

# Assignment 2 Part 1: Design Documentation

## UCD HEROES

By: Sharad Perera (s3477882), Alwin Kanicherry (s3623302),  
Marlon Goonawardena (s3381521), Caroline Nguyen (s3423418),  
Yesmi Marasinghe (s3543729), Abdulrhman Shaban (s3572167)

## Introduction

Our proposed desktop application “Anatomically” is a learning tool designed to test people’s knowledge of the key areas of human anatomy through short quizzes each focused on different areas of anatomy including the skeletal system, digestive system, muscular system and cardiovascular system.

Our design has been created in the form of a desktop app to accommodate the main potential user group. This user group will be secondary students, these users fall between the age of 12 and 18. These students would benefit from these quizzes since the course structure in high schools from year 7 to 10 includes areas of anatomy in their curriculum and students can also choose to do subjects in their later years of high school which touch on anatomy. This user group would mainly have access to laptops and PCs through their school and therefore the most appropriate form the application would take is desktop. The application could be used to revise concepts covered in class as well determine which areas require improvement from the results page which indicates the user’s strengths and weaknesses across the areas of anatomy.

Another user group would be people with an interest in biology and health. There are several courses and degrees which cover areas of anatomy and therefore people engaged in further study after high school through diplomas, degrees and certificates related to these two interest areas are also potentials users of the application.

Independent of age the one key characteristic of users of this application is an interest or a need to learn about human anatomy. The difficulty level of the questions will be equal for each test and the questions will be kept broad rather than focusing on specific areas of each system so that the questions can be useful as a method of learning.

## Persona

### Background:

- High School student
- 16 year old
- Struggling in certain subjects

### Needs and Goals:

- Needs to be able to access her quizzes and tests results easily
- Being able to keep track of her progress in each subject
- To be able to access the organized teacher’s notes and past exams in chronological order
- Having everything classified by subject

### Skills:

- Basic computer knowledge

## Context Scenario

Gracie has a biology test today. She logs into Anatomically using her school email address as her username and types her password which was set earlier in the year. When the app finishes authenticating her, she is directed to the home page. She sees today’s quiz but cannot open it till the teacher gives the class the code, so she waits patiently.

Mrs. Lambert writes the code on the whiteboard and tells the students to begin. She types in the 4 character code and presses begin.

Grace sees a page which has a multiple choice question about “phalanges”. She completes the questions and moves on.

She completes the next three multiple choices questions and moves on with ease.

Grace is up to the fourth question. She looks at the time remaining at the top left of the screen and see that she has 4.5 minutes to complete the test and then she notices on the top right of the screen that she is up to ‘4 out of 5’ questions. Grace panics a little bit and starts to read the question. She pushes on and completes the question.

Grace is up to the last question. She looks at the time remaining at the top left of the screen and sees that she has 2 minutes remaining. She starts to feel the pressure and starts to sweat but she pushes through.

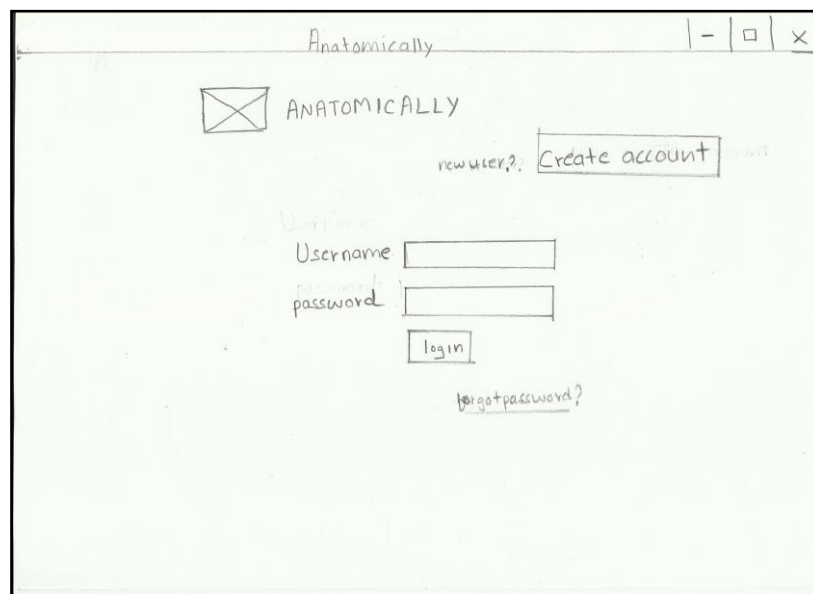
With 10 seconds to spare she presses on the submit button and completes the test. Grace feels really relieved and confident.

Grace now sees a loading graphic and below that its says processing. The page then shows her results and she sees that she got 5/5. Grace feels happy and relieved because her studying paid off. She then begins to gloat to her peers. Francine becomes angered because of Grace’s gloating and picks up her chair and whacks Grace over the head with it.

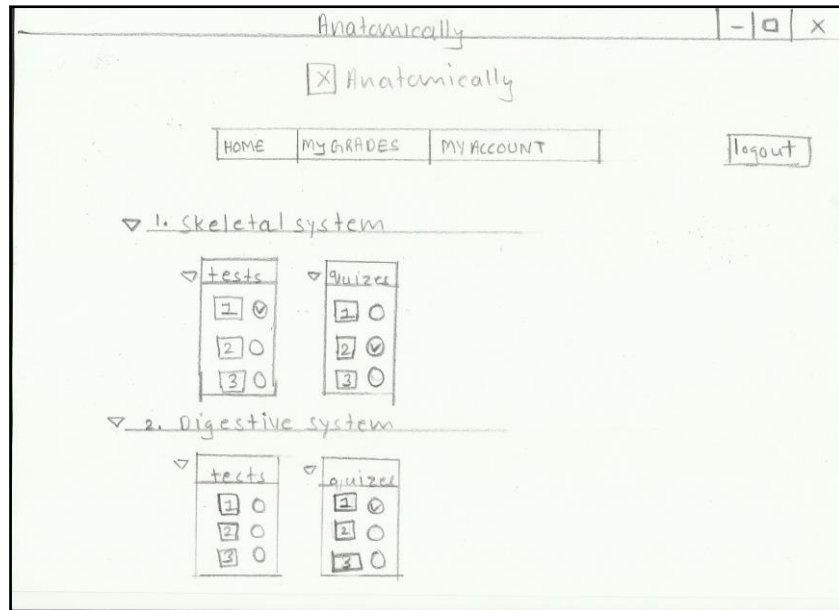
Grace wakes up in hospital. Grace has a massive headache and does not remember doing the test.

## Key path scenario

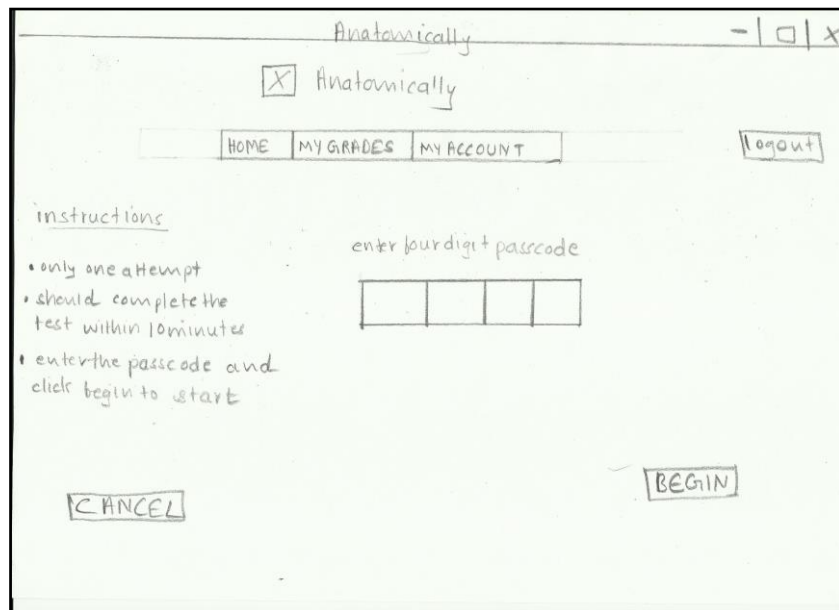
1. a) Grace opens up the “Anatomically” application  
b) The app opens to a login page with fields to enter an e-mail address and password.



2. a) Grace enters her credentials into the relevant fields and clicks the “Login” button  
b) The page redirects to the home page of the application.



3. a) Grace clicks the "Skeletal System" link on the page  
b) A list of quizzes expands into view beneath the "Skeletal System" link.
4. a) Grace clicks on "Quiz 1"  
b) The page redirects to a page with instructions for the test and a field to enter a passcode for access to the test.



5. a) Grace enters the 4-digit password provided by her teacher and clicks the "Begin" button at the bottom-right of the page  
b) The page changes to the page of the first question, a multiple choice question about "phalanges".

Anatomically

☒ ANATOMICALLY

HOME MYGRADES MYACCOUNT Logout

QUIZ 1 - SKELETAL SYSTEM

Q1 Q2 Q3 Q4 Q5

time left 09:41

QUESTION 1

How many Phalanges are in the human body?

☐ 52  
☒ 56  
☐ 64  
☐ 66

Next >

6. a) Grace clicks on the radio button next to the answer she deems to be correct and clicks the "Next" button on the bottom-right of the page.
- b) The answer is saved and the page redirects to the next question.

Anatomically

☒ ANATOMICALLY

HOME MYGRADES MYACCOUNT Logout

QUIZ 1 - SKELETAL SYSTEM

Q1 Q2 Q3 Q4 Q5

time left 07:42

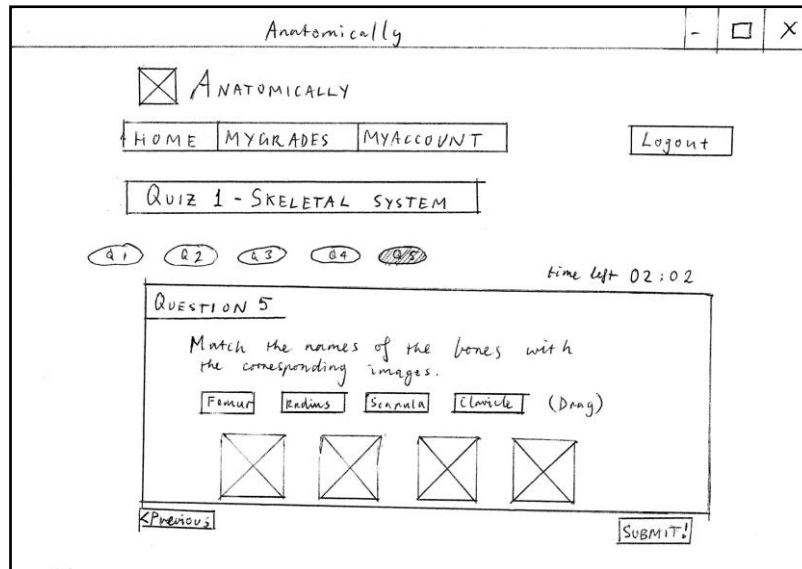
QUESTION 2

Which bone is colloquially known as the 'shoulder blade'?

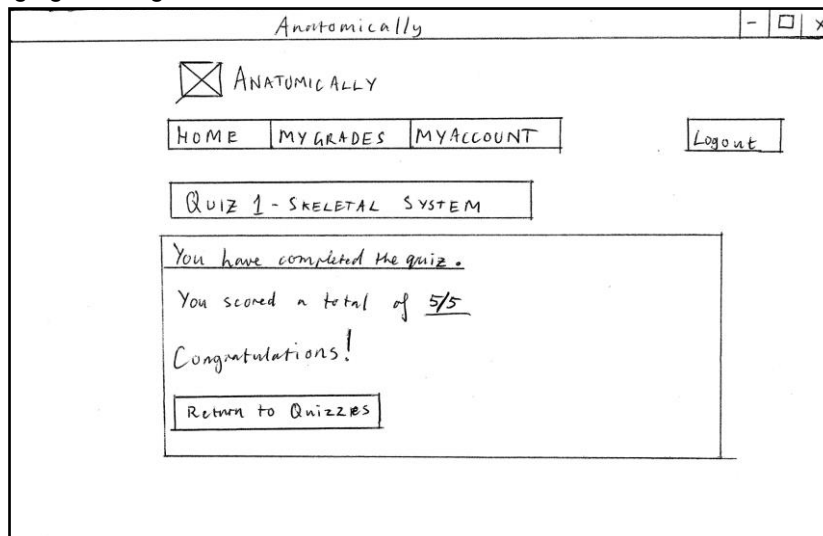
☐ Sternum  
☐ Ulna  
☒ Scapula  
☐ Patella

Previous Next >

7. a) Grace repeats this for the next 3 questions
- b) The page saves the responses for the next 3 questions and finally loads up the last question, a matching elements question featuring pictures of bones and their names.



8. a) Grace drags the images of bones at the top to the corresponding names below and then clicks the 'Submit!' button at the bottom-right of the page
- b) The page redirects to the results page where the user's marks are displayed with an encouraging message.

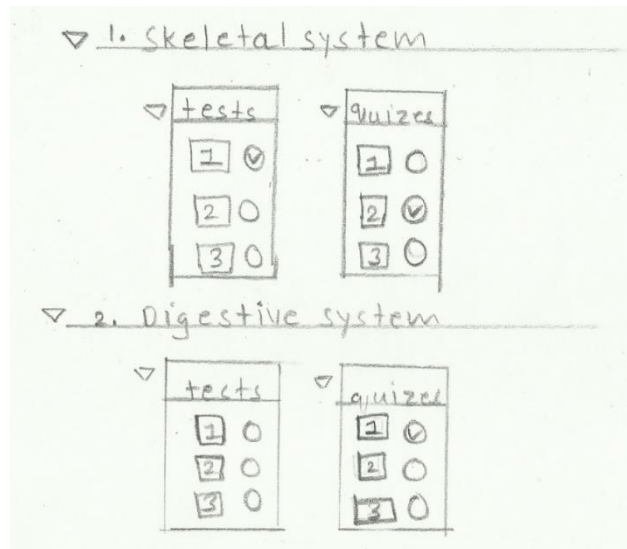


9. a) Grace clicks the "Return to Quizzes" button
- b) The page redirects to the Home page.

~END SCENARIO~

## Design patterns

Our prototype uses a number of design patterns that have been incorporated throughout the various pages of the website. The first, shown below, is the use of **Titled Sections** with the purpose of separating sections of content with visually strong titles. This helps the content be more easily understandable and digestible at first glance, effectively avoiding overwhelming the user with information that is not organised into chunks.




The above screenshot also shows another design pattern; which is the use of **Closable Panels**. Indicated by the arrows on the left side of each section, by clicking on the arrows the user will be able to show and hide different sections by their own choice. This allows for a lot of content without forcing the user to view it all at once.

In the following picture, we have incorporated the **Card Stack** design pattern. For our quiz, we allowed users to navigate through questions easier by separating them into 'cards' that are only visible, one at a time, when that card is selected.



Another design pattern used is **Diagonal Balance**. We used this by arranging page elements asymmetrically but balancing them by placing visual weight in both upper-left and lower-right corners. This helps guide the user's eyes through the page from the top left to the bottom right, creating a natural flow. It also eliminates having areas that appear too empty if all page elements were only or mostly on one side.

 ANATOMICALLY

HOME MYGRADES MYACCOUNT Logout

Quiz 1 - SKELETAL SYSTEM

Q1 Q2 Q3 Q4 Q5

time left 09:41

QUESTION 1

How many Phalanges are in the human body?


☐ 52  
☒ 56  
☐ 64  
☐ 66

Next >

To demonstrate, in the above image the flow of the page starts from the top left which shows the question number, followed by the question itself, the choices and finally the submit button in the lower right corner.

**Centre stage** is also used above. This means that the page's primary objective, to provide questions to the user through various quizzes, is the biggest and most prominent section of the page. The rest of the website's features are smaller and surround the quiz question so that the user is not distracted from the primary goal.

We have also incorporated a **Global Navigation** to our prototype. This is the menu that is consistent between pages and includes links to other important pages such as 'My Grades' and 'My Account'. This facilitates easy movement by placing important pages at one click away from any page.

 ANATOMICALLY

HOME MYGRADES MYACCOUNT Logout