Project Title: Flood Monitoring System

TEAM MEMBER

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pythonScript.py:

```
import requests import
time


SENSOR_ID = "ULTRA01"
SENSOR_URL = "http://127.0.0.1:8000/api/Getdata"


while True:
water_level = 39.0
data = {
      "sensor_id": SENSOR_ID,
      "water_level": water_level,
      "timestamp": int(time.time())
  }


  response = requests.post(SENSOR_URL, json=data)
if response.status_code == 200:
      print(f"Data sent successfully: Water level = {water_level}")
  else:
      print(f"Failed to send data: {response.status_code}")


  time.sleep(300)
```

//<----------Back end ---------->

Backend.js: const express =

require('express'); const mysql =

require('mysql2');

const app = express(); const

port = 8000;

app.use(express.json());

//<--------- MySQL database configuration----------> const

dp= mysql.createConnection({

host: 'localhost', user:

'admin', password: '****',

database: 'FloodMonitoring',

});

db.connect(err => {

if (err) {

console.error('Database connection error: ' + err);

return;

}

console.log('Connected to the database.....');

```
});
//< ----------------------get flood data---------------------------------->
app.post('/api/GetFloodData', (req, res) => {   const {
sensor_id, water_level, timestamp } = req.body;   const data =
{ sensor_id, water_level, timestamp };   db.query('INSERT INTO
flood_data SET ?',[data], (error, results) => {
   if (error) {
     console.error('Error inserting data: ' + error.message);
res.status(500).json({ error: 'Server error' });
   } else {
     res.status(200).json({ message: 'Data inserted successfully' });
   }
 });
});

app.listen(port, () => {   console.log(`Server is
running on port ${port}`);
});
```

Flood_monitoring_app:

```
import 'package:flutter/material.dart'; import
'package:http/http.dart' as http;

void main() {
runApp(const MyApp());
}

class MyApp extends StatefulWidget {
  @override
  _MyAppState createState() => _MyAppState();
}

class _MyAppState extends State<MyApp> {
String timestamp = '';   double waterLevel =
0.0;

  void fetchData() async {    const url =
'http://your_server_url/api/GetFloodData';     final
response = await http.get(Uri.parse(url));     if
(response.statusCode == 200) {      final data =
json.decode(response.body);
```

```
    setState(() {        timestamp =
data['timestamp'];        waterLevel =
data['water_level'];
    });
   }else{
Throw  “cannot fetch data from the Api ”;
}
 }

 @override
 void initState() {
super.initState();    fetchData();
   Timer.periodic(Duration(seconds: 5), (Timer t) => fetchData());
 }

 @override
 Widget build(BuildContext context) {
return MaterialApp(
showDebugCheckedMode : false;
    home: Scaffold(
appBar: AppBar(
        title: Text('F l o o d  M o n i t o r i n g  S y s t e m'),
      ),
      body: Center(
child: Column(            mainAxisAlignment:
MainAxisAlignment.center,
          children: [
            Text('Timestamp: $timestamp',style:TextStyle(font-size:25),
            Text('Water Level: $waterLevel',style:TextStyle(font-
size:25)),
          ],
```

```
        ),
      ),
    ),
  );
 }
}
```