# Solent University

## BSc (Hons) [Computing]

COM621
UX Strategies
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## Part 1

*Introduction*

Statement of Intent: A Development Built to Help and Protect the Medical World.

COVID-19- a virus that is rather a severe respiratory syndrome first spread in Wuhan, China at the end of the year 2019. In March 2020, the World Health Organisation declared this deadly outbreak across the world as a global pandemic. Due to high number of cases spread across the world, the health care system of every country had to struggle and fight a long battle to care for as many people as they could since the world was in pieces. Health care systems reached a stage where they couldn't accommodate anymore COVID-19 patients and were pleading for the general public to abide by the government restrictions to ease the stress the system was going through. According to a local news webpage in the state of Kentucky (United States), "Public health resources across the state are strained due to the overwhelming number of cases of COVID-19. With disease incidence so high it exceeds public health system capacity; Barren River District Health Department (BRDHD) must adapt and direct resources to continue efforts to mitigate the virus's unrestrained spread." France had a major drop in general practitioners' consultations by 40% and specialists' consultations by 50% after the global pandemic hit. Cancer centers decided to push further any consultations and operations as they were all considered to be "non-urgent". (Deloitte France 2020)

This proves that almost all health care systems were not ready for such an influx of patients. Hospitals have had to side-line various other elective surgeries to accommodate COVID-19 patients. Every "non-urgent" consultation was postponed. Here is where the problem lies: It is not possible for patients with a certain sickness/disease who have recurring consultations with a doctor to be side-lined for months together because of a gruesome situation like a pandemic. It is extremely important to understand the depth of a desperate situation where health workers and the common people feel helpless. Hence to resolve the issue in some manner, a working app which I thereby call "MED-On", with certain features that would help both the health care workers and the people of the society tremendously which would bring a sense of ease to all in some way hence it is important to think of a solution in the first place.

As generic as it sounds, a sophisticated application is clearly not strictly implemented. It may come off as unnecessary during normal everyday life but during a desperate situation like a pandemic is where something like this would really act as a helping hand for all to use. The users of the application would be everyone (public) registered at a hospital, all doctors/nurses of that hospital, and the pharmacists of a pharmacy associated with the hospital. The app would be built keeping in mind of a situation like the one the world is facing currently, the difficulties people from society including health workers are experiencing, hence a user centred design is the basis of this model. The application will have a regular register/log in. The user can choose to register at the hospital via the application. Once the user logs in, they can book a virtual appointment with their preferred doctor (each doctor will have a description of all that they specialise in). If the user is uncertain of which doctor to book an appointment with, there will be help available from hospital staff in an online chatroom. If the patient needs recurring virtual appointments (for example: blood pressure check-ups), the doctor can mark that specific patient as a "recurring" patient on their list. All doctors can take virtual appointments with patients and advise further, for example, in case the patient requires emergency treatment they can be put on in the "priority list" on the app of the hospital or if they believe that the patient must check their blood pressure three times a day for 2 days and then get back to them. If the doctor is sure about the diagnosis of the patient, they can suggest giving prescriptions with the approval of the patient (for example: a normal cold and flu or chest congestion). If the patient approves, the doctor can then send a prescription request to

the pharmacy. The pharmacy can send a bill to the patient along with an attached link (all via the app) where the patient can pay safely. The patient then gets a confirmation. The medications will then set out for delivery while the patient is being updated about the delivery. If a patient is on the “recurring” list and has medications to be delivered every month after a consultation each month then they can have a virtual consultation one week before the medications would be due to delivered and the doctor can the judge based on the condition of the patient i.e., if they need to come for an in-person check-up, carry on with the same medications or change some medication. This is the ideal application I have in mind, but I am focusing mainly on the general user’s logins. Hospital staff would have a different layout on this app.

The following is a comparison between an idea I possess vs. an already built medical app i.e., NHS App. The following screenshots required me to get verified for full access and they are as follows:

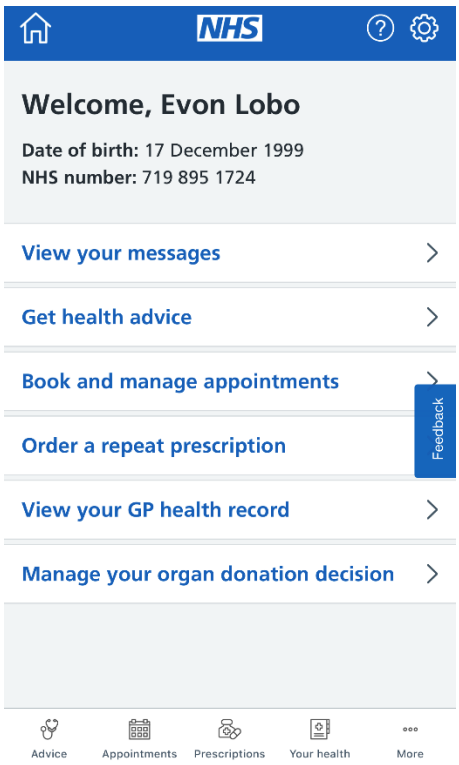



Figure 1: Home Page

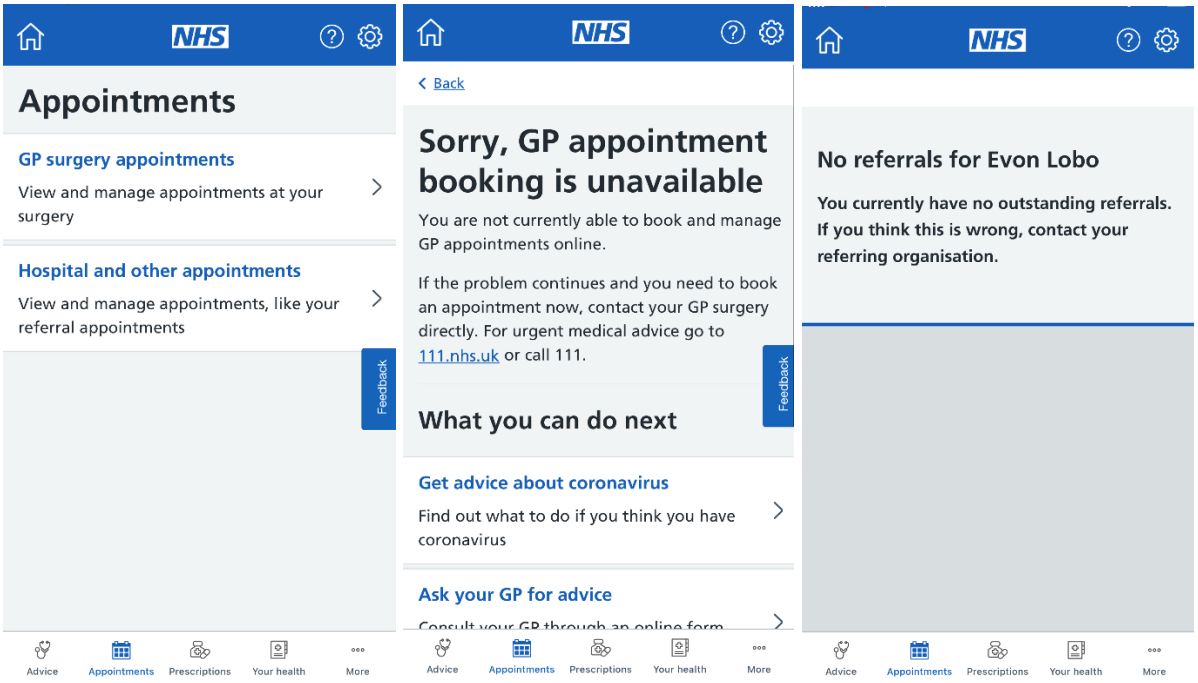
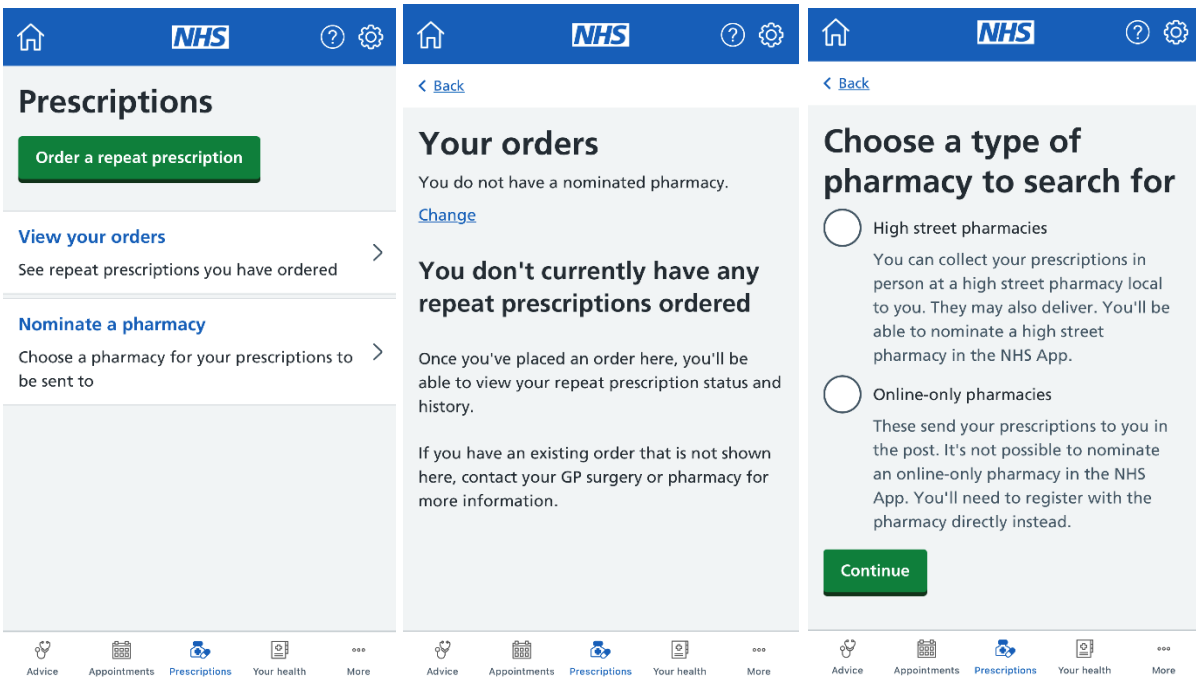



Figure 2, 3, 4: Figure 3 is what appears after clicking option 1 (“GP Surgery Appointments”) on figure 2 (Appointment Page) and figure 4 is what appears after clicking option 2 (“Hospital and Other Appointments”)




Figures 5, 6, 7: Figure 6 is what appears after clicking option 1 (“View Your Orders”) on figure 5 (Prescription page) and figure 7 is what appears after clicking option 2 (“Nominate a Pharmacy”)

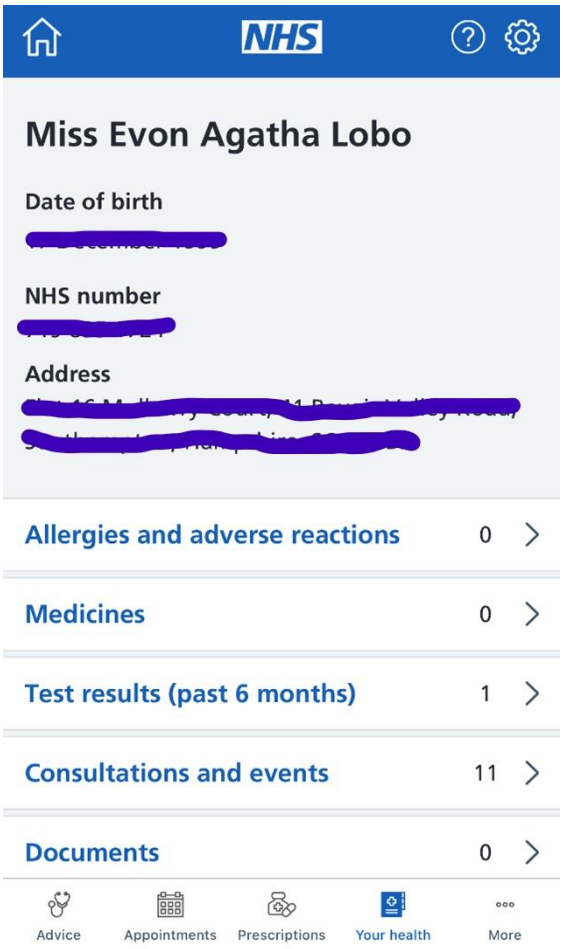



Figure 8: Your Health Page

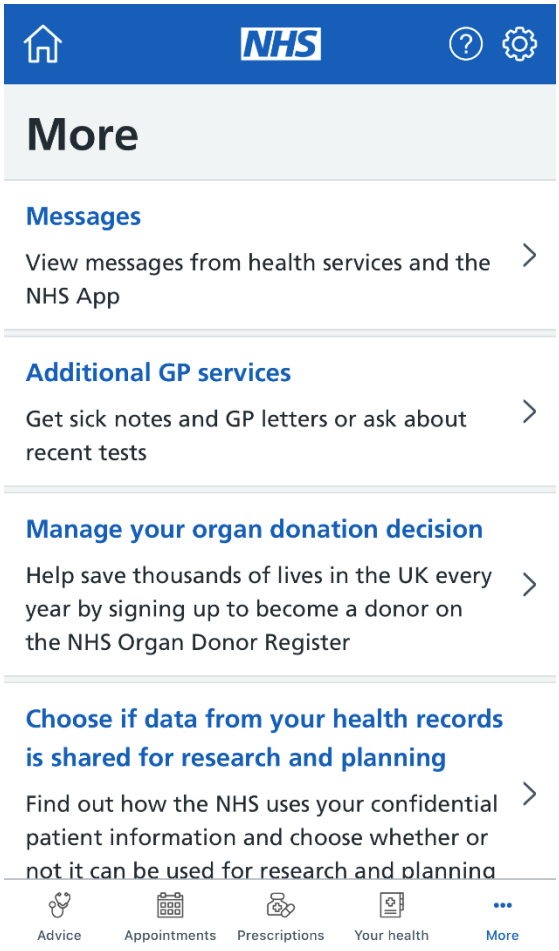



Figure 9: More Page

Consider a comparison between the NHS app vs. MED-On. Here's a list of the features that lack in the NHS app but are present here:

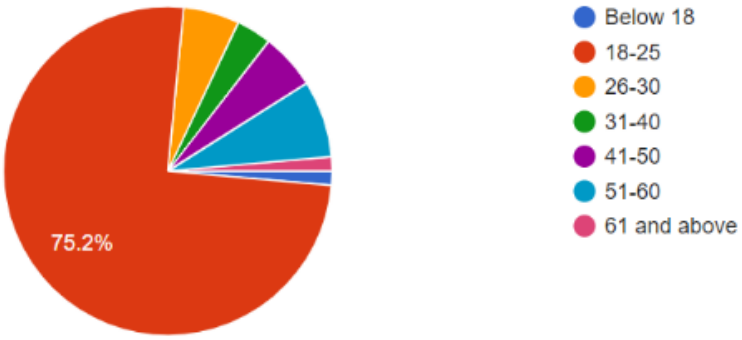
| List of Features | |
|---|---|
| 1. | To be able to attend appointments via video call through the app. |
| 2. | Re-order prescriptions after an online consultation with your doctor. |
| 3. | Connect the pharmacy with the app so patients can re-order prescriptions easily and doctors can diagnose and send patients new prescriptions. |
| 4. | Doctors can diagnose and prescribe medications for small sicknesses such as a flu. |
| 5. | Patients can directly send a request to the pharmacy for over-the-counter medications. |
| 6. | Patients who think their case is severe can book an appointment first and if needed, the doctor can book an in-person consultation. |
| 7. | Patients will be able to see descriptions of every doctor's speciailisation so they can choose whom they need an appointment with. |
| 8. | The patient can track the delivery of their medications |
| 9. | To be on a doctor's "recurring" list, patients can send a request directly to them. |

## Part 2

*I. Survey*

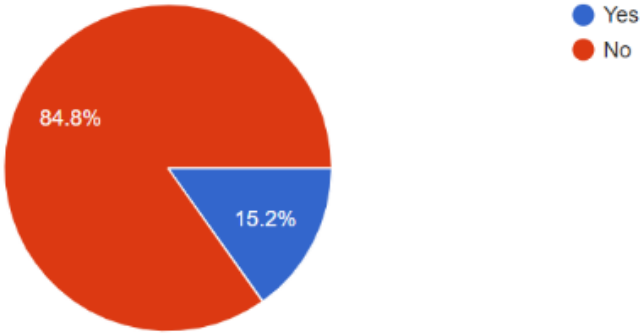
Which age group do you fall in?

145 responses



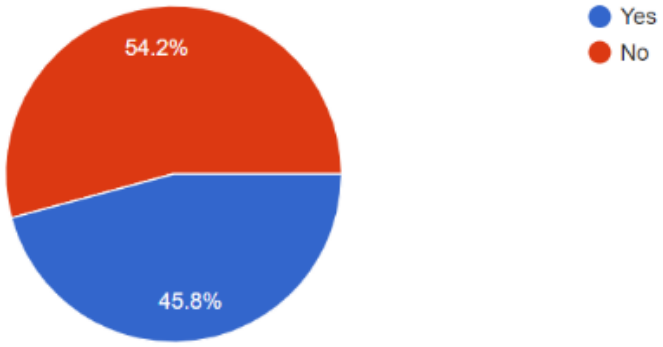

Do you have regular appointments for a certain medical need with a doctor once in a month or once in 3 months? Eg. Blood Pressure check-ups.

145 responses



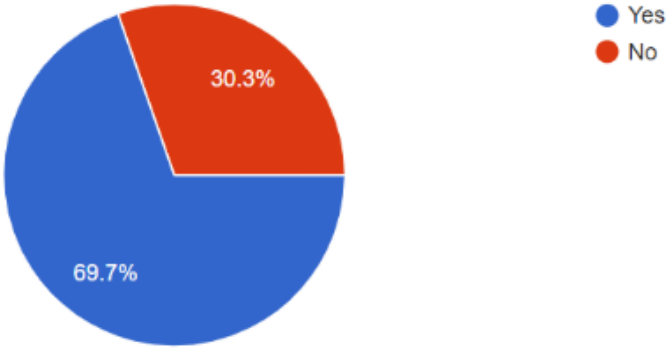
If you answered yes in the previous question, is it the same doctor you meet every single time? (If not, consider you have a medical need and must meet your doctor every month and please answer the rest of the survey).

131 responses



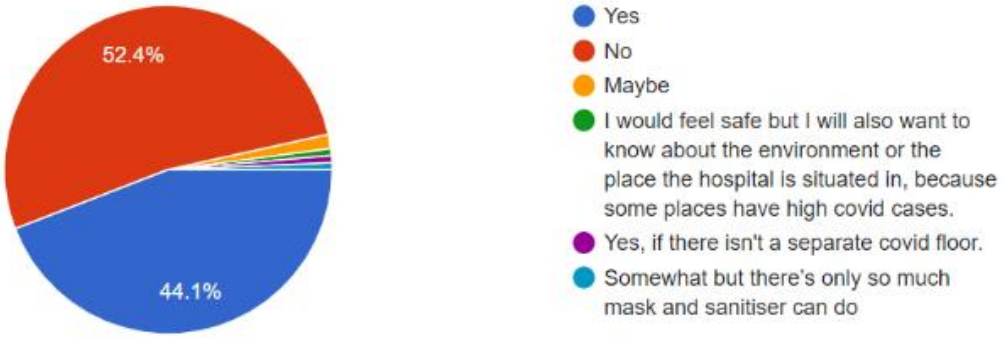

Would you feel unsafe to attend these appointments in the middle of a global pandemic? (Considering your registered hospital is taking in patients. Eg: COVID-19 patients).

145 responses



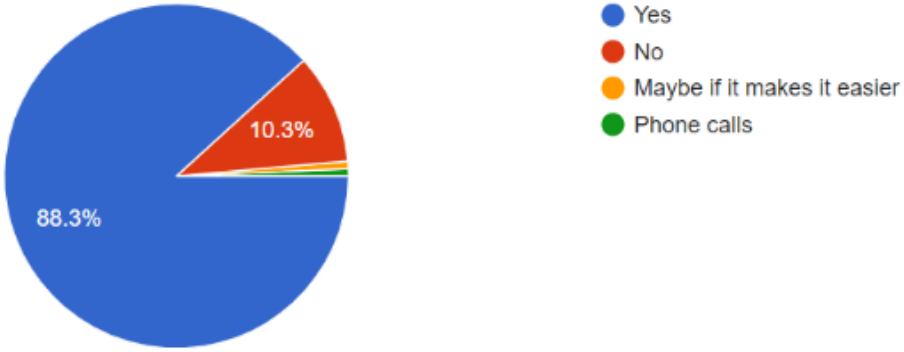
If you were provided with sanitizer, hand gloves and masks on entry to the hospital, would you still feel unsafe?

145 responses



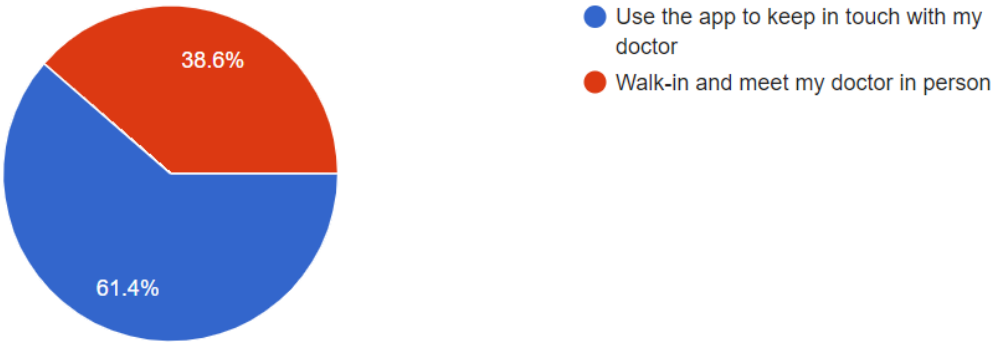

Would you consider using an application that can manage all your appointments and medical records?

145 responses



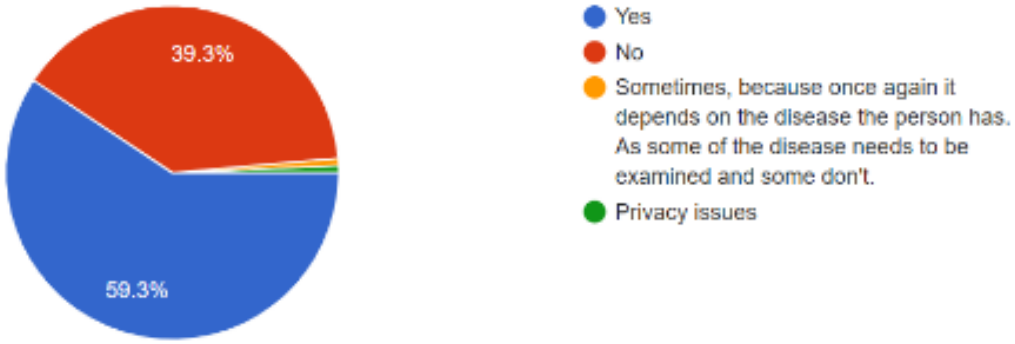

Would you rather use the same application to keep in touch with your doctor or would you prefer walk-in's?

145 responses



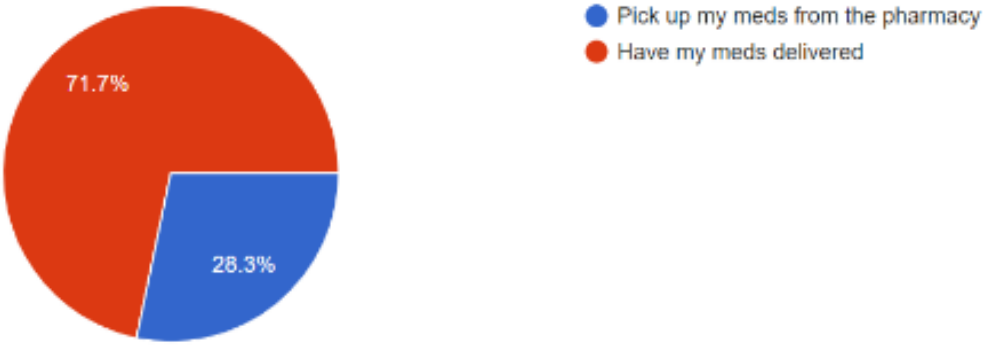
Do you fear a misunderstanding in communication with your doctor related to any of your medical needs if it were all held online?

145 responses



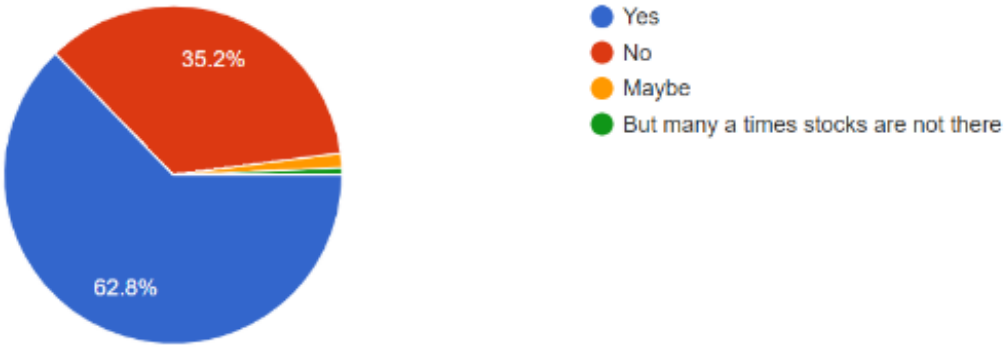

Would you prefer picking up your own meds from the pharmacy during the pandemic or have it delivered?

145 responses



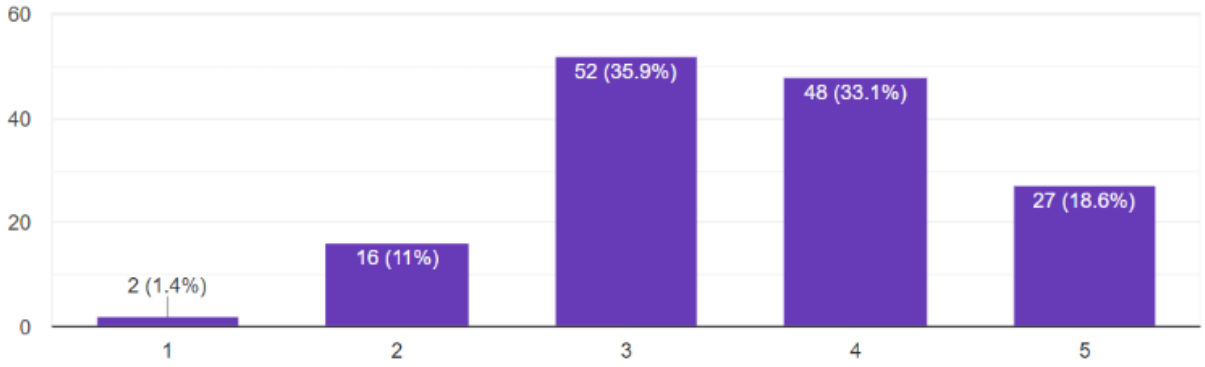
If you were using the app, would you fear delay in delivery of your important meds due to technical issues?

145 responses



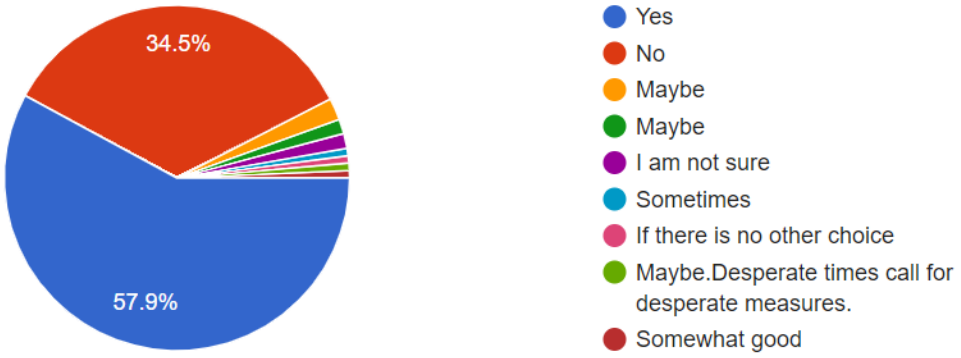

How comfortable would you feel in conversing with your doctor over an application?

145 responses




Do you think you would adapt well to an online medical environment in an emergency situation(Eg: a pandemic)?

145 responses



The main purpose of this survey was to evaluate where exactly people's minds are at during a tough situation like the pandemic we are facing currently. Some questions that I hoped I could get an answer to were:

1. Do people feel confident in themselves to use advanced technology?
2. How easily do they think they can adapt to technology such as this one?
3. What are some concerns people have while using online spaces?

As the first question of the survey depicts, most people that took this survey were aged between 18-25 years but people over 61 have taken it as well. This is probably why most of the answers to question 2 (do you have regular appointments?) were "no". Nonetheless, the application seeks to help both the young and the old in crucial times, however people who have regular appointments and recurring prescriptions may benefit from such a platform much more. From this survey conducted it is clear that:

1. People feel unsafe to physically attend their appointments during a pandemic or an uncontrollable situation as they feel there is truly little a mask and a sanitiser can do, they're uncertain where the infected patients are located in the hospital and some places have high number of infected patients.
2. Most people would rather have an application that holds their medical records, manage their appointments, have their meds delivered and allows them to keep in touch with their doctor.
3. Although most people agreed to use an application, they had a few concerns about it. Those are:
    - Privacy issues while using the app
    - Misunderstanding while in communication with their doctor (wrong diagnosis)
    - Comfort while speaking to the doctor over the app
    - Fear of delay in medication delivery
4. 57% of survey undertakers felt they could adapt to changes quickly i.e., move from an in-person medical environment to an online one. The rest felt they could if they have no choice and some said maybe (uncertain about it).

*Conclusion drawn from this survey:*

People have valid fears of moving to an online space (fear of privacy, misunderstandings with the doctor etc.). However, it is certain that they would feel much safer while using an online application rather than going in-person to a hospital that takes in patients that can spread a deadly disease. The main aim of this application is NOT for doctors to diagnose everything based on what they hear from their patient through the app, instead it is to ease the stress on the healthcare system to some extent. This means reduce the number of walk-in patients for smaller problems that can be dealt with online to enhance social distancing, allow re-prescribed medications to be delivered after an online consultation, allow doctors to organise consultations and treatments with patients that require immediate diagnosis/treatment and keep the doctors and patients safe from increased exposure to the virus. The main concern of a wrong diagnosis is hence invalid as serious issues must be dealt with in-person, however, in this case, after an online consultation.

## *II. Contextual Interviews*

Name: Vinita Monis
Age: 20

| **Contextual Interview** |
|---|
| *1. Why or why would you not want to use an application for medical concerns?*<br>I'd want to use an app for medical concerns during this pandemic period to avoid unnecessary physical contact. However I'd rather meet my doctor in person in any other given situation. |
| *2. Why do you prefer speaking to your doctor face-to-face?*<br>There's a sense of relief I get when I speak face to face with my doctor about any medical concerns. The verbal and non verbal means of communication used by health care professionals are quite essential which cant be replaced by any technological advancement.<br>Also, physical examinations and other diagnostic procedures are required to be performed in person for better results. |
| *3. In a desperate situation such as a golbal pandemic, would you consider yourself a person who quickly adapts to changes or would you take a while to adjust?*<br>I think I'd adapt to changes quickly, when not given any other option. |
| *4. Do you have any concerns regarding your basic medical needs handled in an online manner?*<br>Fear of personal data being used unethically by hcp's, or even worse, being stolen by hackers.<br>Accessibility to the internet and application (eg: not having an internet connection when you need to use the app urgently or lack of a user-friendly interface used in the app) |
| *5. Talk about any bad online medical related experience if you have had one.*<br>None, as of now. |

Name: Joseph Coutinho

Age: 62

| Contextual Interview |
| --- |
| *1. Why or why would you not want to use an application for medical concerns?*<br>I would use an application because we are exposed to so much by using transportation to the doctor, getting an appointment, infected patients (that do not know they're infected) coming in to visit the same doctor etc. To avoid all of this, I would prefer using the application to get a consultation. |
| *2. Why do you prefer speaking to your doctor face-to-face?*<br>In times like these I do not necessarily prefer speaking to my doctor face-to-face. I would prefer calling and speaking to the doctor and pass on information that the app may not be able to provide. |
| *3. In a desperate situation such as a golbal pandemic, would you consider yourself a person who quickly adapts to changes or would you take a while to adjust?*<br>Of course. It is always advisable to remotely connect to your doctor thereby reducing the cost of visiting, exposure to any risks, sanitizing and can also contribute to social distancing. |
| *4. Do you have any concerns regarding your basic medical needs handled in an online manner?*<br>I would rather pass on the details of my illness over to the doctor on the app. The details can be stored easily and be referred anytime without the fear of losing data. This can also help doctors to back and check medical issues easily. |
| *5. Talk about any bad online medical related experience if you have had one.*<br>I once ordered online medicine and now the call centre keeps calling even though I do not need the medicine and they talk about their offers and discount which I find extremely irritating. |

Name: Ronald Coutinho

Age: 46

| **Contextual Interview** |
|---|
| *1. Why or why would you not want to use an application for medical concerns?*<br>Why would I not use – A patient's knowledge of his/her health condition is limited only to the symptoms. A medical application is useful only if the patient is able to fully input his/her health condition into the application without the need for any tests. If not, the App could misinterpret the symptoms (as fed by the patient) and the resultant output diagnosis could be incorrect. Eg. Fever is not an illness by itself, it's a manifestation of an underlying problem which increases the body temperature.<br>An application is dependent on good internet connection, power supply and the algorithms to develop the app itself and all the 3 could be unreliable or unavailable at some point of time, making it necessary to visit a doctor.<br>Why would I use – I use online medical app, when I need basic medical assistance or as an alternate opinion to my Doctor's diagnosis. Also, as a first aid till I actually visit the Doctor. But even in this case, it would be limited help as an internet search engine will provide multiple opinions as compared to a single opinion in the particular application.<br>To order medications online which saves me the trouble of visiting multiple medical stores in case the medicines are not available at the nearby store. |
| *2. Why do you prefer speaking to your doctor face-to-face?*<br>In one line the answer is 'I am not a Doctor to treat myself', which is explained as follows –<br>A diagnosis is complete only after analyzing the symptoms, physical examination by the doctor like checking the BP, pulse, condition of throat, eyes, infection etc. and necessary lab tests like blood, urine, X-Ray, Ultrasound, MRI etc. to establish the illness. Eg. A normal viral flu is different from Covid-19, which can be established only by physical examination by a Doctor and relevant tests. |
| *3. In a desperate situation such as a golbal pandemic, would you consider yourself a person who quickly adapts to changes or would you take a while to adjust?*<br>Depends on what change is demanded of me. No, unless I am pushed to the wall. |
| *4. Do you have any concerns regarding your basic medical needs handled in an online manner?*<br>I did not have any problem with my basic medical needs, handled online so far. |
| *5. Talk about any bad online medical related experience if you have had one.*<br>I haven't really used an online medical environment so far as it was never implemented in the country I stay in. |

*Contextual Interview Short Analysis*

All interviewees have made valid points through all questions asked. Some concerns are very understandable. However, the purpose of this app is to ease the stress on health officials during time like these. Had an application like this already been developed, the world would currently face lesser issues regarding hospital needs. That does not go to say something like chemotherapy for a cancer patient will be conducted online, in no way is that physically possible, but instead, this is aiming for reduction of stress towards hospitals and their staff in smallest ways possible, be it ordering over-the-counter medications online, make payments online, have a quick consultation through video call etc.

*III. User needs*

From the above survey and contextual interviews, I gathered a few user needs that are a must. They are as follows:

| User Needs | |
|---|---|
| 1. | Minimum diagnosis over call. Major consultations and treatments in-person. |
| 2. | Secure application; two-factor authentication and good verification process of every registered user. |
| 3. | Secure payment. |
| 4. | Delivery of medication in time. (Prescriptions from doctors must be sent to pharmacy immediately). |
| 5. | An easy and understandable interface; best for all ages. |
| 6. | Understandable terms for first timers while navigating through the app. |
| 7. | Section for users to input symptoms before getting on a call with the doctor. |
| 8. | Feature to request to be on a doctor's "recurring" list. |
| 9. | Secure medical records with a pin. |
| 10. | Automatically save all records. |
| 11. | Reduction in any spam messages or calls. |

## Part 3

*I. User Personas*

- 1st User Persona:

# Alric Ronson Sequeira

**Age**
34 years

**Highest Level of Education**
B.A. Hotel Management

**Social Networks**

**Industry**
Food & Beverage

**Organization Size**
45-50 employees

### Bio

Alric is a single happy-go-lucky individual who thrives in quieter environments; contradicting the requirements of the industry he works in. He lives in Jakarta, Indonesia. The hustle and bustle sometimes gets his patience running thin resulting in a temper. He usually works long hours on weekends and enjoys his free time swimming at Ozuna Center. Due to his busy schedules, he looks forward to finding ways that make his life otherwise much easier

### Job Responsibilities

- Create a friendly environment for customers
- Serve food and drinks
- Report to the manager if any complains
- Accounting at the end of the day

### Reports to

Food and Beverage manager

### Tools They Need to Do Their Job

- Accounting and Bookkeeping Systems
- Employee Scheduling Software
- Email
- Word Processing Programs

### Goals or Objectives

- Get married to his girlfriend
- Work his way up to a manager position
- Work on his temper
- Make new friends

### Biggest Challenges

- Team work
- Unpunctual
- Anxiety
- Temper

### Personality Traits

- Introvert
- Energetic
- Aspiring
- Compassionate

### Preferred Method of Communication

- Phone
- Email
- Social Media

- 2nd User Persona

# Jason Shawn Mathias

**Age**
52 years

**Highest Level of Education**
Masters in Business

**Social Networks**

**Industry**
Sales

**Preferred Method of Communication**

- Phone
- Email

**Tools They Need to Do Their Job**

- Business Intelligence Dashboards
- Microsoft Office
- License and a vehicle

**Job Responsibilities**

Keeping up with customer relations, reporting to the manager in time, meeting their sales target and working together as a team

**Their Job Is Measured By**

Team productivity and work ethic

**Goals or Objectives**

Save enough money to buy a new house, fulfill work duties for every week, improve daily routine with exercises, disover new artists

**Reports to**

Sales Manager

**Biggest Challenges**

- Problem Solving & Decision Making
- Navigating Client Relationships & Communications
- Saving money

**Frustrations**

Sensitive to bright colors of any sort, money constraints, providing enough time for family

**About me**

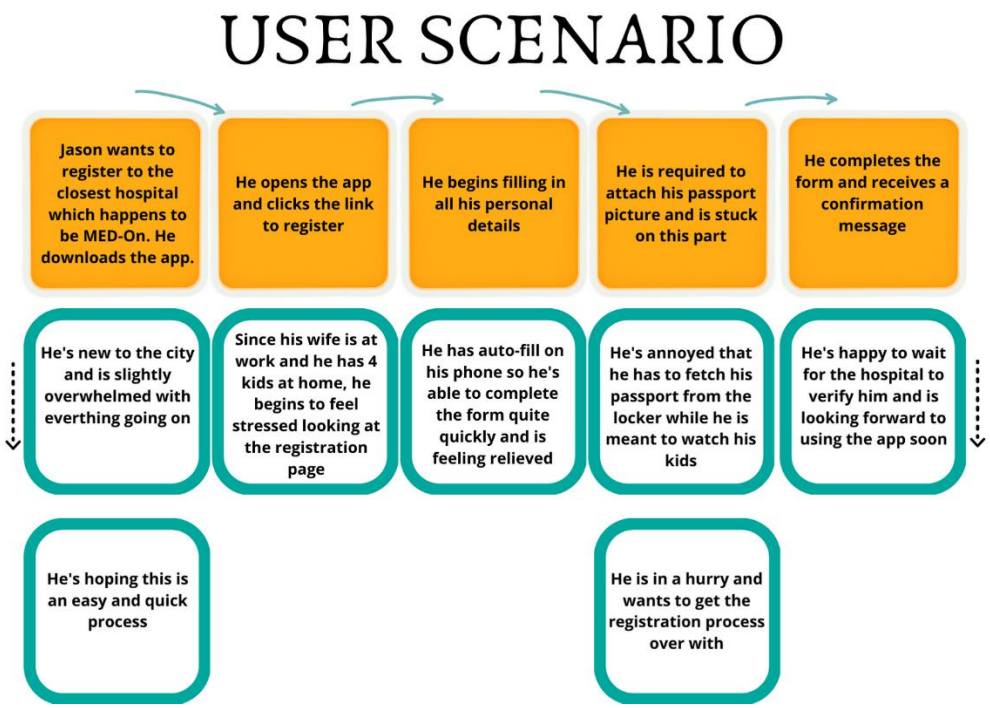
Jason lives in Vancouver, British Columbia, Canada. He's married and has 4 kids. You'll find him enjoying sunny weekends out with his family and weekdays in full-fledged work mode.

**Personality Traits**

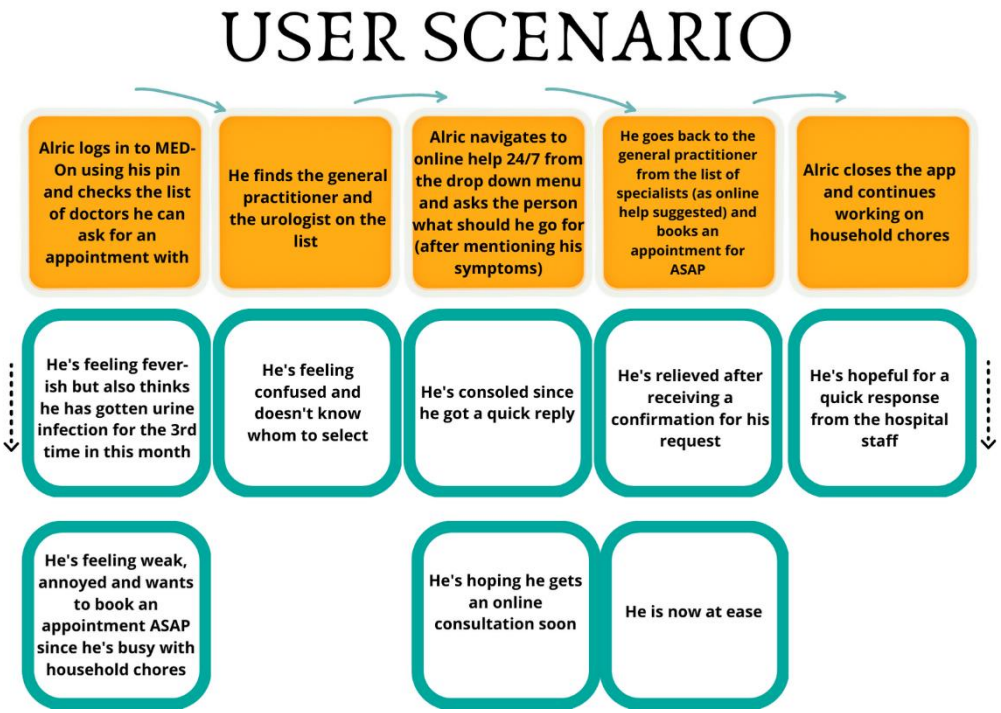
- Passionate
- Extrovert
- Hard-working
- Indecisive

*II. User Scenario*

- Jason uses MED-On to register himself.




- Alric uses MED-On to book an online consultation.



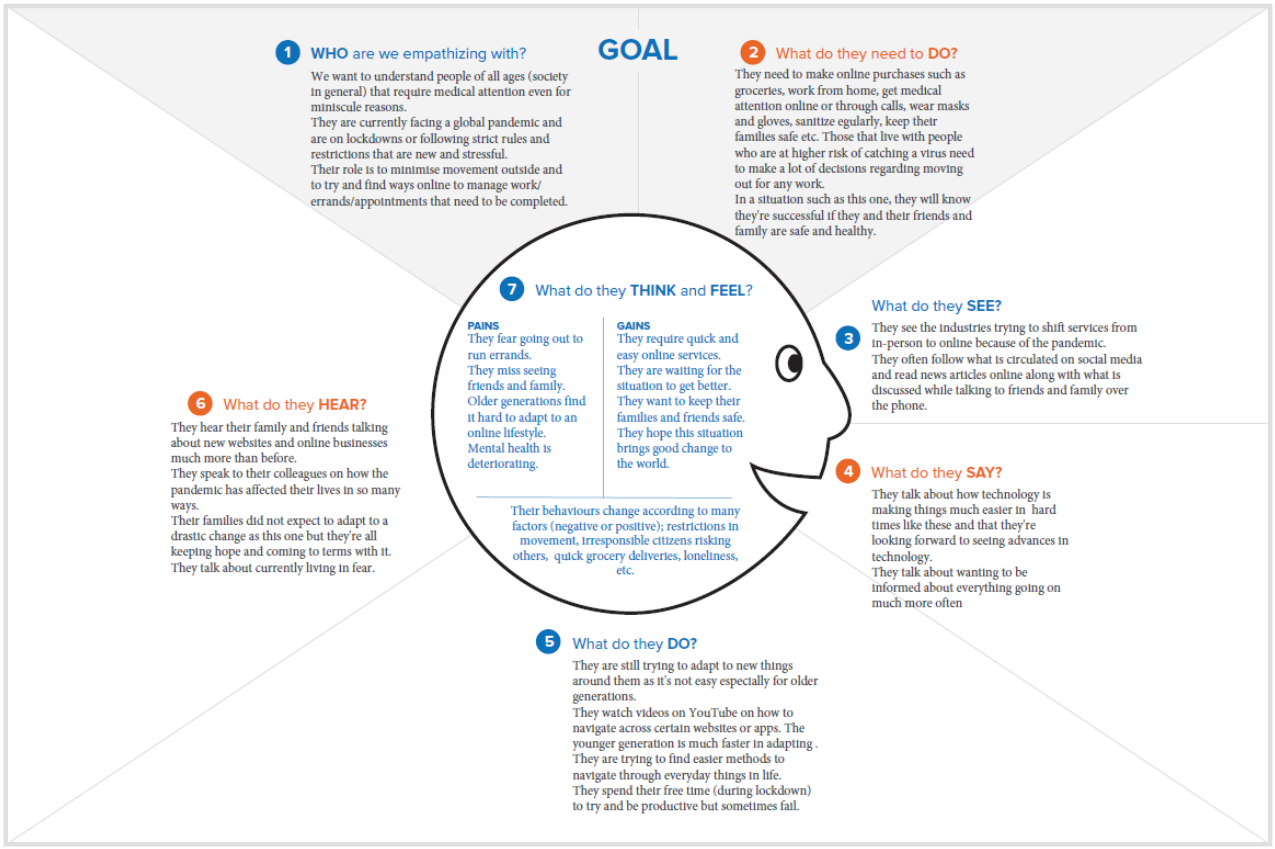
*III. User Goals*

Since user goals do not necessarily mean to achieve only around the scope of what the application has to offer, I have thought of goals outside of this spectrum as seen below:

## User Goals

1. To be able to gain help during hard times
2. To be well and healthy
3. To be able to rely on the hospitals facilities
4. Build trust with the hospital staff
5. Be assured of safety over the app
6. Find it easy to navigate through the app
7. Enjoy the interface and all the features the app has to offer
8. Be less stressed about waiting on phone call queues or any other form of booking an appointment that was found hard and time-consuming
9. Find it helpful during situations such as a pandemic when people fear for their life
10. Be content with the services and believe the money put into health insurance or annual fees is worth

## *IV. Empathy Mapping*



## *V. Flow of Tasks*

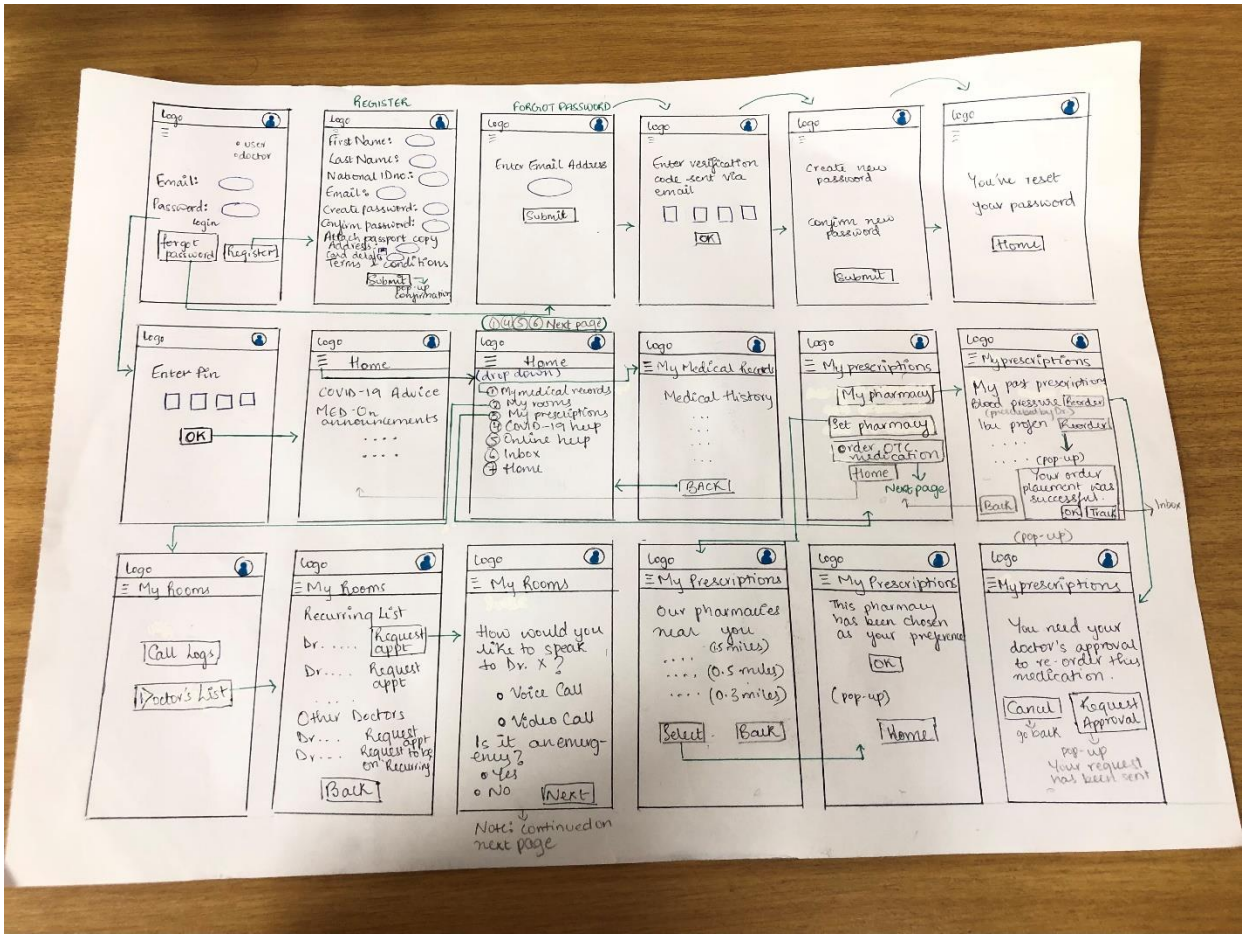



Figure 1.: This image includes ‘Registration’, ‘Forgot Password’, ‘Home’, ‘Medical Records’, ‘My Prescriptions’ and ‘My Rooms’.

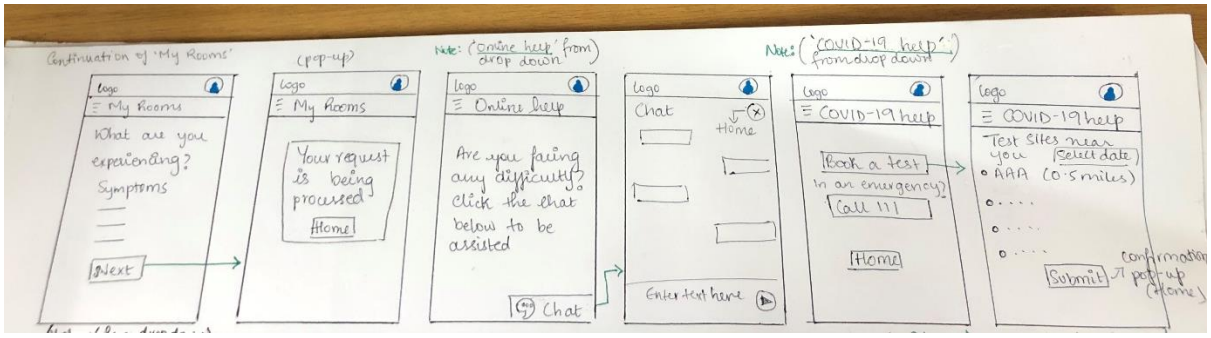



Figure 2.: This image includes 'Online Help', 'COVID-19 Help' and continuation of 'My Rooms' features.

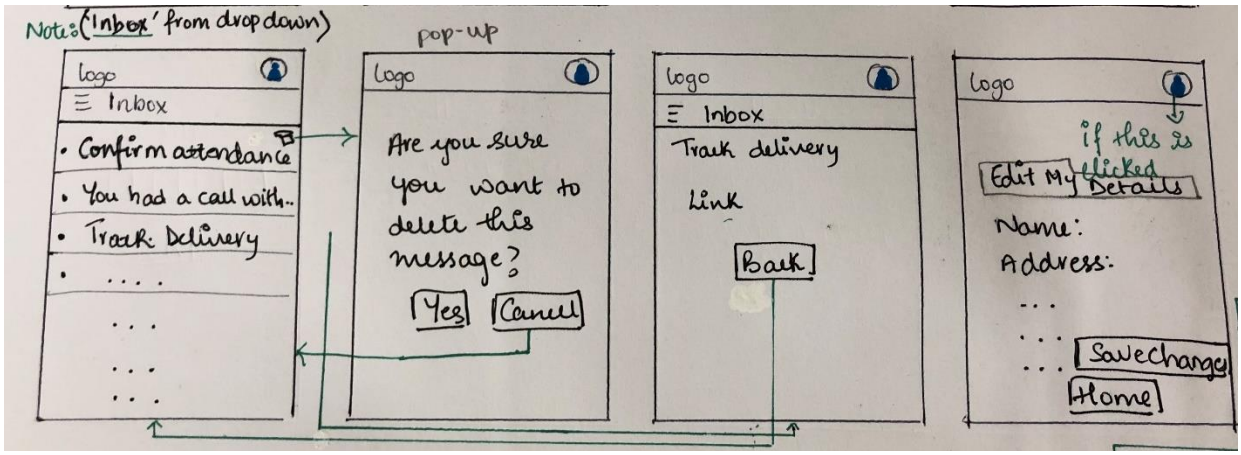



Figure 3.: This image includes 'Inbox' feature.

*VI. Usability Metrics*

I chose to mark time taken for each task designed for participants as a measure to test the efficiency and productivity of this model as seen in part 5.

**Part 4. Prototypes**

https://www.figma.com/file/lNDSNXMiNLZ87qi6FnauUI/MED-On?node-id=0%3A1

**Part 5. Usability Testing**

For this section, I asked 3 people (due to the restrictions of the country I currently reside in) to use the prototype to complete 4 tasks. Their completed consent forms are in the appendix section.

I chose to use the inductive method while testing as I thought there would be 2 main issues with the prototype. They are:

1. A lack of understanding of “My Rooms” from the drop-down list menu.
2. A lack of understanding of the term “Recurring” and what its benefit would be.

*Analysis*

*I. Estimation: Time taken to do 4 tasks and number of screens passed for each, are as follows:*

| **Tasks** | **Time Taken (minimum in s)** | **No. of screens (from ‘Home’ page including pop-ups)** |
|---|---|---|
| Book an appointment with a paediatrician (navigation) | 17-20 | 4-5 |
| Re-order a past prescription (navigation) | 13-15 | 2-3 |
| Book a COVID-19 test (comprehension) | 12-13 | 2-3 |
| Send a ‘recurring request’ to a doctor (terminology) | 14 | 3-4 |

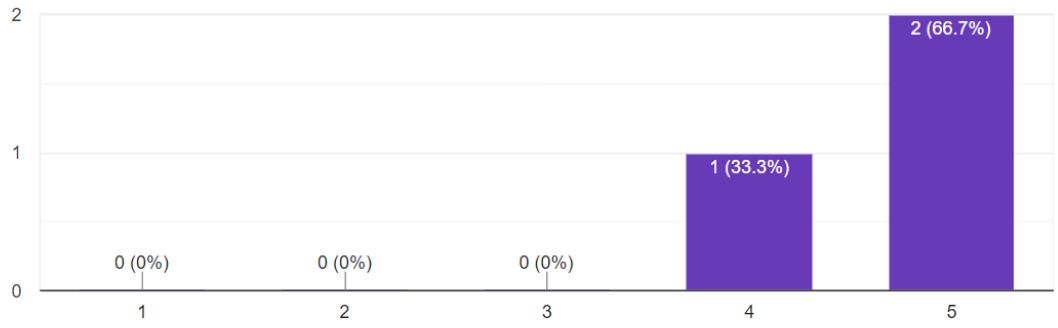
II. *Results: I asked 3 participants to complete 4 tasks using the prototype I created. The results were as follows:*
*Note: Time is in seconds.*

| | **Participant 1 Age: 52** | | | **Participant 2 Age: 25** | | | **Participant 3 Age: 59** | | |
|---|---|---|---|---|---|---|---|---|---|
| | Time | No. of steps | Comments/ Observations | Time | No. of steps | Comments/ Observations | Time | No. of steps | Comments/ Observations |
| Task 1 | 57 s | 8-9 | Had to search for long, could not figure out which feature "book an appointment" would fall under. | 46 | 7 | Could not find 'Doctor's List' for a while. Did not expect it to be under 'My Rooms'. | 1 min 6 s | 12 | Could not find 'Doctor's List' and was trying to judge which menu feature would it lie under for a good amount of time. |
| Task 2 | 21 | 5 | Clicked the wrong option at first. But got it in the second try. | 16 | 3 | Got it without any questions. | 29 | 5 | Took a while to figure it out but was able to. |
| Task 3 | 29 | 3 | Pretty straightforward. | 24 | 3 | Did not find it hard. | 36 | 3 | Found the following pop-up confusing. |
| Task 4 | 32 | 7 | Found "recurring" confusing. Went back and forth amongst all features and finally found the option. | 28 | | Could not understand what the 'recurring' feature would do. | 49 | 5 | Took a while to understand what was meant to be done and could not figure out what would the benefit be by being on the 'recurring' list |

*III. Survey: After the participants completed their tasks I asked them to complete the following survey (1 being easy and 5 being extremely hard):*

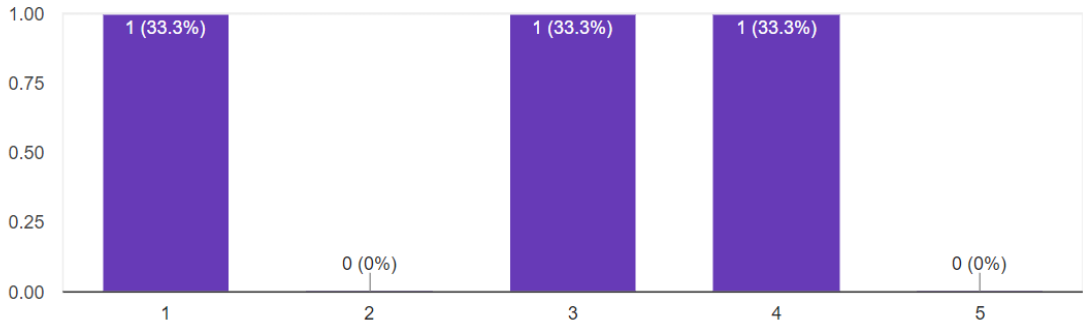
"Book an appointment with a paediatrician". How difficult did you find this task?

3 responses



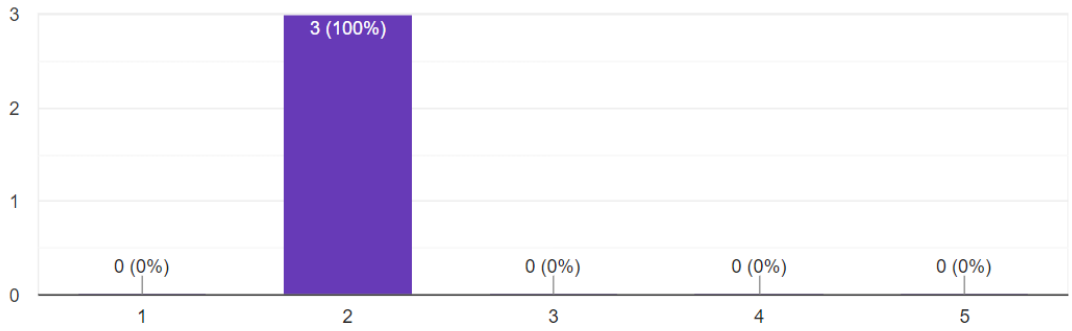

"Re-order a past prescription". How difficult did you find this task?

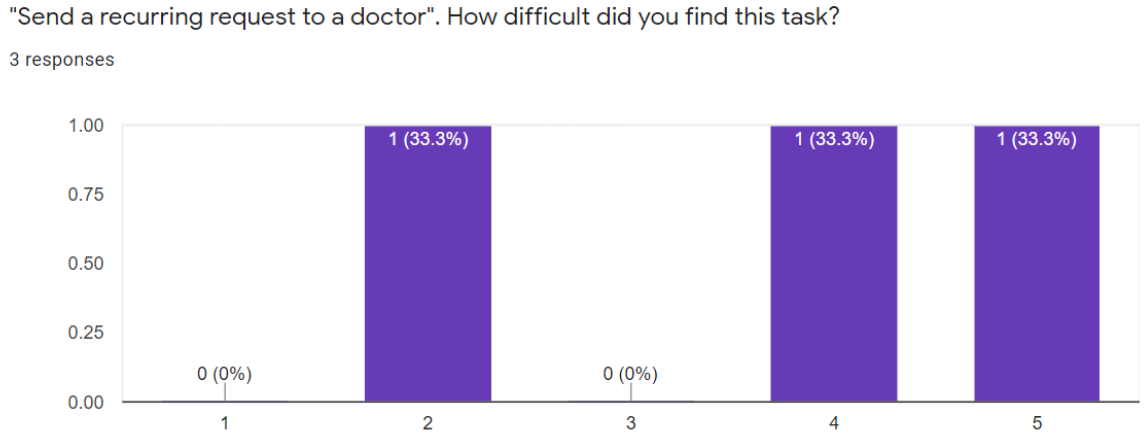
3 responses




"Book a COVID-19 test". How difficult did you find this task?

3 responses






## *IV. Interview Analysis*

I created a setting for 3 participants to complete 4 tasks on the prototype individually. I used the retrospective method and observed every action and move and recorded it as seen in the table above. After completion of these tasks, the above survey was undertaken. From this survey it is evident that all 3/3 participants found task 1 hard and 2/3 found task 4 hard. Then, I asked them a few questions such as:

1. What did you find hard about task 1 and 4?
2. What could make your experience much smoother?
3. Which area could be improved?
4. Why did you choose to do something (different to all) a certain way?

That being said, here are the combination of all their responses divided under usability testing metrics:

1. Layout:
   All 3 participants felt the application was simple to understand. Their main appreciation was towards the fact that everything is straightforward, and the aesthetic of the app is not congested which makes navigating a smoother process and less harsh on the eyes.
2. Terminology: Task 4 was based on terminology. The “Recurring” feature is barely explained anywhere on the application. I anticipated this would be an issue for users. All 3 wondered what the benefit of the “recurring” feature was. This feature allows patients that meet with the same doctor often, for a specific reason, to easily be able to contact the same doctor, set consultations quickly and be given higher priority if needed. Ideally, this would need to be explained to users beforehand so that doctors do not receive unnecessary requests amidst other important work.
3. Feedback:
   Users did find everything helpful including all pop-ups.
4. Comprehension: Task 3 targeted this section, and 2/3 participants mentioned this task was fairly easy to do and all given instructions were understandable. Participant 3 did not understand the last popup after clicking on “book a test”, they thought of it as a very vague confirmation and less assuring. It is very vague as it talks about setting a date and time with a team that would inbox them. In reality, there would be a larger

process to booking a test but for the simplicity reasons of the app, that extra detail wasn't made, although, their concern is very valid.

5. Data Entry: This issue was stated to the participants before they started completing tasks. I could not figure out how to let user's input text on Figma, hence that feature is missing but input boxes have been made for the same.
6. Navigation: Task 1 and 2 targeted navigation. Task 1 was hard for all participants. Since it was the first task, they were not well-versed with the application yet and took a while to navigate to booking an appointment. They said naming it "my rooms" wasn't very helpful. That means due to a terminology issue, navigation was hindered as well. Task 2 was easier for participant 1 and 2 but participant 3 found it slightly hard. They're do not work well with technology and take time to learn hence I realized for people from older generations there must be better instructions given.

**Conclusion**

From the feedback from all 3 participants it is evident that the application is fairly simple to use and easy to understand with a few improvements required. "Recurring" now has an information button where users can click to understand the meaning. The other improvisation that can be made is change in the name of "My Rooms". I do not know what to replace it that would lead users to understand how to do task 4 easily. I thought about "Doctor's Room" but I'm not sure if that suits all features under that option.

In this model, I focused mainly on user centred design because I kept in mind the situation the world is in, the pandemic, and how it is affecting all. I'm hoping these ideas would be realistic and helpful for the staff and people would find it much more convenient rather than having to walk-in to hospitals for small things during a dangerous spread of a disease.

**References**

The following websites were used to complete artefacts:

**Empathy Mapping**- *https://www.mindtools.com/pages/article/empathy-mapping.htm#:~:text=%20Effective%20Empathy%20Mapping%20requires%20you%20to%3A%20,on%20your%20findings%20and%20draw%20conclusions.%20More%20*

**Personas**- *hubspot.com*

**User Goals/ User Scenarios**- *canva.com*

**Prototypes**- *figma.com*

**Icons for the prototype**- *material.io*

**Surveys**- *google forms*

13WBKO. (2020). *Barren River District Health Department confirms 11,834 cases of COVID-19 in the district*. [online] Available at: https://www.wbko.com/2020/11/20/barren-river-district-health-department-confirms-11834-cases-of-covid-19-in-the-district/. [Viewed on 21 Nov. 2020].

Deloitte France. 2020. *What will be the impact of the Covid-19 pandemic on healthcare systems?* [online] Available at: https://www2.deloitte.com/fr/fr/pages/covid-insights/articles/impact-covid19-healthcare-systems.html. [Viewed on 21 Nov 2020].

## Appendix

Consent forms from all 3 participants:

Southampton SOLENT University

**Consent Form**

I agree to participate in the usability study conducted by Southampton Solent University.

I understand that participation in this usability study is voluntary and I agree to immediately raise any concerns or areas of discomfort I might have with the study administrator.

We are going to record what happens on the screen and our conversations. The recordings will be used to help us to improve the site.

Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

**We would appreciate it if the information you see could be kept confidential.**

***Date:*** 30/12/2020

***Name:*** EDEN LOBO

***Please sign your name:***

***Thank you!***

We appreciate your participation.

UX LAB Southampton Solent University

Tel: 023 80 319942
Email: usability.lab@solent.ac.uk
East Park Terrace, Southampton, Hampshire, SO14 0YN



Southampton SOLENT University

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Please sign below to indicate that you have read and you understand the information on this form and that any questions you might have about the session have been answered.

**We would appreciate it if the information you see could be kept confidential.**

***Date:*** 30/12/2020

***Name:*** SHAMALA LOBO

***Please sign your name:***

***Thank you!***

We appreciate your participation.

UX LAB Southampton Solent University

Tel: 023 80 319942
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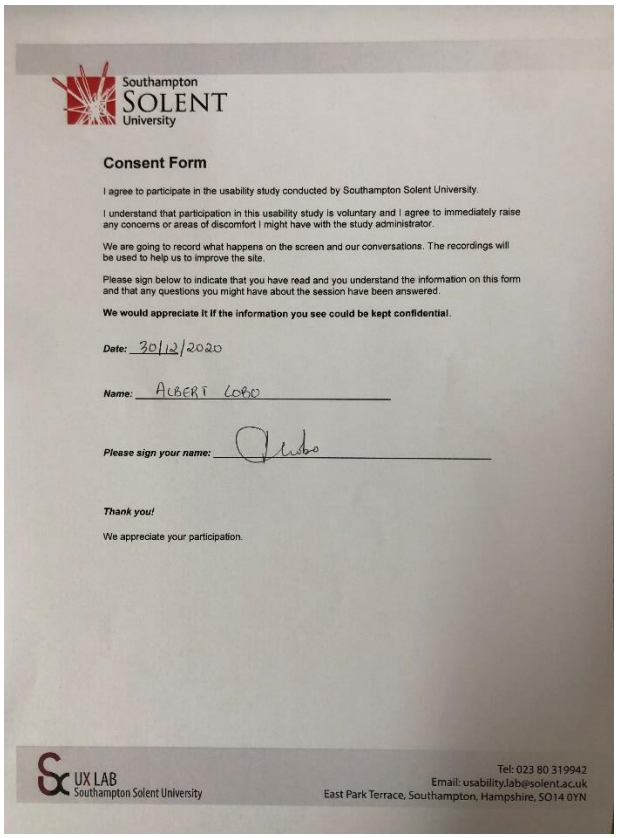
East Park Terrace, Southampton, Hampshire, SO14 0YN



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**We would appreciate it if the information you see could be kept confidential.**

***Date:*** 30/12/2020

***Name:*** ALBERT LOBO

***Please sign your name:***

***Thank you!***

We appreciate your participation.

UX LAB Southampton Solent University

Tel: 023 80 319942
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