



HOSPITAL MANAGEMENT SYSTEM

Course Code:CSE134

Course Title:Data Structure Lab

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HOSPITAL MANAGEMENT SYSTEM

Introduction:

The project Hospital Management system includes registration of patients, storing their details into the system, and also computerized billing in the pharmacy. The software has the facility to give a unique id for every patient and stores the details of every patient and the staff automatically. It includes a search facility to know the current status of each room. User can search availability of a doctor and the details of a patient using the id. The Hospital Management System can be entered using a username and password. Only they can add data into the database. The data can be retrieved easily. The interface is very user-friendly. The data are well protected for personal use and makes the data processing very fast. Hospital Management System is powerful, flexible, and easy to use and is designed and developed to deliver real conceivable benefits to hospitals. Hospital Management System is designed for multispecialty hospitals, to cover a wide range of hospital administration and management processes. It is an integrated end-to-end Hospital Management System that provides relevant information across the hospital to support effective decision making for patient care, hospital administration and critical financial accounting, in a seamless flow. Hospital Management System is a software product suite designed to improve the quality and management of hospital management in the areas of clinical process analysis and activity-based costing. Hospital Management System enables you to develop your organization and improve its effectiveness and quality of work. Managing the key processes efficiently is critical to the success of the hospital helps you manage your processes.

Background Study:

In today's fast-paced healthcare environment, efficient management of hospital operations is crucial. Manual record-keeping and traditional administrative methods can be time-consuming, error-prone, and hinder the delivery of quality patient care. A Hospital Management System (HMS) is a computer-based solution designed to automate and streamline various hospital processes. By digitizing patient records, appointment scheduling, billing, emergency services, and staff management, HMS helps hospitals improve efficiency, reduce costs, and enhance patient satisfaction. In traditional setups, such information was managed manually, leading to inefficiency and a higher likelihood of errors.

In this project, various C programming techniques are used:

(i) **Structures:** Used to group patient, doctor, and staff details in single entities.

(ii) **Functions:** Modular approach for each feature, such as patientManagementMenu, doctorManagementMenu, appointmentManagementMenu, emergencyServicesMenu, billingManagementMenu and staffManagementMenu.

(iii) **Control Statements and Loops:** Used to navigate through the main menu and interact with different options.

(iv) **File Handling (if implemented):** Stores and retrieves information even after the program is closed.

We drew inspiration from numerous research papers to develop our project. These papers guided us on effective use of functions, files, and structures, enabling us to create a unique and innovative solution.¹²³

1

<https://sg.docworkspace.com/d/slACHhaKPAqvLvLkG?sa=601.1123&ps=1&fn=Hospital%20Managment%20Project%20SE-converted.pdf>

2

https://search.app?link=https%3A%2F%2Fwww.researchgate.net%2Fpublication%2F380505845_Hospital_Management_System_Project_Report&utm_campaign=aga&utm_source=agsadl2%2Csh%2Ffx%2Fgs%2Fm2%2F4

3

https://search.app?link=https%3A%2F%2Fwww.geeksforgeeks.org%2Fc-program-for-hospital-management-system%2F&utm_campaign=aga&utm_source=agsadl2%2Csh%2Ffx%2Fgs%2Fm2%2F4

Features:

1.User Authentication and Access Control:

```
-----  
=                                     =  
=           WELCOME                 =  
=           TO                     =  
=       HOSPITAL                   =  
=   MANAGEMENT                   =  
=       SYSTEM                   =  
=                                     =  
-----  
  
Enter any key to continue.....  
Please enter your username: abc  
Please enter your password: 123  
Invalid credentials. 2 attempt(s) remaining.  
Please enter your username: |
```

```
-----  
=                                     =  
=           WELCOME                 =  
=           TO                     =  
=       HOSPITAL                   =  
=   MANAGEMENT                   =  
=       SYSTEM                   =  
=                                     =  
-----  
  
Enter any key to continue.....  
Please enter your username: admin  
Please enter your password: sd  
Invalid credentials. 2 attempt(s) remaining.  
Please enter your username: admin  
Please enter your password: password123  
Login successful! Access granted.  
      ^
```



```
====> PATIENT MANAGEMENT MENU <====
=====
*** Please choose an option ***
-----
[1] Add New Patient
[2] View Patient List
[3] Update Patient Information
[4] Delete Patient
[5] Back to Main Menu
-----
Please choose an option (1-5): 2
-----
| No patients to display at the moment! |
-----
```

```
====> PATIENT MANAGEMENT MENU <====
=====
*** Please choose an option ***
-----
[1] Add New Patient
[2] View Patient List
[3] Update Patient Information
[4] Delete Patient
[5] Back to Main Menu
-----
Please choose an option (1-5): 2
-----
| Patient List |
|-----|
| ID | Name | Age | Disease | Type | Medical History |
|-----|
| 1 | Riha | 25 | fever | outpatient | recent surgeries |
| 2 | Risa | 45 | headache | outpatient | high pressure |
|-----|
====> PATIENT MANAGEMENT MENU <====
=====
```

(iii) Update patient Information:

```
Please choose an option (1-5): 3
=====
| Update Patient Info |
=====
Enter patient ID to update: 1
-----
| Update Patient Details |
|-----|
Update patient name: Rista
Update patient age: 45
Update patient disease: heart pain
Update patient type (Outpatient/Inpatient): Outpatient
Update patient's medical history (optional): High pressure
-----
| Patient updated successfully! |
-----
```

(iv) Delete Patient:

```
===== >>> PATIENT MANAGEMENT MENU <<<=====
*** Please choose an option ***
-----
[1] Add New Patient
[2] View Patient List
[3] Update Patient Information
[4] Delete Patient
[5] Back to Main Menu
-----
Please choose an option (1-5): 4
-----
+-----+
| Delete Patient |
+-----+
Enter the ID of the patient you want to delete: 1
-----
+-----+
| Patient with ID 1 has been successfully deleted. |
+-----+
===== >>> PATIENT MANAGEMENT MENU <<<=====
```

3. Emergency Services:

```
C:\C-programming\800\Unit1 >
*** MAIN MENU ***
$
$
1. Patient Management
2. Emergency Services
3. Doctor Management
4. Appointment Scheduling
5. Billing Management
6. Staff Management
7. Pharmacy Management
8. Exit
Please choose an option (1-8): 2
===== >>> EMERGENCY SERVICES MENU <<<=====
*** Choose an option below ***
-----
[1] Add Emergency Patient
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
-----
Please choose an option (1-7): 1
Enter emergency patient's name: prity
```

(i) Add Emergency Patient:

```
=====
Please choose an option (1-7): 1
Enter emergency patient's name: prity
Enter emergency patient's age: 21
Enter emergency type (e.g., Heart Attack, Accident, etc.): headache
=====
| Emergency patient added successfully! |
=====
```

(ii) Display Emergency Patients:

```
C:\C-programming\800\Unit1 >
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====
Please choose an option (1-7): 2
+-----+
| No emergency patients to display at the moment!! |
+-----+
```

```
CVC-programming800\Unit1 X + v
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu

=====
Please choose an option (1-7): 2

*****
| Emergency Patient List |
*****
* ID | Name | Age | Emergency Type *
-----
* 1 | ruma | 20 | headache *
-----
* ID | Name | Age | Emergency Type *
-----
* 2 | suma | 15 | heart Attack *
```

(iii)Add Ambulance Request:

```
====> EMERGENCY SERVICES MENU <===
=====
*** Choose an option below ***
=====
[1] Add Emergency Patient
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====
Please choose an option (1-7): 3
Enter patient's name for ambulance request: farhana
Enter ambulance pickup location: metropolitan university

*****
| Ambulance request added successfully! |
*****
```

(iv)Display Ambulance Request:

```
*** Choose an option below ***
=====
[1] Add Emergency Patient
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====
Please choose an option (1-7): 4

*****
| No ambulance requests to display! |
*****
```

```
====> EMERGENCY SERVICES MENU <===
=====
*** Choose an option below ***
=====
[1] Add Emergency Patient
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====
Please choose an option (1-7): 4

*****
| Ambulance Request List |
*****
* ID | Patient Name | Pickup Location |
-----
* 1 | farhana | metropolitan university |
-----
```

(v)Schedule Emergency Appointment:


```
*** Choose an option below ***
=====
[1] Add Emergency Patient
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====

Please choose an option (1-7): 5

+-----+
| Schedule Emergency Appointment |
+-----+

Enter emergency patient's name: Tuha
Enter doctor's name for emergency appointment: Dr.Ruha
Enter emergency appointment date (DD/MM/YYYY): 12/11/2024

+-----+
| Emergency Appointment Successfully Scheduled! |
+-----+
```

(vi) Display Emergency Appointments:

```
*** Choose an option below ***
=====
[1] Add Emergency Patient
[2] Display Emergency Patients
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====

Please choose an option (1-7): 6

+-----+
| No emergency appointments to display! |
+-----+
```

```
=====
[3] Add Ambulance Request
[4] Display Ambulance Requests
[5] Schedule Emergency Appointment
[6] Display Emergency Appointments
[7] Back to Main Menu
=====

Please choose an option (1-7): 6

+-----+
| Emergency Appointment List |
+-----+
| ID | Patient Name | Doctor Name | Date | Time |
+-----+
| 1 | rumi | D.shirin | 12/11/24 | Immediate |
| 2 | ritu | D.Bikash | 13/11/24 | Immediate |
+-----+
```

4. Doctor Management:

```
2. Emergency Services
3. Doctor Management
4. Appointment Scheduling
5. Billing Management
6. Staff Management
7. Pharmacy Management
8. Exit

Please choose an option (1-8): 3

====>> DOCTOR MANAGEMENT MENU <====
=====
*** Please choose an option ***
=====
[1] Add New Doctor
[2] View Doctor List
[3] Update Doctor Information
[4] Return to Main Menu
=====

Please choose an option (1-4):
```

(i) Add New Doctor:

```
85
86 [2] View Doctor List
87 [3] Update Doctor Information
88 [4] Return to Main Menu
89
90 =====
91
92 Please choose an option (1-4): 1
93
94 =====
95
96 Enter Doctor's Information
97 =====
98 -> Enter doctor's name: Dr.Tanha
99 -> Enter doctor's specialty: Cardiology
100
101 Doctor added successfully!
102 +=====+
103
104
105
```

(ii)View Doctor List:

```
Please choose an option (1-8): 3

==>> DOCTOR MANAGEMENT MENU <==

=====
*** Please choose an option ***
=====
[1] Add New Doctor
[2] View Doctor List
[3] Update Doctor Information
[4] Return to Main Menu
=====

Please choose an option (1-4): 2
No doctors to display.
```

```
[3] Update Doctor Information
[4] Return to Main Menu

=====

Please choose an option (1-4): 2

+-----+-----+-----+
| ID | Name | Specialty |
+-----+-----+-----+
| 1 | Dr.Tanha | Cardiology |
| 2 | Dr.Raha | Gynaecology |
+-----+-----+-----+

==>> DOCTOR MANAGEMENT MENU <==
```

(iii)Update Doctor Information:

```
Update Doctor Information
=====
Enter doctor ID to update: 2

+-----+-----+-----+
| ID | Name | Specialty |
+-----+-----+-----+
| 2 | Dr.Raha | Gynaecology |
+-----+-----+-----+

Update doctor name: Dr.Fariha
Update doctor specialty: Neurology

+-----+
| Doctor information updated successfully! |
+-----+
```

5.Appintment Scheduling:

```
*** MAIN MENU ***
1. Patient Management
2. Emergency Services
3. Doctor Management
4. Appointment Scheduling
5. Billing Management
6. Staff Management
7. Pharmacy Management
8. Exit

Please choose an option (1-8): 4

====> Appointment SCHEDULING MENU <====
*** Please choose an option ***
[1] Schedule a New Appointment
[2] View Existing Appointments
[3] Return to Main Menu
```

(i)Schedule a New Appointment:

```
[1] Schedule a New Appointment
[2] View Existing Appointments
[3] Return to Main Menu

Please choose an option (1-3): 1
-> Enter patient's name: Taha
-> Enter doctor's name: Dr.Raha
-> Enter appointment date (DD/MM/YYYY): 12/11/2024
-> Enter appointment time (HH:MM): 3:30

Appointment scheduled successfully!
```

(ii)View Existing Appointment:

```
====> Appointment SCHEDULING MENU <====
*** Please choose an option ***
[1] Schedule a New Appointment
[2] View Existing Appointments
[3] Return to Main Menu

Please choose an option (1-3): 2

No appointments to display.
```

```
*** Please choose an option ***
[1] Schedule a New Appointment
[2] View Existing Appointments
[3] Return to Main Menu

Please choose an option (1-3): 2
```

ID	Patient Name	Doctor Name	Date	Time
1	Taha	Dr.Raha	12/11/2024	3:30
2	Afifa	Dr.Nuha	13/11/2024	05:00

6.Billing Management:

```
1. Patient Management
2. Emergency Services
3. Doctor Management
4. Appointment Scheduling
5. Billing Management
6. Staff Management
7. Pharmacy Management
8. Exit

Please choose an option (1-8): 5

====> BILLING MANAGEMENT SYSTEM <====
*** Please choose an action ***
[1] Generate a New Bill
[2] Display Existing Bills
[3] Return to Main Menu
```

(i)Generate a New Bill:

```

288 [1] Generate a New Bill
289 [2] Display Existing Bills
290 [3] Return to Main Menu
291
292 =====
293
294 Please choose an option (1-3): 1
295
296 =====
297 Generate New Bill
298 =====
299 => Enter patient's name: Tanha
300 => Enter consultation fee: 1000
301 => Enter medication cost: 2000
302 => Enter room charges: 1200
303
304 =====
305 Bill generated successfully!
306 Total Bill: 4200.00
307
308 =====
309
310

```

(ii) Display Existing Bills:

```

87 =====> BILLING MANAGEMENT SYSTEM <=====
88
89
90 *** Please choose an action ***
91
92 [1] Generate a New Bill
93 [2] Display Existing Bills
94 [3] Return to Main Menu
95
96 =====
97
98 Please choose an option (1-3): 2
99
100 =====
101 No bills to display.
102
103 =====
104

```

```

287
288 *** Please choose an action ***
289
290 [1] Generate a New Bill
291 [2] Display Existing Bills
292 [3] Return to Main Menu
293
294 =====
295
296 Please choose an option (1-3): 2
297
298
299
300
301
302
303
304
305
306
307

```

ID	Patient Name	Total Bill
1	Tanha	4200.00
2	Natasha	6900.00

7. Staff Management:

```

289
290
291 $-----$
292 $-----$
293 1. Patient Management
294 2. Emergency Services
295 3. Doctor Management
296 4. Appointment Scheduling
297 5. Billing Management
298 6. Staff Management
299 7. Pharmacy Management
300 8. Exit
301
302 Please choose an option (1-8): 6
303
304
305
306
307 =====> STAFF MANAGEMENT SYSTEM <=====
308
309
310 *** Please choose an action ***
311
312 [1] Add New Staff
313 [2] Display All Staff
314 [3] Return to Main Menu
315
316 =====

```

(i) Add New Staff:

```

284
285
286 [1] Add New Staff
287 [2] Display All Staff
288 [3] Return to Main Menu
289
290 =====
291
292 Please choose an option (1-3): 1
293
294 =====
295 Add New Staff Member
296 =====
297 -> Enter staff name: Taarin
298 -> Enter staff position: Nurse
299
300 =====
301 Staff added successfully!
302
303 =====
304
305
306

```

(ii) Display All Staff:

```
6
7
8      ===> STAFF MANAGEMENT SYSTEM <===
9      -----
10
11 *** Please choose an action ***
12 -----
13 [1] Add New Staff
14 [2] Display All Staff
15 [3] Return to Main Menu
16 -----
17
18 Please choose an option (1-3): 2
19
20 =====
21 No staff members to display.
22 =====
23
24
25      ===> STAFF MANAGEMENT SYSTEM <===
26      -----
27
28 *** Please choose an action ***
29 -----
30 [1] Add New Staff
31 [2] Display All Staff
32 [3] Return to Main Menu
33 -----
```

```
284
285 *** Please choose an action ***
286 -----
287 [1] Add New Staff
288 [2] Display All Staff
289 [3] Return to Main Menu
290 -----
291
292 Please choose an option (1-3): 2
293
294 =====
295 | ID | Name | Position |
296 |----|-----|-----|
297 | 1 | Tazrin | Nurse |
298 | 2 | Anjum | Doctor |
299 | 3 | Mr.Hossain | Security guard |
300 |----|-----|-----|
301
302
303
304
305
306
307
```

8. Pharmacy Management:

```
38
39
40 *** MAIN MENU ***
41 -----
42 1. Patient Management
43 2. Emergency Services
44 3. Doctor Management
45 4. Appointment Scheduling
46 5. Billing Management
47 6. Staff Management
48 7. Pharmacy Management
49 8. Exit
50 -----
51
52 Please choose an option (1-8): 7
53
54
55      ===> PHARMACY MANAGEMENT MENU <===
56      -----
57
58 *** Please choose an option ***
59 -----
60 [1] Add New Medicine
61 [2] View Medicine List
62 [3] Update Medicine Information
63 [4] Delete Medicine
64 [5] Back to Main Menu
65 -----
66
67 Please choose an option (1-5):
```

(i) Add New Medicine:

```
286
287
288 Please choose an option (1-5): 1
289
290 *=====*
291 | Add New Medicine |
292 *=====*
293 Enter medicine name: Napa
294 Enter quantity: 50
295 Enter price per unit: 1.5
296 Enter expiration date (MM-YYYY): 12/2025
297
298 -----
299 Medicine added successfully!
300 -----
301
302
```

(ii) View Medicine List:


```
286
287 *** Please choose an option ***
288 -----
289 [1] Add New Medicine
290 [2] View Medicine List
291 [3] Update Medicine Information
292 [4] Delete Medicine
293 [5] Back to Main Menu
294 -----
295
296
297 Please choose an option (1-5): 2
298
299
300 | No medicines available to display. |
301
302
303
304
305
```

```
284
285 [3] Update Medicine Information
286 [4] Delete Medicine
287 [5] Back to Main Menu
288 -----
289
290 Please choose an option (1-5): 2
291
292
293 *** MEDICINE LIST ***
294 -----
295 | Medicine ID | Medicine Name | Quantity | Price per Unit | Expiration Date | Total Cost |
296 -----
297 | 1 | Napa | 50 | 10.00 | 22/2026 | 500.00 |
298 | 2 | Seclo | 20 | 6.00 | 20-2026 | 120.00 |
299 | 3 | Paracetamol | 30 | 2.00 | 30/2026 | 60.00 |
300 -----
301
302
303
304
305
306
307
```

(iii)Update Medicine Information:

```
88
89
90
91
92
93
94
95
96
97
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100
101
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103
104
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107
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110
111
112
113
114
115
116
```

```
====> PHARMACY MANAGEMENT MENU <====
-----
*** Please choose an option ***
-----
[1] Add New Medicine
[2] View Medicine List
[3] Update Medicine Information
[4] Delete Medicine
[5] Back to Main Menu
-----
Please choose an option (1-5): 3
-----
| Update Medicine Information |
-----
Enter the ID of the medicine to update: 1
Update quantity: 50
Update price per unit: 10
Update expiration date (MM-YYYY): 22/2026
-----
Medicine updated successfully!
-----
```

(iv)Delete Medicine:

```
286
287
288
289
290
291
292
293
294
295
296
297
298
299
300
301
302
303
304
305
306
307
308
309
310
311
```

```
====> PHARMACY MANAGEMENT MENU <====
-----
*** Please choose an option ***
-----
[1] Add New Medicine
[2] View Medicine List
[3] Update Medicine Information
[4] Delete Medicine
[5] Back to Main Menu
-----
Please choose an option (1-5): 4
-----
| Delete Medicine |
-----
Enter the ID of the medicine to delete: 1
-----
Medicine with ID 1 has been successfully deleted!
-----
```

Limitations:

- **Technical Limitations:**
 - (i). Complexity: Implementing a comprehensive HMS can be complex, requiring significant technical expertise.
 - (ii). Interoperability Issues: Seamless integration with other healthcare systems can be challenging due to varying standards and data formats.
 - (iii). Scalability: As the hospital grows, the HMS may need to be scaled to accommodate increased workload and data volume.
 - (iv). Cyber security Threats: Hospitals are prime targets for cyber attacks, making data security a major concern.
- **Human Factors:**
 - (i). Resistance to Change: Healthcare professionals may be resistant to adopting new technology, especially if it disrupts their workflow.
 - (ii). User Error: Mistakes in data entry or system usage can lead to errors and inefficiencies.
 - (iii). Training and Support: Adequate training is essential for staff to effectively use the HMS, and ongoing support is needed to address issues and provide updates.
- **Cost Considerations:**
 - (i). Initial Investment: Implementing an HMS requires significant upfront costs, including hardware, software, and implementation services.
 - (ii). Ongoing Maintenance Costs: Regular maintenance, updates, and technical support are necessary to keep the system running smoothly.
 - (iii). Data Migration Costs: Migrating existing patient data to the new system can be time-consuming and expensive.

By understanding these limitations and carefully planning the implementation process, healthcare organizations can mitigate risks and maximize the benefits of an HMS.

Future scope:

1. For Patients:

- **Improved Patient Experience:**
 - Easy Appointment Scheduling: Convenient online booking and reminders.
 - Centralized Medical Records: Secure access to medical history and prescriptions.

- **Faster Check-in and Check-out:** Streamlined admission and discharge processes.
- **Real-time Updates:** Timely notifications about appointments, test results, and treatment plans.

2.For Doctors:

➤ Enhanced Efficiency:

- **Digitalized Patient Records:** Quick access to detailed patient information.
- **Automated Scheduling:** Optimized appointment management.
- **Efficient Prescription Management:** Electronic prescriptions and drug interaction alerts.
- **Real-time Updates:** Timely notifications about patient conditions and test results.

3.Improved Decision-Making:

- **Data-Driven Insights:** Data analytics to identify trends and improve patient care.
- **Clinical Decision Support Systems:** Evidence-based recommendations for diagnosis and treatment.

4.For Emergency Services:

➤ Faster Response Times:

- **Real-time Patient Information:** Access to critical patient data for rapid triage.
- **Efficient Resource Allocation:** Optimized bed management and staff scheduling.
- **Streamlined Patient Registration:** Quick patient intake and data entry.

5.For Billing and Finance:

➤ Accurate Billing:

- **Automated Billing Processes:** Reduced errors and faster billing cycles.
- **Real-time Financial Reports:** Improved financial visibility and decision-making.
- **Insurance Claims Management:** Simplified claims submission and tracking.

6.For Appointments:

➤ Efficient Scheduling:

- **Automated Appointment Scheduling:** Optimized time slots and reduced wait times.
- **Real-time Appointment Management:** Easy rescheduling and cancellation.
- **Automated Reminders:** Reduced missed appointments.

7.For Staff:

➤ Improved Workflow Efficiency:

- **Automated Tasks:** Streamlined administrative tasks, such as data entry and report generation.
- **Centralized Communication:** Enhanced collaboration among staff members.
- **Reduced Paperwork:** Digitalized records and electronic signatures.

8. For Pharmacy:

➤ Accurate Drug Dispensing:

- **Real-time Inventory Management:** Optimized stock levels and reduced drug shortages.
- **Automated Prescription Processing:** Faster prescription filling and reduced errors.
- **Drug Interaction Alerts:** Improved patient safety.

Conclusion:

A Hospital Management System (HMS) is a comprehensive solution that streamlines various aspects of hospital operations. By integrating modules for patient management, emergency services, doctor management, appointment scheduling, billing, staff management, and pharmacy management, HMS optimizes workflows, reduces errors, and enhances patient care. It empowers healthcare providers to deliver timely and accurate care, improves operational efficiency, facilitates data-driven decision making, and improves staff productivity. By adopting HMS, hospitals can achieve greater efficiency, accuracy, and patient satisfaction, ultimately leading to improved patient outcomes.