**Project Name:** Quarantine Centre Management System

**Group Number:** 20

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**Project description:**

During the past few years due to the covid pandemic, many countries have set up quarantine centres to accommodate travellers arriving from overseas. In Sri Lanka also, there are many private and government controlled quarantine centres for travellers from overseas. Our project aims to develop a Database System for such a Quarantine Centre. This database management system can help the management of the quarantine centre to keep track of the main operations of the centre more easily. In the initial version, we hope to develop the system targeting a single quarantine centre, but later it could be improved to manage a network of quarantine centres that are in multiple locations.

The basic scenario of the quarantine centre is as follows. When a person who needs to get quarantined(client) arrives at the premises, the admin registers the person in the database and assigns a room. So the client can accommodate in the room and do the necessary tests throughout a specific time period before exiting the centre. Their fees are collected upon entry. There are several types of staff in the quarantine centre who are assigned to various activities in the process. So this database system will be developed to support mainly the above operations.

The key objective of this database system is to provide an easier method to manage quarantine centre data. All the details of the quarantine centre can be easily kept in this database system in a well organized manner. So it can save the time of the staff as well as the clients by a huge amount. With the system, the staff can easily identify the current status of the quarantine centre very quickly and use that data for the future requirements and activities.

In the system, the admin can access the system by using their login credentials. There can be one or more admins for the quarantine centre. Admins can enroll clients (the people who get accommodated and quarantined) by registering them via the admin dashboard. The basic details of the clients such as first name, last name, date of birth, contact number, address, country and also the health related details such as vaccination status, dietary preferences, allergies are stored in the database when registering. Admins have the ability to do basic operations like editing client details, changing client status, removing client data from the database, assigning clients to rooms etc. through the user interface.

A main feature of the system is the ability to manage the test results (PCR or Rapid antigen tests) done for the clients while accommodating in the quarantine centre. It is one of the most important things done inside a quarantine centre. Frequent testings are done for the client by the staff of the centre, and the laboratory staff can manage these testings using the database system. The laboratory staff can add test details such as test type, client identification, date and time to the database when a client is undergoing a PCR or Rapid antigen test and update the test results after receiving the result. Because of that, it will be possible to implement a feature for clients to see their own test results through a web portal in a later version of the database system. However, in the initially planned version, only admins and laboratory staff have the ability to view and update test results. Therefore, after getting the test results of a client, admins can view it and inform the relevant people to take the necessary action if the client is infected. If an infected person is sent to a hospital, then the admin can update the status of the client, add a discharging note and clear his/her assigned room.

The database can hold the details of different rooms/wards and units of the quarantine centre. There can be single person rooms and family rooms as room types. Each room has two assignees for cleaning the room and supplying the basic needs. A person from the cleaning staff is assigned to the room for cleaning and a person from the supporting staff is assigned to the room for supplying the basic needs. Admins can update room details, assign staff for rooms using the admin dashboard. All these rooms have a maximum capacity, so the admins have to consider it when assigning a client to a room. Also, the admins can check the number of empty rooms before registering a client, to prevent any inconvenience.

The quarantine centre also consists of machines and instruments like ventilators, diagnostic machines, oximeters and thermometers. Those items can be managed within the same database system. The admin dashboard provides a feature to manage the inventory by allowing the administrator to create records for the items. It includes the basic details of items such as name, status and quantity. After that, the administrator can update or remove those details on the necessary occasions.

This quarantine centre management system helps the accounting staff to easily manage the data related to fee collection. Accounting staff can create records for payments in the database by login in to the system. Those are stored in the database with the details such as client’s identification, the amount paid, date etc. Those details can be used to generate payment receipts and issue them to the clients.

The system also provides a feature to manage the staff of the quarantine centre. The main staff categories are cleaning staff, supporting staff, security, laboratory staff and accounting staff. Their basic details can be stored in the database. Admin can create/update these details using the dashboard. The database will also contain the login credentials for the users who have access to the system. The initial version of the system provides the user interface access only to admin, laboratory staff and accounting staff. But the database will be designed along with the possibility of further enhancements.

As described above, the system admin and other staff of the quarantine centre can make their work easier by using this database system. So the key objective of the system is met by the above mentioned features given to the users.