



Home

About

Contact



Baby Guard

Mobile Application Baby Monitoring System

Start Presentation

PBL Code : TRM410





Home

About

Contact



Agung Riyadi, S.Si. M.Kom.

Project Manager



Meet The Group



Maulana Ravi Akhbar
4312211008



Meystavia Berta Wahyu Rengganis
4312211003



Irwan Sihombing
4312211004



Home

About

Contact



Meet The Group



Muhammad Naufal Rasikh Yanda
4312211026



Mohamed Farhan Ahmed Shaheen
4312211030

[Home](#)[About](#)[Contact](#)

Description Project

Baby Guard is the result of a mobile application design project aimed at providing an innovative solution for baby monitoring. Designed with advanced IoT technology, Baby Guard integrates sound, motion, and temperature sensors with the ESP8266 module, and a mobile application that can be easily accessed using Android Studio.

With a focus on baby safety and comfort, Baby Guard allows parents to connect in real-time with their baby's environment. The sensitive sound sensor detects crying or unusual sounds, while the motion sensor provides information about the baby's activities. The temperature and humidity sensors ensure optimal comfort for the baby's sleep.

[Home](#)[About](#)[Contact](#)

Description Project

The Baby Guard mobile application, developed with Flutter and Dart, provides easy access to baby monitoring information. Parents can receive real-time notifications about significant changes detected by the sensors, ensuring a quick response to their baby's needs.

Through Wi-Fi connectivity, sensor data is sent to a secure cloud server, allowing easy access via the mobile application. Thus, Baby Guard provides parents with peace of mind, ensuring that their baby is always under proper and safe supervision.

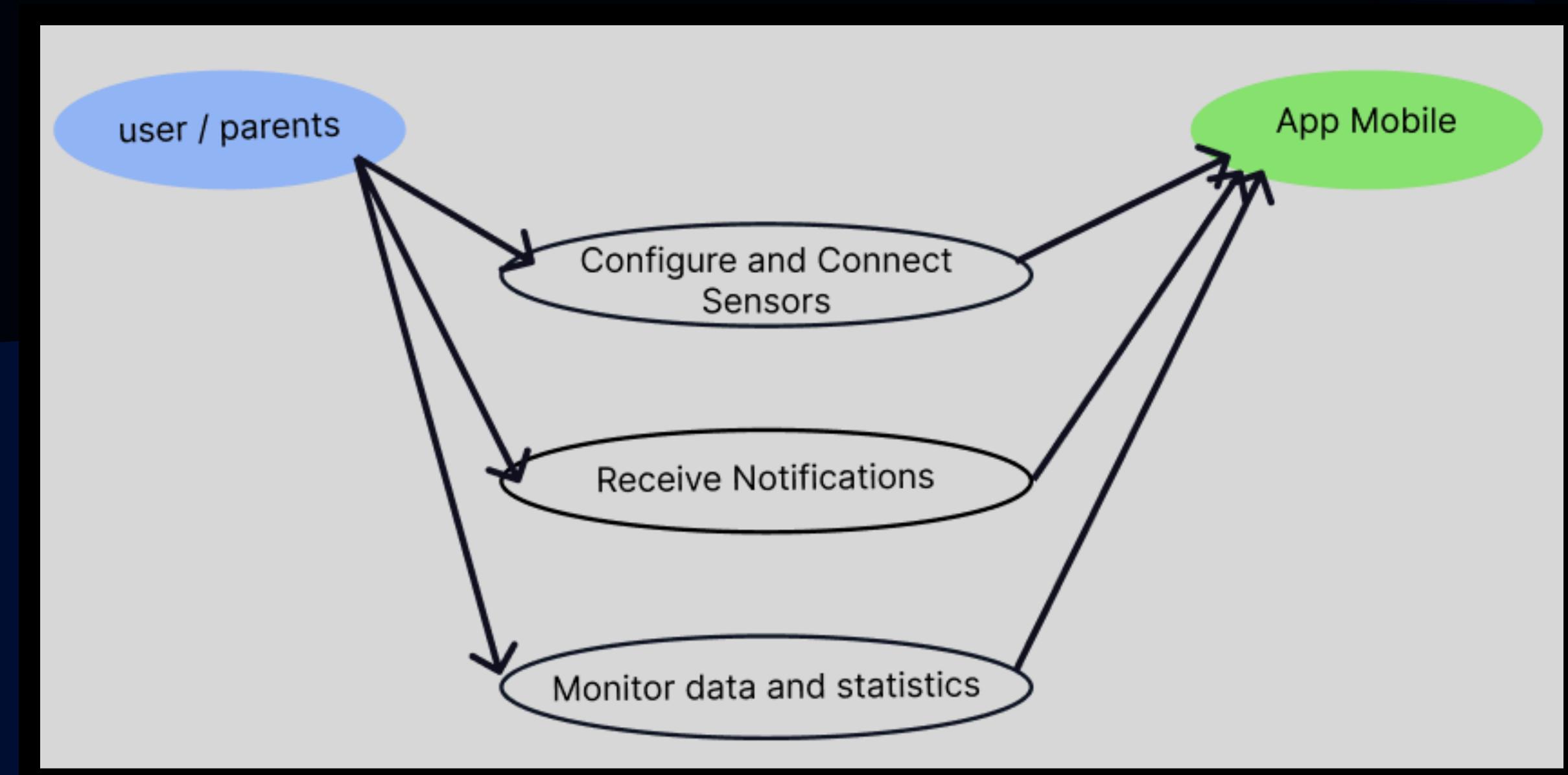


Functional System Requirements

No.	Requirement Description	Achieved (✓) / Not Achieved (x)
1.	The application must be able to receive data from sound, motion, temperature, and humidity sensors.	✓
2.	The application must provide real-time notifications to parents about significant changes in the baby's environment, such as crying or unusual movements.	✓
3.	The application must have an intuitive and user-friendly interface, allowing parents to easily monitor their baby's status.	✓
4.	The application must connect to a cloud server for secure data storage, accessible from anywhere.	✓

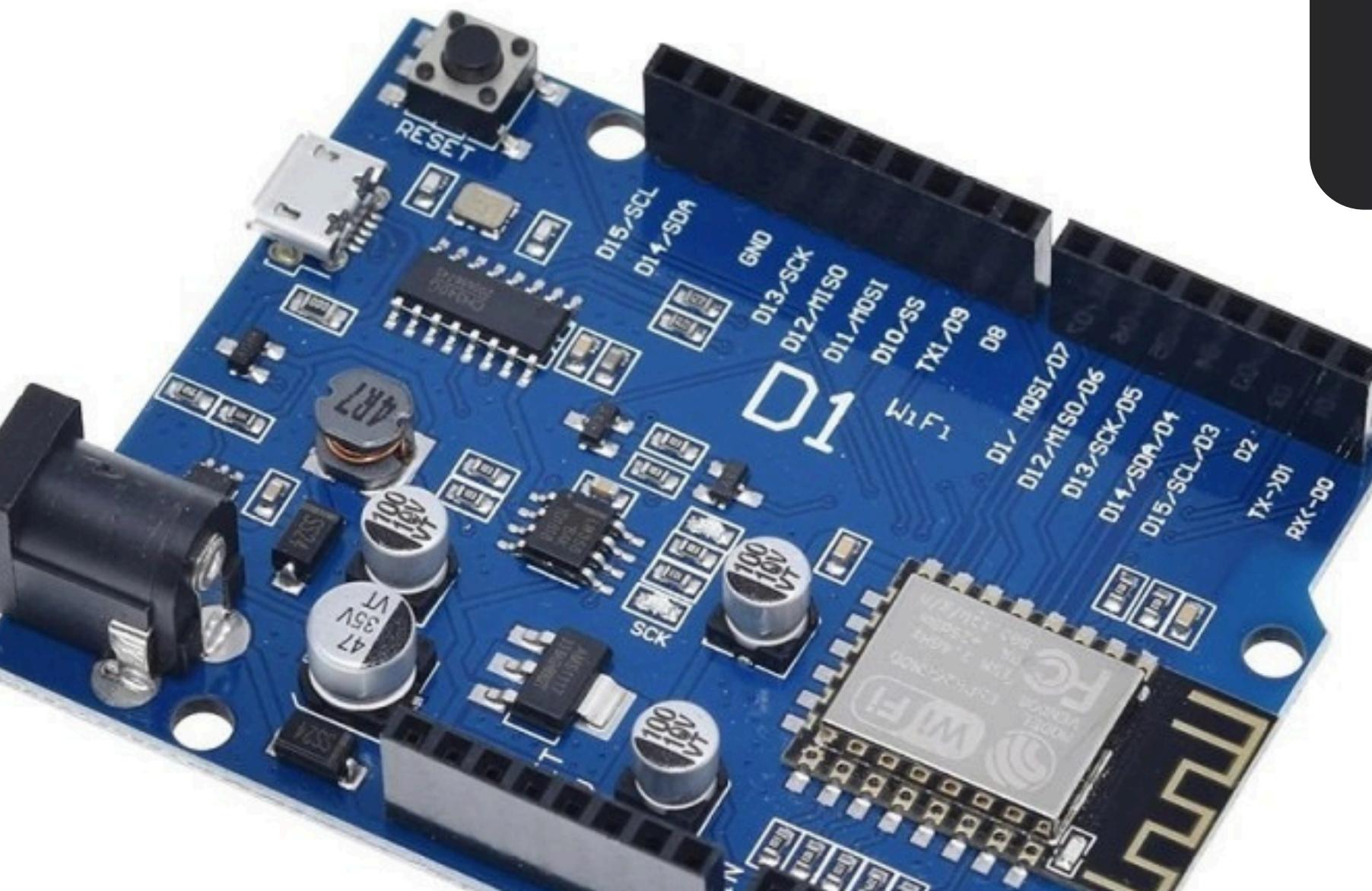


Use case





Hardware's



1. NodeMCU ESP8266:

A microcontroller that acts as the central controller, collecting data from sensors and sending it to the mobile application.



Hardware's



2. Sound Sensor (KY-037):

Detects baby sounds or crying.



Hardware's

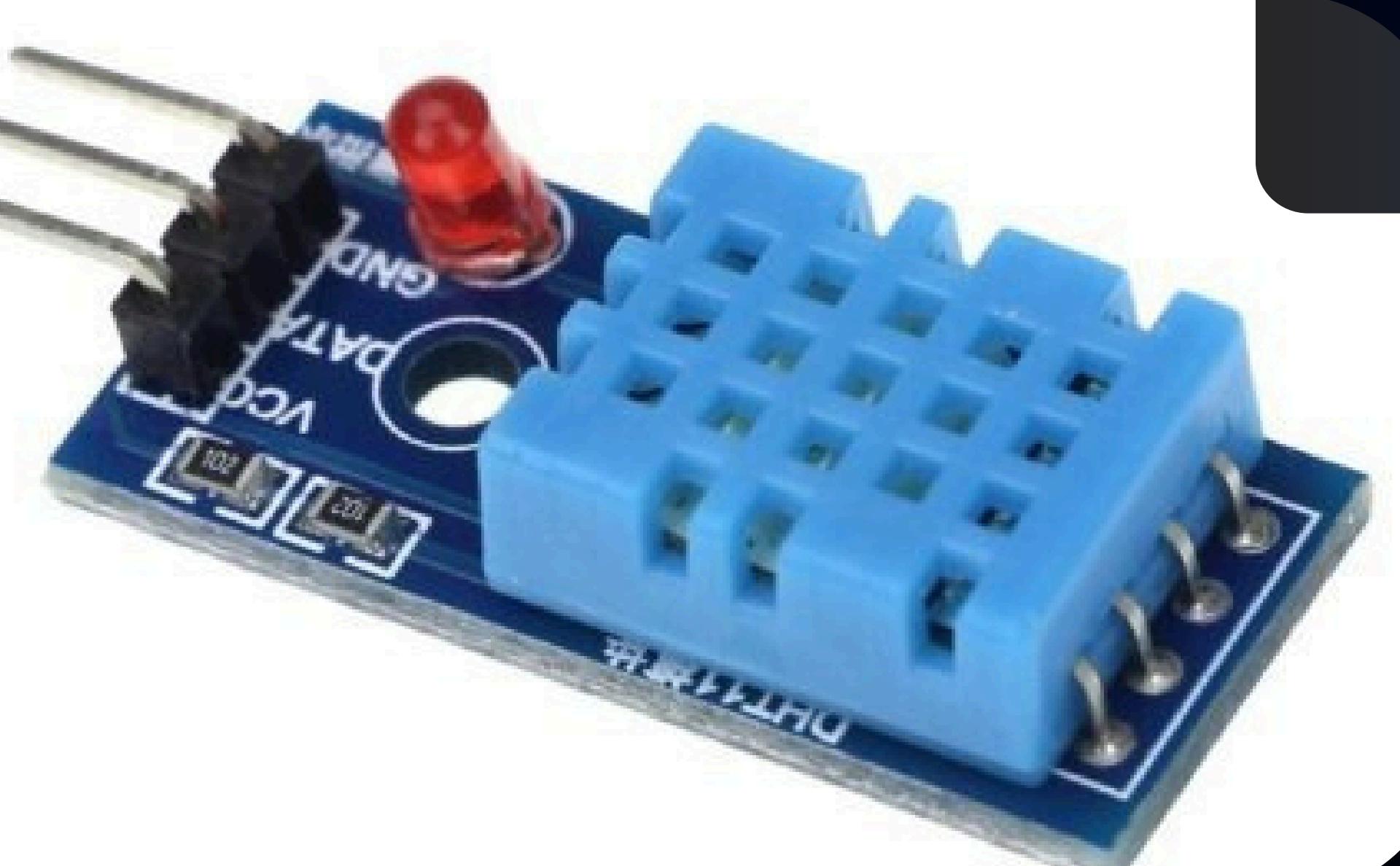
3. Motion Sensor (PIR Sensor) :

Detects the baby's movements.





Hardware's

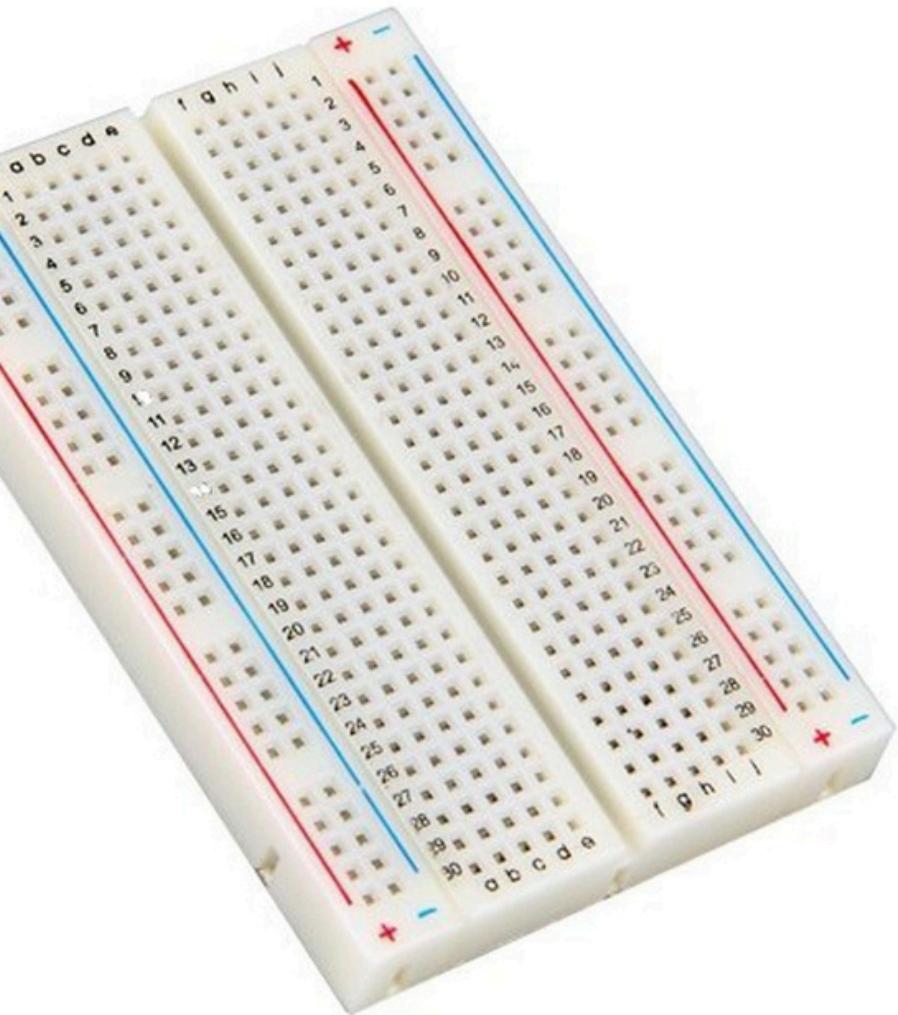


4. Temperature Sensor (DHT11 or DHT22):

Measures the temperature of the environment where the baby sleeps.



Hardware's

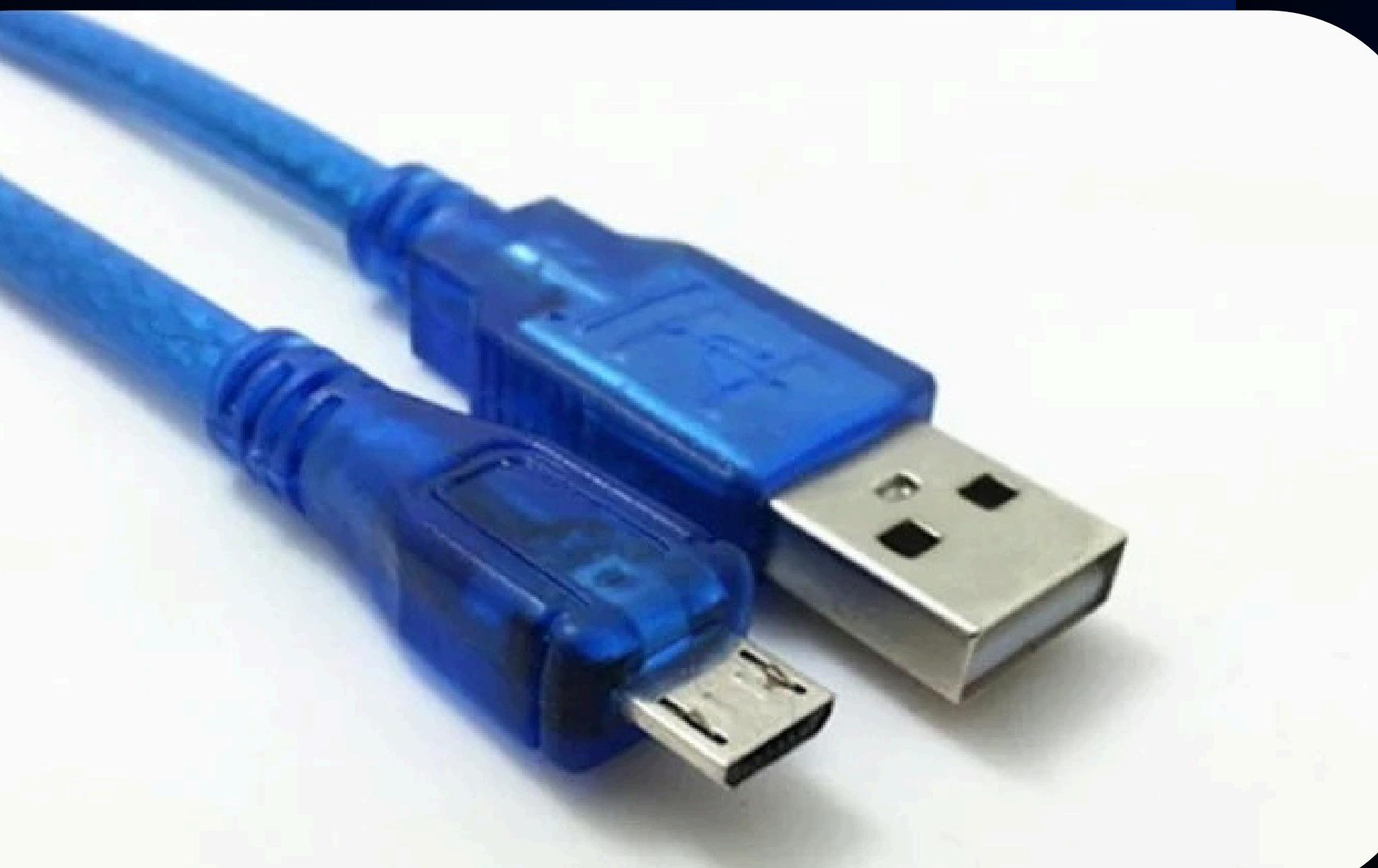


5. Breadboard and Jumper Cables :

For connecting the sensors to the ESP8266.



Hardware's



6. USB Cable :

For connecting the NodeMCU to a laptop for programming and power.

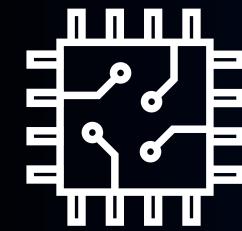


Software's



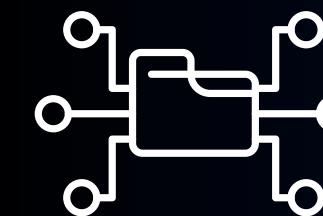
2. Android Studio :

Used for developing the mobile application.



1. Arduino IDE :

Used for writing and uploading code to the NodeMCU ESP8266.



3. Flutter Framework and Dart language :

Used in the development of the Android application.



Course Contribution

Object-oriented programming

Sartikha, S.ST., M.Eng.

- Modular Design
- Code Reusability
- Encapsulation
- Polymorphism
- Improved Collaboration
- Scalability
- Maintainability



Course Contribution

Computer system administration

Dwi Ely Kurniawan, S.Pd., M.Kom.

- Server Management
- Network Configuration
- Security Implementation
- Database Management
- System Monitoring



Course Contribution

Mobile device programming

Muchamad Fajri Amirul Nasrullah, S.St., M.Sc.

- Responsive User Interaction
- Sensor Data Processing
- Access to Device Features
- Connectivity and Communication
- Security and Privacy

[Home](#)[About](#)[Contact](#)

Course Contribution

Citizenship Education

Maria, S.ST., M.Sn.

Overall, while the direct application of Citizenship Education principles in the UI/UX of a mobile baby monitoring app may seem indirect, the overarching goal is to design an app that not only facilitates effective baby monitoring but also fosters a sense of user empowerment, inclusivity, transparency, and ethical conduct.



Course Contribution

General English

Satriya Bayu Aji, S.S., M.Hum.

- Global Communication
- Source of Information
- Consistency in the Industry
- Skill Development
- Access to Technology



Course Contribution

Statistics

Luthfiya ratna Sari, S.SI., M.T.

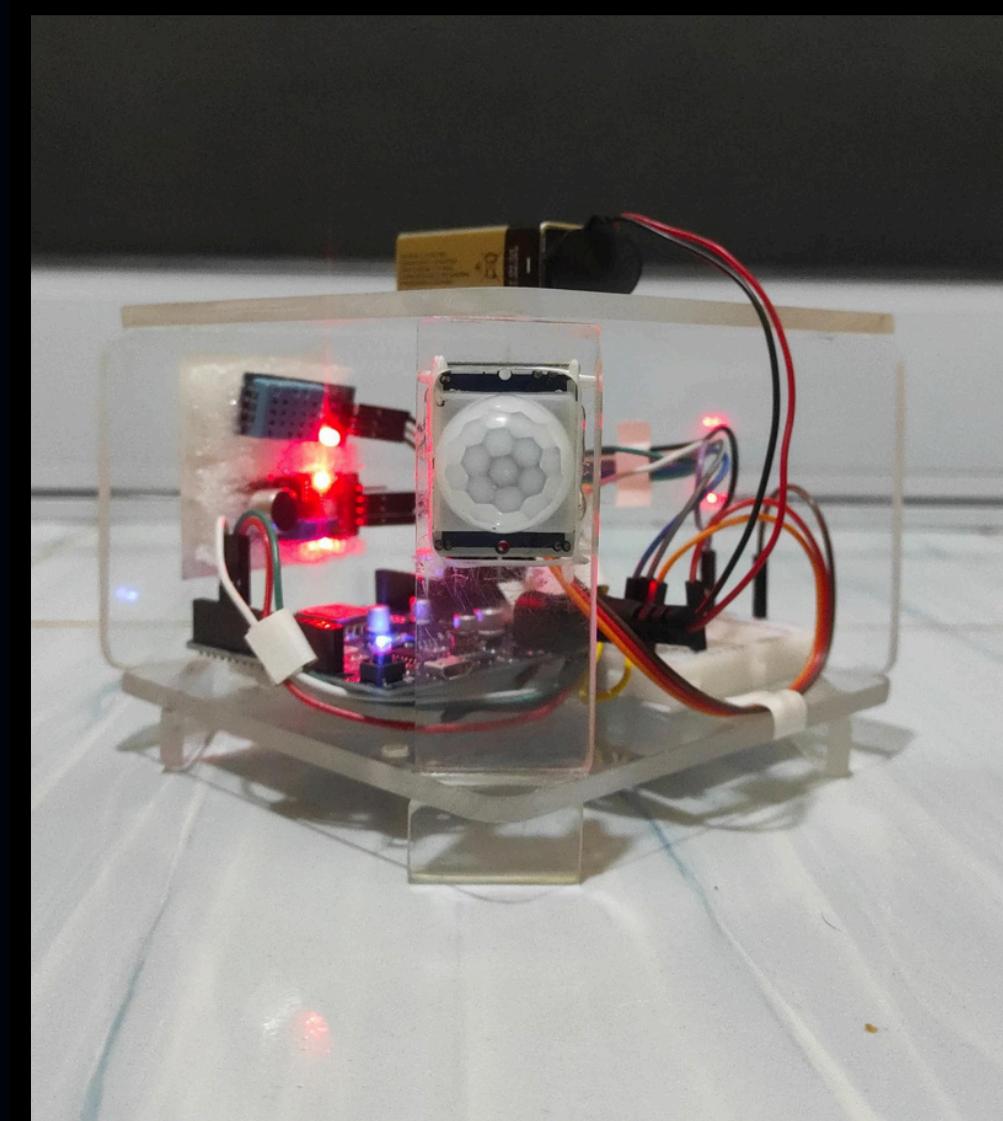
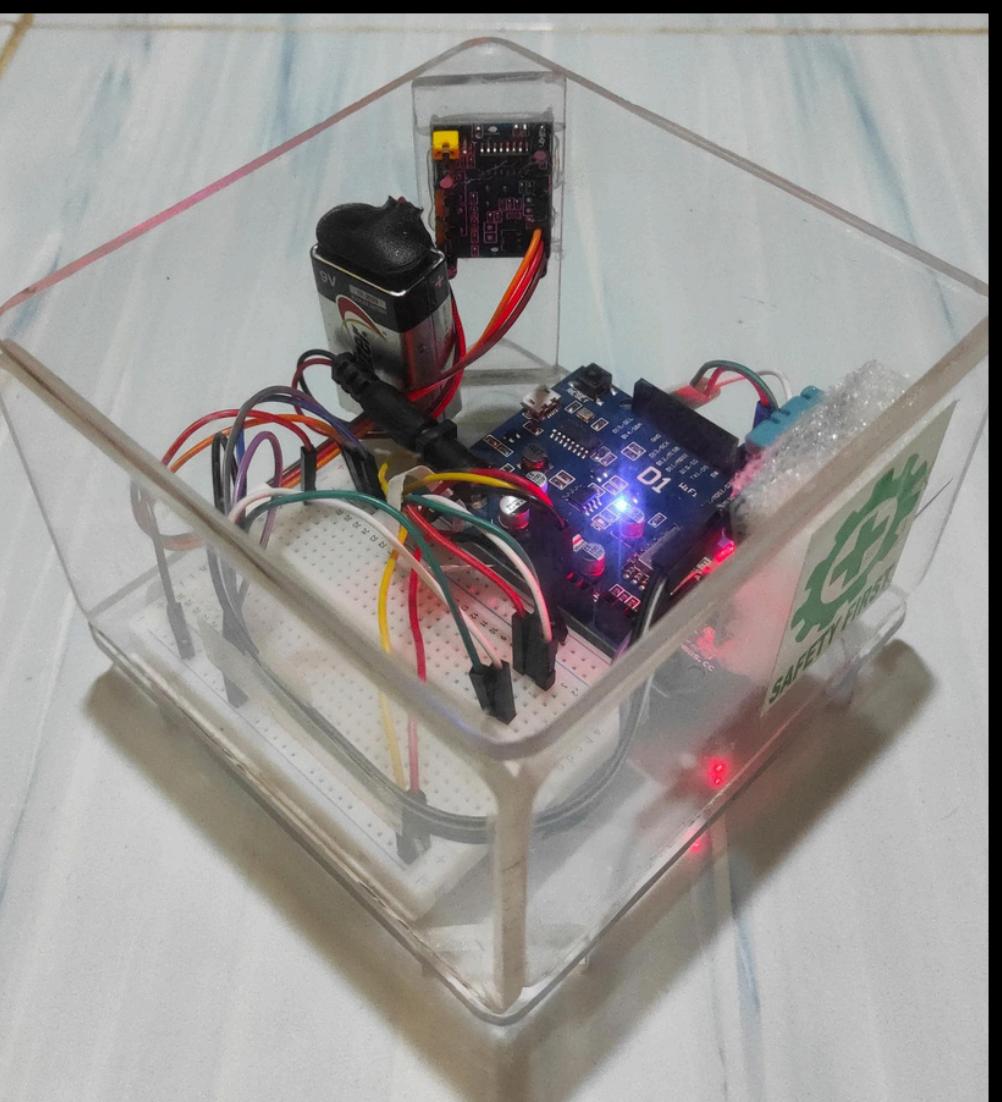
- Data Collection
- Data Analysis
- Validation and Testing
- Decision Making



Project Reach

Arduino Circuit

Progress : 100%

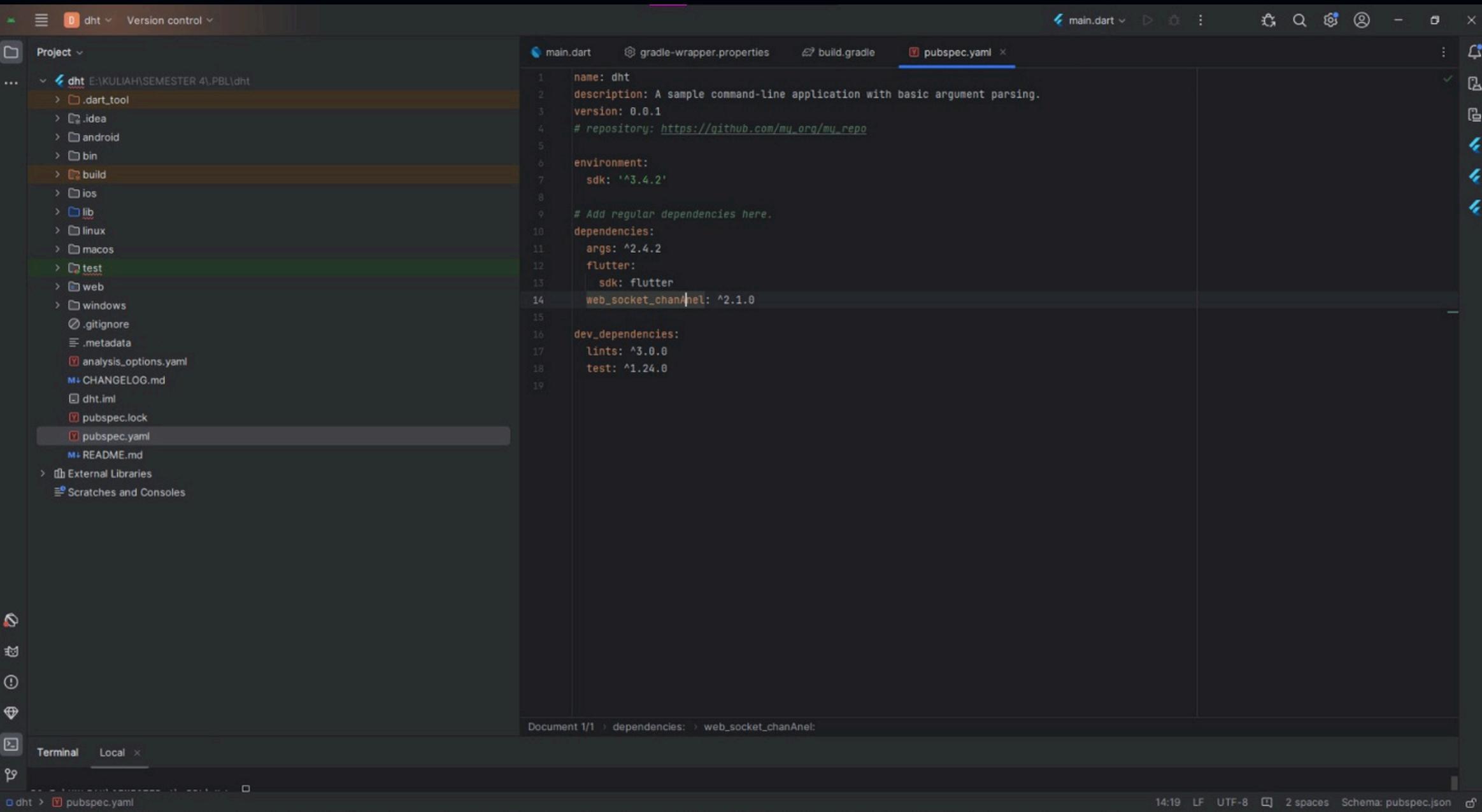




Project Reach

Code Program

Progress : 100%



The screenshot shows a code editor interface with a dark theme. On the left is a project tree for a Flutter application named 'dht'. The tree includes directories for .dart_tool, .idea, android, bin, build, ios, lib, linux, macos, test, web, windows, .gitignore, .metadata, analysis_options.yaml, CHANGELOG.md, dht.iml, pubspec.lock, pubspec.yaml, and README.md. The 'build' directory is currently selected. On the right is the content of the 'pubspec.yaml' file:

```
name: dht
description: A sample command-line application with basic argument parsing.
version: 0.0.1
# repository: https://github.com/my_org/my_repo

environment:
  sdk: '^3.4.2'

# Add regular dependencies here.
dependencies:
  args: ^2.4.2
  flutter:
    sdk: flutter
  web_socket_channel: ^2.1.0

dev_dependencies:
  lints: ^3.0.0
  test: ^1.24.0
```

At the bottom of the editor, the status bar displays: Document 1/1 > dependencies: > web_socket_channel:. The bottom right corner shows the system status bar with the time 14:19, battery level (LF), and other system information.



Project Reach



UI/UX Design

Progress : 100%



Log-Book

Progress : 100 %

List Logbook Tim - TRM-4A03									+ Tambah
ID	Tahapan	Detail Pengerjaan	Ouput	Mulai	Selesai	Progress	#		
1	Planning	Brainstorming. Pertemuan pertama bersama manpro untuk membahas alat dan bahan yang dibutuhkan selama pengerjaan	Note	2024-03-08	2024-03-08	5%		Hapus	
2	Planning	Pertemuan kedua bersama manpro untuk membahas RPP dan membahas toko untuk pembelian alat serta membandingkan antara toko offline dan online	Dokument/ Word	2024-03-14	2024-03-14	5%		Hapus	
3	Planning	Pertemuan ketiga bersama kelompok untuk membahas mengenai perancangan tampilan UI/UX menggunakan Figma	Figma	2024-03-21	2024-03-13	5%		Hapus	
4	Planning	Pertemuan keempat bersama manpro untuk mengenalkan alat dan bahan secara langsung, kemudian kelompok mulai membeli alat dan bahan yang diperlukan langsung (offline)	Note	2024-03-28	2024-03-29	5%		Hapus	
5	Planning	Pertemuan kelima bersama manpro untuk mendemonstrasikan proses perakitan alat dan bahan untuk menjadi satu produk	Note	2024-03-07	2024-03-07	5%		Hapus	
6	Implementasi	Menyiapkan keperluan untuk Presentasi progres sebelum UTS, yaitu laporan dalam bentuk PPT selanjutnya melakukan pengambilan video presentasi sesuai aturan yang ada.	PPT, mp4	2024-03-26	2024-03-27	10%		Hapus	
7	Implementasi	Pengembangan Frontend dan Backend serta mengintegrasikan fitur kamera untuk pemantauan video dan sensor lain seperti suara, suhu dan kelembaban.	code	2024-04-01	2024-05-01	20%		Hapus	
8	Design	mendesain antarmuka pengguna/ UI yang intuitif dan memastikan pengalaman pengguna /UX yang baik serta memastikan kemudahan pengguna dan aksesibilitas	note	2024-05-02	2024-05-15	15%		Hapus	
9	Implementasi	Pengujian. Menguji setiap komponen aplikasi secara terpisah untuk memastikan mereka berfungsi dengan baik serta menguji interaksi antara berbagai komponen untuk memastikan mereka bekerja bersama-sama dengan baik	Note, Rangkaian jadi	2024-05-16	2024-05-23	7%		Hapus	
10	Analisis	Pengumpulan data, mulai dari perencanaan sampai dengan hasil pengujian untuk keperluan laporan akhir, dan mempersiapkan power point untuk presentasi menjelang UAS.	ppt, word	2024-05-24	2024-05-30	5%		Hapus	
11	Analisis	terdapat sedikit kendala pada program, minggu ini tim melakukan visitasi ke dosen mata kuliah perangkat bergerak untuk mencari solusi terkait kendala yang terjadi	Note	2024-06-01	2024-06-07	8%		Hapus	
12	Implementasi	Finishing dan pengujian kembali. Memastikan seluruh komponen bekerja dengan baik. Memastikan segala kebutuhan sebelum AAS sudah selesai 100%	zip, pdf	2024-06-13	2024-06-20	10%		Hapus	



Divisi of Work



as
Backend Developer



as
Quality Assurance



as
**Embedded-
Systems Developer**



Divisi of Work



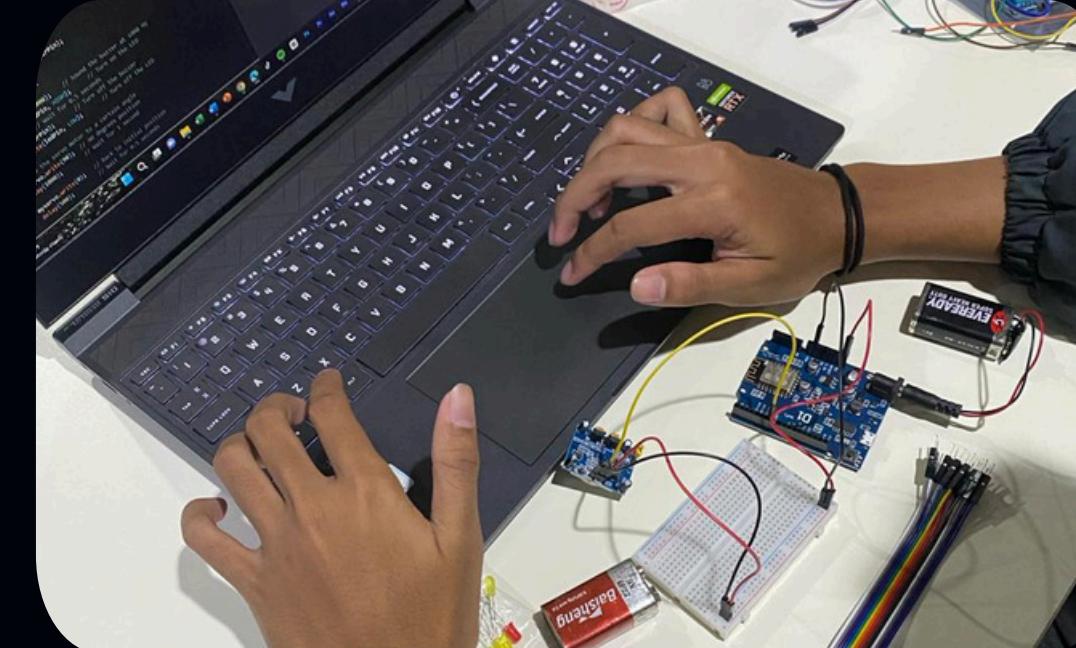
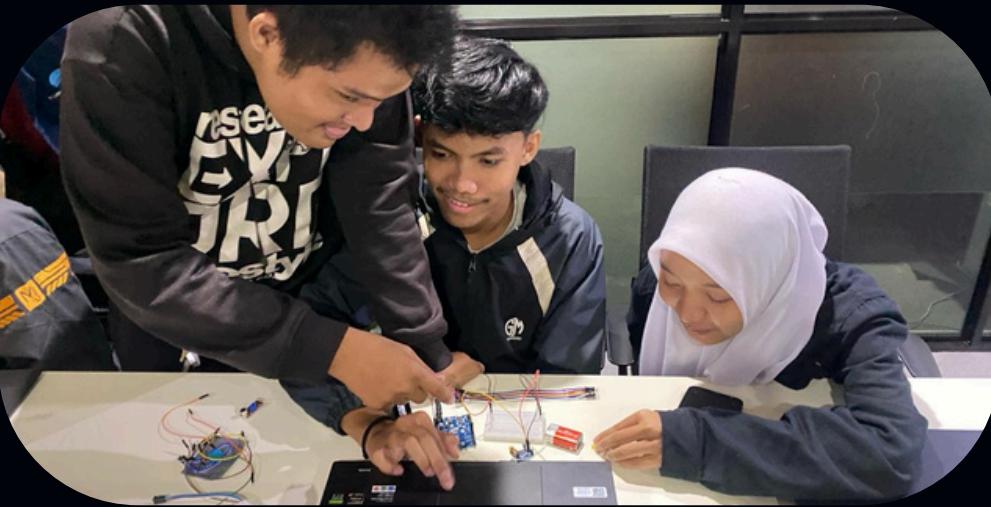
as
Hardware Engineer



as
Application mobile Developer



Documentations





Home

About

Contact



Thank You

For Your Attention

End of Slide