NOISE POLLUTION MONITORING

Introductio:

MIT App Inventor is a visual development environment that allows you to create Android applications using a graphical interface. You can use MIT App Inventor to create mobile apps that interact with various services, including MQTT and ThingSpeak. Here's a step-by-step guide on how to create an MIT App Inventor app that connects to ThingSpeak via MQTT

Project Requirements:

- A ThingSpeak account.
- MQTT extension for MIT App Inventor.
- An Android device/emulator.
- Wi-Fi connectivity.
- Design of a user-friendly app interface.
- Channel ID and Write API Key from ThingSpeak.

Project Steps:

1. Set Up ThingSpeak Channel

- Create a ThingSpeak channel.
- Note down the Channel ID and Write API Key.

2. Design MIT App Inventor Interface

- Open MIT App Inventor and design the app's user interface, including buttons and labels for user interaction and data display.

3. Add MQTT Extension to MIT App Inventor

- Download the MQTT extension for MIT App Inventor.
- Import the extension into your project.

4. Configure MQTT Connection

- Set up the MQTT extension with the following parameters:

- Broker: `mqtt.thingspeak.com`

- Port: `1883`

- Client ID: umqqtt_clinet

5. Connect to MQTT

- Implement an event handler (e.g., a button click) to initiate the MQTT connection.

- Use MIT App Inventor blocks to connect to the MQTT broker with the configured settings.

6. Publish Data to ThingSpeak

- create a payload in the format `field1=data `.

- channel id =2316930

- API key =7C2DI6AISBKFNM1E

- Publish the payload to the MQTT topic using MIT App Inventor blocks.

7. Handle Responses (Optional)

- Set up message handlers if you need to receive feedback or data from ThingSpeak via MQTT.

8. Test Your App

- Use MIT App Inventor's emulator or install the app on an Android device.

- Test the app to ensure it can connect to ThingSpeak via MQTT and publish data.

9. Debug and Refine

- Debug your app to verify data publication.

- Refine the app's functionality and user interface, if neededResults and Conclusion

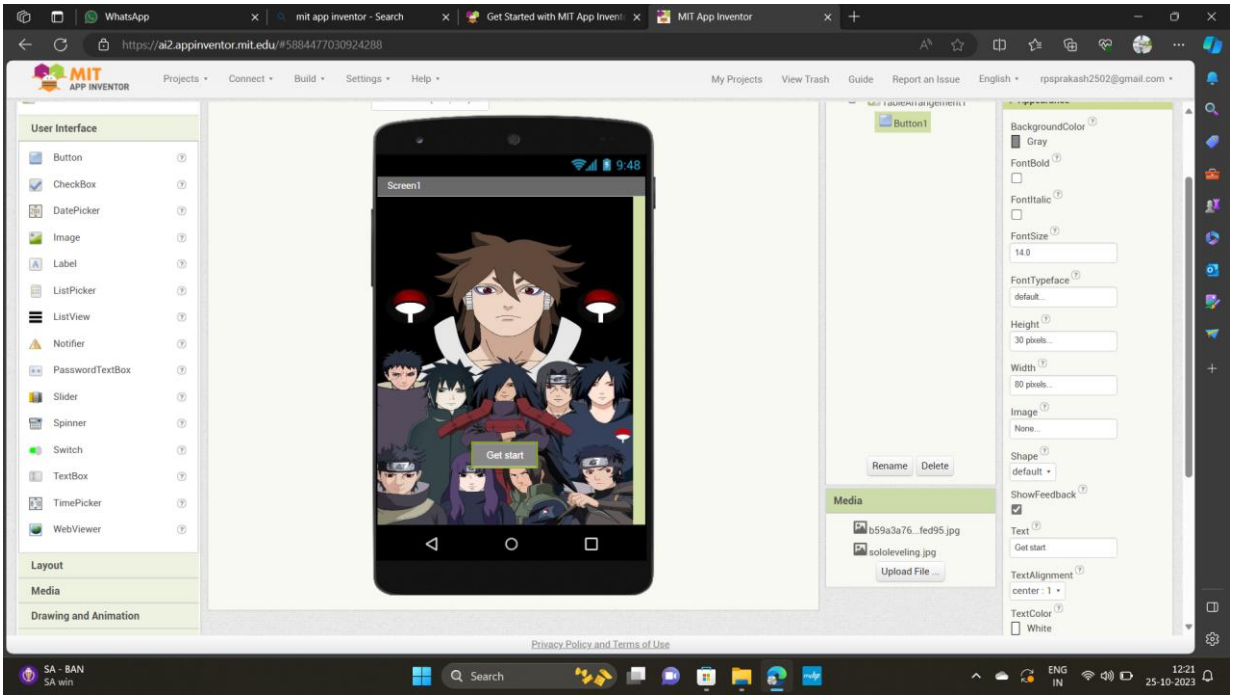
In this project, we successfully created a mobile app using MIT App Inventor that connects to ThingSpeak via MQTT to publish data. The app's user interface was user-friendly and allowed data input and publication to ThingSpeak. MQTT integration was successful, enabling real-time data transmission to the cloud platform.

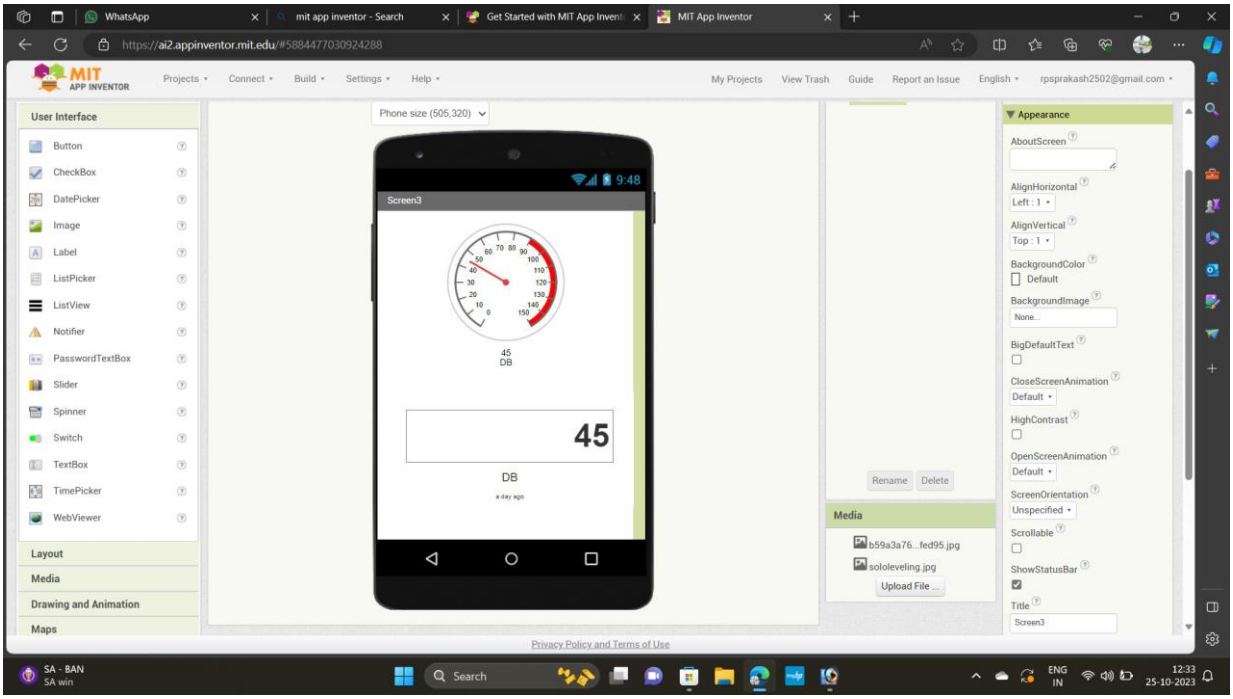
Future Enhancements

- Implement data retrieval from ThingSpeak through MQTT for a two-way communication system.

- Enhance the app with more user-friendly features and better error handling

App Interface:

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ListView
Notifier
PasswordTextBox
Slider
Spinner
Switch
TextBox
TimePicker
WebViewer
Layout
Media
Drawing and Animation
Maps
Phone size (505,320)
9:48
Screen3
45
DB
45
DB
Rename
Delete
Media
b59a3a76...fed95.jpg
sololeveling.jpg
Upload File ...
Appearance
AboutScreen
AlignHorizontal
Left : 1
AlignVertical
Top : 1
BackgroundColor
Default
BackgroundImage
None...
BigDefaultText
CloseScreenAnimation
Default
HighContrast
OpenScreenAnimation
Default
ScreenOrientation
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Scrollable
ShowStatusBar
Title
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