



Jhovanny Uribe <jhuribe@ucsc.edu>

physical therapy contact for senior design project

9 messages

Dianne Hendricks <dghendri@ucsc.edu>

Thu, Jan 23, 2025 at 4:22 PM

To: Adam Lustig <alustig@ucsc.edu>, Jhovanny Uribe <jhuribe@ucsc.edu>

Hi Adam! I hope that 2025 is off to a good start.

I just met Jhovanny (cc'd here) who is a CSE senior working on a design project aimed to for use by physical therapists to treat patients with hand paralysis. Would you be open to answering some questions or providing contact info for a physical therapist you know?

Thank you!

Best,

Dianne

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Dianne Hendricks, PhD
Associate Teaching Professor
Undergraduate Program Director
Biomolecular Engineering Department
Baskin School of Engineering
University of California, Santa Cruz
Mail Stop SOE2
1156 High Street
Santa Cruz, CA 95064
831-459-2061

Adam Lustig <alustig@ucsc.edu>

Thu, Jan 23, 2025 at 6:27 PM

To: Dianne Hendricks <dghendri@ucsc.edu>

Cc: Jhovanny Uribe <jhuribe@ucsc.edu>

Hi!

Absolutely!

Jhovanny, what are some of the questions? Maybe just to provide the context and depth of what you are looking for.... I doubt I can personally answer them, but that would help me know who to reach out to :)

Best,
Adam

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Dianne Hendricks <dghendri@ucsc.edu>

Fri, Jan 24, 2025 at 12:39 PM

To: Adam Lustig <alustig@ucsc.edu>

Cc: Jhovanny Uribe <jhuribe@ucsc.edu>

Thanks so much, Adam!

Dianne Hendricks, PhD
Associate Teaching Professor
Undergraduate Program Director
Biomolecular Engineering Department
Baskin School of Engineering
University of California, Santa Cruz

Mail Stop SOE2
1156 High Street
Santa Cruz, CA 95064
831-459-2061

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Jhovanny Uribe <jhuribe@ucsc.edu>
To: Adam Lustig <alustig@ucsc.edu>

Wed, Feb 5, 2025 at 8:00 AM

Hi Adam!

I greatly appreciate your time and consideration on this project! It's great to get in touch with you! :)

My team is currently developing a solution to aid patients who undergo physical therapy to rehabilitate hand injuries. Here is our **project statement**:

People with hand disabilities and injuries face challenges in attending physical therapy sessions multiple times a week during their period of recovery due to the demands of their lives. This will slow or reverse recovery progress if sessions are insufficient or missed. We aim to address this by providing a device that allows clients to perform their exercises at home, reducing in-person visits. Our goal is to make rehabilitation more convenient, accessible, and efficient, enabling clients to have more control over their recovery.

Here are some of the **questions** my team and I had when designing this project for your consideration:

1. What therapeutic movements are most important for hand rehabilitation?
2. What key metrics are physical therapists looking for during hand rehabilitation sessions?
3. What are common challenges patients can face when using medical assistive devices?
4. How can we integrate sensors into the glove to measure hand movement, grip strength, or finger positioning?

We greatly appreciate your support on this process! I want to personally apologize for the delay in response due to unforeseen circumstances but I would love to get in touch when you are available! Thank you so much and have a great rest of your day!

On Thu, Jan 23, 2025 at 6:27 PM Adam Lustig <alustig@ucsc.edu> wrote:

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Jhovanny Uribe
University of California, Santa Cruz
Class of 2024

Jhovanny Uribe <jhuribe@ucsc.edu>
To: Adam Lustig <alustig@ucsc.edu>

Wed, Feb 12, 2025 at 8:00 AM

Hi Adam,

I hope you're doing well! I am following up on this topic. I would greatly appreciate any feedback or direction you can provide. Thank you very much for your time and consideration. Have a lovely day!

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Adam Lustig <alustig@ucsc.edu>
To: Jhovanny Uribe <jhuribe@ucsc.edu>

Mon, Feb 17, 2025 at 5:55 PM

A note: Hand rehabilitation is often done by Occupational Therapists who are Certified Hand Therapists, and not often physical therapists.

1. The most important therapeutic movements for hand rehabilitation are generally functional movements and active and passive range of motion.

2. The key metrics Occupational & Physical Therapists look for in sessions are goniometry, dynamometry, pinch strength, sensation utilizing the Semmes Weinstein, length of time for things like coordination to return, & severity of swelling measured in centimeters.
3. The most common challenges patients can face when using medical assistive devices are that they physically lose the device, lack of compliance, high cost and lack of insurance coverage, the weight of the device if it's too heavy, tech illiteracy, lack of comfortability, inability to safely wear it and operate without issue, and the logistics of the glove in regards to safety.
4. This is more of an engineering question, an OT or PT can't really help with the design of medical equipment.

Questions were answered by Danielle O'Donnell OTR/L, a Hand Therapist.

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Jhovanny Uribe <jhuribe@ucsc.edu>

Tue, Feb 18, 2025 at 10:56 AM

To: Ethan Cesario <ecesario@ucsc.edu>, Andy Vo <anngvo@ucsc.edu>, Caden Roberts <cawrober@ucsc.edu>, Akash Srinivasan <asrini13@ucsc.edu>, Aliyaa Islam <alnislam@ucsc.edu>

Jhovanny Uribe
University of California, Santa Cruz
Class of 2024

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Jhovanny Uribe <jhuribe@ucsc.edu>

Tue, Feb 18, 2025 at 4:28 PM

To: Adam Lustig <alustig@ucsc.edu>

Wow, this is very insightful! Thank you very much, Adam and Danielle! My team and I are very appreciative of your time and feedback! This will be very useful during our development and research. We will consider these points and we hope to be able to reach back out soon if we might need any further assistance. Thank you again and I hope that you have a great week!

Best,
Jhovanny

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Adam Lustig <alustig@ucsc.edu>

Tue, Feb 18, 2025 at 8:48 PM

To: Jhovanny Uribe <jhuribe@ucsc.edu>

No problem - best of luck on your project!

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