DaxOS

A PROJECT REPORT

submitted by

By

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Antony S. Chirayil (MBT17CS023)

Mathew Koshy (MBT17CS068)

R Midhun Suresh (MBT17CS095)

to

the APJ Abdul Kalam Technological University

in partial fulfillment of the requirements for the award of the Degree

of

BACHELOR OF TECHNOLOGY

IN

COMPUTER SCIENCE AND ENGINEERING

January, 2020

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEEERING

MAR BASELIOS COLLEGE OF ENGINEERING & TECHNOLOGY

Bethany Hills, Nalanchira

Thiruvananthapuram 15

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MAR BASELIOS COLLEGE OF ENGINEERING & TECHNOLOGY

Nalanchira, Thiruvananthapuram.

CERTIFICATE

This is to certify that the report entitled ***DaxOS*** *submitted by* ***Nihal Narayan (MBT17CS081)***, ***Antony S. Chirayil (MBT17CS023)***, ***Mathew Koshy (MBT17CS068)***, ***R Midhun Suresh (MBT17CS095)*** *to the APJ Abdul Kalam Technological University in partial fulfillment of the requirements for the award of the Degree of Bachelor of Technology in Computer Science and Engineering and Technology is a bonafide record of the project work carried out by him/her under my/our guidance and supervision.This report in any form has not been submitted to any other University or Institute for any purpose*

Ms. Gayathri K. S.	**Mr. V. S. Shibu**	**Dr. Tessy Mathew**
Project Coordinator	Guide	Head of the Department

Place: Thiruvananthapuram

Date: 12/01/2021

Acknowledgement

We would like to take this opportunity to extend our sincere gratitude to **Mr. Shibu VS** for guiding us through the process of this project. We would also like to thank the seminar coordinator, **Mrs. Gayathri KS**, for providing us with this opportunity which has allowed us to explore a domain which would otherwise be beyond the confines of our academic course.

Nihal Narayan
Mathew Koshy
Antony S. Chirayil
R Midhun Suresh

ABSTRACT

Every computer science enthusiast is proficient in their operating system of choice. They may even know its underlying working from an old operating system course they took in college. However, it is usually the case that their knowledge and understanding is limited to theory and writing low-level system code is often considered an insurmountable challenge. This project hopes to change this attitude by developing a minimal yet functional 32-bit operating system that can be used in conjunction with theoretical teaching to promote and introduce systems programming. A minimal kernel guarantees easier to read source code (as opposed to the 27 million SLOC Linux kernel) and provides a gentler introduction to kernel development. The kernel will include a full keyboard and mouse driver and will have support for VGA text-mode and graphics. It will also contain a limited libc implementation with a streamlined build process. Additionally, this project will serve as an illustration for good development practices (code reuse, clean architecture, unit testing). The 32-bit kernel will be written in C with a little of assembly for the truly low-level aspects.

Contents

List of Figures

List of Tables

Nomenclature

Chapter 1

Introduction

arabic Write the introduction here.

1.1 Problem Definition

1.1.1 Research Problem

This thesis aims at ....

1.1.2 Sub-Problems

Every research problem may be divided into sub-problems to make it easier to solve the research problem. The sub-problems identified are stated below.

1. Study and analyze ...
2. Compare the performance of ...
3. Implement ...

1.2 Hypothesis

Include the hypothesis here.

1.3 Definition of terms

1. **XXXX**. XXXX is ...
2. ...

1.4 Statement of Delimitation

The study will not evaluate ...

1.5 Assumptions

1. Include assumptions here
2. ...

1.6 Organization of Thesis

The thesis report is organized as follows. The first chapter describes...

Chapter 2

Literature Review

Write the literature review here.

Citations should be included as [**?**], or [**?**, **?**] if there are more than one references to cite.

Chapter 3

Chapter heading

Write the body of the thesis. Include as many chapters as needed.

3.1 Sections in chapter

Logically divide the content of the chapter into sections and subsections.

3.1.1 An example subsection

Within a subsection, content division may again be included as shown below.

3.1.1.1 Examples of equations

A few examples of various types of equations are shown in Eq. 3.1, to Eq. 3.7.

$$A(z) = \frac{1 - B(z)}{1 - B(\frac{z}{\gamma})} \tag{3.1}$$

$$A(\frac{z}{\gamma}) = \sum_{i=1}^{M} \gamma^i x_i z^{-i}, 0 < \gamma < 1 \tag{3.2}$$

$$a_n^{'} = \begin{cases} a_n b_n, & 0 \leq n \leq N-1 \\ 0, & \text{otherwise} \end{cases} \tag{3.3}$$

$$a_n = \alpha - \beta \cos \frac{2\pi n}{N-1} \tag{3.4}$$

where $\alpha = 0.54$ and $\beta = 1 - \alpha = 0.46$.

$$\frac{\delta C}{\delta a_k} = 2E[(s[n] + \sum_{k=1}^{M}(a_k s_{n-k}))b_{n-i}] = 0 \tag{3.5}$$

$$A = \|\mathbf{x}(n) - \eta_k b_i \mathbf{C} y_j\| \tag{3.6}$$

$$a_1 = b[T^{(1)}] \tag{3.7}$$

3.1.1.2 Examples of figures

Figures may be included as in Fig. **??**. To increase or decrease the size of the figures, adjust the 'scale' parameter in the code.

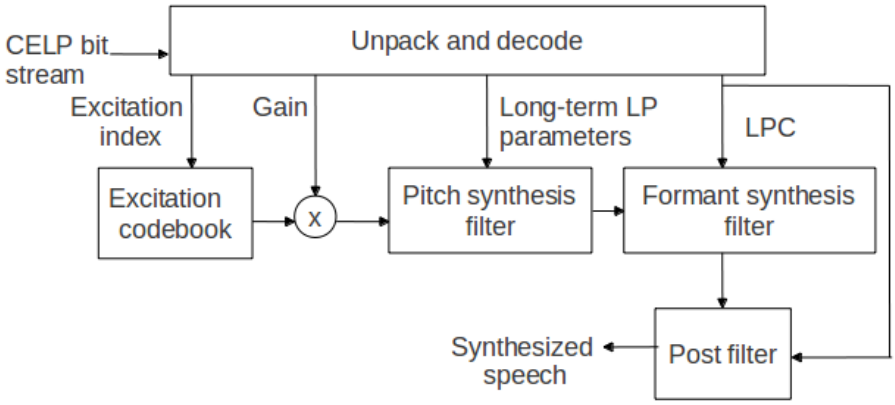


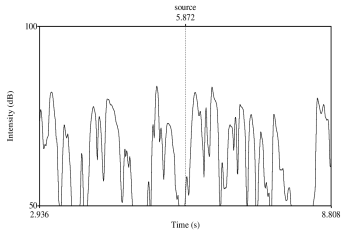
Figure 3.1: An Example Figure

If the size of the figures needs to be made uniform, use the parameters 'width' and 'height' as shown in Fig. 3.2.

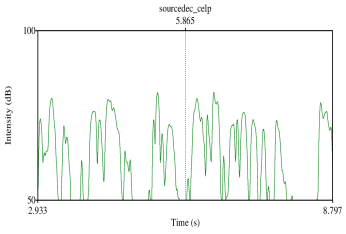
3.1.1.3 Examples of tables

Tables may be formatted as in Table 3.1.

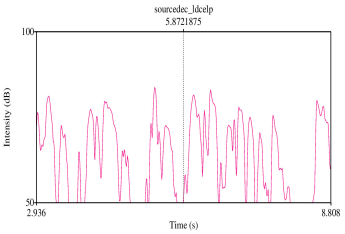
If vertical lines are not required, tables may be formatted as in Table 3.2.



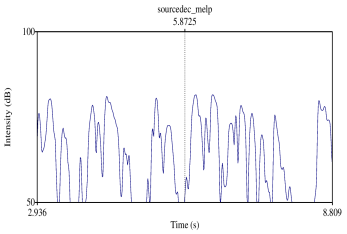
(a) Original Sound File



(b) Decoder 1 output file



(c) Decoder 2 output File



(d) Decoder 3 output file

Figure 3.2: An Example showing Sub-figures

Table 3.1: An Example Table

Parameter	Algorithm 1	Algorithm 2	Algorithm 3
file1.wav	3.27	3.93	2.73
file2.wav	3.53	4.07	2
file3.wav	3.53	4.47	2.8
Average Value	**3.44**	**4.16**	**2.51**

Table 3.2: An Example Table

Parameter	Algorithm 1	Algorithm 2	Algorithm 3
file1.wav	3.27	3.93	2.73
file2.wav	3.53	4.07	2
file3.wav	3.53	4.47	2.8
Average Value	**3.44**	**4.16**	**2.51**

Chapter 4

Conclusion

Write the Conclusion here.

Chapter 5

Appendix

Include appendices here (optional)

Chapter 6

List of Publications

Write the list of publications here.

1. Publication 1
2. Publication 2
3. Publication 3

REFERENCES

[1] write the references

[2] write the references