Bachelor Project

Music Voting Server

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# Introduction

The topic of this project is development of a Web Application that can be ran on a Raspberry PI[[1]](#endnote-1) microcomputer. The application can be installed on an offline server (without Internet connection) and run entirely inside a local Wi-Fi network. The use case is to provide means for song voting that forms a live playlist. The application also plays music and allows songs uploads. It is useful during parties where participants would like to vote for their favorite songs.

Users‘ Devices

Speakers

Admin laptop

Web Application (backend)

Linux (Raspbian)

Raspberry PI

Laptop

Android

iOS

General project scheme

# Motivation and objectives

The main objective was to practice working on a software project (that has more complex architecture than university labs) and coordinating as a team of several developers. We had to plan the project schedule using Gantt Chart. It is quite popular tool in Project Management when there is a need to show an activity over time. In our case it helped to make sure that our tasks and activities are inside the project timeframe. We used it to plan our work. The second tool that we used was YouTrack[[2]](#endnote-2) - browser-based software. It is JIRA-like project management tool that is used for task planning and bug tracking.

The second goal was to get knew knowledge and deepen existing in programming languages, frameworks and tools for Web- and mobile development. As these two areas of software development are quite popular nowadays.

Finally, our goal was to have a working prototype that can be open for building additional functionality and third-party integrations on top. The main features were planned with look into keeping up to a general time frame for a project. But we would like to continue working on it in future as well. The main features included: upload songs, played pre-installed and uploaded songs, show song list to users, accept votes, allow remote administration.

# Preparation

Gantt chart, objectives, risks

## Gantt Chart

Gantt chart is a bar chart that is used to illustrate a schedule of a project. This kind of a chart includes tasks to be performed (on the vertical axis) and time intervals for the tasks (on the horizontal axis).[[3]](#endnote-3) For our project we used an Excel Gantt chart template as it is simple and easy to use. We needed the chart to plan the tasks for team members for the whole project according to given time frame. We did not include there every possible single task, but rather main general tasks to complete the project. We understood at that point that some additional tasks will appear as we progress and planned the time accordingly. We split tasks into six Milestones. Task were assigned to a Task Owner, but it did not mean that the person should do the whole task alone, but to control and be responsible for task completion. Our Gantt chart is included at the end of this report.

1. https://www.raspberrypi.org [↑](#endnote-ref-1)
2. https://www.jetbrains.com/youtrack/ [↑](#endnote-ref-2)
3. https://en.wikipedia.org/wiki/Gantt\_chart [↑](#endnote-ref-3)