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# LAMPIRAN

**Lampiran 1**

**Kuesioner Kebutuhan Responden**

Angket Penelitian 1

Identitas Responden

Nama :

Umur :

Petunjuk Pengisisan

Kuesioner awal jawablah pertanyaan dibawah ini yang menyangkut harapan anda dalam menentukan kebutuhan yang diperlukan untuk perancangan alat pengaman kandang bebek.

Apakah alat pengaman yang digunakan memonitoring area kandang?

* 1. Sangat memonitoring
	2. Memonitoring
	3. Cukup memonitoring
	4. Kurang memonitoring
	5. Tidak memonitoring

Apakah alat pengaman yang ada aman digunakan?

* 1. Sangat aman
	2. Aman
	3. Cukup aman
	4. Kurang aman
	5. Tidak aman

Apakah alat yang ada nyaman digunakan (tidak mengganggu peternakan)?

* + - * 1. Sangat nyaman
				2. Nyaman
				3. Cukup nyaman
				4. Kurang nyaman
				5. Tidak nyaman

Apakah alat yang dipakai mudah digunakan?

* + - * 1. Sangat mudah
				2. Mudah
				3. Cukup mudah
				4. Kurang mudah
				5. Tidak mudah

Apakah alat yang digunakan bertahan lama (awet)?

* + - * 1. Sangat lama
				2. Lama
				3. Cukup lama
				4. Kurang lama
				5. Tidak lama

Apakah alat yang dipakai memberitahu saat ada pencurian?

* + - * 1. Sangat memberitahu
				2. Memberitahu
				3. Cukup memberitahu
				4. Kurang memberitahu
				5. Tidak memberitahu

Seberapa penting harga terjangkau?

* + - * 1. Sangat terjangkau
				2. Terjangkau
				3. Cukup terjangkau
				4. Kurang terjangkau
				5. Tidak terjangkau

**Lampiran 2**

**Kuesioner Kepentingan Responden**

Angket Penelitian

Kuesioner ini bertujuan untuk mengetahui tingkat kepentingan konsumen dalam menggunakan alat pengaman , responden dimohon untuk memberikan penilain terhadap alat pengaman tersebut. Berilah tanda (✓) pada setiap pertanyaan yang sesuai dengan tingkat kepentingan menurut anda.

Nama :

Usia :

Jenis Kelamin :

TP (Tidak Penting) : Nilai 1 Tidak Berpengaruh Sama Sekali

KP (Kurang Penting) : Nilai 2 Pengaruh Tidak Terlalu Kuat

CP (Cukup Penting) : Nilai 3 Pengaruh Cukup Kuat

P (Penting) : Nilai 4 Pengaruh Kuat

SP (Sangat Penting) : Nilai 5 Pengaruh Sangat Kuat

|  |  |  |
| --- | --- | --- |
| No | Pertanyaan | Skala |
| TP | KP | P | CP | SP |
| 1. | Memonitoring area peternakan |  |  |  |  |  |
| 2. | Bahan material aman digunakan |  |  |  |  |  |
| 3.  | Tidak mengganggu peternakan |  |  |  |  |  |
| 4. | Kemudahan alat saat digunakan |  |  |  |  |  |
| 5. | Kualitas bahan |  |  |  |  |  |
| 6. | Memberi tahu saat ada pencuri |  |  |  |  |  |
| 7. | Harga yang terjangkau |  |  |  |  |  |

**Lampiran 3**

**Kuesioner Penilaian Tingkat Kepuasan**

Angket Penelitian

Kuesioner Kuesioner ini bertujuan untuk mengetahui tingkat kepuasan konsumen dalam menggunakan alat lama pemotong tahu , responden dimohon untuk memberikan penilain terhadap alat pemotong tahu tersebut. Berilah tanda (✓) pada setiap pertanyaan yang sesuai dengan tingkat kepentingan menurut anda.

Nama :

Usia :

Jenis Kelamin :

TP (Tidak Puas) : Nilai 1 Tidak Berpengaruh Sama Sekali

KP (Kurang Puas) : Nilai 2 Pengaruh Tidak Terlalu Kuat

CP (Cukup Puas) : Nilai 3 Pengaruh Cukup Kuat

P (Puas) : Nilai 4 Pengaruh Kuat

SP (Sangat Puas) : Nilai 5 Pengaruh Sangat Kuat

|  |  |  |  |
| --- | --- | --- | --- |
| No | Pertanyaan | Pesaing 1 | Pesaing 2 |
| TP | TP | KP | PT | CP | SP | KP | PT | CP | SP |
| 1. | Memonitoring area peternakan |  |  |  |  |  |  |  |  |  |  |
| 2. | Bahan material aman digunakan |  |  |  |  |  |  |  |  |  |  |
| 3.  | Tidak mengganggu peternakan |  |  |  |  |  |  |  |  |  |  |
| 4. | Kemudahan alat saat digunakan |  |  |  |  |  |  |  |  |  |  |
| 5. | Kualitas bahan |  |  |  |  |  |  |  |  |  |  |
| 6. | Memberi tahu saat ada pencuri |  |  |  |  |  |  |  |  |  |  |
| 7. | Harga yang terjangkau |  |  |  |  |  |  |  |  |  |  |

 

Pesaing 2

Pesaing 1

**Lampiran 4**

**Rekap Data Tingkat Kepentingan Responden**

|  |  |  |
| --- | --- | --- |
| RESPONDEN | TINGKAT KEPENTINGAN | JUMLAH |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 5 | 4 | 4 | 5 | 3 | 5 | 3 | 29 |
| 2 | 5 | 4 | 4 | 4 | 4 | 5 | 5 | 31 |
| 3 | 4 | 4 | 3 | 4 | 4 | 4 | 4 | 27 |
| 4 | 5 | 3 | 4 | 4 | 4 | 3 | 2 | 25 |
| 5 | 5 | 4 | 4 | 4 | 4 | 4 | 1 | 26 |
| 6 | 5 | 4 | 5 | 4 | 4 | 5 | 3 | 30 |
| 7 | 5 | 4 | 4 | 4 | 5 | 4 | 4 | 30 |
| 8 | 5 | 5 | 4 | 2 | 4 | 3 | 2 | 25 |
| 9 | 5 | 4 | 3 | 5 | 4 | 4 | 5 | 30 |
| 10 | 4 | 5 | 3 | 5 | 5 | 5 | 4 | 31 |
| 11 | 5 | 4 | 5 | 4 | 4 | 3 | 4 | 29 |
| 12 | 5 | 4 | 4 | 4 | 5 | 4 | 2 | 28 |
| 13 | 5 | 4 | 4 | 3 | 3 | 5 | 2 | 26 |
| 14 | 4 | 5 | 3 | 4 | 5 | 4 | 4 | 29 |
| 15 | 4 | 5 | 5 | 3 | 4 | 4 | 4 | 29 |

**Lampiran 5**

**Rekap Data Tingkat Kepuasan Pesaing 1**

|  |  |  |
| --- | --- | --- |
| RESPONDEN | TINGKAT KEPUASAN PESAING 1 | JUMLAH |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 1 | 1 | 4 | 5 | 3 | 1 | 3 | 18 |
| 2 | 3 | 1 | 2 | 4 | 4 | 1 | 5 | 20 |
| 3 | 2 | 2 | 3 | 3 | 3 | 1 | 4 | 18 |
| 4 | 1 | 3 | 4 | 4 | 4 | 1 | 3 | 20 |
| 5 | 3 | 1 | 4 | 4 | 4 | 2 | 3 | 21 |
| 6 | 1 | 1 | 1 | 3 | 3 | 1 | 3 | 13 |
| 7 | 1 | 1 | 2 | 4 | 5 | 1 | 4 | 18 |
| 8 | 2 | 1 | 2 | 3 | 4 | 1 | 3 | 16 |
| 9 | 2 | 2 | 3 | 3 | 4 | 1 | 3 | 18 |
| 10 | 1 | 2 | 3 | 5 | 5 | 1 | 4 | 21 |
| 11 | 2 | 2 | 1 | 4 | 4 | 1 | 4 | 18 |
| 12 | 1 | 2 | 4 | 4 | 5 | 2 | 3 | 21 |
| 13 | 2 | 2 | 4 | 3 | 3 | 1 | 3 | 18 |
| 14 | 2 | 1 | 3 | 3 | 3 | 1 | 5 | 18 |
| 15 | 1 | 2 | 1 | 3 | 4 | 1 | 4 | 16 |

**Lampiran 6**

**Rekap Data Tingkat Kepuasan Pesaing 2**

|  |  |  |
| --- | --- | --- |
| RESPONDEN | TINGKAT KEPUASAN PESAING 2 | JUMLAH |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 1 | 5 | 3 | 4 | 5 | 3 | 4 | 3 | 27 |
| 2 | 4 | 4 | 2 | 4 | 4 | 3 | 5 | 26 |
| 3 | 5 | 4 | 3 | 4 | 2 | 2 | 4 | 24 |
| 4 | 4 | 3 | 4 | 5 | 4 | 4 | 2 | 26 |
| 5 | 3 | 4 | 4 | 4 | 4 | 3 | 1 | 23 |
| 6 | 4 | 4 | 5 | 5 | 4 | 3 | 3 | 28 |
| 7 | 5 | 4 | 4 | 4 | 5 | 4 | 4 | 30 |
| 8 | 5 | 5 | 2 | 3 | 4 | 2 | 2 | 23 |
| 9 | 4 | 4 | 3 | 5 | 4 | 2 | 5 | 27 |
| 10 | 4 | 5 | 3 | 5 | 2 | 3 | 2 | 24 |
| 11 | 3 | 4 | 5 | 4 | 4 | 2 | 4 | 26 |
| 12 | 5 | 5 | 4 | 4 | 5 | 3 | 1 | 27 |
| 13 | 4 | 4 | 4 | 3 | 3 | 2 | 2 | 22 |
| 14 | 4 | 4 | 3 | 4 | 5 | 3 | 3 | 26 |
| 15 | 5 | 5 | 2 | 3 | 4 | 3 | 4 | 26 |

**Lampiran 7**

**Uji Validitas Tingkat Kepentingan**

|  |
| --- |
| **Correlations** |
|  | VAR00001 | VAR00002 | VAR00003 | VAR00004 | VAR00005 | VAR00006 | VAR00007 | TOTAL |
| VAR00001 | Pearson Correlation | 1 | .183 | .367 | .555\* | .387 | .485 | .063 | .660\*\* |
| Sig. (2-tailed) |  | .514 | .179 | .032 | .154 | .067 | .823 | .007 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00002 | Pearson Correlation | .183 | 1 | .568\* | .000 | .421 | .280 | .275 | .607\* |
| Sig. (2-tailed) | .514 |  | .027 | 1.000 | .118 | .311 | .321 | .017 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00003 | Pearson Correlation | .367 | .568\* | 1 | .283 | .351 | .332 | .292 | .697\*\* |
| Sig. (2-tailed) | .179 | .027 |  | .308 | .200 | .227 | .291 | .004 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00004 | Pearson Correlation | .555\* | .000 | .283 | 1 | .512 | .732\*\* | .421 | .717\*\* |
| Sig. (2-tailed) | .032 | 1.000 | .308 |  | .051 | .002 | .118 | .003 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00005 | Pearson Correlation | .387 | .421 | .351 | .512 | 1 | .411 | .273 | .681\*\* |
| Sig. (2-tailed) | .154 | .118 | .200 | .051 |  | .128 | .325 | .005 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00006 | Pearson Correlation | .485 | .280 | .332 | .732\*\* | .411 | 1 | .414 | .754\*\* |
| Sig. (2-tailed) | .067 | .311 | .227 | .002 | .128 |  | .125 | .001 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00007 | Pearson Correlation | .063 | .275 | .292 | .421 | .273 | .414 | 1 | .586\* |
| Sig. (2-tailed) | .823 | .321 | .291 | .118 | .325 | .125 |  | .022 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| TOTAL | Pearson Correlation | .660\*\* | .607\* | .697\*\* | .717\*\* | .681\*\* | .754\*\* | .586\* | 1 |
| Sig. (2-tailed) | .007 | .017 | .004 | .003 | .005 | .001 | .022 |  |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

**Lampiran 8**

**Uji Validitas Tingkat Kepuasan Pesaing 1**

|  |
| --- |
| **Correlations** |
|  | VAR00001 | VAR00002 | VAR00003 | VAR00004 | VAR00005 | VAR00006 | VAR00007 | TOTAL |
| VAR00001 | Pearson Correlation | 1 | .337 | .275 | .632\* | .269 | .628\* | .218 | .714\*\* |
| Sig. (2-tailed) |  | .219 | .321 | .011 | .333 | .012 | .434 | .003 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00002 | Pearson Correlation | .337 | 1 | .223 | .293 | .054 | .402 | .275 | .555\* |
| Sig. (2-tailed) | .219 |  | .425 | .289 | .848 | .137 | .322 | .032 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00003 | Pearson Correlation | .275 | .223 | 1 | .065 | .207 | .553\* | .192 | .563\* |
| Sig. (2-tailed) | .321 | .425 |  | .817 | .459 | .032 | .492 | .029 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00004 | Pearson Correlation | .632\* | .293 | .065 | 1 | .764\*\* | .596\* | .460 | .807\*\* |
| Sig. (2-tailed) | .011 | .289 | .817 |  | .001 | .019 | .084 | .000 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00005 | Pearson Correlation | .269 | .054 | .207 | .764\*\* | 1 | .472 | .281 | .644\*\* |
| Sig. (2-tailed) | .333 | .848 | .459 | .001 |  | .075 | .310 | .010 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00006 | Pearson Correlation | .628\* | .402 | .553\* | .596\* | .472 | 1 | .073 | .780\*\* |
| Sig. (2-tailed) | .012 | .137 | .032 | .019 | .075 |  | .796 | .001 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00007 | Pearson Correlation | .218 | .275 | .192 | .460 | .281 | .073 | 1 | .572\* |
| Sig. (2-tailed) | .434 | .322 | .492 | .084 | .310 | .796 |  | .026 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| TOTAL | Pearson Correlation | .714\*\* | .555\* | .563\* | .807\*\* | .644\*\* | .780\*\* | .572\* | 1 |
| Sig. (2-tailed) | .003 | .032 | .029 | .000 | .010 | .001 | .026 |  |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| \*. Correlation is significant at the 0.05 level (2-tailed). |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |

**Lampiran 9**

**Uji Validitas Tingkat Kepuasan Pesaing 2**

|  |
| --- |
| **Correlations** |
|  | VAR00001 | VAR00002 | VAR00003 | VAR00004 | VAR00005 | VAR00006 | VAR00007 | TOTAL |
| VAR00001 | Pearson Correlation | 1 | .498 | .365 | .349 | .359 | .437 | .358 | .721\*\* |
| Sig. (2-tailed) |  | .059 | .182 | .202 | .189 | .104 | .190 | .002 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00002 | Pearson Correlation | .498 | 1 | .265 | .278 | .380 | .278 | .348 | .645\*\* |
| Sig. (2-tailed) | .059 |  | .339 | .316 | .162 | .316 | .203 | .009 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00003 | Pearson Correlation | .365 | .265 | 1 | .156 | .271 | .467 | .227 | .604\* |
| Sig. (2-tailed) | .182 | .339 |  | .579 | .329 | .079 | .417 | .017 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00004 | Pearson Correlation | .349 | .278 | .156 | 1 | .237 | .667\*\* | .214 | .623\* |
| Sig. (2-tailed) | .202 | .316 | .579 |  | .395 | .007 | .444 | .013 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00005 | Pearson Correlation | .359 | .380 | .271 | .237 | 1 | .395 | .338 | .653\*\* |
| Sig. (2-tailed) | .189 | .162 | .329 | .395 |  | .145 | .218 | .008 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00006 | Pearson Correlation | .437 | .278 | .467 | .667\*\* | .395 | 1 | .214 | .747\*\* |
| Sig. (2-tailed) | .104 | .316 | .079 | .007 | .145 |  | .444 | .001 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| VAR00007 | Pearson Correlation | .358 | .348 | .227 | .214 | .338 | .214 | 1 | .609\* |
| Sig. (2-tailed) | .190 | .203 | .417 | .444 | .218 | .444 |  | .016 |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| TOTAL | Pearson Correlation | .721\*\* | .645\*\* | .604\* | .623\* | .653\*\* | .747\*\* | .609\* | 1 |
| Sig. (2-tailed) | .002 | .009 | .017 | .013 | .008 | .001 | .016 |  |
| N | 15 | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| \*\*. Correlation is significant at the 0.01 level (2-tailed). |
| \*. Correlation is significant at the 0.05 level (2-tailed). |

**Lampiran 10**

**Uji Reliabilitas Tingkat Kepentingan**

|  |
| --- |
| **Case Processing Summary** |
|  | N | % |
| Cases | Valid | 15 | 100.0 |
| Excludeda | 0 | .0 |
| Total | 15 | 100.0 |
| a. Listwise deletion based on all variables in the procedure. |

|  |
| --- |
| **Reliability Statistics** |
| Cronbach's Alpha | N of Items |
| .778 | 7 |

**Lampiran 11**

**Uji Reliabilitas Tingkat Kepuasan Pesaing 1 & 2**

**Pesaing 1**

|  |
| --- |
| **Case Processing Summary** |
|  | N | % |
| Cases | Valid | 15 | 100.0 |
| Excludeda | 0 | .0 |
| Total | 15 | 100.0 |
| a. Listwise deletion based on all variables in the procedure. |

|  |
| --- |
| **Reliability Statistics** |
| Cronbach's Alpha | N of Items |
| .773 | 7 |

**Pesaing 2**

|  |
| --- |
| **Case Processing Summary** |
|  | N | % |
| Cases | Valid | 15 | 100.0 |
| Excludeda | 0 | .0 |
| Total | 15 | 100.0 |
| a. Listwise deletion based on all variables in the procedure. |

|  |
| --- |
| **Reliability Statistics** |
| Cronbach's Alpha | N of Items |
| .776 | 7 |

**Lampiran 12**

**Coding Program NodeMCU 8266**

**NodeMCU 1**

//include library CTBot

#include "CTBot.h";

int s1;

int s2;

int s3;

int s4;

int s5;

#define lamp 14

//variabel untuk bot telegram

CTBot myBot;

//konfigurasi koneksi ke Wifi

String ssid = "modem kandang";

String pass = "12345kandang";

//variabel token dan id telegram

String token = "6139707867:AAFpvd8iyfCypzQNlso-W7Ew8qCh1As71KA";

const int id = 2098803672;

void setup() {

 Serial.begin(9600);

 pinMode(s1, INPUT);

 pinMode(s2, INPUT);

 pinMode(s3, INPUT);

 pinMode(s4, INPUT);

 pinMode(s5, INPUT);

 pinMode(lamp, OUTPUT);

 Serial.println("Memulai telegram bot. Koneksi ke Wifi");

 //koneksi ke wifi

 myBot.wifiConnect(ssid, pass);

 //set token telegram

 myBot.setTelegramToken(token);

 //cek koneksi wifi

 if(myBot.testConnection())

 Serial.println("Koneksi Berhasil");

 else

 Serial.println("Koneksi gagal");

}

void loop() {

 s1 = digitalRead(16);

 s2 = digitalRead(5);

 s3 = digitalRead(4);

 s4 = digitalRead(0);

 s5 = digitalRead(2);

 if (s1 == HIGH || s2 == HIGH || s3 == HIGH || s4 == HIGH || s5 == HIGH) {

 Serial.println("MENDETEKSI GERAKAN");

 //kirim notifikasi telegram

 myBot.sendMessage(id, "Awas Ada Orang");

 }

 else {

 Serial.println("TIDAK ADA PERGERAKAN");

 delay(1000);

 }

 //baca pesan masuk dari telegram

 TBMessage msg;

 if(myBot.getNewMessage(msg))

 {

 //variabel penampung isi pesan

 String pesan =msg.text;

 if(pesan == "/LampOff")

 {

 //balasan

 myBot.sendMessage(id, "Lamp Off");

 digitalWrite(lamp, HIGH);

 }

 else if(pesan == "/LampOn")

 {

 myBot.sendMessage(id, "Lamp On");

 digitalWrite(lamp, LOW);

 }

 }

}

**NodeMCU 2**

//include library CTBot

#include "CTBot.h";

int s1;

int s2;

int s3;

int s4;

int s5;

#define buzzer 14

//variabel untuk bot telegram

CTBot myBot;

//konfigurasi koneksi ke Wifi

String ssid = "modem kandang";

String pass = "12345kandang";

//variabel token dan id telegram

String token = "6139707867:AAFpvd8iyfCypzQNlso-W7Ew8qCh1As71KA";

const int id = 2098803672;

void setup() {

 Serial.begin(9600);

 pinMode(s1, INPUT);

 pinMode(s2, INPUT);

 pinMode(s3, INPUT);

 pinMode(s4, INPUT);

 pinMode(s5, INPUT);

 pinMode(buzzer, OUTPUT);

 Serial.println("Memulai telegram bot. Koneksi ke Wifi");

 //koneksi ke wifi

 myBot.wifiConnect(ssid, pass);

 //set token telegram

 myBot.setTelegramToken(token);

 //cek koneksi wifi

 if(myBot.testConnection())

 Serial.println("Koneksi Berhasil");

 else

 Serial.println("Koneksi gagal");

}

void loop() {

 s1 = digitalRead(16);

 s2 = digitalRead(5);

 s3 = digitalRead(4);

 s4 = digitalRead(0);

 s5 = digitalRead(2);

 if (s1 == HIGH || s2 == HIGH || s3 == HIGH || s4 == HIGH || s5 == HIGH) {

 Serial.println("MENDETEKSI GERAKAN");

 //kirim notifikasi telegram

 myBot.sendMessage(id, "Awas Ada Orang");

 }

 else {

 Serial.println("TIDAK ADA PERGERAKAN");

 delay(1000);

 }

 //baca pesan masuk dari telegram

 TBMessage msg;

 if(myBot.getNewMessage(msg))

 {

 //variabel penampung isi pesan

 String pesan =msg.text;

 if(pesan == "/BuzzerOff")

 {

 //balasan

 myBot.sendMessage(id, "Buzzer Off");

 digitalWrite(buzzer, HIGH);

 }

 else if(pesan == "/BuzzerOn")

 {

 myBot.sendMessage(id, "Buzzer On");

 digitalWrite(buzzer, LOW);

 }

 }

}

**Lampiran 13**

**Coding Program ESP-32 Cam**

// Viral Science www.viralsciencecreativity.com www.youtube.com/c/viralscience

// ESP32 Cam Motion Alert | Send Image to Telegram

// Enter your WiFi ssid and password

const char\* ssid = " modem kandang "; //WIFI SSID

const char\* password = "12345kandang "; //WIFI password

String token = "6139707867:AAFpvd8iyfCypzQNlso-W7Ew8qCh1As71KA ";

String chat\_id = "2098803672";

#include <WiFi.h>

#include <WiFiClientSecure.h>

#include "soc/soc.h"

#include "soc/rtc\_cntl\_reg.h"

#include "esp\_camera.h"

//CAMERA\_MODEL\_AI\_THINKER

#define PWDN\_GPIO\_NUM 32

#define RESET\_GPIO\_NUM -1

#define XCLK\_GPIO\_NUM 0

#define SIOD\_GPIO\_NUM 26

#define SIOC\_GPIO\_NUM 27

#define Y9\_GPIO\_NUM 35

#define Y8\_GPIO\_NUM 34

#define Y7\_GPIO\_NUM 39

#define Y6\_GPIO\_NUM 36

#define Y5\_GPIO\_NUM 21

#define Y4\_GPIO\_NUM 19

#define Y3\_GPIO\_NUM 18

#define Y2\_GPIO\_NUM 5

#define VSYNC\_GPIO\_NUM 25

#define HREF\_GPIO\_NUM 23

#define PCLK\_GPIO\_NUM 22

int gpioPIR = 13; //PIR Motion Sensor

void setup()

{

 WRITE\_PERI\_REG(RTC\_CNTL\_BROWN\_OUT\_REG, 0);

 Serial.begin(115200);

 delay(10);

 WiFi.mode(WIFI\_STA);

 Serial.println("");

 Serial.print("Connecting to ");

 Serial.println(ssid);

 WiFi.begin(ssid, password);

 long int StartTime=millis();

 while (WiFi.status() != WL\_CONNECTED)

 {

 delay(500);

 if ((StartTime+10000) < millis()) break;

 }

 Serial.println("");

 Serial.println("STAIP address: ");

 Serial.println(WiFi.localIP());

 Serial.println("");

 if (WiFi.status() != WL\_CONNECTED) {

 Serial.println("Reset");

 ledcAttachPin(4, 3);

 ledcSetup(3, 5000, 8);

 ledcWrite(3,10);

 delay(200);

 ledcWrite(3,0);

 delay(200);

 ledcDetachPin(3);

 delay(1000);

 ESP.restart();

 }

 else

 {

 ledcAttachPin(4, 3);

 ledcSetup(3, 5000, 8);

 for (int i=0;i<5;i++) {

 ledcWrite(3,10);

 delay(200);

 ledcWrite(3,0);

 delay(200);

 }

 ledcDetachPin(3);

 }

 camera\_config\_t config;

 config.ledc\_channel = LEDC\_CHANNEL\_0;

 config.ledc\_timer = LEDC\_TIMER\_0;

 config.pin\_d0 = Y2\_GPIO\_NUM;

 config.pin\_d1 = Y3\_GPIO\_NUM;

 config.pin\_d2 = Y4\_GPIO\_NUM;

 config.pin\_d3 = Y5\_GPIO\_NUM;

 config.pin\_d4 = Y6\_GPIO\_NUM;

 config.pin\_d5 = Y7\_GPIO\_NUM;

 config.pin\_d6 = Y8\_GPIO\_NUM;

 config.pin\_d7 = Y9\_GPIO\_NUM;

 config.pin\_xclk = XCLK\_GPIO\_NUM;

 config.pin\_pclk = PCLK\_GPIO\_NUM;

 config.pin\_vsync = VSYNC\_GPIO\_NUM;

 config.pin\_href = HREF\_GPIO\_NUM;

 config.pin\_sscb\_sda = SIOD\_GPIO\_NUM;

 config.pin\_sscb\_scl = SIOC\_GPIO\_NUM;

 config.pin\_pwdn = PWDN\_GPIO\_NUM;

 config.pin\_reset = RESET\_GPIO\_NUM;

 config.xclk\_freq\_hz = 20000000;

 config.pixel\_format = PIXFORMAT\_JPEG;

 if(psramFound())

{

 config.frame\_size = FRAMESIZE\_VGA;

 config.jpeg\_quality = 10; //0-63 lower number means higher quality

 config.fb\_count = 2;

 }

else

{

 config.frame\_size = FRAMESIZE\_QQVGA;

 config.jpeg\_quality = 12; //0-63 lower number means higher quality

 config.fb\_count = 1;

 }

 // camera init

 esp\_err\_t err = esp\_camera\_init(&config);

 if (err != ESP\_OK)

{

 Serial.printf("Camera init failed with error 0x%x", err);

 delay(1000);

 ESP.restart();

 }

sensor\_t \* s = esp\_camera\_sensor\_get();

 s->set\_framesize(s, FRAMESIZE\_XGA);

}

void loop()

{

 pinMode(gpioPIR, INPUT\_PULLUP);

 int v = digitalRead(gpioPIR);

 Serial.println(v);

 if (v==1)

 {

 alerts2Telegram(token, chat\_id);

 delay(10000);

 }

 delay(1000);

}

String alerts2Telegram(String token, String chat\_id)

{

 const char\* myDomain = "api.telegram.org";

 String getAll="", getBody = "";

 camera\_fb\_t \* fb = NULL;

 fb = esp\_camera\_fb\_get();

 if(!fb)

{

 Serial.println("Camera capture failed");

 delay(1000);

 ESP.restart();

 return "Camera capture failed";

 }

WiFiClientSecure client\_tcp;

 if (client\_tcp.connect(myDomain, 443))

{

 Serial.println("Connected to " + String(myDomain));

 String head = "--India\r\nContent-Disposition: form-data; name=\"chat\_id\"; \r\n\r\n" + chat\_id + "\r\n--India\r\nContent-Disposition: form-data; name=\"photo\"; filename=\"esp32-cam.jpg\"\r\nContent-Type: image/jpeg\r\n\r\n";

 String tail = "\r\n--India--\r\n";

 uint16\_t imageLen = fb->len;

 uint16\_t extraLen = head.length() + tail.length();

 uint16\_t totalLen = imageLen + extraLen;

 client\_tcp.println("POST /bot"+token+"/sendPhoto HTTP/1.1");

 client\_tcp.println("Host: " + String(myDomain));

 client\_tcp.println("Content-Length: " + String(totalLen));

 client\_tcp.println("Content-Type: multipart/form-data; boundary=India");

 client\_tcp.println();

 client\_tcp.print(head);

 uint8\_t \*fbBuf = fb->buf;

 size\_t fbLen = fb->len;

 for (size\_t n=0;n<fbLen;n=n+1024)

 {

 if (n+1024<fbLen)

{

 client\_tcp.write(fbBuf, 1024);

 fbBuf += 1024;

 }

 else if (fbLen%1024>0)

{

 size\_t remainder = fbLen%1024;

 client\_tcp.write(fbBuf, remainder);

 }

 }

 client\_tcp.print(tail);

 esp\_camera\_fb\_return(fb);

 int waitTime = 10000; // timeout 10 seconds

 long startTime = millis();

 boolean state = false;

 while ((startTime + waitTime) > millis())

 {

 Serial.print(".");

 delay(100);

 while (client\_tcp.available())

 {

 char c = client\_tcp.read();

 if (c == '\n')

 {

 if (getAll.length()==0) state=true;

 getAll = "";

 }

 else if (c != '\r')

 getAll += String(c);

 if (state==true) getBody += String(c);

 startTime = millis();

 }

 if (getBody.length()>0) break;

 }

 client\_tcp.stop();

 Serial.println(getBody);

 }

 else {

 getBody = "Connection to telegram failed.";

 Serial.println("Connection to telegram failed.");

 }

 return getBody;

}

**Lampiran 14**

**Dokumentasi Perakitan alat**





**Lampiran 15**

**Alat Lama Dan Alat Baru**

**Alat Lama**

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**Alat Baru**



**Lampiran 16**

**Dokumentasi Penilaian Responden**

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