POLITECNICO DI MILANO

Master's Degree in Automation and Control Engineering

PROJECT DOCUMENTATION

"MediAssist"

For Software Engineering

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ABBREVATION

API	Application Program Interface
DB	DATBASE
RASD	Requirement Analysis and Specification Document

CHAPTER 1

1.1 FEASIBILITY ANALYSIS:

The General Notion of our project is to find the nearby doctors and pharmacies based on the user's location. Here we are conducting a feasibility analysis of our idea and to check how feasible the application is for the user. As a result, here we are presenting our application to avoid manual searching and to ease the reliability and has many other advantages which will be shown in the upcoming sections.

1.1.1PROJECT DESCRIPTION:

The main aim of our project is to find the nearby doctors and pharmacies based on the user location and to help the students and tourists who are new to the country or city to understand the medical terms carried in the respective countries. This application has a very good outcome mainly for the common people who are within the country and outside the country or city to find their suitable doctors and pharmacies nearby in ease. This helps to avoid manual searching which will be difficult at times to find their suitable doctors. It also helps them to reduce their time and energy by using this application. This application also helps the user to find their nearby doctors, pharmacies timings of a complete week and this helps the user to plan their timings of when to visit the doctor based on his daily available time and the application is linked with google maps which helps the user to take them directly to their doctor's clinic, pharmacies with all means of mode transports with the available time of the transport. This application has a very good future and benefits and in our point of view this is one of the best feasible ideas to come up with because as we are also one among the foreign students and we also faced so many difficulties to fetch the right information about the medical policies in the country and also we faced many different scenarios of finding the nearby suitable doctor. This whole project tells about how to have a solution to this problem and so that it must be feasible for all the users who are using this application.

1.1.2 POSSIBLE SOLUTION:

To solve this problem, we developed a user-friendly Android Application by using the platform EXPO. We had chosen the Expo platform because it supports both iOS and Android from the start. Like for example, you can develop the android

application by using this platform and with the same code which you used for the development of the android application can be used for the development of an iOS application. This saves a lot of time developing the apps and makes maintenance of your apps cheaper and leaner because you don't have to do the same job twice. This platform also helps to monitor the development process instantly with expo tooling and also you can save more time while creating protection builds because with the single configuration file we can make expo to do the heavy lifting by generating new builds for both iOS and Android. The main advantage of this platform is it helps to publish the updates very quickly. So, we have chosen this expo platform for the development of our application "Medi Assist".

1.1.3 EVALUATION CRITERIA:

We also evaluated our application by using a suitable testing method whether it satisfied our required specification or not. At present we have developed the application to find the nearby doctors and pharmacies based on user location and the application has satisfied our work which we intended to do before. We also evaluated the application and it runs according to the corresponding to the required specification. We also took a survey of our application from the common people and we got very good positive reviews and feedback for the development of the application. We had done this evaluation for the improvement and need for the modification and ultimately to lay the foundation for future development.

1.1.4 FEASIBLE SOLUTION:

A digitalized and user-friendly application will be the most feasible solution to solve this problem. The user finds this application more feasible because it helps him to identify the nearby doctors and pharmacies and he/she can have a view of the available doctors and pharmacies based on the user location and can himself select the doctor's clinic/pharmacies which takes them directly to the maps where can he/she can find a way of how to reach the doctor's clinic, pharmacy. So we found this application will be very feasible for the people who can save their time at most.

1.1.4 CONCLUSION:

In our point of view, we believe that this application will very handy to use and can help the people to reach the doctor's place at the earliest convenience. Nearly 70% of respondents said that they were pleased to use the application, and this would

reduce their time and effort of finding the suitable doctor and pharmacies available nearby. Despite the fall in the 1st quarter of 2017, the medical industries still present a 224-Billion-dollar market in Europe and a 7.7 trillion-dollar market worldwide. Also, we are from the Automation and Control Background, and so we would like to know how to build an application user interface which will help us to build our own app for what we need in the future.

1.2MARKET RESEARCH ANALYSIS:

Market Analysis is one of the crucial components of our application development and business with all required information and making a wise business decision. This effective market analysis has helped us in getting valuable insights into shifts in the economy, competitors, ongoing market trends. Our vision is to give a new and innovative option for finding nearby doctors easily.

1.2.1 EXECUTIVE SUMMARY:

Behind every successful product present in the market today, there is a story of substantial market analysis of the application, competitors, and customers. In our analysis, most of the travelling people(tourists) and students are facing the difficulties of understanding the medical policies in the country and in finding the nearby suitable doctors and pharmacies. As we are also the students from Politecnico Di Milano we also at times faced the problems of finding the nearby suitable doctor and pharmacies and understanding the medical policies of the country. Based on our idea we had a survey among the common people, and we had a positive response from them. Most of the data falls under students and very few under other country people. Based on our market research, the result which we got was if we implement the application, we had more customers to buy it. The main purpose required from the needs of the people was, the application must be simple and user-friendly, and it must help all the common people to find their requirements in ease. The main reason for our research work is to identify the need of the people in medical and also to compare our difficulties faced and our thoughts which had helped us in finding the appropriate solution in ease i.e the development of our application “MediAssist”. We concluded that a user-friendly mobile application can help in solving this major problem and also it can be very helpful in business based on the people downloads and usage of the application.

1.2.2 DATA COLLECTION:

Data Collection is done through google forms and several questionnaires were mentioned and the survey was taken by forwarding our list of questions in Google forms to our friends, family and some strangers in the university. We had a survey of one hundred people through google forms and several results were got through them. Here are the following survey questionnaires and the results which we got through them are graphed below,

- Type of Profession of the person?
- Type of Mobile OS?
- How likely will you be travelling?
- Are you staying away from home?
- How often will you encounter the difficulties of medical assistance when travelling to a new place??
- What kind of difficulties will be in major during the medical situation?
- Imagine that you are under medical emergency when you're travelling or away from home, how helpful will it be if you have a mobile application?

We collected the survey results from students and common people in the university. Based on their feedback we concluded on how to carry out the design and working of the application.

For the first question, we made a pie chart and in that the maximum number of people who have given their output was students.

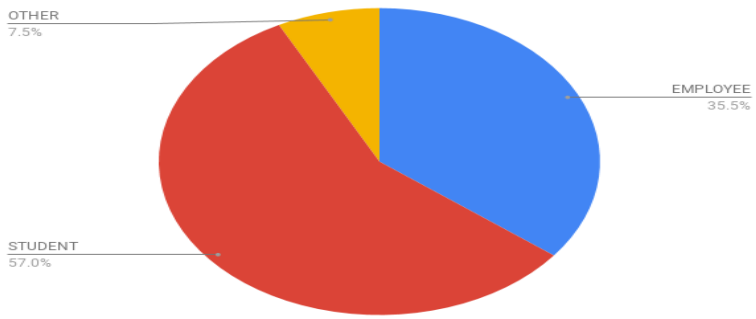

Figure 1 TYPE OF PROFESSION

For the second question, the pie chart was made, and the maximum number of OS was Android.

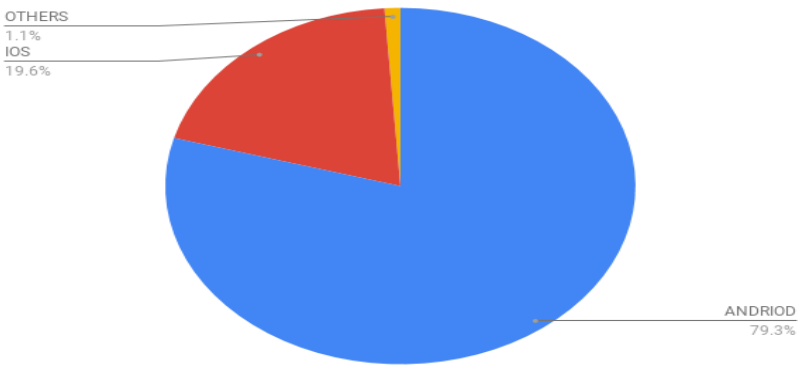

Figure 2 TYPE OF MOBILE OS

For the third question, we have given the options in the form of scale starting from 1 to 5. We got the results that nearly 68% (On average of 3.40%) of the people will be travelling often and we made it in the form of a bar chart.

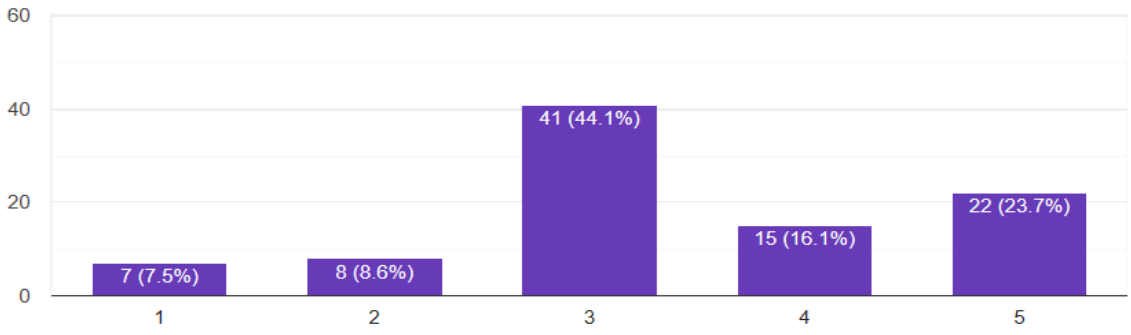

Figure 3 PERCENTAGE OF TRAVELLING OFTEN

For the fourth question, we have shown the results in the form of a pie chart and the maximum number of people are staying away from home.

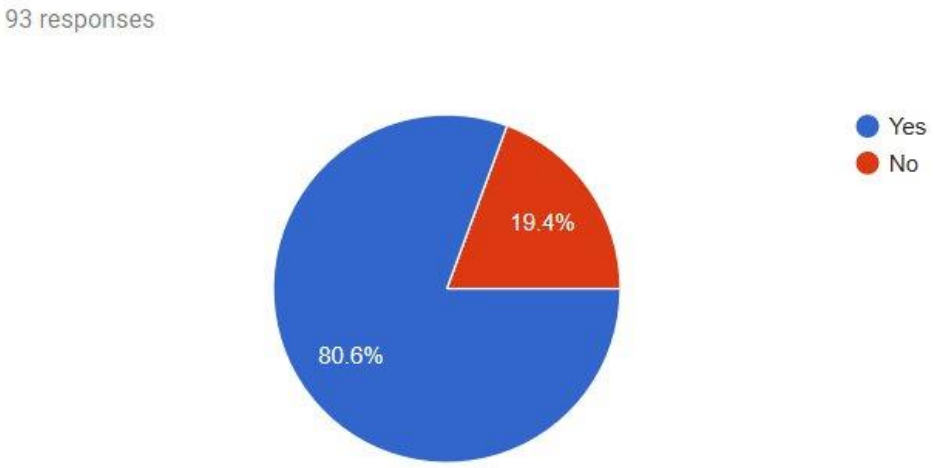

Figure 4 AWAY FROM HOME

For the fifth question, we have shown the results in the form of bar chart and nearly 53.6% (2.67% on average) have encountered the difficulties for medical assistance when travelling to a new place.

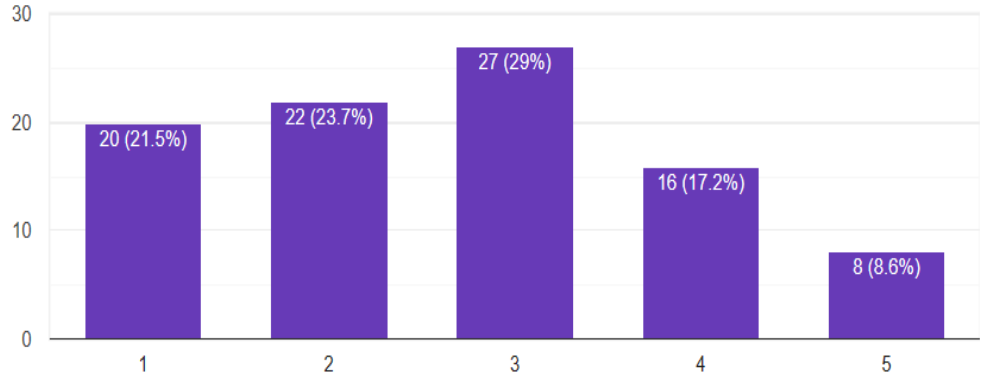

Figure 5 DIFFICULTIES TO FIND MEDICAL ASSISTANCE

For the sixth question, we have shown the results in the form of bar chart and in this majority of the people nearly 57% have faced the problem of understanding the medical policies in a country.

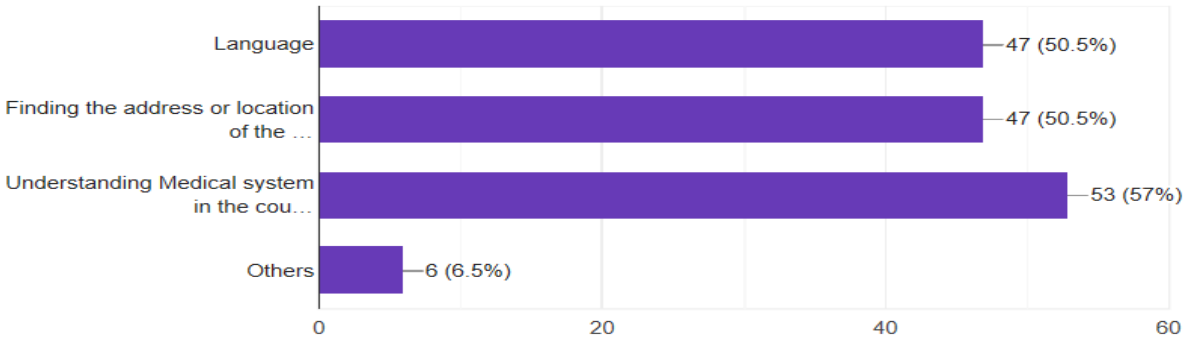

Figure 6 KIND OF DIFFICULTIES

In the fourth question, we got the output as nearly 53% of the people only have faced the problem of Medical Assistance in a new country. So in this seventh question we gave an imaginary situation, that they are travelling during the travel we asked them to imagine that they are under a medical emergency and we asked how helpful will be a mobile application to them during that time and we got the output that more than 80% of people require an application which will be helpful for them.

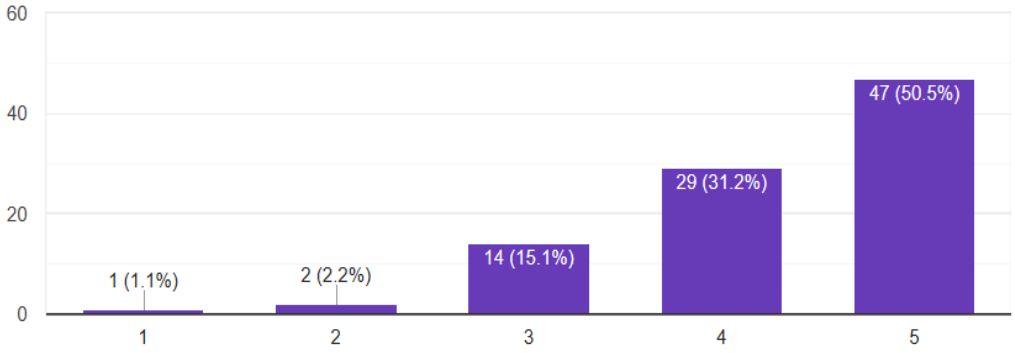

Figure 7 IMAGINARY OF MEDICAL EMERGENCY WHEN TRAVELLING

So, everyone has a fear that they will get into a medical situation and this is our major success to develop a user-friendly application that can solve their problems in ease.

1.2.2.1 ETHICAL CONSIDERATION

Ethical Consideration is one of the important aspects of Market research. A few of the Ethical Considerations that were considered by us while taking the survey were data security, privacy, and confidentiality of the research participants. We were more concerned about it and we asked only their name, Country of living and Profession and we didn't ask their email id, contact number because those are their private data. Also, we included only their name because to avoid multiple responses.

1.2.3 PROBLEM DEFINITION:

Based on our data collection, we identified the problems faced by the people by drawing the comparison of the problem of our vision and people's vision.

1.2.4 TARGET GROUP:

Our target groups were the travelling people, Students, Working people and the general people. In the nutshell, all the people will require this application and it will be helpful for them.

1.2.5 APPROACH TO THE PROBLEM:

Our main approach to the problem was to make a very simple mobile application which can be very handy and useful for all the common people's usage. We are following 80/20 rule by means of it around 80% percent of World Population is having Smart Phones.

1.3COMPETITOR ANALYSIS:

Few Start-up Companies have developed the application in various manner targeting the problem of finding the doctors in a country. We took those applications as our reference models and we tried to overcome the problems which were not properly done by those applications. Our direct competitors are Doctor Finder, Practo. The main drawback of Doctor Finder is

- Inbuilt User Interface Problems.
- Less Flexibility.
- Limitations of Doctor and Pharmacies.
- No GPS was not integrated with this application.
- No proper maintenance and not in proper working condition.

The Main drawback of Practo Application are

- In this application, the doctors are given ratings and they are divided into several categories like Prime Doctors and it is like an advertisement.
- The people are getting manipulated to go for the prime doctors because the doctors are paying money to the application for their better promotions to show them as the prime doctor. This was the major complaint received in the feedbacks of this application because their service was not so appropriate.

CHAPTER 2

2.1. INTRODUCTION:

2.1.1 Purpose:

In this chapter “Requirement Analysis and Specification Document,” we provided all the detailed aspects of our working application “Mediassist”, including its components, goals, constraints, functional and non-functional requirements. The main purpose of the document is to fulfil the system requirements and the detailed description of what the system must do. The requirement analysis is very critical to the development of an application and the requirements must be actionable, measurable, testable related to our business need in our case(searching for assistance in the application instead of searching through other websites) which should be defined to a level of detail and sufficient design.

The high-level functionalities described are intended for both developers and project managers. It is important that we developed the application satisfied all the user requirements. The formers must implement and test the functionalities while the latter must examine whether every requirement has been respected.

2.1.2 Problem Description:

The application described in RASD is the “Mediassist” mobile application which can find the nearby doctors and pharmacies based on user location. We developed this application mainly focused on “tourists and students” to find a list of available assistance near their user location.

The main aim of this application is to integrate the application with google maps and it has some constraints in it, in order to give the user a friendly environment for finding the way to reach the doctor's location. And also, we addressed various problems through interviews and surveys for the better use of the application by the end-users.

2.1.3 Application Ideas:

- Having consistency and simple steps to enter the application by downloading it.

- Developing a simple graphical user so that the user has a consistent mood to use the application several times.
- We didn't include the login details in order to help the users to find his/ her assistance very easily and quickly at the time of emergency.
- Displaying the list of available assistance in the google map and the available time of assistance of all days in a week.
- Integrating the google maps with an application and helping the user to find the shortest route to reach the user location.

2.1.4 Target:

The main purpose of the work is to build an application that satisfies all the prerequisites and goals which are mentioned above and as a result an application that will satisfy all the user needs.

- T1 – Application download
- T2 – Display of Homepage
- T3 – Country, City Selection.
- T4 – Assistance Selection.
- T5 – Load Map with marker or icon
- T6 – Click on the marker or icons(user-defined)
- T7 – Display of Assistance Content box
- T8 – Redirected to Google Maps Window
- T9 – Get Directions

2.1.5 Special Purpose Targets:

The special-purpose targets are the ones that can be handled only by the admin who can be authenticated.

- ST1 – Database Access or handling

2.1.6 Constraints:

There should be some constraints on the procedure of finding assistance.

2.1.6.1Regulatory Policies:

- The database handling, doctors and pharmacies list can only be accessed by the user.

- The program is executable in Expo Platform
- The application is subjected to copyrights.

2.1.6.2 Software Limitations:

- The device should be java compatible or supported through Android OS.
- Internet or WIFI should be available.
- The location service should be switched on.
- Google maps should be installed.

2.2 REQUIREMENTS:

2.2.1 Functional Requirements:

The following are the basic functional requirements which have been decided according to the development of the application and the assumption mentioned are according to the goals.

T1 – App Download

The user should open the google play store in order to download the application and to use it to access and use all the facilities provided by the application.

T2 - Language Selection:

The user now can decide and select their language “English or Italian” according to their specific and convenience.

T3 – Sign in or Signup:

The next step which is required by the user to do is sign in or signup. The user needs to enter all his details like name, surname, email id, password in order to access the application which is mandatory. Once the user is successfully registered on the database, he/she can access the application and find their assistance in their convenient manner.

T4 – Country, City Selection:

Once the user is logged in, the home page will be displayed where he/she can select their country and city in order to find their assistance nearby of their current location.

T5 – Assistance Selection:

The user can select the assistance based on his/her requirement. Different types of Assistance are given like Cardiologist, Dentist, General Practitioner, and Pharmacy and the user can select his/her preference based on their requirements.

T6 – Load Map with Marker or icon:

Once the user has selected the country, city, and assistance, the user will be redirected to the map where he/she can find their selected assistance in the google map. The user can view all the assistance nearby of his/her location.

T7 – Click on the marker or icons (user-defined):

The map which is loaded is displayed with the overall selected assistance by the user on the home page. The user can find the nearby assistance in the map and make further proceedings the user clicks on the assistance icon.

T8 – Content Box Appears:

Once the user clicks the nearby assistance on the map, a new content box appears where the user can find two options, one option is for booking an appointment and one option for getting directions to reach the assistance location.

T9 – Book Appointment:

Once the user decides the assistance, he/she will find an option to book an appointment on the available timings of the doctor.

T10 – Click on get Directions:

Once the user decides and selects the assistance of which place to go he/she will find an option to get the direction button in the content box. We decided to link the google maps with the application in order to have a comfortable and suitable environment for the user to find the direction to reach the doctor.

T11 – Redirected to Google Maps:

Once the user clicks on getting direction icon, the direction will be redirected to the google maps.

ST1 – Database Access or Handling:

The database handling can only be accessed by the admin where he/she can have a view of the list of registered users on the application and also, he/she has the access to the master server which has the whole database used by the application.

ST2 – Database Special Purpose Targets:

The Special purpose target can only be accessed and modified by the admin. Suppose if we want to add extra assistance in a city or country, the admin makes a login into the database and then he/she adds the extra assistance in the city or country.

2.2 Value-added requirements:

- New updates of the assistance can be added directly to the application database by the admin.
- Simple and user-friendly environments.

2.3. UML Diagram:

The UML diagram shows the detailed classes in each phase of the architecture. The relationship with each class is clearly shown in the below diagram.

2.3.1 Class Diagram:

The purpose of the class diagram to model the static view of an application. Class diagrams are the only diagrams that can be directly mapped with object-oriented languages and thus widely used at the time of construction.

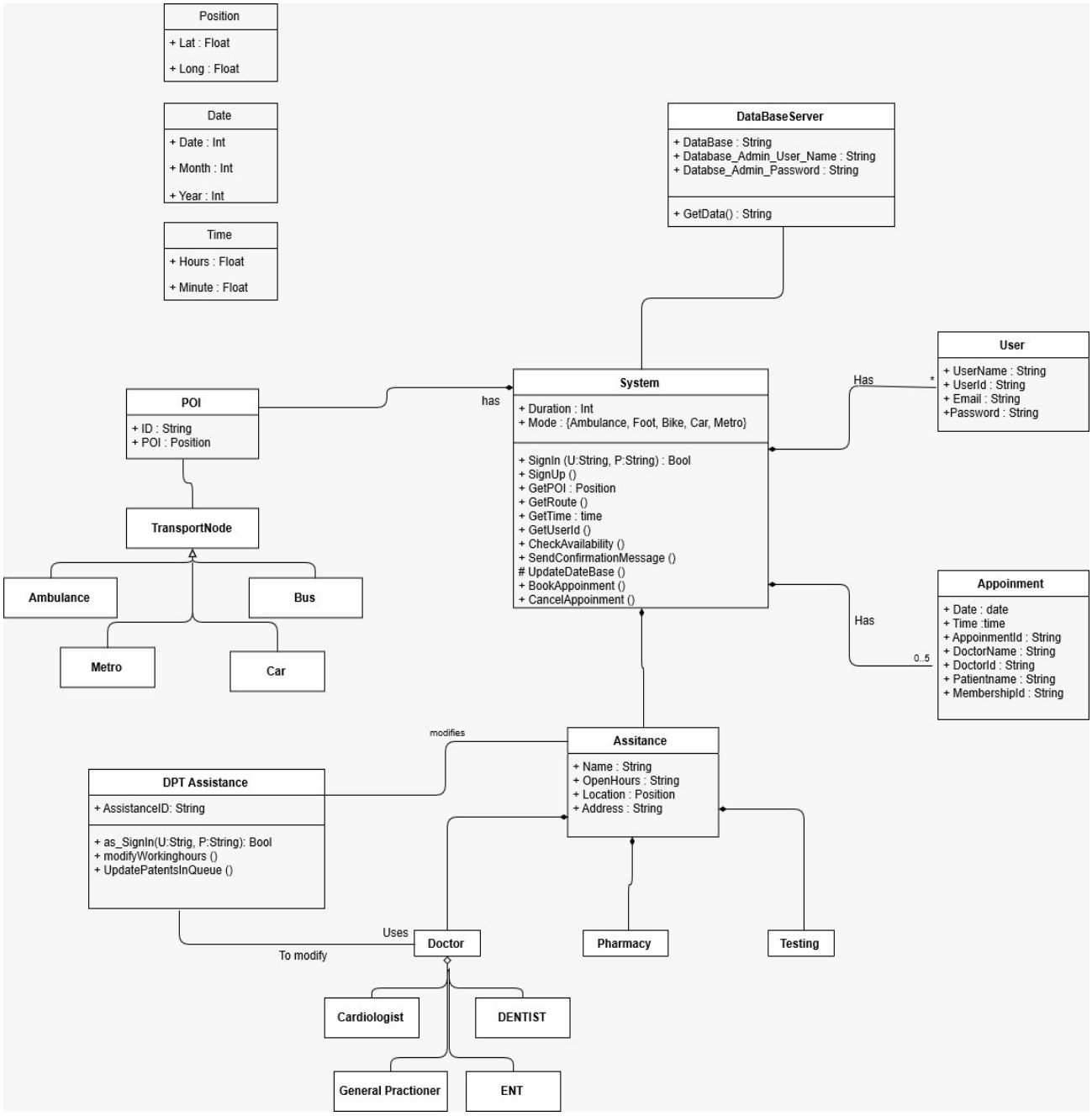

Figure 8 UML Class Diagram

2.4 Sequence Diagram:

Sequence diagrams describe the interaction among classes in terms of an exchange of messages over time. They're also called event diagrams. A sequence diagram is a good way to visualize and validate various runtime scenarios. These can help to predict how a system will behave and to discover responsibilities a class may need to have in the process of modelling a new system.

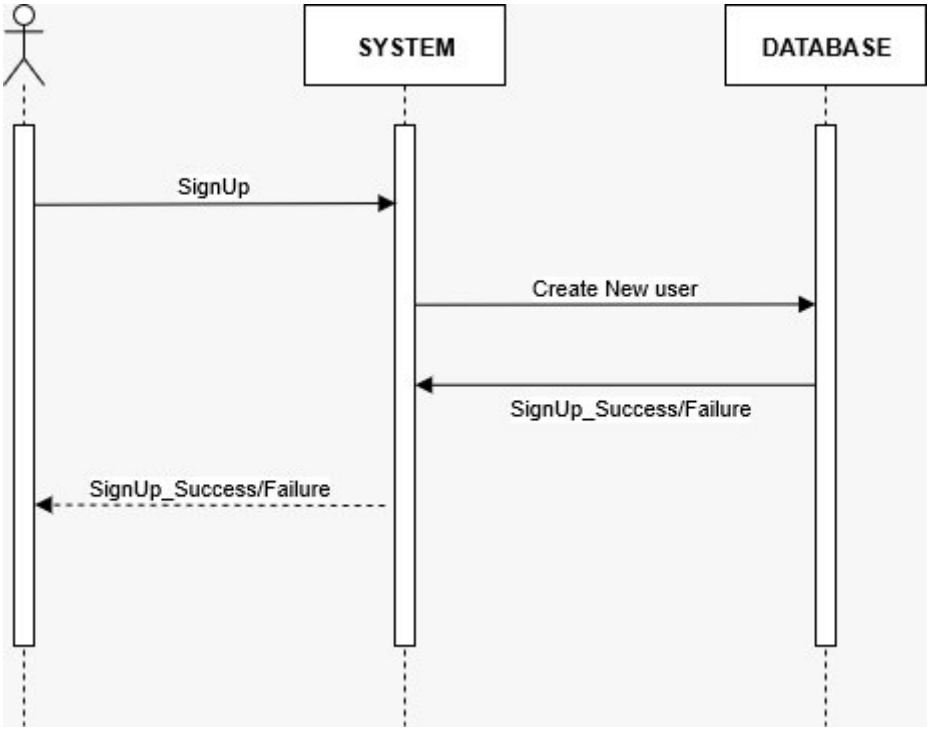

Figure 9 SignUp Sequence Diagram

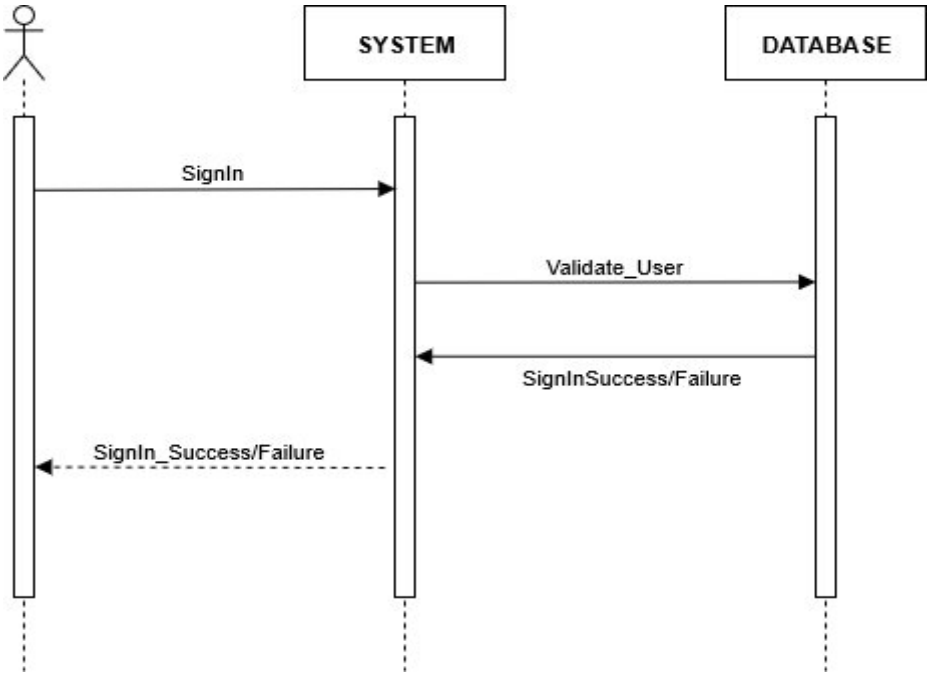

Figure 10 SignIn Sequence Diagram

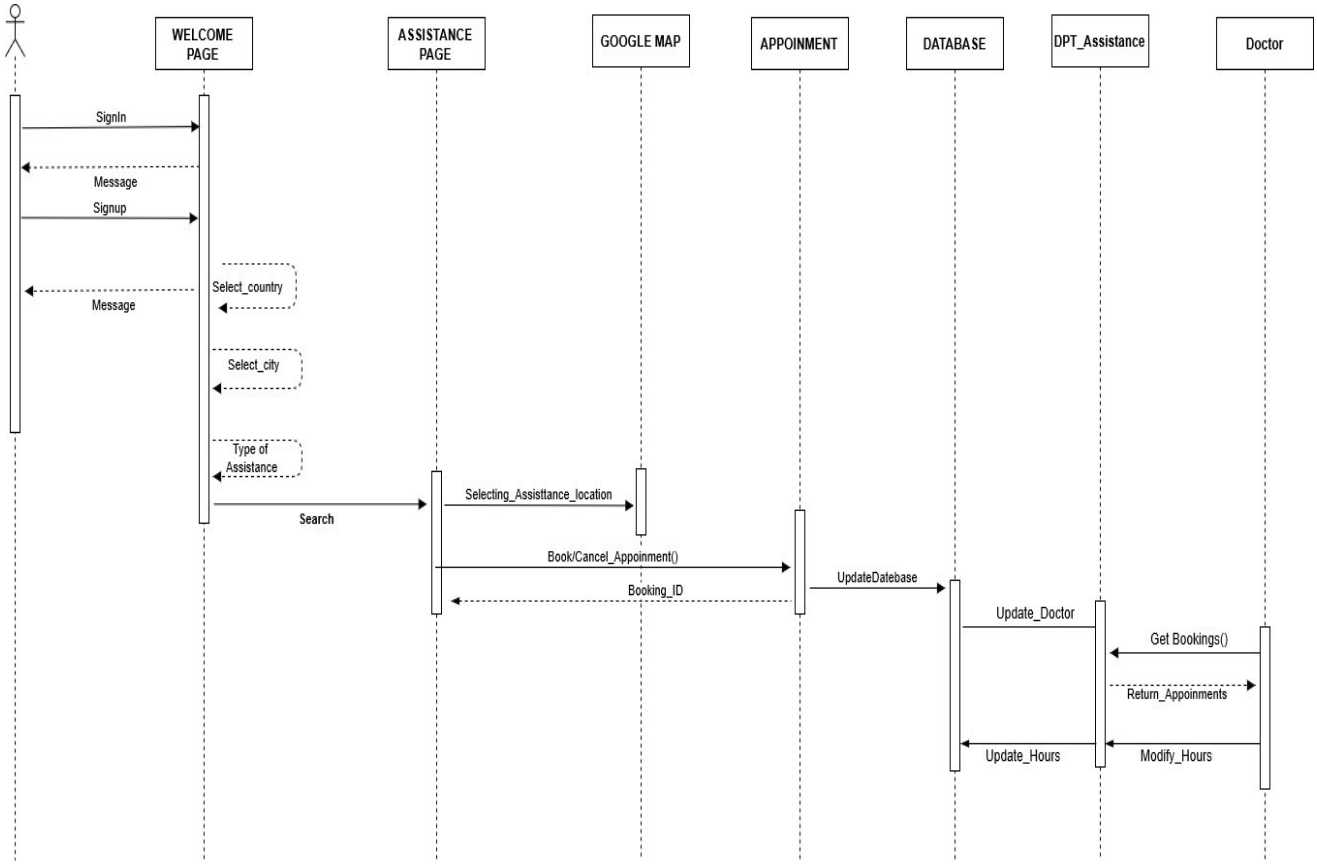

Figure 11 Complete Sequence Diagram

2.5. Flow Chart Diagram:

A flow chart is another important diagram to describe the dynamic aspects of the system. It is basically a flowchart to represent the flow from one activity to another activity. The activity can be described as an operation of the system. The control flow is drawn from one operation to another.

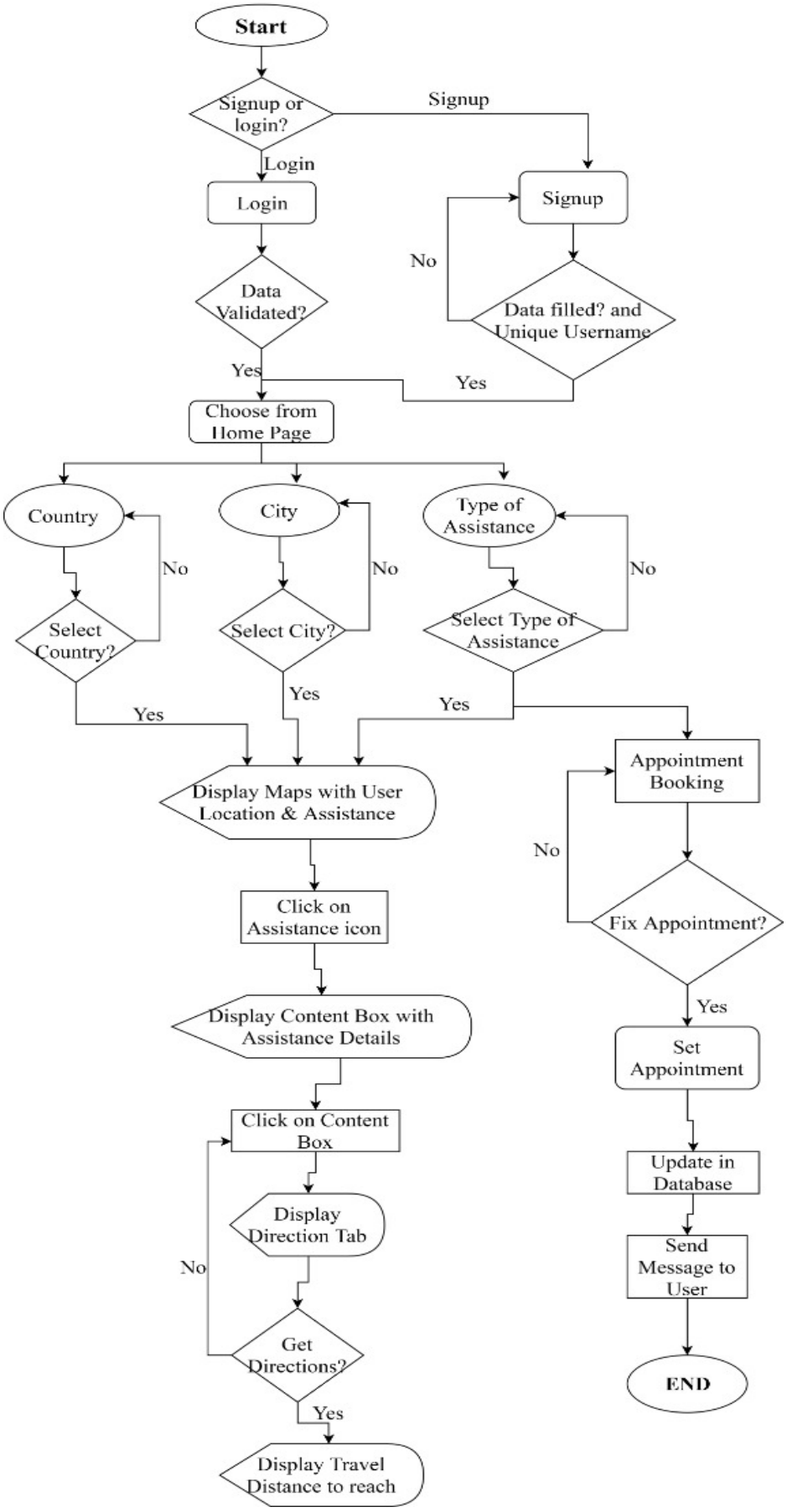

Figure 12 Flowchart

CHAPTER 3

3.1 INTRODUCTION:

3.1.1 PURPOSE:

The Integration Test Plan document is intended to indicate the necessary tests in order to verify that all the components of the previously described system are properly integrated. This document is important to verify the total work done in the application. All the test cases are identified and are described in order. Data transfer between the modules is tested thoroughly. The data are assumed and tested practices to verify the "Expected Output". Final Results match with excepted output to verify the operation of the application.

The product "Mediassist" is a simple application, which tells the user, the assistance near them which is collected in the database.

There are two types of tests used:

- Integration Testing
- User Acceptance Testing (Done by the Professor)

3.1.2REFERENCE DOCUMENTS:

The Integration Test Plan Document has been composed following the indications reported in the previous documents delivered for this project: the Requirements Analysis and Specification Document, describing fundamental aspects of MediAssist such as goals, functional and non-functional requirements, and the Design Document, which shows more accurately all the functionalities provided by focusing on the software design of the system.

With regards to the course named Software Engineering 2 and held by professor Matteo Rossi (Politecnico di Milano, a. y. 2018/19), the document conforms to the guidelines provided during the lectures and within the material of the course.

3.2. INTEGRATION STRATEGY:

Testing of Mediassist mobile application was carried out by running each case on the application and the results are carried out.

Since this application has a quite medium number of functionalities consisting of a lot of lines of codes, the development team decided not to do the conventional testing of each individual components and integrations of those individual components, Instead, all the features and functionalities of the application were checked by directly using the application.

Results were recorded one by one and noted in tables which will be shown in the next sections. All the tests turned out to be successful as expected. The test cases are illustrated in the following tables. The Professor will help us to make the alpha testing of the app "User Acceptance".

3.3. TEST PROCEDURE:

The testing procedure we followed was "Blackbox Testing", as stated in the lecture notes for our application, which requires a lot of pre and post-conditions that must hold before and after the program is executed for it to behave correctly. The following test document will include the test case, test data, Output, excepted output, and the results.

3.3.1 Test Data Basse Scenario:

Test Case (TP1)	**Test Data**	**Output**	**Excepted Output**	**Result**
Creating an object on the database	Adding "Username" on DB	Data are written on DB "Successful"	Data are written in DB	Test case successful.

Table 1 Testing of Creating Object function in a Database

Test Case (TP2)	**Test Data**	**Output**	**Excepted Output**	**Result**
Creating value on Database	Adding "Value type" on DB	Data are written on DB "Successful"	Data are written in DB	Test case successful.

Table 2 Testing of Creating Value in a Database

Test Case (TP3)	Test Data	Output	Excepted Output	Result
Adding Attribute in the object on Database	Adding "Package Status" on DB	Attribute added on DB "Successful"	Attribute added on DB	Test case successful.

Table 3 Testing Attribute adding function in a Database

Test Case (TP4)	Test Data	Output	Excepted Output	Result
Simple editing of an attribute in the object on Database	Modify "Package Status" on DB	All Attributes listed on DB "Successful"	All Attributes listed on DB	Test case successful.

Table 4 Testing, attribute editing function in a Database

Test Case (TP5)	Test Data	Output	Excepted Output	Result
Uploading all bulk elements on Database	Added the list to the Database	Added Attributes listed on DB "Successful"	All Attributes listed on DB	Test case successful.

Table 5 Testing of Bulk adding attribute function in a Database

Test Case (TP6)	Test Data	Output	Excepted Output	Result
Reading all Attribute of an object on DB	Read all package status	Object downloaded from the DB "Successful"	Object downloaded from the DB	Test case successful.

Table 6 Testing of Reading all attributes of an object in a Database

3.3.2 TARGETS:

Test Case (TP7)	Test Data	Output	Excepted Output	Result
Google Play store	Accessing the Google Play store	Not Displayed	Application Display	Not Applicable as we are still in developing mode

Table 7 Testing App visibility in Play-store

Test Case (TP8)	Test Data	Output	Excepted Output	Result
APK Generated	Generating the APK File from Export.	Application Successfully installed in the device	Application installed in the device	Test case successful.

Table 8 APK generation Testing

3.3.3 DATABASE: Special Purpose Targets

Test Case (TP9)	Test Data	Output	Excepted Output	Result
New Assistance Addition	Admin Clicks on Sign in, Enter Email id & Password	Signed in "Successful"	Signed in	Test Case Successful

Table 9 Testing of new assistance addition function in a Database

Test Case (TP10)	Test Data	Output	Excepted Output	Result
Adding New Attribute	Click so on DB Authentication Tab	New entry for adding attribute "Successful"	New entry for adding an attribute	Test Case Successful

Table 10 Attributes adding to assistance testing

3.3.4 MOBILE HOME SCREEN:

Test Case (TP11)	Test Data	Output	Excepted Output	Result
Visibility of Home screen	User clicks on "Mediassist" Application	Home Screen is Visible "Successful"	Home Screen is Visible	Test Case Successful

Table 11 Testing the home visibility screen

3.3.5 ASSISTANCE SELECTION:

Test Case (TP12)	Test Data	Output	Excepted Output	Result
Selecting the Country	User clicks on "Country" tab	The country selected is displayed "Successful"	Country Selected is displayed	Test Case Successful

Table 12 Testing of country selection option

Test Case (TP13)	Test Data	Output	Excepted Output	Result
Selecting the City	User clicks on "City" tab	The city selected is displayed "Successful"	City Selected is displayed	Test Case Successful

Table 13 Testing of city selection option

Test Case (TP14)	Test Data	Output	Excepted Output	Result
Selecting the type of Assistance	User clicks on "Type of Assistance" tab	Type of Assistance selected is displayed "Successful"	Type of Assistance is displayed	Test Case Successful

Table 14 Testing of assistance selection option

Test Case (TP15)	Test Data	Output	Excepted Output	Result
Search	The search icon is selected	Search has done Successfully	Search has done Successfully	Test Case Successful

Table 15 Testing of the search operation

3.3.6 VISIBILITY OF MAP:

Test Case (TP16)	Test Data	Output	Excepted Output	Result
Visibility of Map	User see the Map	Ideal Milan Region	Ideal Milan Region	Test Case Successful

Table 16 Testing of map visibility according to the selection

3.3.7 VISIBILITY OF ASSISTANCE:

Test Case (TP17)	Test Data	Output	Excepted Output	Result
Visibility of User Location	User clicks the re-centring button	Shows his/her Current Location "Successful"	Shows his/her Current Location	Test Case Successful

Table 17 Testing of visibility of user icon

Test Case (TP18)	Test Data	Output	Excepted Output	Result
Visibility of Cardiologist	User see the list of Cardiologist in Map	List of available Cardiologist "Successful"	List of Available Cardiologist	Test Case Successful

Table 18 Testing of cardiologist search

Test Case (TP19)	Test Data	Output	Excepted Output	Result
Visibility of Dentist	User see the list of Dentist in Map	List of available Dentist "Successful"	List of available Dentist	Test Case Successful

Table 19 Testing of dentist search

Test Case (TP20)	Test Data	Output	Excepted Output	Result
Visibility of General Practitioner	User see the list of General Practitioner in Map	List of available General Practitioner "Successful"	List of available General Practitioner	Test Case Successful

Table 20 Testing of general practitioner search

Test Case (TP21)	Test Data	Output	Excepted Output	Result
Visibility of Pharmacy	User see the list of Pharmacies in Map	List of available Pharmacies "Successful"	List of available Pharmacies	Test Case Successful

Table 21 Testing of Pharmacy search

3.3.8 MAP:

Test Case (TP22)	Test Data	Output	Excepted Output	Result
Zoom in & Out	User dragging by click	Map enlarge & shrinks "Successful"	Map enlarge & shrinks	Test Case Successful

Table 22 Testing of zoom in/out function on a map

Test Case (TP23)	Test Data	Output	Excepted Output	Result
Zoom in	User tapping on the spot	Zooming in "Successful"	Zooming in	Test Case Successful

Table 23 Testing of taping assistance during zoom-in

3.3.9 ASSISTANCE SELECTION:

Test Case (TP24)	Test Data	Output	Excepted Output	Result
Cardiologist Selection	A user clicking on Cardiologist marker	Small pop up window appears, Content Display "Successful"	Small pop up window appears, Content Display	Test Case Successful

Table 24 Testing of cardiologist selection in map assistance page

Test Case (TP25)	Test Data	Output	Excepted Output	Result
Dentist Selection	A user clicking on Dentist marker	Small pop up window appears, Content Display "Successful"	Small pop up window appears, Content Display	Test Case Successful

Table 25 Testing of dentist selection in map assistance page

Test Case (TP26)	Test Data	Output	Excepted Output	Result
General Practitioner Selection	A user clicking on General Practitioner marker	Small pop up window appears, Content Display "Successful"	Small pop up window appears, Content Display	Test Case Successful

Table 26 Testing of general practitioner selection in map assistance page

Test Case (TP27)	Test Data	Output	Excepted Output	Result
Pharmacy Selection	A user clicking on Pharmacy marker	Small pop up window appears, Content Display "Successful"	Small pop up window appears, Content Display	Test Case Successful

Table 27 Testing of pharmacy selection in map assistance page

Test Case (TP28)	Test Data	Output	Excepted Output	Result
Going back	User clicks back	Going back to the home screen	Going back to the home screen	Test Case Successful

Table 28 Testing of going back function from map assistance page

3.3.10 DIRECTION:

Test Case (TP29)	Test Data	Output	Excepted Output	Result
Get Directions	A user clicking on content-box	Direction tab appears "Successful"	Direction tab appears	Test Case Successful

Table 29 Testing getting direction by tapping the direction tab

Test Case (TP30)	Test Data	Output	Excepted Output	Result
Get Directions	Click on the icon & clicking the direction tab	User redirected to google maps "Successful"	User redirected to google maps	Test Case Successful

Table 30 Testing of google transport assistance

CHAPTER 4

4 FUTURE WORK

Till now we have developed an application that shows the nearby doctors, pharmacy nearby a user based on the GPS location. In the next phase (i.e., in future) we will improvise the application by adding appointment, managing the medical records, phone medicine, medicine door delivery and mainly we will improvise our search function by showing the best hospital to reach from the user location.

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APPENDIX

1.PROGRAM STRUCTURE

- We have used the expo platform where we can generate the script both for Android and Ios at a time. As we are not focusing on one platform, so we have used the expo platform to develop this “Mediassist” application.
- The “App.js” script file, contains the configuration of the database which contains database authentication domain, Database URL and storage bucket and also here we are showing what should be displayed initially in the app.
- In the “App.Json” script file we are showing it what platforms the application will be supported and here the application is supported in Android, Ios. The API key is the free version that we have generated from google maps.
- In the “AppNavigator” javascript file we are storing what should be displayed in sequence and initially, we are showing home screen and for that, we are switching to “Homescreen.js”.
- In “Homescreen.js”, we have included “Welcome to Mediassist”, Select Country, Select City and Select type of Assistance option. For Select City option we have included only the Milan region. For the “Type of Assistance” option we have kept Cardiologist as the default option which is displayed on the home screen. And for “Type of Assistance” we have included for types of assistance like Cardiologist, Dentist, Practioner, and Pharmacy. In the Button script loop, we have included the script to search and to switch to the assistance navigator map by clicking on the “search icon” in the application.
- In the “AppNavigator.js” file, what assistance we have selected, will go to that specific assistance screen and for that, we have written the code in this file under the “CreateStackNavigator” loop.
- In “Contacts.js” file, we have put integration with the google maps here and also in “export default class contacts”, we have given the Mian Mpa as the default coordinate in google map. We have used some special functionalities to show the user location in the google map and for that, we have used the “GetLocation=async()” function to show the user GPS location. We have a separate library at the top, for example, “my location Map Marker” which is used to show where the user is and where he/she is turning around. In “GetlocationAsync” we have given the access to permit user location and also,

we are setting the latitude and longitude of the user location and it will be changed automatically in the “export default” class. The “Listmapmarker=>” means all the database of specific assistance is taken and injected in the “OnCalloutpress” URL which is used to do navigating from our current location to the destinated location. “Marker” command is used here to indicate all the assistance in the map and after clicking on the assistance in google map, a new content box will be opened and for that content box, we have written the title and description in “co Ordinator” loop for inserting in content box and clicking on the content box, it will be redirected to destination of assistance.

- In “Doclist.json” file contains the mock data which is used as a reference and we have put those in DB. In the “Package.json” file we used to connect it to Android, Ios and to work on it. Dependencies are the libraries that contain all the node modules. Example “React native” library is used for map navigation and the “React native tab view” library is used to show the google map tab. In “Styledtext.js” we have used mono text and for colour and layout, we wrote the separate script for it and so that if we change it, it will be automatically changed in the application.

2. APP DESIGN

- The application background is kept is white because the purity.
- The logo is made entirely of blue because the colour represents trust loyalty sincerity faith.

3.PICTURES

3.1 Logo

3.2 Application Pictures