COVID-19 PATIENT'S DATABASE

AND

BED'S AVAILABILITY

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CONTENTS

PROBLEM STATEMENT:

During a pandemic situation, it's really risky for the medical officials to be in contact with the patient's. A database which contains the entire details of the patient can reduce the spread of disease to a large extent.

The Covid-19 database can provide information about the patient's and the availability of the bed's in hospitals very easily.

PROJECT DESCRIPTION:

Covid-19 Patients Database and Beds Availability system is an application that enables users to create and store Covid-19 Patients Records. The application also provides information about beds availability which helps patients as well as medical officials. During a pandemic situation, it's really risky for the medical officials to be in contact with the patient's. A database which contains the entire details of the patient can reduce the spread of disease to a large extent.

Covid-19 patients database and beds availability is application, developed to maintain the details of patients who suffer from covid-19. It maintains the contact details of patients, also the details about beds availability. The application is actually a suite of applications developed using c language.

C programming language which is structured programming, procedural programming language is used to develop this application. This application is simple to understand and can be used by anyone. It is user friendly and just asks the user to follow step by step operations by giving him few options. It is fast and can perform many operations.

OBJECTIVE OF THE PROJECT

In this pandemic situation, situations are getting serious. With the large raise in covid-19 positive cases, it's really risky for the medical officials to be in contact with the patient's. Thus there is a need for a system which can handle the data of such a large number of patients who are affected. This project contains the entire details of the patient and beds availability which help public and medical officials as well and can reduce the spread of disease to a large extent.

- To create a user friendly environment.
- Provide access to saved data.
- Provide different functionalities like add, delete, search, modify, display etc. that the user can use when required.
- To provide only authorized access to the data.

SYSTEM SPECIFICATIONS

Software Engineers have been trying various tools, methods and procedures to control the process of software development in order to build high quality software with high productivity. This method provides "how it is" for building the software while the tools provide automated or semi-automated support for the method. They are used in all stages of the software development process, namely, planning, analysis, design, development and maintenance. The software development procedure integrates the method and tools together and enables rational and timely development of the software system.

They provide the guidelines as to how to apply these methods and tools, how to produce the deliverable at each stage, what controls to apply, and what milestones to use to assess the performance of the program. There exist a number of software development paradigms each using a different set of methods and tools.

The selection of a particular paradigms depends on the nature of application of the programming language used for the controls and the deliverables required. The development of such a successful system depends not only on the use of appropriate methods and techniques but also the developer's commitment to the objective of the system.

<u>A successful system must:</u>

      a. Satisfy the user requirements

      b. Be easy to understand by user and operator

      c. Be easy to operate

      d. Have a good user interface

      e. Be easy to modify

      f. Be expandable

      g. Have adequate security control against the misuse of data

      h. Handle the errors and exceptions satisfactorily

      i. Be delivered on schedule within the budget

REQUIREMENT SPECIFICATION

The aim of the system is to develop "**COVID-19 PATIENT'S DATABASE AND BED'S AVAILABILITY**" software, which should automate the process to create and store patient's details.

Requirements

- Operation system   : Windows XP,7,8 or 10
- Editor   : Code Blocks version 20.3
- Programming Language: C
- Compiler   : GNU GCC Compiler
- Memory   : 256 MB

Requirement Table:

Id	Description
01	Add the Record
02	Delete the Record
03	Modify the Record
04	Display the List
05	Search Record

Id	Description
06	Display Basic Info
07	Display Basic Contact Info
08	List of Male patients
09	List of Female patients
10	List of patient's From Telangana
11	List of patient's From Others state's

DESIGN

The main menu lists out the various options which the user can select. The menu consists of the following options:

1. Add new data: allows the users to add new data.
2. Delete data: allows the user to delete selected data.
3. Search data: allows the user to search required data.
4. Display data: allows the user to view all the data available.
5. Modify data: allows users to modify particular data.
6. Display basic info: allows the user to view basic information.
7. Display contact info: allows the user to view contact information.
8. List of male: allows the user to view list of male information available
9. List of female: allows the user to view list of female information available
10. Patients from TS: allows the user to view a list of patients from telangana.
11. Patients from OS: allows the user to view a list of patients from other states.
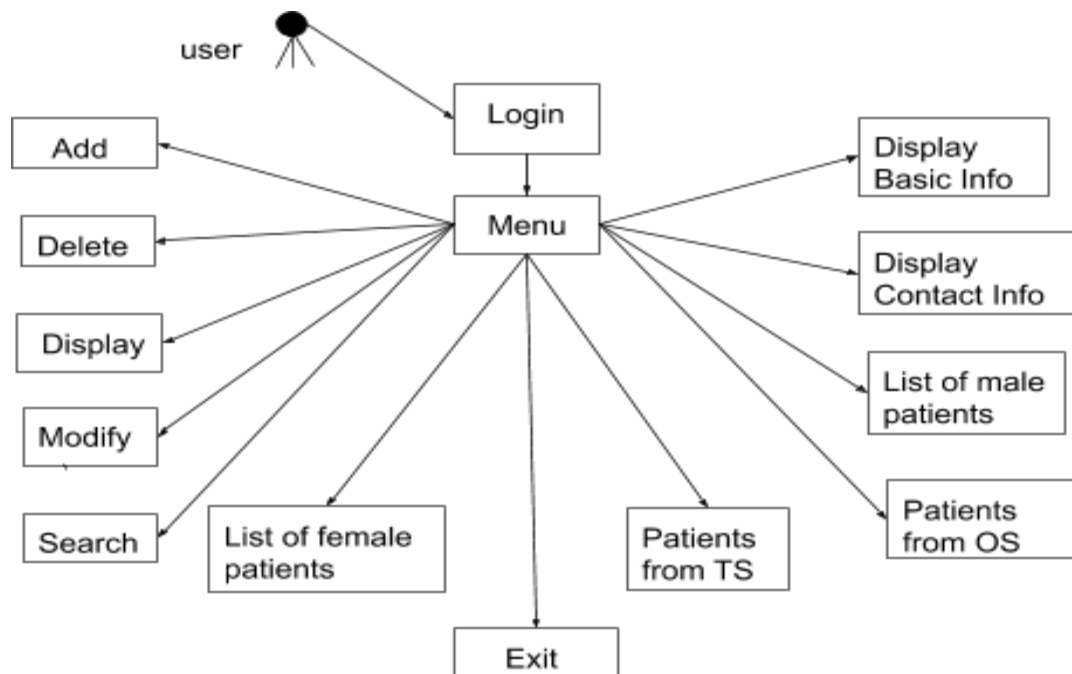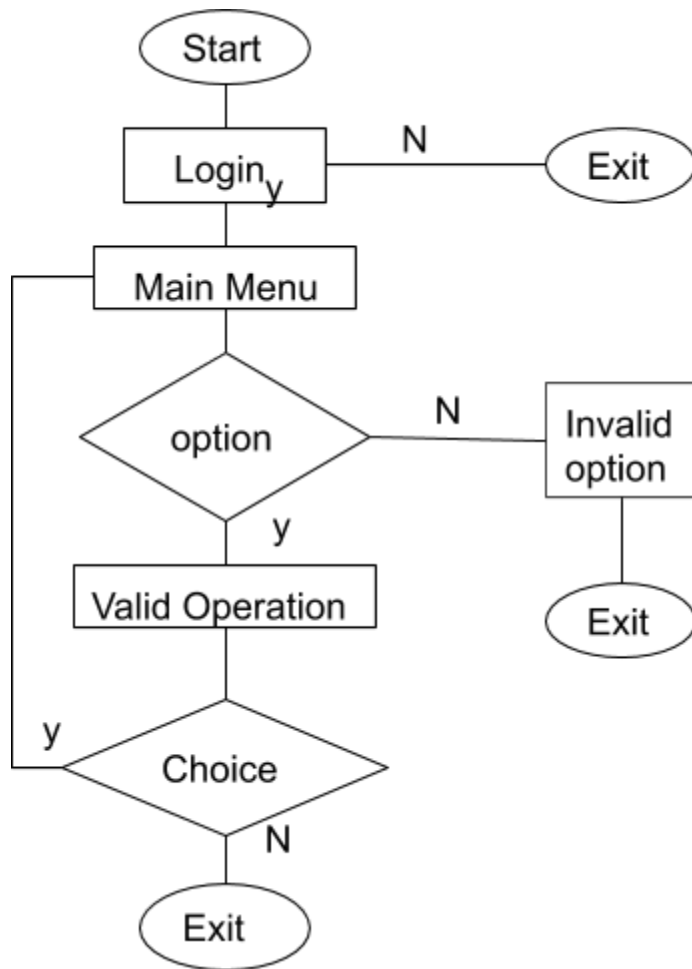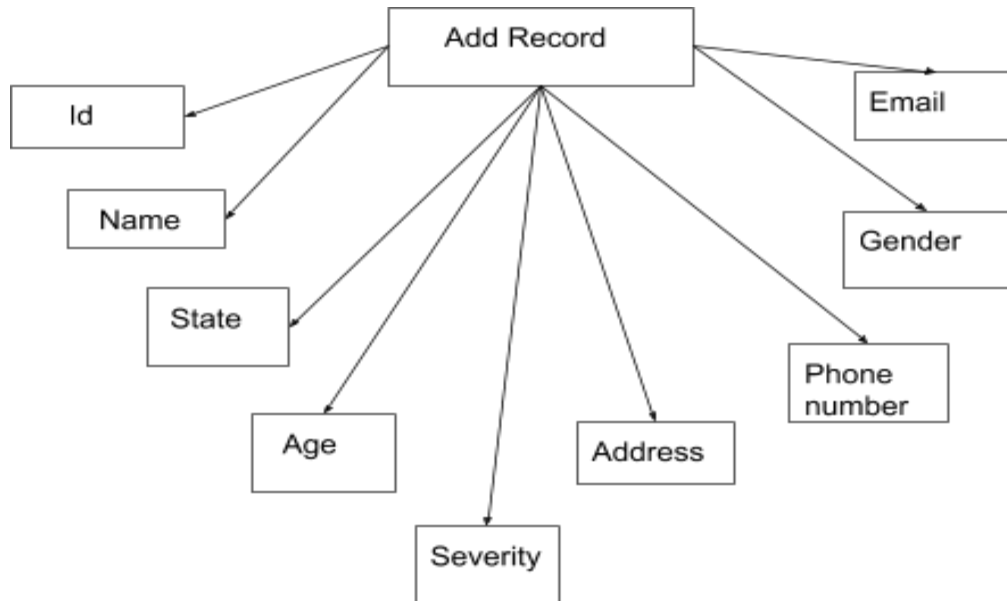12. Exit console

Fig 1 Design

Design Flow

ADD FLOW

Fig 2 add flow
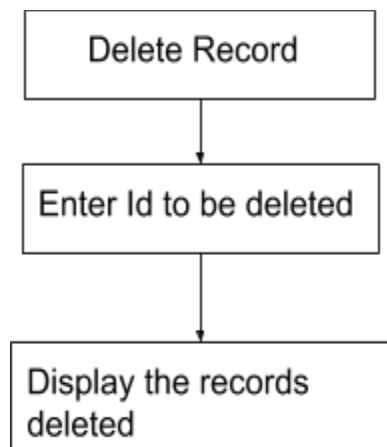
DELETE FLOW

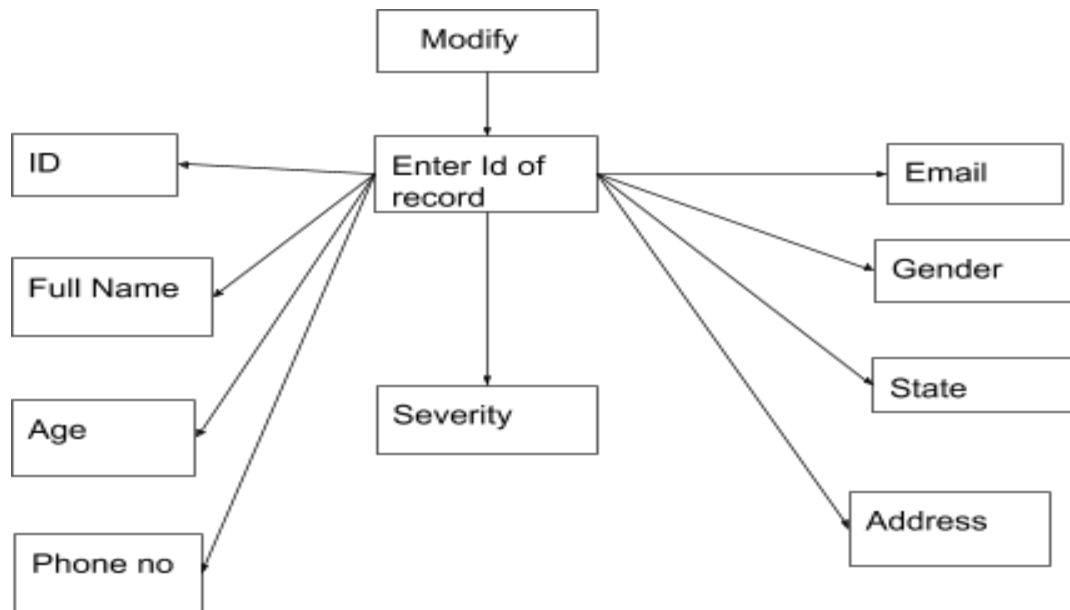Fig 3 Delete flow

MODIFY FLOW
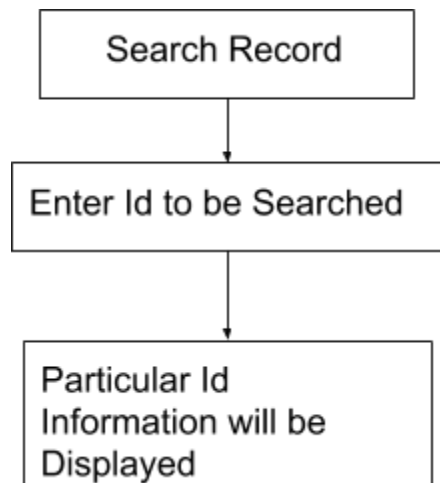

Fig 4 Modify flow

SEARCH FLOW

Fig 5 Search flow

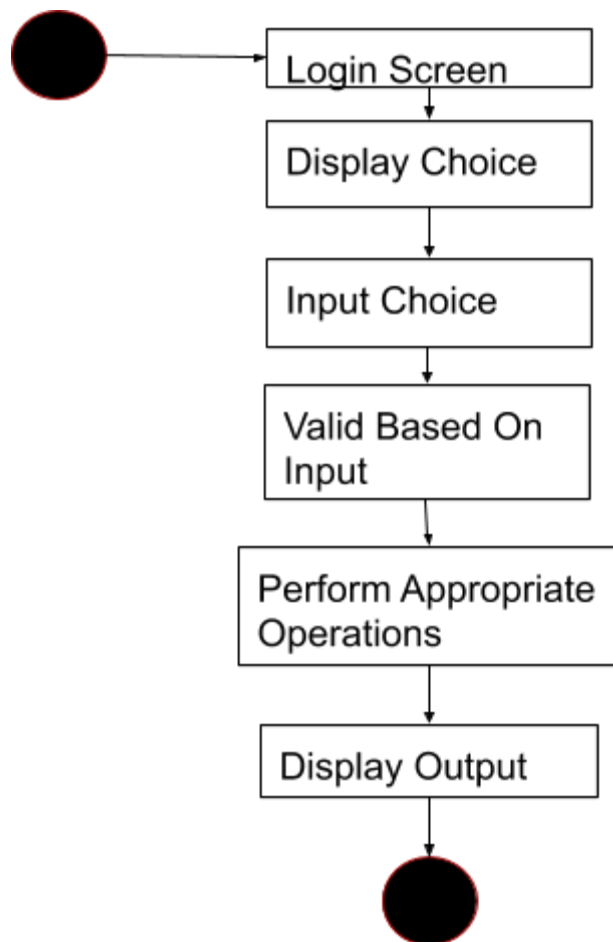# UML DIAGRAMS FOR COVID PATIENTS DATABASE AND BEDS AVAILABILITY

ACTIVITY DIAGRAM:

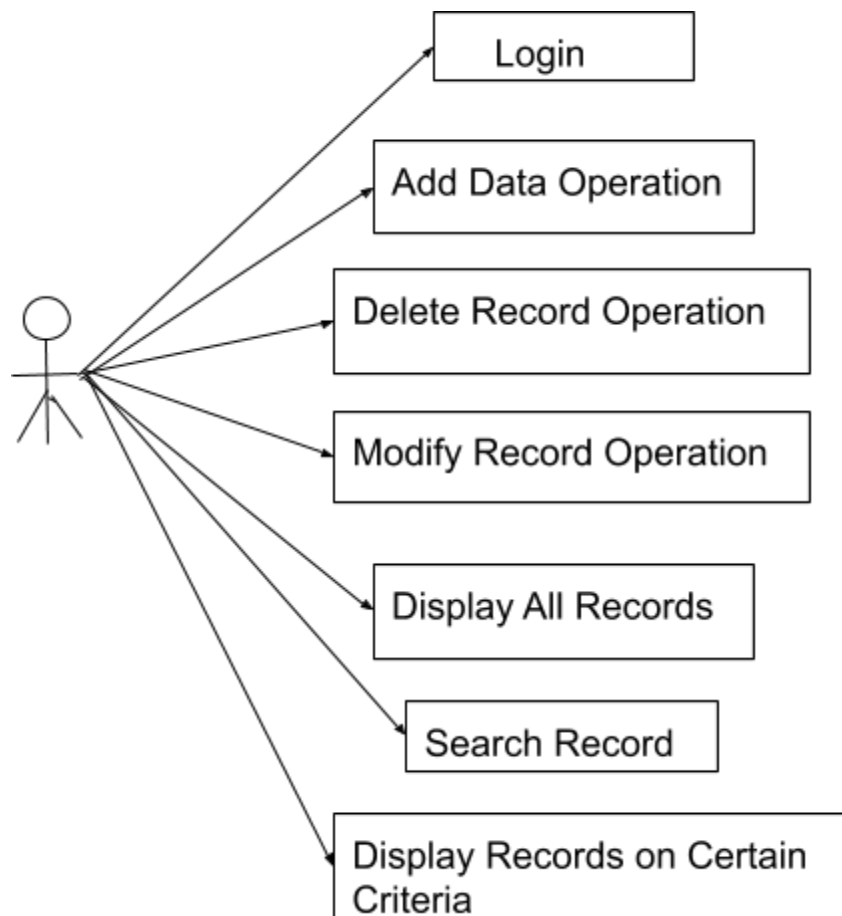Fig 6 Activity flow

USE CASE DIAGRAM:

Fig 7 Use Case Diagram

TEST PLAN

S.No	Test Objective
1	To check if the program login displays username and password option correctly
2	To check if the user can add the data.
3	To check if the user can delete data.
4	To check if the user can modify data.
5	To check if the user can search data.
6	To check if the user able to display the data
7	To check if the user is able to display only basic information about a particular record.
8	To check if the user is able to display only basic contact information about a particular record.
9	To check if the user able to display the male records
10	To check if the user able to display the female records
11	To check if the user is able to display the patients records from other states.
12	To check if the user is able to display the patients records from telangana.
13	To check if the user is able to exit from the menu.

TEST CASES

LOGIN

Test Case	Description	Test Data	Expected Result
1	Valid User Id Valid Password	Id: admin Password: pass	Login Should be Successful
2	Invalid User Id Invalid Password	Id:.............. Password:............	Login Should Not be Successful

Table 1. Login

ADD

Test Case	Description	Test Data	Expected Result
1	Valid option from menu	Enter ID Enter Full Name Enter State Enter Gender Enter Age Enter Address Enter Phone Enter Email Enter Severity Want to delete another record(y/n)	The record will be stored when you press "y" screen will display test data again and you can add another record. If you press "n" you will come out of the add.
2	Invalid option from menu		Invalid option Program terminated. exit

Table 2. Add

DELETE

Test Cases	Description	Test Data	Expected Output
1	Enter valid option from menu	Enter id of the record	The record which has to be deleted will be displayed and deleted from the file.
2	Enter invalid option from menu		Invalid option Program Terminated Exit
3	No data in file	No data	No record found

Table 3. Delete

MODIFY

Test Case	Description	Test Data	Expected Result
1	Valid Id	Enter ID Enter Full Name Enter State Enter Gender Enter Age Enter Address Enter Phone Enter Email Enter Severity Want to modify another record(y/n)	The record will be stored when you press "y" screen will display test data again and you can add another record. If you press "n" you will come out of the modify.
2	Invalid Id		No record found

Table 4. Modify

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DISPLAY

Test Cases	Description	Test Data	Expected Output
1	Valid Option	Enter Display Option from Menu	The entire records present will display
2	Invalid Option	Enter Option	Invalid Option Program terminated Exit

Table 5. Display

SEARCH

Test Cases	Description	Test Data	Expected Output
1	Valid Id	Enter id which you want to search	The record will display on screen
2	Invalid Id	Enter id which is not present in file	Record not found will display on screen
3	No Data in File	Enter id	Record not found will display on screen

Table 6. Search

DISPLAY BASIC INFO

Test Cases	Description	Test Data	Expected Output
1	Valid Option	Enter option	It will display the name , age, gender, state, phone, email of all the records present in file
2	Invalid Option	Enter Option	No option found Program terminated Exit

Table 7. Display Basic Info

DISPLAY BASIC CONTACT INFO

Test Cases	Description	Test Data	Expected Output
1	Valid Option	Enter option	It will display the Id,name , state, phone, email of all the records present in file
2	Invalid Option	Enter Option	No option found Program terminated Exit

Table 8. Display basic contact info

LIST OF MALE PATIENTS

Test Cases	Description	Test Data	Expected Output
1	Valid Option from menu	Enter option	It will display male patients records present.
2	Invalid Option from menu	Enter option	Invalid option Program terminated Exit

Table 9. Display list of male info

LIST OF FEMALE PATIENTS

Test Cases	Description	Test Data	Expected Output
1	Valid option from menu	Enter option	It will display female patients records present.
2	Invalid option from menu	Enter option	Invalid option Program terminated Exit

Table 10. Display list of female info

LIST OF PATIENTS FROM TELANGANA

Test Cases	Description	Test Data	Expected Output
1	Valid option from menu	Enter option	It will display patients records present from TS
2	Invalid option from menu	Enter option	Invalid option Program terminated Exit

Table 11. Display list of patients info from telangana

LIST OF PATIENTS FROM OTHER STATES

Test Cases	Description	Test Data	Expected Output
1	Valid option from menu	Enter option	It will display patients records present from OS
2	Invalid option from menu	Enter option	Invalid input Program terminated Exit

Table 12. Display list of patients info from other states

EXIT

Test Cases	Description	Test Data	Expected Output
1	Valid option from menu	Enter option	It will exit from main menu
2	Invalid option from menu	Enter option	Invalid Option Program terminated Exit

Table.13 Exit

CONCLUSION

Since this project has been designed exclusively as a project, certain complexities that are faced by any real life manual problem like total number of patients, address redundancy etc. are considered in this project. But enhancement to the project can easily be made without changing the current design and programming structure.

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