

**Guru Nanak Dev Engineering College Ludhiana**  
(Department of Computer Science and Engineering)

**Format for Major Project Report**

**Title page**

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**Chapter 1 Introduction**

**Page**

- 1.1 Introduction to Project
- 1.2 Project Category (Application, Research, Institute or Industry Based)
- 1.3 Problem Formulation
- 1.4 Identification/Recognition of Need
- 1.5 Existing System
- 1.6 Objectives
- 1.7 Proposed System
- 1.8 Unique features of the proposed system

**Chapter 2. Requirement Analysis and System Specification**

- 2.1 Feasibility study (Technical, Economical, Operational in context of proposed project work)
- 2.2 Software Requirement Specification Document which must include the (Data Requirement, Functional Requirement, Performance Requirement, Dependability Requirement, Maintainability requirement, Security requirement, Look and feel requirement)
- 2.3 SDLC model to be used

**Chapter 3. System Design**

- 3.1 Design Approach (Function oriented or Object oriented)
- 3.2 Detail Design

System Design using various Structured analysis and design tools such as: The detailed design of the project must be included in this section. This section is of utmost importance in this presentation. It must include the solution to all the objectives listed in synopsis presentation. Use appropriate design diagrams to give various solution. Following is the list of example design diagrams.

- Flow charts or Block Diagrams
- UML diagrams
- DFDs

- Sequence Diagrams
- Use case
- Activity Diagrams
- State Diagrams
- Communication Diagrams
- Deployment Diagrams
- Database Design
  - E-R Diagram

3.3 User Interface Design

3.4 Methodology

#### **Chapter 4. Implementation and Testing**

4.1 Introduction to Languages, IDE's, Tools and Technologies used for Project work

4.2 Algorithm/Pseudocode used

4.3 Testing Techniques: in context of project work

4.4 Test Cases designed for the project work

#### **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 and discussion.

5.3 Back Ends Representation (if Database has been used)

5.3.1 Snapshots of Database Tables with brief description

#### **Chapter 6. Conclusion and Future Scope**

#### **References/Bibliography**

# **SPECIFICATIONS FOR MAJOR PROJECT REPORT**

1. Report shall be computer typed (English- British, Font -Times Roman, Size-12 point) and printed on A4 size paper.
2. **The Report shall be hard bound with cover page in white colour.** The name of the candidate, degree (specifying the branch), roll no, session, year of submission, name of the University including college name shall be printed in black on the cover [Refer sample sheet (outer cover)]
3. The report shall be typed on one side only with double space with a margin 3.5 cm on the left, 2.5 cm on the top, and 1.25 cm on the right and at bottom.
4. In the report, the title page [Refer sample sheet (inner cover)] should be given first then the Certificate by the candidate and the supervisor(s) in sequence, followed by an abstract of the report (not exceeding 1500 words). This should be followed by the acknowledgment, list of figures/list of tables, notations/nomenclature, and then contents with page no's
5. **Note: The number of pages in major project final report must be not less than 80 pages.**
6. The diagrams should be printed on a light/white background, Tabular matter should be clearly arranged. Decimal point may be indicated by full stop(.)The caption for Figure must be given at the BOTTOM of the Fig. and Caption for the Table must be given at the TOP of the Table.
7. The graphs should be combined for the same parameters for proper comparison. Single graph should be avoided as far as possible.
8. Conclusions must not exceed more than two pages.
9. References and Bibliography should be included in report.
10. The report must consist of following chapters
  - Chapter 1- Introduction
  - Chapter 2- Requirement Analysis and System Specification
  - Chapter 3- System Design
  - Chapter 4- Implementation and Testing
  - Chapter 5-Results and Discussions
  - Chapter 6-Conclusion and Future Scope
  - References
  - Appendix (if any)
  - Annexures-I,II,III
11. There should be only one copy per group of Final Report to be submitted in department.

# SENTIMENTAL ANALYSIS OF TWITTER DATA USING BIG DATA ANALYTICS (24pt.)

**MAJOR PROJECT REPORT (14pt.)**

SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE  
AWARD OF THE DEGREE OF (12pt.)

**BACHELOR OF TECHNOLOGY**  
(Computer Science and Engineering) (14pt.)



Submitted By:

Priyanka Walia (1302768) (14pt)  
Deepak Kumar (1302777) (14pt)

Submitted To.:

Prof. (*Project Guide Name*)  
*Designation*

**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING  
GURU NANAK DEV ENGINEERING COLLEGE  
LUDHIANA, 141006 (14pt.)**

Month, Year

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**GURU NANAK DEV ENGINEERING COLLEGE**  
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Month, Year

## **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 framework 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.

## SAMPLE SHEET-ACKNOWLEDGEMENT

### ACKNOWLEDGEMENT

We are highly grateful to the Dr. XXX XXX, Principal, Guru Nanak Dev Engineering College (GNDEC), Ludhiana, for providing this opportunity to carry out the major project work at\_\_\_\_\_.

The constant guidance and encouragement received from Dr. XXXXX H.O.D. CSE Department, GNDEC Ludhiana has been of great help in carrying out the project work and is acknowledged with reverential thanks.

We would like to express a deep sense of gratitude and thanks profusely to Project Guide Name, without his/her wise counsel and able guidance, it would have been impossible to complete the project in this manner.

We express gratitude to other faculty members of computer science and engineering department of GNDEC for their intellectual support throughout the course of this work.

Finally, we are indebted to all whosoever have contributed in this report work.

**Priyanka Walia**

**Deepak Kumar**

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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.