## LAPORAN KERJA PRAKTIK

## **JUDUL**



## Disusun oleh: <u>M</u>UCHAMMAD DANIYAL KAUTSAR 21/479067/TK/52800

PROGRAM STUDI TEKNOLOGI INFORMASI DEPARTEMEN TEKNIK ELEKTRO DAN TEKNOLOGI INFORMASI FAKULTAS TEKNIK UNIVERSITAS GADJAH MADA YOGYAKARTA

## HALAMAN PENGESAHAN

## **JUDUL**

## LAPORAN KERJA PRAKTIK

Diajukan Sebagai Salah Satu Syarat untuk Memperoleh
Gelar Sarjana Teknik Program Studi Sarjana Teknologi Informasi
pada Departemen Teknik Elektro dan Teknologi Informasi Fakultas Teknik
Universitas Gadjah Mada

#### Disusun oleh:

Muchammad Daniyal Kautsar 21/479067/TK/52800

Telah disetujui dan disahkan pada tanggal dd mmmm yyyy

Dosen Pembimbing Kerja Praktik

NAMA DOSEN NIP. NIP

# BUKTI PELAKSANAAN KERJA PRAKTIK

combon/bult+ilto por		
gambar/buktikp.png		

KATA PENGANTAR

Assalamu'alaikum Wr. Wb.

Puji syukur penulis panjatkan ke hadirat Allah SWT karena hanya dengan rah-

mat dan hidayah-Nya, Laporan Kerja Praktik ini dapat terselesaikan tanpa halangan

berarti. Keberhasilan dalam menyusun laporan Kerja Praktik ini tidak lepas dari ban-

tuan berbagai pihak yang mana dengan tulus dan ikhlas memberikan masukan guna

sempurnanya laporan Kerja Praktik ini. Oleh karena itu dalam kesempatan ini, de-

ngan kerendahan hati penulis mengucapkan terima kasih kepada:

1. 1. Bapak Prof. Ir. Hanung Adi Nugroho, S.T., M.E., Ph.D., IPM., SMIEEE.,

selaku Ketua Departemen Teknik Elektro dan Teknologi Informasi Fakultas

Teknik Universitas Gadjah Mada.

2. Bapak .... selaku dosen pembimbing kerja praktik yang telah memberikan ba-

nyak bantuan, bimbingan, serta arahan dalam laporan ini,

3. Cantumkan pihak-pihak lain yang ingin anda berikan ucapan terimakasih.

Penulis menyadari bahwa penyusunan Tugas Akhir ini jauh dari sempurna.

Kritik dan saran dapat ditujukan langsung pada e-mail atau mention langsung pada

akun twitter saya. Akhir kata penulis mohon maaf yang sebesar-besarnya apabila ada

kekeliruan di dalam penulisan Tugas Akhir ini.

Wassalamu'alaikum Wr. Wb.

Yogyakarta, dd month 2024

**Penulis** 

iv

# DAFTAR ISI

H	ALAN	MAN PENGESAHAN	ii
BU	J <b>KTI</b>	PELAKSANAAN KERJA PRAKTIK	iii
K	ATA 1	PENGANTAR	iv
<b>D</b> A	AFTA	R ISI	vi
<b>D</b> A	AFTA	R TABEL	iii iv vi vii viii  viii  ix
<b>D</b> A	AFTA	R GAMBAR	
I	PEN	NDAHULUAN	ix
	1.1	Latar Belakang Masalah	ix
	1.2	Rumusan Masalah	ix
	1.3	Batasan Masalah	ix
	1.4	Tujuan Penelitian	X
	1.5	Manfaat Penelitian	X
	1.6	Keaslian Penelitian	X
	1.7	Sistematika Penulisan	X
II	PRO	OFIL PERUSAHAAN	хi
	2.1	Tinjauan Pustaka	xi
	2.2	Landasan Teori	xi
		2.2.1 IATEX	xi
		2.2.2 Sublime Text	xii
III	ME	TODOLOGI PENELITIAN	xiii
	3.1	Alat dan Bahan	xiii
		3.1.1 Perangkat Keras	xiii
		3.1.2 Perangkat Lunak	xiii
	3.2	Alur Penelitian	
	3.3	Tahapan Pelaksanaan	xiv
	3.4	Jadwal Kegiatan	xiv

IV	HAS	SIL DAN PEMBAHASAN	vi
	4.1	Subbab 1	vi
	4.2	Subbab 2	vi
		4.2.1 Subsubbab 2 1	vi
		4.2.2 Subsubbab 2 2	vii
	4.3	Subab 3	vii
V	KES	SIMPULAN DAN SARAN xv	iii
	5.1	Kesimpulan	iii
	5.2	Saran	iii
<b>D</b> A	AFTA	R PUSTAKA x	xix

# DAFTAR TABEL

Tabel 3.1 Jadwal Penelitian		XV
-----------------------------	--	----

## DAFTAR GAMBAR

xi

#### **BABI**

### **PENDAHULUAN**

## 1.1 Latar Belakang Masalah

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt ut laoreet dolore magna aliquam erat volutpat. Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat. Duis autem vel eum iriure dolor in hendrerit in vulputate velit esse molestie consequat, vel illum dolore eu feugiat nulla facilisis at vero eros et accumsan et iusto odio dignissim qui blandit praesent luptatum zzril delenit augue duis dolore te feugait nulla facilisi. Nam liber tempor cum soluta nobis eleifend option congue nihil imperdiet doming id quod mazim placerat facer possim assum.[1, 2].

#### 1.2 Rumusan Masalah

Habeo perfecto in sea. Ea deleniti gloriatur pri, paulo mediocrem incorrupte sea ei. Ad mollis scripta per. Incorrupte sadipscing ne mel. Mel ex nonumy malorum epicurei. Ne per tota mollis suscipit. Ullum labitur vim ut, ea dicit eleifend dissentias sit. Duis praesent expetenda ne sed. Sit et labitur albucius elaboraret. Ceteros efficiantur mei ad. Hendrerit vulputate democritum est at, quem veniam ne has, mea te malis ignota volumus.

#### 1.3 Batasan Masalah

Batasan masalah pada penelitian ini adalah:

- 1. Penelitian ini difokuskan pada interoperabilitas beberapa *vendor* WSN dan protokol Internet.
- 2. Tipe WSN yang digunakan dalam penelitian ini dibatasi dua buah.
- 3. Pengujian yang dilakukan hanya sebatas eksperimen dalam lingkup laboratorium.

4. Purwarupa yang dihasilkan akan diimplementasikan pada sebuah *Access Point* (AP).

## 1.4 Tujuan Penelitian

Eros reprimique vim no. Alii legendos volutpat in sed, sit enim nemore labores no. No odio decore causae has. Vim te falli libris neglegentur, eam in tempor delectus dignissim, nam hinc dictas an.

#### 1.5 Manfaat Penelitian

Pro omnium incorrupte ea. Elitr eirmod ei qui, ex partem causae disputationi nec. Amet dicant no vis, eum modo omnes quaeque ad, antiopam evertitur reprehendunt pro ut. Nulla inermis est ne. Choro insolens mel ne, eos labitur nusquam eu, nec deserunt reformidans ut. His etiam copiosae principes te, sit brute atqui definiebas id.

#### 1.6 Keaslian Penelitian

Et affert civibus has. Has ne facer accumsan argumentum, apeirian hendrerit persequeris pro ex. Suscipit vivendum sensibus mea at, vim ei hinc numquam, at dicit timeam dissentiet mel. At patrioque intellegebat sea, error argumentum dissentias sea in.

#### 1.7 Sistematika Penulisan

No per amet modo comprehensam, duo dolor dignissim ex, ancillae corrumpit intellegam vix te. Mel utinam signiferumque no, ex nec accusam accumsan. Et per inermis posidonium, qui et ornatus epicuri pertinax. In homero commodo usu, vel te habemus fuisset, id nec periculis sententiae efficiendi. Oblique sanctus intellegat at cum.

#### **BAB II**

## PROFIL PERUSAHAAN

### 2.1 Tinjauan Pustaka

Lorem ipsum is a pseudo-Latin text used in web design, typography, layout, and printing in place of English to emphasise design elements over content. It's also called placeholder (or filler) text. It's a convenient tool for mock-ups. It helps to outline the visual elements of a document or presentation, eg typography, font, or layout. Lorem ipsum is mostly a part of a Latin text by the classical author and philospher Cicero. Its words and letters have been changed by addition or removal, so to deliberately render its content nonsensical; it's not genuine, correct, or comprehensible Latin anymore. While lorem ipsum's still resembles classical Latin, it actually has no meaning whatsoever. As Cicero's text doesn't contain the letters K, W, or Z, alien to latin, these, and others are often inserted randomly to mimic the typographic appearence of European languages, as are digraphs not to be found in the original. [3]

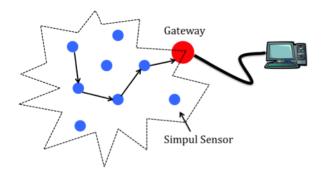
#### 2.2 Landasan Teori

## 2.2.1 LATEX

Ne per tota mollis suscipit. Ullum labitur vim ut, ea dicit eleifend dissentias sit. Duis praesent expetenda ne sed. Sit et labitur albucius elaboraret. Ceteros efficiantur mei ad. Hendrerit vulputate democritum est at, quem veniam ne has, mea te malis ignota volumus.

Eros reprimique vim no. Alii legendos volutpat in sed, sit enim nemore labores no. No odio decore causae has. Vim te falli libris neglegentur, eam in tempor delectus dignissim, nam hinc dictas an.

Pro omnium incorrupte ea. Elitr eirmod ei qui, ex partem causae disputationi nec. Amet dicant no vis, eum modo omnes quaeque ad, antiopam evertitur reprehendunt pro ut. Nulla inermis est ne. Choro insolens mel ne, eos labitur nusquam eu, nec deserunt reformidans ut. His etiam copiosae principes te, sit brute atqui definiebas id.



Gambar 2.1: Jaringan sensor nirkabel.

## 2.2.2 Sublime Text

Et affert civibus has. Has ne facer accumsan argumentum, apeirian hendrerit persequeris pro ex. Suscipit vivendum sensibus mea at, vim ei hinc numquam, at dicit timeam dissentiet mel. At patrioque intellegebat sea, error argumentum dissentias sea in.

Quo no atqui omnesque intellegat, ne nominavi argumentum quo. Eum ei purto oporteat dissentiet, soleat utamur an sit. Et assum dicam interpretaris quo. Cetero alterum ea vel, no possit alterum utroque nec. His fuisset quaestio ad. Has eu tritani incorrupte consequuntur, esse aliquip nec ne.

#### **BAB III**

## **METODOLOGI PENELITIAN**

#### 3.1 Alat dan Bahan

Alat dan bahan yang digunakan pada penelitian ini terbagi atas perangkat keras dan perangkat lunak yang akan dijelaskan seperti berikut.

#### 3.1.1 Perangkat Keras

Pro omnium incorrupte ea. Elitr eirmod ei qui, ex partem causae disputationi nec. Amet dicant no vis, eum modo omnes quaeque ad, antiopam evertitur reprehendunt pro ut. Nulla inermis est ne. Choro insolens mel ne, eos labitur nusquam eu, nec deserunt reformidans ut. His etiam copiosae principes te, sit brute atqui definiebas id.

- a. Kit pancar-rima IQRF TR-53B (3 unit),
- b. Kit pengunduh program CK-USB-04 (1 unit),
- c. Kit pengembangan DK-EVAL-03 (2 unit),
- d. Kit pengembangan CK-EVAL-04 (1 unit),
- e. XBee 802.15.4 Radios (Series 1) (3 unit),
- f. XBee Explorer USB Board (1 unit),
- g. 2 channel Relay Shield For Arduino (With XBee/BTBee interface) (2 unit),
- h. Arduino Uno (2 unit),
- i. TP-LINK MR3020 (1 unit),
- j. Kabel USB ke Serial Prolific (1 unit).

## 3.1.2 Perangkat Lunak

Pro omnium incorrupte ea. Elitr eirmod ei qui, ex partem causae disputationi nec. Amet dicant no vis, eum modo omnes quaeque ad, antiopam evertitur reprehendunt pro ut. Nulla inermis est ne. Choro insolens mel ne, eos labitur nusquam eu, nec deserunt reformidans ut. His etiam copiosae principes te, sit brute atqui definiebas id.

- a. Arduino for Mac OS X,
- b. CoolTerm.
- c. Driver FTDI for Mac OS X,

- d. PHP, MySQL, dan uHTTPd,
- e. Python dan pustaka PySerial,
- f. IQRF IDE v 2.08 for TR-53B,
- g. SSHFS,
- h. Sublime Text 3.

#### 3.2 Alur Penelitian

Consul graeco signiferumque qui id, usu eu summo dicunt voluptatum, nec ne simul perpetua posidonium. Eos ea saepe prodesset signiferumque. No dolore possit est. Mei no justo intellegebat definitiones, vis ferri lorem eripuit ad. Solum tritani scribentur duo ei, his an adipisci intellegat.

## 3.3 Tahapan Pelaksanaan

Consul graeco signiferumque qui id, usu eu summo dicunt voluptatum, nec ne simul perpetua posidonium. Eos ea saepe prodesset signiferumque. No dolore possit est. Mei no justo intellegebat definitiones, vis ferri lorem eripuit ad. Solum tritani scribentur duo ei, his an adipisci intellegat.

#### 3.4 Jadwal Kegiatan

Quo no atqui omnesque intellegat, ne nominavi argumentum quo. Eum ei purto oporteat dissentiet, soleat utamur an sit. Et assum dicam interpretaris quo. Cetero alterum ea vel, no possit alterum utroque nec. His fuisset quaestio ad. Has eu tritani incorrupte consequuntur, esse aliquip nec ne 3.1.

**Tabel 3.1:** Jadwal Penelitian.

No	Keterangan	Bulan						
		1	2	3	4	5	6	
1	Studi literatur							
2	Desain							
3	Pembelian bahan							
4	Pembuatan prototipe							
5	Uji coba dan perbaikan							
6	Penulisan skripsi							

#### **BAB IV**

## HASIL DAN PEMBAHASAN

#### 4.1 Subbab 1

Habeo perfecto in sea. Ea deleniti gloriatur pri, paulo mediocrem incorrupte sea ei. Ad mollis scripta per. Incorrupte sadipscing ne mel. Mel ex nonumy malorum epicurei.

Ne per tota mollis suscipit. Ullum labitur vim ut, ea dicit eleifend dissentias sit. Duis praesent expetenda ne sed. Sit et labitur albucius elaboraret. Ceteros efficiantur mei ad. Hendrerit vulputate democritum est at, quem veniam ne has, mea te malis ignota volumus.

Eros reprimique vim no. Alii legendos volutpat in sed, sit enim nemore labores no. No odio decore causae has. Vim te falli libris neglegentur, eam in tempor delectus dignissim, nam hinc dictas an.

#### **4.2** Subbab 2

Habeo perfecto in sea. Ea deleniti gloriatur pri, paulo mediocrem incorrupte sea ei. Ad mollis scripta per. Incorrupte sadipscing ne mel. Mel ex nonumy malorum epicurei.

#### **4.2.1** Subsubbab 2 1

Ne per tota mollis suscipit. Ullum labitur vim ut, ea dicit eleifend dissentias sit. Duis praesent expetenda ne sed. Sit et labitur albucius elaboraret. Ceteros efficiantur mei ad. Hendrerit vulputate democritum est at, quem veniam ne has, mea te malis ignota volumus.

```
config mount

option target /mnt

option device /dev/sda1

option fstype ext3

option options rw,sync

option enabled 1

option enabled_fsck 0

option is_rootfs 1
```

```
# opkg update
# opkg install python pyserial
```

#### 4.2.2 Subsubbab 2 2

Consul graeco signiferumque qui id, usu eu summo dicunt voluptatum, nec ne simul perpetua posidonium. Eos ea saepe prodesset signiferumque. No dolore possit est. Mei no justo intellegebat definitiones, vis ferri lorem eripuit ad. Solum tritani scribentur duo ei, his an adipisci intellegat.

#### 4.3 Subab 3

Consul graeco signiferumque qui id, usu eu summo dicunt voluptatum, nec ne simul perpetua posidonium. Eos ea saepe prodesset signiferumque. No dolore possit est. Mei no justo intellegebat definitiones, vis ferri lorem eripuit ad. Solum tritani scribentur duo ei, his an adipisci intellegat.

### **BAB V**

## **KESIMPULAN DAN SARAN**

## 5.1 Kesimpulan

Berdasarkan hasil analisis dan pengujian fungsional aplikasi ini, didapat kesimpulan sebagai berikut:

- 1. Lorem ipsum is a pseudo-Latin text used in web design, typography, layout, and printing in place of English to emphasise design elements over content.
- 2. It's also called placeholder (or filler) text. It's a convenient tool for mock-ups.
- 3. It helps to outline the visual elements of a document or presentation, eg typography, font, or layout. Lorem ipsum is mostly a part of a Latin text by the classical author and philospher Cicero.
- 4. Its words and letters have been changed by addition or removal, so to deliberately render its content nonsensical; it's not genuine, correct, or comprehensible Latin anymore.

#### 5.2 Saran

- 1. Lorem ipsum is a pseudo-Latin text used in web design, typography, layout, and printing in place of English to emphasise design elements over content.
- 2. It's also called placeholder (or filler) text. It's a convenient tool for mock-ups.
- 3. It helps to outline the visual elements of a document or presentation, eg typography, font, or layout. Lorem ipsum is mostly a part of a Latin text by the classical author and philospher Cicero.
- 4. Its words and letters have been changed by addition or removal, so to deliberately render its content nonsensical; it's not genuine, correct, or comprehensible Latin anymore.

## **DAFTAR PUSTAKA**

- [1] S. B. Wibowo and Widyawan, "Wireless Sensor Network and Internet Protocol Integration with COTS," in 2013 AUN/SEED-Net Regional Conference in Electrical and Electronics Engineering. Department of EE, Chulalongkorn University, 2013, pp. 120–123.
- [2] M.-E. Raluca, M.-E. Razvan, and A. Terzis, "Gateway design for data gathering sensor networks," in *Sensor, Mesh and Ad Hoc Communications and Networks*, 2008. SECON'08. 5th Annual IEEE Communications Society Conference on. IE-EE, 2008, pp. 296–304.
- [3] B. da Silva Campos, J. J. P. C. Rodrigues, L. D. P. Mendes, E. F. Nakamura, and C. M. S. Figueiredo, "Design and construction of wireless sensor network gateway with IPv4/IPv6 support," in *Communications (ICC)*, 2011 IEEE International Conference on. IEEE, 2011, pp. 1–5.