

# Task: Synced Lyrics Generator Tool (React + Next.js)

## Goal

Build a **web-based tool** that allows a user to upload an audio file, enter lyrics, and generate **time-synced lyrics** that can be exported as either a **JSON file** or an **.lrc file**.

The focus is on **simplicity, speed, and usability**.

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## Tech Stack

- **Framework:** React with Next.js
  - **Frontend only** (no backend required unless strictly necessary)
  - Must run fully in the browser
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## Core Functional Requirements

### 1. Audio Handling

- User can upload an audio file (e.g. **.mp3**, **.wav**)
  - Audio player with:
    - Play / Pause
    - Seek bar
    - Current timestamp display (mm:ss.ms)
  - Smooth playback and accurate timestamp tracking
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### 2. Lyrics Input

- User can input lyrics in a text area
  - Lyrics should be **line-based** (each line represents one lyric line)  
Ability to:
    - Paste full lyrics
    - Edit individual lines
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### 3. Syncing / Timestamping

- User can sync lyrics manually while audio is playing  
Expected interaction:
    - Select a lyric line  
Press a button or keyboard shortcut (e.g. space / enter) to assign the current timestamp
  - Display assigned timestamps next to each lyric line
  - Allow:
    - Editing timestamps manually
    - Re-syncing a line
    - Clearing a timestamp
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### 4. Output Formats

The tool must support exporting synced lyrics as:

#### a) JSON

Example structure:

```
[  
  { "time": 12.45, "text": "First lyric line" },  
  { "time": 18.90, "text": "Second lyric line" }  
]
```

#### b) .LRC

Example:

```
[00:12.45]First lyric line  
[00:18.90]Second lyric line
```

- User can download the generated file
  - File name should be customizable or auto-generated
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## UI / UX Requirements

- Clean, minimal, and intuitive UI
  - Logical flow:
    - Upload audio
    - Paste lyrics
    - Sync lyrics
    - Export file
  - Responsive layout (desktop-first, mobile usable is a plus)
  - Clear visual indicators for:
    - Active lyric line
    - Synced vs unsynced lines
  - Keyboard shortcuts are a plus
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## Non-Functional Requirements

- No unnecessary complexity
  - Fast and responsive
  - Clear code structure
  - Reusable components
  - Proper state management (React hooks or lightweight state solution)
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## Nice-to-Have (Optional)

- Auto-scroll lyrics during playback
  - Highlight current lyric while audio plays
  - Undo last timestamp
  - Import existing `.lrc` or JSON file for editing
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## Deliverables

- Next.js project (Git repo)
  - Clear instructions to run locally
  - Brief README explaining:
    - How the tool works
    - Any assumptions or limitations
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## Key Criteria

- Ease of use (UI/UX)
- Accuracy of timestamps
- Code clarity and maintainability
- Overall user experience