

Smart Alarm Clock Project – Web Interface Documentaion

Overview: This HTML code represents a web page for setting alarms. It consists of two main sections: one for setting a new alarm and another for managing existing alarms. The page allows users to input details like alarm name, hour, minute, date, ringtone, number of times to repeat, and interval between repetitions. Additionally, it displays a list of existing alarms with checkboxes to toggle their activation status.

Code:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Alarm Clock</title>
</head>
<body>
  <h1>Set Alarm</h1>
  <form method="POST" enctype="multipart/form-data">
    <label for="name">Alarm Name:</label>
    <input type="text" id="name" name="name" required><br><br>

    <label for="hour">Hour:</label>
    <input type="number" id="hour" name="hour" min="0" max="23" required>

    <label for="minute">Minute:</label>
    <input type="number" id="minute" name="minute" min="0" max="59" required><br><br>

    <label for="date">Date:</label>
    <input type="date" id="date" name="date" required><br><br>

    <label for="ringtone">Choose a ringtone:</label>
    <input type="file" id="ringtone" name="ringtone" accept=".mp3,.wav"><br><br>

    <label for="num_times">Number of Times:</label>
    <input type="number" id="num_times" name="num_times" min="1" value="1" required>

    <label for="interval">Interval (in seconds):</label>
    <input type="number" id="interval" name="interval" min="1" value="1" required><br><br>

    <input type="submit" value="Set Alarm">
  </form>
  <h2>Future Alarms</h2>
  <form method="POST" action="/">
    <ul>
```

```

    {% for name, details in alarms.items() %}
    <li>
      <input type="checkbox" id="{{ name }}" name="{{ name }}" {% if details['active'] %}
checked {% endif %}>
      <label for="{{ name }}">{{ name }} - {{ details['hour'] }}:{{ details['minute'] }} on {{
details['date'] }}</label>
    </li>
    {% endfor %}
  </ul>
  <input type="submit" value="Toggle Alarms">
</form>
</body>
</html>

```

expalin this html code in with overview, structure and then in detail

Structure:

1. The **<head>** section contains metadata such as character encoding, viewport settings, and the page title.
2. The **<body>** section contains the main content of the page.
 - It starts with an **<h1>** heading indicating "Set Alarm."
 - Then, there's a **<form>** for setting a new alarm with various input fields like name, hour, minute, date, ringtone, number of times, and interval.
 - Following the form, there's an **<h2>** heading for "Future Alarms."
 - Another **<form>** is present for managing existing alarms, with a list of alarms displayed as checkboxes.
 - Each checkbox is associated with an alarm name, hour, minute, and date.
 - Finally, there's an input of type "submit" to toggle alarms.

Detailed Explanation:

- The **<meta>** tags in the **<head>** section specify character encoding and viewport settings for responsive design.
- The **<title>** tag sets the title of the web page to "Alarm Clock."
- Inside the **<body>** section:
 - **<h1>** tag displays the heading "Set Alarm."
 - The first **<form>** is for setting a new alarm, using various input fields:
 - **<label>** and **<input>** elements for alarm name (**id="name"**), hour (**id="hour"**), minute (**id="minute"**), date (**id="date"**), ringtone

(**id="ringtone"**), number of times to repeat (**id="num_times"**), and interval between repetitions (**id="interval"**).

- The submit button is provided to set the alarm.
- **<h2>** tag displays the heading "Future Alarms."
- The second **<form>** is for managing existing alarms, with each alarm displayed as a list item (****):
 - Each list item contains a checkbox (**<input type="checkbox">**) associated with an alarm.
 - The label displays the alarm name, hour, minute, and date.
- Finally, there's an input of type "submit" to toggle alarms.

This HTML structure creates a user-friendly interface for setting and managing alarms on a web page.