

DAV Institute of Engineering & Technology, Jalandhar
(Department of CSE)

Sample Format for Minor Project Report

Title page

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| Student Declaration | i |
| Abstract | ii |
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Chapter 1 Introduction

Page 1 (so on onwards)

- 1.1 Introduction to Project
- 1.2 Project Category (Internet based, Application or System Development, Research based , Industry Automation, Network or System Administration)
- 1.3 Objectives
- 1.4 Problem Formulation
- 1.5 Identification/Reorganization of Need
- 1.6 Existing System
- 1.7 Proposed System
- 1.8 Unique Features of the System

Chapter 2. Requirement Analysis and System Specification

- 2.1 Feasibility study (Technical, Economical, Operational)
- 2.2 Software Requirement Specification Document
Software Requirement Specification Document which must include the following:(Data Requirement, Functional Requirement, Performance Requirement, Dependability Requirement, Maintainability requirement, Security requirement, Look and feel requirement)
- 2.3 Validation
- 2.4 Expected hurdles
- 2.5 SDLC model to be used

Chapter 3. System Design

- 3.1 Design Approach (Function oriented or Object oriented)
- 3.2 Detail Design
- 3.3 System Design using various Structured analysis and design tools such as: DFD's, Data Dictionary, Structured charts, Flowcharts
- 3.4 User Interface Design
- 3.5 Database Design
 - 3.5.1 ER Diagrams
 - 3.5.2 Normalization
 - 3.5.3 Database Connection Controls and Strings
- 3.6 Methodology of system (How you would implement the system)

Chapter 4. Implementation, Testing and Maintenance

- 4.1 Introduction to Languages, IDE's, Tools and Technologies used for Implementation
- 4.2 Coding standards of Language used
- 4.3 Testing Techniques and Test Plans (If applicable)

Chapter 5. Results and Discussions

- 5.1 User Interface Representation (Of Respective Project)
 - 5.1.1 Brief Description of Various Modules of the system
- 5.2 Snapshots of system with brief detail of each
- 5.3 Back Ends Representation (Database to be used)
 - 5.3.1 Snapshots of Database Tables with brief description

Chapter 6. Conclusion and Future Scope

SPECIFICATIONS FOR PROJECT REPORT

1. Report shall be computer typed (English- British, Font -Times New Roman, Size-12-point, Line Space:1.5, Text Alignment: Justify) and printed on A4 size paper. Minimum Size of report (Excluding Title Page, Table of contents, and declaration Page): 40 Pages
2. Students should get their report printed in spiral bound form and after making the required changes as advised by project mentor/supervisor during internal viva they should submit the final corrected report in spiral bound form to the final examiner.
3. The report shall be typed on one side only with double spacing with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and bottom.
4. In the report, the title page [Refer sample sheet (title page)] should be given first then the Student Declaration (signed by Project Guide) placed in sequence, followed by an abstract of the report (not exceeding 1500 words). This should be followed by the acknowledgment, List of figures and List of tables, notations/nomenclature, and then Table of Contents with page no.
5. The diagrams should be printed on a light/white background, Tabular matter should be clearly arranged. Decimal point may be indicated by full stop(.) Captions for figures must be placed at the bottom of the figure. Captions for tables must be placed at the top of the table.
6. The graphs should be combined for the same parameters for proper comparison. Single graph should be avoided as far as possible.
7. The Conclusion section should not exceed two pages.
8. Students must use only APA reference style throughout the report
9. The sample report consists of following chapters
 - Chapter 1- Introduction
 - Chapter 2- Requirement Analysis and System Specification
 - Chapter 3- System Design
 - Chapter 4- Implementation, Testing and Maintenance
 - Chapter 5-Results and Discussions
 - Chapter 6-Conclusion and Future Scope

Project Title (24pt.)

REPORT (14pt.)

SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR MINOR PROJECT

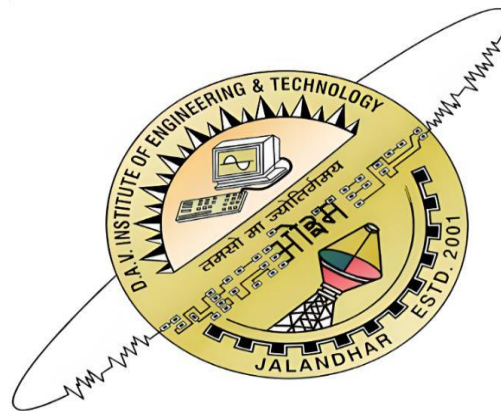
From January to May 2025

SUBMITTED BY

NAME (14pt) Univ. Roll No., Branch Roll No.

NAME (14pt) Univ. Roll No. Branch Roll No.

NAME (14pt) Univ. Roll No. Branch Roll No.



Department of Computer Science & Engineering

DAV Institute of Engineering & Technology Jalandhar, India (14pt.)

(2022-2026)

STUDENT DECLARATION

We hereby declare that the " **Project name**" project work submitted to DAV Institute of Engineering & Technology, Jalandhar is the record of my original work under the guidance of "**Guide Name**." The minor project work is submitted in partial fulfillment of the requirement of B.Tech in Computer Science & Engineering. The results included in this project have not been submitted to any other Institute or University. I am solely responsible for these results.

Name and Signature of the Student's

I hereby certify that, I have checked this minor project report and found satisfactory.

Name and Signature of Project Guide

I have evaluated the project ("Project Title") on dated _____ and found satisfactory.

External Evaluator

(Name and Signature of HoD)

Abstract (Sample)

Packet Filtering firewalls can use a database of rules to decide which packets will be allowed to move in and out and from one network onto another. However, with the increase in size of rule list, it's very hard to manage and validate the rules, which can also increase the cost of rule lookup and that may add significantly to latency. Packet filtering is the one of the major contemporary firewall design techniques. Implementation of such packet filter using Binary Decision Diagram (BDD) gives more advantages in terms of memory usage and look up time. In the case of the list-based packet filter firewall where rules are checked one by one for each incoming packet, the time taken to decide on a packet is proportional to the number of rules. The performance is improved with rule promotion but that is a slow and static kind of firewall implementation. In this work a BDD-based approach is presented which gives much better result in terms of number of comparisons or accesses the rule list make. This work presents the study, design and implementation of a packet filter firewall using binary decision diagram which provides faster processing of packets while maintaining the integrity of the original security policy. Results on large number of packets show that for most-accept packets, and for most- reject packets there is manifold reduction in such comparisons when BDD-based approach is used over list-based with promotion approach.

The overall performance of a firewall is crucial in enforcing and administrating security, especially when the network is under attack. The continuous growth of the Internet, coupled with the increasing sophistication of the attacks, is placing stringent demands on firewall performance. In this work, a traffic-aware optimization frame work is described to improve the operational cost of firewalls. Based on this framework a set of tools are designed that inspect and analyze both multidimensional firewall rules and traffic logs and construct the optimal equivalent firewall rules based on the observed traffic characteristics. The current work is the first to use traffic characteristics in firewall optimization. To evaluate the performance of current approach, a large set of firewall rules and traffic logs from a local LAN or at tens of enterprise networks managed by a Tier-1 service provider are evaluated. The evaluated results find these approaches very effective. In particular, current work has achieved more than 10-fold performance improvement by using the proposed traffic-aware firewall optimization.

ACKNOWLEDGEMENT

I am highly grateful to Dr. Jagjit Malhotra, Principal, DAV Institute of Engineering & Technology, Jalandhar, for giving me this opportunity to work on a minor project.

The constant guidance and encouragement received from Dr. Harpreet Kaur Bajaj, HoD Department of Computer Science & Engineering, DAVIET Jalandhar has been of great help in carrying out the project work and is acknowledged with reverential thanks.

I would like to express my gratitude to Mr./Ms. Project Guide, Assistant Professor Department of Computer Science & Engineering DAVIET Jalandhar for his stimulating guidance, continuous encouragement and supervision throughout the course of present work. Without the wise counsel and able guidance, it would have been impossible to complete the report in this manner.

I express gratitude to other faculty members of Computer Science & Engineering department of DAVIET for their intellectual support throughout the course of this work.

Name of the Students

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Note: The report of respective project should be as per prescribed format and in the same order though if some of the points are not applicable in regard with the concerned project, they might be omitted.