

GOA COLLEGE OF ENGINEERING  
FARMAGUDI, GOA

DEPARTMENT OF ELECTRONICS & TELECOMMUNICATION  
ENGINEERING

2016 - 2017



HUMAN IDENTIFICATION USING  
GAIT RECOGNITION

*by*

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John George (P.R.No.: 201305821)  
Mrinal Shinde (P.R.No.: 201305759)  
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A project submitted  
in partial fulfilment of the requirements  
for the degree of  
Bachelor of Engineering  
in  
Electronics and Telecommunication Engineering  
GOA UNIVERSITY

*under the guidance of*

Prof. MILIND FERNANDES  
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# CERTIFICATE

This is to certify that the project entitled

## **“HUMAN IDENTIFICATION USING GAIT RECOGNITION”**

submitted by

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has been successfully completed in the academic year 2016-2017 as a partial fulfilment of the requirement for the degree of BACHELOR OF ENGINEERING in Electronics and Telecommunication Department, at Goa College of Engineering, Farmagudi.

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(Internal Examiner)

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(External Examiner)

Place: Farmagudi, Ponda, Goa

Date:

# PROJECT APPROVAL SHEET



The project entitled

## **“HUMAN IDENTIFICATION USING GAIT RECOGNITION”**

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completed in the year 2016-2017 is approved as a partial fulfilment of the requirements for the degree of **BACHELOR OF ENGINEERING in Electronics and Telecommunication Engineering** and is a record of bonafide work carried out successfully under our guidance.

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(Project Guide)

Milind Fernandes

Assistant Professor,

ETC Dept.

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(Head of Department)

Dr. H. G. Virani

Professor, ETC Dept.

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(Principal)

Dr. V. N. Shet

Goa College of Engineering

Place: Farmagudi, Ponda, Goa

Date:

## Acknowledgement

The success of our work is incomplete unless we mention the names of our respected teachers who made it possible, whose guidance and encouragement served to beacon light and crowned our efforts with success.

# hiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiiii

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# Abstract

Put your abstract here

# Chapter 1

## Introduction

### 1.1 Preamble

1st para of first section

second para

### 1.2 Motivation

This is how you create bullets:

- First bullet
- second bullet

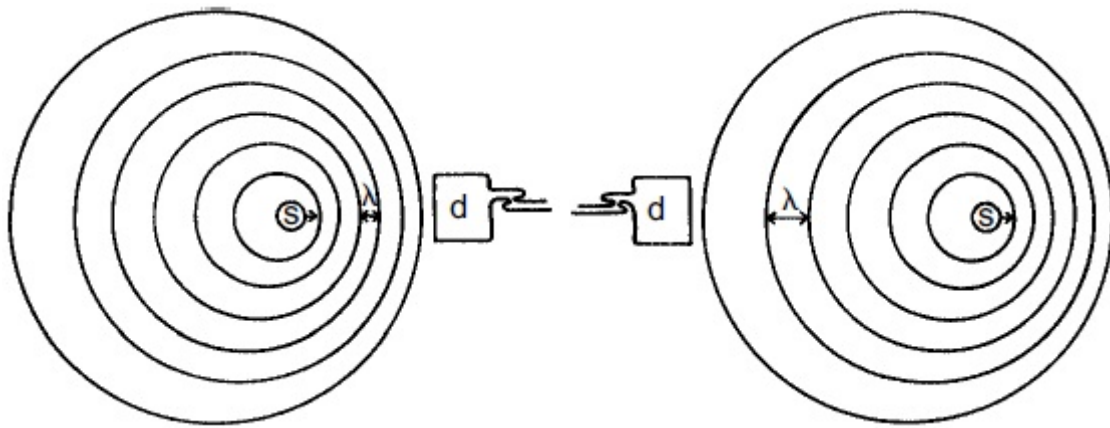
## 1.3 Objective

same way

## 1.4 Outline

### 1.4.1 This is a sub section

Mention some figure like this Fig.1.1. which is saved at the location where this file is saved. This is an example of subfigure. You do not need to number the figure, latex will automatically number it for you! And it will appear automatically in the list of figures too! All you need to do is caption it.



(a) Source moving to stationary detector d      (b) Source moving from stationary detector d

Figure 1.1: Principles of Doppler Ultrasound

This is how you write equations and mathematical symbols:

In the Fig.1.1(a), an ultrasound source is moving with velocity  $v_s$  toward the detector. After time  $t$  following the production of any particular wave front, the distance between the wave

front and the source is  $(c - v_s)t$  , where  $c$  is the velocity of ultrasound in the medium. The wavelength  $\lambda$  of the ultrasound in the direction of motion is shortened to

$$\lambda = \frac{(c - v_s)}{\nu_0}$$

(1.1)

1.4.1.1 This is a subsubsection

This is how you enter a single figure.Entering the caption automatically gives the figure its number, and the caption appears in the list of figures

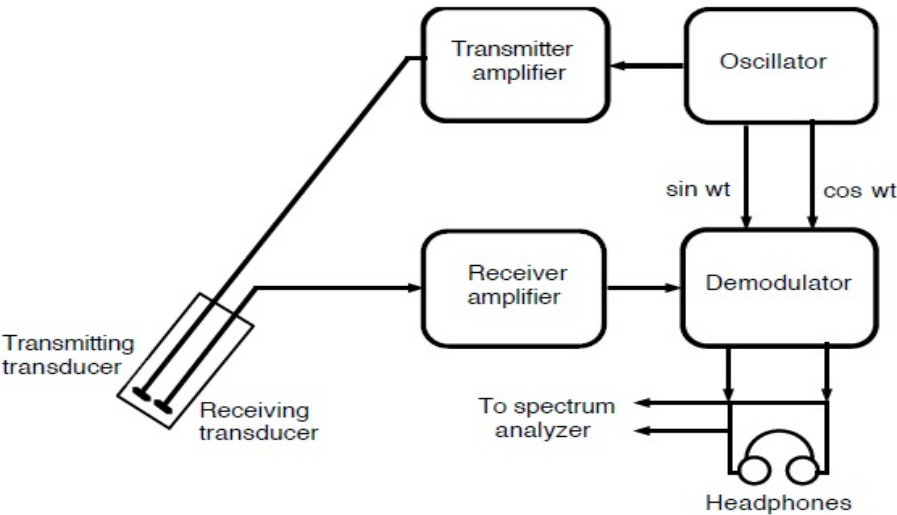


Figure 1.2: The Continuous Wave Doppler system. Signals from the receiving transducers are compared in frequency to those transmitted.

This is an example of a table. You need to write the caption so that it appears here with its table no. as well as in the List of Tables.

column1	column2
1st row 1st column	1st row second column
2nd row 1st column	2nd row 2nd column

Table 1.1: A test table.

# Chapter 2

## Literature Review

### 2.1 Introduction

Hey you!! Trying if the header and footer works for the second chapter

#### 2.1.1 This is a sub section

Yes, true, It is indeed a subsection.

will be trying now to continue this chapter to the next page to see if the header and footer appear there on the second page too.

Hey this is supposed to be the next page. See if header and footer are there.

Please feel free to add intermediate sections according to your project requirement.

## 2.2 Conclusion

Trying if the header and footer works for the second chapter

### 2.2.1 This is a sub section

Yes, true, It is indeed a subsection.

## Chapter 3

# Design/Implementation(whichever applicable)

### 3.1 Problem Statement

This is the first section of the third chapter.

#### 3.1.1 This is a sub section

Yes, true, It is indeed a subsection.

will be trying now to continue this chapter to the next page to see if the header and footer appear there on the second page too.

**Please feel free to add intermediate sections according to your project require-**

ment. Work done: Block diagram, design(software, hardware), Implementation



Hey this is supposed to be the next page. See if header and footer are there.

# Chapter 4

## System Analysis

### 4.1 Observations

This is the first section of the fourth chapter.

#### 4.1.1 This is a sub section

will be trying now to continue this chapter to the next page to see if the header and footer appear there on the second page too.

### 4.2 Results

This is the second section of the fourth chapter.

## 4.3 Discussion

This is the third section of the fourth chapter.

# Chapter 5

## Conclusion

### 5.1 General Conclusion

This is the first section of the fifth chapter.

#### 5.1.1 This is a sub section

will be trying now to continue this chapter to the next page to see if the header and footer appear there on the second page too.

### 5.2 Challenges

This is the second section of the fifth chapter.

## 5.3 Future Work

This is the third section of the fifth chapter.

# Bibliography

- [1] Kenneth J. W. Taylor, Peter N. Burns, Peter N. T. Wells. Clinical Applications of Doppler Ultrasound Second Edition, pages 1-3.
- [2] <http://www.genesis-ultrasound.com/history-of-ultrasound.html>
- [3] <https://wiki.engr.illinois.edu/display/BIOE414/History+of+Color+Doppler+Ultrasound>
- [4] William R. Hendee and E. Russell Ritenour. Medical Imaging Physics, Fourth Edition, pages 344 - 346, 2002.

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# Appendices



# Appendix A

## Appendix

First page of Appendix A

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# Appendix B

## Data Sheets

Put your data sheets here.

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