SISTEM KENDALI JEMURAN ANTISIPASI HUJAN

Final Project by

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PROBLEM BACKGROUND

Laundry services are very dependent on weather conditions that are unpredictable every day. When it rains clothes drying in the sun, it must be immediately put into the house so as not to get wet. When the clothes are dried in the sun again, it takes time to dry them again.

RESEARCH GAP

Alat Pengendali Atap Jemuran Otomatis Dengan Sensor Cahaya Dan Sensor Air Berbasiskan Mikrokontroler ATmega16

(Mufida dan Abas, 2017)

Rancang Bangun Sistem Jemuran Otomatis dengan Kendali Raspberry PI

(Faisal, Aliyadi dan Angga, 2018)

Rancang Bangun Sistem Jemuran Otomatis Berbasis Arduino Uno

(Yuwono dan Alam, 2018)

Desain System Smart Clothesline Berbasis Arduino Dengan Metode Logika Fuzzy

(Candra dan Very, 2018)

INTERNET OF THINGS IS NOT IMPLEMENTED ON THOSE RESEARCH.

AIMS

Design and build a Rain Anticipation Clothesline Control System integrated with an Android-based smartphone that is used to anticipate rain when it rains.

THE BENEFITS

Help laundry owners in monitoring clothesline conditions.

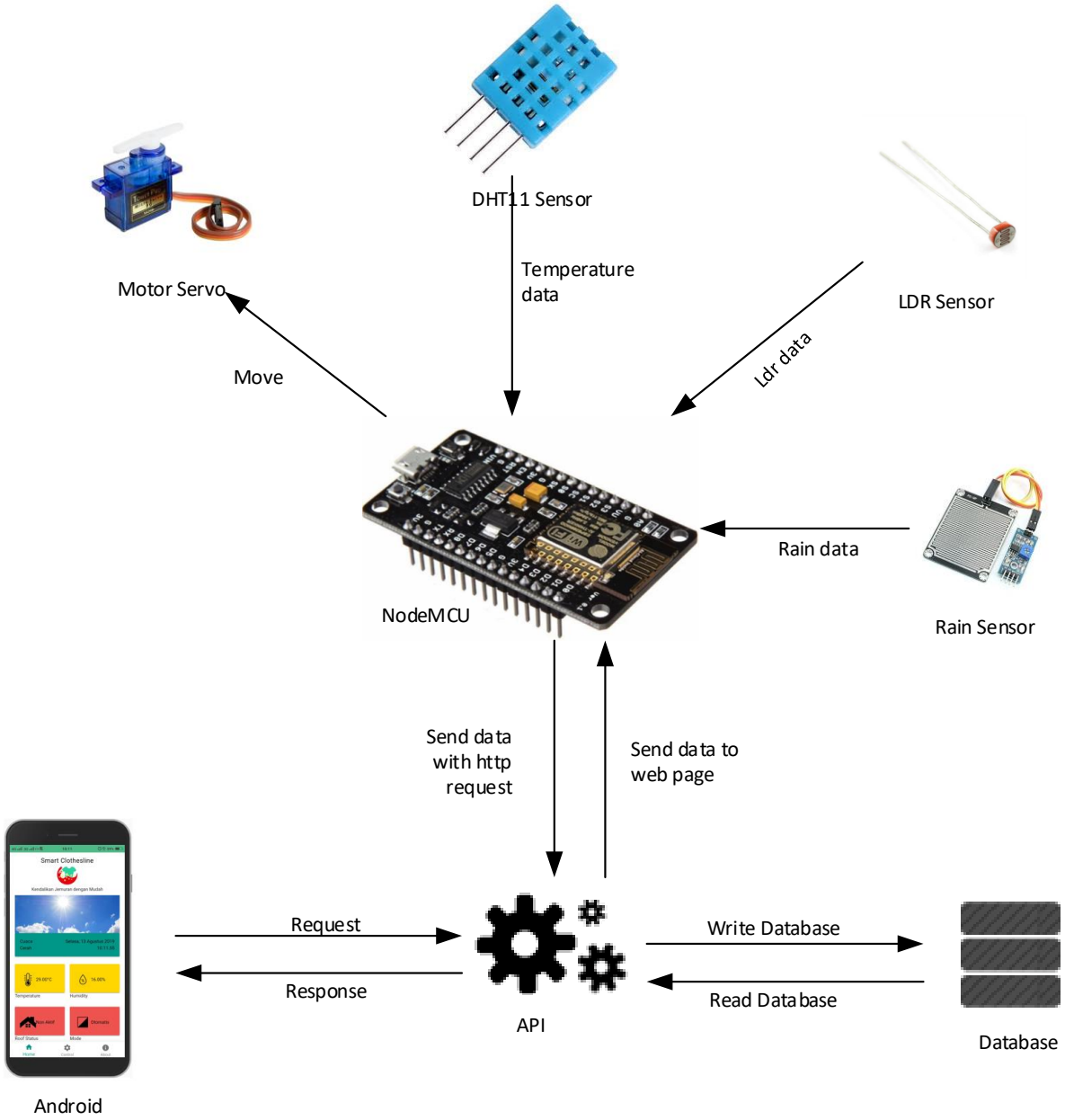
Help laundry owners to speed up the process of drying clothes.

Help laundry owners in protecting clothes line when it rains.

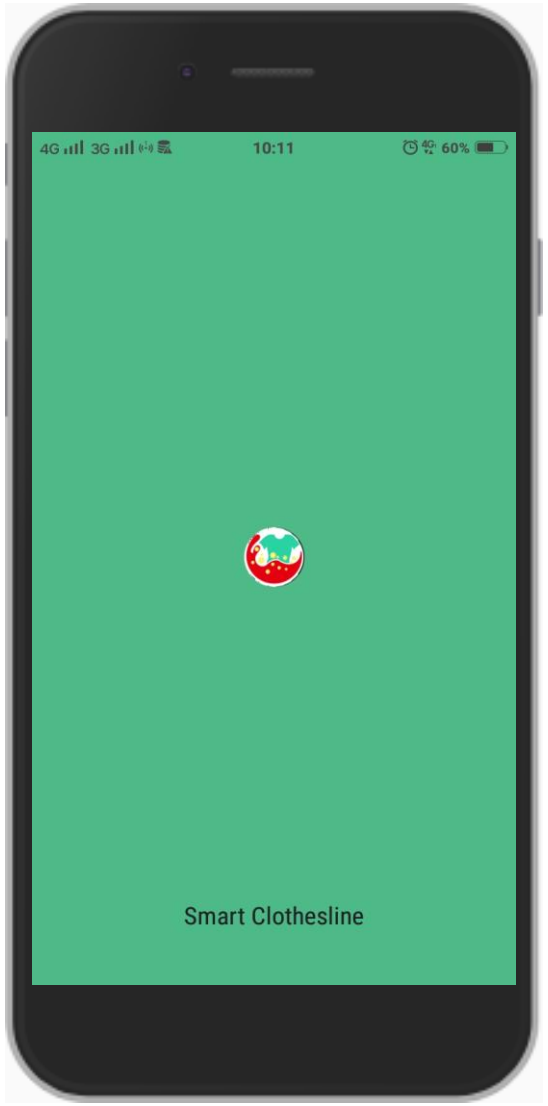
METHOD

1. REQUIREMENT ANALYSIS
2. DESIGN
3. CODING
4. TESTING

DESIGN SYSTEM

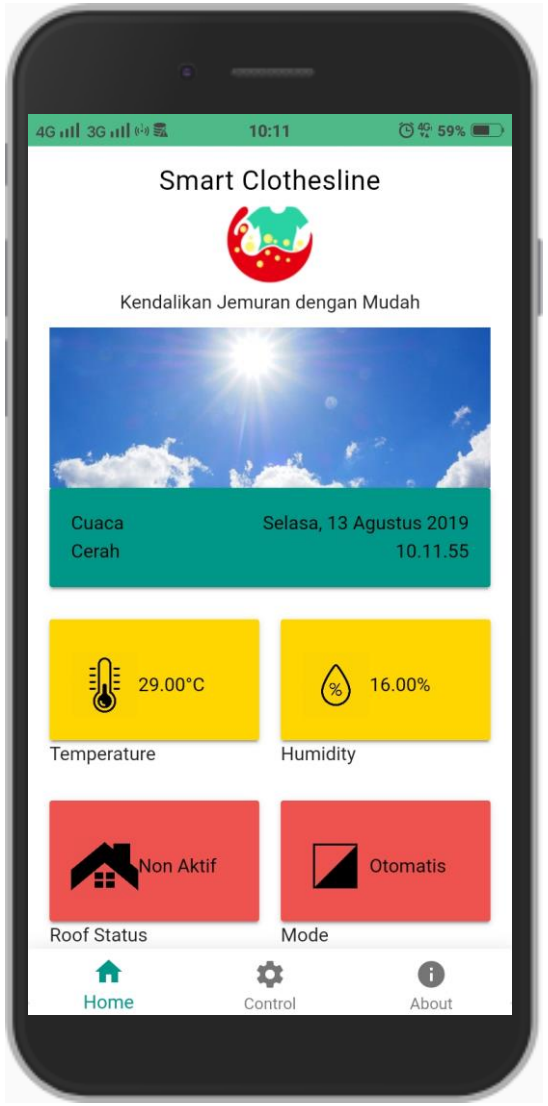


APPLICATION FEATURES



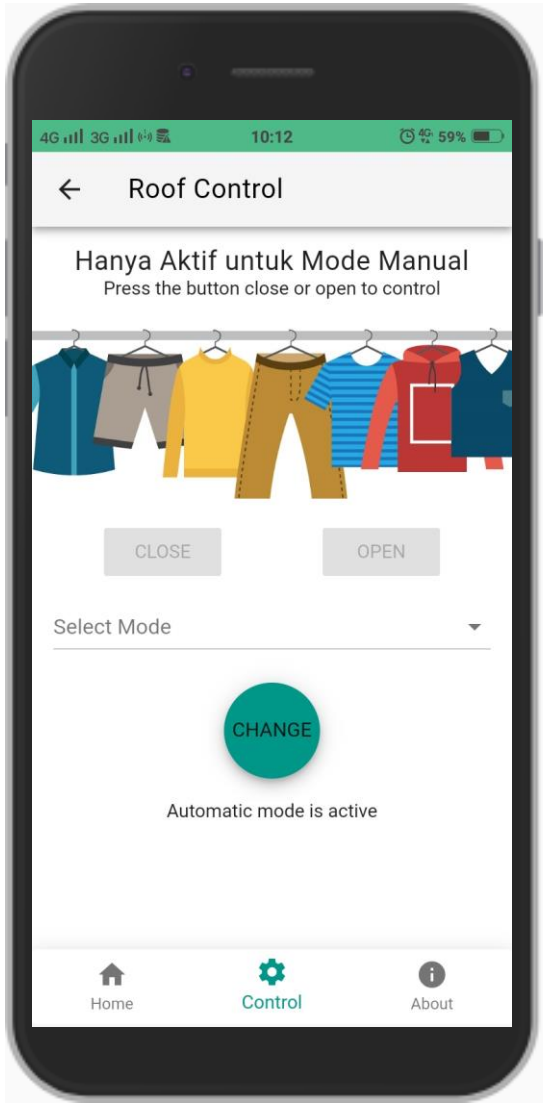
SPLASH SCREEN

First page of this application. This page show logo of the App



HOME PAGE

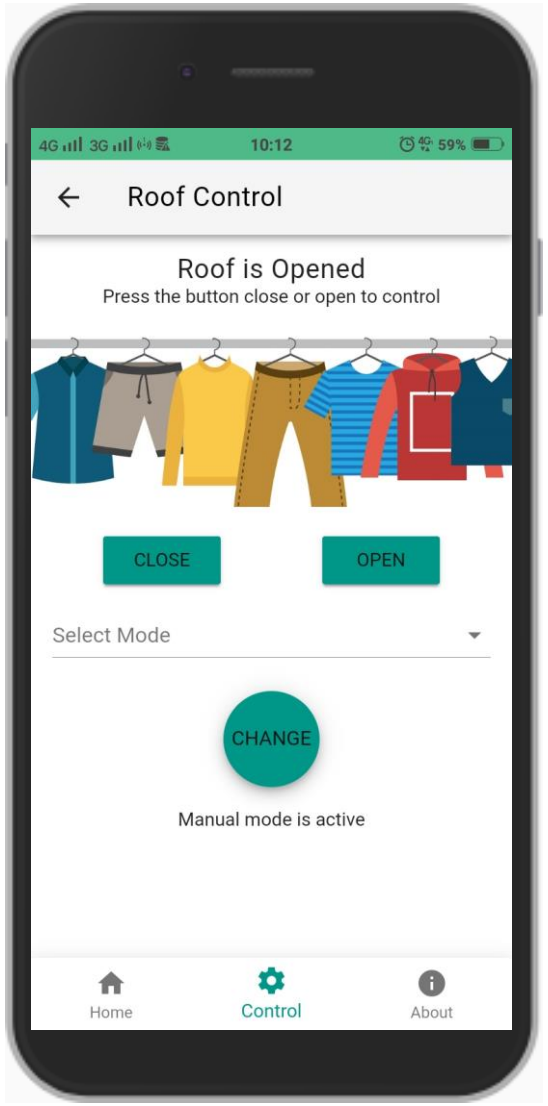
This page display the data that taken from the database in form of timestamp and reading results as well as the condition of the system



CONTROL PAGE (AUTOMATIC MODE)

This page display automatic mode.

Open and close buttons are disable.



CONTROL PAGE (MANUAL MODE)

This page display manual mode. Open and close buttons are enable.

ABOUT PAGE

This page display about smart clothesline app.

TESTING

Rain Sensor FC-37

No.	Number of Drops	Roof Conditions
1	3 drop	Close
2	6 drop	Close
3	9 drop	Close
4	12 drop	Close
5	15 drop	Close
6	18 drop	Close
7	21 drop	Close
8	24 drop	Close
9	27 drop	Close
10	30 drop	Close

TESTING LDR Sensor

No.	Time	LDR Sensor Intensity (Lux)	Roof Conditions
1	08.00 am	521	Open
2	08.05 am	524	Open
3	08.10 am	520	Open
4	08.15 am	521	Open
5	01.00 pm	703	Open
6	01.05 pm	703	Open
7	01.10 pm	703	Open
8	01.15 pm	704	Open
9	05.00 pm	470	Close
10	05.05 pm	455	Close
11	05.10 pm	443	Close
12	05.15 pm	431	Close

TESTING DHT11 Sensor

No.	Time	Temperature (Celcius)	Roof Conditions
1	08.00 am	26	Open
2	08.05 am	26	Open
3	08.10 am	26	Open
4	08.15 am	26	Open
5	01.00 pm	29	Open
6	01.05 pm	29	Open
7	01.10 pm	29	Open
8	01.15 pm	29	Open
9	05.00 pm	27	Close
10	05.05 pm	27	Close
11	05.10 pm	27	Close
12	05.15 pm	26	Close

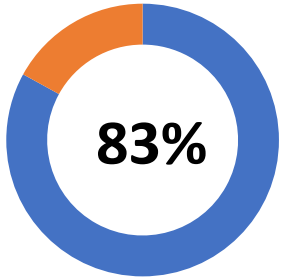
RESULT

Questionnaire Results

The satisfaction level of 10 respondents is 83% which means they are very satisfied with our system

Maximum satisfaction number = 25 (assessment indicator) x 10 (user) = 250

Percentage of user satisfaction(%) $= \frac{\textbf{Total user satisfaction}}{\textbf{Total user maximum satisfaction}} \boldsymbol{x}\ \mathbf{100\%}$



$$= \frac{\mathbf{208}}{\mathbf{250}} \boldsymbol{x} \mathbf{100\%}$$

$$= \mathbf{83\%}$$

Testing of Functionalities

All functionalities of this system can work properly

CONCLUSION

The Rain Anticipation Clothesline Control System can work in two modes, manual and automatic.

The results of testing the level of user satisfaction in the Rain Anticipation Clothesline Control System shows an 83% (very satisfying) number of 10 laundry spread in the Tembalang area.

HARDWARE DEMONSTRATION

Thanks