American International University-Bangladesh (AIUB)

Department of Computer Science

Faculty of Science &Technology (FST)

Summer 2020

CSC 2210 Object Oriented Analysis and Design (OOAD)

Section:C

Project Title: "COVID-19 Test Management System"

An Object-Oriented Analysis and Design (OOAD) project submitted
By

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CO3: Formulate a baseline document to perform feasibility study of a proposed project idea		Total Marks
Project Background Analysis	[5Marks]	
Project Content Knowledge	[5Marks]	
Project Feasibility Study	[5Marks]	
CO4: Design a Complex engineering problem using UML Tools and explain the system using a project report and presentation		Total Marks
Diagram Standard	[5Marks]	
Report Organization	[5Marks]	
Presentation Delivery	[5Marks]	

Project Title: **"COVID-19 Test Management System"**

Justification:

During this pandemic of COVID-19, this management system will bring relief from this terrible situation. As this disease spreads between people through direct, indirect, or close contact with infected people. This COVID-19 test management system will indicate every affected people. So this management system is very effective during this outbreak of deadly coronavirus.

Project Background Analysis :

This project is based on current pandemic situation of COVID-19.This management ease the process of testing sample of victims because the full process is controlled by a single software.

People who are afftected can easily make their account in this software.The patient can easily make their payment,get test result(corona positive/ negative) through this software.In this project, the the receiptionist take the central role because he collect sample collector team and provide time and address of patient.Then sample collector team go to the patients home on the provided date and take sample.Then they send this sample to the lab.Lab test the sample and give result to the patient's account.If any patient is tested negative then they will provide a clearance certificate.But,If the patient is tested positive,the doctors will determine whether the patient shall go immediately to medical facility or take self isolation at home.

In this project the patient's specific benefits are : they can easily pay through this software and they don't have to go to hospital for test.The sample collector will come to patients home and take sample.And patient will get his test result through this software.
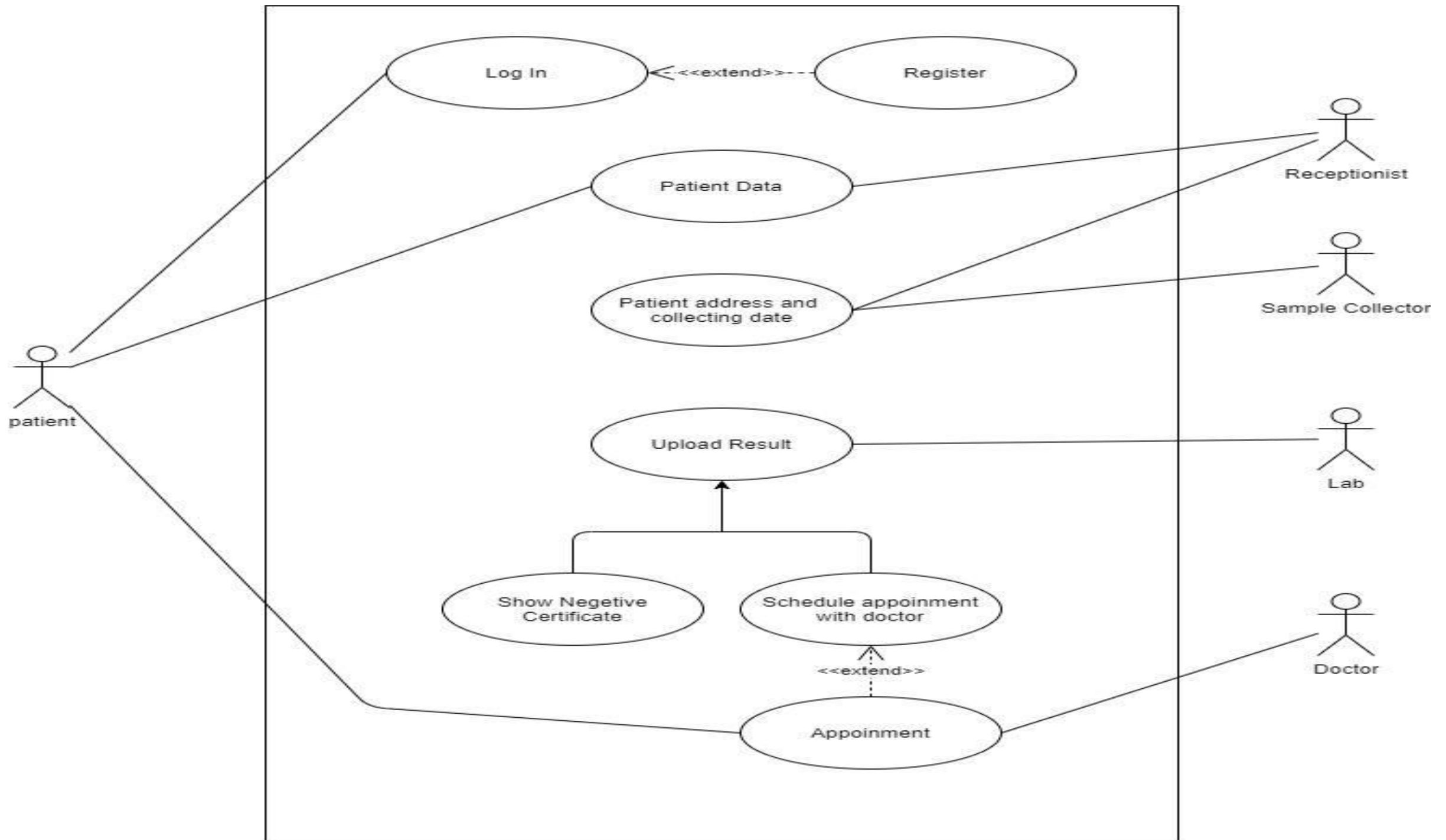
References:

   https://www.researchgate.net/publication/341781646_Corona_Virus_Disease_COVID_19_Analysis_and_Design_of_an_Alert_and_Real-time_Tracking_System
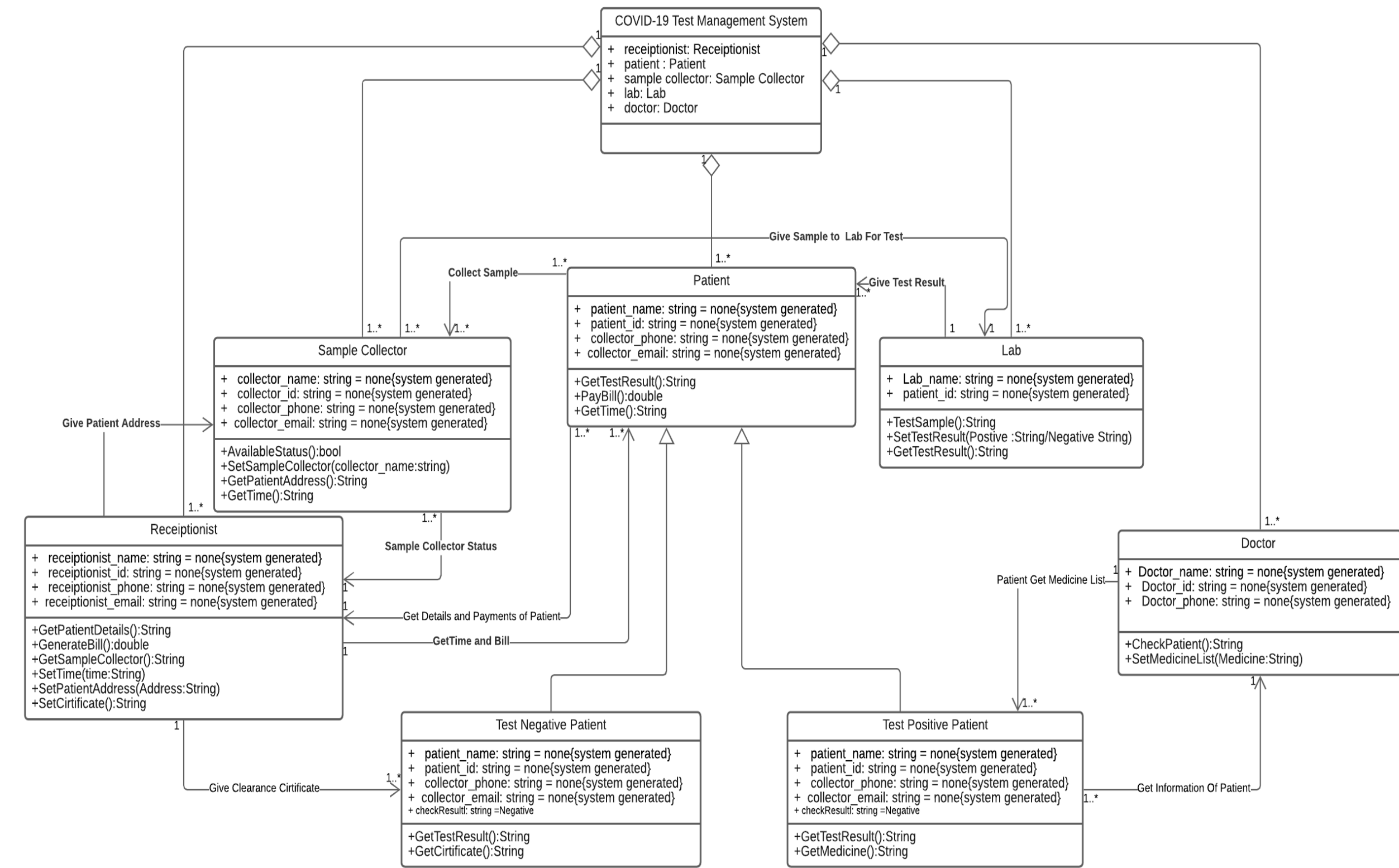https://www.who.int/docs/default-source/searo/bangladesh/covid-19-who-bangladesh-situation-reports/who-ban-covid-19-sitrep-10.pdf?sfvrsn=c0aac0b8_4
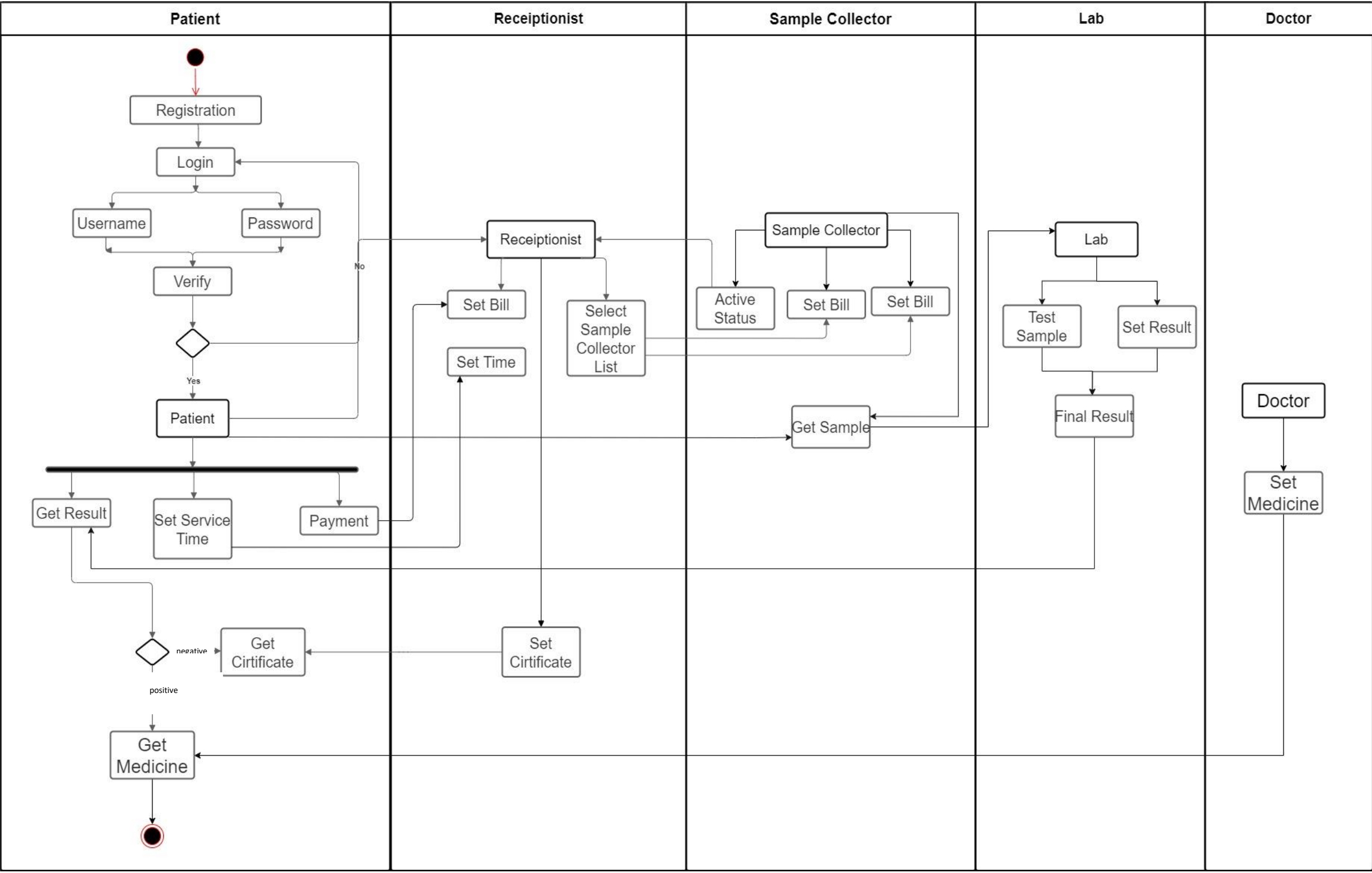
UML DIAGRAM

CASE: 01(Use Case) :

Case 02: (Class Diagram):

COVID-19 Test Management System

+ receiptionist: Receiptionist
+ patient : Patient
+ sample collector: Sample Collector
+ lab: Lab
+ doctor: Doctor

Patient

+ patient_name: string = none{system generated}
+ patient_id: string = none{system generated}
+ collector_phone: string = none{system generated}
+ collector_email: string = none{system generated}

+GetTestResult():String
+PayBill():double
+GetTime():String

Sample Collector

+ collector_name: string = none{system generated}
+ collector_id: string = none{system generated}
+ collector_phone: string = none{system generated}
+ collector_email: string = none{system generated}

+AvailableStatus():bool
+SetSampleCollector(collector_name:string)
+GetPatientAddress():String
+GetTime():String

Lab

+ Lab_name: string = none{system generated}
+ patient_id: string = none{system generated}

+TestSample():String
+SetTestResult(Postive :String/Negative String)
+GetTestResult():String

Receiptionist

+ receiptionist_name: string = none{system generated}
+ receiptionist_id: string = none{system generated}
+ receiptionist_phone: string = none{system generated}
+ receiptionist_email: string = none{system generated}

+GetPatientDetails():String
+GenerateBill():double
+GetSampleCollector():String
+SetTime(time:String)
+SetPatientAddress(Address:String)
+SetCirtificate():String

Doctor

+ Doctor_name: string = none{system generated}
+ Doctor_id: string = none{system generated}
+ Doctor_phone: string = none{system generated}

+CheckPatient():String
+SetMedicineList(Medicine:String)

Test Negative Patient

+ patient_name: string = none{system generated}
+ patient_id: string = none{system generated}
+ collector_phone: string = none{system generated}
+ collector_email: string = none{system generated}
+ checkResultI: string =Negative

+GetTestResult():String
+GetCirtificate():String

Test Positive Patient

+ patient_name: string = none{system generated}
+ patient_id: string = none{system generated}
+ collector_phone: string = none{system generated}
+ collector_email: string = none{system generated}
+ checkResultI: string =Negative

+GetTestResult():String
+GetMedicine():String

Give Sample to Lab For Test
Collect Sample
Give Test Result
Give Patient Address
Sample Collector Status
Get Details and Payments of Patient
GetTime and Bill
Patient Get Medicine List
Give Clearance Cirtificate
Get Information Of Patient

Case: 03 (Activity Diagram)

Case 04 (Sequence Diagram)