

# REPORT FOR HOSPITAL MANAGEMENT SYSTEM

As a project work for Course

## PYTHON PROGRAMMING ( INT213 )

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## **ABSTRACT:-**

This project is all about hospital management system. In this there are a lot of features included to help in maintaining the database of the hospital. A hospital requires a lot of data and information to store in the database. Suppose a new patient is admitted, then it is needed that the details of the patient are stored somewhere, it is also important to check the availability of beds before admitting a patient and so on. So, this project is made keeping in mind various such requirements. Through this project, the user can see other relevant details related to hospital such as availability of free check up camps, can book appointment, check the availability of beds and can buy medicines. There is an option to fill the patient details through a form and it gets updated in the local database which our project uses. The appointment details also get updated in the database as soon as the user fills the appointment form. The GUI interface of the project is elegant and apt to the functionality it is used to implement.

## **ACKNOWLEDGEMENT:-**

We would like to thank our mentor - Prof. Ashish Shrivastava for his advice and inputs on this project. Many thanks to our friends and seniors as well, who spent countless hours to listen and provide feedbacks.

# INTRODUCTION

## ***Context:-***

This project has been done as part of my course for the CSE(H) at Lovely Professional University. Supervised by Sagar Pande, I have three months to fulfill the requirements in order to succeed the module

## ***MOTIVATION:-***

This project is considered by us as a great way to implement the knowledge of python programming gained through the course titled Python Programming having course code INT213. Having utilised this opportunity to the maximum extent, we tried to learn how real world problems can be solved using programming and how to model solutions for the complex real world problems which require a lot of human labor if solved manually but can be done in a fraction of seconds when done using programming. The goal was also to learn how to handle a database as it is major part of lot of applications used in real world. So, all team members decided to select this project and worked strenuously to complete it.

## ***IDEA:-***

The idea of the project is to provide certain functionalities that can help in managing a hospital. A hospital requires to maintain records of data of its patients and update it at times. Moreover, information regarding various types of free health

camps scheduled for the benefit of the common masses, whether beds are available, no of wards filled, the stock of medicines is abundant and so on. We have decided all to provide all such functionalities using python and MySQL database.

## TEAM MEMBERS & THEIR CONTRIBUTIONS

*This project is made possible by the joint effort of all team members and every member is equally responsible for the successful completion of this project.*

***Keshav Vyas:-***

### **Contributions:**

1. Designing And Coding of **Main window.**
2. Designing And Coding of **Appointment window.**
3. Designing And Coding of **Patient's Data Form Filling Window.**
4. Designing And Coding of **Discharged Patients Data Deletion Window.**
5. Designing And Coding of **Beds Available Feature.**
6. Database Part(joined).
7. Integration and Combining of All Individual GUI.
8. Testing and Debugging(joined).

***Kumud Raghav:-***

### **Contributions:**

1. Designing And Coding of **Buy Medicines window.**

2. Designing And Coding of **Check-up camp information window**.
3. Database part(joined).
4. Project's Report.
5. Testing and Debugging Part(joined).

## **Tools and Technologies Used:**

All source code for the project is written in python.

### ***Libraries:-***

#### **Tkinter:-**

Tkinter is the standard GUI library for Python. Python when combined with Tkinter provides a fast and easy way to create GUI applications. Tkinter provides a powerful object-oriented interface to the Tk GUI toolkit.

*This library is used for developing the GUI for our project.*

#### **MySQL Connector: -**

MySQL Connector/Python enables Python programs to access MySQL databases, using an API that is compliant with the Python Database API Specification v2.0 (PEP 249). It is written in pure Python and does not have any dependencies except for the Python Standard Library.

This module is used to provide database connectivity to our project and perform update and retrieval of information in the database developed for our project.

### ***Database:-***

## **MySQL:-**

MySQL is an open-source relational database management system. Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language.

*Database is an important part of our project. We have used MySQL for the database part of our project.*

## **Working of the Project:**

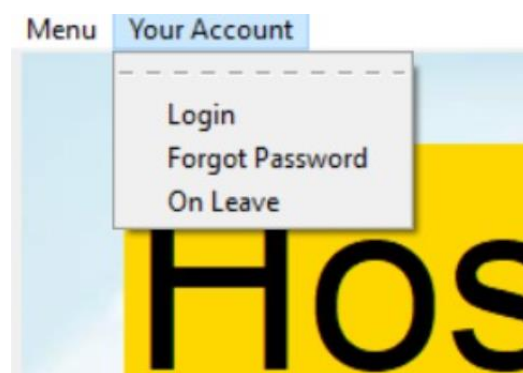
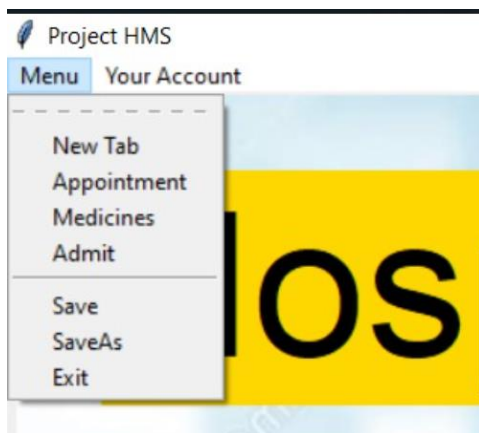
### ***Main Window:***

This is the main window of our hospital management system. In this we have different buttons which are used for navigating to different windows.

All the functionalities are provided in the main window.



We have a menu bar which the submenu which contains the option to navigate to different windows. Also, Your Account option in the main menu allow to login in the system.





## *Appointment Window*

This is the window for booking the appointment. As shown in the picture, it asks for user's name, age, and all other relevant details.



The screenshot shows a web application window titled "Appointment". The background is yellow. At the top, the title "Appointment Window" is displayed in a red box. Below the title, there are several input fields and buttons. The "First Name" and "Last Name" fields are light blue. The "Phone Number" and "Age" fields are also light blue. The "Select Gender" section has three radio buttons: "Male" (blue), "Female" (pink), and "Transgender" (orange). The "Select Doctor" section has a dropdown menu with a grey background, showing a list of doctors: "Cardiologist", "Audiologist", "Dentist", "Gynaecologist", and "Paediatrician". There is a "Go To Home Page" button in a teal box and a "Submit Details" button in a red box.

The record of the user that books the appointment is directly updated in the hospital database when the user presses Submit Details button.

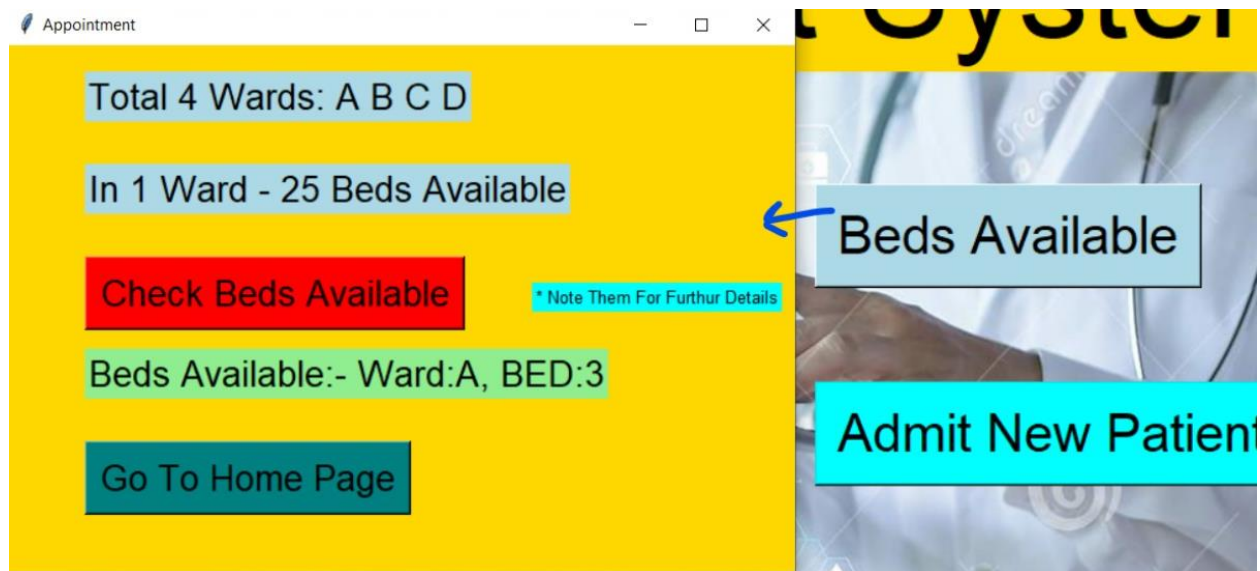


The screenshot shows a database table with the following data:

|   | id | fname | lname | phone | age | gender | doctor        |
|---|----|-------|-------|-------|-----|--------|---------------|
| ▶ | 1  | abc   | xyz   | 214   | 12  | Male   | Gynaecologist |
|   | 2  | mno   | pqr   | 213   | 55  | Female | Dentist       |

## ***Beds Available***

Before being admitted to our hospital, a user can see if beds are available or not by clicking on check beds available.



## *Patient's Booking Detail*

**Patients Booking Detail**

First Name  Last Name

Phone Number  Age

Select Gender

- ☐ Male
- ☐ Female
- ☐ Transgender

Select Ward

- ☐ Ward A
- ☐ Ward B
- ☐ Ward C
- ☐ Ward D

Enter Room Number Alloted

This is the window which collects the data of any person who is going to be admitted in the hospital. All details are filled by the person except room no which is allocated through the beds available window.

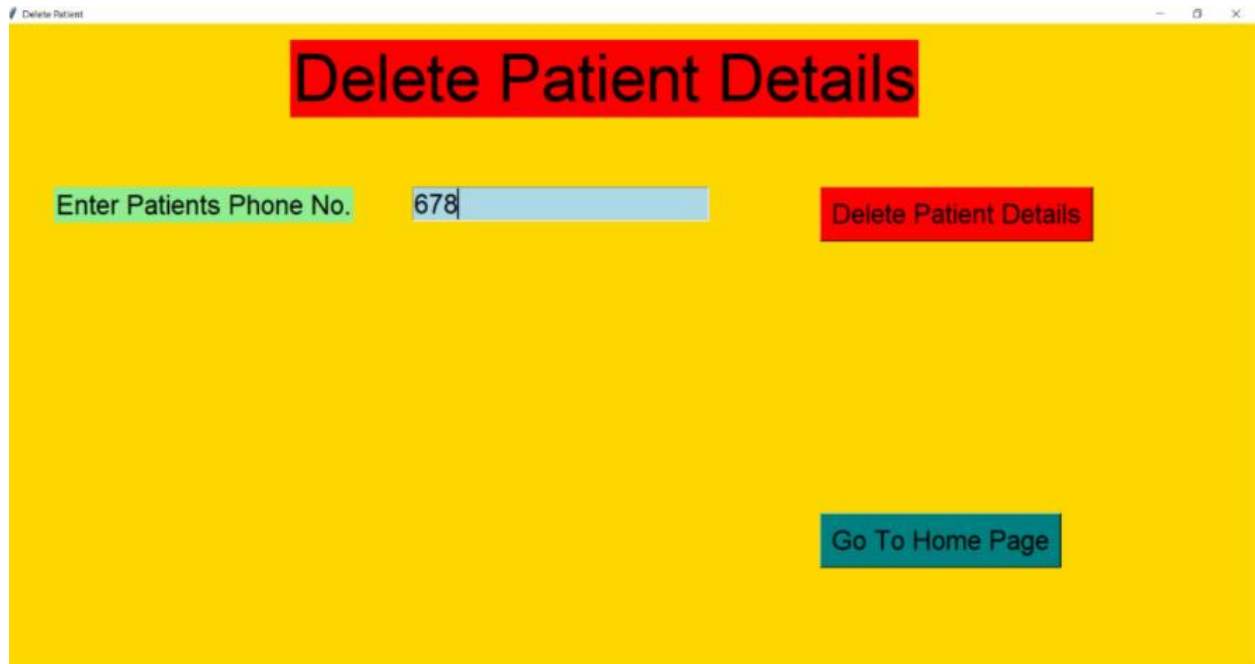
Once the data is filled by the patient, it immediately get updated in the database when he/she presses Submit Details Button.

|   | fname   | lname  | phone | age | gender | ward | room |
|---|---------|--------|-------|-----|--------|------|------|
| ▶ | Ram     | Sharma | 123   | 19  | Male   | A    | 601  |
|   | Shefali | Gill   | 987   | 21  | Female | A    | 602  |

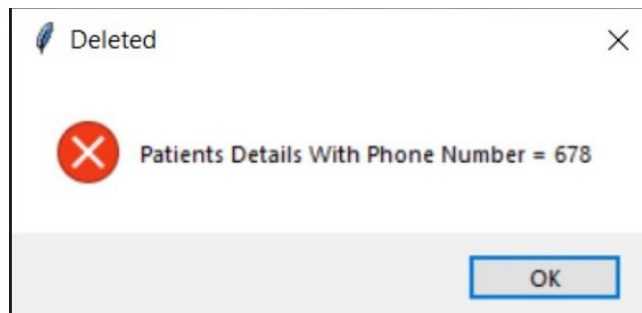
### *Deleting records of a discharged patient*

Once a patient is discharged, all the records of that patient need to be removed from the hospital's database.





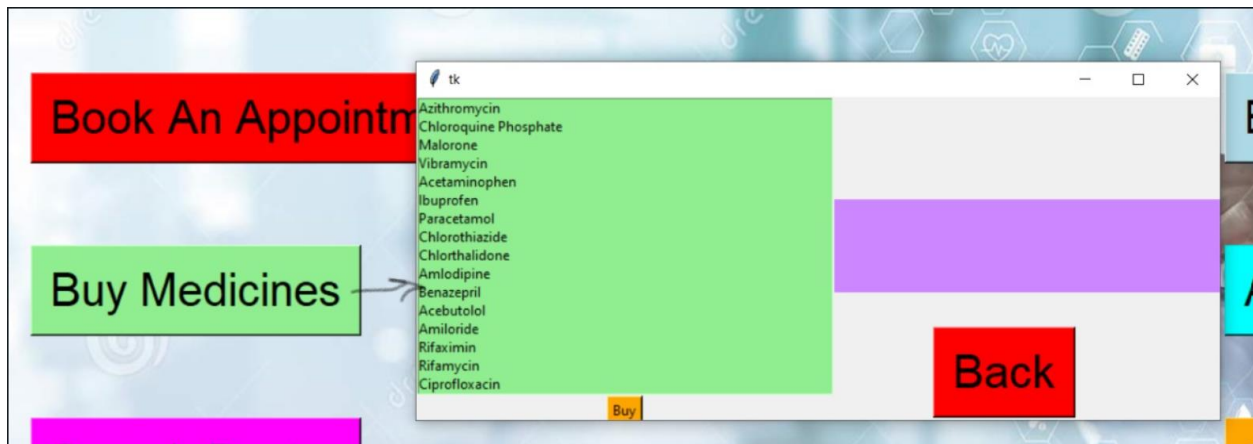
The screenshot shows a web application window titled "Delete Patient". The main heading is "Delete Patient Details" in a red box. Below it, there is a label "Enter Patients Phone No." followed by a text input field containing the number "678". To the right of the input field is a red button labeled "Delete Patient Details". At the bottom right of the form is a blue button labeled "Go To Home Page".



This window implements this functionality and delete all records of the patient using his phone number. The confirmation message pops up after successful deletion. So, it helps to maintain the consistently and correctness of the hospital's database.

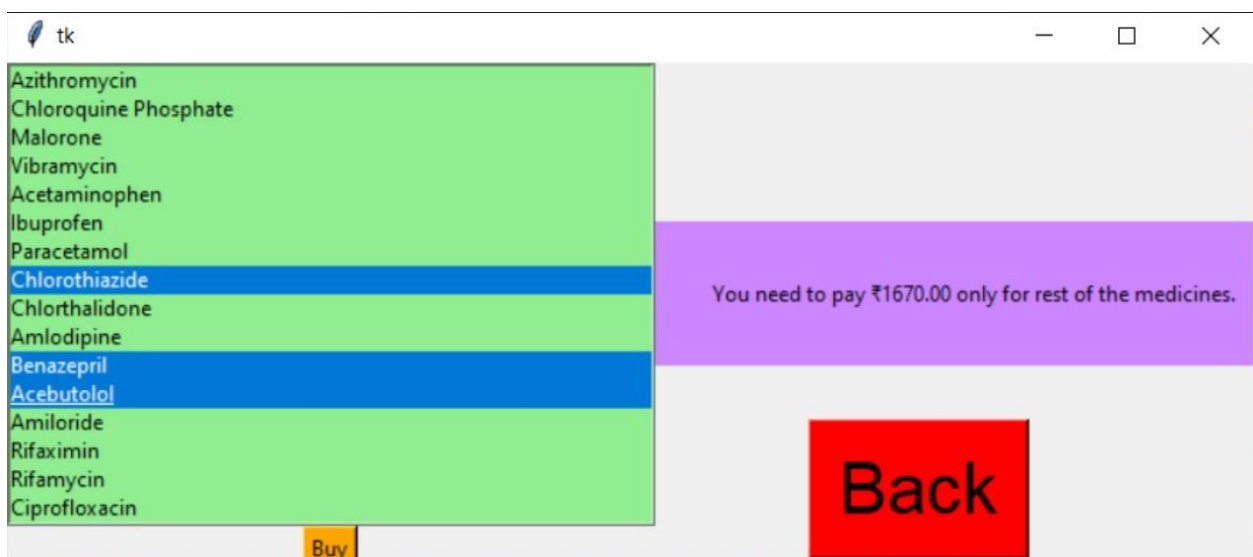
## ***Buy Medicines***

The user can click on buy medicines and buy required medicines. A user can select the medicines from the list by clicking on the medicine name and then click on buy button.



Total price of the medicines is calculated using information stored in the database and it is shown to the user.

In case some medicines are not available, it is also informed on the console.



```
2021-11-18
These Medicines are out of Stock.---Amlodipine,Acebutolol. Contact dealer to order more...
```

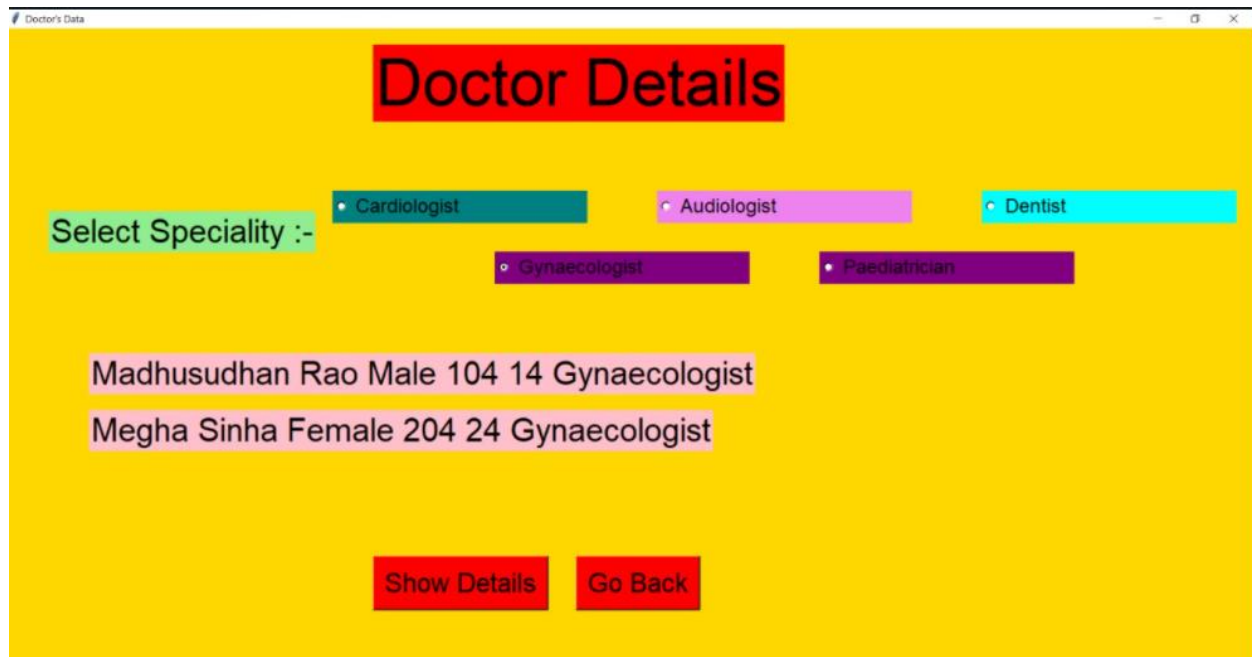
|   | name                  | quantity | price |
|---|-----------------------|----------|-------|
| ► | Acebutolol            | 85       | 300   |
|   | Acetaminophen         | 975      | 120   |
|   | Amiloride             | 960      | 125   |
|   | Amlodipine            | 70       | 230   |
|   | Azithromycin          | 960      | 100   |
|   | Benazepril            | 965      | 500   |
|   | Chloroquine Phosphate | 70       | 70    |
|   | Chlorothiazide        | 965      | 70    |
|   | Chlorthalidone        | 965      | 90    |
|   | Ciprofloxacin         | 995      | 110   |
|   | Ibuprofen             | 965      | 150   |
|   | Malorone              | 960      | 200   |
|   | Paracetamol           | 935      | 60    |
|   | Rifamycin             | 70       | 70    |
|   | Rifaximin             | 985      | 400   |
|   | Rifampicin            | 965      | 250   |

The medicines current price and quantity available can be referenced from the medicines table in the database.

## ***Doctor Details***

Using this window, a user can see the details of the doctor. A user can select whether he/she wants to visit dentist, gynaecologist, pediatricia, cardiologist and audiologist. The required details are then show when user presses the show details button.





All the information of doctors are stored in our database and that information is retrieved and shown.

### ***Free Health Check-Up Camps***



The information regarding free checkup camps available on current date is shown on the main window. In case a user inquires to know about further check camps,



he/she can click and see all the details such as date, starting time, ending time and place by click on this button.

The information regarding free checkup camps is stored in the database and this helps us in implementing the above functionality.

|   | event_name | event_date | event_stime | event_etime | event_place     |
|---|------------|------------|-------------|-------------|-----------------|
| ▶ | Fitness    | 2021-12-12 | 07:30:00    | 09:00:00    | Hospital's Camp |
|   | Health     | 2021-12-05 | 09:00:00    | 12:00:00    | Hospital's Camp |
|   | Eye        | 2021-12-27 | 08:00:00    | 11:00:00    | Hospital's Camp |
|   | Heart      | 2022-01-10 | 08:00:00    | 10:00:00    | Hospital's Camp |

**The source code of the project is available on github.**

## Conclusion:

This report contains all the required information of our project. This project's successful completion is marked with lot of efforts to give it a better shape, long overhauls for bug correction, testing, continuous refactoring of code to improve the overall system's functioning. For the whole team, this project serves to build confidence in their capabilities as a programmer and inspire us to take more challenging tasks to solve in the near future. We hope that this report will benefit the reader immensely to understand our project and its functioning.

## References:

1.<https://www.geeksforgeeks.org/>

This is a wonderful site which helped us to know a lot of required things regarding tkinter,python,etc.

2.<https://stackoverflow.com/>

We used this site to find information about various bugs that are encountered during coding part of our project.

3.<https://dev.mysql.com/doc/>

We referred to this official documentation of mysql for managing the database of our hospital.

4.<https://docs.python.org/3/library/tk.html>

We have used python tkinter module in this project for GUI. We have used this official documentation to learn about various tkinter methods used in this project.