Vibe Player Milestone #2 Requirements

This document describes the requirements for the second development milestone (**Milestone #2**) of the **Vibe Player** app.

This milestone enhances the playback experience by introducing interactive controls, shuffle and repeat modes, and a mini player for seamless playback across screens. It also adds a search feature for quick song discovery and improves navigation and UI transitions.

The mockups define the app's appearance and behavior. Feel free to decide how you implement specific things (e.g., how you display a specific loading progress or how you specify error messages).

You can find the Vibe Player **mockups here**:

> https://www.figma.com/design/yge7H3tImtXHQZXCG9hUVr/VibePlayer?node-id=4-12542

Milestone #2 Goal

- Add a **Search Screen** for locating songs by title or artist.
- Introduce **Shuffle** and **Repeat** modes with proper playback logic.
- Implement an **interactive seekbar** for live track position control.
- Add a **Mini Player** for persistent playback while navigating through the app.

Icons

You may use Material Design icons where appropriate. If a suitable Material icon is not available, use the custom icons provided in the Figma mockups.

In Figma, any icon or image can be **exported** by selecting the element and clicking "Export" in the **right-hand panel**. In this panel, you can also choose the desired format (PNG, SVG, etc.).

Adaptive Layouts

The app must support two breakpoints:

- **Up to 840 dp** → mobile layout.
- **From 840 dp and above** → wide-screen layout.

📌 Since there's already plenty to do in this challenge, full wide-screen adaptation is **optional**. Only **portrait orientation** is required, but still, check the 840dp+ mockups to understand how elements should look and align on larger screens.

Technical Requirements

🏠 Main Screen

The main screen has been updated — the following new elements have been added:

Search Icon

- Placed on the right side of the top bar, next to the Scan icon.
- Tapping the icon opens the **Search Screen**.

Shuffle and Play Button

- Located below the top bar as two large rounded buttons.
- **Shuffle** — starts playing all songs in random order.
- **Play** — starts playing all songs in the order they appear in the list.
- In both cases, tapping this buttons opens the **Now Playing** screen where playback begins.
- Playback runs locally, without background mode or network interaction.

Song Count

- Below the Shuffle and Play buttons, display the **total number of songs**, e.g.:"123 Songs" (the number updates dynamically based on the tracks found).
- The text is left-aligned and updates automatically after each scan.

Scrolling Behavior

- While scrolling through the track list, the **top bar** (with the app title and icons) remains **fixed** (sticky) at the top of the screen.
- The **Shuffle** and **Play** buttons, as well as the song list, **scroll together** as part of the main content area.

🔍 Search Screen

The purpose of this screen is to allow the user to quickly find songs in their library by title or artist.

Search Field

- Positioned at the top of the screen.
- Contains a search icon on the left and the placeholder text "Search" in the center.
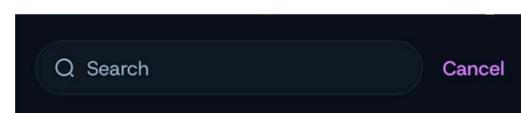
- When the screen opens, the **search field automatically gains focus**, and the **keyboard opens immediately** for convenient input.
- While typing, a **"X" (clear)** icon appears on the right side of the field, allowing the user to clear the current query.
- Tapping **Cancel** on the right closes the search screen and returns the user to the previous screen.

Initial State (Before Typing)

- The screen is empty until the user starts typing a query.
- Only the search field and the active keyboard are visible.

Search Results State

- When a search query is triggered (after a short delay, e.g., 300–500 ms), a **circular loading indicator** appears in the center of the screen.
- The search field remains active and editable.
- Once results are loaded, the indicator fades out and the matching songs are displayed.
- Each item in the list includes:
  - **Album art** — displayed if available in metadata; otherwise, a default music note placeholder is shown.
  - **Song title**.
  - **Artist name**.
  - **Track duration** on the right.
- The search runs across both **song titles** and **artist names** (case-insensitive).
- Tapping any result opens the **Now Playing** screen with the selected track.
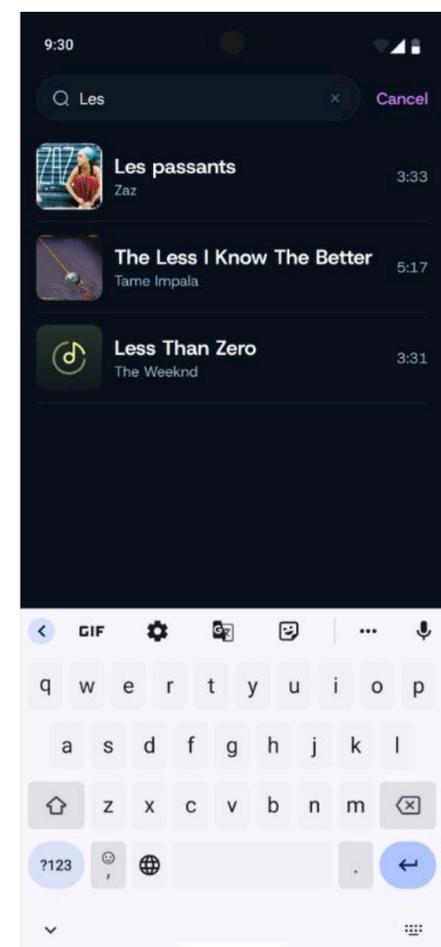
No Results Found" State

- If no matches are found for the entered query, display the message: *"No results found".*
- The search field remains active so the user can modify the query immediately.
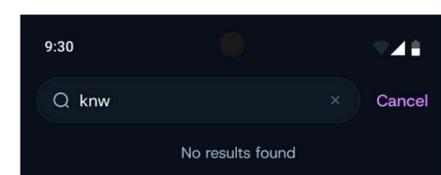
Additional Technical Details

- The search is performed **locally**, without any internet requests.
- Results are updated **in real time** as the user types (live search).
- When the field is cleared (using "X") or all text is deleted, results disappear, and the screen returns to its **initial empty state**.

🎧 Now Playing Screen (Updated)

The Now Playing screen has been updated — it now includes an interactive seekbar, a new minimize button, and enhanced **Shuffle** and **Repeat** playback modes with refined logic.

Minimize Button

- The **Back** button at the top has been replaced with a **minimize icon** (downward arrow).
- Tapping this button **minimizes the current screen** with a smooth **top-to-bottom animation**, creating the effect of the player sliding down and closing vertically.
- This is **not a standard navigation transition** (like left-to-right), but a vertical closing animation.
- After the animation, the user sees the previously opened screen.
- The music **continues playing without interruption** during the animation.
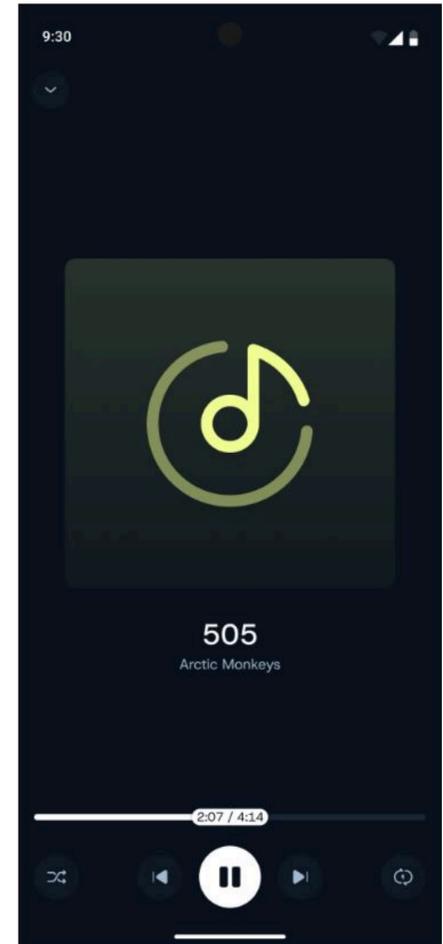
Seekbar (Interactive Track Progress)

- The seekbar is now interactive, allowing the user to drag the slider and change the playback position.
- Inside the seekbar:
    - Left side — current playback time (e.g., 2:07)
    - Right side — total track duration (e.g., 4:14)
- The playback position updates instantly when the slider is moved.
- The timer updates continuously in real time during playback.

Shuffle and Repeat Modes

Shuffle

- **Inactive state** — the icon appears with a dimmed color and **no circular background**.
- **Active state** — the icon becomes brighter with a soft **circular background**.
- When activated, the **entire track list is shuffled once**.
- Playback follows a **random but fixed order** for the duration of the session.
- If **Repeat All** is active, playback will restart from the beginning of the **same shuffled order** after the last track finishes.
- Pressing the Shuffle button again turns the mode off.
- When Shuffle is off, playback resumes in **normal sequential order**, playing the next song directly below the current one in the list.

Repeat

The Repeat button cycles through three modes:

1. **Off** — two arrows with a minus sign inside.
   - The icon is dimmed with no background.
   - When the last track finishes, playback stops.
2. **Repeat All** — standard loop arrows without markings.
   - The icon is active, with a muted circular background.
   - After the last track, playback starts again from the first song.
3. **Repeat One** — arrows with a small "1" inside.
   - The icon is active, with the same muted background.
   - When the current track ends, it restarts from the beginning.

Playback Controls

- **Previous** (⏮) — moves to the previous track. If the first track is active, it loops to the last one.
- **Play / Pause** (▶ / ⏸) — toggles playback of the current track, keeping the seek bar position unchanged and resuming playback from where it was paused.
- **Nex**t (⏭) — moves to the next track. If the last track is active, it loops to the first one.
- The buttons behave the same in all Repeat/Shuffle modes. Playback modes only affect what happens **automatically after a track ends**.

> 💡 **Optional UX Tip:**
>
> You may display a short **SnackBar message** when the user switches Shuffle or Repeat modes, for example:
>
> - *"Shuffle mode enabled" / "Shuffle off"*
> - *"Repeat All" / "Repeat One" / "Repeat off"* This is optional and can help provide quick visual feedback without interrupting playback.

🎵 Mini Player

The mini player appears automatically after the user minimizes the full-screen player (Now Playing) using the minimize button. It is located at the bottom of the screen and displays the currently playing track.

Display and Behavior

- The mini player appears immediately after minimizing the Now Playing screen — no additional appearance animation is used.

- It remains visible on the Main Screen and updates in sync with the playback state.
- On other screens (such as **Scan Music** or **Search**), the mini player is not displayed.

- Tapping the mini player **expands the full player** with a smooth **bottom-to-top animation**, returning the user to the **Now Playing** screen.

Element Structure

The mini player consists of the following elements:

- **Album Art** — small image on the left.
  - If the track contains embedded album art metadata, the album image is displayed.
  - If no album art is available, a standard placeholder with a music note icon is shown.
- **Track Title** — centered, large font, single line.
- **Artist Name** — smaller text below the title.
- **Play / Pause Button** — on the right side.
  - Toggles playback state when pressed, switching between ▶ and ⏸ icons.
- **Next Button** (⏭) — placed to the right of the Play / Pause button.
  - Allows quick navigation to the next song.
  - The **Previous** button is intentionally omitted to keep the mini player clean and uncluttered; it remains only in the full-screen player.

Progress Bar

- A **thin horizontal line** below the mini player shows the current track progress.
- This is a **non-interactive indicator** — the user cannot scrub or seek through the track here.
- The progress bar updates in real time, synchronized with playback.

Playback Behavior

- When playback is paused, the Play button displays the ▶ icon.
- When playing, the icon switches to ⏸.
- After a track finishes or the **Next** button is pressed, the following elements update automatically:
  - Album Art
  - Track Title
  - Artist Name
  - Progress Bar
- Both the **Mini Player** and the **Now Playing** screen operate on the **same shared player instance** to ensure continuous playback when switching between screens. This allows the music to keep playing seamlessly even when the user navigates back from the Now Playing screen.

🔗 Useful Links for This Challenge

- [Create a Splash Screen](#)
- [UX With Material3](#)

- [Full Guide to Material3 Theming](#)
- [Request runtime permissions](#)
- [Introduction to Jetpack Media3](#)
- [Create a basic media player app using Media3 ExoPlayer](#)
- [Media3 ExoPlayer](#)
- [MediaMetadataRetriever](#)
- [Access media files from shared storage](#)
- [Save data in a local database using Room](#)
- [Animations in Compose](#)
- [The Full Jetpack Compose Responsive UI Crash Course](#)
- [How to Save & Restore the Scroll Position of a LazyColumn Persistently](#)
- [Stateful vs. Stateless Composables](#)
- [State Hoisting in Compose](#)
- [Managing State in Jetpack Compose (Codelab)](#)