

Cover Page

COMPSCI 345 / SOFTENG 350 Human-Computer Interaction

Assignment Three: Realizing a Design

Student Name: John Pennell

Student ID: 834035412

Student UPI: jpen854

Note: To ensure a fair playing field for all students in the class the University of Auckland will not tolerate cheating or assisting others to cheat, and views cheating in coursework as a serious academic offence.

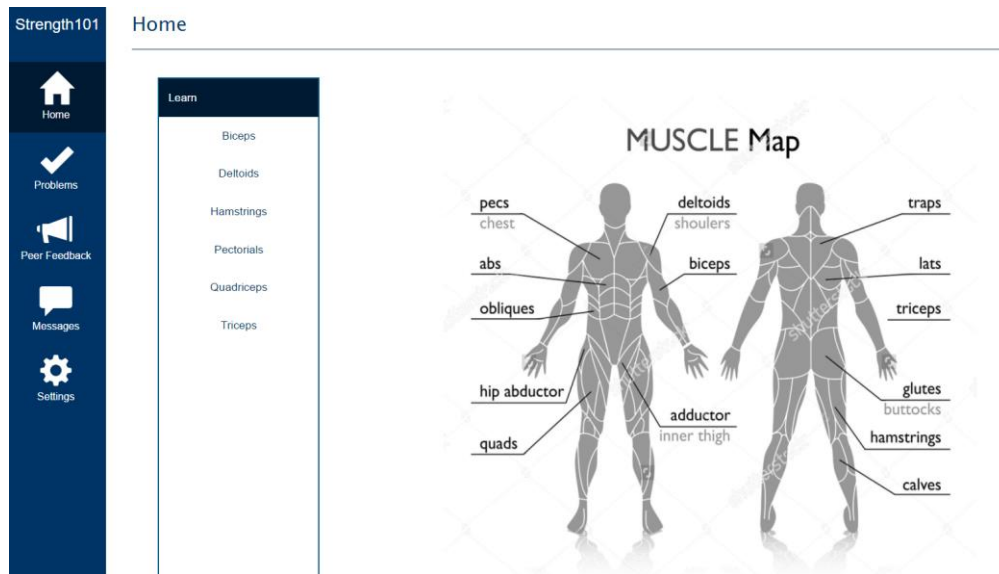
Student Declaration:

- I declare that this work is my own work and reflects my own learning.
- I declare that where work from other sources (including sources on the world-wide web) has been used, it has been properly acknowledged and referenced.
- I understand that my assessed work may be reviewed against electronic source material using computerised detection mechanisms.

Place this page in the front as the first page of your document that you are submitting to
Canvas

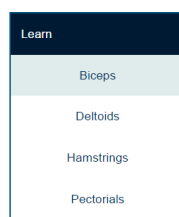
Walkthrough

The following is a walkthrough of the prototype in Assignment 2. Before starting, users are expected to have basic knowledge in the use of technology i.e. computers whether at home or at school, as well as some knowledge in the physical education as part of the course curriculum. It is also ideal that the user is using a 1080p display which is at a 16:9 ratio. The user begins at the home screen, where they will see an array of muscles listed in alphabetical order, located to the right of the main navigation bar.



On the main page, the user will see a diagram of the human anatomy as reference to the list of muscles shown to the left, so that they have a visual understanding of those parts of the body.

Home



Biceps

The biceps can be strengthened using weight and resistance training. Examples of well known biceps exercises are the chin-up and biceps curl. To isolate the biceps brachii in elbow flexion, place the shoulder in hyperextension.

The split between the short head (front) and the long head (back) of the biceps muscle, resulted from special trainings. In training the biceps brachii, it is important to distinguish between the long head and the short head of the biceps. The long head is the outer portion of the muscle. The short head is the inner portion of the muscle. There is much debate over the best biceps workouts for targeting each of these heads.

Here, the user may pick a muscle such as the biceps implemented for this brief walkthrough, so they can learn about that muscle, before they would likely approach answering some questions as part of their learning criteria.

After the user feels they have sufficient knowledge based on the topic they have learned, they can approach answering one of the problems in the problems section of the website.

Problems

Questions

Multichoice

Short Answer

Here the user may choose from either short answer questions or multi choice questions, both of which will display one question based on the format selected in this walkthrough. If for instance, the user picks the multi choice type question, the user will be taken to a list of topics (muscles in this case) as part of answering in that format. It is the same case if that user also picks the short answer question format.

Problems

Topics

Biceps

Deltoids

Hamstrings

Multichoice: Biceps

Where are the biceps are found on the human body?

☐ Legs

☐ Feet

☐ Arms

☐ Head

Submit

For the multi choice question, the user will be given a single answer based on the topic biceps, where they have the choice between a, b, c and d for their answers, when using radio buttons as part of the implementation.

Topics
Biceps
Deltoids
Hamstrings
Pectorials

Short Answer: Biceps

What routine exercises are used to utilise the biceps and how do you perform them?
Explain your answer below.

For the short answer questions section of the problem based learning system, the user will be able to write up their answer, and as they submit, their answer may be posted to the peer feedback section of the site.

Peer Feedback

Posts (2 Unseen)
Explosive back exercise
How many muscles in leg?

Explosive back exercise

When training your back and would like to do explosive back exercises, there are a number of options on how to do so. One method is by doing pullups, where you basically grab a bar and use your upper body strength to pull yourself up. If it is too easy for you, you can add some resistance by adding weights to a belt. This, as a result with strengthen your back and may with posture.

- Chad

On the peer feedback page, the user may respond to other student's answers based on their interactions from the short answer question section of the site. Here the user can give feedback to the other students' questions, as part of the learning based feedback functionality for the system.

Messages

Friends
James
Adam
Elyse
Bruce

James

Wanna study biceps tomorrow?

Finally, for the social aspect of the system, users can message each other in the messages page. We begin with a list of students, likely added as friends or as part of a class, where they can choose to start conversations with each other.

We see the user already has a previous conversation with James, where they would like to group together for a study session on the next day.

Out of scope:

- More muscles and body parts may be implemented, as only the first muscle on the home page is implemented for learning (bicep). It could also be further organised into categories, for ease of finding that muscle if intended, or the body may have clickable buttons to that muscle.
- There may also be more questions implemented for each of multi choice or short answer questions, rather than just the first one.
- In the short answer question section, when the user clicks submit, the answer may be posted in the peer feedback section so that the users' peers may respond to that answer or that task.
- For the UI, there may be more animations and more page highlighting so that the user is aware of what page they are currently on, as well as more back buttons, rather than the use of only using the main navigation bar on the left-hand side of the site.
- The setting icon can also be implemented, so that the user can fine tune some of the basic functionalities, and perhaps change the colour scheme to their preference.
- On the peer feedback page, when clicking the submit button, the response will immediately show below the post. There may also be more options on how the users may choose to post responses, for instance, posting anonymously or the ability to add imbedded images and links. The user may also edit a post that they have already submitted.

Colour Scheme:

The main type of colour scheme the site utilised is an overall blue styled monochromatic format, where we end up with a flat and minimalistic system, eliminating any clutter, to provide a smooth user experience.



RGB (0, 51, 102)

HSL (210, 100%, 20%)

This shade of blue above, is used as the background of the main navigation pane of the site. Its use is to bring forward the white icons and labels displayed on the left side panel so the user can clearly recognise which page to choose. We also see that this colour is used as the boarder for the secondary navigation panel, separating it from the main navigation and main body of the page.



RGB (0, 26, 51)
HSL (209, 100%, 10%)

This darker shade of blue is used to highlight what page or the use is currently active, on the main navigation pane to the left, which is in contrast with the background of the pane. It is also used as the background colour for the title bar on the secondary navigation panel. This highlights what the user task is at hand for the user on that page.



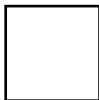
RGB (102, 146, 204)
HSL (214, 50%, 60%)

This lighter blue is used as a background for the text of the users' conversations for the messaging portion of the site. This helps the user see where each message is sent to the user for this system.



RGB (224, 235, 235)
HSL (180, 22%, 90%)

This is the lightest shade of blue which is utilised in the secondary navigational panel, it highlights the current label for the user so they know what they are learning environment they are on.

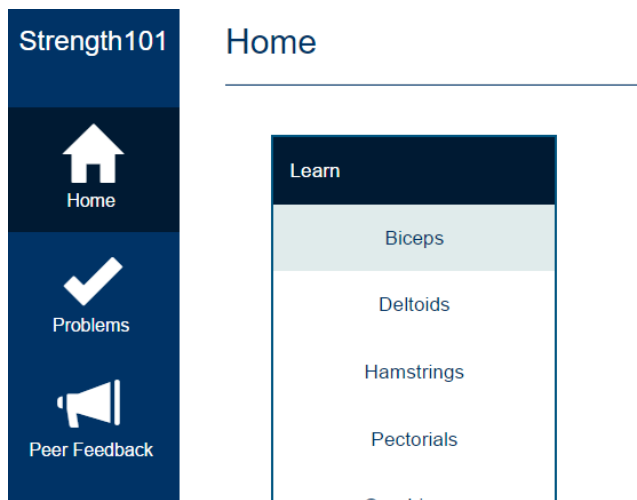


RGB (255, 255, 255)
HSL (0, 0%, 100%)

Finally, is the colour white, which is used as the main icon colours and labels on the main navigational panel to the left, and the overall background of the site. This keeps the system clean, minimal and web safe for the user. It is also used for some text in the messaging page as well as the title of each section on the secondary navigational panel.

Boarder Scheme:

For the three aspects of the prototype, I chose to use **minimalism**, **consistency**, and **proximity** as my strategy for the site. I used a long thin line to separate the heading at the top of each page. This helps the user distinguish what page they are on with the header labelled, which is also within their peripheral.



Here you see that the main navigation and secondary navigation panes are close to one another, which accounts for the **proximity** aspect of the system, where each of the buttons are located near each other, grouped in a way, giving the user ease of access.

I use a boarder around the second navigation panel, which groups the list of options for the user to choose from for that part of the web page. This sets the tone for a **minimalistic** look, along with the other parts of the site, such as the main navigation pane to the left as well as the header and header line.

The use of white space also covers most of each page, keeping the site **minimal** and **consistent**, so it doesn't feel too cluttered, keeping everything separated and organised for the user.

James

Wanna study biceps tomorrow?

Send

On the messages panel, I also used a boarder to group the messages from the other users, to keep the conversation separated from other elements on that page. This helps the user distinguish where that panel fits in the overall

scheme and can quickly identify which person they are having conversations with.

Fonts scheme:

The overall font scheme for the website, uses the font family Helvetica Neue and Arial.

Font Family	Example Text	Description
Arial, Helvetica, sans-serif	<div>This is a heading</div> <div>This is a paragraph</div>	This font is mostly used throughout the entire website to keep it consistent for its format. It is found on the main navigation bar on the left, represented as the labels for the icons, as well as the Strength 101 logo. It is also used in the secondary navigation panel as the title bar, and the listed text underneath, which helps the user know what task is currently active.
"Lucida Sans Unicode", "Lucida Grande", sans-serif;	<div>This is a heading</div> <div>This is a paragraph</div>	This font style is used as the major headings, found above the header line for each page. This shows the user what page they're currently on.
Verdana, Geneva, sans-serif	<div>This is a heading</div> <div>This is a paragraph</div>	This font style is mostly used as paragraph text to help the user easily recognise the text shown on that page, helping them learn for a certain topic perhaps.

Resources Used:

Overall is a list of resources is utilised during the creation of the prototype.

- <https://maxcdn.bootstrapcdn.com/bootstrap/3.3.7/css/bootstrap.min.css>
Bootstrap icons used for the main navigation bar from w3schools.
- https://www.w3schools.com/cssref/css_websafe_fonts.asp
Example text and fonts used in the website from w3schools.
- <https://en.wikipedia.org/wiki/Biceps>
Used on the home page for learning about the bicep, based on information about bicep exercises.
- <https://www.shutterstock.com/>
The muscle map image of the body, with labels pointing towards each muscle downloaded from shutter stock.