



# MedExpress

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MEDICAL APPOINTMENT BOOKING SYSTEM



## Declaration Cover Sheet for Project Submission

### SECTION 1 *Student to complete*

|  |
|--|
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| <b>Supervisor: Dermot Killen</b>       |

### SECTION 2 Confirmation of Authorship

*The acceptance of your work is subject to your signature on the following declaration:*

I confirm that I have read the College statement on plagiarism (summarised overleaf and printed in full in the Student Handbook) and that the work I have submitted for assessment is entirely my own work.

Signature: ***JBankole.*** Date: **05/05/2019**

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Paraphrasing refers to taking the ideas, words or work of another, putting it into your own words and crediting the source. This is acceptable academic practice provided you ensure that credit is given to the author. Plagiarism refers to copying the ideas and work of another and misrepresenting it as your own. This is completely unacceptable and is prohibited in all academic institutions. It is a serious offence and may result in a fail grade and/or disciplinary action. All sources that you use in your writing must be acknowledged and included in the reference or bibliography section. If a particular piece of writing proves difficult to paraphrase, or you want to include it in its original form, it must be enclosed in quotation marks and credit given to the author.

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- suspending a student college for a specified time,
- expelling a student from college,
- prohibiting a student from sitting any examination or assessment.,
- the imposition of a fine and
- the requirement that a student to attend additional or other lectures or courses or undertake additional academic work.

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| X15766059  | MedExpress |

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## REQUIREMENTS ELICITATION & ANALYSIS

### Introduction

A strategy to provide a clear understanding of this project scope has been put in place before starting the requirement specification document. The main reason for putting a plan in place is to allow me to identify appropriate elicitation techniques for the medical appointment booking system. I have identified the best techniques to be used for the project, which is a survey, brainstorming section, focus group and interview with the medical business owners. These choosing techniques are the best for collecting data from users, it will enable me to gather the necessary information needed for my project. This web application (Medical Booking System) will allow users to book any medical appointments, change their General practitioners, update medical cards, cancelled appointments, re-schedule, and make payment. Requests for doctor note and emergency booking will be a first priority case. The system will also allow medical business owners to manage patient bookings and store doctor name, nurses. This way, the patient can have the chance of booking with other doctors in the same

company when their doctor is fully booked for the day or not available. The medical business owners can easily update their own site on the system. The system will act as a long-term solution as we are in the age of technology. The system will provide a solution to patients staying up on them for them to pick up the phone on time. This system will meet the need of patients/ users need of accessing their medical appointments easily and at the same time, meeting the need of medical business.

## Business need

As we all need of medical need at a point in our life, I believe making an appointment is a crucial part of it. Whether it's a quick check-up or emergency need of a doctor. Nowadays, one cannot walk in to see a doctor for any medical need without an appointment booked with them. So, it is certain that everyone in need of this web application system that will serve both patient/user and medical business. A system rather than a manual inputting of data is easier to manage and use. It convenient for managing and user-friendly. It's a great way to acquire user 's feedback.

This medical booking appointment system will be seen as a convenient way of booking an appointment for medical need. With so many another benefit which include time-saving and able to book on the go compared to another way of booking, making a booking on the phone and travelling down for booking the appointment which is a long process.

### The disadvantage of the old way of booking your medical appointment:

- Time-consuming
- Need of credit to call
- Driving down to the centre
- The emergency appointment is not sure without an appointment

### The advantage of My system:

- Save time
- Book on the go

- Business can easily manage patient booking
- Check medical fees
- Book on the day you need to see the doctor
- Emergency booking
- Able to see the time/day that is free
- Easy booking
- Make Doctor visit fee before arrival
- Receive cancellation notification
- Cancel booking in one click
- Chat
- Medical Advice
- Video Call

This system will help the medical business to manage booking timing, most medical centres are always pack up, most all the time you are not seen by a doctor even at the time you are given. It always ends up been packed but with this system, they can easily manage their booking and update if there is any free space available. Notification for available space can be sent easily to the patient.

The result from the survey, brainstorming, focus group and interview will also help to identify more other business needs that this project will bring. In my opinion, I believe there is a need for this system.

The system will satisfy the patient's need of booking a medical appointment and many others that this system will bring. At the same time, it will satisfy the company's needs of saving the time to manage their patient booking on their current system they use.

## Benefits



The main benefits of the medical appointment booking system

**24/7 service:** The system will be open to patients/ user at all time even when the medical centre is closed. The system will accept any booking made on the system by the availability. The medical centre will receive the notification on the booking this way, they are aware of who is coming for the day. This system will make it easier for everyone to book a medical appointment at any time of the day as long there is availability. This system will allow the user or patient to search any available medical service listed on the system and book appointment with them without waiting for opening time or visiting the centre.

**Easy medical appointment booking:** The medical appointment booking system will make easy and painless for everyone to book, cancel and re-booking appointments. It will save the time you spend on the phone to connect to the centre and visiting the medical for the purpose of booking appointment. It will make it less difficult to manage patients' bookings. The medical centre will find it easier to manage patient cancelled appointment because they will receive a notification immediately. This way, they can easily update the booking dashboard of an open space.

**Improve patients service:**

Trying to reach someone at the medical centre or visiting the centre can be stressful for the patient but with this system can create a very easy way of making the patient happy and patient feedback can be easily collected on the system. The feedback can be used to improve the medical centre and improve customer service/patient. their feedback can be easily collected on the system. The feedback can be used to improve the medical centre and improve customer service/patient.

**Patient relationship:** This system will allow the medical centre to be aware of the patient need, whether it their appointment is made for an emergency reason, general visiting or if their visiting is for a medical letter.

## Stakeholder List

- Project Manager
- Patient(Users )
- Doctors
- General practioneers
- Family
- Pharmacist
- Secretary
- Secretary Assistant
- Tester
- Back- end Developer
- Front-end Developer
- Programmer
- Specialist

After Analysing the stakeholder list, I'm able to identify the high important stakeholder within the list and also identify the low importance stakeholders.

## Stakeholder Analysis Matrix

| Stakeholder list        | Contact | Impact | Influence | Stakeholder's role   |
|-------------------------|---------|--------|-----------|--|
| <b>Patients (Users)</b> | N/A     | High   | High      | Patient/ user who be using the medical appointment booking system to book their visit to see their check up etc. |

|                            |     |        |        |  |
|----------------------------|-----|--------|--------|--|
| <b>Doctors</b>             | N/A | Medium | Medium | Conducting examinations to ill patients and evaluate symptoms to determine their condition.            |
| <b>Family</b>              | N/A | Low    | Low    | Families of patient  |
| <b>Physiciancon</b>        | N/A | Medium | Low    | Conduct check-up to patient  |
| <b>Secretary</b>           | N/A |        |        | Manage and update the patients/ users booking  |
| <b>Secretary Assistant</b> | N/A | High   | High   | Assist the Secretary for managing patients booking   |
| <b>Tester</b>              | N/A | Medium | Low    | Testing the booking system to identify any problem, issue and to ensure error s are corrected.         |
| <b>Back-end Developer</b>  | N/A | High   | Low    | Developing the web application back end that consist of the server and database for the booking system |

|                            |     |      |        |   |
|----------------------------|-----|------|--------|---|
| <b>Front-end Developer</b> | N/A | High | Low    | Developing the web application that will enable the user to interact directly |
| <b>Programmer</b>          | N/A | High | Low    | Write a program code for the purpose of the project                           |
| <b>Specialist</b>          | N/A | Low  | Medium | Specialise in an area of medical care for patients                            |
| <b>Business Analyst</b>    | N/A | High | Low    | Analysing the requirement specification for the project                       |
| <b>Business Owners</b>     | N/A | High | High   | To create Quality of care for Patient/users                                   |

## Requirements Elicitation Techniques

### Brainstorming

The objective of the brainstorming session is to gather ideas from different viewpoints from stakeholders. The brainstorming session will be done first in order to identify a unique project name and great survey questions for the survey and interview.

The outcome of the brainstorm session is shown below:

### Surveys

The aim of surveys is to help me gather a great requirement to build the project prototype.

The survey is a great way to collect information from a wider point of view than the interview section.

### Questions for the survey

What is your gender

- ☐ Male
- ☐ Female

What age category are you

- ☐ 18-25
- ☐ 25-32
- ☐ 32-42
- ☐ 42-52
- ☐ 52+

What is your current status?

- ☐ Student
- ☐ Employed full time
- ☐ Employed part time
- ☐ Unemployed
- ☐ Retired

Do you require assistant when booking medical appointment?

- ☐ Maybe
- ☐ Yes
- ☐ No
- ☐ Can't say

Do you own a car?

- ☐ Yes

- ☐ No
- ☐ Maybe

How do you travel to book your doctor/hospital/pharmacies/dental clinic?

- ☐ By a car
- ☐ By Bus
- ☐ By Lift from someone
- ☐ By taxi

Do you own a medical card?

- ☐ Yes
- ☐ No

Do you pay for doctor visit?

- ☐ Yes
- ☐ No
- ☐ Maybe

In the last 12 months, not counting the times you need care right away, how often did you get an appointment for your health care at a doctor's office or clinic as soon as you thought you needed?

- ☐ Sometimes
- ☐ Usually
- ☐ Never

How often do you visit your doctor for medical reason

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Never
- ☐ Always
- ☐ Never

How do you book your medical appointments?

- ☐ Over the phone
- ☐ Drive down
- ☐ They have their appointment booking system online/app

Would you say it easy for you to book your medical appointments?

- ☐ Yes
- ☐ No
- ☐ Maybe

On a scale of 1-5, 1 being the lowest how would you rate your current way of making appointment to see your doctor?

- ☐ 5
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1

Would you be prefer a medical booking system to book an appointment to see your doctor

- ☐ Definitely
- ☐ Maybe
- ☐ Probably Not
- ☐ Definitely Not

How useful would it be if you can book appointment to see your doctor any time (24/7)

- ☐ 5(Extremely Useful)
- ☐ 4
- ☐ 3
- ☐ 2
- ☐ 1(Definitely Not)

How likely would you use the new appointment booking system to pay for your doctor visit fees?

- ☐ Very likely
- ☐ Likely
- ☐ Maybe

- ☐ Probably Not
- ☐ Definitely Not

If you could make any change to the way medical appointments booking system works, what would you change/

Would you prefer to have all the medical services like Hospitals, Dental clinics, Pharmacies, Medical centre, General Practitioners and private doctor under one system for booking an appointment

- ☐ Yes
- ☐ No
- ☐ Maybe

If the new medical booking system were available today, how likely would you use the service?

- ☐ Extremely likely
- ☐ Very Likely
- ☐ Somewhat likely
- ☐ Not so likely
- ☐ Not at all likely

If there is a medical appointment booking system for all medical services, how likely would you use it?

- ☐ Likely
- ☐ Very likely
- ☐ Neither likely nor unlikely
- ☐ Unlikely
- ☐ Very unlikely

### Interview questions

1. What is the maximum appointment you can permit for a day?



2. What is the average number of appointment cancellation you get for a week?
3. What is the current system use to manage patient appointment
4. How do patients make their appointments
5. How often do you get emergency walk-in
6. If the new medical appointment is available today, are you willing to try it or stick with the old system

#### focus Group:

The other elicitation technique that I will use to collect more requirement is the focus group. The aim of this techniques is to create an interactive session with stakeholder between the number of 3-8. The session will generate more requirements.

Interface Analysis stage is the stage when a UML use case will develop base on the requirement collected from the survey, brainstorming, interview and focus group. This diagram will allow for understanding the real interaction between both stakeholders and the system.

#### Prototype

After all the requirements collection is complete. The prototype website will be created in order to present it to the stakeholders for the second opinion. This prototype will allow me to make any more changes based on the stakeholder comment. This prototype will serve as visualisation of the actual medical booking system.

#### Interface Analysis

Interface Analysis is also part of the elicitation techniques which helps to figure out the process between system/application in order to clarify the requirements to make sure all sections relate together effectively.

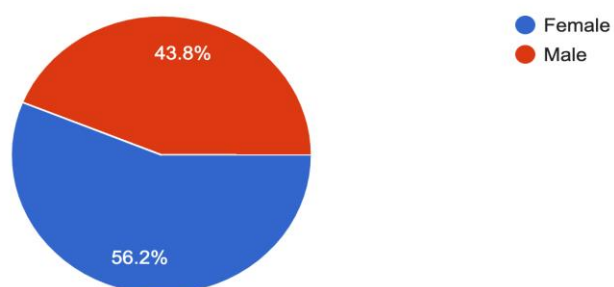
Two use cases diagram will be design after the designing of prototypes which is designed based on the requirements gathered from other requirements techniques. The first diagram

will be designed base on the user's process, sighing up and login to use the app/ and the second use case is design based on the interaction of the medical centres between the system and the users e.g. LLOYD Pharmacy.

## Requirement Elicitation Techniques Results

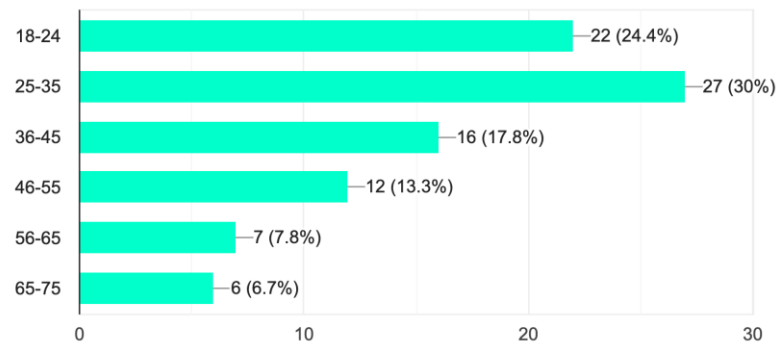
### What is your gender ?

89 responses



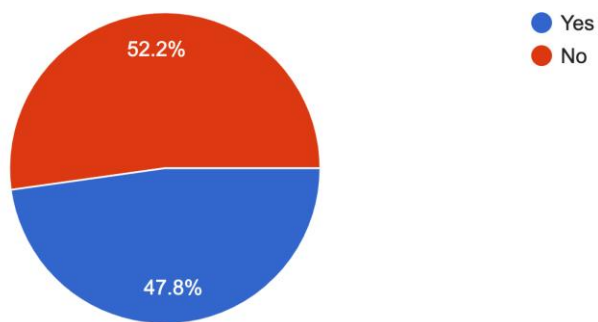
### What age categories are you ?

90 responses



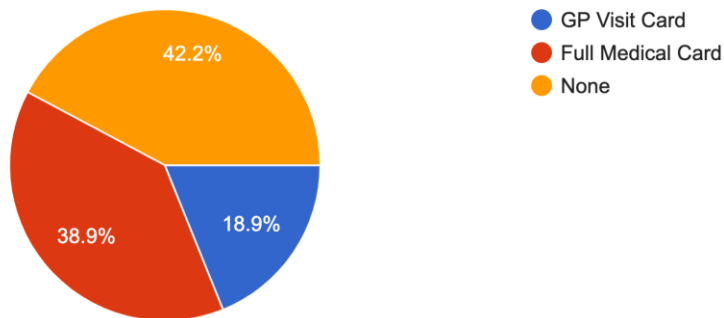
### Do you own a car?

90 responses



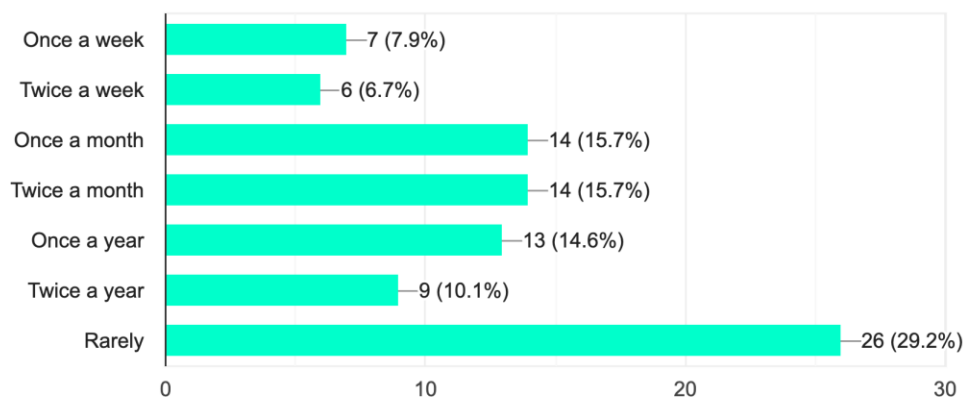
### Which one of this medical support do you have ?

90 responses



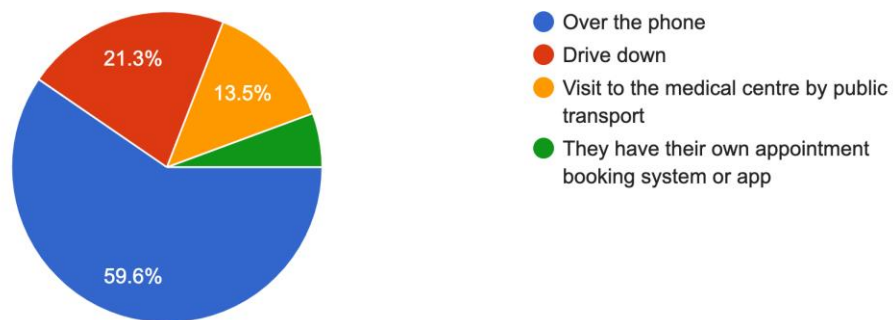
### In the last 12 months, not counting the times you need care right away, how often did you get an appointment for ...ic as soon as you thought you needed?

89 responses



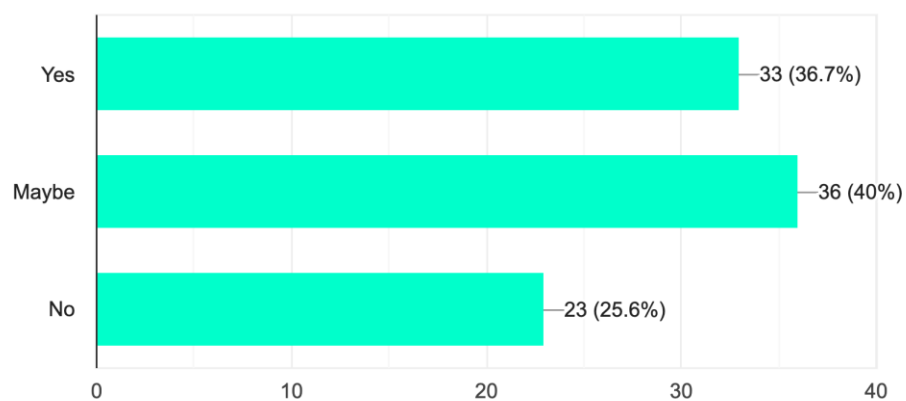
## How do you book your medical appointments?

89 responses



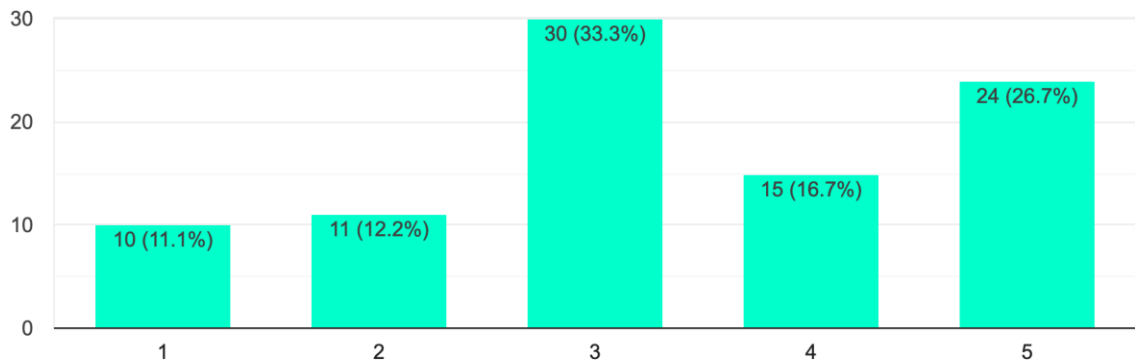
## Do you find your current way of booking medical appointment stress-free?

90 responses



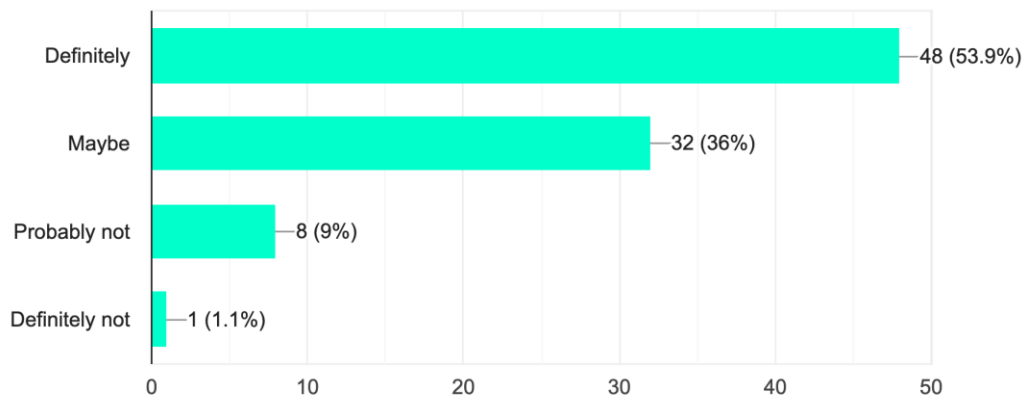
On a scale of 1-5, 1 being the lowest how would you rate your current experience of booking appointment to see your doctor?

90 responses



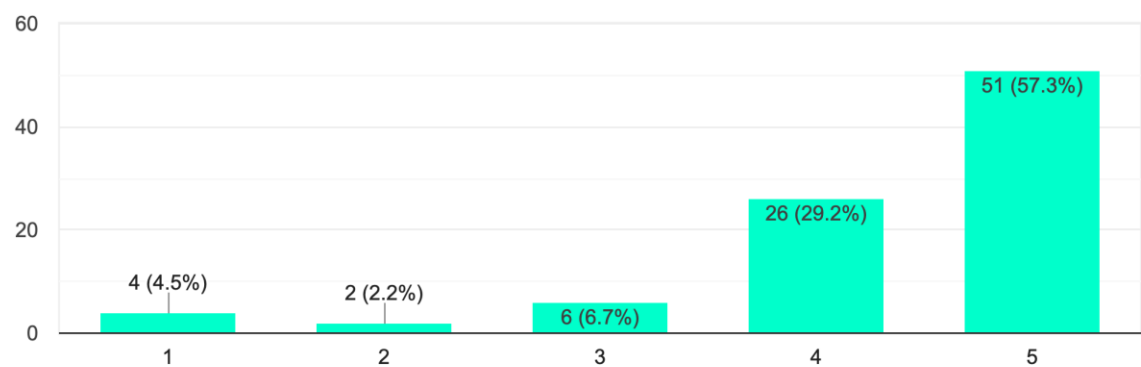
Would you be interested in a different appointment booking system for all your medical appointments?

89 responses



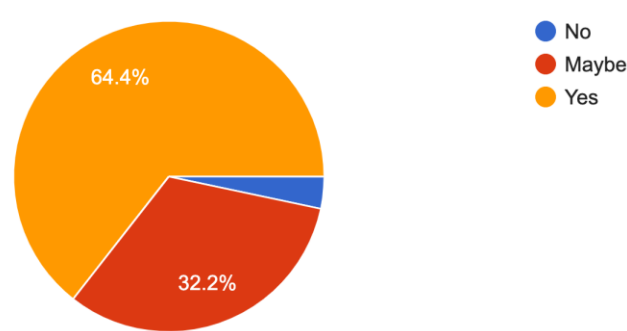
How useful would it be if you can book an appointment to see your doctor on a app, using the new appointment bo...em (24/7) 5 to be extremely useful

89 responses



Would you prefer to have all the medical services available in Ireland listed on the medical booking system. e.g Dentist?

90 responses



What features will you like to have on the new medical booking system ?

90 responses

|                           |
|---------------------------|
| N/A                       |
| Map                       |
| Free call                 |
| Cancellation notification |
| Prescription request      |

Doctor medical cert  
 Good service  
 Video call service  
 All necessary information short and simple to follow  
 App  
 Online booking system or phone app  
 To actually get an app when needed lol  
 Medical emoji  
 Free  
 Dentist  
 Blog  
 HSE news  
 Choose date and time preferred for appointments  
 Friendly user  
 I'm not sure  
 different categories  
 Accessible 24hrs  
 Dentist  
 Chat with doctor b4 going  
 Reminder  
 Medical news  
 Emergency appointment  
 all  
 I don't want a new booking system, I may have questions for the receptionist  
 Specified time to be seen exactly  
 Section where people who are struggling with money can pay later for GP visit  
 Health Record  
 don't know  
 Past prescription  
 To be able to book on the go rather than on the phone.  
 Emergency booking section  
 System to be Offline  
 On the spot booking without the need of a phone call  
 appointments  
 Work offline  
 User friendly  
 News section  
 Details about Transport to the centre  
 Past medical history  
 Home check up  
 I should be able to update personal information  
 GP transfer section  
 free calls to the medical centre  
 sos button  
 emergency booking  
 previous prescription section  
 Days and time the GP/Doctor is free so I can plan in advance  
 encryption



A reminder of the appointment.

Just to be very simple and very quick. Also would like something that remembers password and doesn't require from me to enter it manually every time I want to log in.

A mobile app

mobile application

GP booking

any

a downloadable App

Calendar

Help assistant

Emergency contact

Emergency

Emergency personnel

Medication notification

Doctor chat

Medical history

Help

Security

Home remedies recipes

Doctor names list

Prescription request

To Be offline

Medical assistant

Feedback

A map view

Medical news

Past medical details

User profile

Able to view available slot

Search section

Search pharmacies

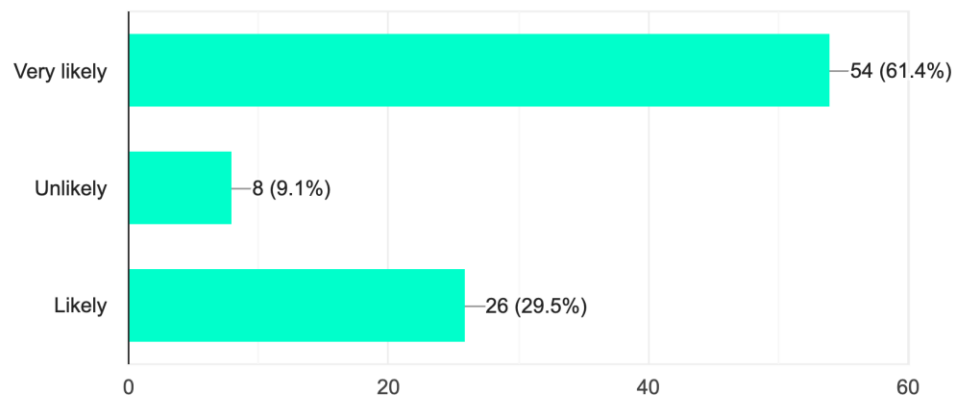
Search surgery and Hospitals

Able to store medical issues details

Available all the time

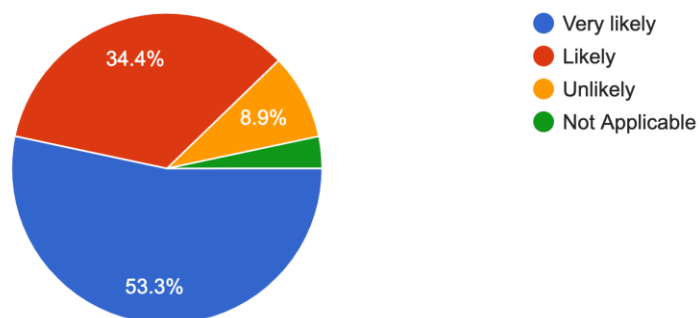
If the new medical appointment booking system is to be available today, how likely would you use the system?

88 responses



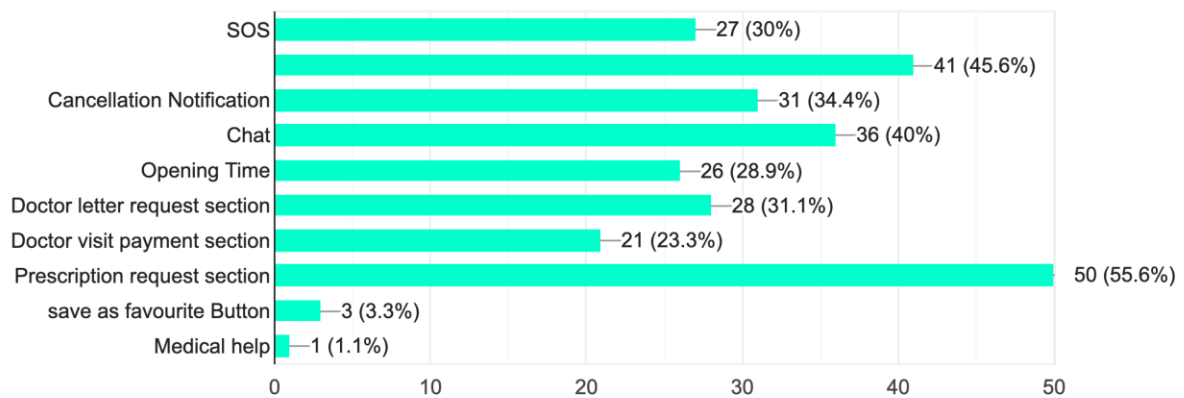
How likely would you use the new medical appointment booking system to pay for your doctor visit fees?

90 responses



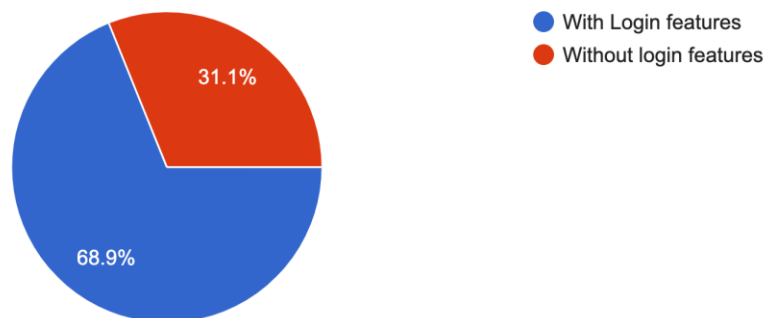
The following are the list of features recommended for the appointment booking system. Choose 3 most important features.

90 responses



How do you prefer to access the medical booking system?

90 responses



## Survey Result

I was able to distribute the survey to potential users through email and on social media. Both Facebook and Instagram were used to get responses. The link was also shared across

WhatsApp status. The result of the survey is arranged well with the use of Google Form to get a better visualization of the result and requirements from potential users. The survey was conducted over a period of 2 months. The first collection was sent out in January, another collection was sent out during the Month of February in order to reach a maximum of 100 response. With this approach, I was able to achieve 90 responses. The purpose of the survey is to survey a number of potential users and to get a number of requirements. The survey is completed by 45% female and 43% male, which is on target. In terms of age, most participant age is between 25-36 set of groups which results to 38%. The remaining percentage is 28% which is the age between 45-75 set of groups.

The question that was asked between question 3 to question 8 allows the participant to display their experience when booking an appointment to see either family doctor or to book appointments with pharmacies. The survey question also allows the show how the booking is made, whether on the phone, driven down or visiting the medical/ pharmacies by public transports. 76% of the participant will rate their current way of booking a medical appointment to be very low which state stressful, trying to reach the centre by phone. 85% believe that the medical booking system would be very useful if it is available to them 24/7 without the need to call the centre. 96% demonstrate the need for this medical booking system by stating how likely they will use the system if it was available to them today.

The response to this survey is very positive, which mean that these potential users are interested in another way of booking to see their doctors and booking to have their medical check-up with pharmacies. The list of features recommended by the participants will use as requirements and it will be used to develop the second prototype.

## Requirements from survey

Free Call section  
Free video call  
Cancellation notification  
Prescription request section  
App to work offline  
Medical Emoji  
App to be free  
All medical service to be listed on the app  
Friendly Service  
Assessable 24 hours  
Chat with doctors  
Medical news  
Emergency booking  
Book now pay later  
Able to access past prescriptions  
Transport details  
Home patient check up  
GP Transfer check up  
Appointment reminder  
Auto sign in  
Calendar  
Emergency Contact  
Emergency personnel  
User's medical history  
Help section  
Security  
Home remedies recipes

Feedback section  
A Map view  
Able to create user profile  
Search section  
Payment section  
Medical centre Opening time  
Able to reset password  
HSE news  
Able to search doctor's name  
App should have icon and logo  
A choice to register or as a visitor

### **Brainstorm Section Outcome**

The brainstorm section was conducted between 7 participants. At the start of the brainstorming section, the main reason for this project was explained and what I will like to achieve at the end of the section was drawn out. During the section, many ideas were shared across the participants. The ideas were drawn on an interactive whiteboard for visualization and evidence purpose. At the end of the section, the idea gathered was recorded and elicited as a requirement to developed the first prototype.



### Requirement gathered from brainstorming section

- Search section
- Forum section
- Chat
- SOS
- Medical card advice
- Surgery Opening time
- Surgery Location
- Offline
- A map view
- User profile

## Interview outcome

### Interview one

Participant: Clinical Director

Place: Surgery Centre

List of interview question approved by supervisor.

1. What is the maximum appointment you can permit for a day?
2. What is the average number of appointment cancellation you get for a week?
3. What is the current system use to manage patient appointment
4. How do patients make their appointments, by phone or walk in.
5. How often do you get emergency walk-in
6. If the new medical appointment is available today, are you willing to try it or stick with the old system

Interview question and answers:

**Question 1:** What is the maximum appointment you can permit for a day?

**Response :** *“The maximum appointment we offer depend on how many Doctors is available each day. We usually have 3 Doctors available in the Morning so we permit more appointments in the morning than afternoon based on the doctors availability. The amount we permit in the afternoon is less because Doctor on site is 1 or 2”.*

**Question 2:** What is the average number of appointment cancellation you get for a week?

**Response:** *“The average cancellation we get a week will be around 25% but it varies. Every week is different. We can get 2 cancellation this week and next week can be none”.*



**Question 3:** What is the current system use to manage patient appointment

**Response:** We use system that HSE provided to us as a partner. The system not only allow us to manage patient booking but also give us many access to other HSE medical information.

**Question 4:** How do patients make their appointments

**Response:** *“Most appointment booking is usually done over the phone. About 85% patients book on the phone while the remaining 15% book by walk in”.*

**Question 5:** How often do you get emergency walk-in

**Response:** *“Emergency walk is not all the time. At time we get a phone requesting to see the doctor without appointment, if the situation is bad we recommend they go in to the hospital as emergency patient. But if patient walk in with a very bad symptoms like short breathing, sudden chest pain etc doctors attend to the patient immediately”.*

**Question 6:** If the new medical appointment is available today, are you willing to try it or stick with the old system

**Response:** “The idea is very nice but unfortunately we cannot change to any other system. HSE provide us with a system that accommodate medical booking management. The system is not just for booking appoint it entails a lot of other medical features that the idea you present. This idea will be great for non-HSE Business”.

## **Interview Two**

**Participant: Pharmacist**

Jessica Bankole  
X15766059

32  
MedExpress

**Location: Boots**

**Interview question and response:**

**Question 1:** Do you offer service for walk-in patient or do they need to book appointment?

**Response :** *Yes we do, but not for all type medical check-up service. Patient can walk in to book appointment for check-up anytime but I will recommended Thursday and Friday. Monday, Tuesday, Wednesday are usually busy. Patient can also book on our website.*

**Question 2:** What is the current system use to manage patient appointment

**Response:** *At the moment we have our system used to manage all the medical appointment, but I cannot say much on that as my manager is not available at the moment.*

**Question 4:** What is the maximum appointment you can permit for a day?

**Response:** *I will say 2-6 per day apart from the walk in service we offer like weight check, blood pressure check, height check.*

**Question 5:** If the new medical appointment is available today, are you willing to try it or stick with the old system

**Response:** *Yes, definitely, it will be nice to have a separate medical appointment system mainly for medical check-ups available for patients to download on their mobile. It will also reduce the amount of calls we get each day regarding appointments.*

**Interview Three**

**Participant: Freelance Web Developer**

**Location: Dublin**

**Question 1:** What do you think about the project idea?

**Response :** *“The project idea is a great one.*

*It something new, it something that most people will actually use, it medical appointment booking system something different. Most people will like to have the system p on their mobile accessible any time. I like the idea. Database will be needed for this system, in other to save user's details, password, medical history etc. I'm not sure if you thought about that".*

**Question 2:** Do you find any error in this project idea

**Response:** *"yes, but your idea is also great. The only error in this project idea is the idea of a website. Why don't you change the idea to an app instead. It ill be easier for user to access the booking system anytime and anywhere that is just my thought. Thinking from experience".*

**Question 3:** Do you have any suggestion to make the system more user friendly?

**Response:** *" I believe if the user could access the system as a visitor it will be nice. You are given them a choice. They can decide to sign-up.*

*You should also use icon and logo to guide the users.*

*The system should compatible with the users device ".*

**Question 4:** What ideas do you have in other to make the system more accessible?

**Response:** *"The system/ app should allow users to give their opinion or feedback easily. A content that will be easy for the user to easily engage with. It better when the users can easily find what they are looking for on the system, remember overdo will frustrate the users and never come back again. That is just my thought.*

## Interview Four

Participant : Potential user

Location : Tallaght , Dublin

Question 1 : Do you own a car ?

Response : *Yes I do.*

Question 2: Do you have a medical card or Doctor visit card?

Response : *No, I do not hold any one of them. I'm employed and it full time so I'm not entitled to medical card. I have to pay to see the doctor every time.*

Question 3: How do you usually book appointment to see your doctor?

Response : *I usually book over the phone or at time when I'm around the surgery centre, I walk in instead. I believe it actually easy to get time when you walk in. Face to face is more better. It is difficult to reach the centre at times, usually spend 10 minutes on the phone.*

Question 4 : Do you find your current way of booking medical appointment stress-free?

Response : *Yes, I find it very stressful, others might say no, but it is for me. As said before. Someone can spend 10 minutes on the line. Even with that, it does not guarantee that you will get availability.*

Question 5 : Would you be interested in a different appointment booking system for all your medical appointments?

**Response:** *Yes, that will be perfect, a app I can easily access on my phone. Login, check availability and book a time that suits me. It will be great also if I can use the system or app to pay my doctor fees beforehand*

Question 6: If the system is to be available right now will you recommended your friend .

Response : *yes of course I would the idea is very nice. I hope it successful.*

Interview Conclusion

The result of the interview makes me understand that this project will be successful if all the suggestions from Both web developer and the potential user are taking into consideration as they are the most important stakeholder in this project. The interview allows me to gather many requirements from the two businesses. Even though hospital, medical centre and surgery that are partnered with HSE will not be in place to take up any other system as they are provided with a system used across HSE bodies. Other medical related business like Boots, Pharmacies are willing to change to this system if it was available today.

Requirement gathered from interviews

- Cancellation section
- HSE news
- Doctor names
- Emergency booking
- Logo and icon
- Mobile Accessible
- App rather than online
- Choice to register and as a visitor
- Check availability
- Able to manage bookings
- Able to approve bookings
- Able to send out notifications

## Interface analysis Results

Interface Analysis is also part of the elicitation techniques which helps to figure out the process between system/application in order to clarify the requirements to make sure all sections relate together effectively.

Three use cases diagram will be design after the designing of prototypes which is designed based on the requirements gathered from other requirements techniques. The first diagram

will be designed base on the user's process, sighing up and login to use the app/ and the second use case is design based on the interaction of the medical centres between the system and the users e.g. Boots Pharmacy. The Third use case is added as a suggestion during the focus group meeting.

### **Resource to develop the use cases**

Lucid chart t will be used to create the (UML) use case diagrams.

A UML diagram is a diagram stands for (Unified Modelling Language). The main purpose of a UML diagram is to represent a system along with its main actors, roles, visually. This way, one can understand the modify, manage or even document information about the system.

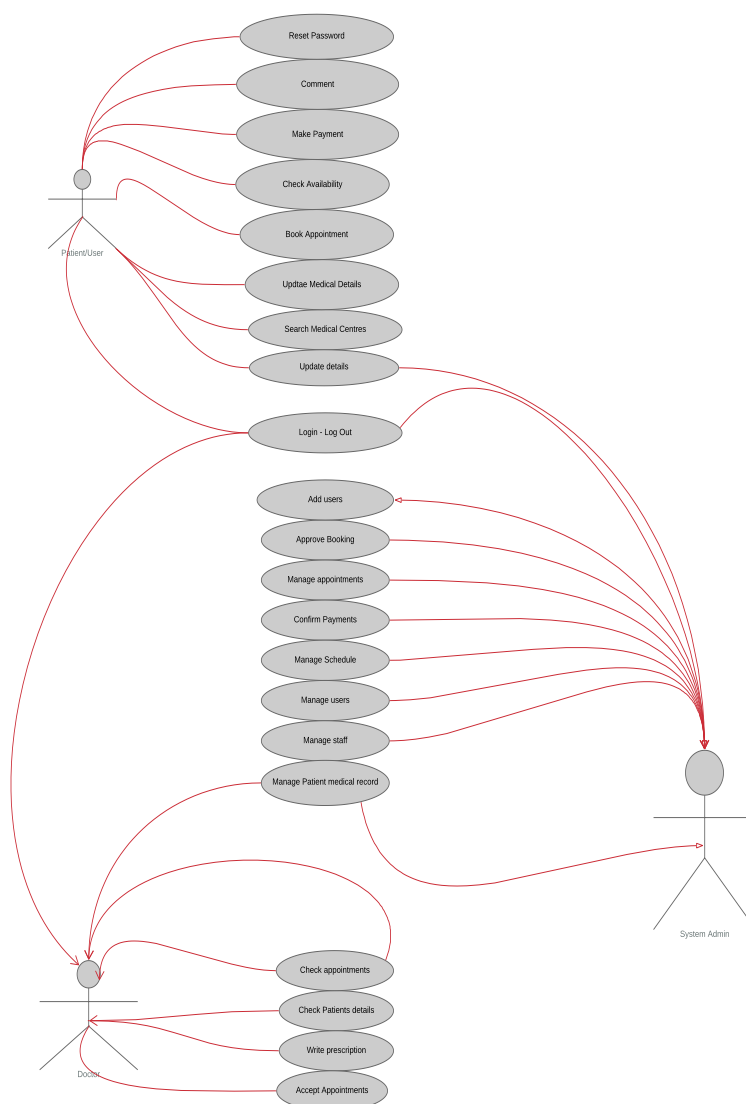
#### **UML Diagram Name:**

- 1) Validate the purchase
- 2) Navigate application

#### **UML Diagram Actors:**

1. Users
2. System users (medical Centre)
3. Doctor
4. Database: Database stored the information input on the app by users and system admin.  
This allow for password reset and information on patient to be assess easily.

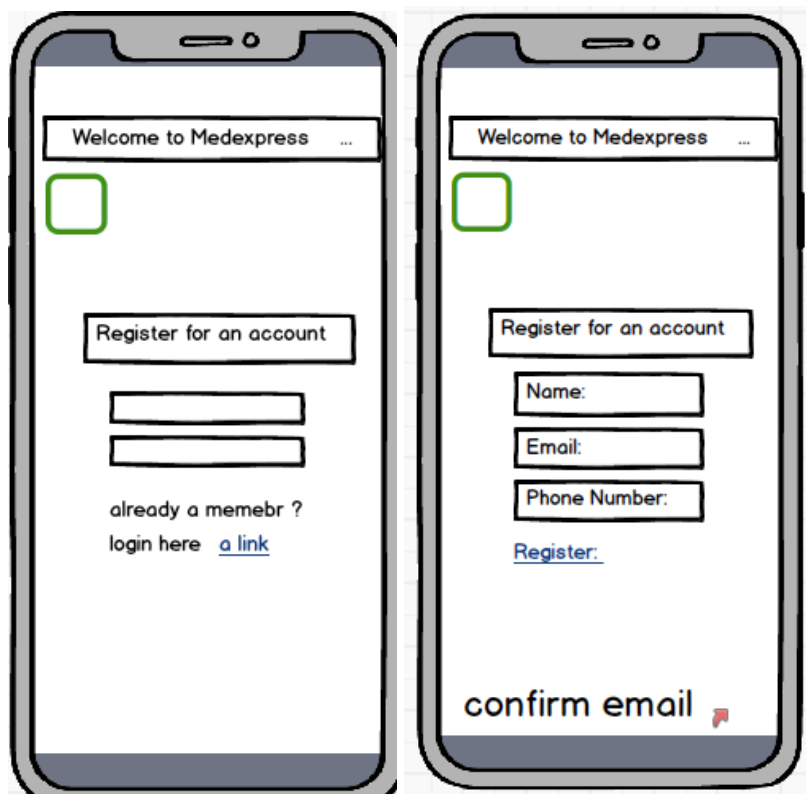
## User case diagram for Medical appointment system



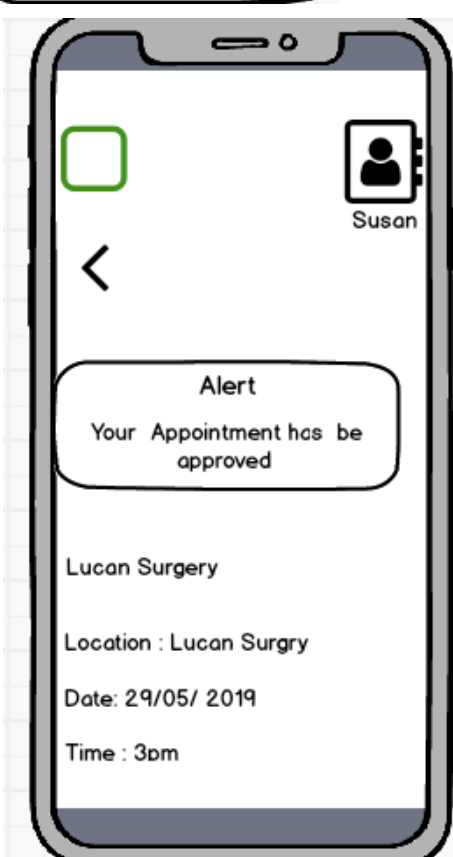
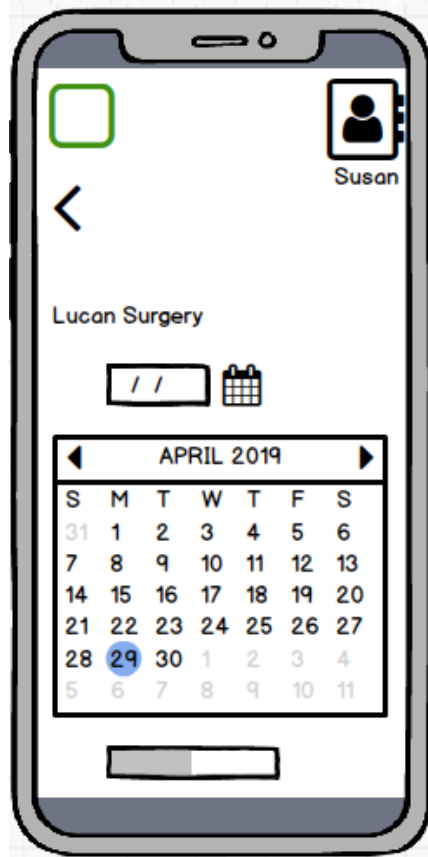
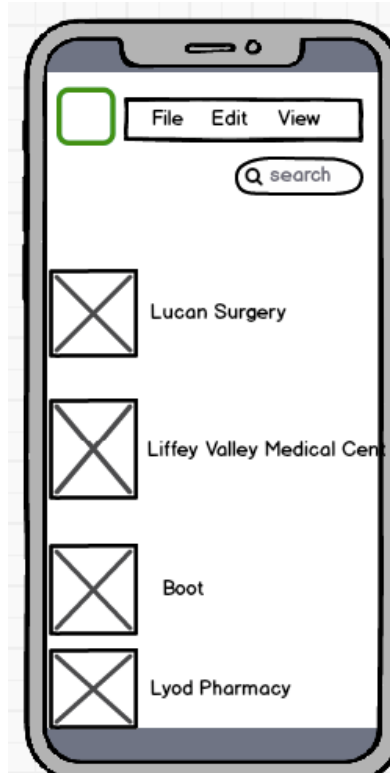
## Prototype result

The requirements gathered from the survey, brainstorming section and the interview will be used to translate into wireframe. I will be using Balsamiq to design the prototype showing the home page, the booking page and services available for the users. The purpose of the prototype is to determine how the app will look like at a final stage. This first prototype will give me an idea how to develop the second prototype later.

#### Prototype first version for Users



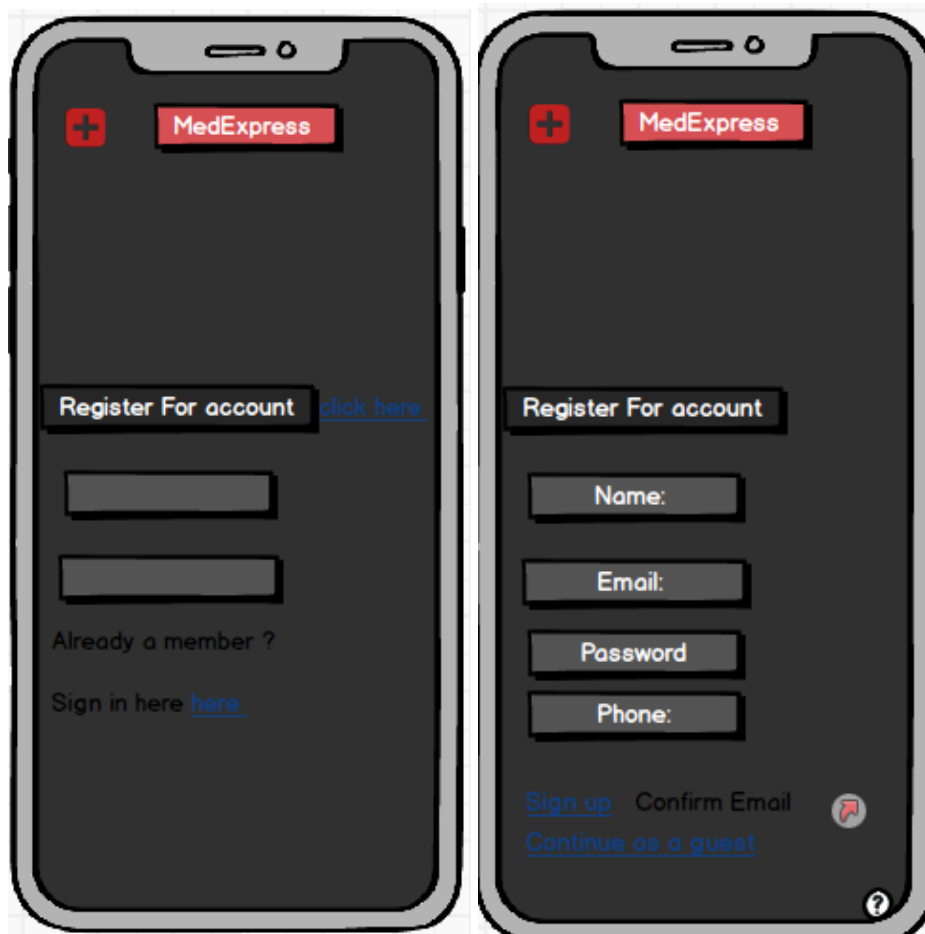


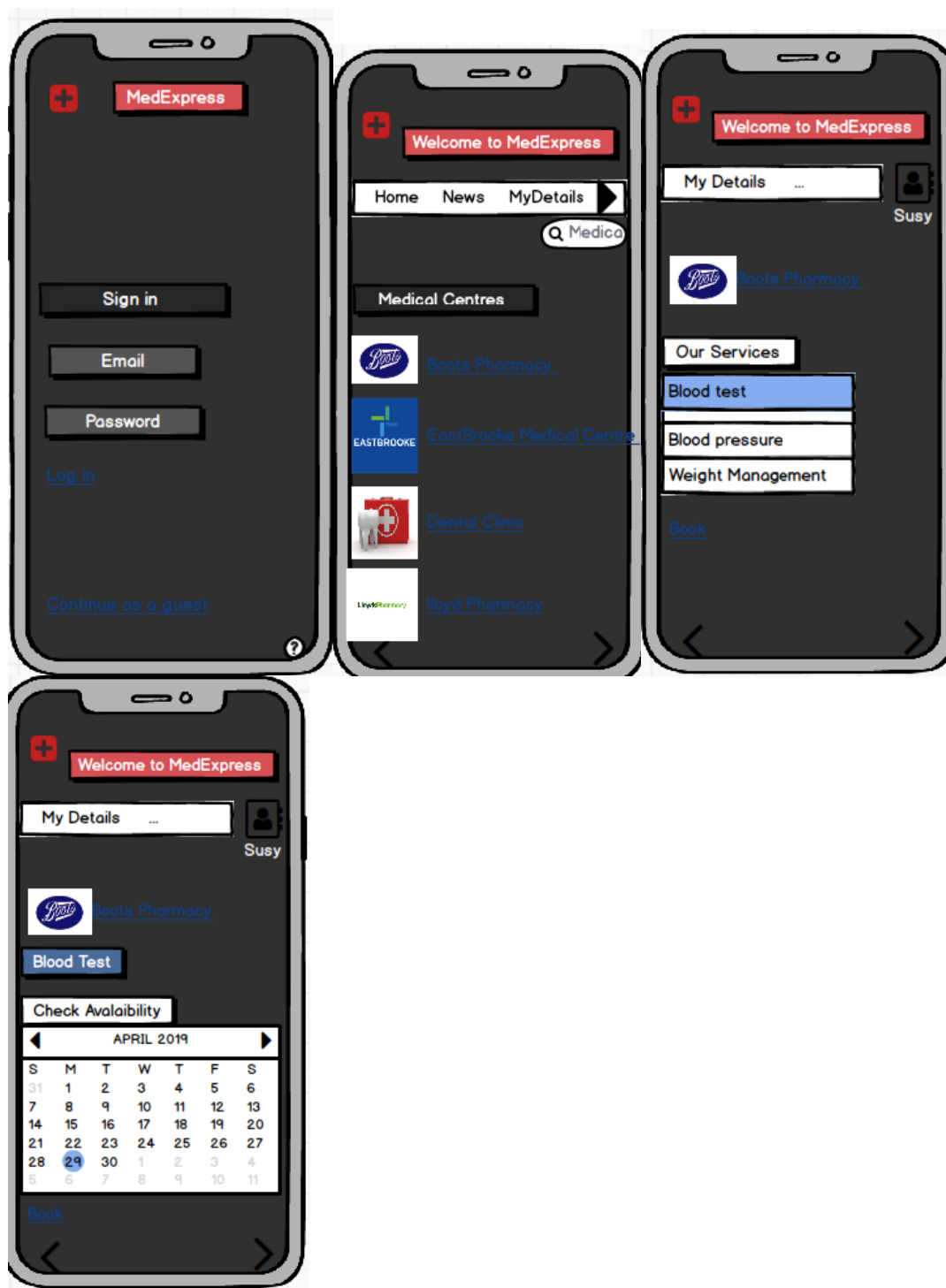


## Prototype 2

### Second version for Users

This first prototype was shown to the focus group in order to make changes if there is any. During the meeting with focus groups, ideas and suggestions were noted. These ideas and suggestions will be used to perform the changes to the first prototypes. The second prototype is shown below.



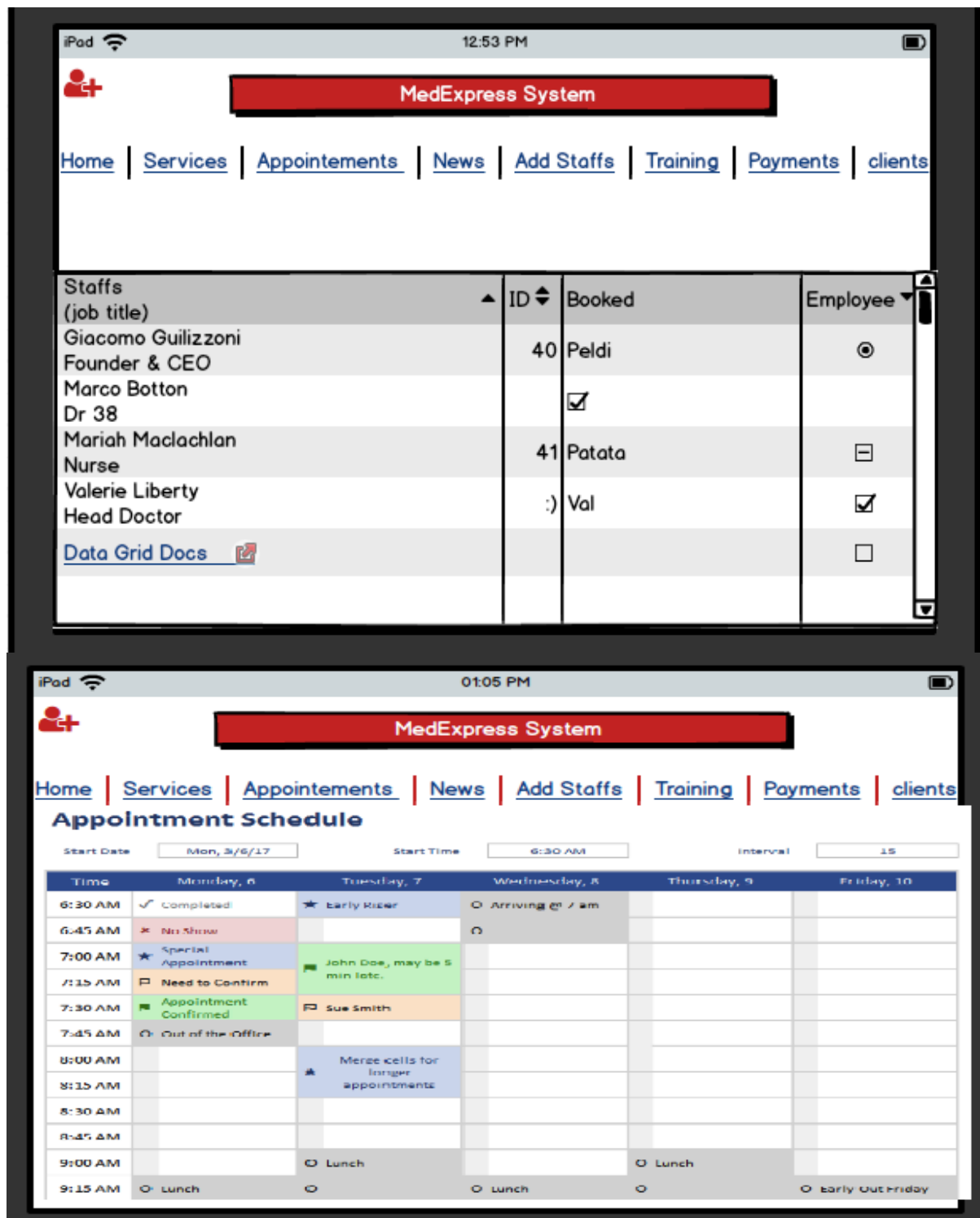




The details page outlined all the details about a user or patients. The only information displayed will be the information giving to the medical centre at the of registering with the centre or information on transfer list. Other information other than that are not displayed for security purpose.

#### Business End prototype

This prototype is the end side of the medical centres. The users will not be permitted to see this side. This allow the medical centre to approve and manage users appointments and assign doctors and nurses.



Moscow Analysis

MoSCoW Analysis is one of the techniques used for prioritisation This Moscow analysis will be use to analyse to prioritise and manage the requirements gathered from Surveys, Brainstorming, Focus Group and the four interviews. The letters in MoSCoW stands for

- Must Have: Must have requirements are most important for this project to be successful. Requirement that is possible to deliver.
- Should Have : Should have requirements are vital but not essential. Because of it less effect, it can be left out.
- Could Have : Could have requirement appropriate but less vital.
- Won't Have: Wont have requirements are requirement that won't make positive effect on the project deliver, it has no negative or positive impact on the project to be successful.

As the requirements gathered are prioritised, based on the importance of each requirement and whether it is achievable and necessary to meet stakeholders needs. The list of requirements can be identify in a scope chart. The outcome of the scope chart is shown below with a unique code given to each requirement to identify them.

#### MoSCoW Chart

Most Have 

Should Have 

Could Have. 

Won't Have 

|   |  |
|---|--|
| <p><b>Most Have</b></p> <p>REQ 1: App to be free</p> <p>REQ 2: All medical service to be listed on the app</p> <p>REQ 3: Assessable 24 hours</p> <p>REQ 4: Appointment reminder</p> <p>REQ 6: Emergency Contact</p> <p>REQ 7: User's medical history</p> <p>REQ 8: Security</p> <p>REQ 9: Able to create user profile</p> <p>REQ 10: Search section</p> <p>REQ 11: Payment section</p> <p>REQ 12: Medical centre Opening time</p> <p>REQ 13 : Able to reset password</p> <p>REQ 14: App should have icon and logo</p> <p>REQ 15 : A choice to register or as a visitor</p> <p>REQ 16 : Log in</p> <p>REQ 17 Log Out</p> | <p><b>Should Have</b></p> <p>REQ 18: User's medical history</p> <p>REQ 19: Cancellation notification</p> <p>REQ 20: Prescription request section</p> <p>REQ 21: Free video call</p> <p>REQ 22 : Friendly Service</p> <p>REQ 23: Chat with doctors</p> <p>REQ 24: Medical news</p> <p>REQ 25: Emergency booking</p> <p>REQ 26: A Map view</p> <p>REQ 27 Feedback section</p> <p>REQ 28: Help section</p> <p>REQ 29 Emergency personnel</p> <p>REQ 30: Able to access past prescriptions</p> <p>REQ31 : Available on online</p> <p>REQ 5: Calendar</p> |
| <p><b>Could Have</b></p> <p>REQ 31: GP Transfer section</p> <p>REQ 32: App to work offline</p> <p>REQ 33: Able to search doctor's name</p> <p>REQ 34: HSE news</p> <p>REQ 35: Auto sign in</p> <p>REQ 36: Home patient check up</p> <p>REQ 37: Transport details</p>  | <p><b>Won't Have</b></p> <p>REQ 39: Book now pay later</p> <p>REQ 40: Free Call section</p> <p>REQ 41: Medical Emoji</p> <p>REQ 42: Home remedies recipes</p> <p>REQ 43: Medical Card renew link</p> <p>REQ 44: Medical card advice</p>  |

## IEEE Requirements Specification

### Introduction

The IEEE requirements specification document is being developed for a MedExpress (Medical Appointment Booking) System. The objective of IEEE requirements specification document is to identify the major functional and non-functional requirements gathered from stakeholders to make sure that the MedExpress app (Medical Appointment Booking system) meets the stakeholder's needs and stakeholder's expectancies. Generally, Requirement specification document is submitted and review by stakeholders before it is developed by the developer. This way, the document can be easily be amended if there any changes from stakeholders.

### Scope

The Medical Appointment Booking System is developed for the users in need of medical services. The Medical Appointment Booking System has several benefits both for administrative personnel and patients included. MedExpress will help save time by providing an alternative for phone bookings and walk -ins, thereby reducing long waiting queues.

This system will allow staff to spend less time on phone booking and also managing appointments. The system will permit patients to access the doctor availability at their end, receive cancellation notification, request for prescription, request for medical certification and enable doctor visit fees payment on the system. The MedExpress (Medical Appointment Booking system) will solve the issues of phone booking, walk-ins bookings and long waiting queue.



## Definitions, Acronyms, and Abbreviations

|               |  |
|---------------|--|
| MedExpress    | Name generate from Brainstorming section for the Medical Appointment Booking System  |
| User          | A User is a stakeholder that will interacts with the MedExpress system both online and app.                                |
| Administrator | A stakeholder that is permitted to approve appointment, manage schedules, and make changes to the MedExpress at their end. |

## Functional requirements

The functional requirements from the list of all the requirements collected from the requirement elicitation techniques used in this project are ranked in order. This functional requirement will identify what the MedExpress must accomplish.

### Functional Requirements 1

**Identification Unique Code :** FR 1

**Title:** Register for account

**User Story :** As a user  
I want to be to register for account  
So that I can receive cancellation notification.

**Explanation:** Registering for account will permit the user to easily receive any medical update , cancellation notification and medical certification can send direct to their email.

**Priority :** Must Have ( High Priority)

**Source :** Survey, Brainstorming

---

**Identification Unique Code :** FR 2

**Title:** Login

**User Story :** As a user  
I want to be to log in into my account  
So that I can access to my details, update my details.

**Explanation:** The login home page is the first page that user will see. This will allow user to enter into their account, to check availabilities, input contact details, and in other to receive notifications.

**Priority :** Must Have ( High Priority)

**Source :** Survey, Brainstorming

---

**Identification Unique Code :** FR 3

**Title:** Visit as Guest

**User Story :** As a guest user  
I want to be to access the system without restriction so that  
I can book appointment without registering for an account.

**Explanation:** The guest user do not need to register before accessing the system. They might be limited to a certain information until they are registered. But they are able to check availabilities, book, view and search. Visit as a guest link will be available at the home page under the login button.

**Priority :** Must Have ( High Priority)

**Source :** Survey, Interview 3

---

**Identification Unique Code :** FR 4

**Title:** App must be free

**User Story :** As a user

I want the application to be free so that I will be able to download onto my device free of charge.

**Explanation:** The user will be able to download the application from android play store and ios or on any other device available.

**Priority :** Must Have ( High Priority)

**Source:** Brainstorming , Survey

---

## Functional Requirement 5

**Identification Unique Code :** FR 5

**Title:** All medical service should be listed on the app

**User Story :** As a user

I want all the medical service in Ireland to be listed so that I can easily search other service available to me without stress.

**Explanation:** The user will be able to search any other medical service like dentist clinic, Hospitals in the area and medical centres.

**Priority :** Must Have ( High Priority)

**Source :** Survey

---

## Functional Requirement 6

**Identification Unique Code :** FR 6

**Title:** The application should be assessable 24 hours

**User Story :** As a user

I want the application to be available 24 hours so that I will be able to check availability at any time of the day.

**Explanation:** The user will be able to have access to the application any time of the day and Monday to Monday without any restriction.

**Priority :** Must Have ( High Priority)

**Source :** Survey , Brainstorming, Interview 2

---

## Functional Requirement 7

**Identification Unique Code :** FR 7

**Title:** Calendar

**User Story :** As a user

I want to be able access calendar on my profile so that I can easily view my booking date on the calendar and sync to my phone.

**Explanation:** The calendar will enable the users to view their previous appointments and features booking. The approved booking will be highlighted for visual.

Jessica Bankole  
X15766059

**Priority :** Should Have( High – Medium Priority)

**Source :** Survey, interview 1

---

#### Functional Requirement 8

**Identification Unique Code :** FR 8

**Title:** Appointment reminder

**User Story :** As a user

I want to be able to receive my appointment reminder on my email and phone  
So that I will not forget about my appointment.

**Explanation:** The reminder will be sent to each user to remind them about their appointment date, time and doctor name. The reminder will sent to either user's phone or email. It depend on user preference.

**Priority :** Should Have( High Priority)

**Source :** Survey, Brainstorming, Focus Group

---

#### Functional Requirement 9

**Identification Unique Code :** FR 9

**Title:** Payments

**User Story :** As a user

I want to be able to make my doctor visit payment on the system

Jessica Bankole

X15766059

so that I don't have to make payment on arrival.

**Explanation:** User will be able to make payment on both app and on the system before their appointment date.

**Priority :** Should Have( High Priority)

**Source :** Survey, Brainstorming, Focus Group

---

## Functional Requirement 10

**Identification Unique Code :** FR 10

**Title:** Reset Password

**User Story :** As a user

I want to be able to reset my password when I forget my password  
so that I have to create another account

**Explanation:** User are permitted to reset their password any time they forget the details.  
To reset the password, user's email address will asked and first name and last.

**Priority :** Most Have( High Priority)

**Source :** Survey, Focus Group

---

## Functional Requirement 11

**Identification Unique Code :** FR 11

**Title:** Reset Password

Jessica Bankole  
X15766059

**User Story :** As a system Admin

I want to be able to reset my password and staff password when having trouble login in so that I won't be frustrated

**Explanation:** System Admin are permitted to reset their password for employees any time they forget the details. To reset the password, user's email address will be asked and staff ID

**Priority :** Should Have( High Priority)

**Source :** Survey, Brainstorming, Focus Group

---

## Functional Requirement 12

**Identification Unique Code :** FR 12

**Title:** Automatically Sign on

**User Story :** As a user

I want to be able to automatically sign onto the system so that I can access the system faster.

**Explanation:** User will be able to automatically sign onto the system. This way it can reduce the rate of password reset. A single login will decrease the amount of authentication issues.

**Priority :** Should Have( Medium Priority)

**Source :** Survey

---

## Functional Requirement 13

**Identification Unique Code :** FR 13

**Title:** Past medical History

**User Story :** As a Doctor

I won't be able to view patient past medical history  
So that patient don't have repeat themselves to every doctor.

**Explanation:** The system will store up patients past medical issues, histories, past blood test, scan, x-ray and medication. In other to make things easier for doctors and patients.

**Priority :** Should Have( High – Medium Priority)

**Source :** Survey, Brainstorming, Focus Group

---

#### Functional Requirement 14

**Identification Unique Code :** FR 14

**Title:** Prescription Request

**User Story :** As a user

I want to be able to request for prescription on the system  
So that I don't have visit the centre.

**Explanation:** On the system, user can easily request for on-going prescription. There won't be any need to visit the centre as long it does not require new test or patient examination. To be done.

**Priority :** Should Have( High – medium Priority)

**Source :** Survey, Focus Group

---

#### Functional Requirement 15

**Identification Unique Code :** FR 15

Jessica Bankole  
X15766059



**Title:** Medical Cert

**User Story :** As a user

I want to be able to request for medical certification on the system  
So that I don't have to visit the centre.

**Explanation:** The system users who are logged in will be allow to request for a medical certification or work and college. As long as the doctors are aware of the reason why they need it.

**Priority :** Should Have( Medium Priority)

**Source :** Survey, Focus Group

---

Functional Requirement 16

**Identification Unique Code :** FR 16

**Title:** Chat

**User Story :** As a user

I want to be able to chat with doctors online  
So that I don't have to visit centre for consultation

**Explanation:** The user can chat with doctors available online. The user has to be logged in to be able to access the doctor. This will reduce the ques at the centre.

**Priority :** Should Have( Medium Priority)

**Source :** Survey, Brainstorming, Focus Group

---

## Functional Requirement 17

**Identification Unique Code :** FR 17

**Title:** HSE / Medical News

**User Story :** As a user  
I want to be able to view medical new available  
So that I can be current with medical updates.

**Explanation:** The system user will be able to read HSE news and any medical update. This makes the user to be more frequent on the system or app not just using to book appointments.

**Priority :** Should Have( Medium Priority)

**Source :** Survey

---

## Functional Requirement 18

**Identification Unique Code :** FR 18

**Title:** Map

**User Story :** As a user  
I want to be able to access map on the app  
So that I won't get lost visiting the appointment location.

**Explanation:** There will be a map view section which will link the user to Google map for easy view.

**Priority :** Could Have( Low Priority)

**Source :** Survey, Focus Group

---

## Functional Requirement 19

**Identification Unique Code :** FR 19

**Title:** Feedback

**User Story :** As a user

I want to be able to input my thought on the feedback section  
So that others can view

.

**Explanation:** The user can write feedbacks under each centres like Boot pharmacy. This can be use to improve their business.

**Priority :** Could Have ( Medium – low Priority)

**Source :** Survey, Brainstorming

---

## Functional Requirement 20

**Identification Unique Code :** FR 20

**Title:** Help

**User Story :** As a user

I want to be able to access help section  
So that I can get help when I need it

**Explanation:** The help section will be available on every pages on the system. This will allow user to get help whenever they need it.

**Priority :** Should Have( Medium Priority)

**Source :** Survey

---

## Functional Requirement 21

**Identification Unique Code :** FR 21

**Title:** General Practitioners Lists

**User Story :** As a user

I want to be able to view other General practitioners available in my area so that I can transfer.

**Explanation:** The users can easily search for other GP available in their area to transfer to if they are not pleased with their current GP.

**Priority :** Could Have( Medium -low Priority)

**Source :** Survey

---

## Functional Requirement 22

**Identification Unique Code :** FR 22

**Title:** Free call

**User Story :** As a user

I want to be able to make free call to the centre  
So that I don't have to bother getting phone credit.

.

**Explanation:** With a free call on the system online and on app will enhance the booking system, and it will keep the user pleased . It will enable the user to call in second.

**Priority :** Won't Have (Low Priority)

Jessica Bankole  
X15766059

**Source :** Survey

---

## Functional Requirement 22

**Identification Unique Code :** FR 22

**Title:** Free call

**User Story :** As a user  
I want to be able to make free call to the centre  
So that I don't have to bother getting phone credit.

.

**Explanation:** With a free call on the system online and on app will enhance the booking system, and it will keep the user pleased . It will enable the user to call in second.

**Priority :** Won't Have (Low Priority)

**Source :** Survey

---

## Functional Requirement 23

**Identification Unique Code :** FR 23

**Title:** Medical Card

**User Story :** As a user  
I want to be able to renew my medical card through the system  
So that I don't have to go on HSE website to renew

**Explanation:** There will be a link on the system that will bring user direct to medical card renew site.

**Priority :** Could Have (Low Priority)

**Source :** Survey

---

Administrator

Functional Requirement 24

**Identification Unique Code :** FR 24

**Title:** Manage the system

**User Story :** As Admin user  
I want to be able to access the system  
So that I can approve patient bookings

**Explanation:** The system admin will be able to access the system to manage and confirm appointment, send out confirmation email to patients.

**Priority :** Must Have (High Priority)

**Source :** Survey, Brainstorming, interview 1&2

---

Administrator

Functional Requirement 25

**Identification Unique Code :** FR 25

**Title:** Make Changes to system

**User Story :** As a Admin user

I want to be able to change users details, update user details  
So that there won't be any duplicate account.

.

**Explanation:** Admin will be able to make changes to staff details, schedule, cancel, update medical information on the system.

**Priority :** Must Have (High Priority)

**Source :** Interview 1&2

Non-Functional Requirements

---

## Non Functional Requirement

**Requirement Unique Code :** NF 1

**Requirement Title :** Password Encryption and Hashed

**Requirement Explanation :** Users password will be encrypted and kept in the directory which will prevent any user or system admin to access. User password can be hashed also to defend user password from attack when database is compromised.  
or hashed.

---

## Non Functional Requirement

**Requirement Unique Code:** NF 2

**Requirement Title:** Password Length

**Requirement Explanation:** Password should be only not less than 8 character long, with Upper case and all to be alphabets.

---

### Non-Functional Requirement

|                                 |  |
|---------------------------------|--|
| <b>Requirement Unique Code:</b> | NF 3   |
| <b>Requirement Title:</b>       | Login Failed attempt   |
| <b>Requirement Explanation:</b> | The user will be asked to input their email address and phone number to reset their password every time they fail to login 2 times for security purpose. |

---

### Non-Functional Requirement

|                                 |   |
|---------------------------------|---|
| <b>Requirement Unique Code:</b> | NF4   |
| <b>Requirement Title:</b>       | Database  |
| <b>Requirement Explanation:</b> | The Database is used to store and manage the data collected from users. It stores user name, password, emails, files on the system. |

---

### Non-Functional Requirement

|                                 |      |
|---------------------------------|------|
| <b>Requirement Unique Code:</b> | NF 5 |
|---------------------------------|------|



|                                 |  |
|---------------------------------|--|
| <b>Requirement Title:</b>       | Navigation   |
| <b>Requirement Explanation:</b> | User need to be able to navigate through the pages on the app and the system. The link has to be connected to all internal pages and external webpages like HSE medical renew page and google map. |

---

#### Non-Functional Requirement

|                                 |  |
|---------------------------------|--|
| <b>Requirement Unique Code:</b> | NF 6   |
| <b>Requirement Title:</b>       | Screen Size  |
| <b>Requirement Explanation:</b> | The system needs to fit any device. So that the screen will not flow out of the app and on the system. Scaling problem need to be focused on during the development stage of the system. |

---

#### Non- Functional Requirement

|                                 |   |
|---------------------------------|---|
| <b>Requirement unique Code:</b> | NF 7  |
| <b>Requirement Title:</b>       | Contents  |
| <b>Requirement Explanation:</b> | The content on the system need to be kept to minimum, only useful information will be display on the system. Too much content can easily decrease user on the system. |

---

#### Maintenance Requirement

|                                 |                        |
|---------------------------------|------------------------|
| <b>Requirement Unique Code:</b> | NF 8                   |
| <b>Requirement Title:</b>       | Maintaining the system |

**Requirement Explanation:** An update request will be sent to user's device. This update allows the user about the app because of the notification. The update will fix any bugs, to improve the system and add more feature to the system.

## Technical Requirement

Technical Requirements are the technical matters that need to be considered carefully in order for the project to be completed successfully. The performance of the system, reliability and availability must be met in order to progress with the development.

### Technical Requirements

|                                 |  |
|---------------------------------|--|
| <b>Requirement Unique Code:</b> | TR 1   |
| <b>Requirement Title:</b>       | IOS & Android  |
| <b>Requirement Explanation:</b> | The system will be available for users on both IOS and android. This way the system can gain more users in order to get high rating. |

---

### Technical Requirement

|                                 |   |
|---------------------------------|---|
| <b>Requirement Unique Code:</b> | TR 2  |
| <b>Requirement Title:</b>       | Storing Data  |
| <b>Requirement Explanation:</b> | A Database Management System (DBMS) will be connected to the system to store and manage store user's information. |

---

### Technical Requirement

|                                 |                                |
|---------------------------------|--------------------------------|
| <b>Requirement Unique Code:</b> | TR 3                           |
| <b>Requirement Title:</b>       | Technology to build the system |

**Requirement Explanation:** This is a technology that will be used to develop the system including the mobile app for user.

---

Technical Requirement

**Requirement Unique Code:** TR 4

**Requirement Title:** Hosting

**Requirement Explanation:** A hosting provider we be consider for the system to allow the user to have a choice to use the system online instead of mobile app.

---

Technical Requirement

**Requirement Unique Code:** TR 5

**Requirement Title:** Google Analytics

**Requirement Explanation:** Google analytics will be used to optimize the system. It will be used to figure out how the user found out about the system and to monitor their activities on the system

---

Technical Requirement

**Requirement Unique Code:** TR 6

**Requirement Title:** Sync Calendar

**Requirement Explanation:** Users will be able to sync the system calendar with user own calendar.

---

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## Appendix

### Introduction

The purpose of this project, is to write a requirement elicitation specification document to develop an Application for a Medical appointment booking system. As a business analyst, I will be using some of the techniques stated in the BABOK (Business analysis Body of Knowledge) book to gather all the necessary requirement for the project. The techniques I will be using for this project are, survey, brainstorming, interview, focus group and stakeholders list matrix to identify the importance of stakeholders. And how they are impacted and influence by the project. For me to put together the requirement for this project, I will be interviewing different stakeholders, which are medical centres, Hospitals, Dental clinic, Pharmacies and General Practitioners. As soon as I have gathered all the requirements needed from the stakeholders, the details in the requirement gathered will be outlined in a requirement document.

The purpose of this Project Is to produce a well detailed requirement that will be use to develop a Web Application. The requiremnet will gathered from different stakeholders like, hospitals, Dental Clinics, Pharmacies and Family doctors.

After all the necessry requirement has been gathered, It will be documented in the requirement specification document. Follow by project proposal, midpoint presentation, and finally the final presentation. I will be building a prototype website, that will be used to show the design of the web application based on the requirement gathered from the stakeholders.

## Objective

The main object for this projet is to create A web Application system that will be use for booking medical appointments by patients and for Hospitals, Medical centres, General practioneers, Private family doctors and Pharmacies to create a profile. This project will allow Medical Businesses such as Boots and any businesses that provide medical check-ups, Care Centres, General practioneers, Private family doctors and pharmacies that offers healthy heart support to create a business profile and manage appointments easily. It will also allow patients to search for the business profile to see their availabilities and book appointments instantly.

## Background

The idea of this project was very easy to come up with. I have always thought that there should be one system that one can use easily to make appointment. Based on my experience, I find it very stressful every time I tried to ring to book appointment. I have planned to build something similar at my spare time to solve the solution to the booking system. It a great opportunity for me to work on the main part of the project which is the requirement specification document.

I had to do some research if there is anything similar to the idea before proceeding with my video pitch. After doing the research, I came to find out that nothing like a medical

appointment booking system that will allow medical centres, hospitals, dental clinics and pharmacy to manage their appointments under one system has not yet been developed. And for patients to book appointment easily without calling in or phoning. I did the video pitch to demonstrate my idea. The video pitch was successful based on supervision. After project proposal is submitted, I will work on my brainstorming section and finally the requirement specification before the midpoint presentation due date.

#### The need for Medical Booking Appointment system:

After some research and feedback from family and friend, it is obviously that there is a need for this idea. Most patient will find the idea easier and faster to book their appointment. Especially for working patients. Even though some other business does have their booking system on their own and some use Excel to manage their booking. I believe my idea will solve major issues that patients face when booking appointment or getting through to the medical centre on the phone each time.

#### Disadvantage of old system

:

- Time consuming
- Need of credit to call
- Driving down to the centre
- Emergency appointment is not sure without appointment

### Advantage of My system:

- Safe time
- Book on the go
- Business can easily manage patient booking
- Check medical fees
- Book on the day you need to see the doctor
- Emergency booking
- Able to see the time/day that is free
- Easy booking

I believe my project idea will benefit both medical business and patient, does who are in need of care.

### Technical Approach

For me to build my web application successfully, I will be using WordPress. At first, I was going to use eHost because of my experience with it. I have learned how to use eHost for me to build my own blogging website for cooking and fashion. It easy for me to use the same tool for my project. But unfortunately, I was convinced by my lecturer that WordPress offer better features and better themes that will make my web application for the appointment booking system more effective. Also, to design the web application based on the requirements gathered from the stakeholders in other meet their needs.

### Business need

I believe after developing the web application, the users will find the system easy and straight forward to book appointment and easy for the business owner to manage their patient's booking.



### Stages of project plan

Requirement elicitation is the first stage require me to meet with the stakeholders involve obtaining the necessary requirement needed for the project. The data collected will determine how the web application end result will look.

Steps to building my project. The second of the project after the midpoint presentation is to design the prototype of the project. The prototype is wireframe design to show the idea look of the web application to show the stakeholder what the web application will look like based on their requirements. The prototype will allow me to make any changes based on the stakeholder's comment on the wireframe design. The basic design of appointment booking system will be developed using WordPress and it will be used as a display during the project show case in May 2019.

### Special resources required

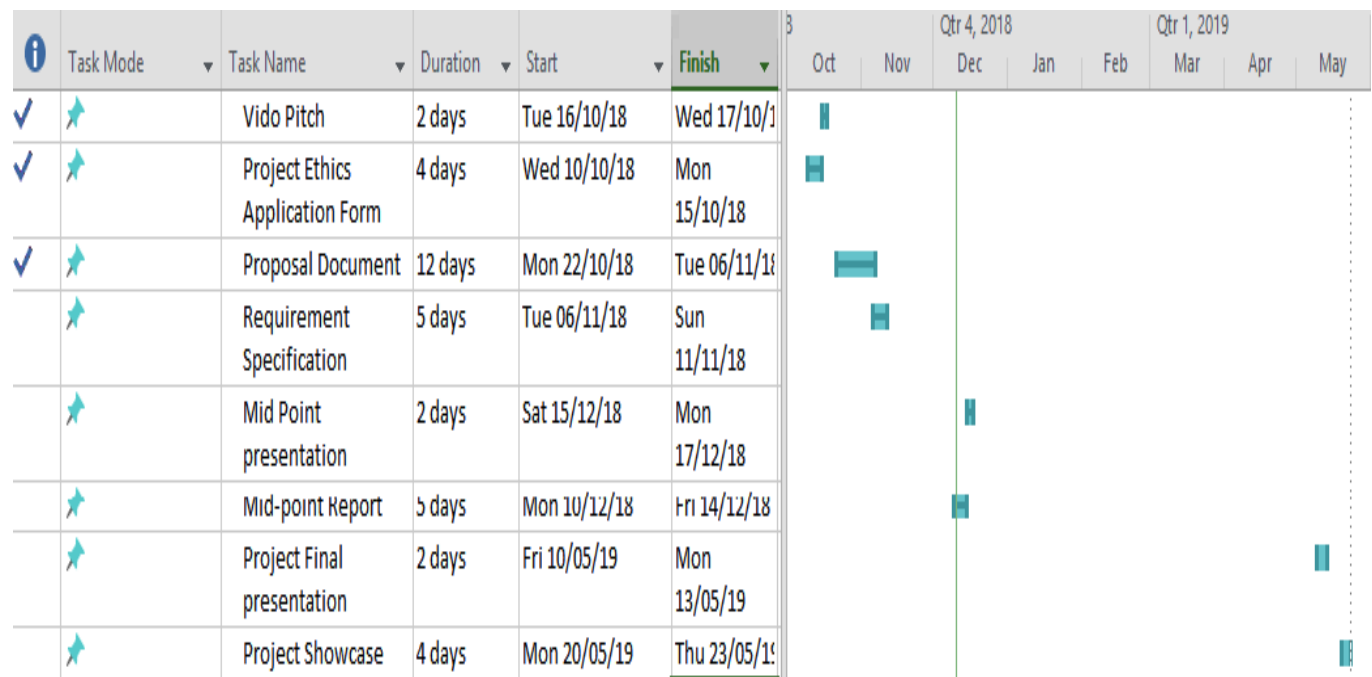
I will be learning more about on how to use word press of design a web application for my project. This will include watching more video on YouTube and tutorial videos online. I will be using the Microsoft excel in other to create the project plan for my project. This way I can easily follow the plan as I work on the project. This is not my first-time using Microsoft excel, but it will require me to watch more tutorial video to achieve it. Since Requirement management is on of module and I'm also using BABOK book ("A guide to the business analysis body of knowledge (BABOK guide)") for the class. It will easy for me to use the style of BABOK Guide to create my requirement specification final document.

## Project Plan

I used Microsoft excel to develop my Project plan which includes tasks, start dates and due dates.

| Updated  | Project    | Plan       |            |   |                          |
|--|------------|------------|------------|---|--------------------------|
| MY TASKS   | START DATE | DUE DATE   | % COMPLETE |   | NOTES                    |
| Video Pitch  | 05/10/2018 | 07/10/2018 | 100%       |  | success with supervision |
| Project Ethics Application form                    | 10/10/2018 | 15/10/2018 | 100%       |  | Approved                 |
| Meet up with supervisor concerning the video pitch | 08/10/2018 | 08/10/2018 | 100%       |  | Success                  |
| Proposal Document                                  | 22/10/2018 | 28/10/2018 | 100%       |  | Completed                |
| Proposal Document                                  | 22/10/2018 | 06/11/2018 | 100%       |  | Success                  |
| Requirement Specification                          | 06/11/2018 | 11/11/2018 | 100%       |  | Completed                |
| Project Ethics second Document                     | 17/11/2018 | 18/11/2018 | 0%         |   | Approved                 |
| Mid Point presentation preparation                 | 15/12/2018 | 16/12/2018 | 0%         |   | Pending                  |
| Mid Point presentation                             | 17/12/2018 | 21/12/2018 | 0%         |   | Pending                  |
| Project Final Document Preparation                 | 01/04/2019 | 01/05/2019 | 0%         |   | Pending                  |
| Project Presentation preparation                   | 10/05/2019 | 13/05/2019 | 0%         |   | Pending                  |
| Project Presentation                               | 13/05/2019 | 20/05/2019 | 0%         |   | Pending                  |
| Project Showcase preparation                       | 20/05/2019 | 22/05/2019 | 0%         |   | Pending                  |
| project showcase                                   | 23/05/2019 | 23/05/2019 | 0%         |   | Pending                  |

## Gantt Chart



## Technical Details

WordPress is the main technical part of the project. It will be used for developing the appointment booking system. The other technical part is the prototype. The prototype is the wireframe design based on the requirements gathered from the stakeholder. It will be presented to the stakeholder too when it is done, for me to collect their feedback on it. Before developing the web application on WordPress. The web application will be a way to visualize all the data collected and how the outcome of the requirements collected from the stakeholder is put together. The website designed with WordPress will be used as a display on the day of the project showcase.

## How will the system make money

The system will make money from advertising other brands product and services on the system just like other free application and websites. The use of Google analytic on the system can track the visitors, subscribers to mail list can generate money. Google AdSense is another way to make money. The system will offer free application download for users. For business to get the system, they will have to make once off payment which will include all packages such as maintenance, training, support and updates.

## Evaluation

The techniques from the book of BABOK that will be used for this project is stated in the objective of this project. The purpose of this techniques is to allow me to produce a great quality requirement specification document. It's possible that the idea of the project change as I progress with the project. Once all the document is produced, I will proceed to the designing of the web application and the prototype. I have planned to have the proposal done and the requirement document and brainstorming before the midpoint presentation.

The project plan and the monthly journal which is personal will be helpful while I work on

my project. I also plan to meet with my supervisor occasionally for feedback on the project as I work on it.

#### Website Link

<https://med--express.wixsite.com/medexpress>

## Showcase Poster



### MedExpress Medical Appointment System

Jessica Bankole

BSc (Honour) in Technology Management  
Business Analyst



National  
College of  
Ireland



Get it on iOS App Store & Google Play store

balsamiq

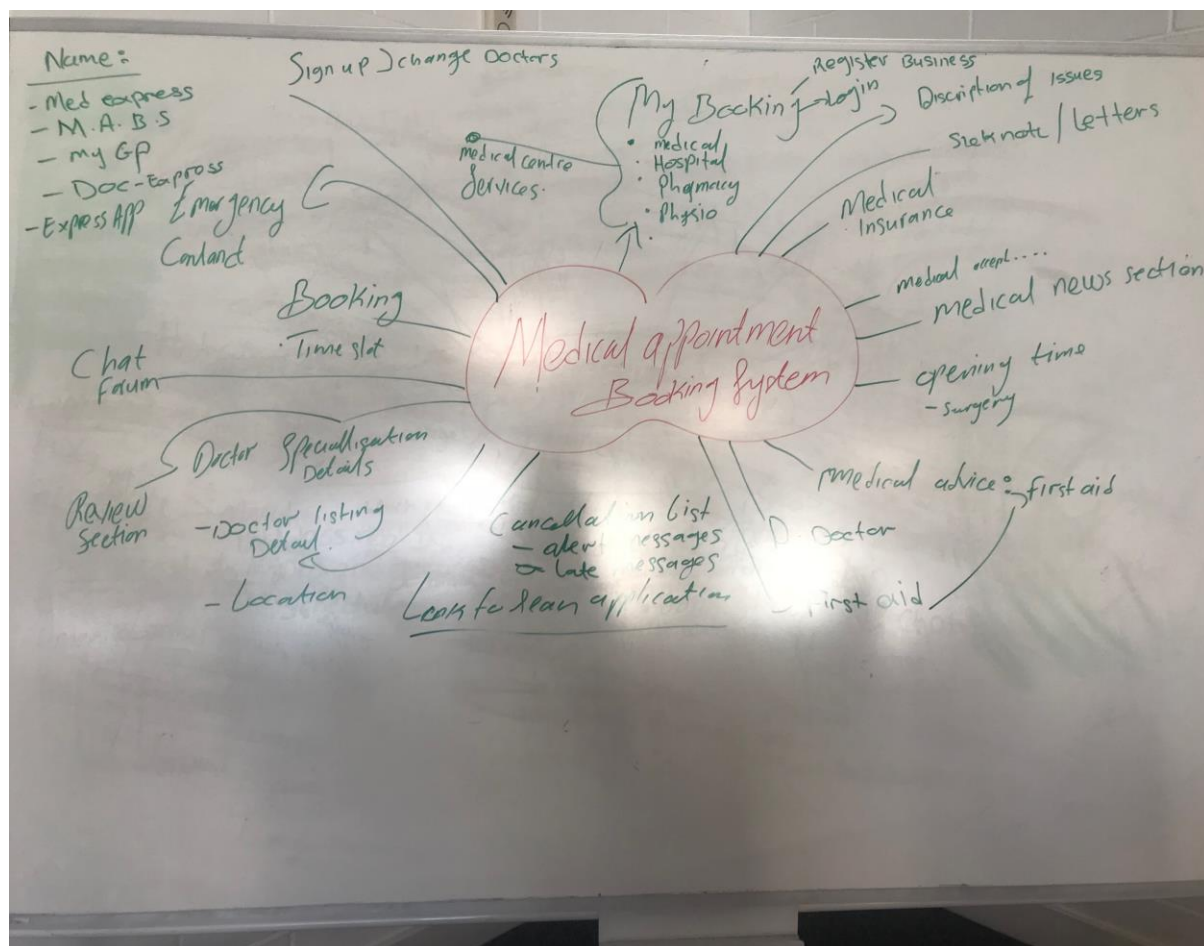


HTML



## Notes

### Brainstorming notes



### Brainstorming section


location: Classroom

Participants: 7 students



## Interview Notes

### Interview



JB

Jessica Bankole

Sun 05/05/2019 00:18

oseun45@yahoo.co.uk

↶

↷

→

...

Hi

Thank you for taking the time to meet up with me on Tuesday.

Your suggestion and ideas are really appreciated.

Have a great day.

Thank you  
Jessica.

*\*\*Hi*

*Thank you for taking the time to meet up with me on Tuesday.*

*Your suggestion and ideas are really appreciated.*

*Have a great day.*

*Thank you  
Jessica.*