

The main goal of this bachelor's thesis was to create user friendly audio software with graphical user interface. The program contains analyser, audio player in the style of Audacity and sound synthesizer, which is using diagrams to generate audio. Diagram consists of wave generators, operators and connections between them. The result of this work is functional program written in Java programming language. On top of that each part of program can be extended by plugins. To be more specific, it means that there is possibility for user to write own audio analysis algorithms for analyser, own operations for modification of audio tracks loaded in audio player and in case of synthesizer, it means that the user can implement own operators and generators and use them in diagram for sound synthesis.