KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
Al-Imam Mohammad University
College of Computer & Information Sciences

المملكة العربية السعودية
وزارة التعليم العالي
جامعة الإمام محمد بن سعود الإسلامية
كلية علوم الحاسب والمعلومات

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Software Engineering (CS-310)
BSCS- Section: 171

Project-Phase No: 2
Diagnosing Diseases App (Bot)
(Design)

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Revision History

Description	Version	Date
Design	Phase.2	19/03/2020

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1.0 Abstract

This app will be able determine disease by a bot based on user answers, the questions are related from previous answers of the user during the diagnose session, it will keep asking questions and accessing the database until the bot can determine the disease and it will show it to the user after that.

2.0 Introduction

Recently we have seen an increase adoption of smartphone-based diagnostic tools and one of the most promising directions in medicine is finding new and improving old methods of medical diagnosis, There are many different ways to diagnose and treat diseases, Diagnosis Diseases App designed to help both doctors and patients, Patient can be diagnosed by asking them necessary questions, based in his answers the bot will reducing the other symptoms until determine the disease, By using this method the bot be able to analysing the patient answers,

Before all of you need to know about the database, we have that consists all of the disease name and cures, From aaccessing the database based on the patient answers we can get the name and cure of the disease and show it to the user.

3.0 High Level and Medium Level Design

3.1 System Interaction Model

As we can see the figure 1 below the use case describe the Diagnose Disease app the User and the System and how can they interact with each other.

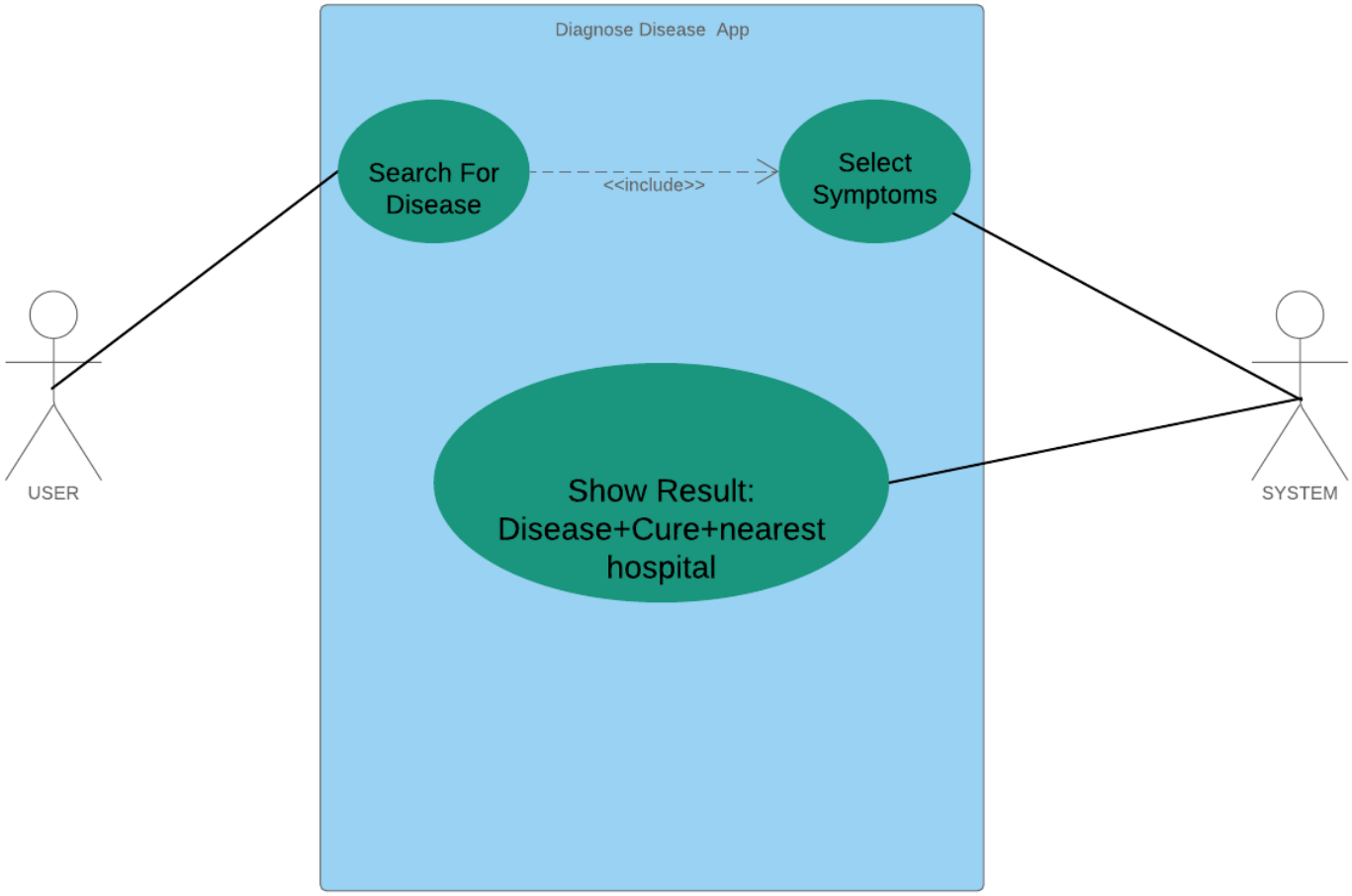

Figure 1- Use Case Diagram

3.2 Model-View-Controller

As we can here figure 2 blow Model-View-Controller the interaction from system data, and how they interact with each other.

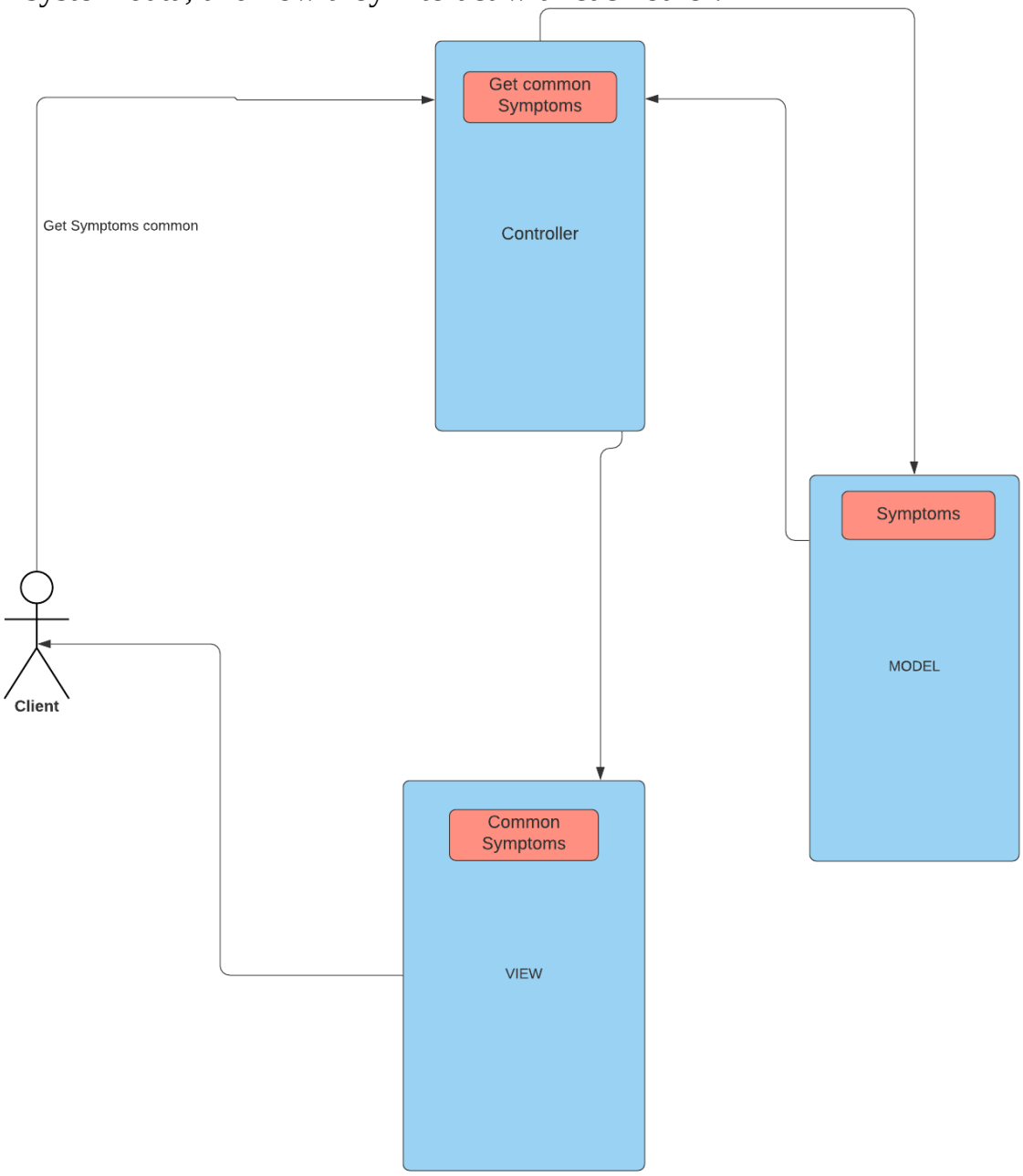

Figure 2 - MVC

3.3 Class Diagram

We can see Figure 3 below the class diagram is showing the structure of the app.

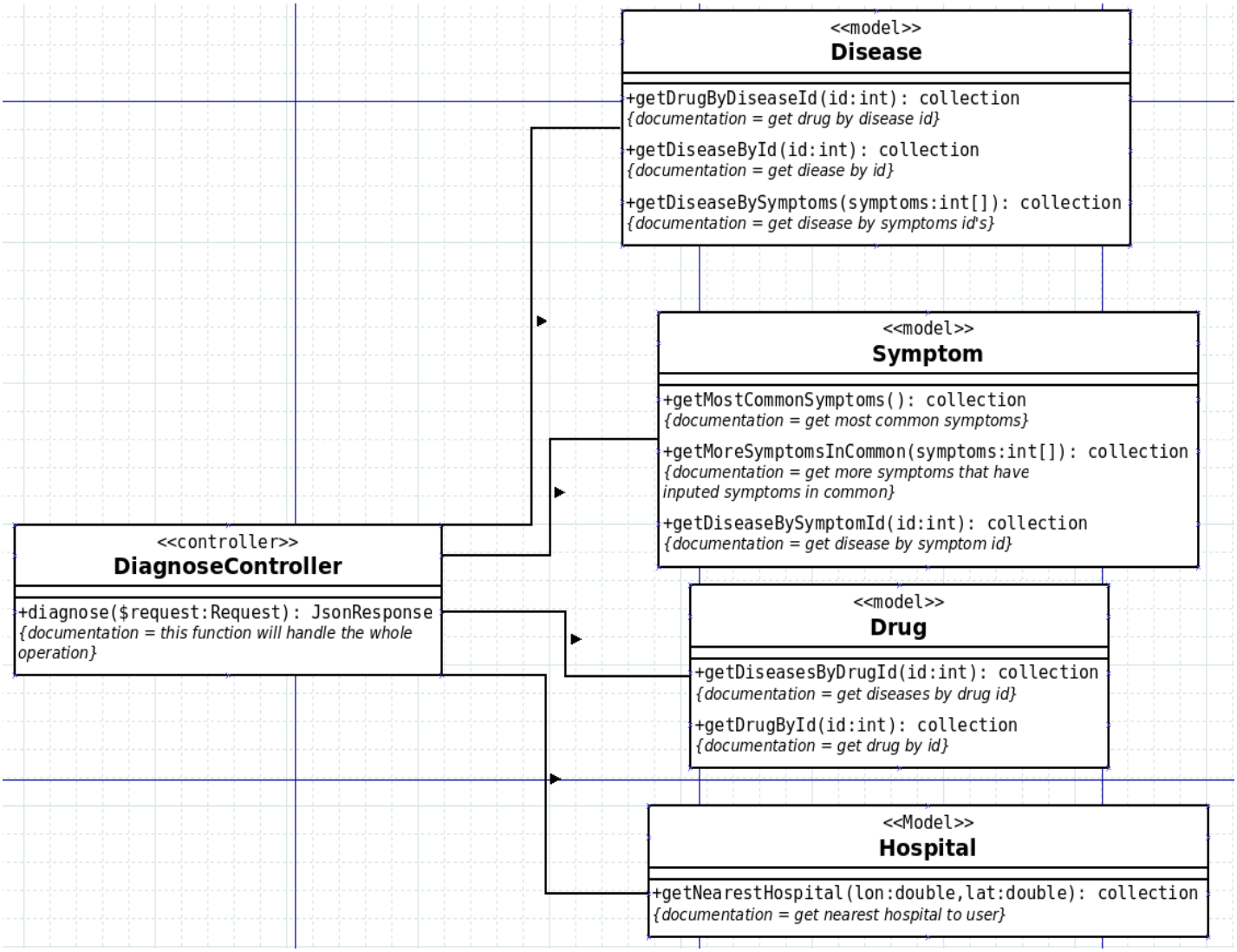

Figure 3 – Class Diagram

3.4 Class Method Description

Class	DiagnoseController
Method	diagnose
Visibility	public
Return type	JsonResponse
Parameters, type	request: Request
Description	this function will handle the whole operation

Class	Disease
Method	getDrugByDiseaseId
Visibility	public
Return type	collection
Parameters, type	id: int
Description	get drug by disease id

Class	Disease
Method	getDiseaseById
Visibility	public
Return type	collection
Parameters, type	id: int
Description	get disease by id

Class	Disease
Method	getDiseaseBySymptoms
Visibility	public
Return type	collection
Parameters, type	symptoms: int[]
Description	get disease by symptoms id's

Class	Symptom
Method	getMostCommonSymptoms
Visibility	public
Return type	collection
Parameters, type	void
Description	get most common symptoms

Class	Symptom
Method	getMoreSymptomsInCommon
Visibility	public
Return type	collection
Parameters, type	Symptoms: int[]
Description	get more symptoms that have inputed symptoms in common

Class	Symptom
Method	getDiseaseBySymptomId
Visibility	public
Return type	collection
Parameters, type	id: int
Description	get disease by symptom id

Class	Drug
Method	getDiseasesByDrugId
Visibility	public
Return type	collection
Parameters, type	id: int
Description	get diseases by drug id

Class	Drug
Method	getDrugById
Visibility	public
Return type	collection
Parameters, type	id: int
Description	get drug by id

3.4 Detailed Design

Here we can see Figure 4 how the client gets the results in the sequence diagram.

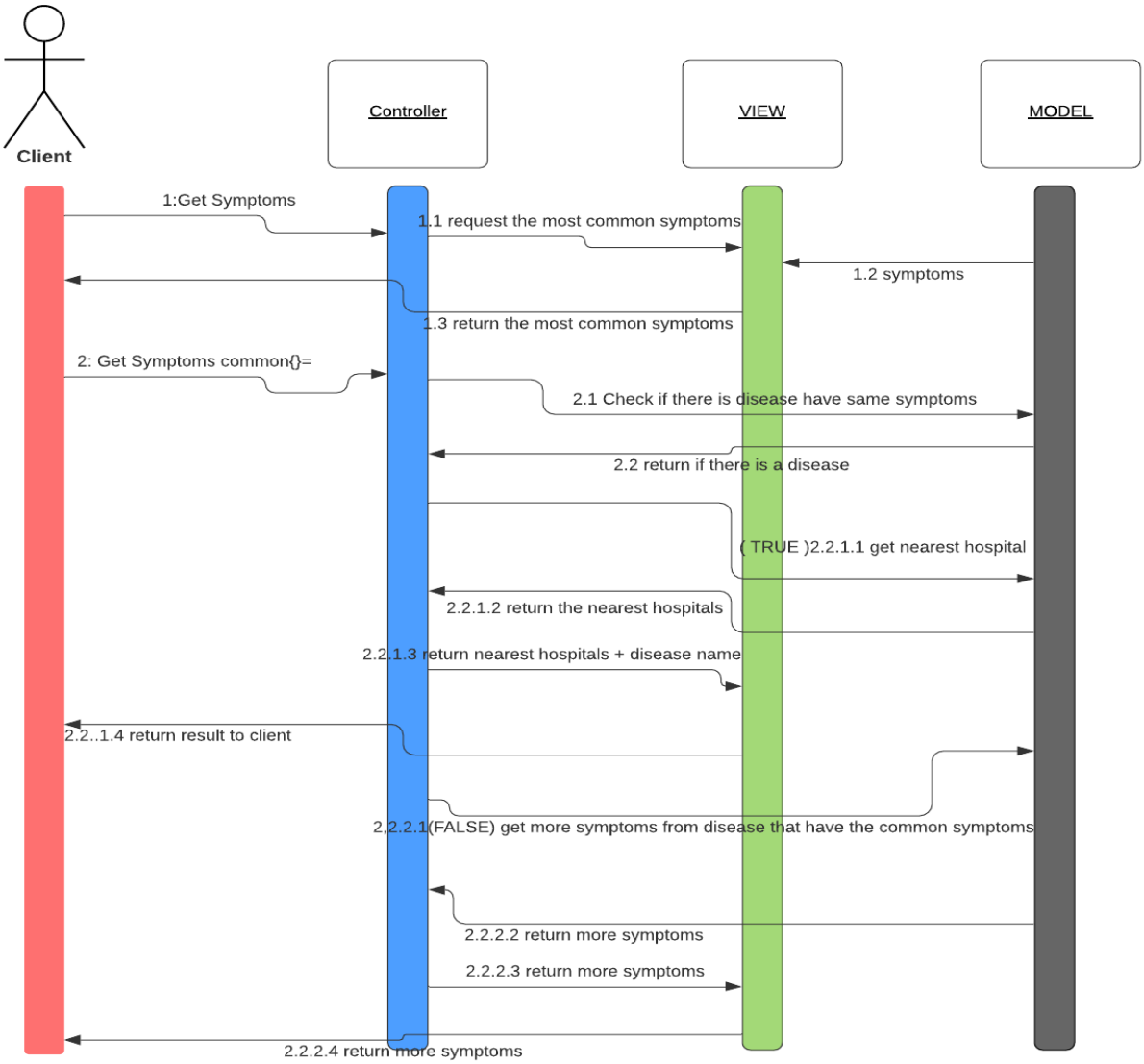

Figure 4 – sequence diagram

4.0 User Interface Design

Figure 5 – Here we can the user interface consist the logo.

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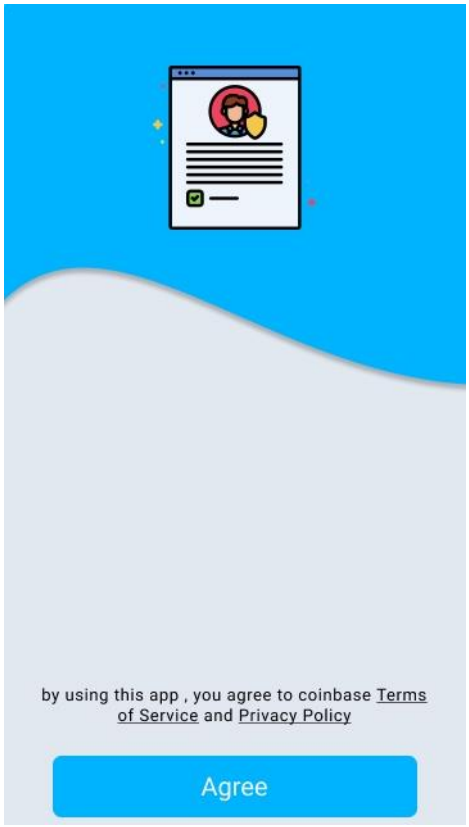

Figure 6 – Here the user should agree the terms before using the app.

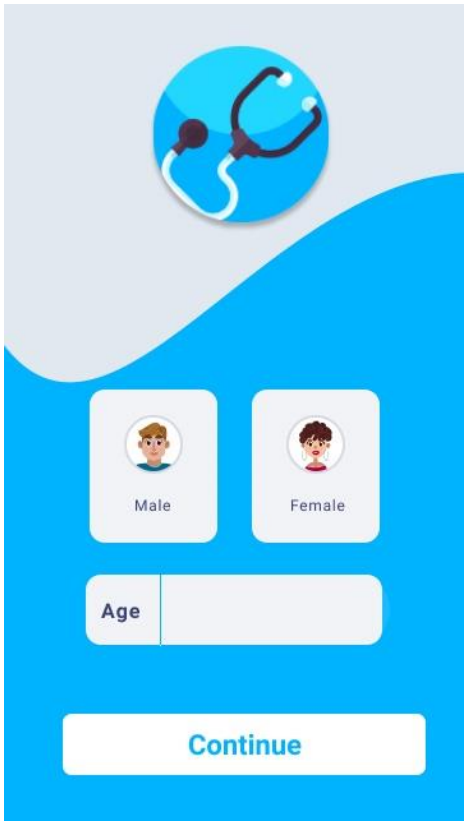

Figure 7 – Now the user needs to enter his info gender, age, etc.

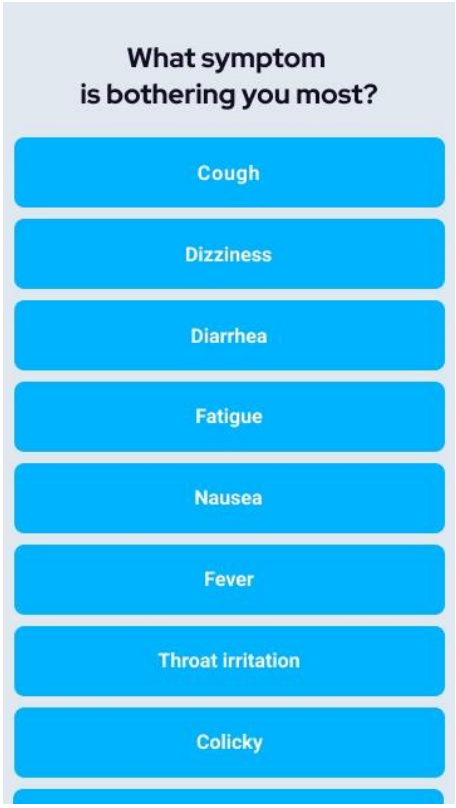

Figure 8 – Here the user should choose what symptom he has to start diagnosing.

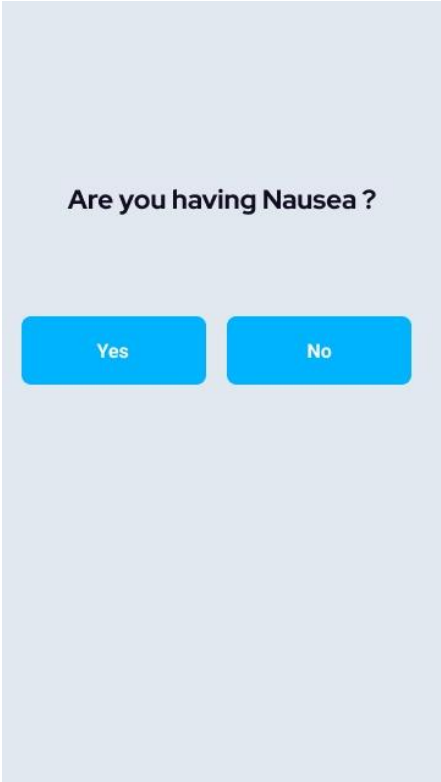

Figure 9 – As we can see here the Diagnose session is started and the bot start asking and user should answer Yes/No.

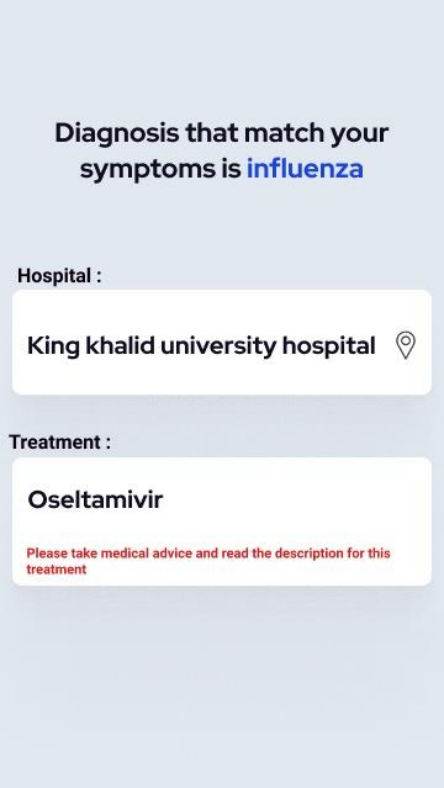

Figure 10 – And now the user will be able to use the results of his answers names of the disease and treatment and the nearest hospitals.

5.0 Conclusion

In this design document we have mentioned many design topics. first, we show the use case diagram and the MCV pattern and we described them and then we did the class diagram with the methods and we fallow it with a sequence diagram descripting how the system interacting with the client to get the results. And also, we showed the interface of the app and how its look like. And the last we provided a description with each member contributions in this phase.