

# **School of Computing**

# SRM IST, Kattankulathur – 603 203

Course Code: 18CSC206J

**Course Name: Software Engineering and Project Management** 

Experiment No	13	
Title of Experiment	Provide the details of Architecture Design/Framework/Implementation	
Name of the candidate	Kumari Harshita	
Team Members	BHANU PRAKASH, NANDAVARDHAN, MAHESH REDDY KUMARI HARSHITA	
Register Numbers	RA2111028010060	
Date of Experiment		

Mark Split Up

S. No	Description	Maximum Mark	Mark Obtained
1	Exercise	5	
2	Viva	5	
	Total	10	

**Staff Signature with date** 

#### Aim

To provide the details of architectural design/framework/implementation

### **Team Members:**

S No	Register No	Name	Role
1	RA2111028010043	NANDAVARDHAN R	Rep/Member
2	RA2111028010060	HARSHITA	Member
3	RA2111028010041	BHANU PRAKASH	Member
4	RA2111028010056	MAHESH REDDY	Member

<sup>&</sup>lt; Provide the details of architectural design/framework/implementation with screenshots - Minimum three modules to be completed (excluding login page) use of software on their choice to implement>

### **Architectural design:**

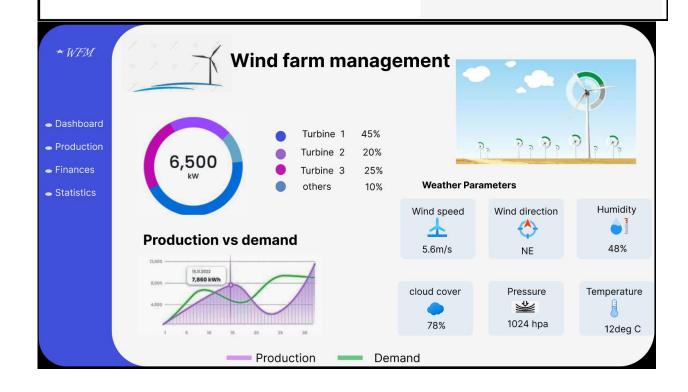
- Smart Electrical Meters: These meters are deployed at wind farms and locations of interest. They collect real-time data on wind energy parameters and publish data messages using MQTT.
- AWS IoT Core: It acts as a message broker and IoT gateway. The smart meters connect to AWS IoT Core and publish their data messages to an MQTT topic.
- Data Ingestion: AWS IoT Core Rules Engine is used to route the data messages to storage.
   The messages are stored in AWS DynamoDB, a NoSQL database service.
- Backend Processing: A backend application, hosted locally or in the cloud, consumes the data from DynamoDB. It includes an AI prediction model to analyse the wind energy data and make predictions.
- Frontend Application: A user interface is developed to visualize the analysed data and predictions. The frontend application retrieves data from the backend or DynamoDB for display.

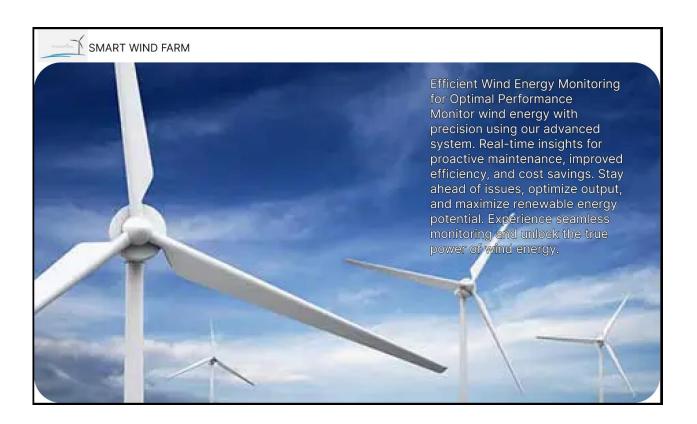


## WIND ENERGY

LOGIN SINGUP

The wind energy industry has grown rapidly in recent years, as the cost of generating electricity from wind has decreased.
Wind energy is now one of the cheapest sources of electricity in many parts of the world, and it is also one of the cleanest, producing no greenhouse gas emissions or other air pollutants.





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ily class overlap-group
      *div class="rectangle-12" >=/div>
*div class="rectangle-13" >=/div>
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div class*percent-2 percent-6 inter-normal-black-40px*>254*/div-
      pan class='inter-normal-black-48px'>2</apan>
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562x.png
         alt= image 5'
        <hT class="title">Wind farm management</hT>
           class="image-6"
uploads.s3.amazonaws.com/projects/645b674f1c3988762121e89e/releases/645b688e2b627b51fa792e73/img/image-
           class "image-7"
            arc="https://anima-
uploads.s3.amazonaws.com/projects/645b674f1c3988762121e89e/releases/645b688e2b627b51fa792e73/img/image-
 7.png
           alt='image 7'
        <div class="production-vs-demand">Production vs demand</div>
        <div class="rectangle-14"></div>
        *div class="rectangle-15" > /div
        "div class" production inter-normal-black-50px"-Production-/div-
        <div class="demand inter-normal-black-50px">Demand</div>
            class="image-8"
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uploads.s3.amazonaws.com/projects/645b674f1c3988762121e89e/releases/645b688e2b627b51fa792e73/img/image-
8.png
           alt='image 8'
        <div class="rectangle-16"></div>
        <div class="rectangle-17"></div>
        <div class="rectangle-18"></div>
        <div class="rectangle-28"></div>
        <div class="rectangle-21"></div>
        <div class="wind-speed wind inter-normal-black-48px">Wind speed</div>
        <div class="cloud-cover inter-normal-black-40px">cloud cover</div>
        *div class="pressure inter-normal-black-48px">Pressure</div>
        *div class temperature inter-normal-black-48px Temperature*/div-
        <div class="wind-direction wind inter-normal-black-40px">Wind direction</div>
         <div class="humidity inter-normal-black-48px">Humidity</div>
        <div class="x56ms inter-normal-black-40px">5.6m/s</div>
```

```
class="image-11"
      src="https://anima-
uploads.s3.amazonaws.com/projects/645b674f1c3980762121e09e/releases/645b688e2b627b51fa792e73/img/image-
11@2x.png
      alt="image 11"
     class="image-12"
      src="https://anima-
uploads.s3.amazonaws.com/projects/645b674f1c3980762121e09e/releases/645b688e2b627b51fa792e73/img/image-
12@2x.png"
      alt="image 12"
      class="image-13"
      src="https://anima-
uploads.s3.amazonaws.com/projects/645b674f1c3980762121e09e/releases/645b688e2b627b51fa792e73/img/image-
13@2x.png"
      alt="image 13"
      class="image-14"
      src="https://anima-
uploads.s3.amazonaws.com/projects/645b674f1c3980762121e09e/releases/645b688e2b627b51fa792e73/img/image-
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      alt="image 14"
     class="image-15"
      src="https://anima-
uploads.s3.amazonaws.com/projects/645b674f1c3980762121e09e/releases/645b688e2b627b51fa792e73/img/image-
15@2x.png"
     alt="image 15"
   <div class="ne inter-normal-black-40px">NE</div>
    <div class="percent-4 percent-6 inter-normal-black-40px">48%</div>
    <div class="x12deg-c inter-normal-black-40px">12deg C</div>
   <div class="address inter-normal-black-40px">1024 hpa</div>
   <div class="percent-5 percent-6 inter-normal-black-40px">78%</div>
   <div class="weather-parameters">Weather Parameters</div>
   <div class="dashboard inter-normal-cultured-pearl-40px">Dashboard</div>
   <div class="production-1 inter-normal-cultured-pearl-40px">Production</div>
   <div class="finances inter-normal-cultured-pearl-40px">Finances</div>
   <div class="statistics inter-normal-cultured-pearl-40px">Statistics</div>
   <div class="ellipse-6"></div>
    <div class="ellipse-7"></div>
   <div class="ellipse-8"></div>
   <div class="ellipse-9"></div>
   <img class="star-1" src="star-1.svg" alt="Star 1" /><img</pre>
     class="image-9"
     src="image-9.png"
     alt="image 9"
```

#### Result:

Thus, the details of architectural design/framework/implementation along with the screenshots were provided.