



ULAB

UNIVERSITY OF LIBERAL ARTS
BANGLADESH

DETECT COVID

A report submitted In partial fulfillment of the requirements For the degree of
Bachelor of Science in Computer Science and Engineering

UNIVERSITY OF LIBERAL ARTS BANGLADESH

Dhaka, Bangladesh

June 2021

DECLARATION

I declare that this report/ project entitled “*DETECT COVID-19 PATIENTS*” is the result of my own research except as cited in the references. The report/project has not been accepted for any degree and is not concurrently submitted in candidature of any other degree.

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Date : 14 June 2021

CERTIFICATE OF APPROVAL

The project report/ project entitled “DETECT COVID” is submitted to the Department of Computer Science and Engineering at University of Liberal Arts Bangladesh (ULAB) in partial fulfillment of the requirements for the degree of Bachelor of Science.

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DEDICATION

To my coaches and professors their understanding, backing, love, and for bearing the good and bad times during the consummation of this task.

To my flawless guardians, who gave me unending affection, trust, steady support throughout the long term, and for their supplications.

This report is committed to them.

ACKNOWLEDGEMENT

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I wish to express my most profound gratitude to each one of the individuals who helped me, somehow, to finish this task. At first, I expressed gratitude toward Almighty Allah who gave me the quality, course and reason all through the tasks.

Special thanks to my project supervisor Dr. Farhana Sarker for all his patience, guidance and support during the execution of this project. Through his expert guidance, I was able to overcome all the obstacles that I encountered in these enduring three months of my project. In fact, he always gave me immense hope every time I consulted with her over problems relating to my project.

Finally, I thank my beautiful guardians for their endless help.

ABSTRACT

This task report centers around my commitment towards my undertaking and accomplishments that I got from this three months project program. This report gives the functioning cycle of Desktop App and Web App. My obligation was to make Desktop App and Web App projects. This report clarifies my finish and adds to this venture. My undertaking report mirrors the excursion of my functioning period which incorporates my work exercises, encounters and the things I have learned through botches. This report closes with the accomplishments as far as demonstrable skill and disposition that features the upsides of the undertaking program.

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LIST OF ABBREVIATIONS

CSE	Computer Science and Engineering
ULAB	University of Liberal Arts Bangladesh

CHAPTER 1

INTRODUCTION

Overview

As I set myself up to do a work area base venture. It's a one semester long task. I might want to do a venture for Coronavirus patients. Assume, on the off chance that anybody tainted by Covid-19, they ought to be stay in home isolate and furthermore keep up actual distances with their regarded relatives. In any case, we saw that individuals are don't keeping up this sort of guidelines they are regularly go outside for their motivations and neighborhood individuals don't identify such a group through their eyes . In this way, I am intending to make an application which will ready to identify contaminated patients. Assuming anybody tainted by Covid-19, their information will be accessible on our product data set framework. Information will be store dependent on their public recognizable proof card number. As we as a whole realize every ID card number are so one of a kind and there are no similitudes among each number. At the point when we put away contaminated patients information on our data set we will likewise store their regarded relative's information as well. For example, on the off chance that the patient attempt to go outside for any reasons, they may be cross any camera which are as of now accessible in the city, shops, markets and clinics so on. At whatever point he (Corona Positive patient) crossed any camera then our framework will show us a red flag and give his careful area and this is the manner by which we can make some appropriate stride for his/her awful choice to head outside. I intend to say camera sensor will actually want to identify Covid-19 patients. We don't have to searches for checking home to home really the contaminated patient are truly keeping up home isolate or not.

Generally, I can say this is the manner by which we can diminish disease rate from our nation in any case it's consistently grow up. Cause, as we previously became more acquainted with if any disease patients meet somebody who are not tainted they are additionally in a danger zone to be contaminated reason Covid-19 is an infection , it's can fan out one man to another and now it's likewise spreading through Air. Along these lines, we should be worry about it.

That is about from me now and I likewise thinking to add something more which going to more useful for my venture.

1.1 Aims

The system is based on perceiving Covid-19 patients. It gives nuances information about a patients who has Covid-19 results or not. If s/he is recognized Covid-19 positive this system set aside his/her information into data base. Moreover, this system has the once-over of restriction patent information. Our system intends to help government or some other relationship to recognize Covid-19 patients.

1.2 Objectives

Our technical objectives in case of developing this systems are listed below:-

- ❖ Primary goals were to design and analysis the next generation of desktop applications.
- ❖ Learning project scope through latest technologies, market analysis and documentation.
- ❖ Coordinate development, implementation and maintenance through my-self.
- ❖ Learning design and development of desktop application.
- ❖ Improving my soft skills.
- ❖ Learning how to maintain and improve existing products based on data given and analytical approach.
- ❖ Learning how to set success metrics of product and develop the strategy to achieve it.
- ❖ Knowing different techniques of data collection and analysis to extract the market demand.

1.3 Scope of the Report

This report is essentially made for scholarly explanation and to satisfy the prerequisites of the Department of Computer Science and Engineering (CSE) at

University of Liberal Arts Bangladesh (ULAB). This report has zeroed in on Desktop application segment, and their difficulties and restrictions. Additionally the report is more centered around my scientific improvement and web advancement progress.

1.4 Methodology

For setting up this report, information has been collected from both essential and optional sources. For fundamental data, my administrator Dr Farhana Sarkar gave me data. Optional Sources For the extra information, I gathered them from different sites and the sources that are given in the references.

1.5 Motivation and Contribution

The inspiration for doing this venture was basically to achieve the fundamentals given by my administrator Dr Farhana Sarkar and an interest in endeavor a difficult undertaking in an extraordinary region. The chance to carry out philosophies shrouded in addresses appears to be engaging. Other than this, In Bangladesh we truly feel the need of this sort of uses that will assist individuals with thinking about Covid-19 patients and it will likewise assist them with being cautious. New creations and advancements in this field will assist them with thinking about this infection and furthermore make mindfulness among individuals.

In section 2 we are talking about the past work in this field, in part 3 we portrayed the venture determination what other place part 4 examining the procedure. Result and examination are talked about in section 5 and part 6 closes the report with recognizing the future works of this venture.

CHAPTER 2

LITERATURE REVIEW

The dependence on information and creation drives one to invest amounts of energy in comprehension and identification the different illnesses patient. This dependence is prompting the creation of various and different finder applications. Indicator applications are significant. These applications permit individuals with wellbeing issues to convey one another, with no identifier applications this is absurd. In addition, in nations like Bangladesh where dominant part of the populace has a place with the city of our country, it is imperative to know the contaminated patients data to remain secure. Every one of these viewpoints set off the development of identifier applications that utilizing patient's picture to recognize the contaminated individual continuously. There is likewise a Corona Tracer BD applications accessible in play store which can measure up to our framework.

The public authority has dispatched a cell phone based application, Corona Identifier, to find and track Covid-19 influenced individuals while Bangladesh is the second most minimal country in Asia in utilizing cell phones [1].

The application was dispatched by the Post and Telecom Ministry and grew together by state-run portable administrator Teletalk and Radisson Digital Technologies Limited [2].According to the telecom service articulation, the application has highlights that will actually want to test Covid-19 with X-Ray pictures and send the outcomes in the briefest conceivable time. Likewise, it will teach the clients the essential measures if the test outcome is discovered positive [3].

The application is likewise incorporated with the Institute of Epidemiology, Disease Control and Research (IEDCR) and the Ministry of Home to guarantee appropriate activity about the pandemic [4]. The designer of the application, Radisson Technologies Chairman Delowar Hossain Faruk said with Bluetooth and GPS innovation the application will actually want to follow Covid-19 patients [5].There were high acclaims piled on the application, Corona Tracer BD, a cell phone application professed to can caution a client of any Covid-19 patient close by, subsequently helping the application client to keep up friendly separating, two meters, as recommended by the WHO [6].

Pastors and government functionaries brimming with idealism guaranteed that the application, dispatched in the main seven day stretch of June, would "...play a vital

job in getting the lives and occupations of individuals of this country during a period of extraordinary need [7]."

The application experiences various genuine specialized limits at the client level because of its reliance on Bluetooth and GPS.

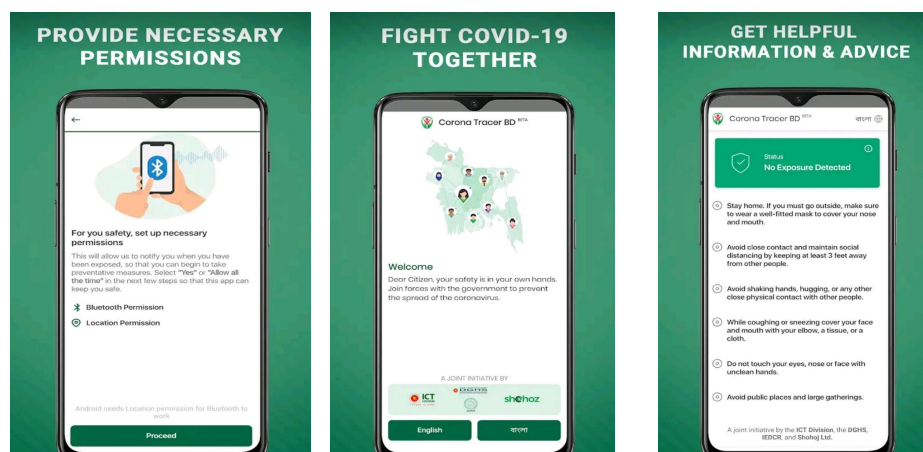


Figure 1: Screenshots of the Corona Tracer BD Apps

Beside the Corona Tracer BD application's accounted for absence of viability, The Business Standard couldn't discover any records on the number of individuals have been followed and alarmed by the application so far [8].

The Directorate General of Health Services (DGHS) and the Institute of Epidemiology Disease Control and Research (IEDCR) couldn't give any information on the application's utilization, however it was created with direct help from and financing by the DGHS, IEDCR and ICT Division [9].

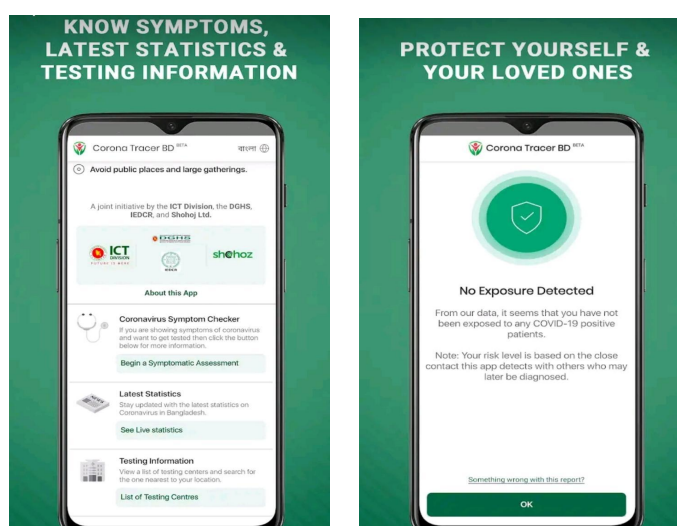


Figure 2: Screenshots of the Corona Tracer BD Apps

As indicated by my discoveries, there is one Corona Tracer Apps accessible on our Google play store for certain restricted highlights that can be additionally executed in our framework in future, for example, administrator can embed the patient's

information as well as patients can embed their information to our framework. Next to this none of the applications working with the continuous through their framework yet my application working with the constant information through picture handling.

CHAPTER 3

PROJECT SPECIFICATION

As in the writing audit section we have distinguished the uniqueness of our framework, likewise we have recognized some extra highlights that can be added to our framework in future. The undertaking determination expected to foster this application is gathered in building up a work area application. We need to foster a framework that will work viably progressively.

Recorded are the particulars of the identify Coronavirus patients project-

- Admin will screen the worker running state.
- Admin will embed the patient's information with their remarkable ID. The embedded information will be put away in data set.
- If the patients cross our framework camera in that time our framework distinguish the patient that were embedded by administrator.
- Whenever patients cross the framework camera our framework promptly catch the patient's image and send it to our data set to coordinate with embedded information.
- After being second test if the patients got negative test outcome administrator will erase their information from our data set.
- Admin can bunch the patients information relies upon their test outcome like seclusion and home isolate.

Set of prerequisites that are expected to accomplish the details

- Server Side:
 - ✓ Programming Language: Html, CSS, C#.
 - ✓ File: Haar Cascade.
 - ✓ Library: Emgu.cv.
 - ✓ IDE: Visual Studio.

✓ Database: Oracle.

● Client Side:

✓ Programming Language: Html, CSS, C#.

✓ File: Haar Cascade.

✓ Library: Emgu.cv.

✓ IDE: Visual Studio.

Referenced apparatuses and extensions are required for our undertaking [10]. Information assortment was somewhat troublesome piece of our venture, since we need to gather the patient's information from IEDCR on the grounds that it's checking the Covid-19 patients everywhere on the Bangladesh. Notwithstanding, we are attempting to cover patient's exercises utilizing our data set.

CHAPTER 4

METHODOLOGY

In the past section we have referenced our venture detail. Despite the fact that our framework chips away at a productive way, we are attempting to cover entire the country through our framework. Notwithstanding, Covid-19 patients now and then show their recklessness after that uninfected individuals fall into hazard zone for this sort of indiscreet. All the significant data for train picture has been gathered from IEDCR. By and large, we will probably control the Covid-19 infection. We have introduced the improvement philosophy utilizing different charts all through this part.

4.1 Use Case Diagram

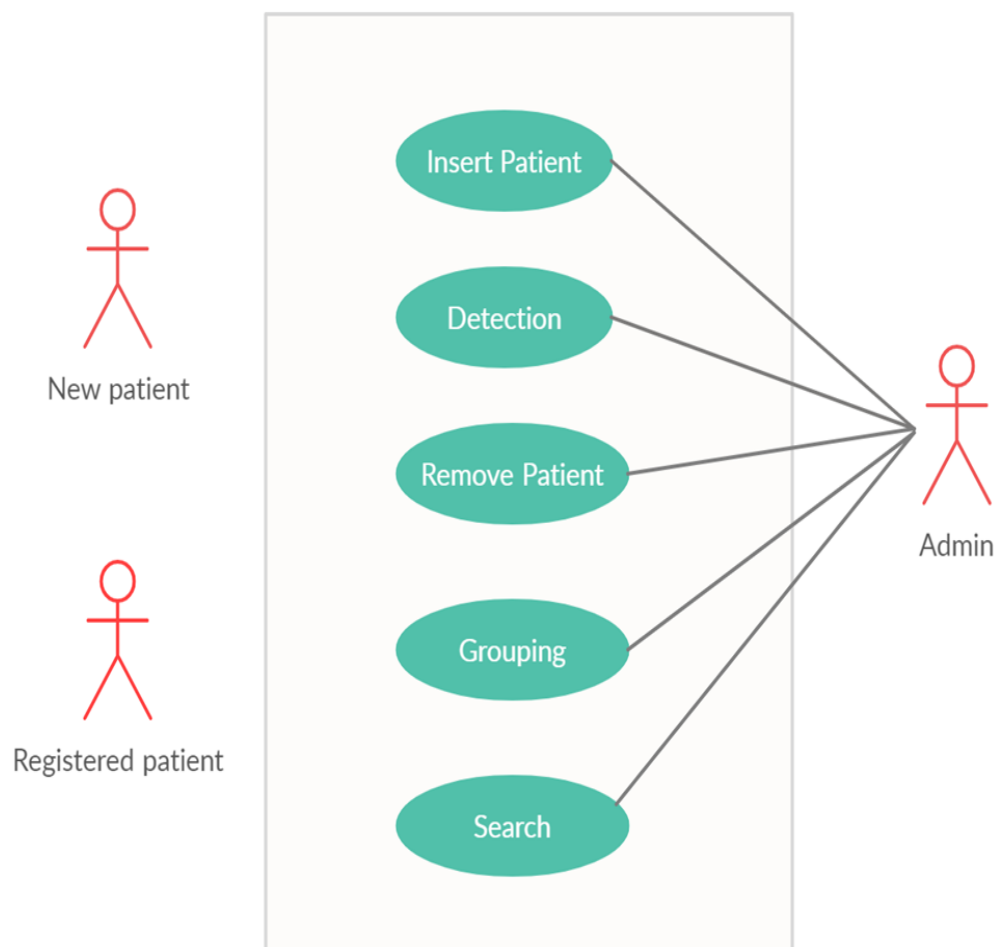


Figure 3: Use Case Diagram Of Detect Covid-19 Patients

In the above use-case graph we can see there are one kinds of entertainers following up on five exercises. The administrator will manage the Server Admin Panel checking movement. Which implies the administrator will embed patient's information and erase the patient's data in the data set. Administrator is work for the checking of worker and administrator board.

4.2 Block Diagram

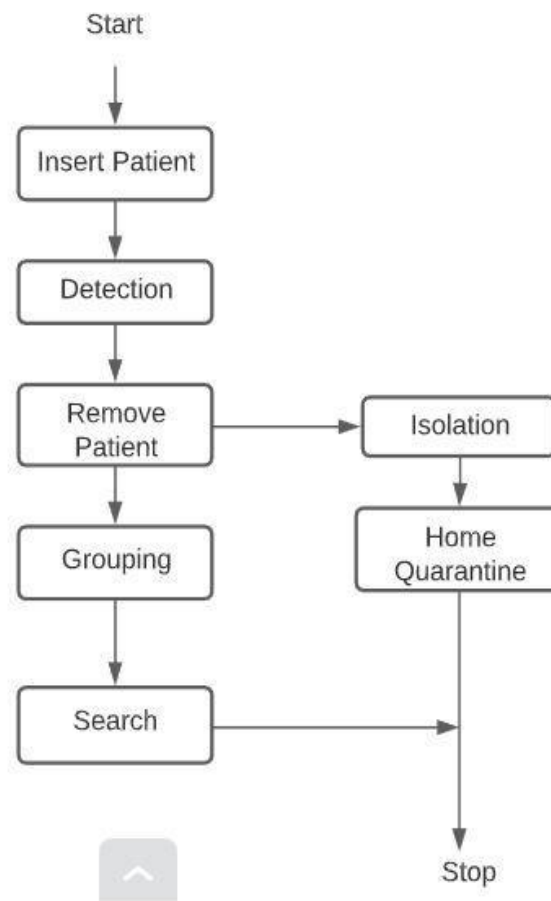


Figure 4: Block Diagram Of Detect Covid-19 Patients

In the above block outline we can see administrator first and foremost need to embed the patient information cause on the off chance that I don't have the information I can't identify the patients. As we previously put away the patient's information in our data set in the wake of being test so after the subsequent test assuming the patients got negative test report, administrator essentially eliminate the patient's information from our data set. When administrator embed the information to our data set in that time s/he basically separate the information into two diverse content box like the individuals who have positive test report they will store in our disengagement segment and the individuals who have Covid-19 manifestations in their body they will store in our home isolate segment.

4.3 Flow Diagram

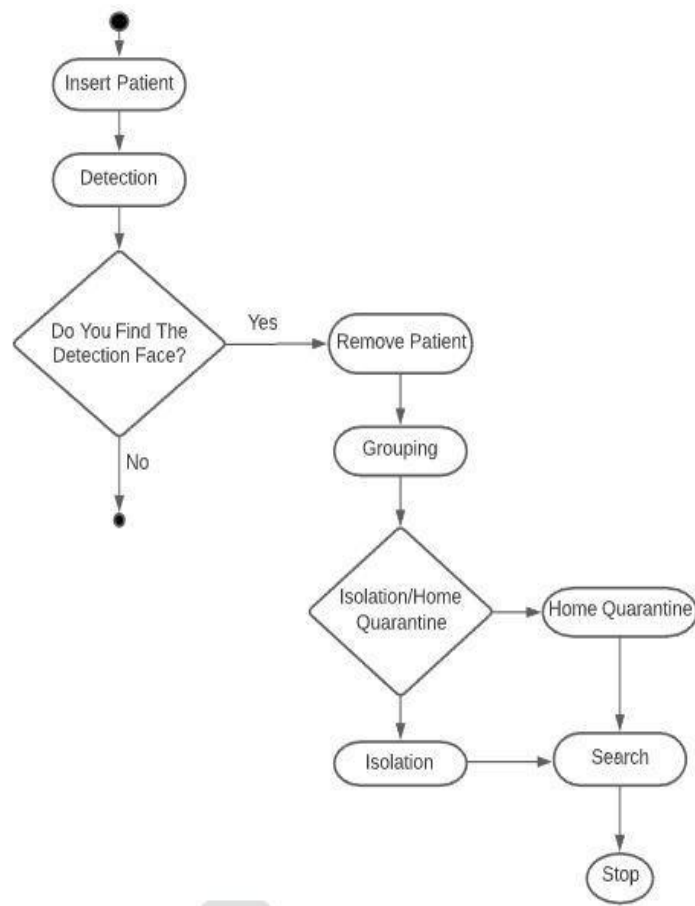


Figure 5: Flow Diagram Of Detect Covid-19 Patients

In the above stream chart we can see administrator first and foremost need to embed the patient information cause on the off chance that I don't have the information I can't distinguish the patients. As we previously put away the patient's information in our data set in the wake of being test so after the subsequent test on the off chance that the patients got negative test report, administrator just eliminate the patient's information from our data set. When administrator embed the information to our data set in that time s/he will need to isolate the information into two diverse content box like the individuals who have positive test report they will store in our separation area and the individuals who have Covid-19 side effects in their body they will store in our home isolate segment. At last s/he can without much of a stretch discover the patients information from the data set.

4.4 Data Flow Diagram (DFD)

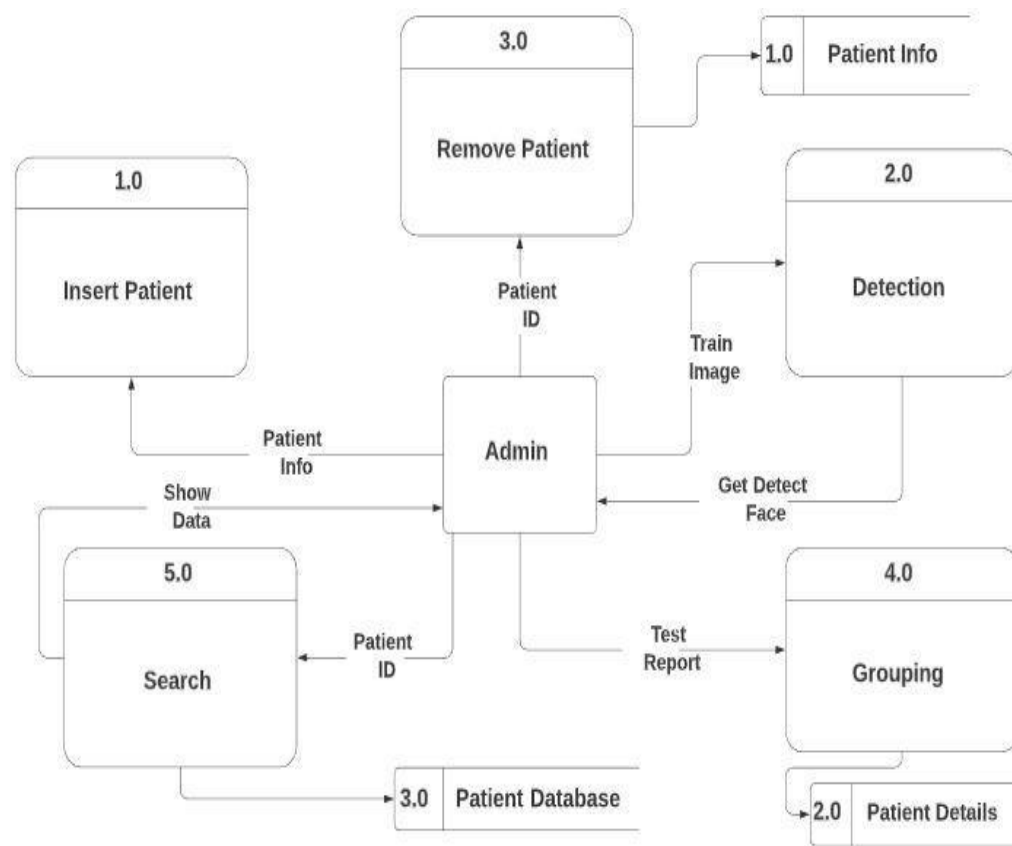


Figure 6: Data Flow Diagram Of Detect Covid-19 Patients

In the above flow diagram we can see admin firstly need to insert the patient data cause if I don't have the data I can't detect the patients. As we already stored the patient's data in our database after being test so after the second test if the patients got negative test report then admin just simply remove the patient's data from our database. When admin insert the data to our database in that time s/he will require to separate the data into two different text box like those who have got positive test report they are going to store in our isolation section and those who have got Covid-19 symptoms in their body they will store in our home quarantine section. Finally s/he can easily find out the patients data from the database.

CHAPTER 5

RESULT AND ANALYSIS

The approach showed the improvement interaction of our framework. We can see the general improvement cycle can be isolated into two significant bits, worker side and customer side. Furthermore, the implementation of this different sides lies on Admin board.

The improvement of Detect Covid-19 Patients comprises of two significant parts.

- Admin Panel and
- Desktop application

5.1 Admin Panel Work Flow

The administrator board has been planned utilizing C#. A Haar Cascade document has been carried out before the planning. GUI have been made to get all outcomes, and information in a proficient way. Subsequent to setting up information base connections, worker side attachment programming execution in administrator board has been finished. The primary five pages of administrator board are –

- Insert Patient
- Detection
- Remove Patient
- Grouping
- Search

The principal page is Home (Figure.). Five fields separately do their own exercises. Here Admin can see his/her graphical perspectives. At the point when s/he got the patients information from the IEDCR then s/he quickly embed the patient's information into our data set.

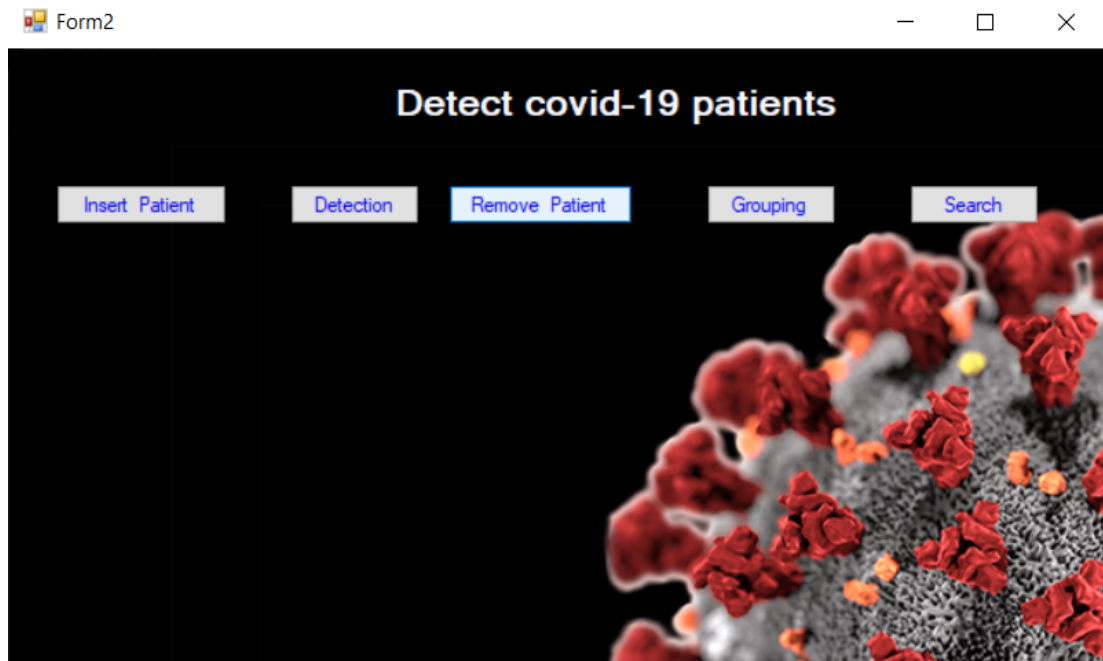


Figure 7: Graphical Views of Admin panel of Detect Covid-19 Patients

The principal page is the Insert Patient page (Figure). Here administrator embed the patient's information alongside their one of a kind ID. Then, at that point embed their name and whether the patients has positive test report or Covid-19 indications. Subsequent to finishing a wide range of things administrator just snap on the add individual catch to save the information. To do the all assignment here we have three content box alongside three fastens individually ID, Name, Status, Capture, Detect Faces and Add Person.

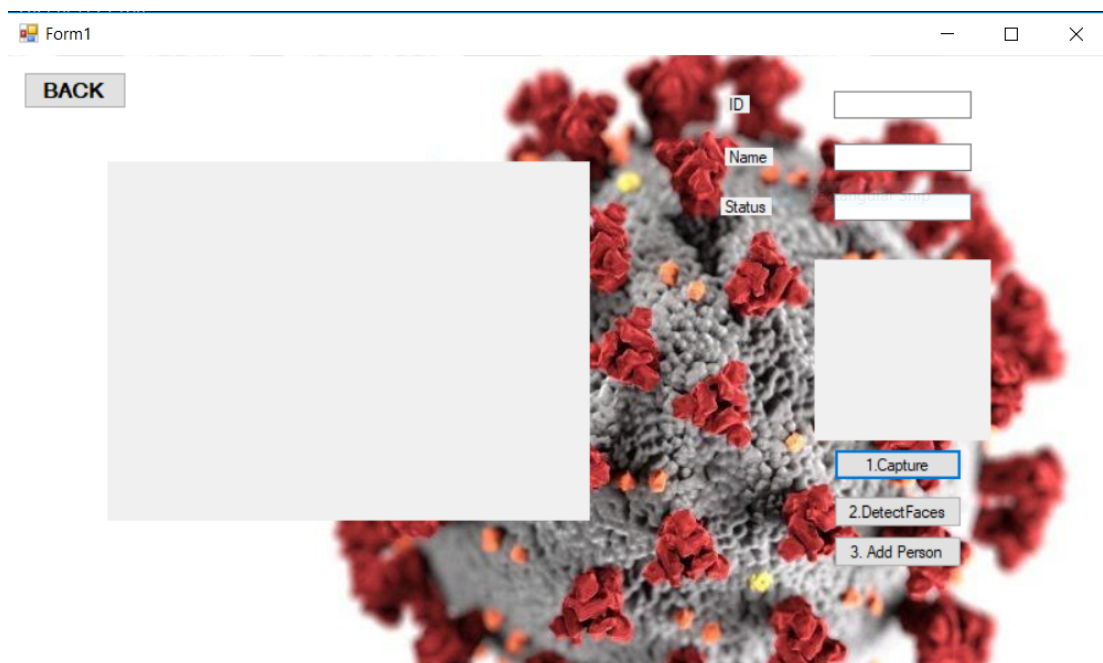


Figure 8: Insert Patient page of Admin panel of Detect Covid-19 Patients

The subsequent page is the Detection page (Figure). Here administrator can see at whatever point any contaminated patients cross the any of our framework camera then our sensor naturally recognize the patients face alongside others data then administrator can undoubtedly discover the area of the specific patients so they can make some appropriate stride.



Figure 9: Detection page of Admin panel of Detect Covid-19 Patients

The third page is the Remove Patient page (Figure). Here administrator can eliminate the patient's data from our data set. As we definitely realize we embed the information when patients got Covid-19 positive in their body. However, in the wake of being the subsequent test on the off chance that the patients got Covid-19 negative test report, administrator just eliminate their information from our data set.

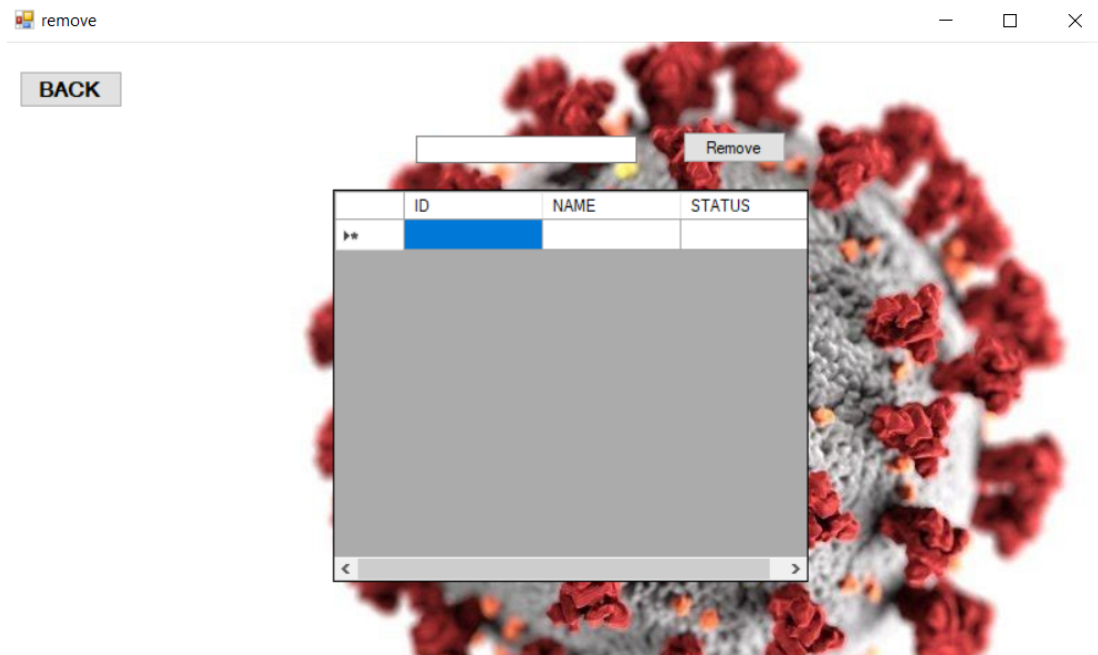


Figure 10: Remove patient page of Admin panel of Detect Covid-19 Patients

The forward page is the Grouping page (Figure). When administrator embed the patient's information into our data set where we have two content box with various reason one is for Covid-19 positive patients and another is for Covid-19 side effects patients so we can comprehend the level of the infection. In this way, here administrator can undoubtedly commencement the complete seclusion patients and furthermore the quantity of home isolate patients. We partitioned it into two distinctive table with the goal that it tends to be simple for us to figure the number.

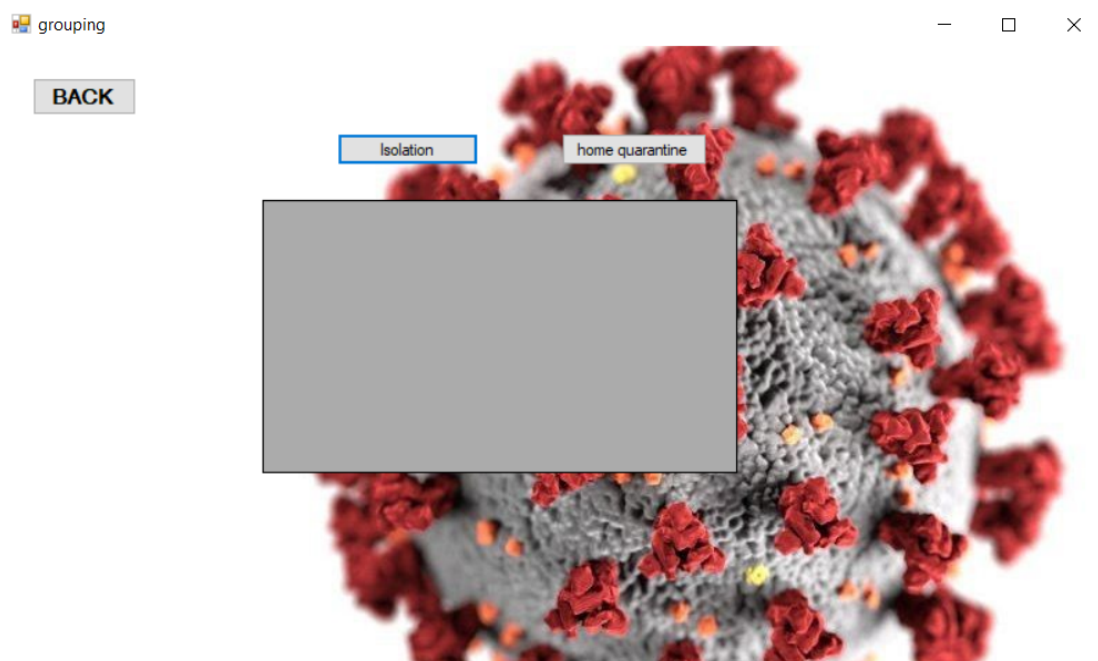


Figure 11: Grouping Isolation page of Admin panel of Detect Covid-19 Patients

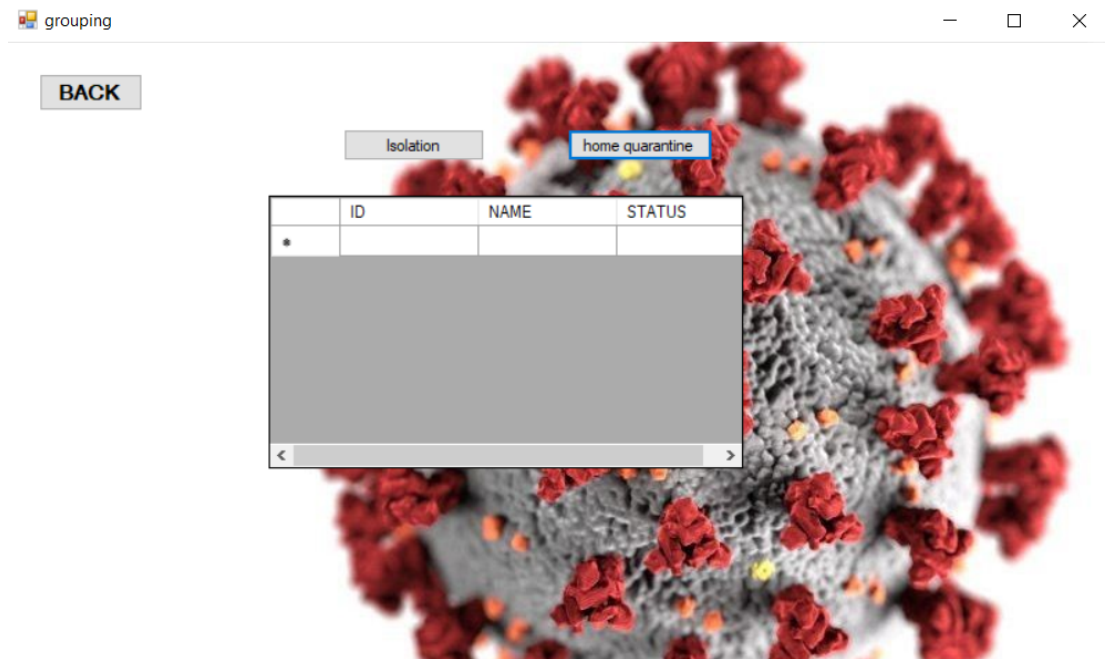


Figure 12: Grouping Home Quarantine page of Admin panel of Detect Covid-19 Patients

The fifth page is the Search page (Figure). Here administrator can look through the patient's data to look at everything at whatever point s/he need for any reason. Yet, to discover the patients information s/he need to look with the patients ID. We put away our patient's information with an exceptionally novel ID. Administrator need to check the patient's information cause whether the patients in separation or in home isolate.

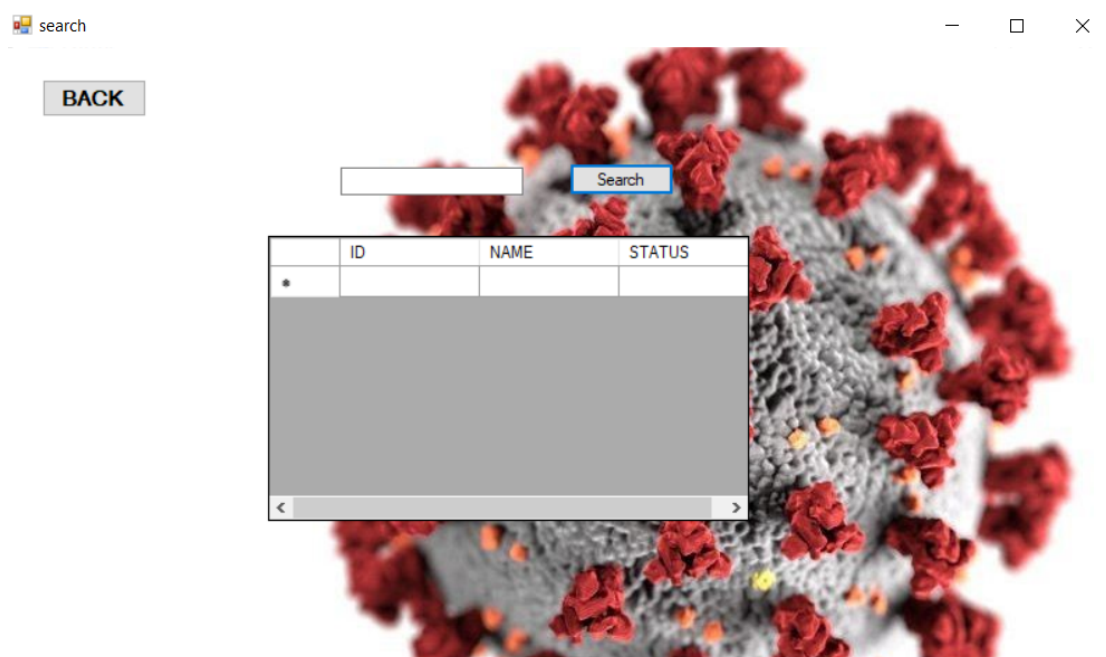


Figure 13: Search page of Admin panel of Detect Covid-19 Patients

The execution of the undertaking details applying the procedures have been appeared in the past part. The venture detail has been met effectively, yet this isn't the finish of the task, investigation of the outcome and examination of the expense additionally assumes an extraordinary part in the productive cycle of fostering an undertaking. To assess my outcome, result investigation and cost examination has been talked about beneath.

5.2 Result Analysis

Subsequent to investigating the aftereffect of the venture, I can go to a couple of focuses. There were difficulties to gather the patient's information from IEDCR. Ongoing face discovery is grounded. As indicated by the recorded highlights the item came out great.

5.3 Cost Analysis

The advancement time of Detect Covid-19 Patients is 3 months. The expense of this undertaking comprises of not many various classes, for example, equipment cost, programming cost, improvement cost, upkeep cost and incidental expense.

Table 1: Detect Covid-19 Patients Cost Analysis

Cost Type	Description	Cost
Hardware Cost	1 Router 1 PC	Tk. 1600/=
Software Cost	Domain- 1 year	Tk. 50,000/=
Developer Cost	Senior Developer (1): Per week- 40 hours, Per Month- Tk. 30,000/=	Tk. 1500/=
	Development Period: 3 months Total: Tk. 90,000/=	Tk. 90,000/= (Sr. Developer)
	Junior Developer (2): Per week- 40 hours, Per Month- Tk. 20,000/=	Tk. 1,20,000/= (Jr. Developer)
	Development Period: 3 months Each Person: Tk. 60,000/=	
	Total: Tk. 1,20,000/=	
Maintenance Cost	Monthly maintenance (Tk. 5,000/=)	Tk. 5,000/=
Miscellaneous Cost		Tk. 10,000/=
	Total	Tk. 2,78,100

In total the cost for this project is Tk. 2,78,100/=.

CHAPTER 6

CONCLUSION AND FUTURE WORK

Recognize Covid-19 Patients is a public fundamental framework. This undertaking will be recipient for the public authority. As indicated by my discoveries, plans and examination it is assessed to be an effective task whenever dealt with appropriately. The objective of my work was to foster an application that will work for all intents and purposes, in actuality, to eliminate or diminish the infection.

To foster the framework, I have kept a very much created course of events and worked by it.

Project Name: Detect Covid-19 Patients	Project Duration: Four Months	Start Date: 9th July	End Date:
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Task		
Task	Start Date	End Date
Project IDEA	9 th July	16 th July
Front-end Design	17 th July	26 th July
Learn Haar Cascade	27 th July	7 th August
Learn Emgu.cv	8 th August	15 th August
Developing Project	16 th August	26 th August
Learn Oracle	1 st September	7 th September
Connect Database	8 th September	10 th September
Developing Project	11 th September	20 th September
Learn HTML & CSS	21 th September	30 th September
Developing Web App	1 th October	

Figure 14: Gantt chart of Detect Covid-19 Patients

Here is the Gantt diagram of my undertaking that shows the fruition of each errand as per many months. There are four fundamental errands – Proposal accommodation, Literature audit and proposed system, Development and execution, Final report and effort. This is a 13 weeks in length project, after every week there was an assignment to do which is Internal Supervisor meeting. I had an intend to finish this venture inside the mid of September month.

6.1 Summary

As a task engineer, I have taken in some truly astonishing innovations which are rehearsed in the Business universe of Software Industry.

In my three months of task period I have learned C#. Asp.Net system for Web Development. After a tad of examination, I came to realize that this structure presented by Google. Which the most are requesting innovation in the present time for web advancement. In my Desktop advancement project, I worked with C#. I realized why it is superior to different advances, why it is not difficult to learn and execute and the approaches to make my future as an undertaking designer.

Likewise, In Bangladesh we truly need this sort of use so that individuals can go ahead and walk anywhere without wearing careful veil. It will likewise give them full security and help to keep this infection from spread out.

6.2 Future Works

This report looks like the plan and advancement of Detect Covid-19 Patients application. There is a colossal chance of broadening the highlights of this venture in future. In future, we will likewise add highlights. With the goal that patients can likewise get their state-of-the-art update to plan and upkeep their customary exercises. At this moment it's a work area base application yet in future I will do it on web base application so everybody can access and they can embed their test report information through their self. Numerous dialects will be added so this framework can be utilized in any reason. Broadcasting of numerous dialects can be an expansion of Detect Covid-19 Patients.

CHAPTER 7

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