

ClimaTune Prototype User Manual

1. Introduction to ClimaTune

Welcome to ClimaTune, your personalized, weather-sensitive alarm clock application! ClimaTune is a web-based prototype designed to enhance your morning routine by dynamically selecting your wake-up song from your Spotify playlist based on the local weather forecast.

The goal is simple: start every day with music that feels appropriate to the weather outside, whether it's an upbeat track for a sunny day or a relaxing piece for a rainy morning.

2. Getting Started and Initial Setup

2.1 Accessing the Application

ClimaTune is a web-based application accessible via any modern web browser. Simply navigate to the application URL to begin.

2.2 Linking Your Spotify Account

The core functionality of ClimaTune relies on accessing your personalized music. You must link your Spotify account securely using the **OAuth 2.0** protocol.

1. Navigate to the **Settings** or **Playlist** section.
2. Click the "Connect to Spotify" button.
3. You will be redirected to the official Spotify login page. Log in and grant the necessary permissions (to access playlists and control playback).
4. You will be redirected back to ClimaTune, and your account will now be linked.

Note: The application needs to refresh its access token periodically. If you are logged out, simply re-authenticate.

3. Alarm Management

The main interface for ClimaTune provides clear screens for alarm setup, playlist management, and settings.

3.1 Creating a New Alarm

1. Navigate to the **Alarms** screen.
2. Click the "Add New Alarm" button.
3. **Set Time:** Input the desired time for the alarm (e.g., 7:00 AM).
4. **Set Repeat:** Select the days of the week you want the alarm to repeat (e.g., Mon, Tue, Wed).
5. **Set Location:** Enter your geographic location (city/zip code) so the application can fetch the correct weather forecast.

6. **Set Fallback Sound:** Choose a default, built-in sound. This sound will play if the weather API fails, the Spotify API fails, or if no matching song is found for the day's weather.
7. Click "Save."

3.2 Editing and Deleting Alarms

- **Edit:** On the **Alarms** screen, click on an existing alarm entry to open the edit menu. Make your changes and click "Save."
- **Toggle:** Each alarm has a toggle switch to quickly **Enable** or **Disable** it without deleting the configuration.
- **Delete:** In the edit menu, click the "Delete Alarm" button to permanently remove the alarm configuration.

4. Weather-to-Music Mapping

This is the key personalization feature. You define which songs or playlists correspond to specific weather conditions.

4.1 Mapping Process

1. Navigate to the **Mapping** or **Playlist** section.
2. ClimaTune presents a list of supported weather categories (e.g., Sunny/Clear Skies, Cloudy/Overcast, Rain/Shower, Snow, Thunderstorm).
3. For each category, you can:
 - **Select a Playlist:** Choose a specific Spotify playlist you have already created (e.g., your "Rainy Day Jams" playlist).
 - **Select Specific Songs:** You can optionally tag individual songs within a playlist to prioritize them for that weather condition.
4. The application will use the most specific mapping available. If a specific song is tagged for "Rain," it will be chosen over a generic "Rainy Day" playlist if both are set.

4.2 Alarm Trigger Logic

When your alarm time hits, ClimaTune follows this sequence:

1. The **Alarm Scheduler** wakes up.
2. The **Weather Client** fetches the current or forecasted weather for your set location.
3. The system analyzes the weather and determines the primary condition (e.g., "Thunderstorm").
4. The **Spotify Integration** checks your mappings for a song corresponding to "Thunderstorm."
5. If a match is found, the song is streamed and played.
6. **If no match or API failure:** The designated **Fallback Sound** is played.

5. Settings and Customization

The **Settings** menu allows you to manage the application's appearance and behavior.

- **Theme:** Toggle between **Light Mode** and **Dark Mode** for improved viewing comfort.
- **Volume Control:** Adjust the default alarm volume.
- **Logout:** Click "Log out of Spotify" to revoke access and clear your session data. This will require you to re-authenticate to use the music features again.
- **Data Storage:** ClimaTune uses local storage to save your alarm settings and preferences.

6. Troubleshooting

Issue	Potential Cause(s)	Solution
Alarm doesn't play music.	No internet connection; Spotify API is unavailable; Spotify access token expired; No song mapped for the day's weather.	Check your internet connection. Re-authenticate with Spotify. Set a song/playlist for the current weather condition in the Mapping screen.
Fallback sound plays often.	Frequent connection issues.	Ensure your device maintains a strong internet connection. If the issue persists, your weather API key may be limited or experiencing errors.
Wrong song plays.	Mapping error; Weather condition interpretation.	Review your Mapping settings. The system prioritizes exact matches. Ensure the weather condition fetched matches your mapping.
Alarm time is slightly off.	Browser limitations; System clock offset.	Ensure your device's system clock is accurate and synchronized.
Cannot fetch weather data.	Invalid location or API issue.	Verify the location (city/zip code) entered for the alarm is correct.