Problem

Music players have limited support for local music and shareable playlists

Problems with current music players:

- slow
- cant handle missing songs
- requiring servers
- clunky ui
- unnecessary features
- don't support many audio formats
- Can't search by song metadata
- require subscription
- can't share local playlists
- can't edit metadata

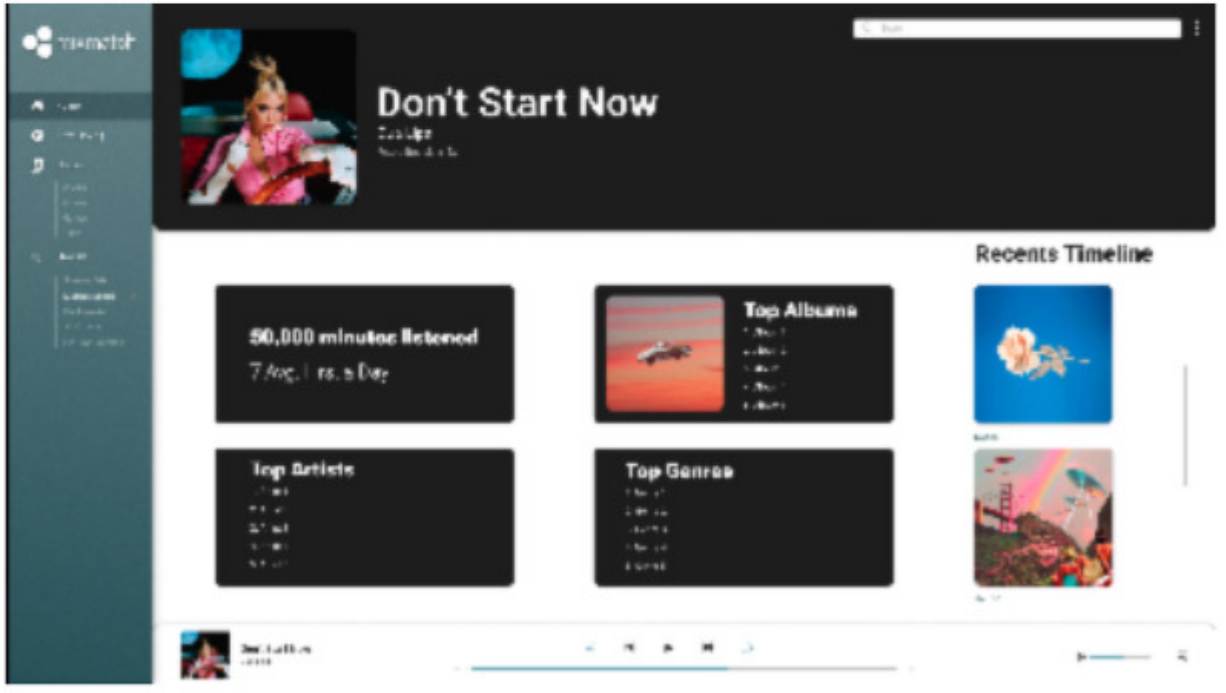
Appetite

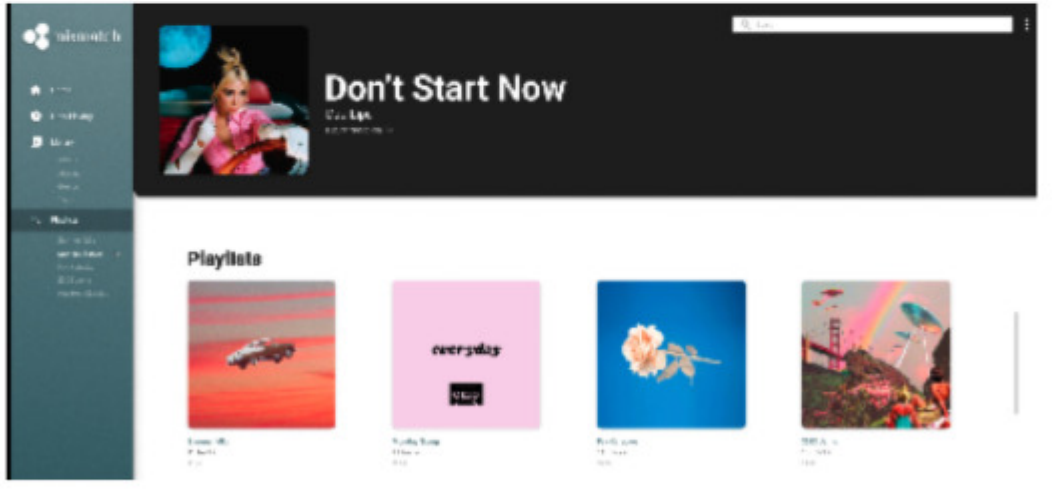
Main Issue is organizing local music files and making playlists shareable.

To solve the problem effectively in 6 weeks, we will focus on implementing all the must-have feature in our first sprint, followed by desired features. Stretch features are likely to be future work to implemented beyond the 6 weeks.

Besides the No-go's we also avoid relying on cloud technologies and the additional complexities that come with it (load balancing, web security, etc.)

Updated UI:
Figma link: https://www.figma.com/proto/e5813wMuDP6ueD7JTZ5ohX/mixmatch-frames1?node-id=131%3A547&scaling=min-zoom&page-id=131%3A248&starting-point-node-id=131%3A547





Risks/Rabbit Holes

Getting support for audio types could prove difficult (difference in binaries based on OS, etc). Should focus on the more common formats

Matching metadata when trying to share playlists could be difficult

Local filesystems require different permissions and have different properties

- android requires file permissions
- linux and window use different file delimiters (/ vs \)

No Gos

No streaming music
No storing music or playlists on the cloud
No sharing actual music files
No downloading music files
No personalized recommendations
No harvesting user info (guaranteed privacy)

Must Have Solutions

- Lightweight
- Library search based on any tags
- Playlists based on user defined meta i.e. artist + album, year, etc.
- Play from local File
- Uses supported built-in JavaScript audio types
- User-focused UI
- Metadata search/editor
- Free (GPL License)

Desired Solutions

- Use local binaries (like VLC) to support vastly more audio types
- Can Share Playlists
- Able to skip missing songs / alert user
- Themes (Dark, light)
- Lyrics through metadata raw text
- user stats

Stretch Goals

- Custom Themes
- Fuzzy hash
- Lyrics through subtitles

Gregory

Basic User

👉 Brief Description

- Single
- Works on a boat 7 months out of the year

📲 Tech savviness

- Gregory uses his computer to check his email and read the news.
- Gregory can stream his music using popular services like Spotify on his phone
- Gregory knows what a file is

✅ Use Cases

- Would like to listen to local music and audio recordings
- He can't always use Spotify because internet connection is limited on the boat.

😌 Personality

- Outgoing
- Always wants to try new things
- Doesn't like to focus on the details
- Jack of all trades - master of none

👀 Interests

- Soccer
- Cooking
- Horror Films

😊 Gains

- Can play his local music files
- Wants to be able to listen while offline
- Wants a fast application

😞 Pains

- Doesn't want clunky UI

User persona

Gregory

User story

As a person who works a job with long hours at a tedious job, I want to be able to easily listen to podcasts I find and download.

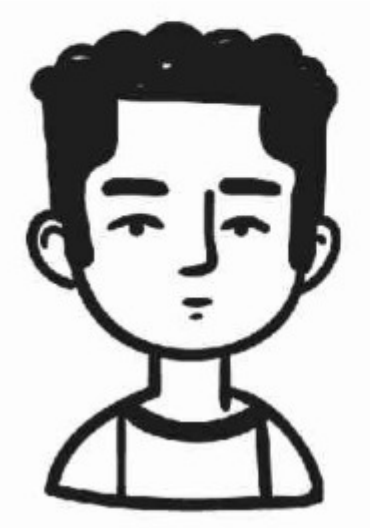
As a person who is tech illiterate, I need an app that has an easy UI so I can play music without having to spend a lot of time

As a person with a lower end computer, I want to be able to use an app with that runs fast on my laptop.

As a person who wants to listen to music a lot in public but don't have data, I want to be able to use an app on my laptop to listen to music offline

Sam

Intermediate User



👉 **Brief Description**

Sam loves to listen to music from mp3 files he bought from his favorite artists. He just wishes there was a better way to share his love for the artists with others

📲 **Tech savviness**

- Able to use multiple devices (phone, computer)
- Understands how to access local files
- Basic knowledge of information stored in mp3 or other music files

✅ **Use Cases**

- Wants to listen to different albums downloaded locally
- Wants to share his playlists with friends

😌 **Personality**

- Loves sharing things with friends

👀 **Interests**

- Soccer
- Playing music at parties

😊 **Gains**

- Wants to share his local playlists with others
- Can show off how much of a fan he is

😞 **Pains**

- Wants further integration with social music platforms like Spotify because he wants his tastes to be as public as possible

User persona **Sam**

User story

As a person who believe that music should be accesibile I want to be able to have a fully featured music player without being charged a subscription.

As a person who is has become very unorganized through many years of collecting music, I want to be able to search songs in sub-directories.

As a person who likes sharing things with my friends, I want to be able to share my playlists with my friends on popular platforms.

As a person who likes getting recommendations from his friends, I want to be able to import their playlists from other platforms.

Lisa

Advanced User

👉 Brief Description

Lisa is a data hoarder of all kinds including music in many formats.

📲 Tech savviness

- Is fluent in ReGeX
- Power User
- Uses all device types

✅ Use Cases

- Organize extensive amounts of music (>30gb)
- Create playlists based on ReGeX of metadata
- Import and export from more niche sites, like SoundCloud and NicoNicoDouga

😌 Personality

Believes in self-improvement and constantly seeks new ways to streamline her life

👀 Interests

- Music
- Motivational Quotes
- Data Science

😊 Gains

- Centralized location to both edit music files and listen to them
- Great tools to facilitate creating playlists

😞 Pains

- Can't download music files

User persona **Lisa**

User story

As a person who has downloaded music for many years, I want to be able to sort and manage a large quantity of downloaded music.

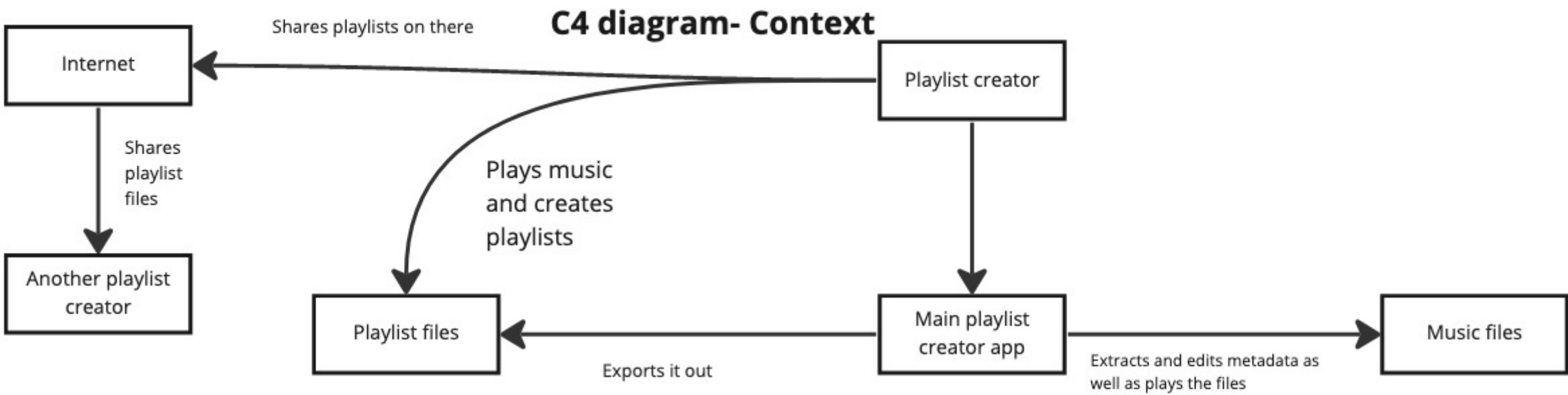
As a person who has many songs saved as artist name - song name since I couldn't edit metadata, I want to mass modify all the metadata of my songs.

As a person that who studies data analysis, I want an music player app which has my listening statistics on demand.

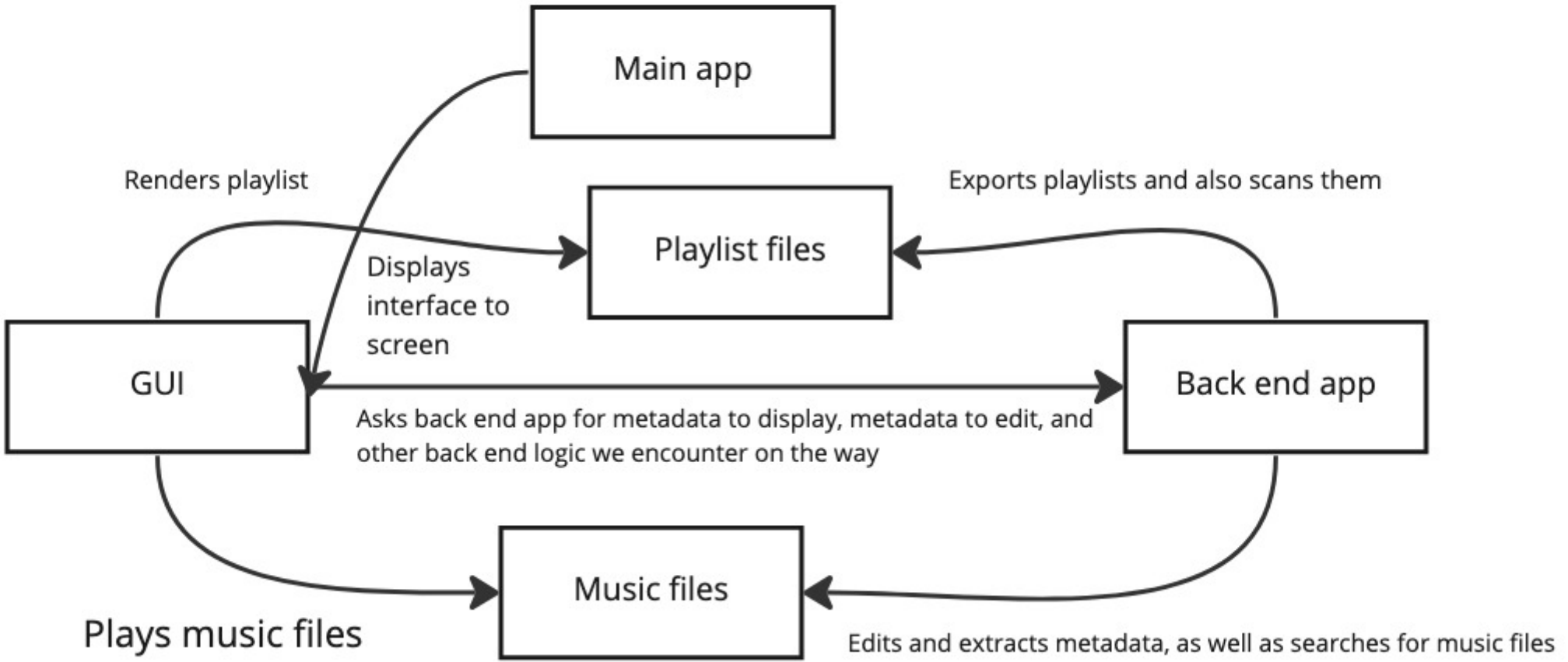
As a person who collects music from different sources, I want to be able to play files of various obscure types.

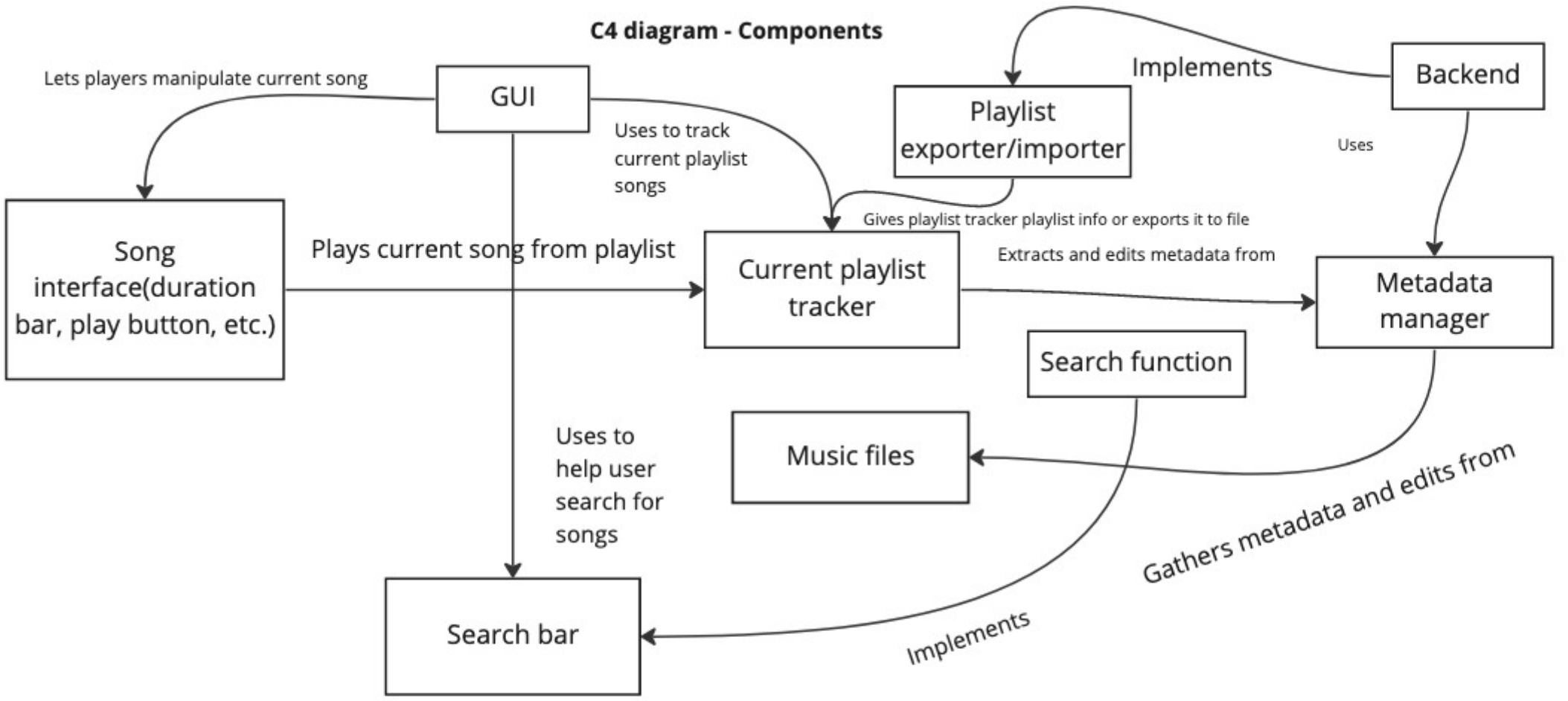
Technology / Tools

- Electron
    - Enables usage on android
- ffmpeg
    - For handling audio formats
- fs
    - Allows us to access the file system in JS

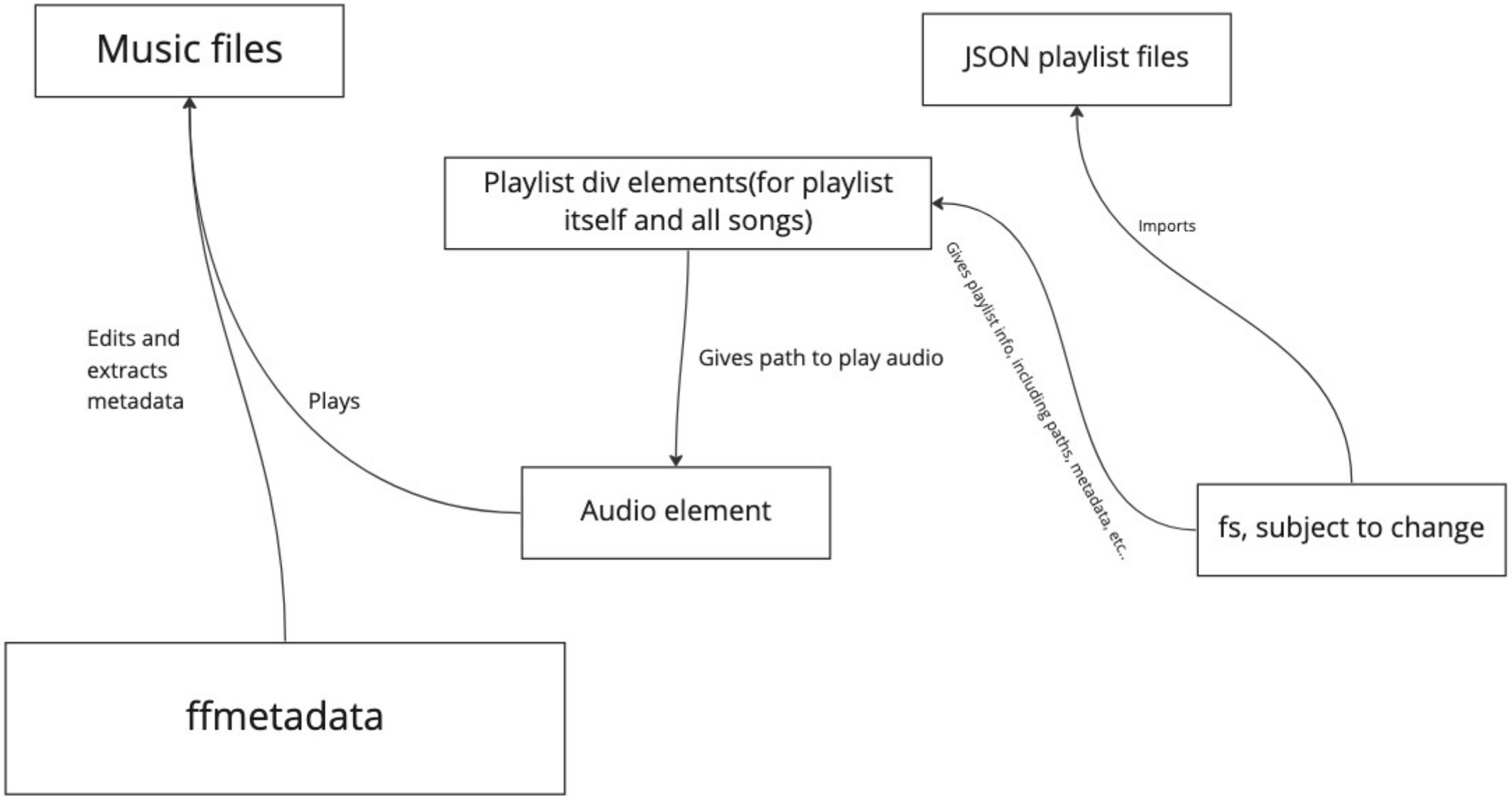

C4 diagram- Context
Internet
Shares playlists on there
Playlist creator
Shares playlist files
Another playlist creator
Plays music and creates playlists
Playlist files
Exports it out
Main playlist creator app
Extracts and edits metadata as well as plays the files
Music files

C4 diagram - Container




C4 diagram - Components
Lets players manipulate current song
GUI
Uses to track current playlist songs
Playlist exporter/importer
Implements
Backend
Uses
Song interface(duration bar, play button, etc.)
Plays current song from playlist
Gives playlist tracker playlist info or exports it to file
Current playlist tracker
Extracts and edits metadata from
Metadata manager
Search function
Music files
Uses to help user search for songs
Search bar
Gathers metadata and edits from
Implements

C4 diagram - Code



Project roadmap(subject to change)

Weeks 6-end of week 8: Implement Must haves

A reminder of what those mainly consist of:

- Creation of playlists
- Playing from local file
- Simple UI
- Metadata editor

Week 9-10: Implement desired if possible

- VLC
- User stats
- Sharing of playlists(may come before)

After year ends-unknown: implement stretch goals