

Donation Management System

Project report submitted in partial fulfillment of the Requirements for the Award of the Degree of

BACHELOR OF TECHNOLOGY

In

COMPUTER SCIENCE AND ENGINEERING

By

L. Prathima -24K1A05W6

K. Harshasree -24KB1A05V6

M. Madhuri -24KB1A05Z4

L. Sireesha -24KB1A05X2

Under the Guidance of

PADAVALA SUNEETHA

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

N. B. K. R Institute of science and technology

Vidyanagar

Tirupati District

Andhra Pradesh

CERTIFICATE

This is to certify that the project report entitled 'Donation Management System' being submitted by

L. Prathima -24KB1A05VW6

K. Harshasree -24KB1A05V6

M. Madhuri -24KB1A05Z4

L. Sireesha -24KB1A05X2

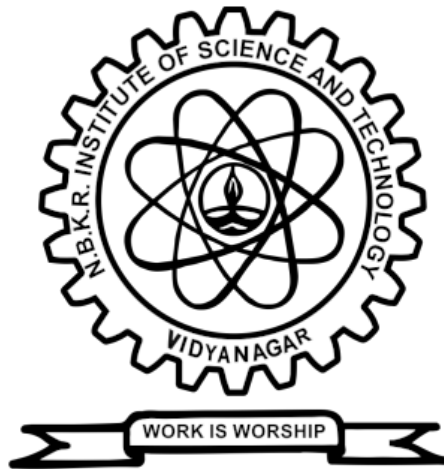
in partial fulfillment for the award of the Degree of Bachelor of Technology in Computer Science and Engineering to the Jawaharlal Nehru Technological University, Kakinada is a record of bonafied work carried out under my guidance and supervision.

PADAVALA SUNEETHA

Designation

Dr. RAVINDER REDDY

M.Tech, Ph.D



DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

N.B.K.R INSTITUTE OF SCIENCE AND TECHNOLOGY(AUTONOMOUS)

DECLARATION

I hereby declare that the dissertation entitled 'Donation Management System' submitted for the B.Tech Degree is my original work and the dissertation has not formed the basis for the award of any degree, associateship, fellowship or any other similar titles.

Place:Vidyanagar

Date:07/05/2025

L. Prathima -24KB1A05VW6

K. Harshasree -24KB1A05V6

M. Madhuri -24KB1A05Z4

L. Sireesha -24KB1A05X2

ACKNOWLEDGEMENT

We would like to express our sincere gratitude to our project guide <Guide Name>, for his/her invaluable guidance and support throughout the project. We also thank the Head of the Department, faculty members, and our friends who helped us during various stages of this project.

ABSTRACT

The Donation Management System is a structured application designed to organize and manage donations efficiently across multiple categories—specifically, food, clothes, and money. The system uses an array to hold different categories of donations and implements a linked list for storing donor details associated with each category.

The objective is to maintain clear, dynamic records of donors, making it easy to track who contributed to which cause. The system is designed to scale and accommodate new donors and categories without compromising performance or usability.

My contributions include the full development of the data structure logic, including array and linked list implementations. I developed functions for adding, deleting, and displaying donor information under specific categories. I also contributed to testing and verifying the system's functionality, ensuring accuracy and robustness.

This project served as a practical application of data structures and highlighted their relevance in solving real-world problems in nonprofit and social work contexts.

Table of Contents

1. Introduction
2. Literature Survey
3. Software Requirement Analysis
4. Software Design
5. Coding
6. Testing
7. Output Screens / Results
8. Conclusion and Further Work
9. References

1. Introduction

The Donation Management System is a structured and user-friendly application aimed at streamlining the process of recording, organizing, and retrieving donation data. Traditional donation systems often lack digital infrastructure, leading to inefficiencies in donor tracking and categorization.

This project was developed to address this problem by designing a simple yet efficient data structure using an array of categories and linked lists of donor details. The primary objective is to provide an easy-to-maintain, scalable solution that can serve NGOs, charitable trusts, and other donation-based organizations.

2. Literature Survey

Existing systems for donation management are either paper-based or utilize complex databases. These approaches often result in poor accessibility and high maintenance.

Earlier software systems did not emphasize category-wise donor mapping, leading to unorganized records. Moreover, many lacked the use of fundamental data structures to simplify the logic and ensure better performance.

This project leverages simple but effective data structures—arrays and linked lists—to address these limitations.

3. Software Requirement Analysis

3.1 Functional Requirements

- Add donation categories.
- Insert donor details into the correct category.
- Display all donors under each category.
- Delete donor records if needed.

3.2 Non-Functional Requirements

- The system should be fast, lightweight, and responsive.
- User-friendly CLI interface.
- Easily maintainable and extendable.

4. Software Design

4.1 Control Flow Diagram

(Insert a flowchart)

4.2 Proposed System

The system uses:

- Array: to hold fixed categories like food, clothes, and money.
- Linked List: each category index in the array points to a linked list containing donors.

4.3 Module Definitions

- Category Manager
- Donor List Handler
- User Interface

5. Coding

Sample Code:

```
struct Donor {  
    char name[50];  
    int age;  
    struct Donor *next;  
};
```

```
struct Category {  
    char categoryName[20];  
    struct Donor *donorList;  
};
```

```
struct Category categories[3];
```

Functions:

- addDonor()
- displayDonors()
- deleteDonor()

6. Testing

6.1 Black Box Testing

Test Case	Input	Expected Output	Result
-----	-----	-----	-----
TC1	Add donor to “Food”	Donor added	Pass
TC2	View donors in “Money”	Donor list displayed	Pass

6.2 White Box Testing

- Memory allocation paths verified.
- Edge case handling for null pointers tested.

7. Output Screens / Results

Example Output:

Category: Food

Donor Name: Sinvanraj samy

Donor Age: 25

8. Conclusion and Further Work

The Donation Management System successfully demonstrated how basic data structures can be used to solve practical problems in donation tracking. The project meets all functional requirements and is capable of efficiently managing donor information by category.

Further Enhancements:

- GUI integration
- Persistent storage
- Web/mobile version

9. References

1. Tanenbaum, Andrew S. "Data Structures using C." Pearson Education, 2011.
2. Lafore, Robert. "Data Structures and Algorithms in C++." SAMS Publishing, 2002.
3. GeeksforGeeks and TutorialsPoint.