email.

Flask framework with Python was chosen to develop website. Homepage of the site is shown in Figure 2.

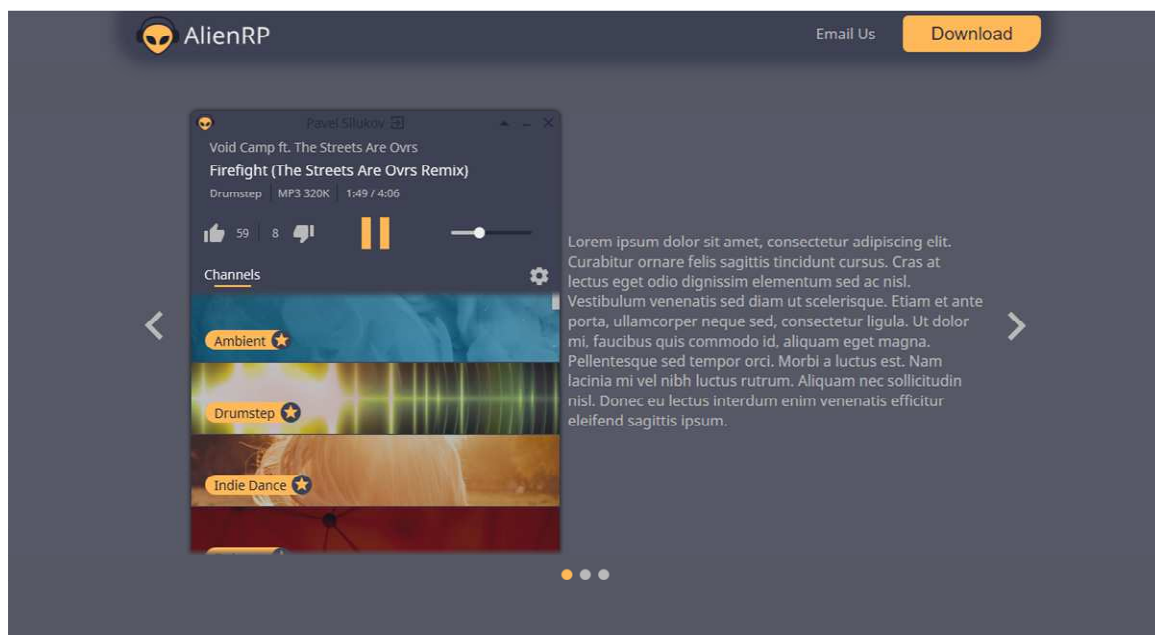


Fig. 2. Homepage of the site

As a result, standalone application has been developed. It allows you to perform all the functions provided by online radio stations with the support for SoundCloud. In addition, the website has been developed for distribution of the application.

REFERENCES

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