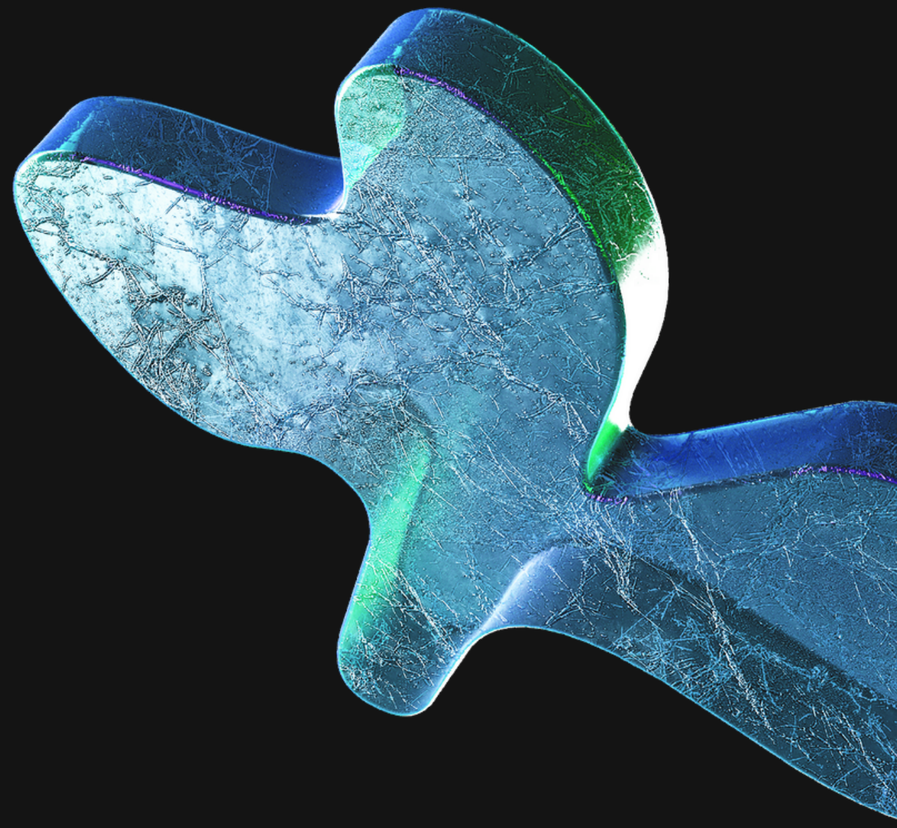
CSE2003 Final Review

PRISON MANAGEMENT SYSTEM



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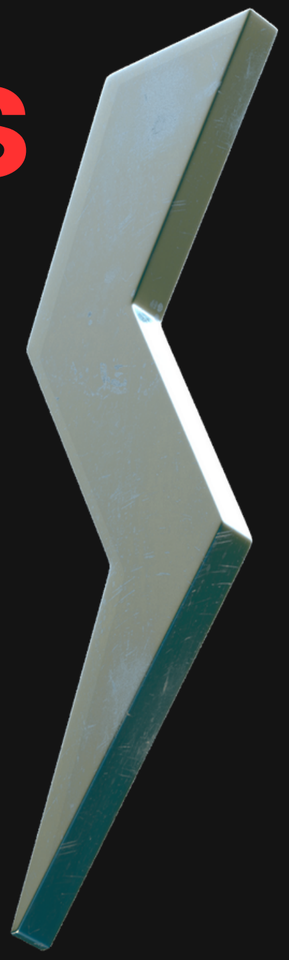
SANTHOSH K S (20BEC1178)

Abstract

The proposed system is designed to enter and manage the prisoners record. Using the system, the user can easily add prisoner's details and remove a prisoner's record whenever required. The system uses login system. So the user has to pass through password verification. This is done to ensure that there no chance of data loss or misuse. It is made sure that the process of adding, modifying and removing prisoners details is time efficient.

Functions

What you need to know



Details of Each Prisoner is entered by the Jailer

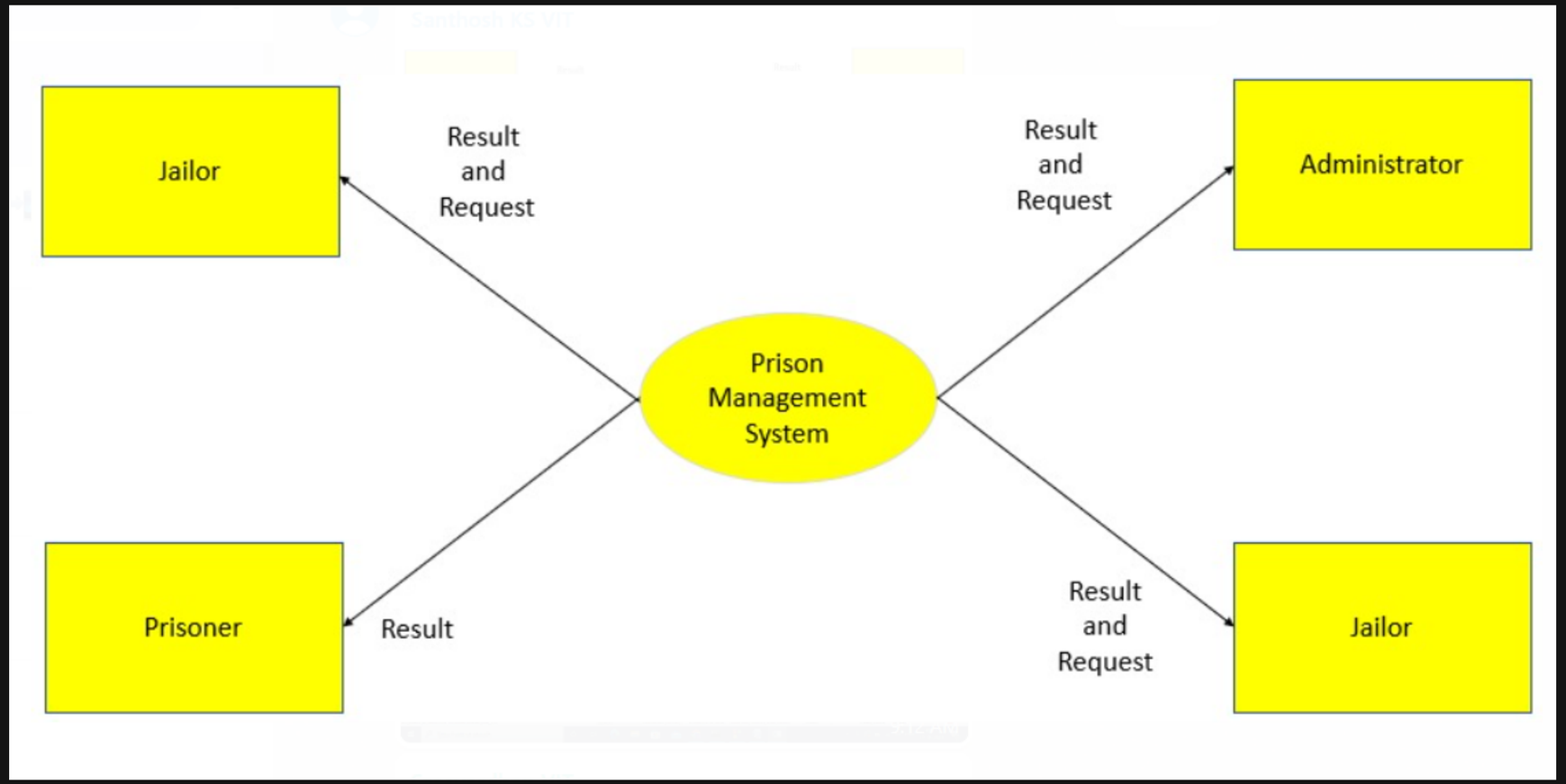
The system uses a Login System so that the user passes through the verification System

The amount of work done by the user is stored from time to time. When the prisoner is released proportional allowance is given.

Based on the health Check-up conducted on the Prisoners, the allowance is allocated

Every prisoner is given a unique id. Based on this unique id searching algorithm is developed.

Block Diagram



Work Flow

PRISONER REGISTRATION

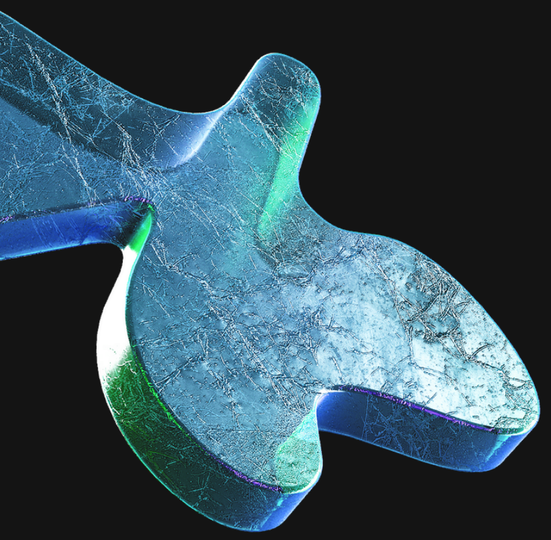
The first step in the workflow is to register prisoner and get their personal and medical information

STAFF MANAGEMENT

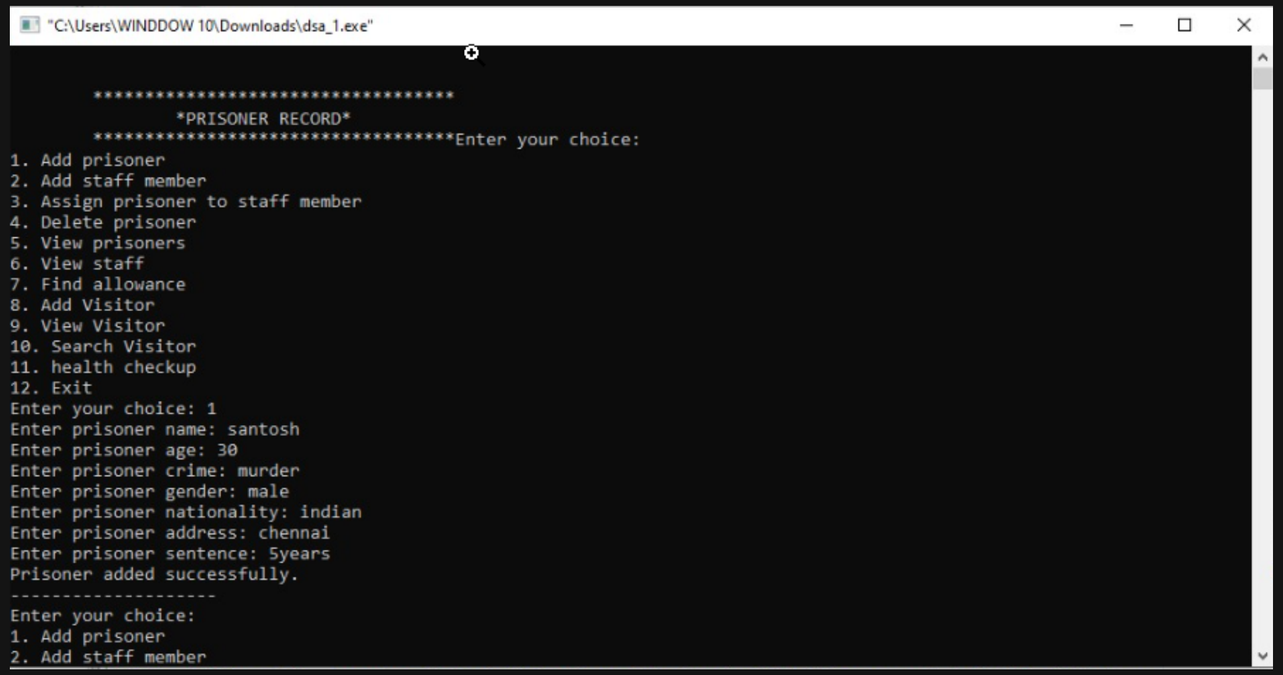
A staff is responsible for training, scheduling, and performance evaluation. Staff plays a key role in establishing communication and collaboration among other staff and prisoners. The second step in the workflow is to get details of the staff.

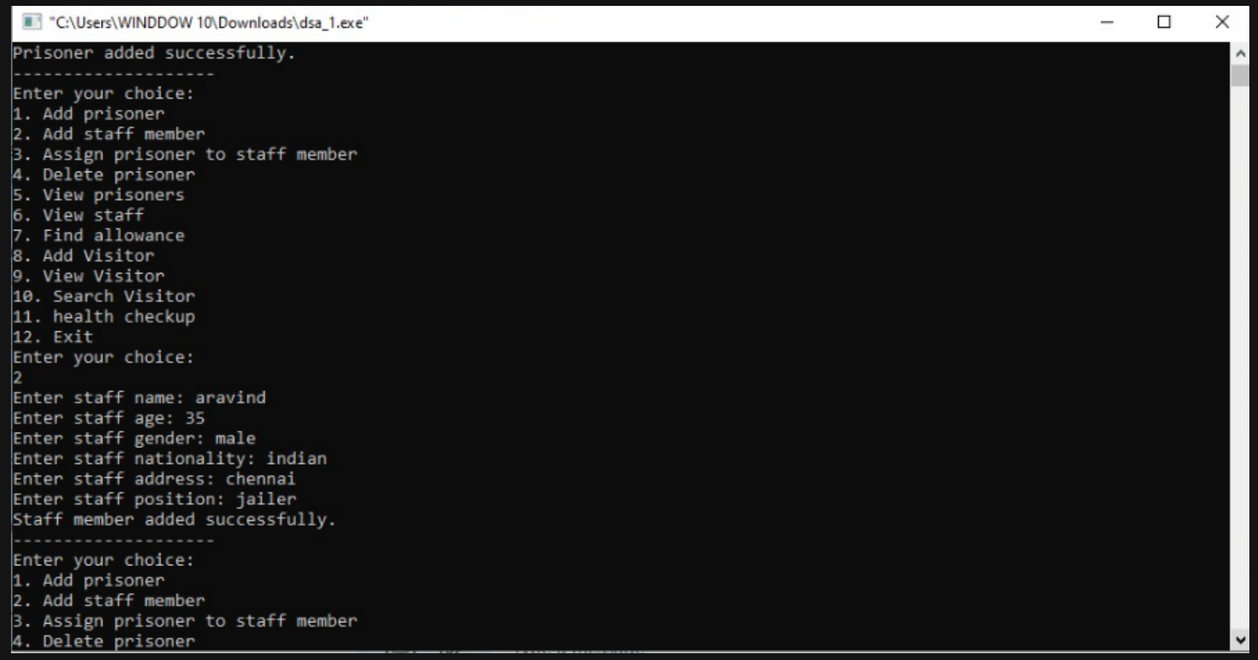
VISITOR MANAGEMENT

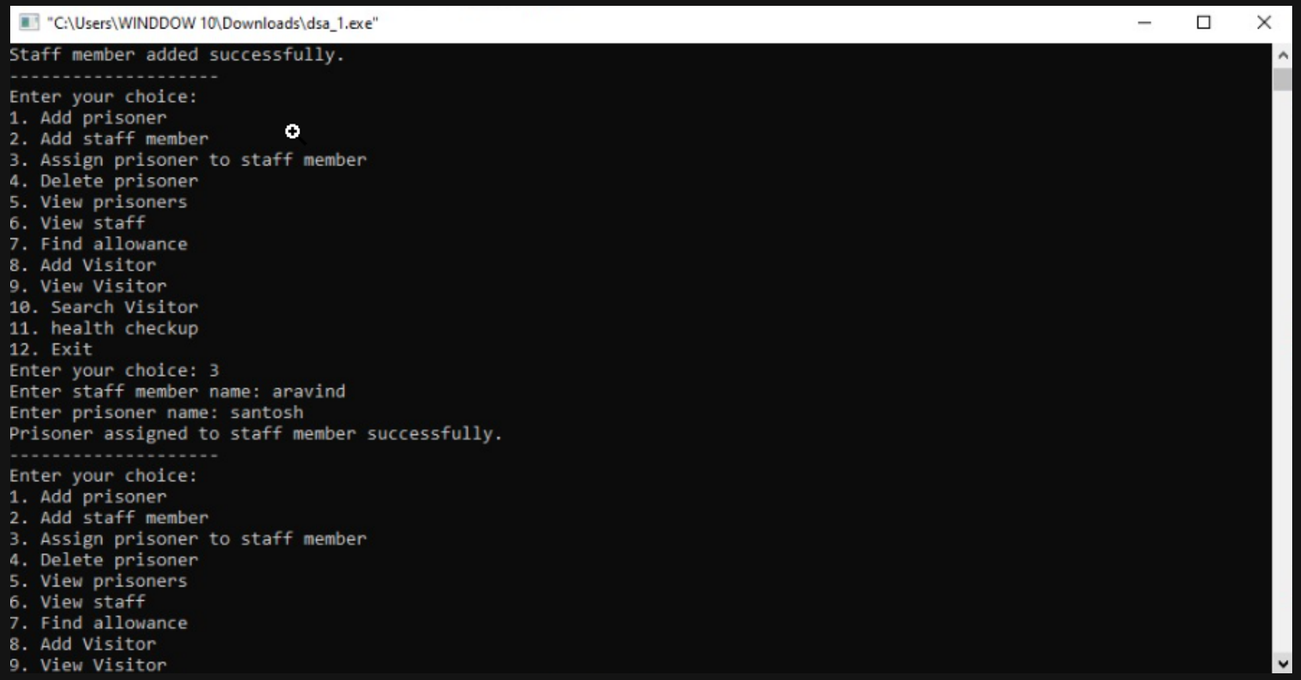
The third step in the workflow is to get details of the visitors. The system manages visitor records and provides a platform for communication with visitors and their hosts.



Code and Results

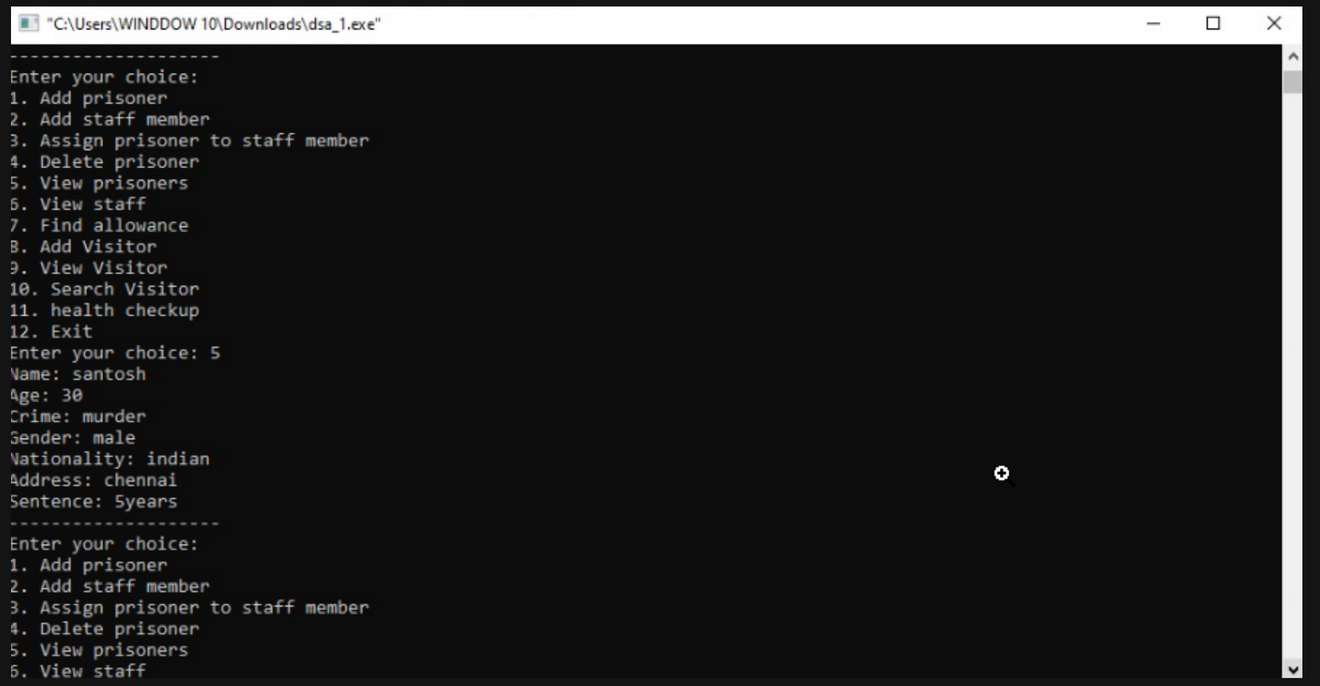

"C:\Users\WINDDOW 10\Downloads\dsa_1.exe"
****
PRISONER RECORD
**********Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner
5. View prisoners
6. View staff
7. Find allowance
8. Add Visitor
9. View Visitor
10. Search Visitor
11. health checkup
12. Exit
Enter your choice: 1
Enter prisoner name: santosh
Enter prisoner age: 30
Enter prisoner crime: murder
Enter prisoner gender: male
Enter prisoner nationality: indian
Enter prisoner address: chennai
Enter prisoner sentence: 5years
Prisoner added successfully.
Enter your choice:
1. Add prisoner
2. Add staff member


"C:\Users\WINDDOW 10\Downloads\dsa_1.exe"
Prisoner added successfully.
Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner
5. View prisoners
6. View staff
7. Find allowance
8. Add Visitor
9. View Visitor
10. Search Visitor
11. health checkup
12. Exit
Enter your choice:
2
Enter staff name: aravind
Enter staff age: 35
Enter staff gender: male
Enter staff nationality: indian
Enter staff address: chennai
Enter staff position: jailer
Staff member added successfully.
Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner


"C:\Users\WINDDOW 10\Downloads\dsa_1.exe"
Staff member added successfully.

Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner
5. View prisoners
6. View staff
7. Find allowance
8. Add Visitor
9. View Visitor
10. Search Visitor
11. health checkup
12. Exit
Enter your choice: 3
Enter staff member name: aravind
Enter prisoner name: santosh
Prisoner assigned to staff member successfully.

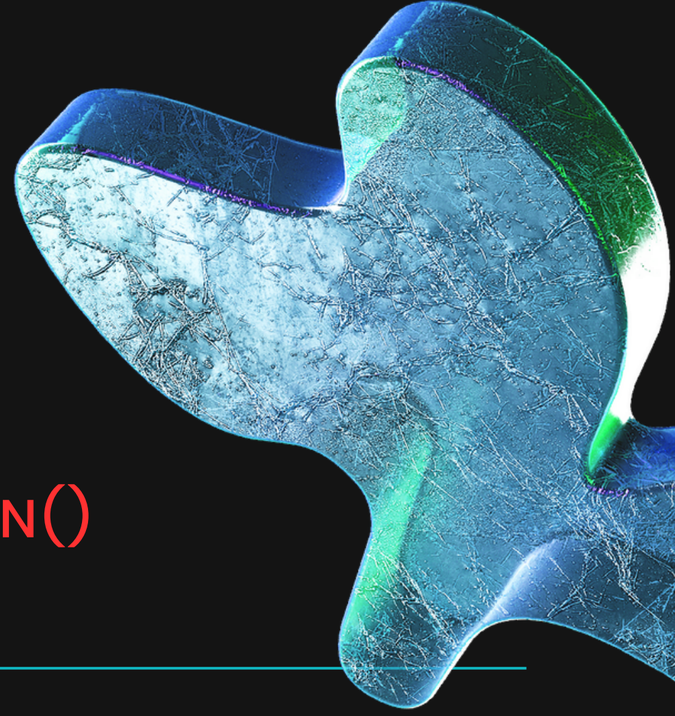
Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner
5. View prisoners
6. View staff
7. Find allowance
8. Add Visitor
9. View Visitor


"C:\Users\WINDDOW 10\Downloads\dsa_1.exe"

Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner
5. View prisoners
6. View staff
7. Find allowance
8. Add Visitor
9. View Visitor
10. Search Visitor
11. health checkup
12. Exit
Enter your choice: 5
Name: santosh
Age: 30
Crime: murder
Gender: male
Nationality: indian
Address: chennai
Sentence: 5years

Enter your choice:
1. Add prisoner
2. Add staff member
3. Assign prisoner to staff member
4. Delete prisoner
5. View prisoners
6. View staff

Complexity



LOGIN_SYSTEM()

This function has a loop that iterates a maximum of three times. Inside the loop, it takes input from the user for the username and password, and checks if they are correct. The password input is masked with asterisks for security reasons. The time complexity of the strcmp function is O(n), where n is the length of the string. Therefore, the time complexity of the function is O(3n) which can be simplified as O(n).

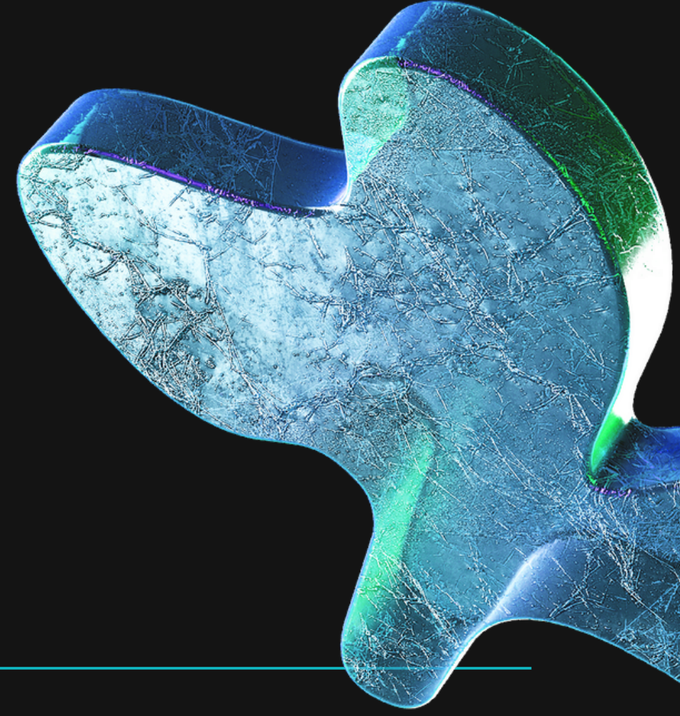
ADD_PRISONER(), ADD_STAFF(), ADD_VISITOR()

These functions are responsible for taking input from the user and adding a new prisoner, staff, visitor, or prisoner assignment to the list. Each function has a time complexity of O(1), as it only creates a new node and adds it to the list

MAIN()

This function calls the login_system() function, which has a time complexity of O(n). If the login is successful, it enters a loop that presents the user with options to choose from. Each option corresponds to a function call with a time complexity of O(1).

Complexity



ASSIGN_PRISONER

In this function, a given staff member is searched in created linked list of staffs. The searching function has a time complexity of O(n). Thus, the time complexity of this function is O(n).

DELETE_PRISONER()

In this function, a prisoner details is searched from the name of the prisoner given as input. The searching function has a time complexity of O(n). Thus, the time complexity of this function is O(n).

Conclusion

The proposed system is designed to enter and manage the prisoners record. Using the system, the user can easily add prisoner's details and remove a prisoner's record whenever required. The system uses login system. So the user has to pass through password verification. This is done to ensure that there no chance of data loss or misuse. It is made sure that the process of adding, modifying and removing prisoners details is time efficient.

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