

# CHOC Autism Collaboration Design

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## Revision History

Date	Version	Description
1/25/2021	1.0	Creation of Document. Added basic knowledge of website/project
2/13/2021	2.0	Edited the stakeholder/audience. Included personas, user stories, and functional and nonfunctional requirements
2/23/2021	3.0	Revised the user case stories and scenarios based on the professor's advice
2/27/2021	4.0	Added all the mockups/UML Diagrams. Rearranged the sections into requirements, UI design, and software design.
3/13/2021	5.0	Revised one activity diagram with having no guest feature, UI design with updated pages
3/14/2021	6.0	Revised the sequence diagram. Add more functional requirements such as children's activities. Fixed doc based on Saumya's comments.
4/24/2021	7.0	Added one activity diagram. Revised functional requirements, use case diagrams, activity diagrams and user stories. Added user research section.
6/8/2021	8.0	Included all comments from interviews and user testing. Updated all purpose, scope details, and visuals in order to have the most recent website documentation.

# 1. Introduction

## 1.1 Purpose

Our client [Kylie Castro](#) works for the Children's Hospital of Orange County (CHOC) and has come up with a proposal in order to change the lives of parents/guardians, medical staff, and children with autism spectrum disorder. Her proposal was for our team to create a website that would ease the stress of the parent/guardian and reduce stimuli of children with autism spectrum disorder when brought into the hospital. Because kids with autism have trouble in social interactions and might not be able to communicate with ease, taking them to the hospital can be overwhelming for them, and our website would help reduce the stress of parents/guardians and potentially triggering stimuli for children. Our main feature of this website will contain a pre-visit survey that parents can take and give to CHOC medical staff which will allow them to accommodate the child to the best of their abilities. With the pre-visit survey, medical staff can make sure the environment of the room is favorable to the child during their visit. Medical staff themselves will be provided with resources and videos that would better help them understand how to care for children with autism spectrum disorder.

## 1.2 Scope

[Kylie Castro](#) is hopeful that this website can be given to CHOC so they can see the benefits of having it within their protocols.

CHOC Autism is aimed towards reducing stimuli and standardizing the way that children, with autism spectrum disorder, receive sensory friendly, individualized care at hospital and doctor visits. The website will achieve this through a multitude of features with the leading one being a form that is directly received by a doctor or nurse so they can prepare accommodations for the children when they visit. Parents and guardians should be able to easily find clinics that specialize in caring for children with autism. For children, the website aims to entertain them through videos, music, and coloring pages. It also aims to inform parents/guardians and children about what to expect at a typical visit through short informative videos and captioned images of medical equipment. Medical staff will also benefit from this website as they can review videos and other information regarding how to interact with patients who have autism.

## 1.3 Definitions, Acronyms, and Abbreviations

Glossary	
Word	Definition
UCI	University of California, Irvine
CHOC	Children's Hospital of Orange County
ASD	Autism Spectrum Disorder

## **1.4 Audience and Stakeholders**

### **1.4.1 Audience**

- Parents
  - Parents will directly be in contact with our website because they will be using it to make and edit the environment survey for their child
- Nurses, Doctors, and other Healthcare Providers
  - Nurses will be able to navigate through the website to find training videos and resources. These training videos and resources will be specifically directed towards how to interact with children with Autism
- Children
  - Children will be interacting with the entertainment feature of the website, specifically the music, videos, and the coloring book.

### **1.4.2 Stakeholders**

- Medical Staff
  - Medical staff will include doctors, therapists, aids, etc.
  - Medical staff will be indirectly involved in the website because they may want to include their own training videos or resources for parents
- Medical Researchers
  - Researchers for autism may be interested in the outcome of having this website
- CHOC Board of Directors
  - Will be indirectly involved because this website will be focused on patients within the hospital ground
- Other hospitals
  - They might be interested in the website and want to create something similar

## **1.5 Goals, Constraints, Assumptions**

### **1.5.1 Goals**

- Develop a website that will reduce the stimuli of an autistic child when they visit the hospital by providing related information to the treatment of the child to hospital staff.
- Reduce stress for parents pre-visit and during their visit at the hospital
- Correctly indicate what areas of the hospital environment could be stressful for child
- Provide resources for nurses on how to interact with a child diagnosed with ASD
- Entertain children diagnosed with ASD when they visit CHOC

### **1.5.2 Constraints**

- Parents may not have more than one electronic device for themselves or their child
- Users may not be familiar with the usage of mobile devices.
- CHOC will allow this website to be developed
- We have to develop this website around medical laws and privacy regulations directly related to CHOC
- This website must be attached to a secure database, as sensitive information is being dealt with

### **1.5.3 Assumptions**

- Parents have never been to CHOC before and need additional support
- Training for nurses in regards to treating children diagnosed with ASD is minimal
- Nurses need additional resources on how to interact with children diagnosed with ASD
- All parents have at least one electronic device to access the website
- Parents will have the time to go on the website before they visit CHOC
- The child diagnosed with autism will need to be entertained so the parent can interact with the doctor

### **1.6 Future Plans**

As this is only the first version of our product, there is a lot of potential that could be developed from this project. This is a list of ideas that could be added onto this project.


- Creation of a QR code that could directly transition parents to the pre-visit survey
- Integrate into CHOC server and database
- Multiple children registered under single account
- CHOC video tour

## 2. Requirements

### 2.1 Persona\Scenarios

#### 2.1.1 Personas

### Persona #1: Parent



**Laura Carter**

*"Do the best you can until you know better, then do better."*

**Age:** 34  
**Work:** Stay-at-home parent  
**Family:** Married, with two kids  
**Location:** Orange, CA  
**Tier:** High-Level

Hardworking
Conscientious
Loving
Empathetic

#### Bio

After graduating from college, Laura worked in an office setting for five years before settling down and getting married. After having their second child, Laura became a stay-at-home parent, caring for her nine-year-old daughter and four-year-old son. However, after her son became diagnosed at age 3 with level 3 (severe) autism spectrum disorder (ASD), she and her husband became divorced. She now spends all of her time at home caring for her two children, but has recently been worrying about finding a proper doctor's clinic for her son that can accommodate him, as she worries about her son's hypersensitivity to certain sounds, and his intense dislike for unfamiliar environments.

#### Scenario:

Laura has recently gone through a divorce and has decided to move back to the city of Orange to be closer to her parents and family. Having moved to a new area, she is urgent to find a clinic, that specializes in autism care, to schedule an appointment for her four year old son. She finds that the Children's Hospital of Orange County is nearby and makes an appointment with them. While waiting for and during the doctor's visit, Laura notices that her son is visibly very uncomfortable in this new environment and asks the doctor what might the cause of this be. She finds out that the doctor herself does not know much about caring for a child with ASD. So, she asks the doctor if they had any resources to help better learn how care for children with autism and is recommended the ChocAutism website. Here, Laura learns that children with autism can often have a difficult time adapting to unfamiliar environments and how she can overcome this by introducing and preparing her child, through pictures, beforehand.

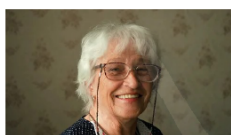
#### Goals

- Find a clinic that specializes in caring for children with autism
- Be fully prepared for doctor's/hospital visits (e.g., comfort objects such as toys, blankets)
- Reduce panic and stress related to unfamiliarity with environment as much as possible
- Reduce sensitivity overload for child as much as possible

#### Frustrations

- Child does not like being touched, or being handled by unfamiliar people
- Child is not cooperative during shots or blood tests
- First-time parents of caring for a child with ASD may not be fully aware of child's wants or needs when he/she gets upset, which only contributes to more stress for everyone present

## Persona #2: Guardian



Grace Sharp

*"Everyone needs a house to live in, but a supportive family is what makes a home."*

**Age:** 67

**Work:** Retired schoolteacher

**Family:** Widowed; one daughter and one grandson

**Location:** Newport Beach, CA

**Tier:** High-Level

Doting

Thoughtful

Considerate

Sensitive

### Bio

Grace has worked as a kindergarten schoolteacher at Vejar Elementary School since 1995, and recently retired last year. Since then, she has moved down to live with her daughter and her daughter's family in Newport Beach. In her free time, she enjoys cooking and learning new recipes for her family to enjoy, and loves going on walks in the local park regularly. She has one grandchild, a five-year-old who was diagnosed with level 2 autism spectrum disorder (ASD), that she looks after most of the time, as her daughter and son-in-law both work full-time. However, she struggles to understand her grandson's repetitive behaviors at sudden moments, and wants to learn how to understand what he is thinking and feeling.

### Scenario:

A few days after Grace moved in to her daughter's home, she attempts to have some bonding time with her grandson, Mikey, while his parents are away at work. She enters his room and asks him if he would like to take a walk with her around the neighborhood. He does not look at her at all, and only shakes his head repeatedly and vehemently. She mentions that it is very nice weather outside, but he continues his behavior. She feels confused, and a little saddened, as she really wanted to have this time with Mikey, but does not understand why he seems so averse to it. She leaves his room, and goes to search up information about his behavior online. Among many links, Google shows a website from CHOC that discusses behaviors for each of the three levels of ASD, and advice on what to expect. From this site, Grace learns that her grandson probably prefers a rigid schedule and does not like being with anyone he is not yet familiar with. Grace recalls that up until now, she has never met Mikey in person; and that for the short time she has been in the home, Mikey typically spends his time playing with his toys during the afternoon. Grace now understands why Mikey did not want to go out with her, and she feels that she understands her grandson a little better than before.

### Goals

- Wants to better understand her grandson's wants and needs when he is upset, such as identifying the source of irritation and how to soothe him
- Would like to find easily accessible resources to learn more about common characteristics for children with ASD

### Frustrations

- Difficult to communicate with grandson
- New technology (e.g., iPhones, tablets) is very intimidating to use; only familiar with using a computer

## Persona #3: Child



Bobby Hernandez

*"My home and my family are what make me feel the safest."*

**Age:** 4

**Work:** N/A

**Family:** Parents (divorced); no siblings

**Location:** Irvine, CA

**Tier:** High-Level

### Bio

Bobby was born and raised in Irvine, California to his two parents, Selena and Derek. In his second and third years, Selena and Derek began noticing that Bobby tends to avoid direct eye contact with other people, including themselves; and he also often did not respond when his parents called him by name. When he was three, his parents discussed his behavior with his pediatrician, who then suggested that they take him to a child psychologist. After the child psychologist met and spent some time with Bobby, he then informed Bobby's parents that Bobby showed signs of Autism Spectrum Disorder (ASD).

### Scenario:

Derek and Selena recently took Bobby to get some blood tests done. However, upon arriving at the clinic, Bobby began resisting, and had to be carried in by his father. When the nurse asked for Bobby's arm, Bobby struggled to get out of the chair, and his mother and father both attempted to calm him down and also hold him down to avoid injuring Bobby and everyone else. On the way home, Derek and Selena began worrying about future necessary doctor's visits, and whether they would be able to handle them or not.

### Goals:

- Wants to be comfortable wherever he is
- Wants to avoid unexpected events
- Only wants to be around people he knows

### Frustrations:

- Does not like being in unfamiliar environments
- Hates loud sounds
- Does not like being touched
- Dislikes interacting with people he has never seen before



## Persona #4: Medical Staff



**Dennis Manning**

*"Everyone needs a house to live in, but a supportive family is what makes a home."*

**Age:** 28

**Occupation:** Nurse

**Family:** Single, no children

**Location:** Irvine, CA

**Tier:** High-Level

Empathetic

Hardworking

Considerate

Open-Minded

### Goals

- To be better prepared to accommodate all patients with all sorts of needs

### Bio

Dennis has recently graduated from grad school, and started working at the Children's Hospital of Orange County (CHOC) for the past year. Since graduating, Dennis proposed to his long-time girlfriend and got married, and they had a son together who got diagnosed with ASD. In caring for his son, Dennis decided to learn more about ASD, but has no real training in the field for this specific condition. In his first real job as a nurse, Dennis wants to do the best he feels he is capable of.

### Frustrations

- Little-to-no training in communicating with children with ASD

### Scenario:

One night, Dennis is on a twelve-hour shift when a mother with her son comes in. Upon greeting them, Dennis notices that her son seems very nervous. An ambulance suddenly passes, and the boy suddenly sits down and begins rocking back and forth. His behavior reminds Dennis of his own son, and immediately picks the boy up and carries him to a room away from the front of the hospital, where the siren can no longer reach them. The boy begins to calm down, and the mother thanks Dennis for his help. Dennis is happy that he was able to help, but begins wondering if he would be able to help a child with more severe reactions that he was used to.

## 2.1.2 Scenarios

- Parent
  - Laura knows that she needs to take Bob, her child, to CHOC in order to get his yearly check-up, however, Bob has been diagnosed with ASD and does not like to be overstimulated. Prior to her visit she is directed to a website that will help her fill out a survey on the specifications that she wants for her child. The survey includes questions asking about room temperature, lighting, child's communication method, ect.. Laura is then able to print it out. When she then visits the hospital she provides the printed out survey to the receptionist at the front so they can be aware of the environment her child needs. Laura's visit goes on very smoothly because the nurses and the doctors understood how to take care of her child.
- Guardian
  - Grace knows that her grandson, Bill, has asperger syndrome but is not too sure about how to interact with him. She knows that Bill will lash out if you speak too loudly in front of him or if there are too many people crowding around him. She finds a website that better explains all the symptoms of Asperger syndrome. On this website, she reads up on how to better interact with her grandson as well as finding other resources to help her learn more.

- Child
  - Tom is a child diagnosed with Heller's syndrome (childhood disintegrative disorder). He has lost the skills in receptive language skills so he is not able to understand the language spoken to him. He is also expressing repetitive behavior and interest patterns. When he visits CHOC for his checkup, his mother gave him a tablet where he can use our website's coloring page feature while his mother is listening to the feedback from the doctor. This way, Tom will not feel bored or nervous while being in the hospital.
- Nurse
  - Peter is a newly certified nurse at CHOC and has been working there for 3 months. He has seen many types of children come into CHOC when he was training but has never directly interacted with them. He recently had an encounter with a kid diagnosed with ASD and did not know how to interact with the child accordingly, making the encounter awkward. Peter would like to not make any mistakes or assumptions next time so he googles up how to interact with kids who have high functioning autism. He comes across our website and finds more training videos and other resources on how to interact with children. The next time a child who has ASD comes onto his floor of the hospital Peter knows how to act and the child eventually is not so scared.

## 2.2 System Features

### 2.2.1 User Stories

#### 'Must have'

- As a parent with children that have ASD, I want to be able to communicate my children's individualized care to their doctor's office ahead of time so that my child can complete his visit to the hospital without them being too stimulated by the environment.
- As a guardian of a child with ASD, I want to be able to learn more about the child's condition and needs to better understand and communicate with the child.
- As a child with ASD, I want to focus on something other than the nurse poking me with a needle.
- As a nurse with a patient that has ASD, I want to find information that would help me better interact with my patient to ensure that their visit goes as smoothly as possible.

#### 'Nice to Have'

- As a parent with children that have been diagnosed with ASD, I want to easily be able to send my survey results to the nurse via email
- As a parent with a child that has autism, I want to know of any forums or parent-led support groups where I can join a community who understands my life
- As a nurse working at CHOC, I want to be able to view videos that may educate me on how to interact with patients with autism

- As a guardian taking care of a child that has autism, I want to be able to know a walking trail or the nearest gym so that I can release stress and anxiety
- As a mother of 4 kids, I want to easily find the location of CHOC so that I don't have to drive around with 4 crying kids in a car
- As a kid who is on the lower spectrum of ASD, I want to see the equipment that the nurses may use on me

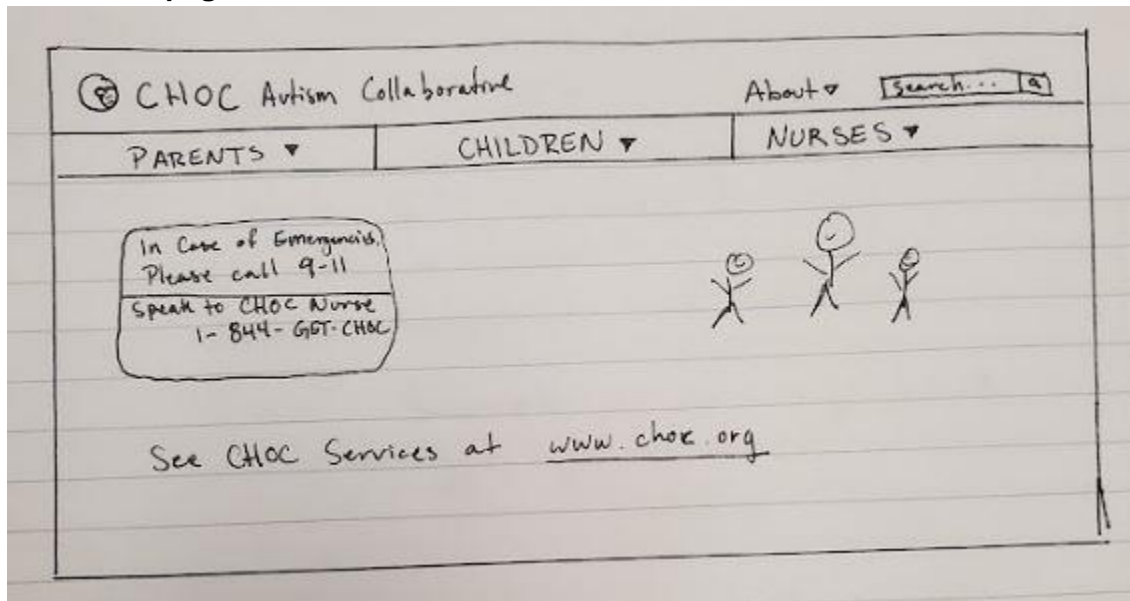
'Great if we can get to it'

- As a parent with children that have been diagnosed with ASD, I want to easily be able to send my survey results via the CHOC Link along with my other medical information
- As a nurse with 15 years of experience working with children diagnosed with ASD, I want to be able to share my experience with other inexperienced nurses
- As a nurse working at CHOC, I want to be able to view videos made by other nurses that will help me better interact with patients diagnosed with ASD
- The website should also remind parents/guardians to bring important items such as medical paperwork and sensory calming items for their children during visits.

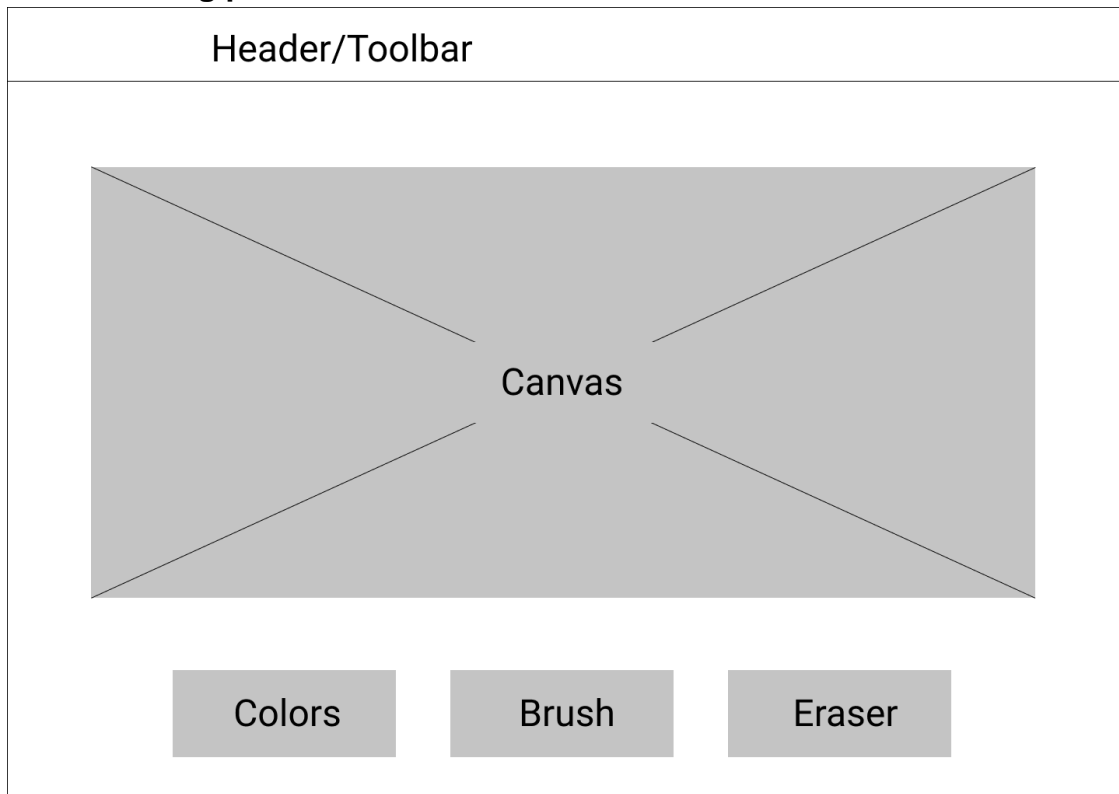
### 3. UI Design

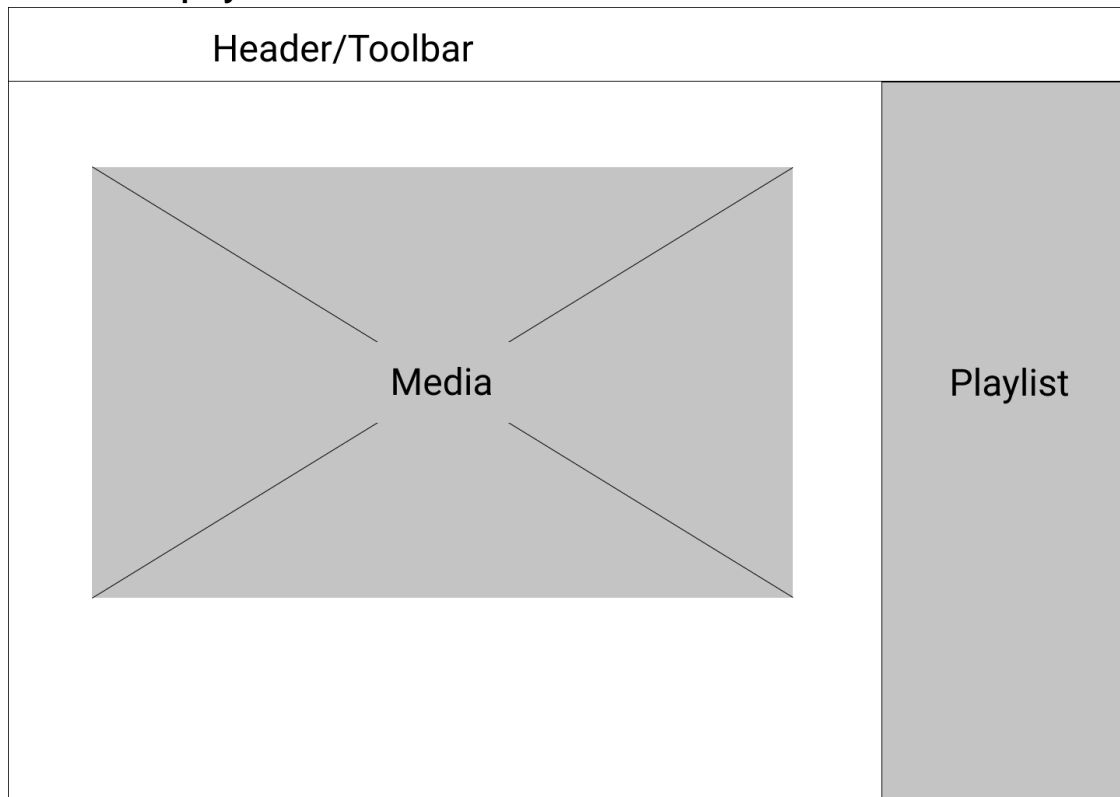
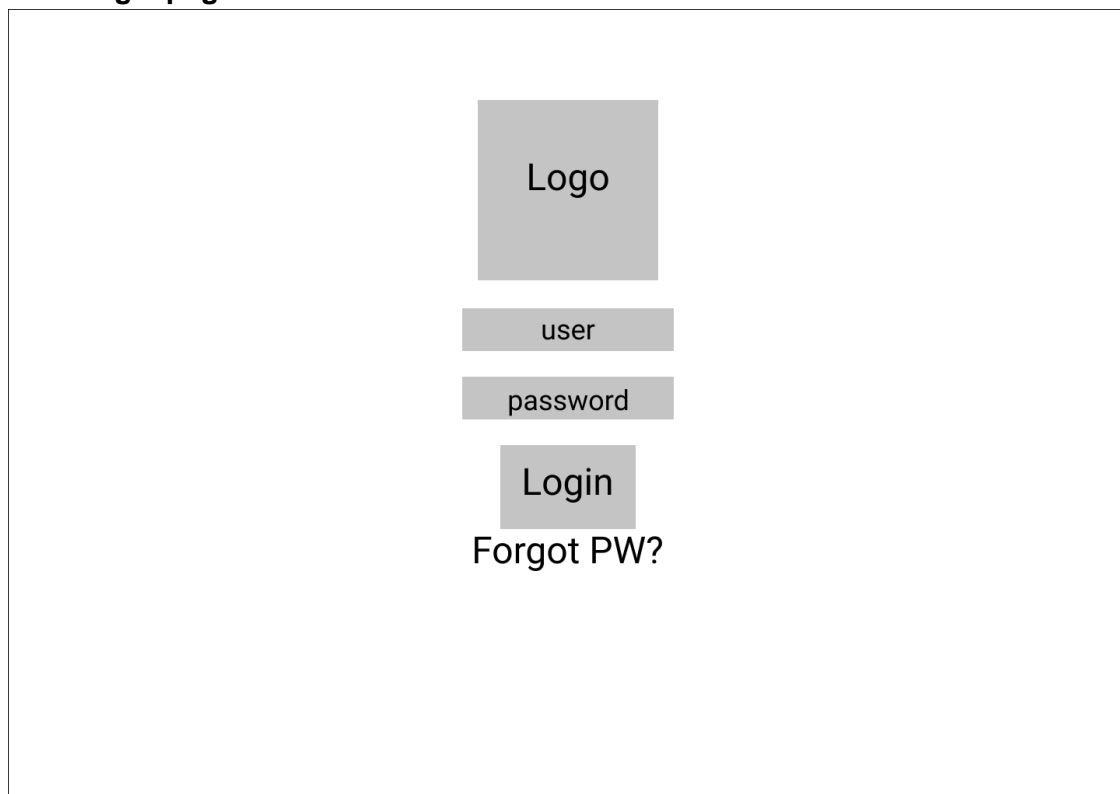
#### Lo-Fi wireframes

##### Lo-Fi homepage



##### Lo-Fi drawing pad



**Lo-Fi media player****Lo-Fi login page**



## Hi-Fi homepage


[Parents](#) ▾

[Children](#) ▾

[Medical Staff](#) ▾

[About](#)

Welcome all to the  
Autism Collaborative Team  
website!

Thank you for visiting our website! This website is dedicated to helping all parents, medical staff, and children diagnosed with ASD. We understand that children diagnosed with ASD might be overwhelmed when they arrive at any children's hospital and hope that this website will help reduce any stress that they may encounter. This website also provides resources for both parents and medical staff in order to inform them and make hospital visits as simple as possible for them and the patient.

## What We Provide At CHOC ACT



### Pre-Visit Survey

To best accommodate our patients and parents, this survey helps inform our medical staff ahead of time in order to prepare for our patients' needs.



### Drawing Pad

Hospital visits can be scary for children, especially for the first time. With our drawing pad, children can distract themselves by creating their own pictures for their own amusement.



### Medical Staff Resources

At CHOC, we believe that sharing medical expertise and experience can help others give the best quality care possible.

**Need Help?** | In case of emergencies, please call 9-1-1 | Speak to a CHOC Nurse at 1-844-GET-CHOC  
See CHOC services at [www.choc.org](http://www.choc.org)

### 3.1.2 Parents Page

### Med-Fi Parent's homepage



Search 

Parents ▾

Children ▾

Medical Staff ▾

## About

## Parents Information

## Parents

## Survey

## Resources

### Parking/Map

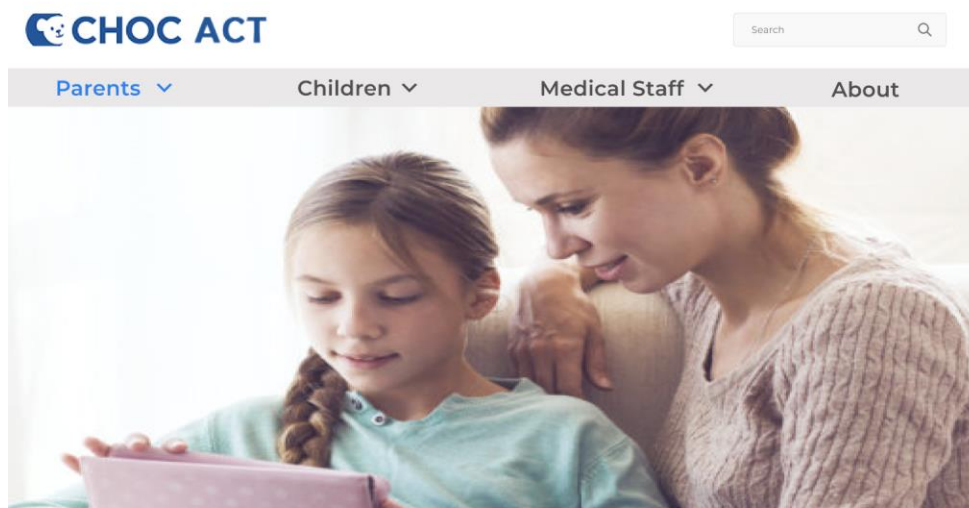
## Welcome Parents,

This is the parent page

[illegible]



## Hi-Fi Parent's homepage



## Parents Hub

Thank you for coming to the Parent Hub! We want to partner with you to help improve the care you and your child receive while in the hospital. Our goal is to work with your child's specific strengths to allow for a safe and enjoyable hospital admission. We know that many times hospital admissions can feel overwhelming, you are taking your child out of their routine, into a different environment. We want to partner with you to help tailor that environment to your child's specific needs. The first step in this partnership is to have you fill out the pre-visit survey that will help us understand how to interact with your child and in what ways we can help them reduce this stressful experience. We also have other resources where parents can find equipment that their child might interact with, information on parking at CHOC medical center, parent-led support groups, etc.

### Parent Hub Services



#### Pre-Visit Survey

To best accommodate our patients and parents, this survey helps inform our medical staff ahead of time in order to prepare for our patients' needs.



#### Parent Resources

Finding ASD resources on the internet can be stressful. Here, we have it all laid out so parents can have an easier time finding information they need.



#### CHOC Parking/Map

Parking may be the last thing on a parent's mind, but can invite unnecessary stress. This page easily lays out all the information on parking and finding CHOC.



#### Parent Videos

For visitors to CHOC, here are some insights into our CHOC medical center, its amenities, and many services.

**Need Help?** | In case of emergencies, please call 9-1-1 | Speak to a CHOC Nurse at 1-844-GET-CHOC  
See CHOC services at [www.choc.org](http://www.choc.org)

## Pre-Visit Survey

We understand that hospital settings can be quite stressful for children with ASD. Filling out this Pre-Visit Survey will help the CHOC staff accompanying your child be aware of any potential triggers to ensure a comfortable visit.

Before starting, please make sure to create an account below and fill in the questions provided. Once that is completed, you will immediately be directed to the survey to fill out any accommodations that your child may need. All survey responses will be recorded and saved for future use. Surveys can be printed out to give to a registered CHOC nurse. For your privacy, please make sure to sign out when everything has been completed!

**DISCLAIMER:** CHOC Medical staff will accommodate your needs to the best of their ability. However, we cannot guarantee that all of your child's needs will be met, as hospital resources may be limited at the time of your visit. If there are any critical needs that your child absolutely requires, please directly contact CHOC at least 24 hours prior to your visit.

### Please Sign In or Create an Account

to complete pre-visit survey

[Sign In](#)
[Create an Account](#)

### 3.1.3 Parents Survey Page

## Survey

Last updated: January 20, 2021

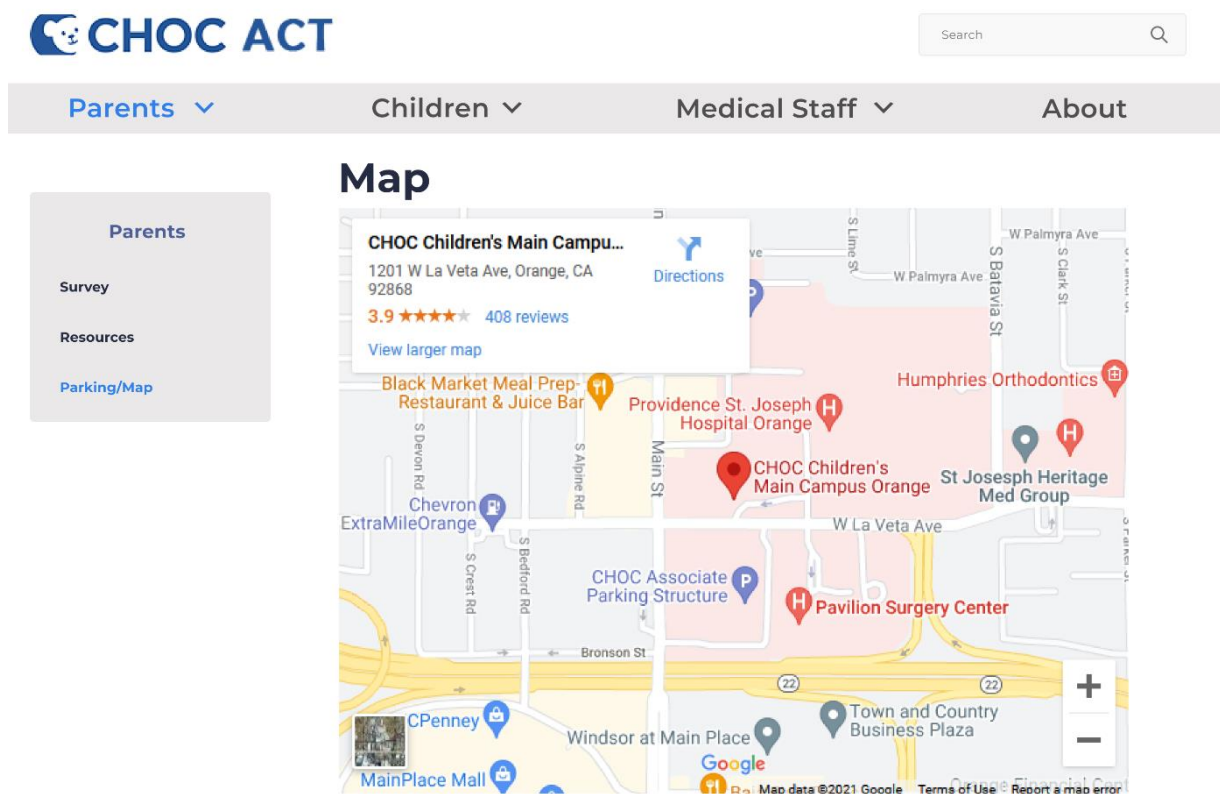
### Communication

I. How does the patient like to communicate their wants/needs? (Check all that apply)

- ☐ Talking
- ☒ Sign language
- ☐ Typed words
- ☐ Handwritten words
- ☐ Tablet or communication device
- ☐ Pointing / Gesturing
- ☐ Pictures or symbols
- ☐ Pictures with words
- ☐ Making sounds
- ☐ Facial expressions
- ☐ Other:

II. How does the patient communicate "yes" or "no" when asked a question?

### 3.1.4 Parents Map Page



#### Parking Information

Parking at CHOC can be difficult to navigate, but we are here to help! Please follow the following steps in order to have a stress-free parking experience:

1. Check-in at the Bill Holmes lower entrance located near the intersection of Pepper Street and La Veta.
2. Follow the red lines and specific signs that will lead you to the front entrance of the parking structure.
3. Make sure to pay for your parking permit. Please see [below](#) for more information.

#### Self-Parking Rates

The following rates apply:

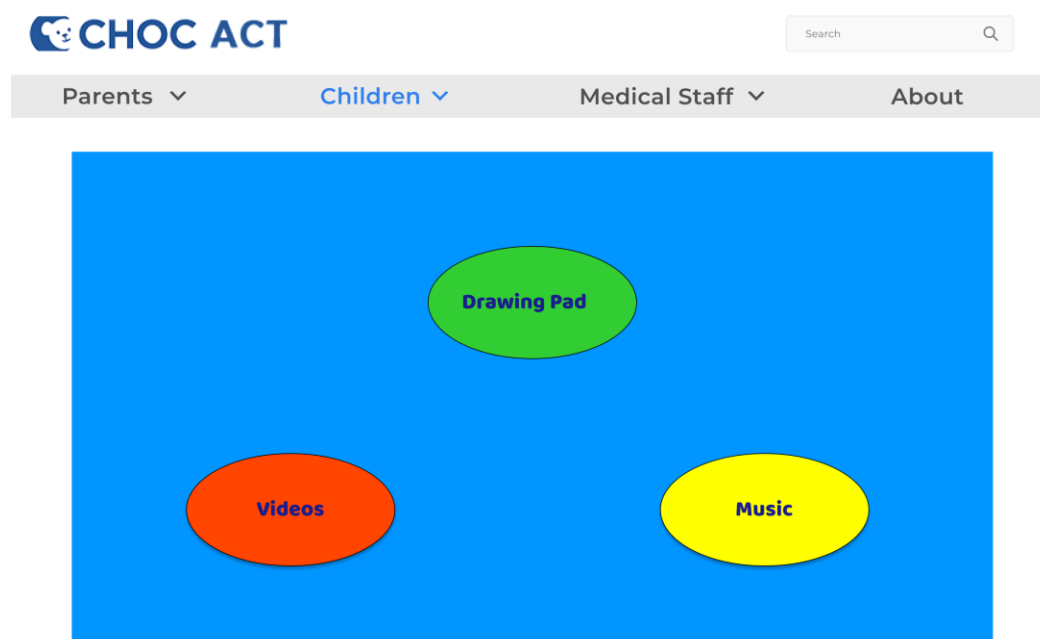
1. First 20 minutes are free
2. \$2 flat rate upon validation at check-in
3. Free parking for CHOC Outpatient Pharmacy, clergy, social workers, police, etc. See self-parking booth upon exit
4. Weekly, monthly, and quarterly passes are available at parking booth and valet stands
5. Valet is available for \$8

Please see the following link for more information:

<https://www.choc.org/patients-family/parking-rates-information/>

### 3.1.5 Children Page

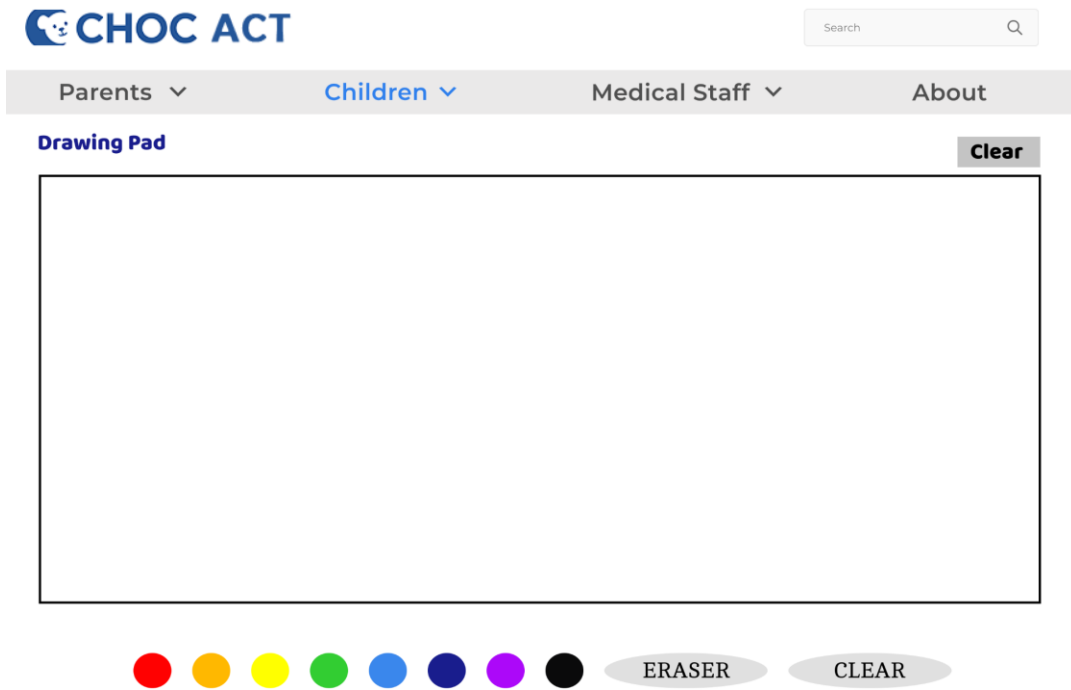
#### Med-Fi Children's homepage



#### Hi-Fi Children's homepage



### 3.1.6 Drawing Pad



### 3.1.6 Audio Player



### 3.1.7 Medical Staff Page

## Med-Fi Medical Staff Homepage



Search 

Parents ▾

Children ▾

Medical Staff ▾

## About

## Medical Staff

## Resources

## Videos

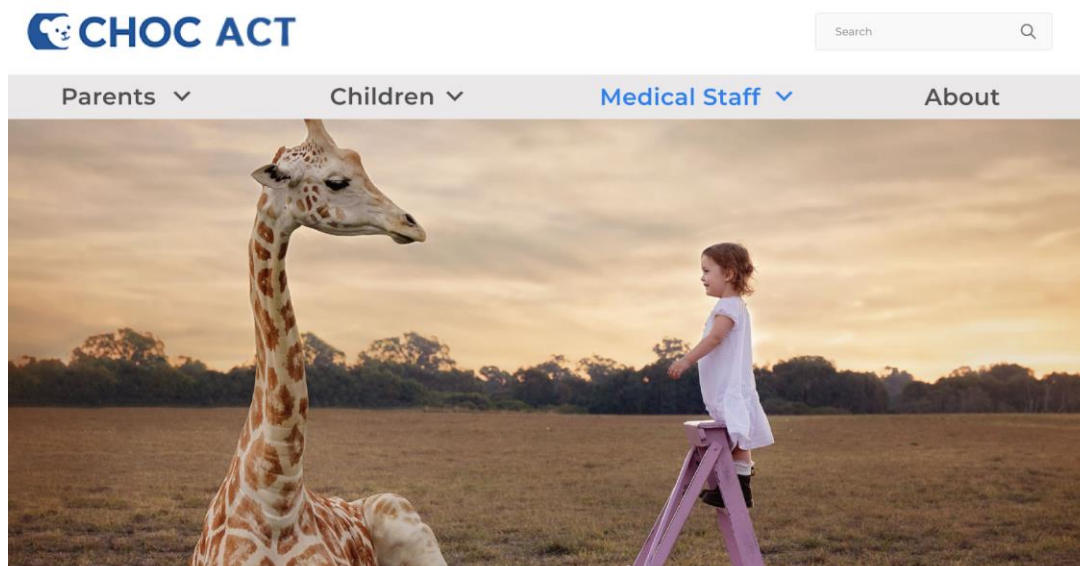
## Medical Staff Information

## Welcome Medical Staff,

This is the medical staff page

[illegible]

## Hi-Fi Medical Staff Homepage



### Medical Staff Hub

Welcome to the Medical Staff Hub! We understand that treating a child with an Autism Spectrum Disorder (ASD) can be challenging at times, but we would like to provide you with the resources to change that frame of mind. Our goal at CHOC Autism Collaborative is to provide you with the tools to partner with the parents/caregivers to understand your patient better, and to improve your tool belt of skills to better care for these children and their individual needs. Each child with ASD is unique and our goal is to help you highlight their strengths and provide effective care.

### Medical Staff Hub Services



#### Medical Staff Resources

Training may not include much information on anticipating the needs of patients with ASD. Here we have numerous resources that medical staff can use to inform themselves.



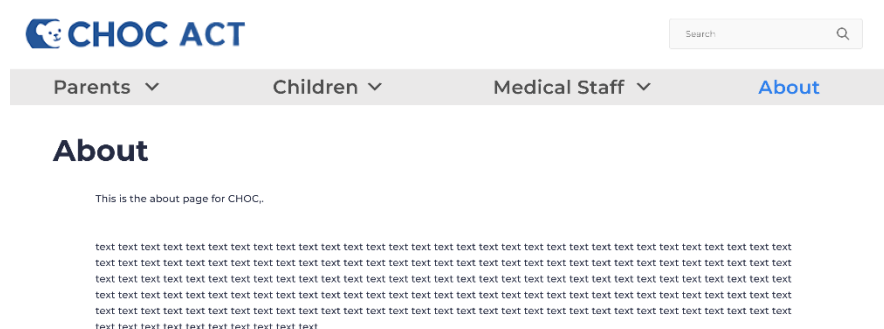
#### Medical Staff Videos

We have provided informational videos that can help medical staff on how to interact with and care for patients who have been diagnosed with ASD.

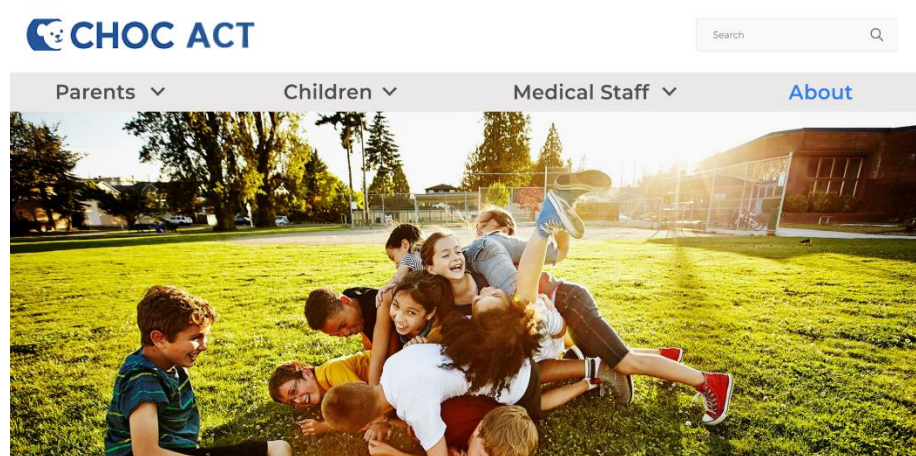


### 3.1.8 About Page

## Med-Fi About Page



## Hi-Fi About Page



## About CHOC ACT

Welcome to the CHOC Autism Collaborative. Our goal is to improve the care you and your child receive while admitted to the hospital. A CHOC nurse was inspired to create this project while working on the Neuroscience Unit because she continued to see patients and parents experience extra stressors, and have difficulties adapting to the hospital environment. The hospital can be loud, bright, and fast paced for any child, but this specifically affects our population with ASD. She knew that with a little teamwork from the parents/caregivers and the hospital staff we could improve the experience for everyone!

CHOC Autism Collaborative was initiated by Kylie Castro. Kylie had worked on the Neuroscience Unit for 4 years when she was inspired to develop this project. She took her problem to the Evidence Based Scholars Program at CHOC, then to a Hackathon put on by UCI and MIT where her team placed second. Unfortunately, there was not funding at the time to create this project. Kylie was persistent in getting this project off the ground. She was then introduced to the opportunity to work with UCI students on their capstone project to create this project. At a similar time, the Autism Thompson Center developed an Autism Workgroup to improve the care for our ASD population in and out of the hospital. The stars finally aligned, and we were able to grow the CHOC Autism Collaborative.

Need Help? | In case of emergencies, please call 9-1-1 | Speak to a CHOC Nurse at 1-844-GET-CHOC  
See CHOC services at [www.choc.org](http://www.choc.org)

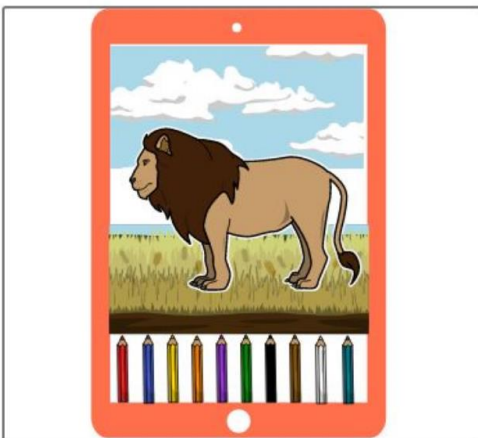


## 3.2 Storyboards

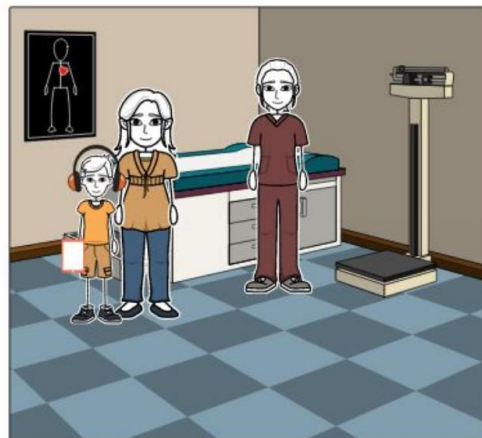
### 3.2.1 Listening to Music and Coloring



While the parent is checking-in to the doctor's office, the child is listening to relaxing music on the website.



While waiting for the doctor to call the parent and child for their appointment, the child goes on the website and picks a picture to start coloring.

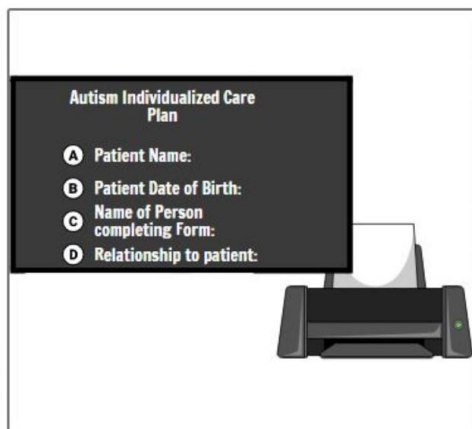


To remain as calm as possible, the child continues to listen to relaxing music during the check-up.

### 3.2.2 Filling out Autism Individualized Care Plan



The mother and son are getting ready for the son's doctor appointment.

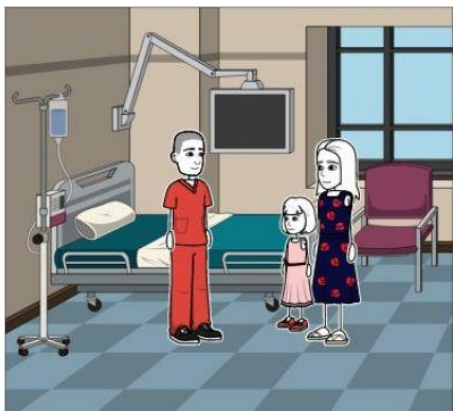


Before leaving, the mother fills out the Autism Individualized Care Plan. She is able to save the form on the website and print it out for personal reference.



When going in for the doctor's appointment, the medical staff is able to prepare the room and adjust how they handle the patient depending on the Autism Individualized Care Plan.

### 3.2.3 Medical Staff Resources



Nurse handling a child with Autism Spectrum Disorder and realizes they were not fully prepared for the meeting.



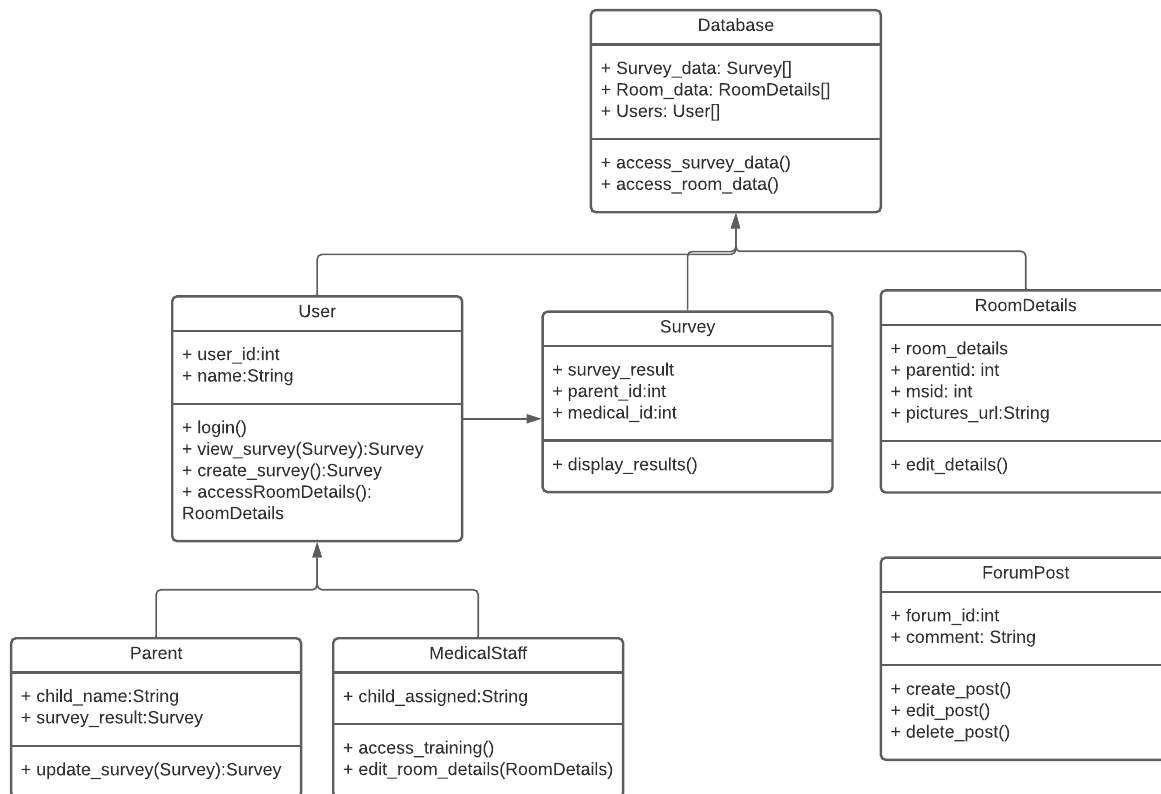
The nurse searches online for resources on how to better handle children with Autism Spectrum disorder.



They find the CHOC ACT website where they are able to watch informational videos and read credible posts on how to handle children with Autism Spectrum Disorder.

## 4. Software Design

### 4.1 UML Class Diagram

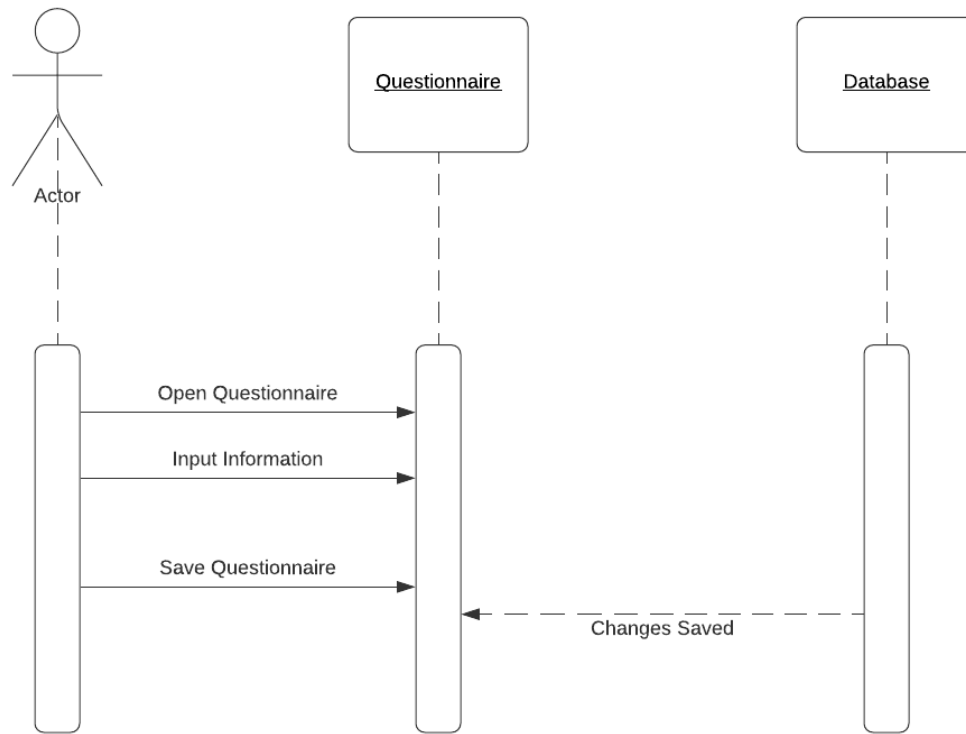


## 4.2 UML Sequence Diagrams

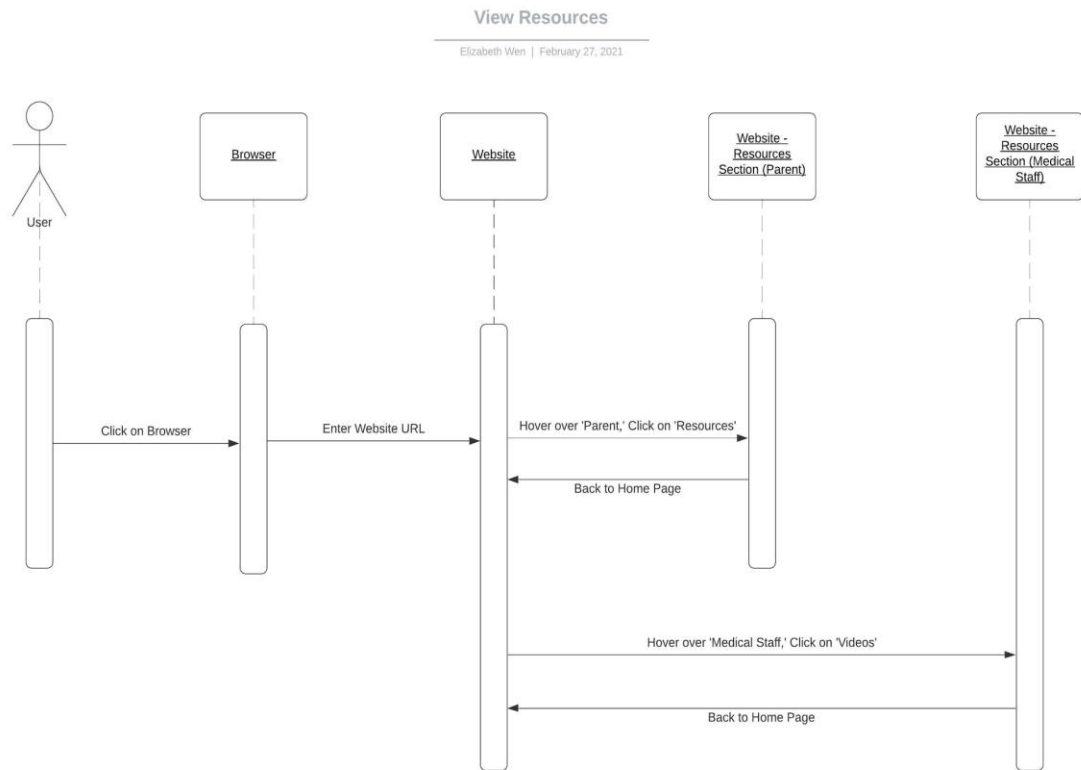
### 4.2.1 Sequence Diagrams #1: Fill Out Survey

#### Fill Out Survey

Elizabeth Wen | March 14, 2021

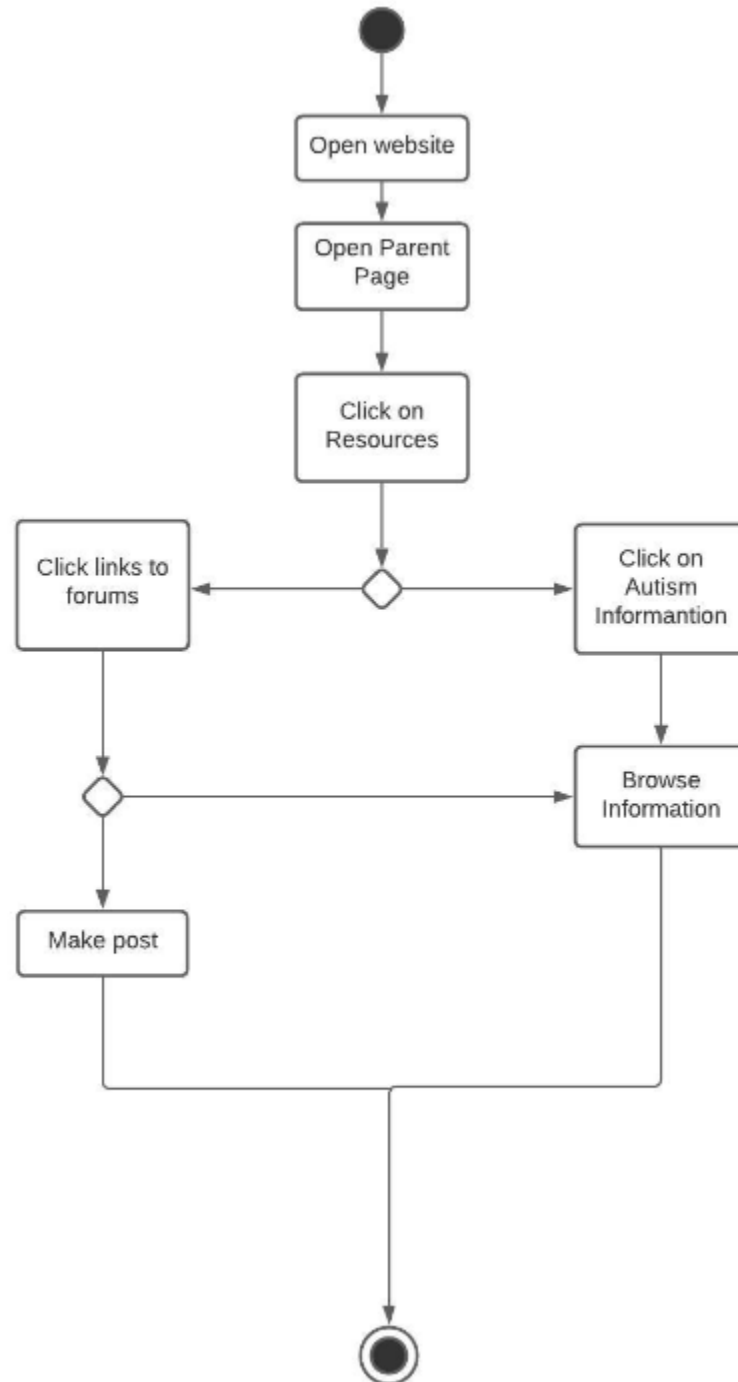


### 4.2.2 Sequence Diagram #2: View Resources

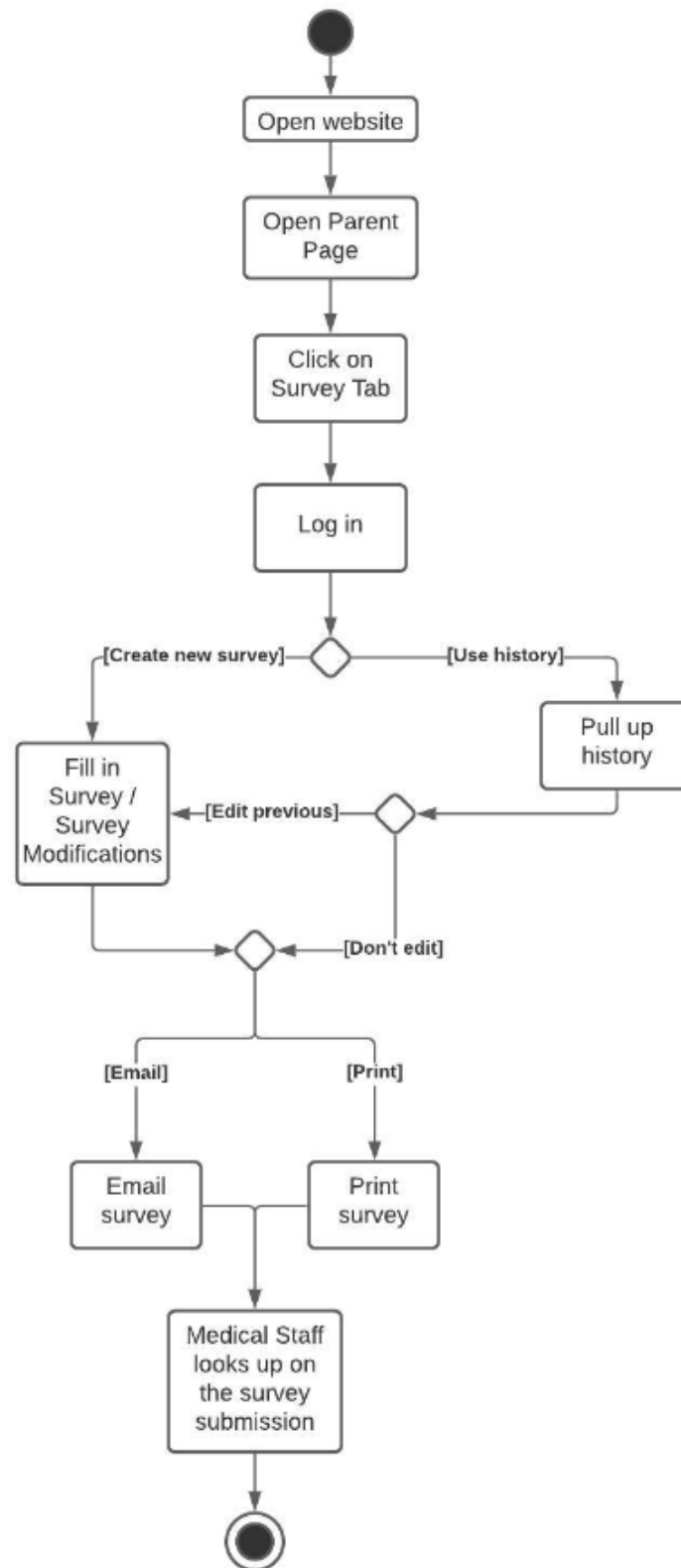


### 4.3 UML Activity Diagram

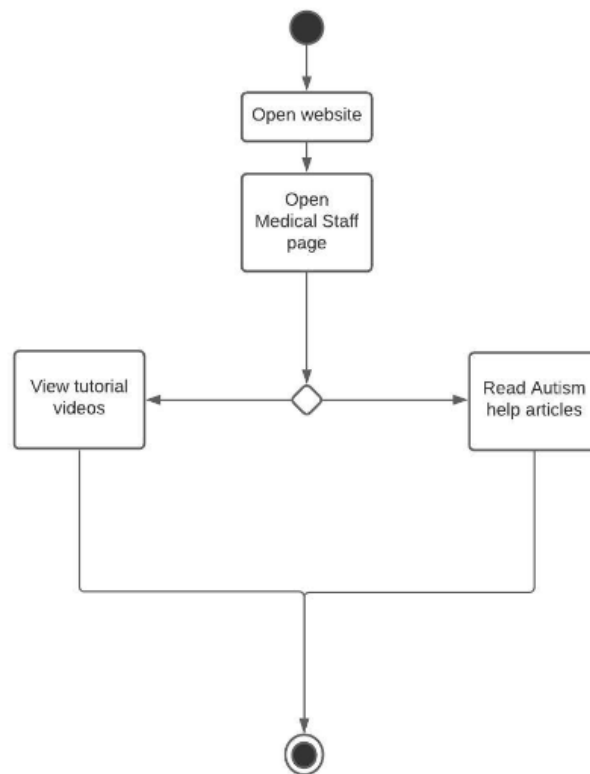
#### 4.3.1 Activity Diagram #1: Parents Looking at Resources



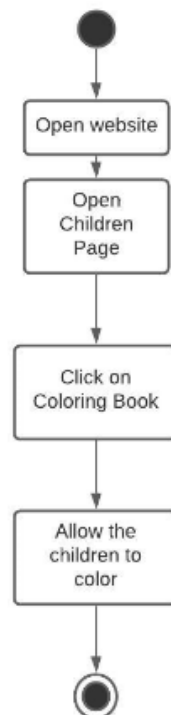
#### 4.3.2 Activity Diagram #2: Parents Doing Survey



#### 4.3.3 Activity Diagram #3: Medical Staff Looking for Resources

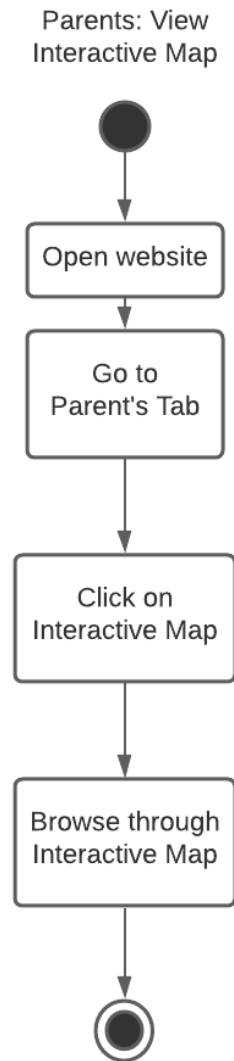


#### 4.3.4 Activity Diagram #4: Let Children Use Coloring Book

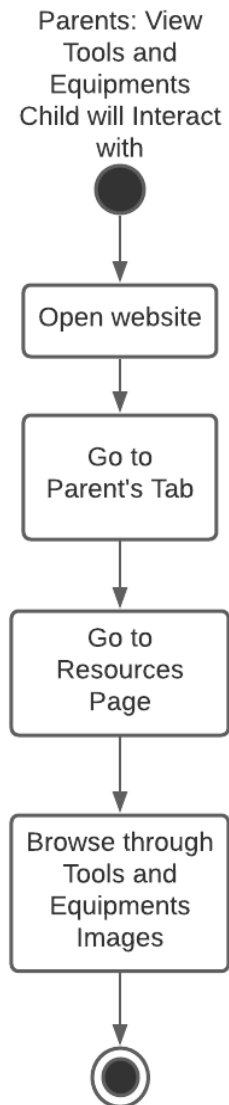




#### 4.3.6 Activity Diagram #5: Parents Viewing the Interactive Map



#### 4.3.7 Activity Diagram #6: Parents Viewing Tools and Equipments that Child will be Interacting With



## 5. User Research

### 5.1 Interview Summaries

#### 5.1.1 Chloe

- Informed us about:
  - Medical staffs noneducation on how to interact with autism patients
  - Interaction with patients who have autism only comes with experience
- Recommended the following:
  - Parents being able to request nurses used previously
  - Other inpatient nurses should have access to receive information about an ASD child

#### 5.1.2 Hannah

- Informed us about:
  - Medical staffs noneducation on how to interact with autism patients
  - Interaction with patients who have autism only comes with experience
  - Medical Staff don't really have any self defense training against aggressive patients
- Recommended the following:
  - Putting a disclaimer on the survey
  - Inputting a parent kit/ visuals of equipment
  - Include virtual walkthrough of CHOC for parents
  - Include advice from experts

#### 5.1.3 James

- Informed us about:
  - Childrens particular symptoms of ASD
  - Particular struggles of taking child to CHOC
  - Pre-informing child of hospital visit
  - Medical staff don't communicate between all the departments within CHOC
- Recommended the following:
  - A video or interactive tour of CHOC before getting to the hospital
  - Include information on parking at CHOC to make parents lives easier

### 5.2 User Testing

#### 5.2.1 Hannah

- Gave feedback on:
  - Our website being relatively easy to navigate, so we do not require a search bar on the website
  - We need a home page button for the Parents, Children, and Medical Staff pages because its not visible for the users
  - Another drop down menu is going to be needed for Parents' Resources because it's a lot of information on one page
  - Making a description of each link so the users know before they click

- Adding a description of what the survey will achieve before the Log In or Register option
- Add a description to the home page about the survey so it can be identified as the main focus of our website
- Adding a question on the survey about how patients take their medication
- Where on the page would parents be able to print the survey?
- Add words of encouragement to the website
- Provide a disclaimer before the survey to inform parents that not all things can be accommodated

#### **5.2.2 Albert**

- Gave feedback on:
  - The website was fairly kid-like and looked unprofessional
  - Relatively easy to get around
  - The addition of the Parking/Map area to the Parents page is nice and would also like room information

#### **5.2.3 Janet**

- Gave feedback on:
  - Dropdown menu needs to be clarified so users can go directly to the home page of the Parents, Medical Staff, and Children
  - Creating indications on the Childrens home page to show that the page goes somewhere
  - The red color for the Children's page is too bright
  - Was confused on why parking information was under Parent information

#### **5.2.4 Sung**

- Gave feedback on:
  - The website was easy to navigate
  - Drawing a picture on the Children's website would help direct children to certain pages
  - Was uninformed about what the survey was and didn't know they had to complete the whole survey or why
  - Survey needed a introduction of what it is and what it's there for
  - Doesn't think the search bar is necessary since the website is easy to navigate
  - Add 9-1-1 to all the pages at the bottom instead of having it just on the homepage
  - There needs to be enough information on the resource pages or else people won't need to go to this website
  - Making the video or music player play in the background while the parent takes the survey

## 6. Change Logs For Code

Date	Update
Sprint 5	
4/4/2021	<ul style="list-style-type: none"> <li>● Created the form for the survey</li> <li>● Adjusted css to improve layout               <ul style="list-style-type: none"> <li>○ Still needs to be adjusted</li> </ul> </li> </ul>
4/5/2021	<ul style="list-style-type: none"> <li>● Basic video player implementation</li> <li>● Added an event listener to update the time of which a change has been made to survey</li> <li>● Added in css/html to display the date of change</li> </ul>
4/7/2021	<ul style="list-style-type: none"> <li>● Create playlist feature for videos</li> <li>● Change that video will play on player without changing link</li> <li>● Adjusted css for video player</li> <li>● Responsive testing for navbar</li> </ul>
4/10/2021	<ul style="list-style-type: none"> <li>● Video player arrows</li> <li>● Video player thumbnails</li> <li>● Add section for title and description</li> <li>● Update css/image sources for playlist</li> </ul>
Sprint 6	
4/12/2021	<ul style="list-style-type: none"> <li>● Adjusted css for(incomplete)               <ul style="list-style-type: none"> <li>○ 1. parents</li> <li>○ 2. Video</li> </ul> </li> <li>● Begun adding in text to pages               <ul style="list-style-type: none"> <li>○ 1.parents</li> <li>○ 2.about</li> </ul> </li> </ul>
4/14/2021	<ul style="list-style-type: none"> <li>● Begun adding in text to pages               <ul style="list-style-type: none"> <li>○ medical staff</li> </ul> </li> <li>● Removed dropdown box from about link</li> <li>● Fixed the navigation bar text</li> <li>● Created medical staff page</li> </ul>
4/24/2021	<ul style="list-style-type: none"> <li>● Created drawing pad</li> <li>● Fix navigation bar responsive</li> </ul>

4/25/2021	<ul style="list-style-type: none"> <li>● Adjust content spacing</li> <li>● Fix arrow key display for video page</li> <li>● Create all html pages (mostly blank)</li> </ul>
Sprint 7	
4/28/2021	<ul style="list-style-type: none"> <li>● Embedded google maps of the hospital</li> <li>● Added more responsiveness to pages</li> </ul>
5/1/2021	<ul style="list-style-type: none"> <li>● Redesigned the playlist</li> <li>● Implemented new playlist onto video page</li> </ul>
5/5/2021	<ul style="list-style-type: none"> <li>● Implemented the nested navigation bar</li> </ul>
5/7/2021	<ul style="list-style-type: none"> <li>● Broke resource information into multiple pages</li> <li>● Fixed display problems and css for children's page</li> </ul>
5/8/2021	<ul style="list-style-type: none"> <li>● Implemented audio player</li> </ul>
Sprint 8	
5/10/2021	<ul style="list-style-type: none"> <li>● Implemented tools pages</li> <li>● Transitioned navigation bar to its own file</li> <li>● Adjusted each pages to implement navigation via jquery</li> </ul>
5/11/2021	<ul style="list-style-type: none"> <li>● Add expand + collapse feature to resources page</li> <li>● Merge the two resource page to one</li> </ul>
5/12/2021	<ul style="list-style-type: none"> <li>● Begun implementing new design for parents page</li> <li>● Added a pictures and descriptions to tools page</li> <li>● Implemented printing feature for the survey forms</li> </ul>
5/13/2021	<ul style="list-style-type: none"> <li>● Implemented saving feature for the canvas</li> </ul>
5/14/2021	<ul style="list-style-type: none"> <li>● Implemented navigation cards to homepage and parents page</li> <li>● Fixed the children's homepage</li> </ul>

5/15/2021	<ul style="list-style-type: none"> <li>• Added videos to assets</li> <li>• Implemented the video to the video player</li> <li>• Adjusted form to accept text input</li> <li>• Adjusted form responsive</li> <li>• Changed navigation bar to pure html</li> </ul>
5/16/2021	<ul style="list-style-type: none"> <li>• Implemented firebase database to save most information imputed by the user</li> </ul>
5/17/2021	<ul style="list-style-type: none"> <li>• Added more videos to assets</li> </ul>
5/18/2021	<ul style="list-style-type: none"> <li>• Implemented thumbnails and playlist feature for the children's video page</li> </ul>
5/19/2021	<ul style="list-style-type: none"> <li>• Firebase running properly after testing for inputs</li> </ul>
5/20/2021	<ul style="list-style-type: none"> <li>• Updated resources</li> </ul>
5/22/2021	<ul style="list-style-type: none"> <li>• Updated resources</li> <li>• Tool page updated</li> <li>• Updating register of Firebase</li> <li>• Merged Firebase portion to the main branch</li> </ul>
Sprint 9	
5/24/2021	<ul style="list-style-type: none"> <li>• All videos added to the site</li> <li>• Card display fixed</li> <li>• Collapsible sections for resources</li> <li>• Map page implemented</li> <li>• Database tentatively done</li> </ul>
5/25/2021	<ul style="list-style-type: none"> <li>• Merged Firebase portion to the main branch</li> </ul>
5/26/2021	<ul style="list-style-type: none"> <li>• Fixed the link connections</li> <li>• Integrated main branch with fixed links</li> </ul>
5/27/2021	<ul style="list-style-type: none"> <li>• Font changes</li> <li>• Fixed issue with responsive navbar</li> <li>• Responsive done for most pages</li> </ul>
5/28/2021	<ul style="list-style-type: none"> <li>• Font change for text</li> </ul>
5/29/2021	<ul style="list-style-type: none"> <li>• Accessibility checks on the html start</li> </ul>

5/30/2021	<ul style="list-style-type: none"><li>• Accessibility checks on html completed</li></ul>
5/31/2021	<ul style="list-style-type: none"><li>• Bug fix on the collapsible in resource pages</li><li>• Made links open in new tab</li></ul>