

# **SolarCast User Manual**

## **Weather Prediction Web Application to Optimise Solar Power Plants**

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# Table of Content

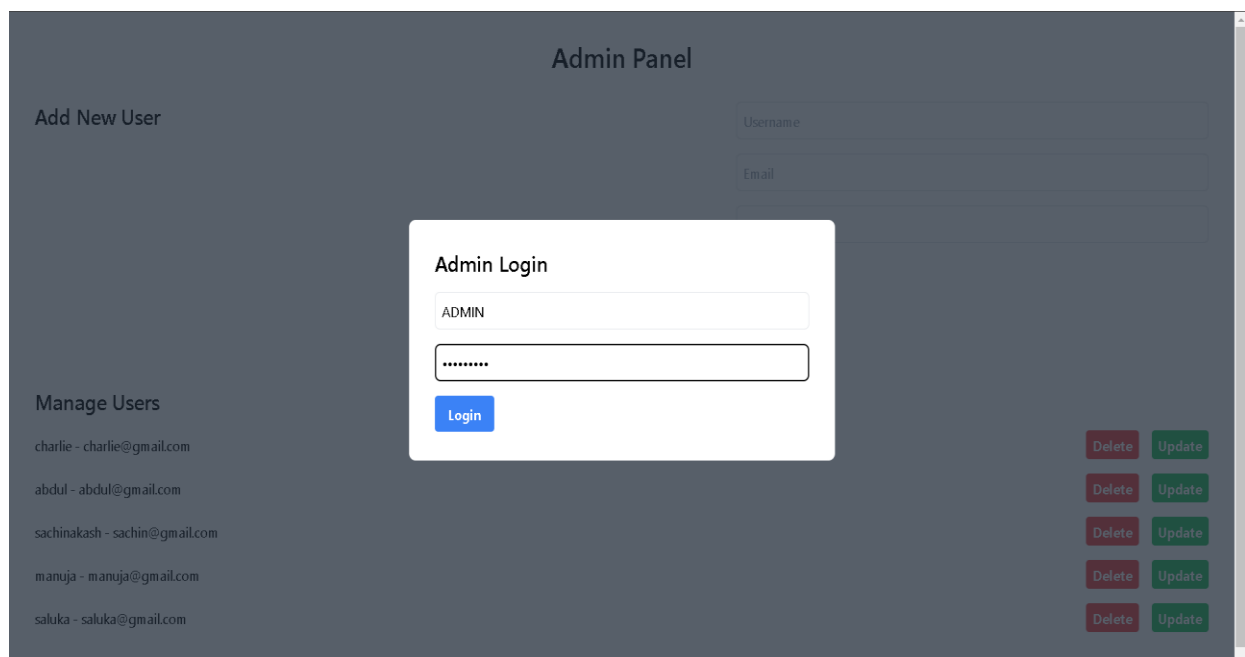
<b>1. What is SolarCast?</b>	<b>3</b>
<b>2. Administration Section</b>	<b>3</b>
2.1. Admin Login	3
2.2. Admin Panel/Functionalities	4
<b>3. User Section</b>	<b>5</b>
3.1. User Login	5
3.2. User Dashboard/Functionalities	6
<b>4. Contact Us</b>	<b>9</b>

# 1. What is SolarCast?

SolarCast is a web based application designed to predict future weather information and forecast potential power generation for solar power plants with precision and efficiency. This manual is a guide on the use and functionality of the software rather than in-depth technical reference. The Contents section provides a reference to the page of each major chapter and the sub chapters within.

## 2. Administration Section

### 2.1. Admin Login



The screenshot displays the 'Admin Panel' interface. At the top, there's a header 'Admin Panel'. Below it, on the left, is a section 'Add New User' with input fields for 'Username' and 'Email'. In the center, there's a white box titled 'Admin Login' containing a text input with 'ADMIN', a password input with masked characters '\*\*\*\*\*', and a blue 'Login' button. On the bottom left, there's a 'Manage Users' section listing five users with their email addresses: 'charlie - charlie@gmail.com', 'abdul - abdul@gmail.com', 'sachinakash - sachin@gmail.com', 'manuja - manuja@gmail.com', and 'saluka - saluka@gmail.com'. On the bottom right, there are five rows of 'Delete' (red) and 'Update' (green) buttons corresponding to each user.

In order to login as an administrator, users should have an admin username and a password. After entering the admin username and password, clicking on the 'Login' button will redirect the administrator to the admin panel after validating the credentials entered. If the credentials are invalid, a prompt will be shown saying the details given are incorrect or do not exist.

## 2.2. Admin Panel/Functionalities

Main functionalities given for the administrators are to manage users of the application and giving access permission for the users to utilise features of the application.

Add New User

Manage Users

charlie - charlie@gmail.com

abdul - abdul@gmail.com

sachinakash - sachin@gmail.com

manuja - manuja@gmail.com

saluka - saluka@gmail.com

Admin Panel

A

B

Table: ☐  
Graph: ☐  
Map: ☐

C

Delete

Update

Delete

Update

Delete

Update

Delete

Update

Delete

Update

### Section A:

In Section A, admin can enter details of a new user in order to give access to the application for a new user. Admin should give Username, Email, and Password of the new user as it says in the placeholders of input fields in order to give the access.

### Section B:

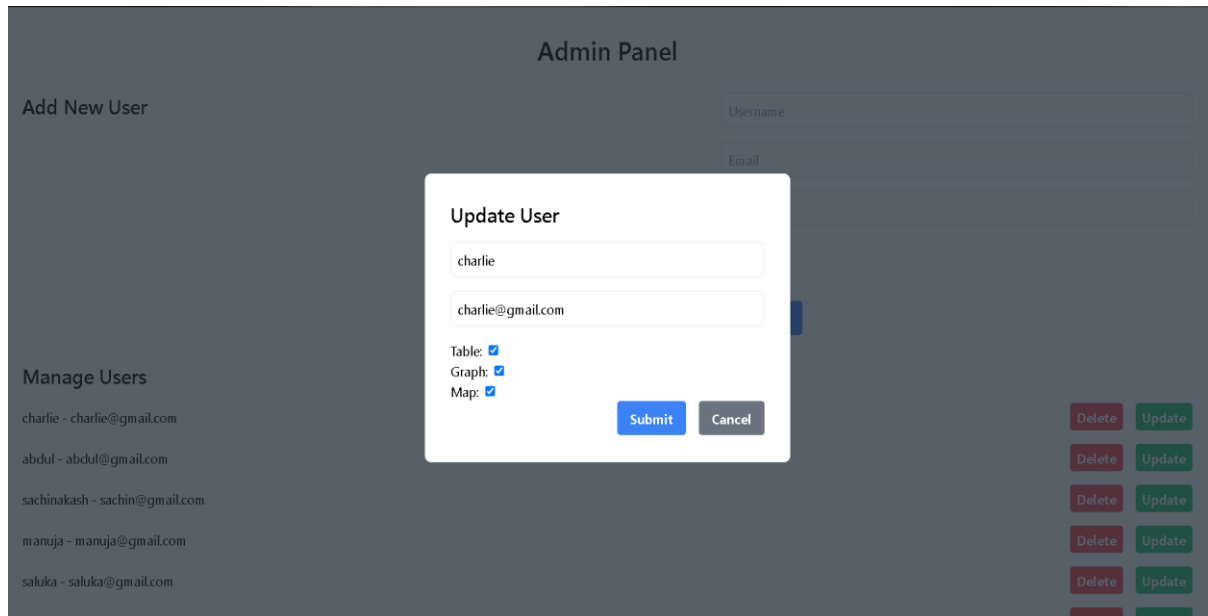
In Section B, admin can select which feature permissions should be given to the new user by simply clicking on the check boxes. Admin can select the features to give access and click on the '**Add User**' button in order to register the new user to the system.

### Section C:

In Section C, as it says, administrators can simply delete an existing user by simply clicking on the '**Delete**' button. Once the Delete button is clicked the user will be permanently deleted from the system and might never be able to access the application

4

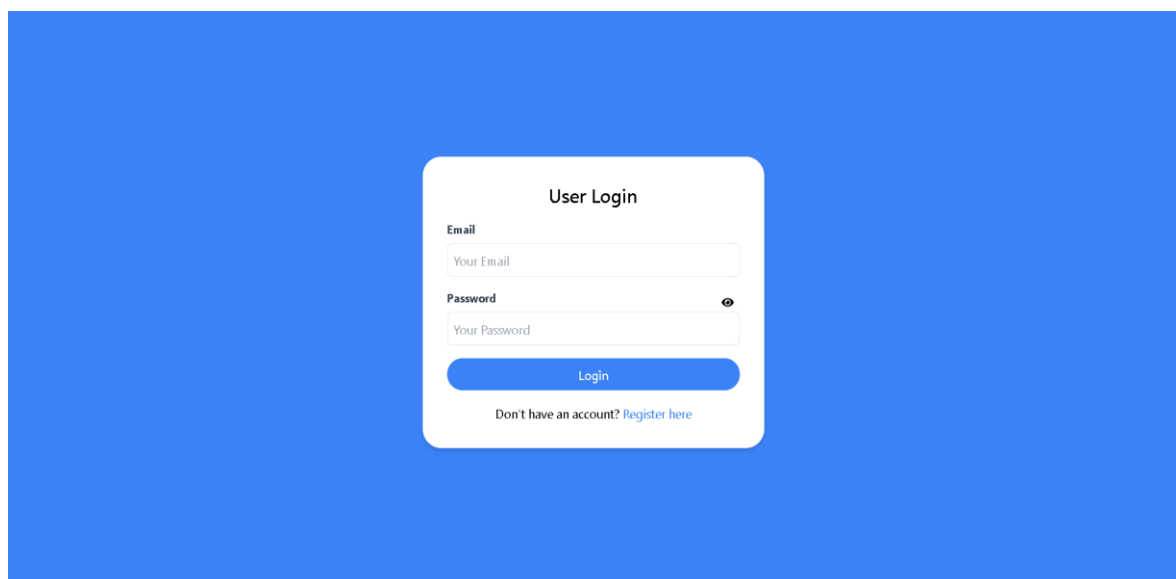
again unless an admin gives the permission! By clicking on the ‘**Update**’ button in Section C, admin will redirect to the following page.

The image shows a screenshot of an 'Admin Panel' interface. At the top, there's a header 'Admin Panel'. Below it, on the left, is a section 'Add New User' with input fields for 'Username' and 'Email'. On the right, there's a table of users. The table has columns for 'Name', 'Email', and 'Actions'. The first row shows 'charlie - charlie@gmail.com'. The 'Actions' column for this row has 'Delete' and 'Update' buttons. A modal window titled 'Update User' is open in the center. It contains input fields for 'Username' (with 'charlie' entered) and 'Email' (with 'charlie@gmail.com' entered). Below these fields are three checkboxes: 'Table:' (checked), 'Graph:' (checked), and 'Map:' (checked). At the bottom of the modal are 'Submit' and 'Cancel' buttons. The background table shows five rows of user data, each with 'Delete' and 'Update' buttons.

Using this section, administrators can update existing user details such as username, email or the access permissions.

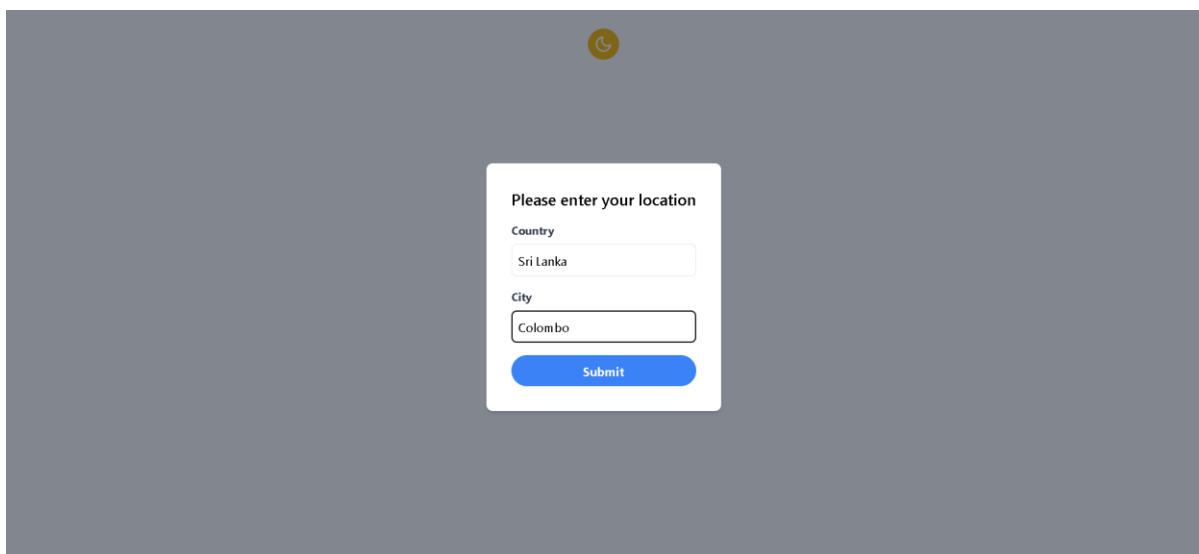
## 3. User Section

### 3.1. User Login

The image shows a 'User Login' form centered on a solid blue background. The form is a white rounded rectangle. It has a title 'User Login' at the top. Below the title are two input fields: 'Email' with the placeholder text 'Your Email' and 'Password' with the placeholder text 'Your Password'. There is an eye icon to the right of the password field. Below the input fields is a blue 'Login' button. At the bottom of the form, there is a link that says 'Don't have an account? Register here'.

In order to login to the application, you are required to have permission by the administrators of the system and get registered to the system via admins. After the registration is completed, you can use your email and password given by the administrators to login to the system. Simply type the credentials in the given input fields and click on the **Login** button. If the credentials are valid, you will be redirected to the dashboard, otherwise you will get a prompt saying an incorrect email or password.

Once the login is successful, you will get an interface as follows,



☾

Please enter your location

Country

Sri Lanka

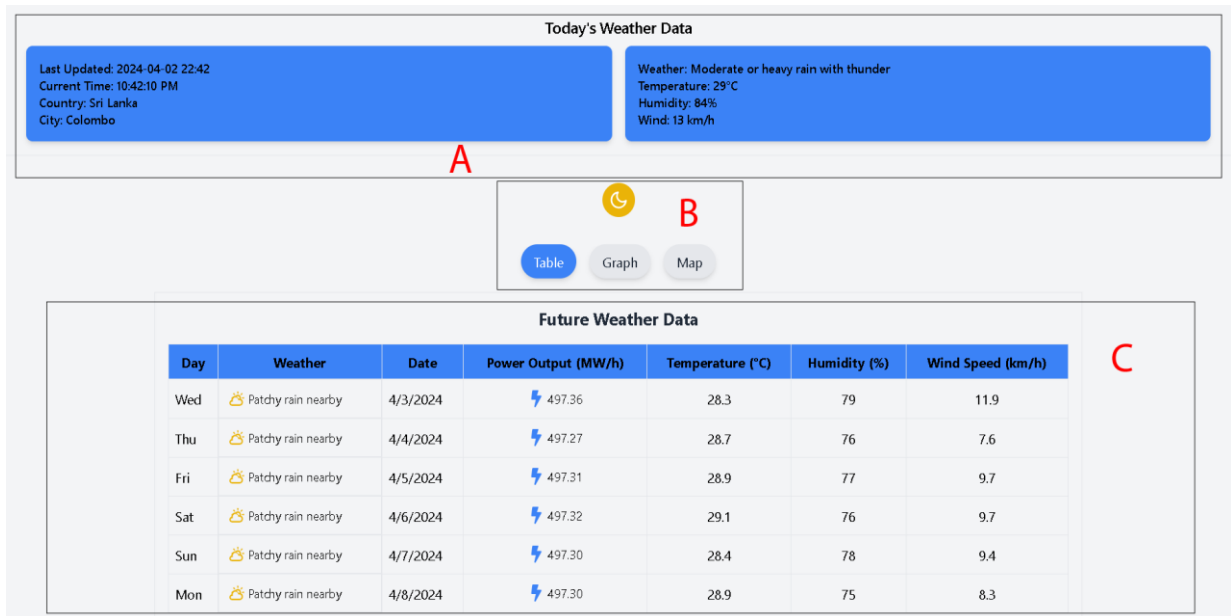
City

Colombo

Submit

Here, you can give the location of their solar power plant in order to get the predictions. Simply select the Country and the City you want and click on the **Submit** button. It will redirect you to the following dashboard.

## 3.2. User Dashboard/Functionalities

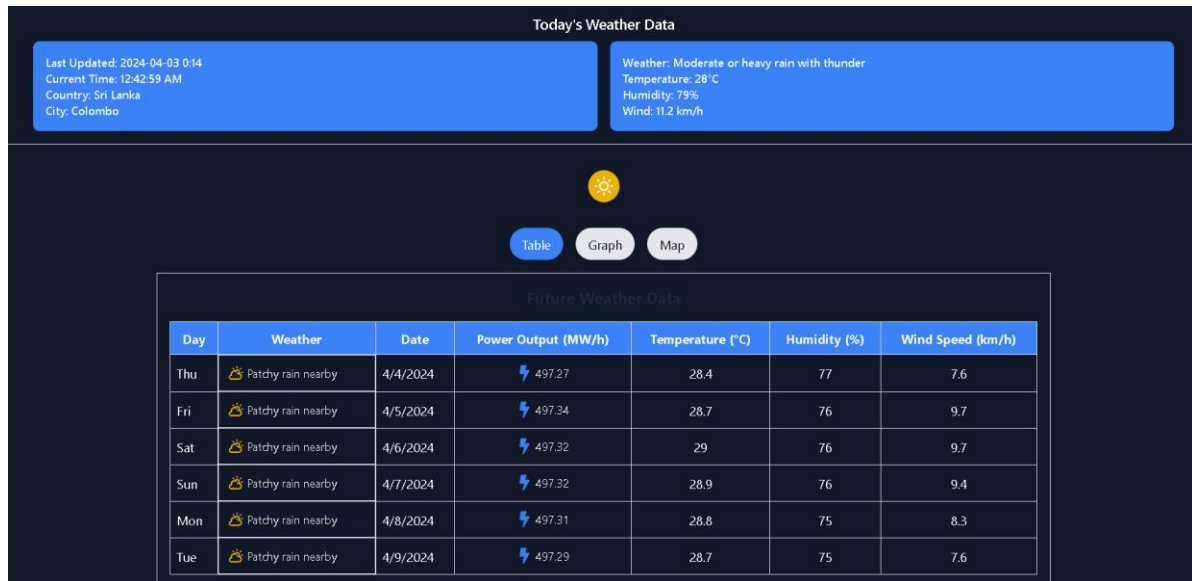


### Section A:

In Section A, you can see the prediction for today's weather data. In the left panel, you can see the date, time and the location. In the right panel, you can see the predicted **weather data** for today.

### Section B:

In Section B, on top you can see the round **yellow icon** to change the theme to **dark mode (night theme)**. Once you click once on the yellow icon the dashboard theme will be changed into dark theme as follows,



If you need to go back to the light mode, click on the yellow icon once again!

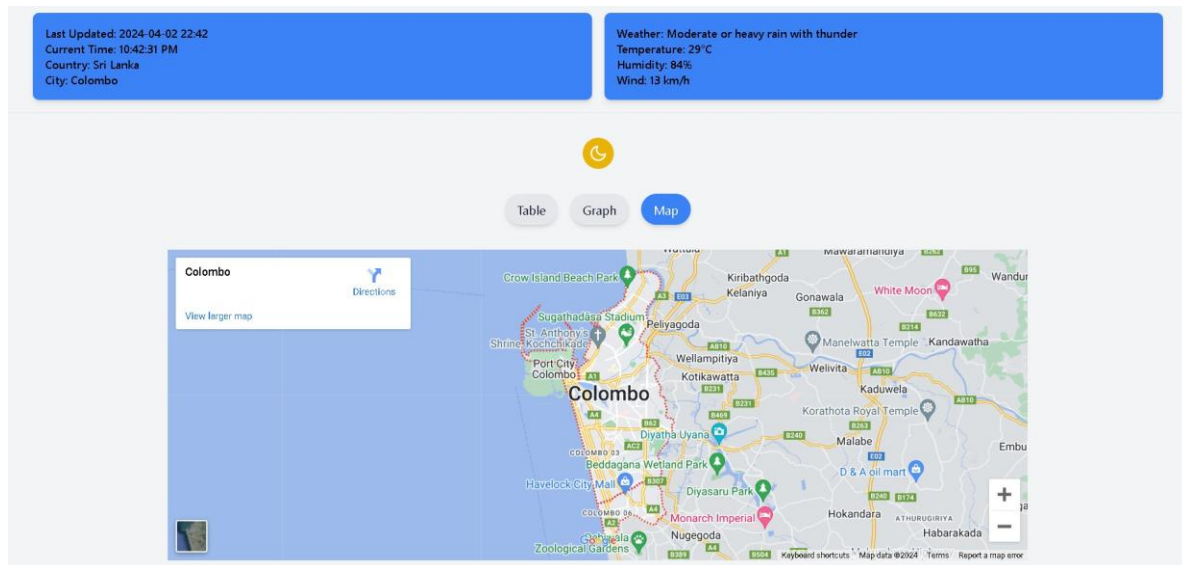
Other three icons in Section B are user views. There are three main views as it says, **Table**, **Graph** and **Map**.

By default, you can see the Table view. If you click on the **Graph** button in Section B, it will show you the graph view of the weather prediction and the potential power generation prediction of the solar power plant as follows,



In Section B, if you click on the **Map** button, it will show you the google map view of the location of your power plant as follows,





In the map view, it highlights the location you have selected previously when login into the application.

### Section C:

In Section C, you can see the table view of future weather prediction data and the prediction of the potential power generation. Currently this prediction is done for the six days ahead from today!

## 4. Contact Us

We are team Uni-Coders,

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