**HOSPITAL MANAGEMENT SYSTEM**

Submitted By

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| --- | --- |
| **Student Name** | **Student ID** |
| Md Abdul Quym Shanto | 241-15-053 |
| Abu Jarjis | 241-15-054 |
| Arian Hasan Sajid | 241-15-909 |
| Md Shamim | 241-15-332 |

HOSPITAL MANAGEMENT SYSTEM LAB REPORT

This Report Presented in Partial Fulfillment of the course **CSE124: Data Structure**

in the **Computer Science and Engineering Department**



**DAFFODIL INTERNATIONAL UNIVERSITY**

Dhaka, Bangladesh

**DECLARATION**

We hereby declare that this lab project has been done by us under the supervision of Name of the course teacher, course teacher’s Designation, Department of Computer Science and Engineering, Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere as lab projects.

SUBMITTED TO:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Course Teacher’s Name

Designation

Department of Computer Science and Engineering

Daffodil International University, Dhaka

SUBMITTED BY

|  |  |
| --- | --- |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Student Name  Student ID:  Dept. of CSE, DIU | |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Student Name  Student ID:  Dept. of CSE, DIU | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Student Name  Student ID:  Dept. of CSE, DIU |
| \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Student Name  Student ID:  Dept. of CSE, DIU | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Student Name  Student ID:  Dept. of CSE, DIU |

**COURSE & PROGRAM OUTCOME**

The following course have course outcomes as following:

Table 1: Course Outcome Statements

|  |  |
| --- | --- |
| CO’s | Statements |
| CO1 | Apply the concept of stack, queue, tree and graph to create and manipulate new data types for solving real-life problems having complex engineering attributes. |
| CO2 | Solve a real-life problem having application of abstract data type created within the scope of complex engineering problem solving. |
| CO3 | Apply the knowledge attained in problem solving using team projects. |
| CO4 | Apply technique to implement the project. |

Table 2: Mapping of CO, PO, Blooms, KP and CEP

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| CO | PO | Blooms | KP | CEP |
| CO1  CO2 | PO3  PO2 | C3  C3, P4 | K5  K1 | EP6  EP2 |
| CO3 | PO9 | A1, A2 | K5 | EP1 |
| CO4 | PO2 | P2 | K1 | EP2 |

The mapping justification of this table is provided in section 4.3.1, 4.3.2 and 4.3.3.

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**Chapter 1**

**Introduction**

* 1. **Introduction**

We are working on a project **Hospital Management System** which is included with data structures that helps manage patient admissions, prioritize treatment based on urgency, and organize staff scheduling. Hospitals often handle multiple patients with different severity levels, requiring an efficient system to ensure that critical patients are attended to promptly.

* 1. **Motivation**

We identified challenges in managing patient admissions, releases, and condition-based organization in hospitals. Traditional systems are time-consuming and error-prone, lacking online access. Our motivation is to create an automated system for efficient patient admission, discharge, categorization, and online appointment booking. This will save time, reduce staff workload, and improve the experience for both patients and healthcare providers.

* 1. **Objectives**

The Hospital Management System aims to build an easy-to-use, automated system that allows online admission management, including adding and removing patients, while simplifying hospital operations, ensuring data security, and improving efficiency and care.

* 1. **Feasibility Study**

Existing hospital management systems often lack automation for patient admission, release, and online appointments. Our project aims to fill these gaps by developing an automated system for patient management and appointment scheduling. Using modern web and mobile technologies, the system will ensure efficient operations and a user-friendly experience. This approach is feasible, addressing both technical requirements and improving overall hospital efficiency.

* 1. **Gap Analysis**

Existing hospital management systems often lack automation for patient admission, discharge, and online appointment booking, leading to inefficiencies. They also do not categorize patients based on their conditions, complicating patient flow management. Our project addresses these gaps by providing automation, real-time updates, and condition-based patient categorization, improving efficiency and reducing errors in hospital operations.

* 1. **Project Outcome**

The outcome of our Hospital Management System will be a more efficient and automated process for managing patient admissions, discharges, and appointments. It will allow healthcare staff to easily categorize patients based on their conditions and streamline hospital operations. This system will save time, reduce errors, and improve the overall experience for both patients and staff, making hospital management more efficient and accessible.

**Performance analysis**

Not applicable for this project

**Ethical aspect**

Jader theke help niyechi jemon chatgpt, stackholder, borovai

**Methodology**

1. Collaboration with stackholder
2. Information collection
3. Design a project
4. UI design
5. Code   
   coder er ss gula ekhane dibo
6. Result and discussion (result er ss)
7. Conclusion

**Implementation and result**

Result and discussion (result er ss gula dibo)

**Reference**

Jekhane theke help niyechi sei jayga gular link deya

**Problem Description:**

Design a Data Structure to input a patient information in queue and sort them based on their prioritize treatment by their given information in the engineering project described above. The data structure should allow for efficiently input a data with their names, age & other necessary information, manipulate the data while maintaining their information & search the details of a patient if needed.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **SN** | **Tasks** | **K/EP** | **CO** | **PO** |
| 1. | Design a data structure to input & searching a patient information in the engineering project described above. | K5/EP1,  EP6 | CO1 | PO3 |
| 2. | Show the relationships and dependencies between adding information, searching by name, update & delete the information. | K5/EP7 |
| 3. | (i) Which technique do you apply to implement this data structure based on memory-efficient or not that solve real-life issues. | K6/EP2 | CO2,  CO4 | PO2 |
| (ii) Based on your visualization, which traversal algorithm, do you apply to efficiently and manipulate the project. | K6/EP2 | CO4 | PO2 |