Improving Hospital Patients' Well-Being Through Technology

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Project Introduction

Requirements → Product requirements document

Design → Software architecture

Implementation → Software

Verification

Maintenance

- I'm in the beginning of developing an application to help hospital patients' overall well-being.

- Focusing on the requirements gathering and design stages in the software development cycle.

- Application has various aspects including:

  - Access to connections and support groups

  - Relaxation Exercises

  - Mindful Activities

  - Holistic Care

- This idea was introduced to me by my roommate, Henry.
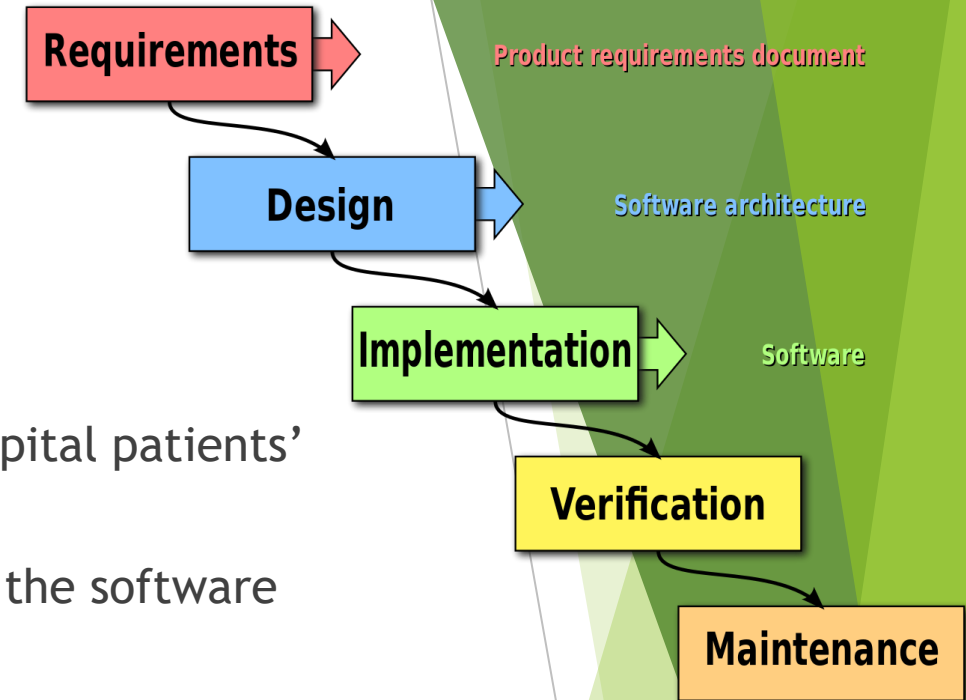
Requirements Gathering

▶ To start the application, I had to go through the requirements gathering process.

▶ Read about requirements gathering.

  ▶ Software Requirements, 3rd Edition

▶ Outlined the basics of requirements gathering, what should be expected, how to do it

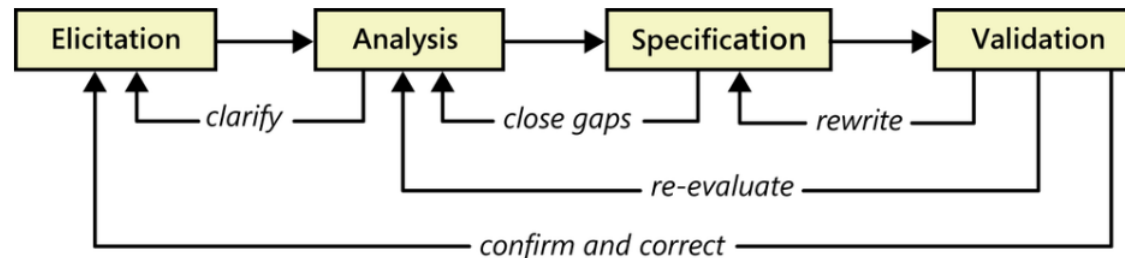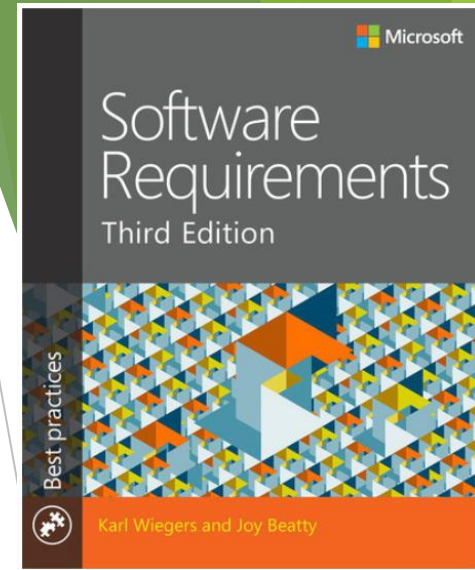▶ This is the framework for requirements engineering:

Figure 3-1. Requirements development is an iterative process.

Requirements Gathering (UI/UX)

- User Interface and User Experience are essential parts of the requirements gathering process.

- Read textbooks about UI/UX.

  - Articulating Design Decisions, 2nd Edition

- Outlined the use of user stories and use cases, appropriate ways to find user interface/ experience.

- Focused on three essential things and app needs to be successful.
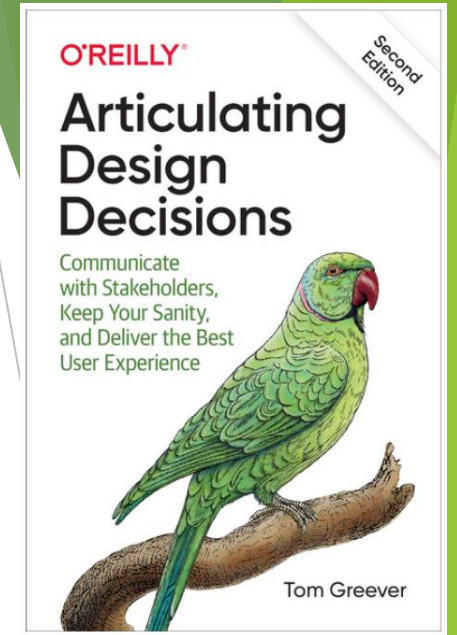
Requirements Gathering (UI/UX)

Three things every design needs to be successful:

- It solves a problem
  - Creating goals, externalizing thoughts and ideas.
- It's easy for users
  - User stories and use cases.
- It's supported by everyone
  - Support means you can move forward, agreement is necessary.

Requirements Gathering (Ursula Tierney)

- Had to learn more about mental health with hospital patients.

- Got into contact with Ursula Tierney and held a meeting with her.

- Insight on the application was gained from the meeting:

  - Nurses don't have much time to connect with their patients on a mental health level.

  - Helped produce a list of aspects the app could have.

  - Suggested the app could make use of an anxiety AI.

  - Patient advocates and case managers.

  - Simple descriptions and 5th/6th grade jargon.

Aspects

Created 4 general groups for aspects to fall under:

- Group 1: Connections and Support
  - Connect with case managers, patient advocates, access to various support groups.
- Group 2: Relaxation Exercises
  - Breathing exercises, sleeping exercises, meditation practices, soft music player.
- Group 3: Mindfulness Activities
  - Creative expression activities, mindfulness exercises, VR experiences.
- Group 4: Holistic Care
  - Physical, mental, emotional, and spiritual care.
- Access to journaling and notetaking as well.

Externalizing Ideas

▶ Wrote ideas out and grouped them in appropriate places.

▶ Sketched out rough ideas of what screens of the app could look like before going into design.
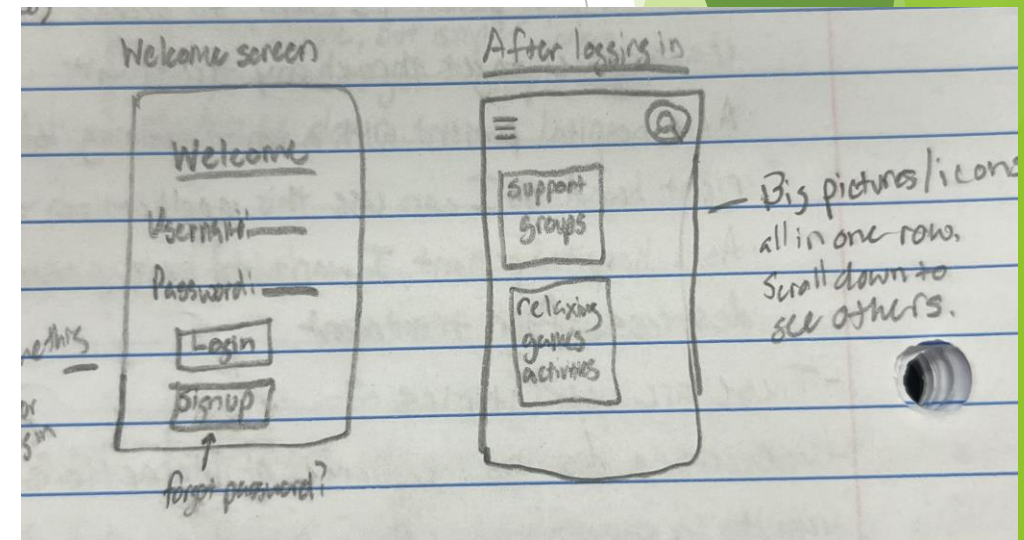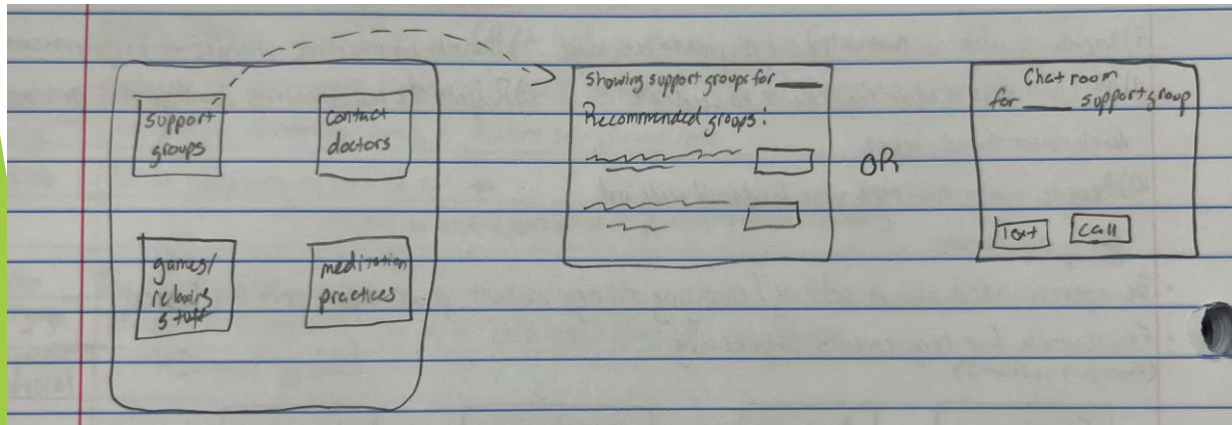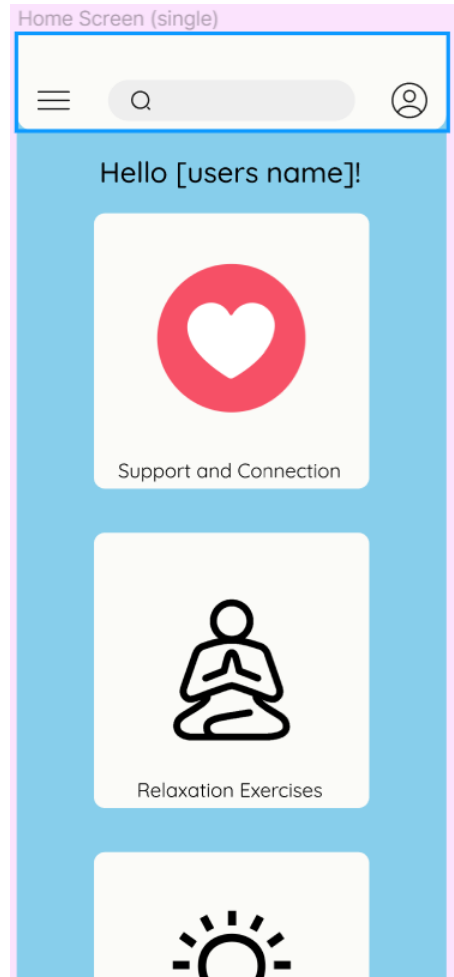
Wireframing and Figma

- Wireframing is an essential process in the design stage.

- Used Figma to do wireframing.

- Figma is a web-based design tool that allows users to create and test designs.

  - Websites and mobile apps.

  - Great for wireframing.

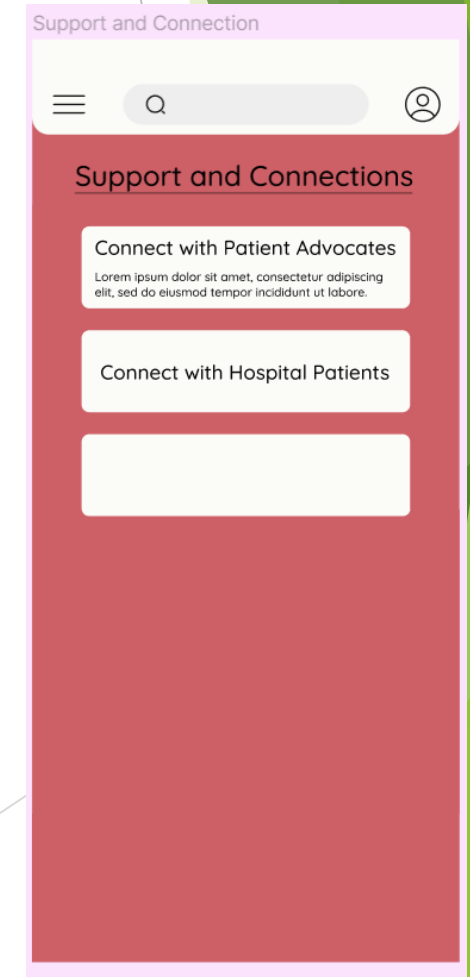- Offered for the design on many different devices.
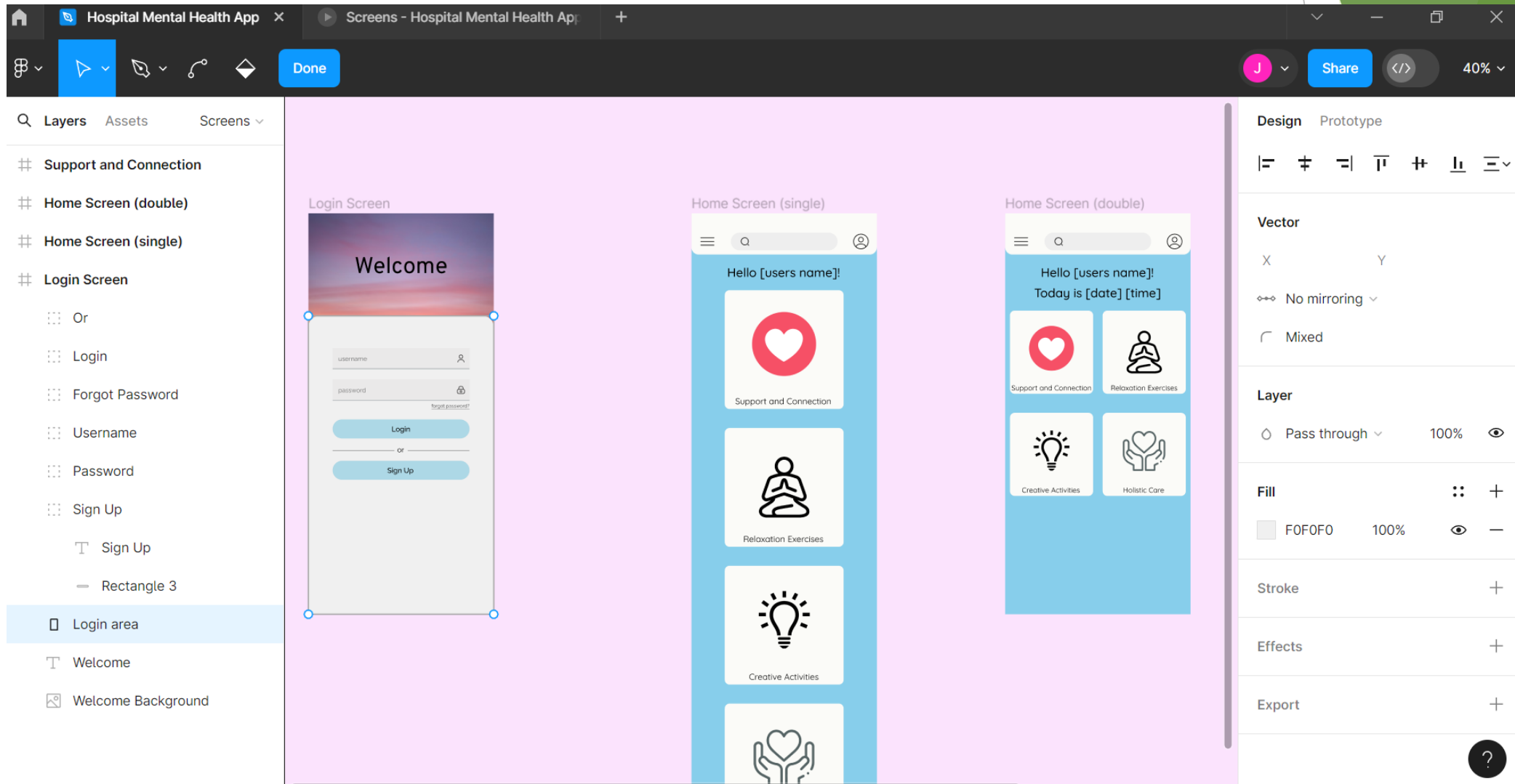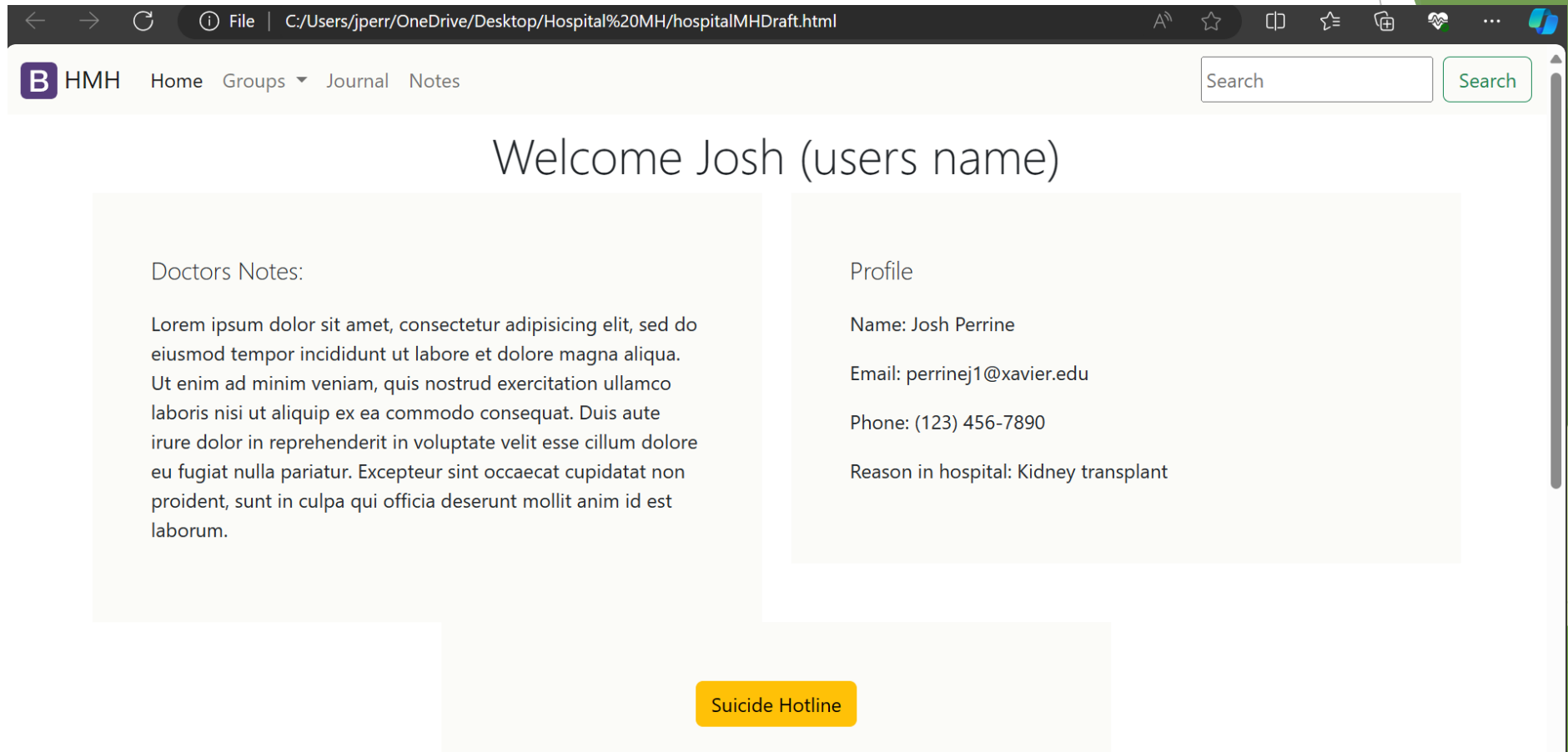
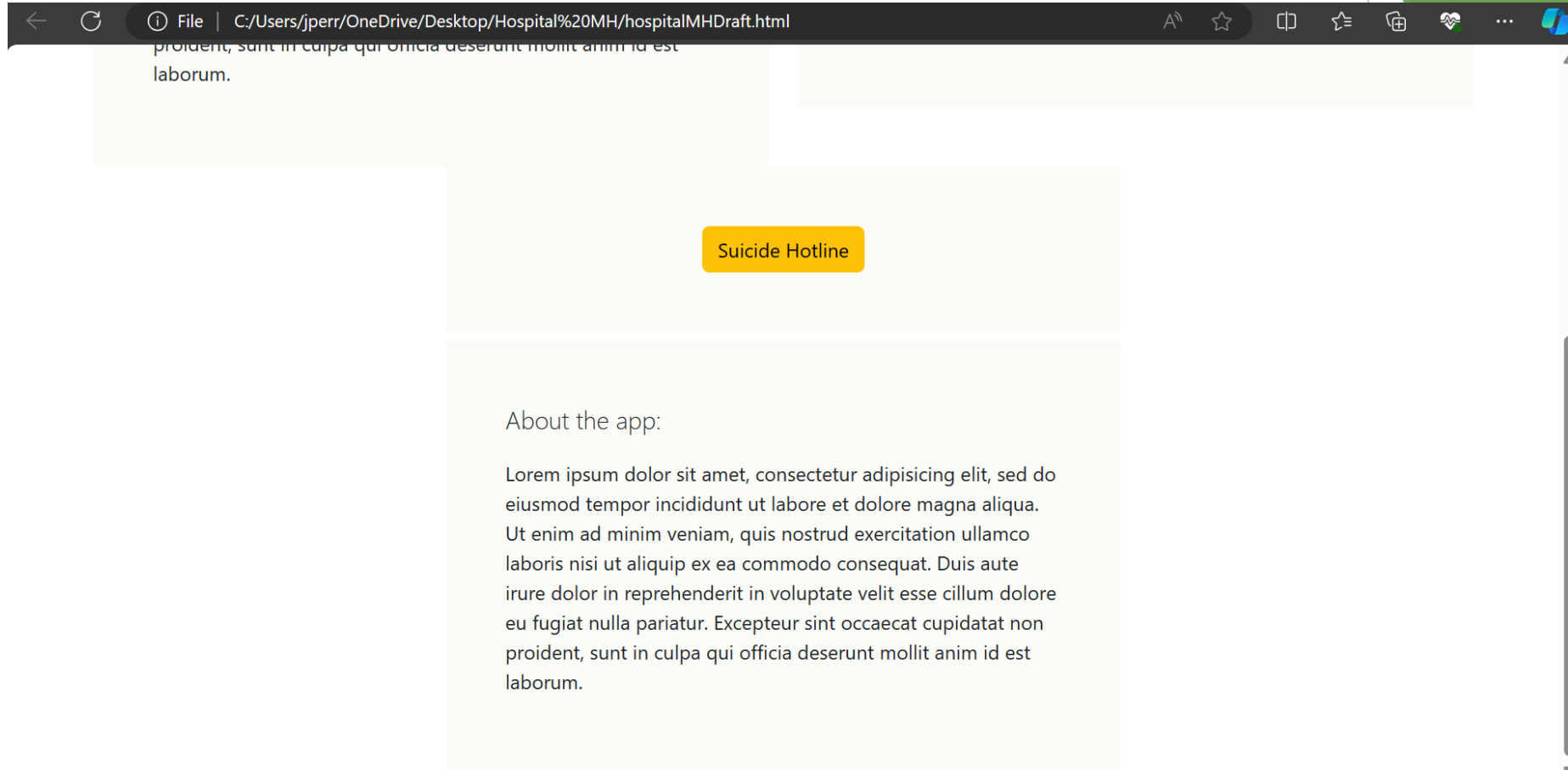# Wireframing and Figma
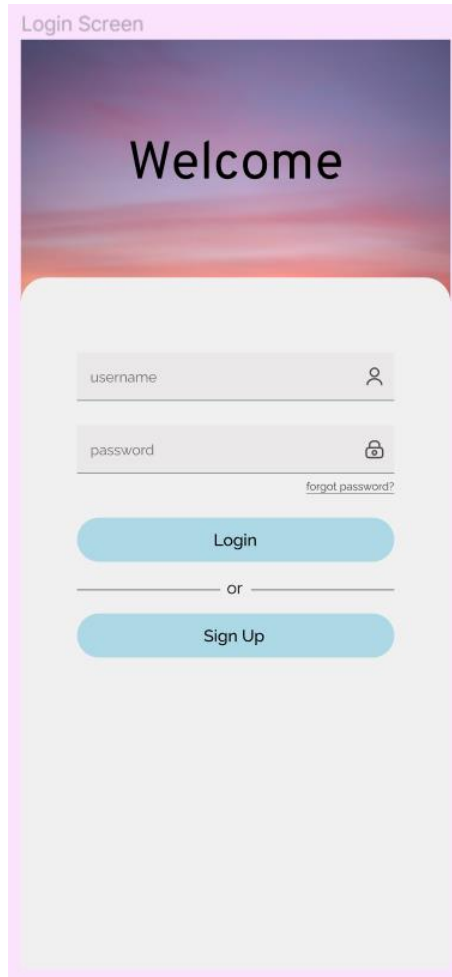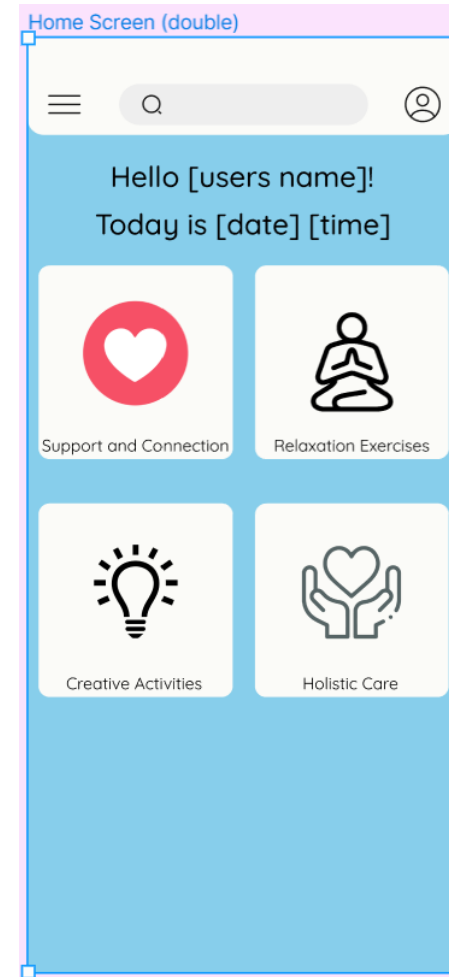
Wireframing and Figma

Creating the Website

- Used bootstrap in creating the website skeleton.
  - Navbar
  - Grid system and containers
- With bootstrap, the layout changes in correlation to the user's resolution.
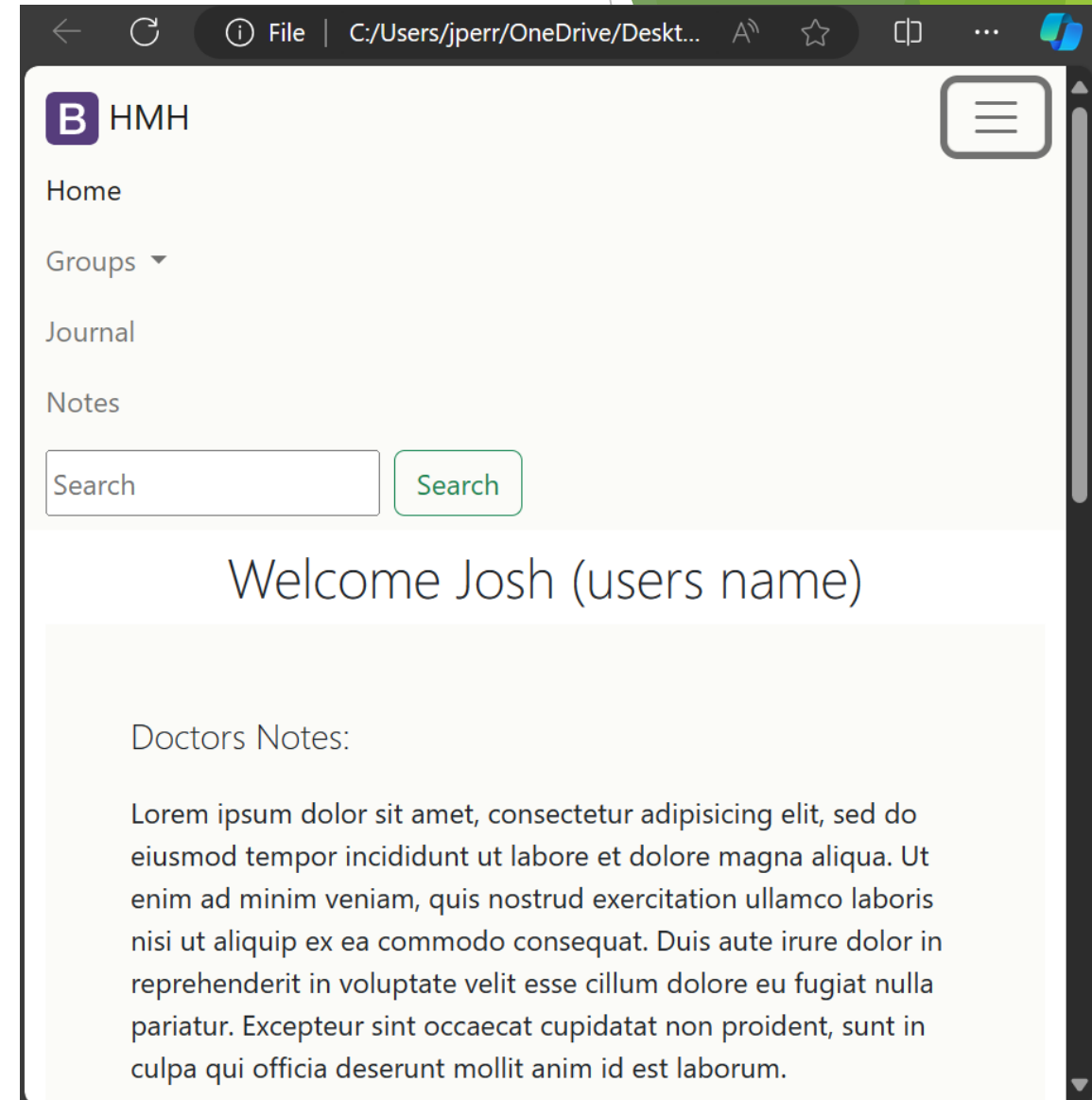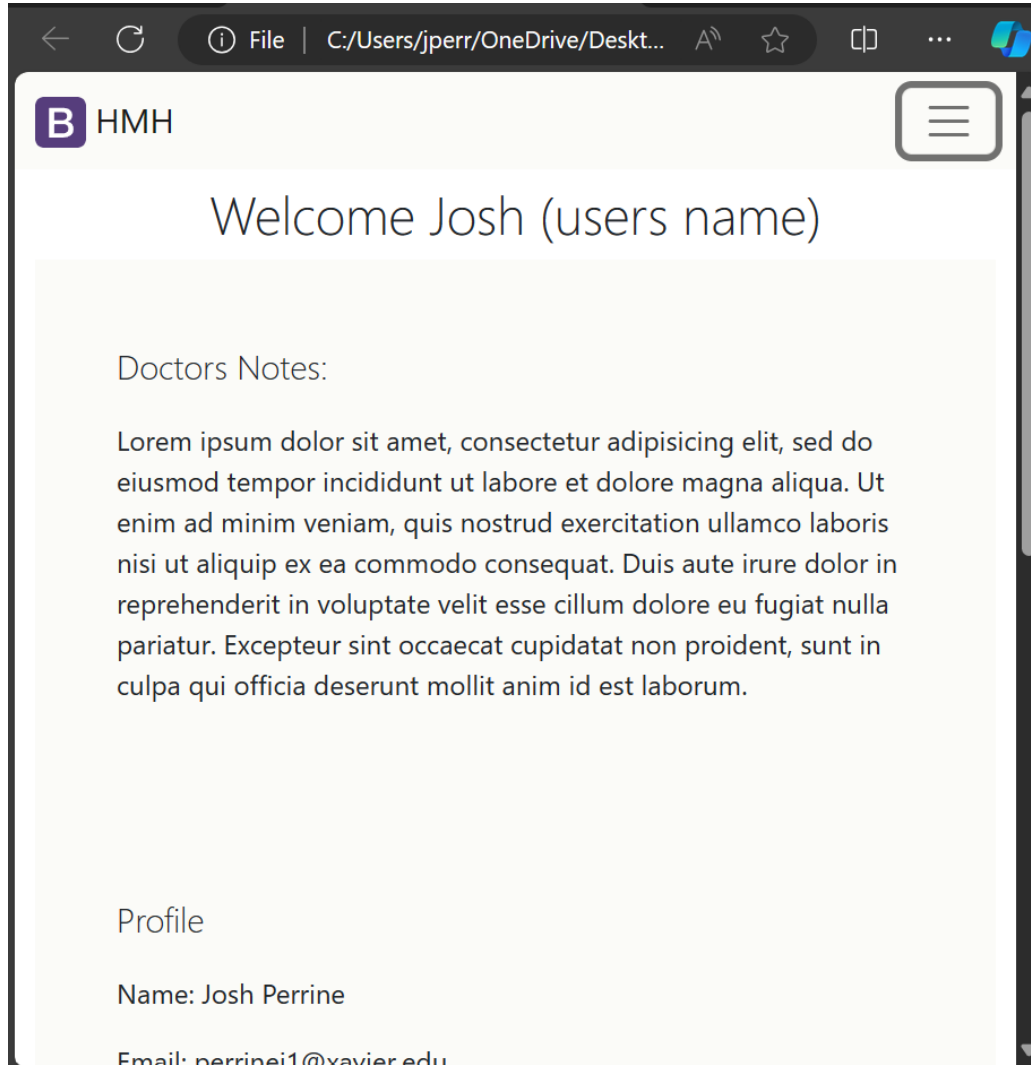 - A phone layout appears more condensed than a pc layout.

The Website

The Website

The Website

Project Conclusion

- After graduation, I plan on continuing the development of the application.

- In a perfect world, I would hope that this app would help hospitals and hospital patients around the globe.

- I have learned/ gained:
  - An understanding in the requirements gathering stage of the software development process.
  - UI/UX modeling and how it impacts the creation of an application.
  - An idea of what goes into the first two stages of the software development process.
  - Figma and Bootstrap.
  - An understanding that web design could be a potential career path.

Questions?