

Executive Summary

Track and Care is a medical app designed to facilitate their users with a meaningful connection while keeping each one of them safe, as well as helping the doctors organizing their files for the patients in one app, while sharing everything they add on a patient's file with that patient's family. The app can be used anytime, even in a non-pandemic period. The problem the app is trying to solve

During the Covid-19 pandemic, many families lost their connection with their loved ones that were in hospital, due to the high risk of infection. For many families the only way of keeping in touch with their relative that was hospitalized was by calling the hospital, a method that is working, however is time consuming for the doctors, as well as for the family. In addition to that, while this method is working, it does not allow the users to have real and meaningful conversations because the information delivered are only medical. The patients can feel isolated while being in the hospital and receiving visitors.

Another problem the app is trying to solve is in regards to the medical errors that occur in the medical field and are hidden from the patients. In order to reduce the cases of malpractice, the app will store every file of the doctors.

These are the two main reasons the app Track and Care exists.

How it works

The app will allow the user to choose their status, they can be a doctor or a patient. When a new patient arrives at the hospital, their family will receive a secret code that will give them access to the files the doctors are uploading on the app. Through the app, the family can contact their relative that is in the hospital by having a video call with them and also they can book a visit. Other features the app includes in regards to the platform that is accessible for the patient's side are: having the ability to review a doctor and in case the patient does not have insurance, the family can write down the card's information.

On the side of the doctor, they will have to go through the authentication page and then they can choose either to add a new patient or to write down the secret code of one of their older patients. The doctor's side is less user-friendly because they do not have any guidance. The doctors can add new files when they visit a patient or when they run new tests to the app. The doctor's side has a page that does not exist on the patient's side, the request page. This page is where the doctor can accept or reject a visit, the reject option is there because this app is mainly made for the pandemic period.











Prototype Report

Opening the app, the user is welcomed to the app and the picture of the frame is a symbol of what the app is for, caring for each other.



The next page is the place where the user selects their status, a patient or a doctor.



On the side dedicated to the patient, the user has to write down the secret code received at the beginning of the hospitalization. In case the user needs guidance, they can press the bubble with the question mark at the bottom of the page.



By clicking on the button "next", the user is welcomed on the profile page, where there are all the information needed by the doctor, such as the name, picture of the patient, date of birth, allergies, known diseases and other. The reason why these information are visible on patient's side is in order for their loved ones to double check them and to make sure that the doctor has every aspect of the patient written correctly.

At the bottom of the page, the options for insurance are not filled and this is because the

spaces are left for the ones that take care of the patient, such as family, to fill them.



In case the patient does not have insurance, the user can tap twice on the option "no" and they will be redirected to the page where they can write down the card's information.



By pressing the button "back", the user will be redirected to the profile page.

The page dedicated to the medical tests is providing the user in real time with tests run by doctors, along with the interpretation of them. The user can navigate through the tests by tapping on the little circles visible at the bottom of the images.

The section with the interpretation is divided in multiple sections, depending on the tests run by doctors, the user can access them by pressing the circle available on every rectangle.



The page "Daily updates" is similar to the one discussed earlier in the sense that everything available on the page is updated in real time, which means when the doctor uploads something new on their end, the user on the patient's side will be able to see it too. This page has multiple sections that represent days in which the doctor has visited the patient. This page is important to the user because they can see how their loved one is feeling every day. When the user presses the circle available on each rectangle.

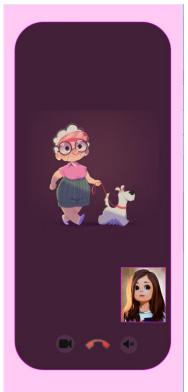




By pressing the option called "General information" from the top menu, the user can access a page that is more complex. From this page, the user can have a video call with the patient, review the doctor, find information about the location of the patient, as well as request a visit by selecting a date from the calendar.



By tapping the button "call", the user will be transferred to the page where they can see their loved one.



By tapping "Review your doctor", the user can access the page for reviewing the doctor from multiple perspectives.



On the doctor's side, the third frame is an authentication page where the user has to write down the username and the password in order to access the files.



By pressing the button log in, the user is transferred to a new page where they can choose between adding a new patient or accessing a page of a patient that has been added already.

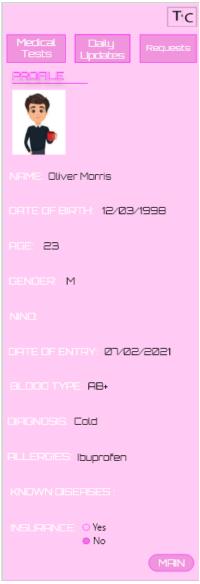


By pressing the button called "ADD PATIENT", the user is transferred to a page where they have to write down the name of the new patient, that will later be added to the usual list of patients. When the user presses the button next, they will receive a secret code on their email that will represent the patient they have just added on the app.

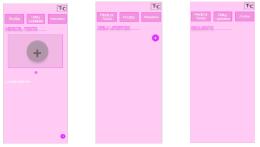


By pressing the button "next", the user will be transferred to the profile page, where they can see the information they just have filled in, this page is important to the doctor because they can always check it in order to refresh their memory in regards to important details, such as the list of allergies of the patient or the known diseases.

The profile page on the doctor's side is similar to the one found on the patient's side, however the options for the insurance are already filled.



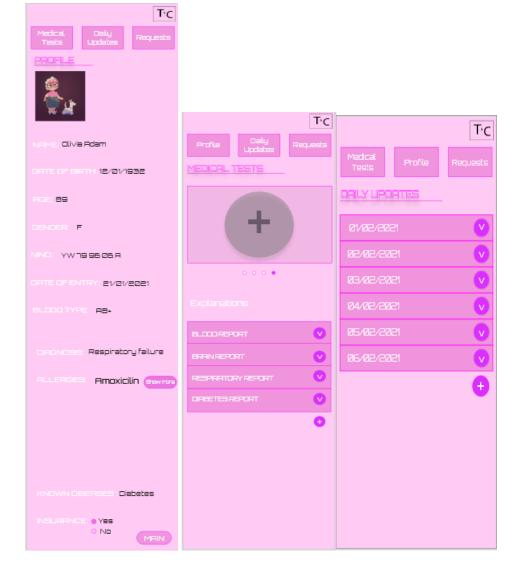
The pages: medical tests, daily updates and requests are empty because the patient is new to the hospital.



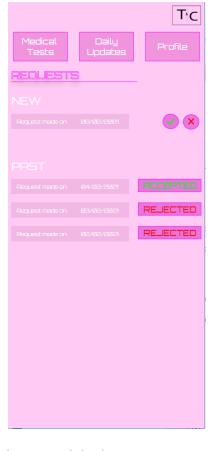
When the doctor presses on the button for adding a new picture that is on the page for medical tests, they will be able to select a photo from the file or to take a picture representing a medical test. By pressing the button at the bottom of the page, they will be able to add the interpretation of the test they have uploaded and also to add a title to that section.

On the page daily updates, the user can press the button for adding new sections and that section will automatically show the day in which they are and the doctor can write the information in the space that is left empty.

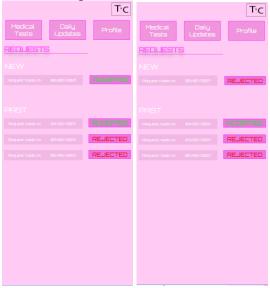
Coming back on the fourth page dedicated to the doctors, the user can click on the space where it says "Write the code" in order to access the page of a patient that has already been hospitalized. The profile page, the medical tests and daily updates look similar, however they have a few features that are not available on the patient's side. The profile page has a button at the bottom of the page, called "MAIN". This button allows the user quick access to the main page in which they can either add a new patient or access the page of another patient.



The page that on the patient's side is called "general information", on the doctor's side is called requests and it opens the page where the user can see the history of visits and accept or reject the visit request made by the patient's family.



By pressing on the circle with the green tick, the user accepts a visit, while by pressing on the circle with a red x, they decline the request.



Development Report

At first I wanted to develop a game that would be really close to Flappy Bird, but the bird's position would be depending on how loud the person playing would be screaming. However, short after developing a few parts of the game, I came up with a more ambitious idea, Track and Care. I decided to develop this medical app, Track and Care, because it was more challenging and more flexible in terms of the design, as well as it was the solution I found for a personal problem I had at that time, a person I care for was hospitalized and it was really complicated to talk to the doctors without interrupting their work. Considering the period in which I came up with this idea, the Covid-19 pandemic, many people lost the connection with their loved ones when they were hospitalized, therefore the idea I came up with at first expended. After a few researches I found out that visits in hospitals play an important part in the mental wellbeing of the patient (Catherine Plowright, Vanessa Gibson, 2013), and right now, when patients are isolated from the world, it is more important than ever to have support from their loved ones. Another important issue that this app is trying to solve is in regards to the cases of malpractice which are covered by the doctors that do it by hiding the files that showcase that practice (KAREN KAPLAN, 2012). It is not something that every doctor does, however it is happening and it is happening and for that reason it is a real problem that some patients have to face. This problem is hard to be proven in court since the files showcasing that practice can get hidden, it is even harder for the victim because they are already in a vulnerable position. Patients are going to the hospital asking for help and full honesty from the doctors, they should not be afraid that a medical error is going to put their life at risk. Therefore, this app is trying to motivate doctors to be more careful when taking care of a patient since all the medical records are shared with the patient's family. All the problems discussed earlier are serious matters that made me come up with this idea.

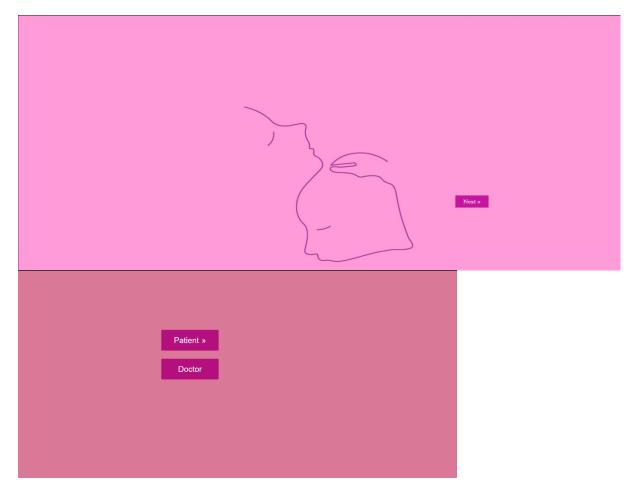
Given the fact that this project was going to take a considerable amount of time to build, I needed an idea that would make me be invested in it and I could not develop something I was not fully sure about its importance from a personal perspective. Given how much we need doctors in our life and the fact that during the pandemic it was really hard to talk to the doctor and to my grandma given the restrictions that were in place at that time, I think that this app it would have been really helpful and this is why this app is important to me now as much as it was back then.

This idea developed a lot over time. Even though, the design and the concepts I come up with changed over time, the idea of the app stayed the same, to help people in the moments they feel vulnerable. To the things I wished I had in an app while my grandma was in hospital, I added more elements that can be helpful in any period, not only when there are restrictions in the hospital. The design of the app changed a lot too, except for the colors of the frames, which is a bright pink that is really comforting and it makes the user be focused on the content that is showcased on that frame.

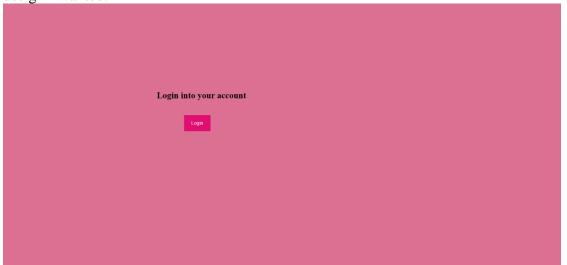
In regards to the technical aspects, the design I wanted to achieve was really challenging to develop in processing, the software I wanted to use at first. Processing was restricting the options I had in terms of the design of the buttons, I did not want to use the ones that were the default version that are included in the G4P. However, I still tried developing it in Processing, however the program stopped working after a few days on working at the app and I had to redo everything again.

However, I was not satisfied with the design of the app, it did not showcase the idea that stays behind it, a modern looking app made to comfort people in vulnerable moments. It looked outdated.

Eventually, after finding hard to build the right canvas that would fit a phone and to build a more modern looking app, I decided to change my app into a site. The site was really challenging to develop, since I lacked the knowledge of the languages I wanted to use, therefore the design was still not looking as I wished it would look, the colors were too concentrated and the buttons were hard to place on the screen, since I did not have the knowledge to do so.



I liked the process of developing the site, but I was not prepared to do it with the modern design I wanted.



Given the multiple issues I had with the position of the buttons I decided to start working in a software that would allow me to be more concerned about the design and less about the code. I chose Adobe XD because it is more flexible in terms of the design I want to implement. Adobe XD was really easy to use and intuitive, however some of the features did not end exactly like I wanted them to. In terms of the technical aspects, every button is part of a component because I wanted to add a hover to the ones I could in order to give the user an immediate response to the things they were doing on the page. The stars inside the page for rating a doctor were the quite challenging to implement because I wanted them to be filled, therefore I had to draw the stars inside the app in order for it to be filled correctly. The menu at the top of the pages was complicated to be modified, I have used the same template for all the pages, however I had to change the name of them and also the destination. The side

dedicated to the patient is more user-friendly, because I wanted the app to be comforting and easy to use, therefore I have developed a design that is intuitive. Overall, I achieved the design I wanted to achieve in terms of the combination of colors, the placement of the buttons and the way the buttons are simple to use and intuitive.

Many things have changed during the project because I found more and more problems that the app could be a possible solution to. The app was designed at first to serve as a quicker method for the communication between the patient's side and the doctor by uploading every update the doctor has directly to the app. Considering the cases of malpractice that are happening and also to make the doctor's side be available only to the doctor's I decided to add an authentication page. This page will keep the history of every doctor's file in order to be available later in case the patient needs them, as well as the name of the author. The page for the doctor's information and the location of the patient has turned into general information.



On the page mentioned earlier, I have also added two new features, the one that allows the patient's family to call the patient and the one to review the doctor. The feature for reviewing the doctor was an idea I came up with in order to allow the patient to express their opinion and to help the doctor improve. A feature I have gave up on was the one in regards to adding an hour for the daily updates and that is because the visits usually happen only once a day. On the doctor's side, I decided to also let them review multiple times the profile of the patient in order to help them remember important aspects of the patient. On the main page of the patient, the profile, the doctor has the option to go back to the main page, which is the one in which they can either write down the secret code or to add a new patient. In order to help the doctor, remember the history of the visits, I have also added on the request page the status of the visits the patient's loved ones requested and the response they gave, declined or accepted.

Reference List

Catherine Plowright, Vanessa Gibson, 2013. Are visitors beneficial to patients in adult ICUs? [online] Available at: < https://www.nursingtimes.net/clinical-archive/critical-care/are-visitors-beneficial-to-patients-in-adult-icus-09-09-2013/ > [Accessed 25 May]

Karen Kaplan, 2012. Many doctors hide the truth about medical errors, study finds.[online]

Available at: https://www.latimes.com/health/la-xpm-2012-feb-08-la-heb-doctors-not-honest-with-patients-20120208-story.html > [Accessed 25 May]

Reflection

The project Track and Care developed well in time, it combines features I wish were included in an app with features that are solving current problems people have. The location of the buttons and different features was achieved exactly as I planned. However, I wish I knew from the beginning all the techniques I know now. Some of the text that inside the different sections available on the app were overwritten by new sections I have added after creating the main component, therefore their position is fixed and it does not move as the other ones do.



I am really proud I have design great methods that are helpful to the patient, such as the authentication page for the doctor and the review page. In regards to the design, I am proud I have designed an app that is both aesthetically pleasing, but also helpful for people, as well as intuitive given the immediate results of the user's activity on the pages.

There are a few things I would have done differently. I would have added an option for the doctor to edit the notes they have made and this feature to be available only for 24 hours, in case the doctor visits the patient multiple times a day. I am not too happy with how the profile page ended up looking, however I wanted that page to be more oriented towards the information available on it, rather than an exaggerated design. Another thing, I would have done differently is in terms to the status of the visit requests, it would have been helpful to have a section on the app in which the patient's family can see if their request was accepted or not. In addition to the things mentioned earlier, I would also have added an interactive map of the location of the hospital, as well as a video that would explain to the user a guided tour through the app.

In terms of what I have learnt about design is the fact that design is not only about the colors and the fonts I am using. It is also about how the designer has to organize every feature of the app in order for the user to have quick access to everything available on the page and to make the buttons look like buttons the user has already seen before and not to confuse them with a complicated interface that would make the user be unable to use the platform. Every feature I have implemented is in consideration to the needs of the stakeholders. Given the fact that my app has two main types of users, people that are not using this app daily and the doctors that use it daily, I had to implement an app that has two sides, one that is more user-friendly that does not require instructions and a side that is more focused on quick access for the doctor.

Initial Ideas

Scream your frustration away!

Game- in this game you have to scream in order to make the avatar move, I was inspired by Flappy bird and I think it would be funnier if the user could influence the movement of the avatar using their voice. Depending on how high your voice is, the avatar will go down or up.

- This game would let the users to decide the background of the game in regards to what is the
 most frustrating thing they have been dealing with lately. They can choose between: love,
 school, life in general and maybe some more.
- The user can also choose an avatar and they can also choose to add their own face using the camera, to the avatar they have chosen.
- The game will have different levels depending on how experimented you are.
 Reasons for implementing this idea:

We all get frustrated from time to time and this app would be a really friendly way of getting away from that frustration in a peaceful way. It is also made for all ages and it doesn't require any sort of knowledge in terms of technology.

Initial Ideas

Organizational app

App- An app for people who have a car and want to have all the documents of the car in one place, as well as a calendar with the expiry dates of the documents and of the things they need to change frequently at the car. In order for the user to not get a fine for not renewing the documents and other instruments, they will get a notification one week and then two days before they have to renew it. This app can also be accessible by multiple users.

Reasons to developing this app:

With all the things that are happening everyday it is really easy to forget to renew a document, therefore this app it doesn't even require your periodic attention and it send you notifications only when your attention is needed.

Initial ideas

Track and care

App- A medical app made in order to create a more efficient way of communicating between the doctor and the patient's family. The way this app is going to function is very simple. When a patient is hospitalized, the family will receive a secret code. The family will enter the code on the app and will have access to the patients file once the doctor writes something new on it. This app is made for patients, but also for doctors because it also has a interface where the doctors can write medical files regarding the patient's wellbeing. Reasons for creating this app:

- -Many people have been in a situation in which one member of the family needs treatment and therefore they have to be hospitalized, the communication between doctor and the patient's family is crucial, but sometimes it can be impossible to get ahold of doctors or viceversa.
- -The doctor's might not always be available to have a conversation with the family and this is why this app can help not only the patient's family, but also the doctor, whose time is so precious.

Initial ideas

Tinder, but for DOGS

This app would be exactly like Tinder, but with a few changes. The profile picture should be with the owner and the dog and the description should include some information about the dog and the owner. The app will include a chat for the owners, as well as the distance between them.

If they decide to go on a "date", the app will suggest a few places that are dog friendly and that are also based on their personality.

Reasons for developing this app:

This app would be really useful for people that are new in town and want to make some friends, or maybe also for people that are looking for new people to walk their dogs with.

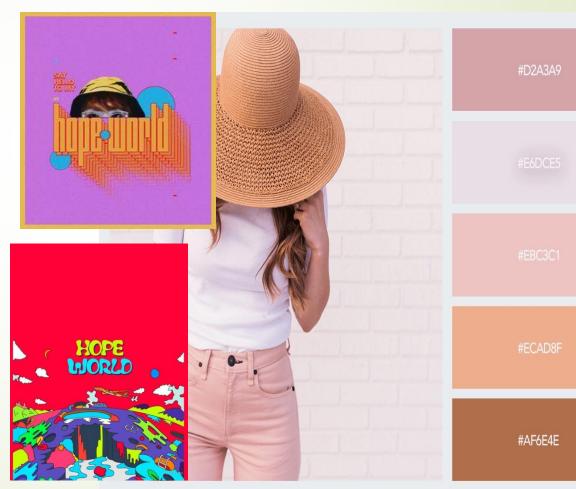
Track and care – The idea I want to develop

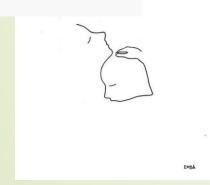
Mood board – first frame



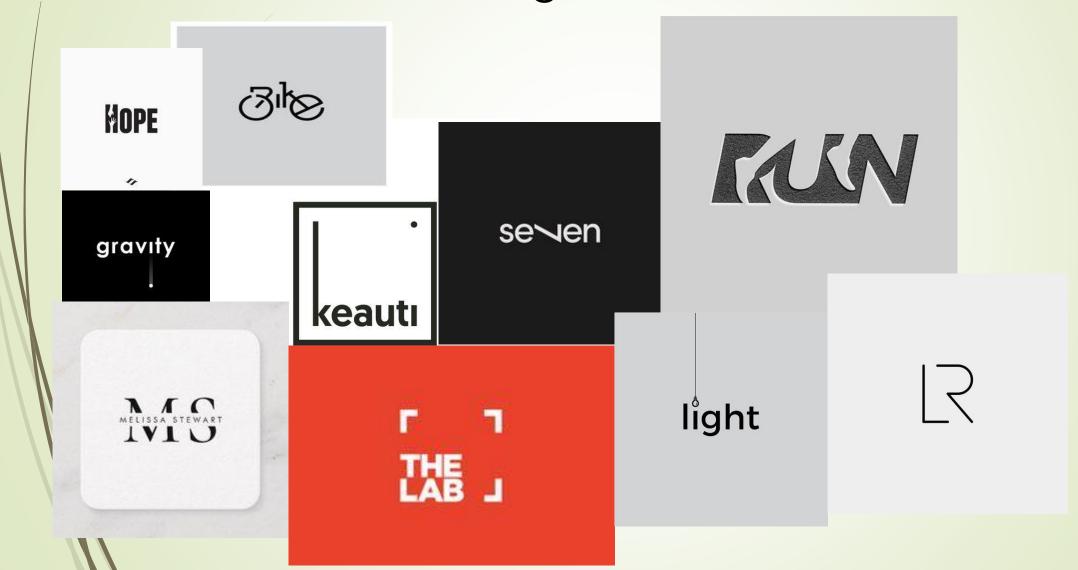








Mood board - Logo



Design Requirements

The solution should:

- require access to the internet, in order to be used all around the world
- be easy to access
- have a dictionary for all the medical terms that were used
- a graph that shows the state in which the patient is in
- notifications when something new is added
- can access files using the code put in by the user
- has different tabs for organizational reasons

Stakeholders:

- Every person that has a family member in the hospital
- People that are leaving in another city/country and want to know information about their loved ones that require medical care
- Doctors

First frame

Right now I have started working on the first page of the app. I wanted to use really bright colors for it, the main reason for this is the fact that I want the users to feel safe and hopeful when using the app.

The main issue I am facing right now is the font I want to use because it has to be the same as the one used in the logo, which I am still working on.

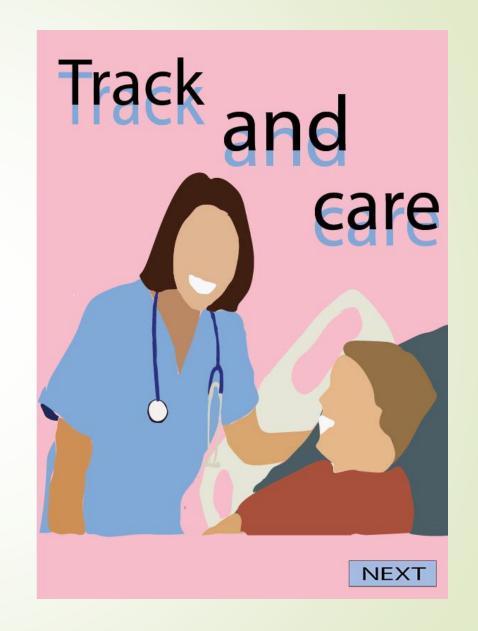
The drawing was made in illustrator because I find it quite easy to use and the drawing doesn't require talent.

The logo I want to be a really minimalistic one. I will take this three as inspiration.



R



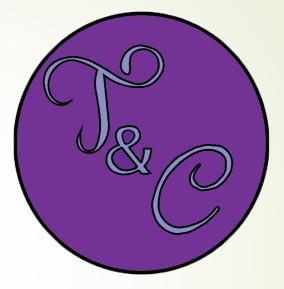


T&C-LOGO

Designing the logo lasted for two days, in which I had two very different approaches. The first one was fun to make, but it seems to childish to use in an app that is made for such serious causes.

The second one, which is the actual logo I am going to use in the app is more serious and in a way it also shows respect to the patient's family.

The first frame of the app with the drawing and this logo would showcase the best the intensions we have with this app. Even though there is a drawing on the first page, the logo proves how thoughtful I am in regards to this app and the use of it.





Choosing the first frame

It was a challenge to find the perfect picture for the first frame of the app. I made two versions in order to see my ideas in a clear way.

I really want this page to inspire hope and to calm people down even though it is hard to have someone in the hospital.

Therefore, I chose the second one, the pink one. The hospital is already serious and maybe too buttoned up. I made a few changes in terms of the font, because it is a medical app so I thought it should be more serious in a way. No one on this app would want something confusing.





First Frame

I didn't like the first frame that much. In order to keep it more professional, I decided to go with something simple and more in the theme of the app, it would have been really hard to imagine the previous frame in a medical app.

This new frame looks more serious and it showcases the meaning of the app, as well as the title "Track and Care".



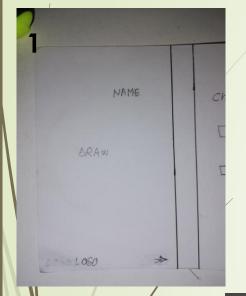
Low fidelity digital prototyping

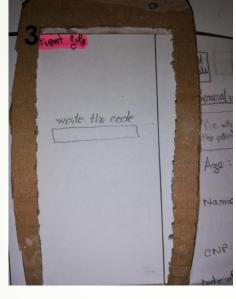
I have decided to use pen and paper to illustrate my idea.

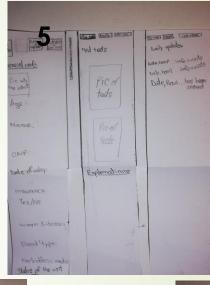
Given the fact that this app is made for patients, but also for doctors, there are different interfaces depending on who they are.

The interface for the doctors, most probably it will be modified over time, because as you can see in the video, it seems like everyone can access the doctor's page, which is not what I want.

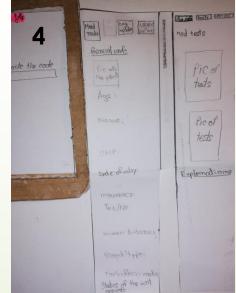
Low fidelity digital prototyping





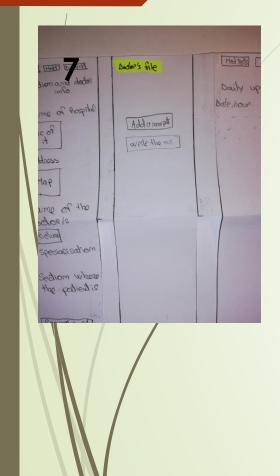


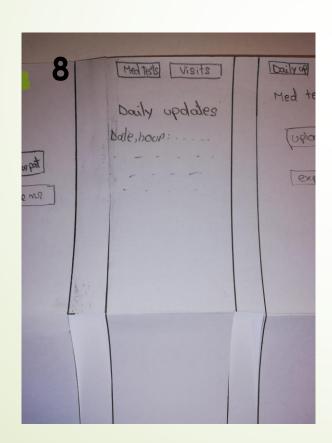


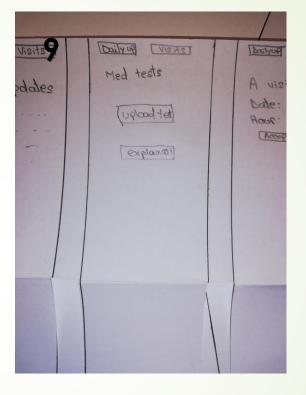


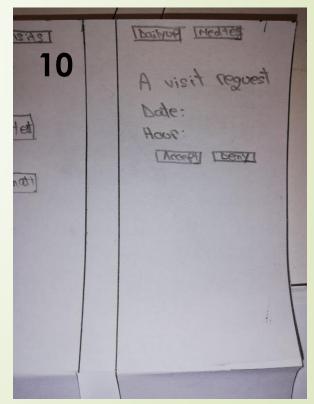


Low fidelity digital prototyping









Programming

Right now I am starting to work on the code, I have decided to do it in processing. Processing is a good idea because the app is going to be mostly buttons and I really want to make the app as functional as I can. The third page was the most challenging one, because it had to make visible the text written in the blue box in the forth frame.











Programming

Then I went on by developing the frame for the medical tests, which because I don't know how to do a slideshow with the pictures is not as great as I wanted it to be.

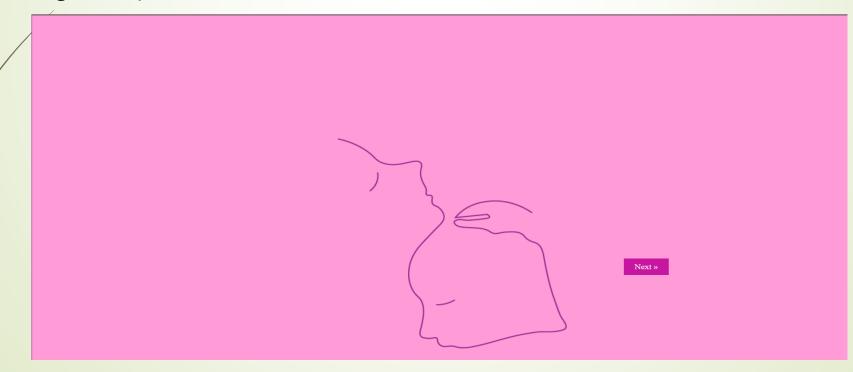
Moving on I also did the frame for the location and I decided to put here a picture with the map of location of the hospital where my grandma was hospitalized because it is where this idea started.

Issues with the code

Today when I wanted to continue making the code, I wasn't able to add any new button. I have tried to make new buttons "by hand", but it was too complicated to link them with the ones that existed already, therefore I have done the project again using GUI, it looks exactly the same as it did before however it is really hard to finish it in one go and I decided to not close the tab with the code. Not closing the tab would have maybe worked, however I had to work on another project for Computational Thinking and because that one uses GUI too, Track and Care crashed again, it started to be really frustrating.

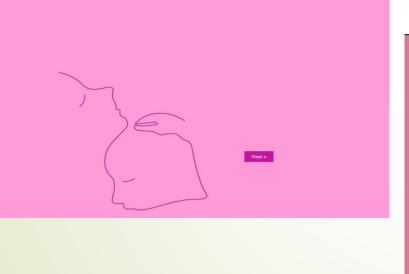
Giving up on Processing

Given the fact that I wasn't able to do the project in one go, I decided to start making a site using html, CSS and javascript. For the site I had to watch a few tutorials for CSS which is for the style and javascript. Even though it is no longer an app, I decided to stay with the same design. This is how the home page looks now, it is still similar, however it was challenging to understand how to code in this languages, more exactly, I didn't know how to change the position of the button.



Site

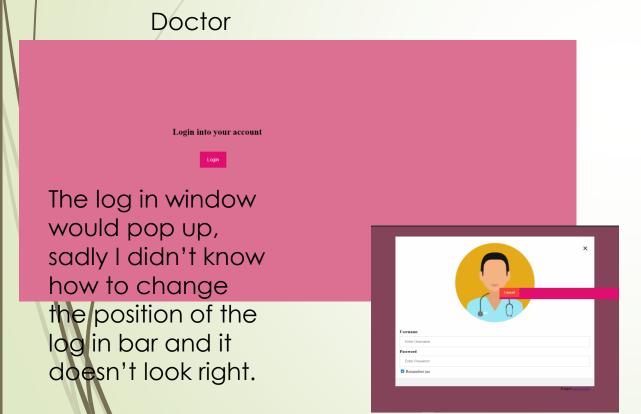
I decided to go with more animation, since this languages let me do this. However, I don't like the fact that I didn't manage to pick the right color, because the first frame was made in illustrator and I forgot the code of the color, therefore I had to choose another type of pink, I will try to find a way to find that color, however I will continue working on the code for the site.





Site

I continued building the site and I have done the log in page for the doctor and the patient and it now looks like this.





Giving up on the site too

After many tutorials of CSS, HTML and JavaScript, I realized it would take too much time to understand how to make the site and even then the design would not reflect my intensions. I will try to do the app in Adobe XD because it is more permissive in making the design as I want it to be and I can follow a theme in this way as well.

At first it was a bit confusing because it is not the most user friendly environment, but after watching a tutorial I understood it and it became really simple.



This is the first page, I decided to stay with the same picture, because it means more than a hug, it also means caring and I think that the different types of pink and the purple look pretty well together.

About the design

The design in terms of the frames of the app is going to be as the ones made in the first prototype. In terms of the colors, the background of all the frames is going to be this type of pink in order to show continuity, the buttons are going to have this color and in order to look more bold, they will also have a border that will have a darker pink, close to purple in a way. The first frame is a good example in showcasing the design I want to go for.

Today I have made some of the frames for the patient. Here the patient's family writes down the Here the user clicks on the secret code received when the patient button for the patient was hospitalized DOCTOR

The next frame is a really important one, I decided to put here a few things that are mainly for the patient, a place where they can pay the bill in case they don't have insurance.



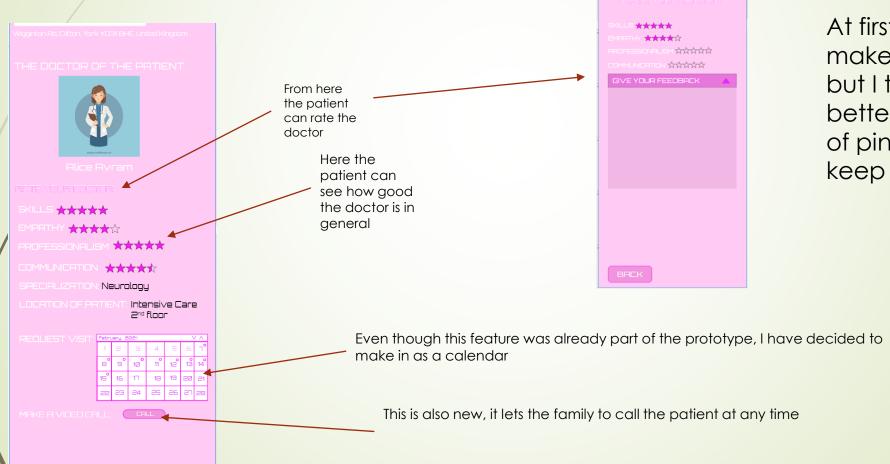
In regards to the design of the app, the titles will look the same in the sense of the font and borders.



The patient part

Today I have finished the frames for the patient part and I have also included a few things

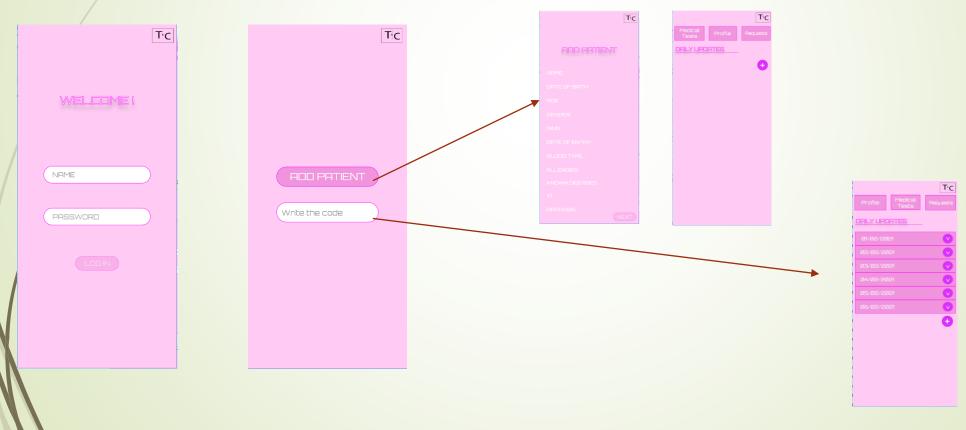
that weren't in the prototype



At first I wanted to make the stars yellow, but I think it looks better with this type of pink in order to keep it in theme.

The doctor's side

For the doctor's side, it will start with a log in page for the doctor and then it will have a page in which the doctor will be able to choose between making the page for a new patient or adding something new for a new patient. Here I also wanted to add the option to talk to other doctors, but I decided it wasn't suitable for the app.



Evaluation

After shifting my perspective in order to see like a user, I have realized there a few problem in terms of how the buttons look like and how easy it is for a user to see that those squares are actually buttons. The problems I found are:

- -buttons that are not that easy to understand that are buttons
- -hidden buttons, such as the ones on the page where the patient's family writes down the secret code, they cant find the button, because I forgot to put one there
- -also on that page the button for help is not that intuitive, it only has the letter "i" on it and I will change it with "?" the question mark.
- -the page with information about the location and doctor has a few problems, apart from some buttons that are not visible, the sentence on which the user can click on is not intuitive and users might not know that they can click on it

The reason why I want to change this things is because the app is meant to be used for people that are worried in relation to their family members that are hospitalized and therefore they shouldn't worry where the buttons are as well.

The final result



The problems I have faced

I have decided to make the buttons more intuitive, however some of them were impossible to change. My initial idea was to add a hover to all the buttons, however it didn't work for all of them because of the previous settings of that button.





Overwritten text

When I have done the pages for the doctors I have copied the assets I needed from the pages of the patient and by doing this some bars including the text in those were overwritten, because the bar I have added was not there from the beginning.



Icons8. Mute icon. [image online] Available at: < https://icons8.com/icon/32075/mute > [Accessed 14 April 2021]

Those Icons. End Call free icon [image online] Available at: < https://www.flaticon.com/free-icon/end-call_523086 >[Accessed 14 April 2021]

Dave Gandy. Facetime Button free icon [image online] Available at: < https://www.flaticon.com/free-icon/facetime-button-25457 > [Accessed 14 April 2021]

Aveline Stokart. [image online]. Available at: < https://www.avelinestokart.com/#e-18 > [Accessed 14 April 2021]

VectorStock. Business man cartoon character young handsome vector image on VectorStock [image online]. Available at: < https://www.vectorstock.com/royalty-free-vector/business-man-cartoon-character-young-handsome-vector-14427941 > [Accessed 14 April 2021]

Freepick. Smiley Female Doctor With Clipboard And Stethoscope. [image online]. Available at: < https://www.freepik.com/premium-vector/smiley-female-doctor-with-clipboard-stethoscope_1218021.htm?epik=dj0yJnU9a3JlRjAtQ1BRVU43d1U3V1hWWUN0WW43N255V0RPZTImcD0wJm49ZWVQaEdKZV9HVjJQV3BRMkxzX3lWZyZ0PUFBQUFBR0NvRUhj [Accessed 14 April 2021]

Theheretic. Clipart Hospital [image online]. Available at: < http://theheretic.me/clipart-hospital/ [Accessed 14 April 2021]

Quotev. Are you the main character of your story. [image online]. Available at: < https://www.quotev.com/quiz/13201840/Are-you-the-main-character-in-your-story/result [Accessed 14 April 2021]

Salhan, Divya & Sapkota, Deepak & Verma, Prakash & Kandel, Saroj & Abdulfattah, Omar & Lixon, Antony & Zwenge, Deribe & Schmidt, Frances. (2017). Sudden cardiac arrest as a rare presentation of myxedema coma: case report. [image online]. Available at: https://www.researchgate.net/figure/EKG-showing-low-voltage-and-sinus-badycardia_fig1_320492224 [Accessed 14 April 2021]

```
FASRPRIMA. Cbc Blood Test Results. [image online] Available at: < <a href="https://fasrprima703.weebly.com/cbc-blood-test-results.html">https://fasrprima703.weebly.com/cbc-blood-test-results.html</a> > [Accessed 15 April 2021]
```

Cleveland Clinic Martin Health. Common Lab Tests. Cleveland Clinic Martin Health [online] Available at: < https://www.martinhealth.org/common-lab-tests-mhs > [Accessed 12 April 2021]

Mayo Clinic. Anemia [online] Available at: < https://www.mayoclinic.org/diseases-conditions/anemia/symptoms-causes/syc-20351360#:~:text=Anemia%20is%20a%20condition%20in,range%20from%20mild%20to%20severe. > [Accessed 13 April 2021]

NHS./Coma. [online]. Available at: < https://www.nhs.uk/conditions/coma/ > [Accessed 13 April 2021]

Brindles Lee Macon, 2018. Acute Respiratory Failure. Healthline. [online]. Available at: https://www.healthline.com/health/acute-respiratory-failure > [Accessed 13 April 2021]

Stephanie Watson, 2020. Everything You Need to Know About Diabetes [online] Available at: < https://www.healthline.com/health/diabetes [Accessed 14 April 2021]

Amazon. Pretty Drawings. [image online]. Available at: < https://www.pinterest.co.uk/pin/9851692924915869/ > [Accessed 17 February 2021]

Credits- Feature Image

Nilay Patel, 2019. APPLE IPHONE 11 PRO AND PRO MAX REVIEW: THE BATTERY LIFE IS REAL. [online] Available at: < https://www.theverge.com/2019/9/17/20868727/apple-iphone-11-pro-max-review-camera-battery-life-screen-midnight-green-price [Accessed 21 May]

Lets Panda. Keauti: Logo Design. [image online] Available at: < https://dribbble.com/shots/6102215-Keauti-Logo-Design/attachments/6102215-Keauti-Logo-Design/mode=media > [Accessed 17 February 2021]

Andrea De Santis, 2017. 21 Things Nurses Know That Can Save Your Life. [image online] Available at: < http://www.illustrationdaily.com/andrea-de_santis/7 > [Accessed 17 February]

Lunation. 'J-Hope Hope World Phone Case #HIXTAPE' [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919078493/ > [Accessed 17 February]

Moodii. Elegant monogram modern black white rounded square business card. [image online] Available at: <

https://www.zazzle.com/elegant_monogram_modern_black_white_rounded_square_business_card-

256838592368971051?rf=238828743846288366&tc=237997156697027296&epik=dj0yJnU9Wm91M1NaOGVobGlLbGdGMTVsazUyX0c3d1Y1NEFQdF8mcD0wJm49d0ZPSmx1eTlrUEFEWXZ2UDVRRWdldyZ0PUFBQUFBR0NyWmFB > [Accessed 17 February]

Baubauhaus.com, 2011. The Lab. [image online]. Available at: < https://search.muz.li/OGlxZjc1Y2Yz [Accessed 17 February 2021]

Gravity. [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919020986/ > [Accessed 17 February 2021]

Daniel Carlmatz. Designer challenges himsels to create a typographic logo every day for a year, and they are pretty cool. [image online] Available at: <

https://digitalsynopsis.com/design/creative-typographic-logos-of-words/?fbclid=lwAR0m-P5p4/TgHaqzwCvq18P57XPn-xWJ_vi6Cd3mDc4dnniEJmTkiA4M64Y > [Accessed 17 February 2021]

Hope. [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919021010/ > [Accessed 17 February 2021]

Scheduler. Light. [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919078756/ > [Accessed 17 February 2021]

Liam & Jord. This post contains clever wordmark Logo designs created by Liam + Jord. All logo designs are really cool, inspiring and creative. [image online] Available at: https://www.downgraf.com/inspiration/clever-wordmark-logo-designs/ > [Accessed 17 February 2021]

pratikto_design, 2017. RUN. [image online] Available at: < https://www.instagram.com/p/BdVEzBcg7yS/?epik=dj0yJnU9S2lldGsyWkNHYmRFTlpoQ0hLU18tX2FF RGZqekcy83YmcD0wJm49MkFiWUdLRG5Hbkhhc25DM0YwQUJSQSZ0PUFBQUFBR0NyYI9R > [Accessed 17 February 2021]

Pngtree. Letter R L RI Lr Logo Design Simple Vector Premium Template. [image online] Available at: < https://pngtree.com/freepng/letter-r-l-rl-lr-logo-design-simple-vector-5061065.html > [Accessed 17 February 2021]

Lynn. [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919078501/ > [Accessed 17 February 2021]

Owen Davey. Graphic illustration. [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919078683/ > [Accessed 17 February 2021]

Msheinz. The original team Sticker. [image online] Available at: < https://www.pinterest.co.uk/pin/759419555919078556/ > [Accessed 17 February 2021]

Orana Velarde. How to Use Pastel Colors in Your Designs [+15 Delicious Pastel Color Schemes] [image online] Available at: < https://visme.co/blog/pastel-colors/#:~:text=A%20pastel%20color%20is%20any,creamy%20mint%2C%20and%20whimsy%20yellow. [Accessed 17 February 2021]

Credits for pictures included in the logbook

Billy23, 2017. Computer Icons Doctor Of Medicine Health Care Physician PNG. [image online] Available at: < https://imgbin.com/png/4qW4hppg/computer-icons-doctor-of-medicine-health-care-physician-png- > [Accessed 24 March 2021]