

PROJECT I: WEB-BASED SERVICES
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ATHLETICARE

PROJECT I: WEB-BASED SERVICES

INTRODUCTION

We are building a system which will connect the athletes to the doctors.

Here we want to implement Google O-Auth for data security. The athletes will be able enter the required injury which they are suffering currently, post which the system will show the list of expert doctors in that domain along with their availability and ratings. The athletes can schedule their appointment with the required doctor after looking at their rating and availability date. The athletes will be able to rate the doctor after their session depending on various parameters.

The current state-of-art is the *UHS* online appointment scheduling system. Our initial impression of it is that it is not user-friendly. One cannot see doctor's information, and has to go through a badly-designed survey to see the appointment slots. We want to build a website that is more user-friendly.

Currently we are starting off this project by building a web-based platform for them to connect but in future we will definitely build a cross platform app which will render both on Android and IoS devices.

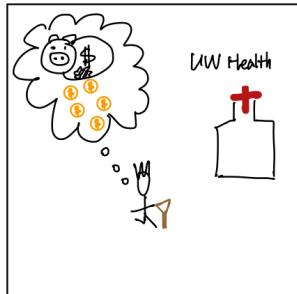
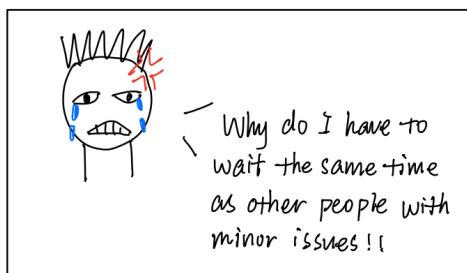
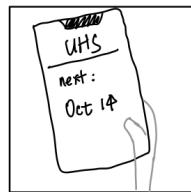
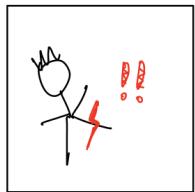
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UNDERSTANDING

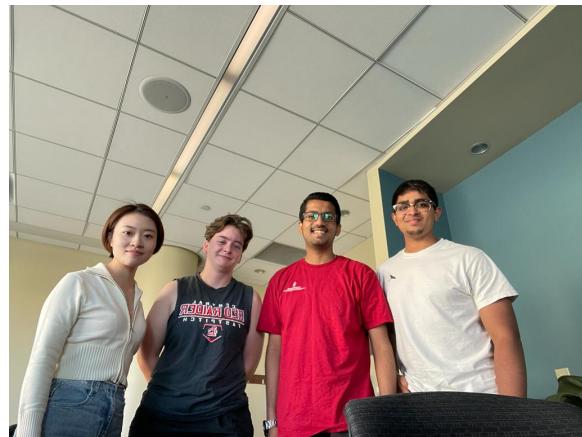
We did CI with 3 athletes in UW Madison.

According to our initial understanding, *doctor and appointments choices* are crucial in our design space. That is why we focused on doctor descriptions and ratings.

The problems we identified from Cis are different from our initial understanding. *Immediate availability is the most crucial* for athletes. If one doctor is immediately available, they most likely would go with it. In contrast, rating is not that important. However, *UHS don't have an emergent service, and don't even prioritize different patients*. They have to wait the same amount of time as others with minor problems. This finding is reflected in the following story board:



Photos of interviews: (the other one is on zoom)

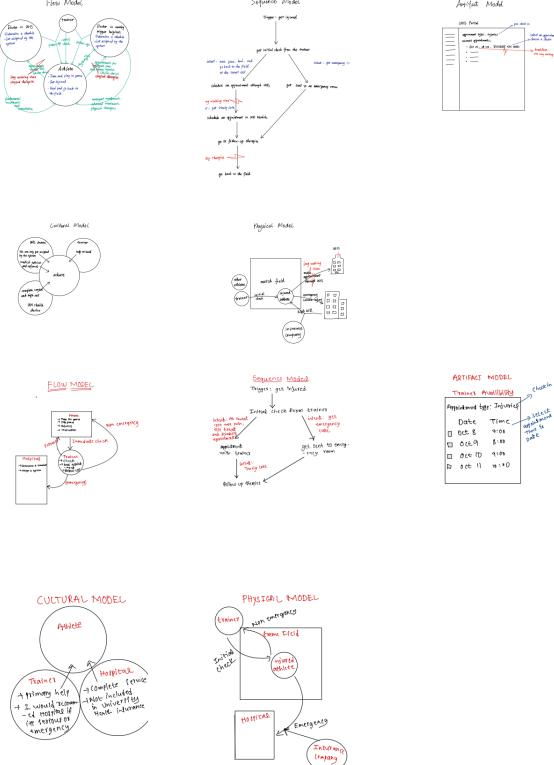


PROJECT I: WEB-BASED SERVICES UNDERSTANDING

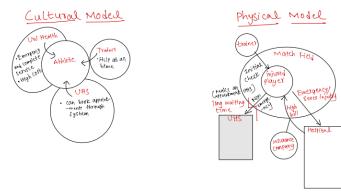
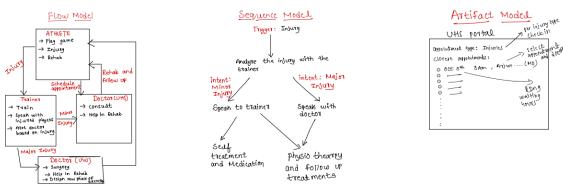
Affinity Diagrams:

Alexis	
<input type="checkbox"/> Table	<input type="checkbox"/> Gallery
Filter Sort Search	
Doctor preferences	
<p>Some doctor</p> <p><input type="checkbox"/> Do you prefer to see the same doctor, or would you like different doctors for different situations?</p> <p>Checklist and rating</p> <p>5</p> <p>I have no idea as I just went with what my insurance said.</p>	
<p><input type="checkbox"/> How do you choose doctors? What factors are the most important? Do you prefer to see doctors based on immediate availability? Or would you prefer based on ranking?</p> <p>Checklist and rating</p> <p>6</p> <p>How do you choose doctors? What factors are the most important? Do you prefer to see doctors based on immediate availability? Or would you prefer based on ranking?</p>	
Next	
Facts about appointments	
<p>Through my phone. I can make an appointment by email or phone.</p> <p><input type="checkbox"/> Do you plan and make medical primary care appointments?</p> <p>Checklist</p> <p>9</p> <p>I make my own appointments. It's good to know I'm not tied down to one doctor. I feel much more comfortable.</p>	
<p><input type="checkbox"/> Is each of the following important to you for an appointment: convenience and how quickly it would be handled?</p> <p>Show results Input rating</p> <p>2</p> <p>Is each of the following important to you for an appointment: convenience and how quickly it would be handled?</p>	
<p><input type="checkbox"/> How many visits would you like to make during your rehab?</p> <p>Show results</p> <p>7</p> <p>How many visits would you like to make during your rehab?</p>	
<p><input type="checkbox"/> Who decides the workdays and vacation days based on the injury?</p> <p>Show results</p> <p>4</p> <p>Who decides the workdays and vacation days based on the injury?</p>	
<p><input type="checkbox"/> Does the trainer play any role in booking the next appointment?</p> <p>Show results</p> <p>0</p> <p>Does the trainer play any role in booking the next appointment?</p>	
Next	
Facts about injuries	
<p>Backaches, knee pain, shoulder pain, forearm pain, hand cramps.</p> <p><input type="checkbox"/> What are the common injuries you have had?</p> <p>Show results</p> <p>1</p> <p>Everyday</p>	
<p><input type="checkbox"/> How frequently do players get injured?</p> <p>Show results</p> <p>10</p> <p>How frequently do players get injured?</p>	
Next	
Partial rehabilitation	
<p>We can't predict the progress the improvements in my rehab will be. I am not sure if I will ever be able to return to my sport.</p> <p><input type="checkbox"/> If you know your teammates to improve your rehab, would you be willing to share your appointment with them?</p> <p>Show results</p> <p>12</p> <p>We can't predict the progress the improvements in my rehab will be. I am not sure if I will ever be able to return to my sport.</p>	
<p><input type="checkbox"/> My trainer or have assigned me to the coach or trainer for the first time after my injury. I am not sure if I will ever be able to return to my sport.</p> <p>Show results</p> <p>10</p> <p>My trainer or have assigned me to the coach or trainer for the first time after my injury. I am not sure if I will ever be able to return to my sport.</p>	
<p><input type="checkbox"/> Do you have to reach out to your doctor for injury treatment and support?</p> <p>Show results</p> <p>7</p> <p>Do you have to reach out to your doctor for injury treatment and support?</p>	
<p><input type="checkbox"/> How long does the time of your next match affect your perception of yourself?</p> <p>Show results</p> <p>9</p> <p>How long does the time of your next match affect your perception of yourself?</p>	
Next	
Good services	
<p>You can go with it. Need to fix it.</p> <p><input type="checkbox"/> How does the school accommodate people with physical disabilities? Do you feel uncomfortable?</p> <p>Show results</p> <p>4</p> <p>Less than 1 hour.</p>	
<p><input type="checkbox"/> How long is the waiting period to receive an appointment?</p> <p>Emergency services available</p> <p>12</p> <p>No.</p>	
<p><input type="checkbox"/> Any changes or new symptoms you want to be included in your treatment plan are missing in the current service for your health?</p> <p>Show results</p> <p>6</p> <p>No.</p>	
Next	
<p>Add a group</p>	

Work Models for 3 Participants:



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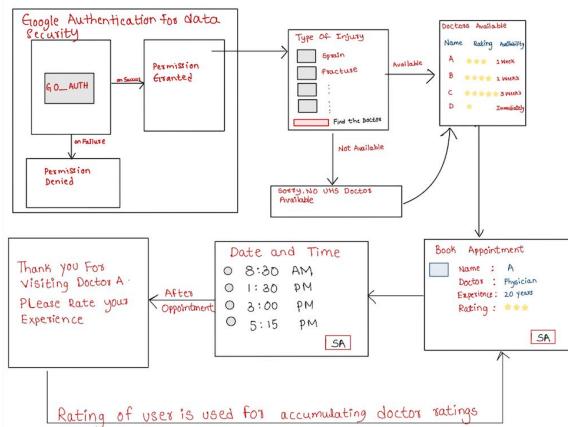
PROJECT I: WEB-BASED SERVICES

IDEATION

Our main design idea is to build an appointment scheduling platform that is more straightforward and user-friendly than UHS.

The main design feature is **a prioritizing feature**. Patients in urgent needs can indicate their needs and see most recent appointments.

Before CIs, we focused on doctors' ratings and descriptions, so that athletes can choose doctors they want.



After CIs, we realized that prioritizing is the most important. Originally, we want to ask every patient to fill out **a survey** about their conditions:

- The pain they are experiencing
- The type of injury
- The date of their next game

We want to prioritize accordingly.

However, this design might have a *privacy problem*. We then decide to give them a **checkbox** to indicate whether or not they are in urgent needs.

I am in urgent need!!

In order to prevent possible abuses of this feature, we are going to remind the

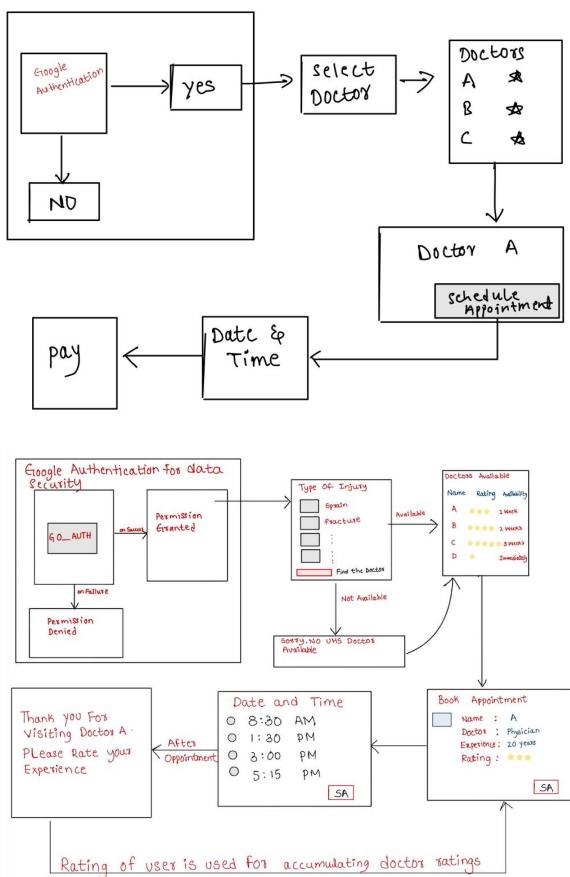
limitedness of medical resources and encourage them to lease them to the people in need if they can wait a bit.

I am in urgent need!!

** Do not check the box unless you are in need for immediate medical assistance. Leave the resources to the ones in real need.

PROJECT I: WEB-BASED SERVICES PROTOTYPING

Lo-fi prototypes:

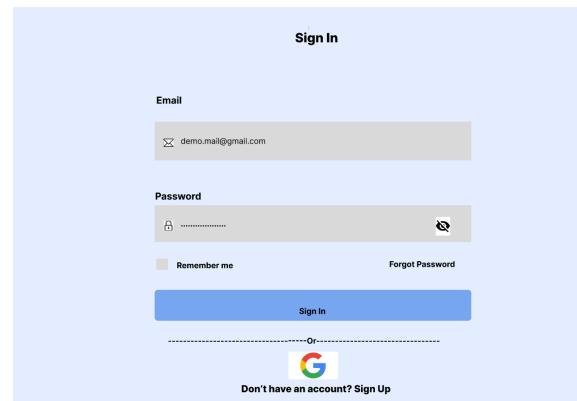


In our lo-fi prototypes before Cls, we implemented Google O-Auth for data security. The athletes will be able enter the required injury which they are suffering currently, post which the system will show the list of expert doctors in that domain along with their availability and ratings. The athletes can schedule their appointment with the required doctor after looking at their rating and availability date. The athletes will be able to rate the doctor after their session depending on various parameters.

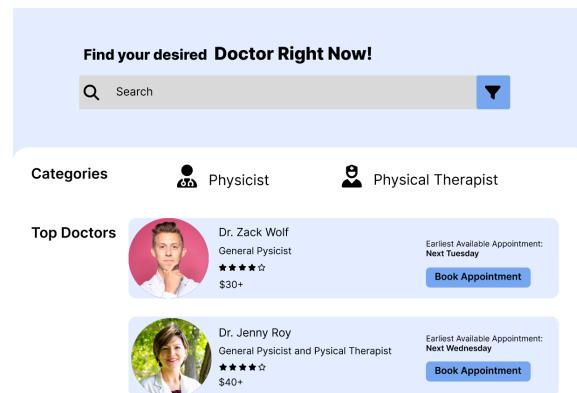
Hi-fi prototype:

<https://www.figma.com/proto/T7eD6LOOdOHJSrB4zDOC6E/Athleticare---Medical-Appointment-Booking-System-for->

[Athletes?node-id=2%3A20&scaling=min-zoom&page-id=0%3A1&starting-point-node-id=2%3A20&show-proto-sidebar=1](#)



Google O-Auth for data security



Doctors

PROJECT I: WEB-BASED SERVICES PROTOTYPING

▼Filter

Categories

- Physicist
- Physical Therapist

Urgency

- I am in urgent need! 

** Do not check the box unless you are in need for immediate medical assistance. Leave the resources to the ones in real need.

Done

Prioritizing feature: indicate whether they are in urgent need

Payment Method

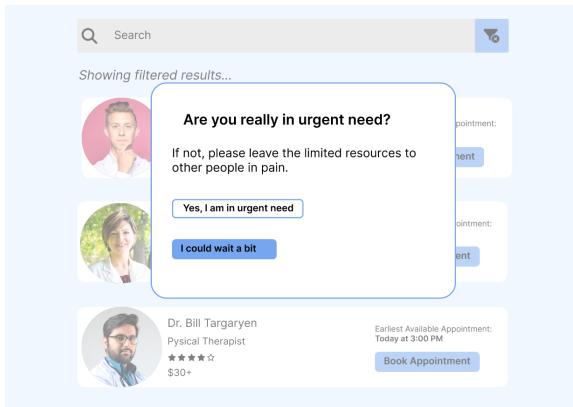
PayPal 

Debit/Credit Card 

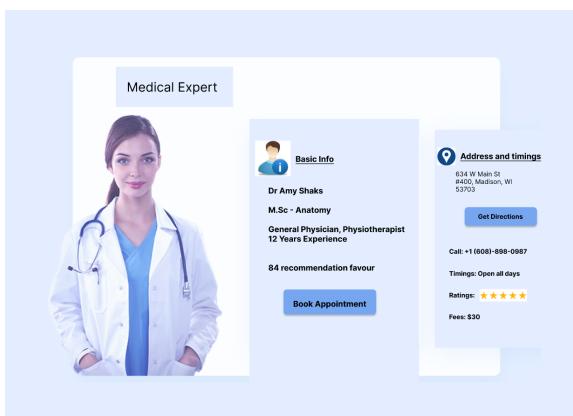
Card Number
Expiry MM/YY **CVV** 123

Pay

Paypal or credit card to pay



Prevent abuses of the prioritizing feature



Make appointment and get directions

PROJECT I: WEB-BASED SERVICES**EVALUATION****Methods: Within-Subjects Design; Talk-Aloud Protocol; Task-Based Testing**

Each of our participants are asked to work through the same task path. We conduct 3 individual 15-min usability tests.

- We first use 3–5 min to explain our design and what we are interested to find out in the usability testing.
- We then give him or her a scenario and the tasks.
- Participants are asked to talk aloud during the whole process.

Participants conduct the testing with their own computer in their normal life/work settings.

2–3 Tasks For 3 Participants:

You just broke your knee are in an emergent need.

1. Choose a doctor you want
2. Book an appointment ASAP

Results and Findings:

Audio and video recordings of usability testing: [Stage 3](#).

All three of our participants fail to find the nearest appointment.

The majority of breakpoints, errors, and confusions our participants encountered are due to the *limitation of figma*. They are used to dynamic and interactive website. Figma's lack in this respect is a constant confusion.

However, we did observe some data which would lead to improvements in our prototype:

- Breakpoints when the participant
 - want to filter doctor types
 - didn't see the zip code at payment
 - didn't see a sorting feature

- can't search and didn't see a tag for specific injuries
- don't see WisCard payment type
- don't see confirmation email sent
- Confusion about
 - the icon beside the urgent need check box
 - typos in Physicist & Physical Therapist
- Failure
 - to find the nearest appointment before he or she didn't see the existence of the filter.
 - to find the nearest appointment before he or she didn't see the existence of the checkbox to indicate urgent need.

Though some of these data points to an improvement in design, such improvement cannot be done in figma. For example, sorting feature and search and input features. Because figma cannot be dynamic, things like adding respective descriptions of doctors are also impractical. We are going to make the feasible improvements in figma.

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FINAL PROTOTYPE

Final Prototype:

<https://www.figma.com/proto/uBAWkvx5VM3qWMhzHkahIT/Athleticare-Final-Solution?node-id=0%3A1&scaling=min-zoom&starting-point-node-id=1%3A37&showproto-sidebar=1>

Changes and reasons:

Add more prompts to let users know that we provide accommodations for urgent needs.

Add doctor specialty to help with choosing

Disable features that cannot be well supported by figma, so that they will not

confuse users when they test the prototype.
Ex1. categories deleted

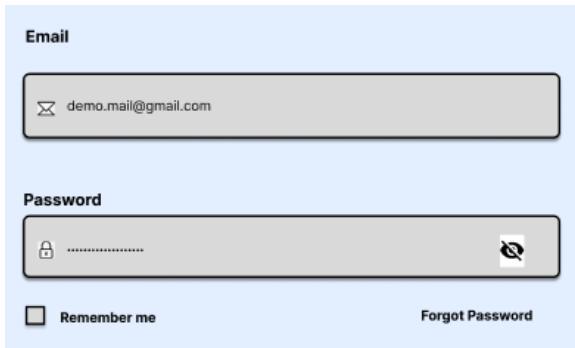
Ex2. paypal as the payment method

Add a prompt that confirmation email is sent, so that the patient can have a record

Add outlines to refine the looking. Ex.

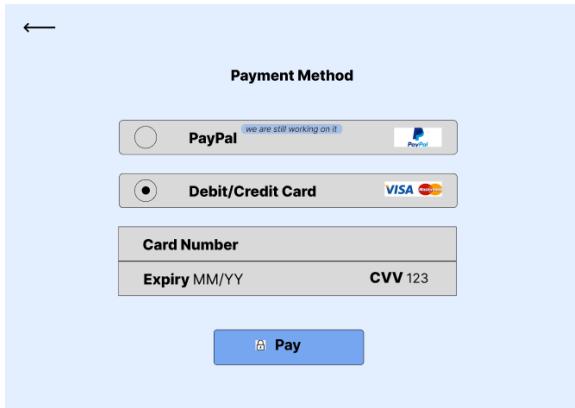
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FINAL PROTOTYPE



A screenshot of a login form. It has a light blue header with the word "Email". Below it is a text input field containing "demo.mail@gmail.com". Underneath is a password input field with a lock icon and a visibility toggle icon. To the left of the password field is a "Remember me" checkbox and to the right is a "Forgot Password" link.

Added backward buttons in main breakpoints to simplify changes. Ex. On the payment page so that if the user wants to change the appointment timing, he can go back to modify the date and time frame.



A screenshot of a payment method selection form. At the top is a back arrow. Below it is a heading "Payment Method". There are two radio button options: "PayPal" (disabled, with a note "we are still working on it") and "Debit/Credit Card" (selected). Below these are fields for "Card Number", "Expiry MM/YY" (MM/YY), and "CVV 123". At the bottom is a blue "Pay" button.