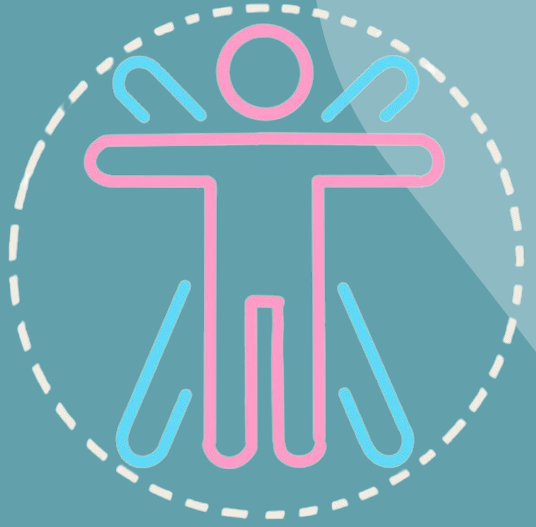
Diversified Anatomy and Physiology Lab Resource App



Our Team

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Architect & Front-End Developer

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Team Lead & Front-End Developer

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Front/Back-End Developer

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Release Manager & Back-End Developer

Clients

Elise Donovan

Adonna Rometo

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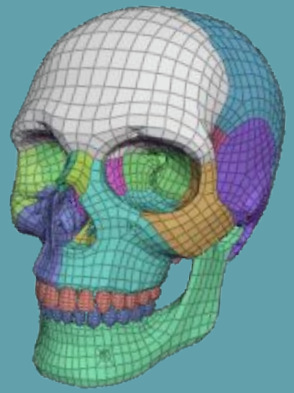
Problem

The BIO201 curriculum is currently facing a lack of diversified anatomical models, which leads to challenges in identifying skin pathologies and a sense of underrepresentation.



FIRST

Client lectures to students using diagrams.

NEXT

Client has students practice material by analyzing diagrams.

LAST

Client tests students via diagram labeling questions.

Solution Overview

Solution:

- A diversified approach to anatomical models as an interactive web application.
- Students can use to tailor their models to their learning.
- Enhance diversity and understanding of the material.

Key Features:

- A 3D customizable anatomical model.
- Adjustable settings for biological gender, skin tone, and body size.
- Accurate content specific to BIO 201.
- Real-time updates.

FIRST

Client lectures to students using diagrams **they can create on the web application.**

NEXT

Client has students practice material by **using the application and exploring models of different biological gender, skin tone, body size.**

LAST

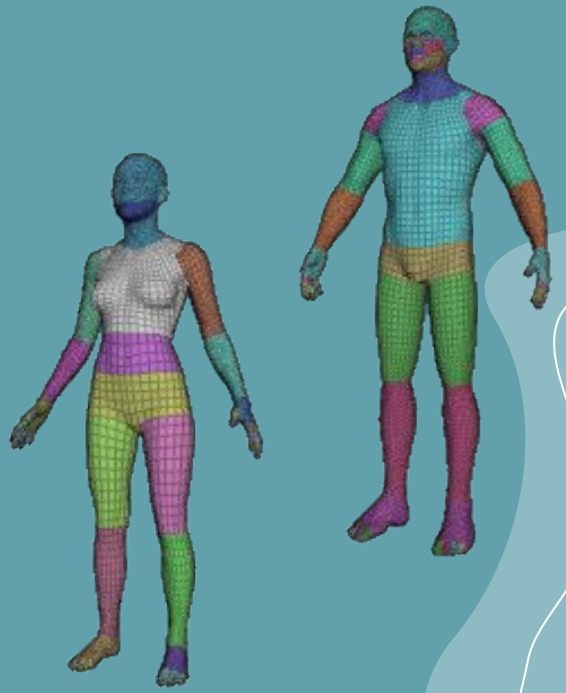
Client tests students via diagram labeling questions **in order to better prepared to analyze diverse diagrams.**

Requirements Acquisition

- Collaboration at weekly meetings with our clients.
- We received feedback on initial prototypes.

Domain Requirements:

- User-friendly interface,
- Student centric exploration,
- Dynamic and interactive model customization,
- Accuracy and alignment with BIO201 curriculum.



Key Requirements

1
Unit Menu

This allow students to access the desired unit of curriculum to study with the model.

2
Content Display and Interaction

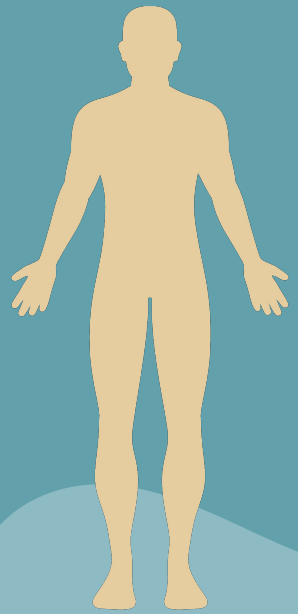
This includes the 3D model rendering, model adjustment, model interactivity, and educational content.

3
Exporting Models

Exporting the model will allow users to study models without having internet access.

4
User Guide

Users can reference the provided guide to resolve questions they may have about the application.



Performance and Environmental Requirements

Content & Model Accuracy

Usability

How can we limit environmental constraints?

- Open source technologies
- Well-documented code base
- Extensible application

Risks and Feasibility

Server Outage:

- Likelihood: Low
- Severity: High
- Mitigation: Exporting Models will allow students to study without internet or access to the application.

Incorrect Data Displayed To The User:

- Likelihood: Low - Medium
- Severity: Medium - High
- Mitigation: Database Normalization to 2nd Normal Form to eradicate anomalies.

Incorrect Data Stored:

- Likelihood: Low
- Severity: High
- Mitigation: Tests will be created to ensure correct relation between data.

Login Issues/Bugs:

- Likelihood: Low
- Severity: High
- Mitigation: Automated tests will be created to ensure the course code appropriately brings the user to the home page.

Spring 2024 Schedule

- Unit Selection Menu
- Content Display & Interaction
- Export/Save Models
- Data Storage & Management
- User Guide

Conclusion

- Begin development of a Web Application that diversifies BIO 201 Curriculum.
- Improve representation of the diverse population in academia.
- Key Requirements / Features
  - Unit Menu
  - Content Display and Interaction
  - Export Models
  - User Guide
- Performance and Environmental Requirements
  - Content & Model Accuracy
  - Expandability
- Mitigate Risks
  - Server Outage
  - Data Storage and Retrieval
  - Login Issues