

Kinundrum

High-fidelity Visual Mock-up

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1 Landing Page

The **Landing Page** is the first screen that appears when the user accesses *Kinundrum*. The user must log in with their student number and password to launch the web application.

USE CASE 1: LOG IN

The user types their student number and password. By clicking the “*Remember me*” checkbox, the application saves their account details for automatic log-in.

IF STUDENT NUMBER/PASSWORD ARE ENTERED CORRECTLY...

The user is directed to the **Home** screen.

IF STUDENT NUMBER/PASSWORD ARE ENTERED INCORRECTLY...

The user receives an error message.

995576245 ⊗ Invalid student number

***** ⊗ Invalid password

USE CASE 2: RESET PASSWORD

If the user has forgotten their password, they can click on the “*Forgot your password?*” link.

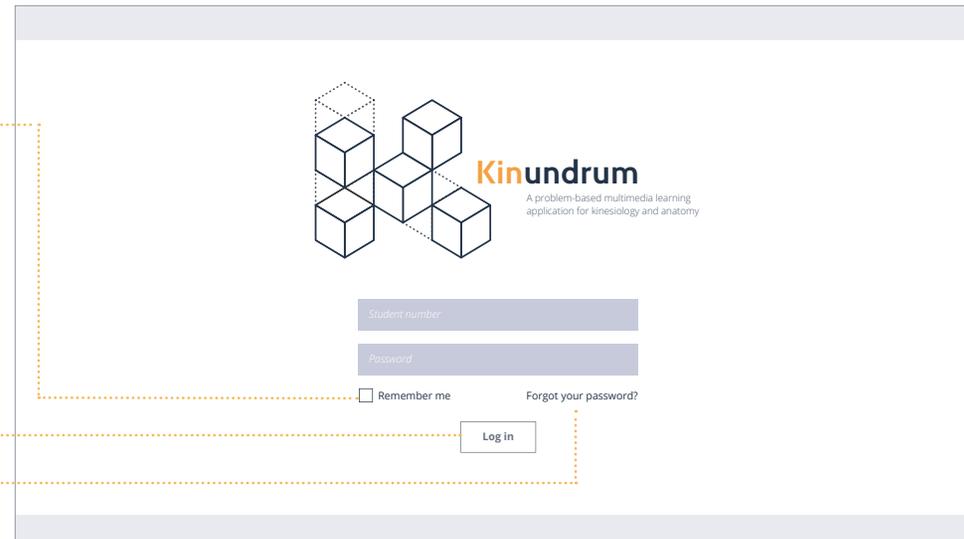
The user is then prompted to enter their U of T student email. After they click “*Send*”, the user receives a message confirming that an email with instructions for resetting their password has been sent to their email inbox.

Forgot your password? 

Link changes colour and bolds on hover and onclick

Sent! **Back to Login**

Button changes states once email has been sent



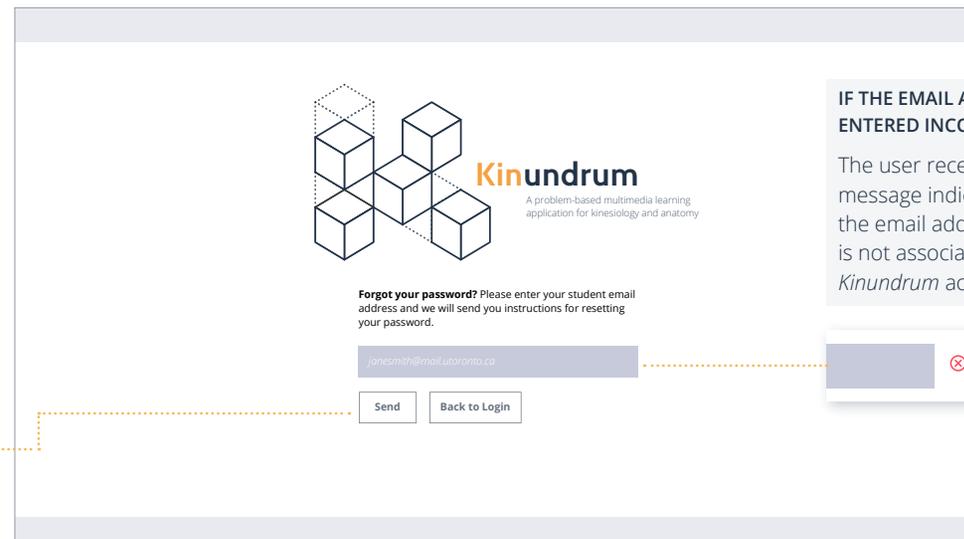
The mockup shows the Kinundrum logo (a cluster of 3D cubes) and the text "Kinundrum A problem-based multimedia learning application for kinesiology and anatomy". Below the logo are two input fields: "Student number" and "Password". To the right of the "Password" field is a "Remember me" checkbox and a "Forgot your password?" link. A "Log in" button is positioned below the "Password" field. A hand cursor icon is shown hovering over the "Remember me" checkbox.

Remember me 

Box remains checked for following sessions

Log in 

Button inverts colours on hover



The mockup shows the Kinundrum logo and text. Below it is a "Forgot your password?" link. A message reads: "Forgot your password? Please enter your student email address and we will send you instructions for resetting your password." Below this is an input field containing "janesmith@mail.utoronto.ca". To the right of the input field are "Send" and "Back to Login" buttons. A hand cursor icon is shown hovering over the "Forgot your password?" link.

IF THE EMAIL ADDRESS IS ENTERED INCORRECTLY...

The user receives an error message indicating that the email address entered is not associated with a *Kinundrum* account.

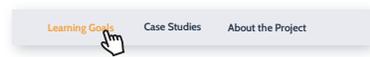
Invalid email address ⊗

2 Home

The **Home** screen is where the user can access *Learning Goals*, *Case Studies* and *About the Project* by scrolling down the page or by clicking on direct links in the local navigation bar. The user is also introduced to the global navigation bar which gives access to **Home**, **Library** and **Settings**.

Local Navigation

This navigation bar has direct links to the sections of the page.



Link colour changes on hover, onclick and in active state

Global Navigation

This navigation bar has icons acting as links to other pages of the website.



Home

Library

Settings

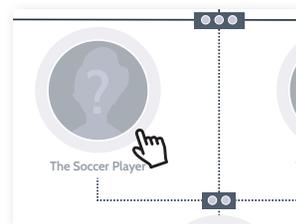
Icon colours invert on hover, onclick and in active state

USE CASE 1: SELECT CASE STUDY

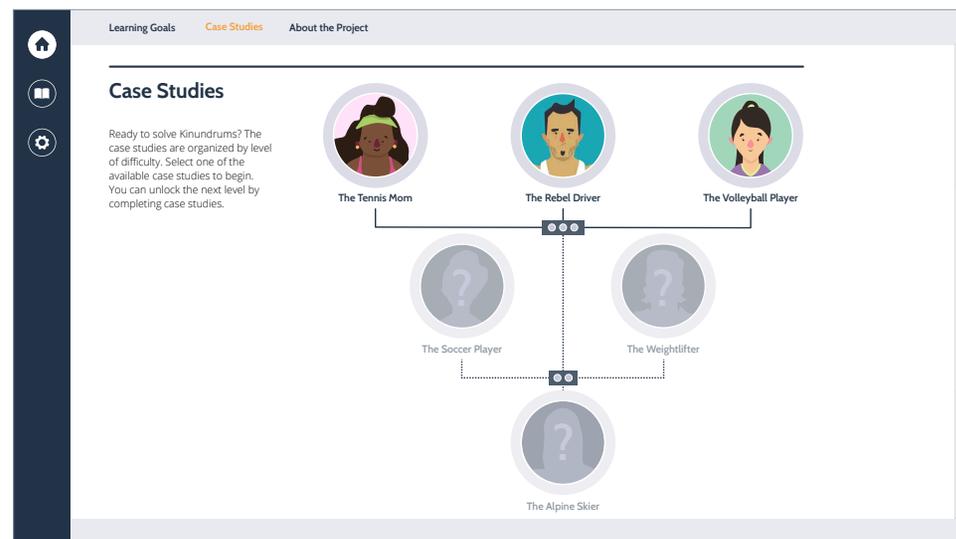
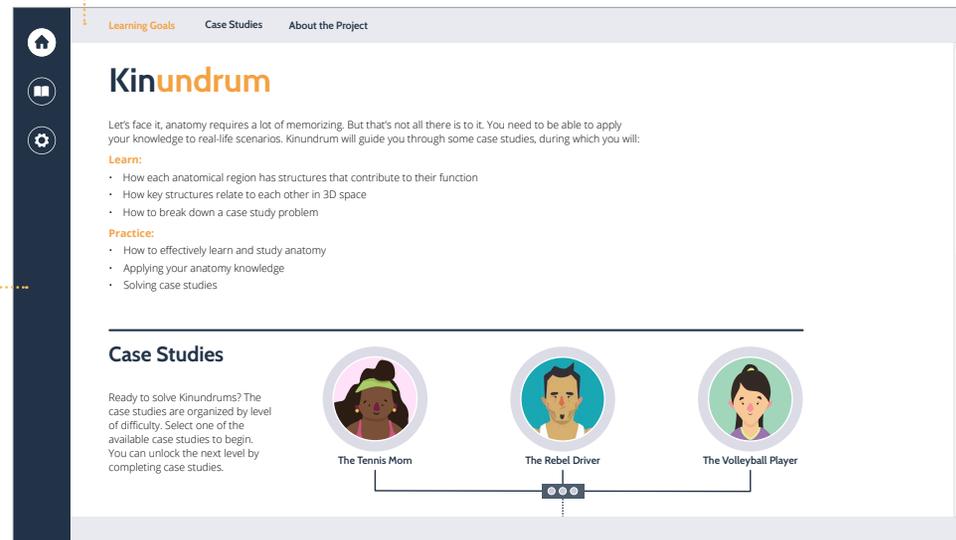
The user can click on an unlocked case study to access the **intro exercise**.



On hover, unlocked case study icons increase in size and form a drop shadow. The character is animated.



If the case study is locked, the icons are inactive links and remain unchanged on hover.



2 Home

USE CASE 2: RETURN TO CASE STUDY

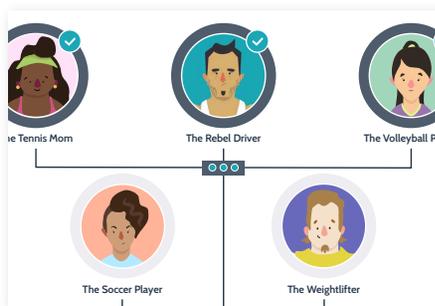
The user can return to a case study. Case studies that have been started but not completed are indicated by the yellow progress icon.



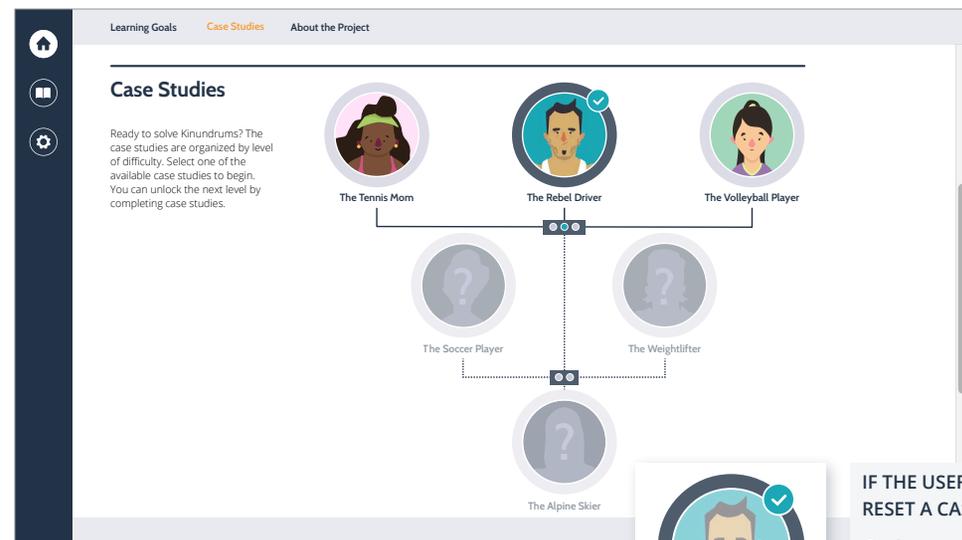
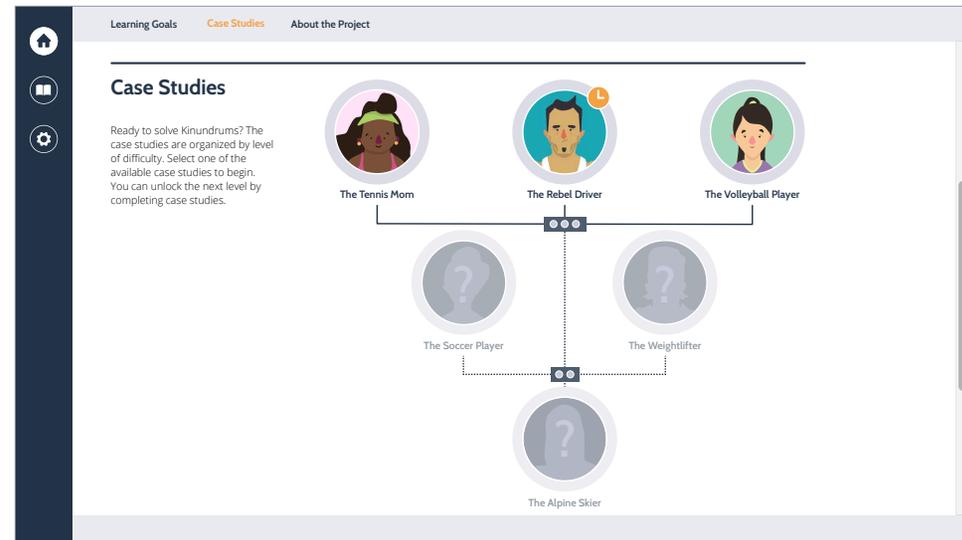
User progress is saved and indicated on the case study icon as a donut chart. User progress is only shown on hover.

USE CASE 3: CASE STUDY COMPLETED

Once the user finishes a case study, the donut chart becomes complete and the yellow icon turns into a green check mark icon. The dot in the box also turns green to indicate that the user needs to complete two more case studies to unlock the next level.



When the next level is unlocked, the dotted line turns into a solid line, and the case study icons of the unlocked level reveal the characters.



IF THE USER WANTS TO RESET A CASE STUDY...

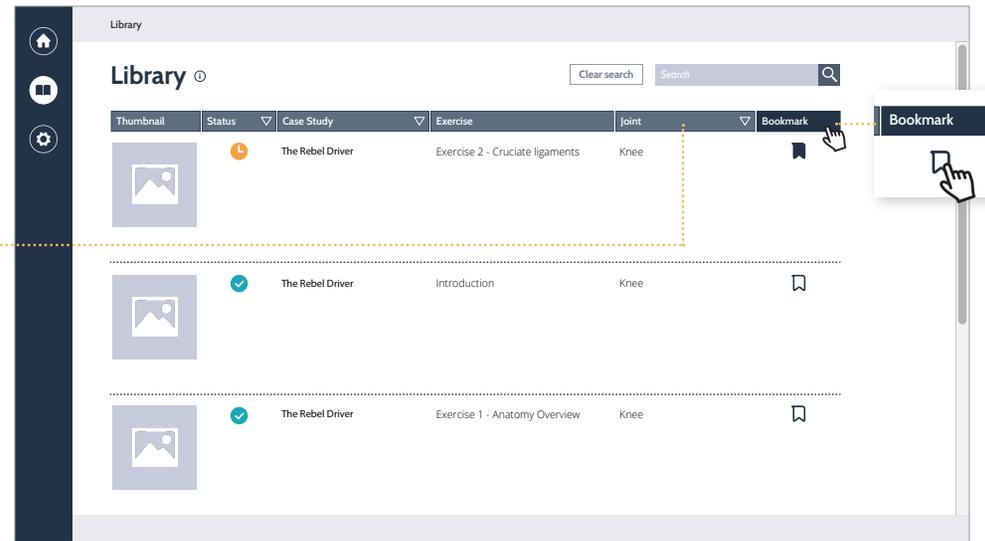
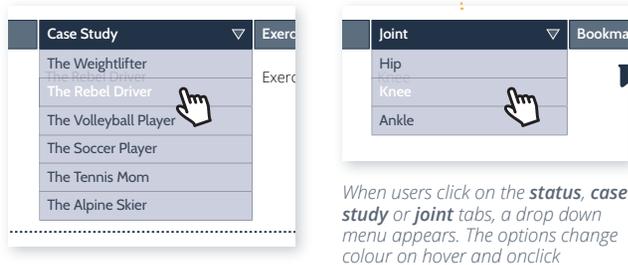
On hover, the user is given the option to reset a completed case study.

3 Library

The **Library** lists all the case study exercises but only allows the user access to exercises they have unlocked or completed. Users can sort through the exercises using the *Status*, *Case Study*, *Joint* and *Bookmark* tabs.

USE CASE 1: SORT BY TABS

The user clicks on the tabs to sort accordingly. For example, when the user clicks on the *Bookmark* tab, all bookmarked exercises move to the top of the list.



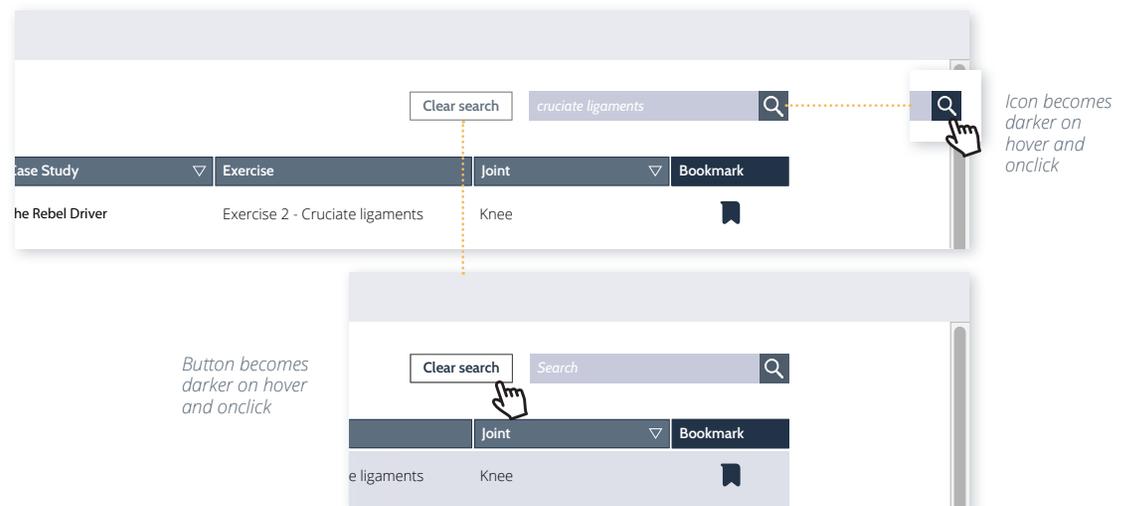
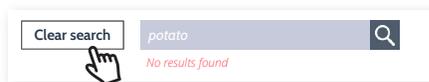
USE CASE 2: SEARCH BAR

The user can type key words in the search bar to search for specific exercises. Once they hit 'enter', or click on the search icon, the list is filtered to show only the exercises that match the search query.

To clear the search, the user clicks on the "Clear search" button to reset the list.

IF THE SEARCH QUERY DOESN'T MATCH ANY TAGGED KEYWORDS...

An error message will notify the user.



3 Library

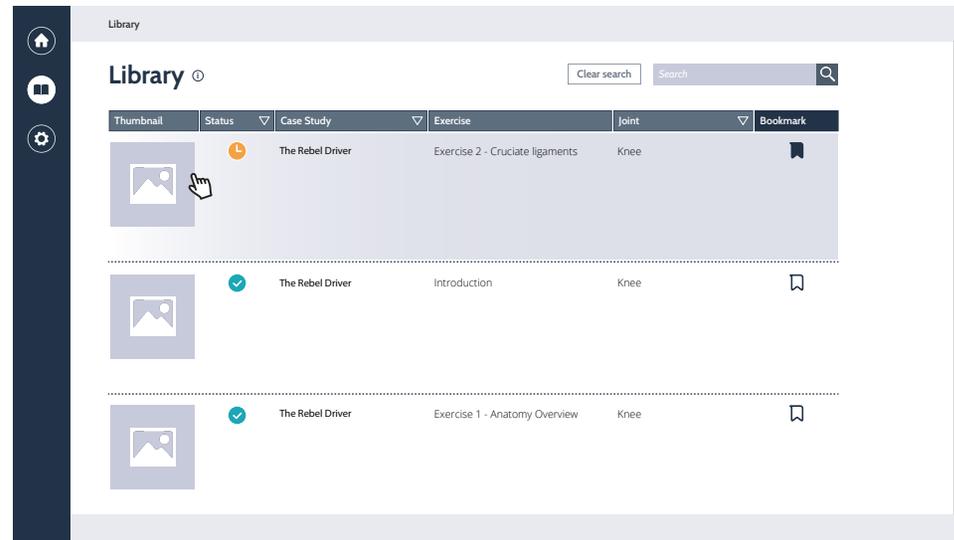
USE CASE 3: SELECT EXERCISE

The user can navigate to an exercise by clicking on any area within its row.

The user is taken to the exercise in the same state as the user's last session.

To navigate back to the library, the user can click on a link on the local navigation bar, or the library icon on the global navigation bar.

User's selection is coloured onclick only

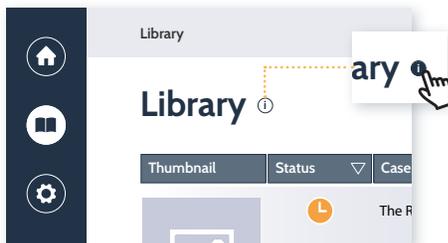


Library > The Case of the Rebel Driver > Exercise 2

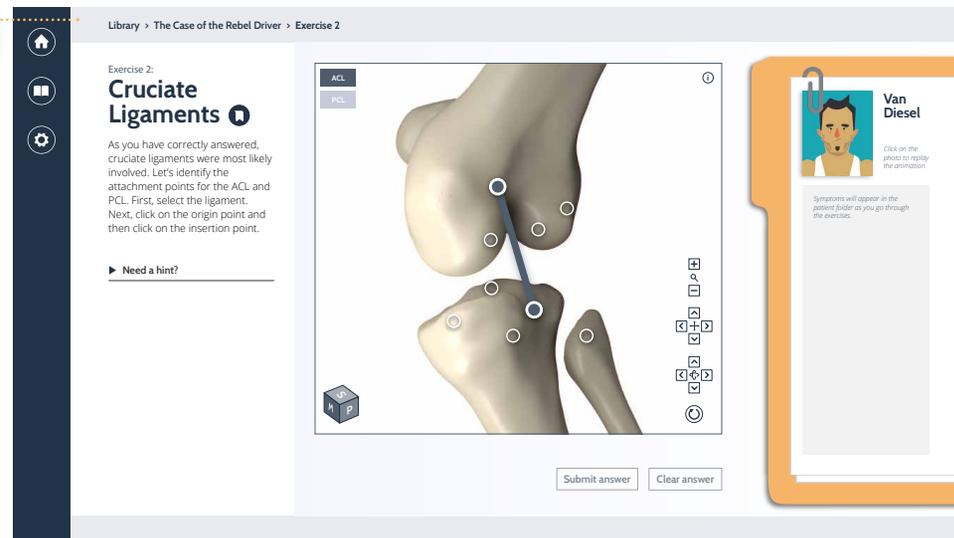
Links change colour on hover and onclick

Tutorial

Users can click on the icon to access the tutorial for the **Library** features.



Button colours invert on hover and onclick

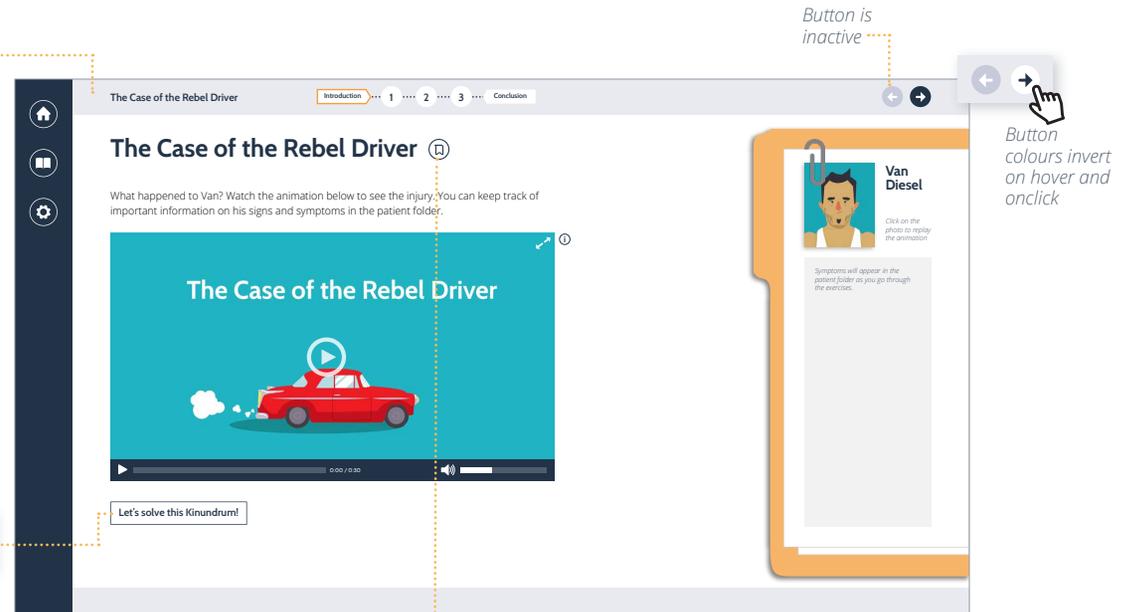
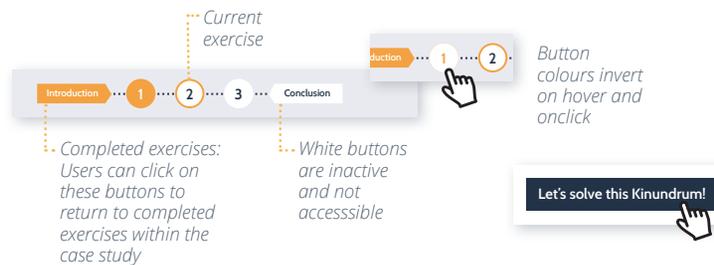


4 Case Study: Introduction

Each **Case Study Introduction** is accessed from the **Home** screen by clicking on an unlocked case study icon. This screen includes the case study title, introductory text, an animation of the injury scenario and the patient case folder.

Local Navigation

The header includes the case study title, a progress bar, and navigational buttons. To navigate between exercises of the case study, users can click on icons in the progress bar or on the arrow icons. Users can only access exercises they have completed or begun.



Bookmark

Users can bookmark exercises they have started or completed. Bookmarked exercises can be accessed in the **Library**.



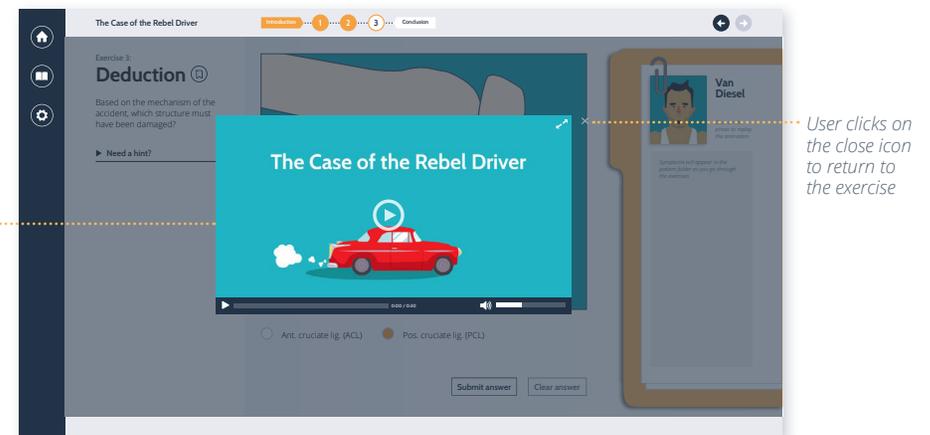
Video Player

All animation assets will include video player functions.



Patient Case Folder

The patient case folder is a consistent element throughout the case study. Users can replay the introductory animation by clicking on the picture. As the user completes each exercise, information about the injury is added to the notes.



4 Case Study: Tutorials

Tutorials are available for the **Case Study Introduction, Library** and each exercise question type, including *multiple choice, checkbox, matching, 3D model select* and *3D model draw*.

USE CASE 1: FIRST TIME

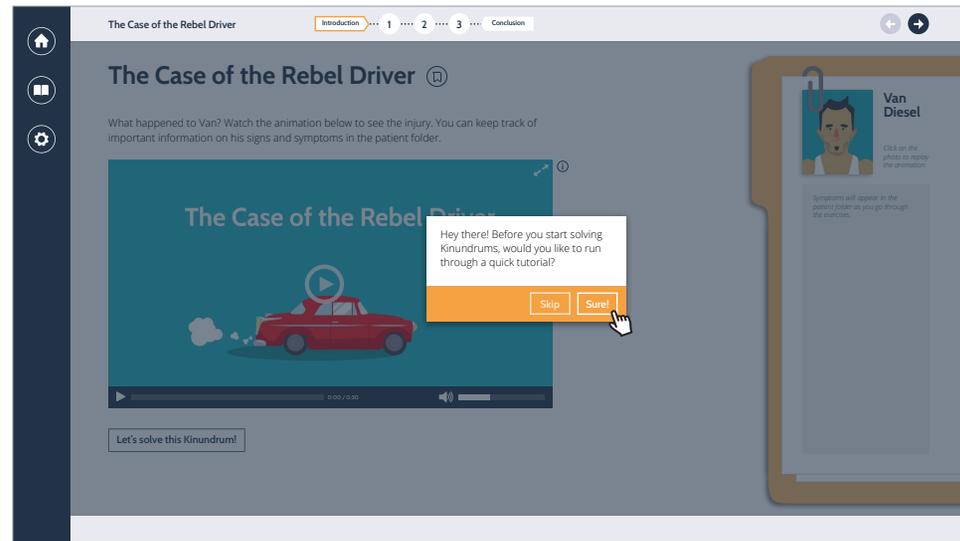
When the user accesses a **Case Study** or the **Library** for the first time, a pop-up box appears. The user can click “*Skip*” to cancel the tutorial or “*Sure!*” to begin the tutorial.

USE CASE 2: USER INITIATED

If the user would like to review the tutorial for the **Case Study** or **Library**, or access the tutorial for any of the question types, they can click on the tutorial icon.



Button colours invert on hover and onclick



Tutorial Text Boxes

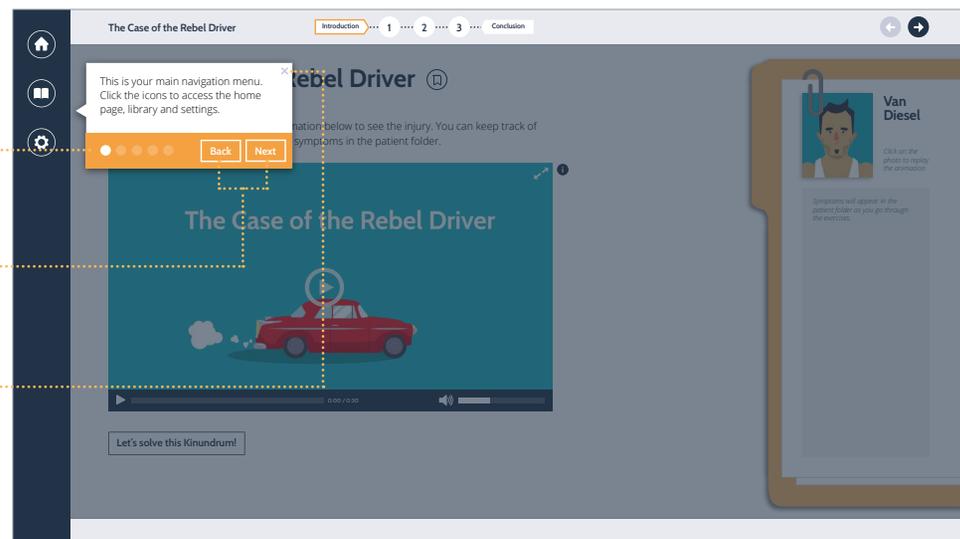
Each tutorial description is housed in a text box overlay that points to the feature of interest.

A progress bar indicates the number of descriptions. Users can navigate through the tutorial by clicking on navigational buttons.

Progress Bar: White indicates the current step; circles are also navigational

The user clicks 'Back' or 'Next' to move backward or forward through the tutorial

The user can click on 'X' to close the tutorial at any time



4 Case Study: Exercises

Each exercise consists of a *question area* and an *interactive area*.

QUESTION AREA

For each exercise, the user can view the question area to read the exercise number, title and question.

Bookmark

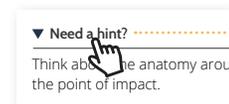
Users can click on the icon to bookmark the exercise for re-access in the **Library**.

Hint

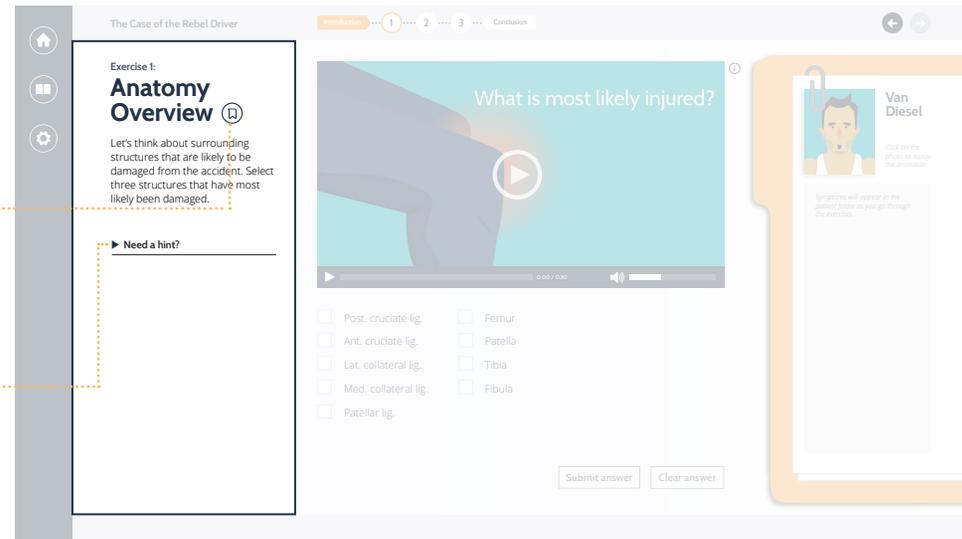
Users can click on “*Need a hint?*” to view text prompts. The user can click on the link again to hide the hint.



Button colours invert on hover and onclick



OnClick, the arrow rotates and the text drops down to view hint



INTERACTIVE AREA

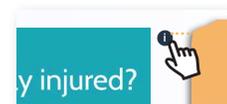
In this section, the user can interact with the visual assets (3D model, animation or illustration). The user can also select, clear and submit their answer.

Tutorial

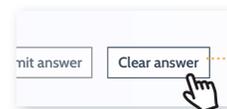
Users can click on the icon to access the tutorial for the particular question type.

Clear Answer

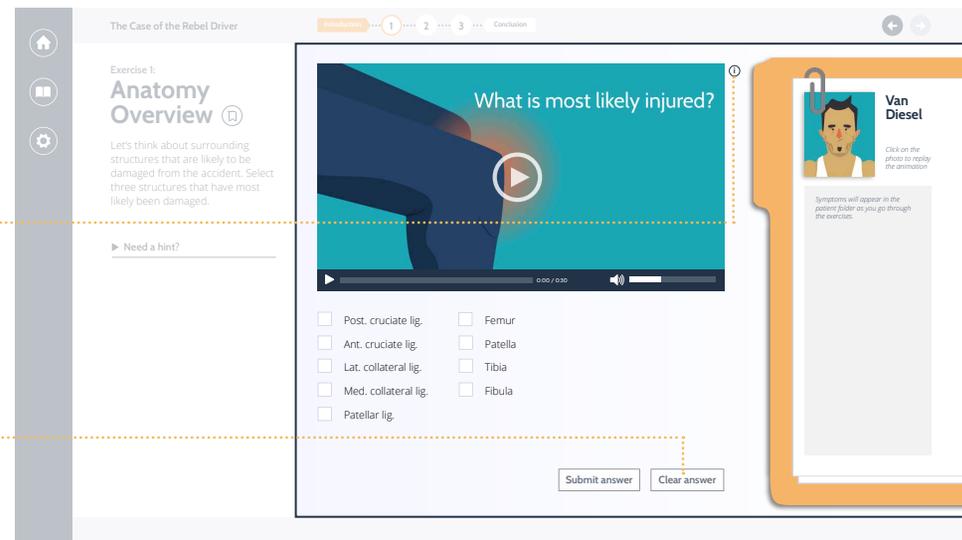
Users can click on the “*Clear answer*” button to reset the answer choices.



Button colours invert on hover and onclick



Button turns opaque on hover and onclick



4 Case Study: Exercises

INTERACTIVE AREA

Submit Answer

Once the user has selected an answer, they can click on "Submit answer". If the answer choices are not selected, the "Submit answer" remains inactive.



Active button turns opaque on hover and onclick



Inactive button doesn't change on hover and is inaccessible

IF THE ANSWER SUBMITTED IS CORRECT...

A green check appears and the "Submit answer" becomes "Next exercise". The user can click to navigate to the subsequent exercise.



Button is coloured to prompt user to click on it

If answer is correct, the next button becomes active

IF THE ANSWER SUBMITTED IS INCORRECT...

The "Clear answer" button becomes a "Try again" button and is coloured to prompt the user to click it. After resetting and selecting different answer choices, the user can click on "Submit answer" to resubmit their new answer.



Button is coloured to prompt user to click on it

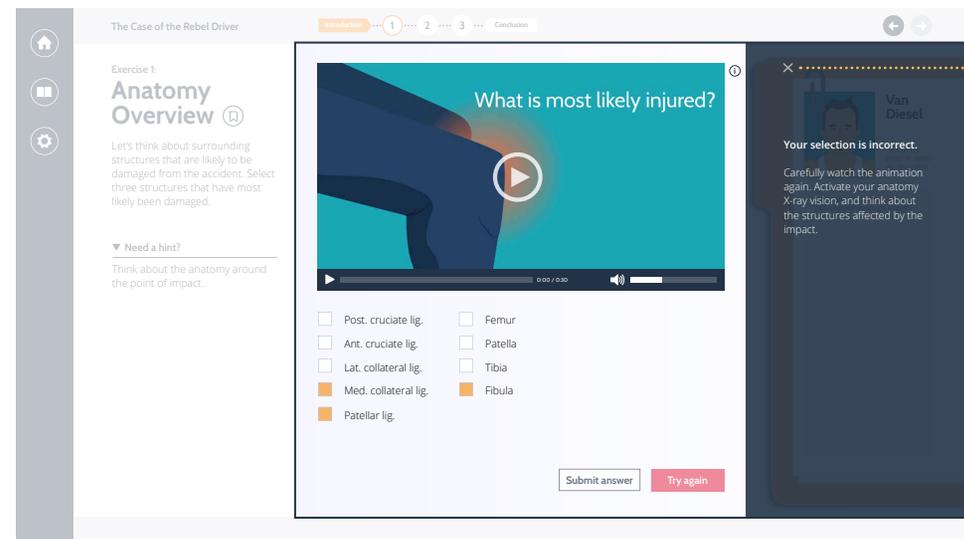
If answer is incorrect, the next button remains inactive

Incorrect Feedback

When the user answers certain exercises incorrectly the first time, they receive incorrect feedback. In addition to the "Try again" button, a text overlay appears. After reading, the user can click 'X' to close the feedback. Like all incorrect scenarios, the "Clear answer" becomes "Try again" and is coloured to prompt the user to try again.

Re-Kinnect Review

For a few exercises, an incorrect answer submission directs the user to a **Re-Kinnect Review** (refer to pg. 14).



Click on 'X' to close

Overlay appears by sliding in from the right

4 Case Study: Question Types

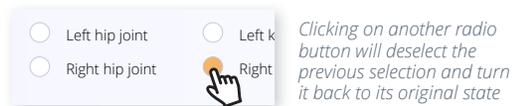
MULTIPLE CHOICE

The user clicks on a radio button to select the corresponding answer.

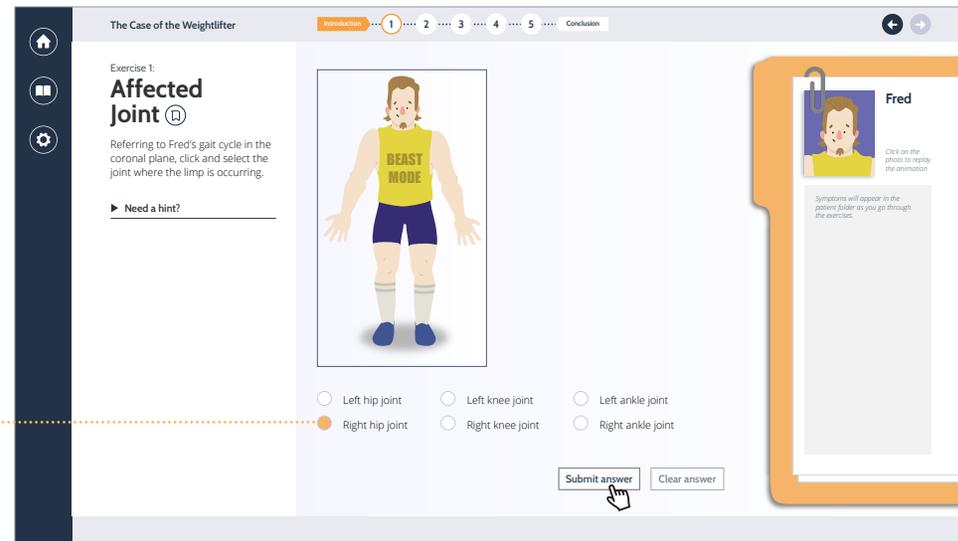
The user can only select one answer choice. For the “Submit answer” to become active, the user must select one answer choice.

IF THE USER WANTS TO MAKE A DIFFERENT SELECTION...

The user can change their answer by clicking on another radio button.



Button becomes coloured on click



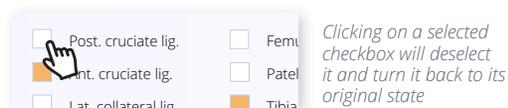
CHECKBOXES

The user clicks on a checkbox to select the corresponding answer.

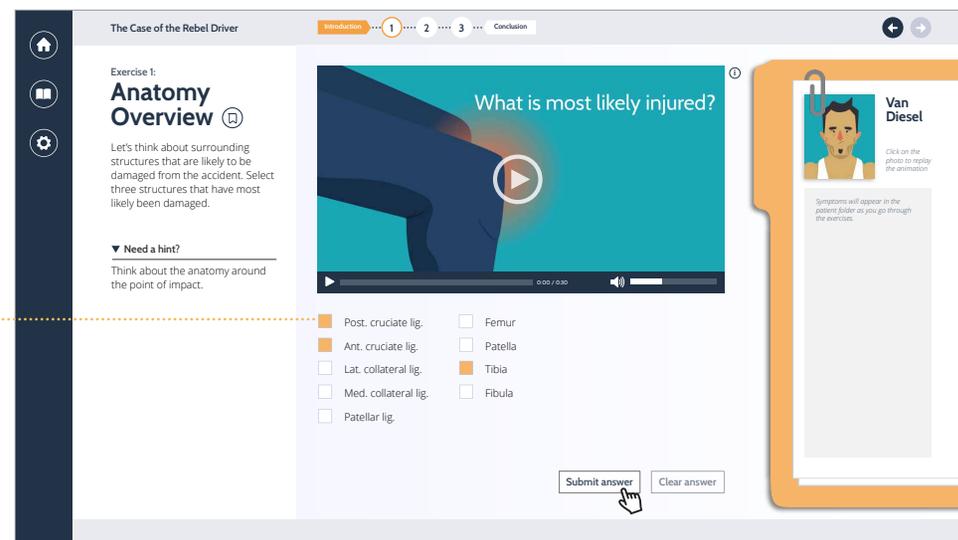
The user can click to select up to the number of checkboxes the question instructs. For “Submit answer” to become active, the user must select the number of checkboxes specified by the question.

IF THE USER WANTS TO DESELECT A CHECKBOX...

The user can click on a selected checkbox to deselect it.



Button becomes coloured on click



4 Case Study: Question Types

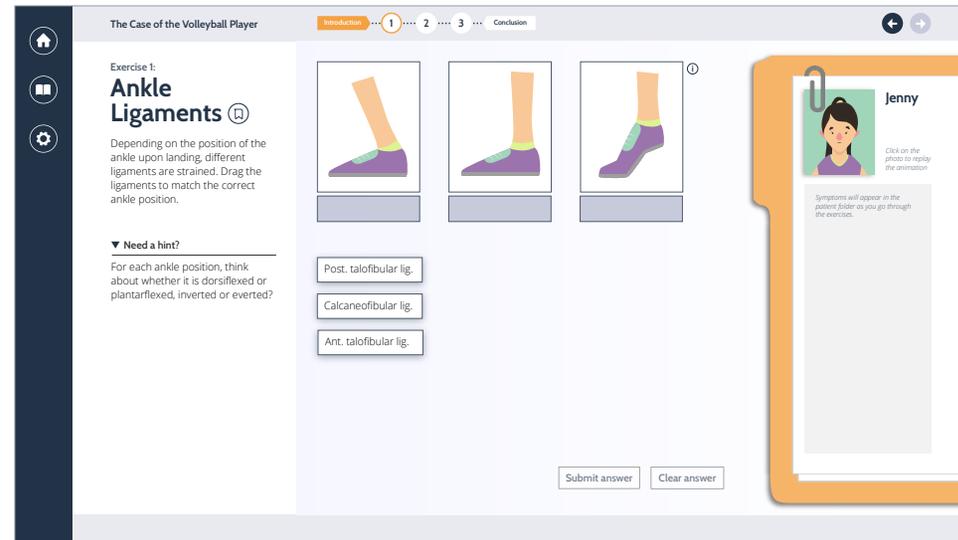
MATCHING

The user clicks and drags the answer choices to their corresponding image. When the answer is above the image, the user can release the mouse button to snap the answer to the answer box.

The user can change their answer by clicking, dragging and releasing the answer from one image to another.

If the user releases the answer outside of the image area, the answer choice returns to its default position.

For the "Submit answer" to become active, the user must populate all answer boxes.



Outline around option becomes darker and thicker when the user is dragging the box

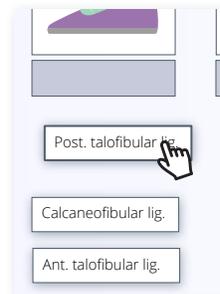
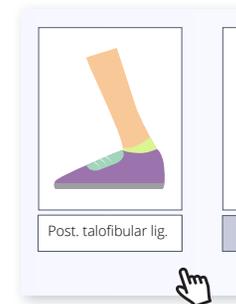


Image becomes enlarged and has a drop shadow when answer choice is hovered on top of it



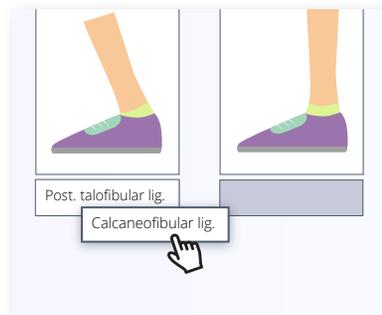
When the user releases the mouse button, the answer snaps into the answer box



IF THE USER MOVES AN ANSWER TO AN IMAGE THAT ALREADY HAS AN ANSWER IN ITS BOX...

The new answer replaces the original answer and the original answer choice returns to its default position.

When the user releases the mouse button, the new answer snaps into the answer box below the image



The original answer disappears from the answer box and reappears in its default position



4 Case Study: Question Types

3D Model Viewing Controls

The user can click and drag in the space around the model to rotate the model freely. To pan, the user can hold down the *spacebar* while clicking and dragging in the viewport. To zoom in/out, the user can scroll the *middle mouse button*.

For more controlled exploration of the model, the user can click on the individual *control buttons*.

To go back to the default view, the user clicks on the *reset control button*.

3D MODEL SELECT

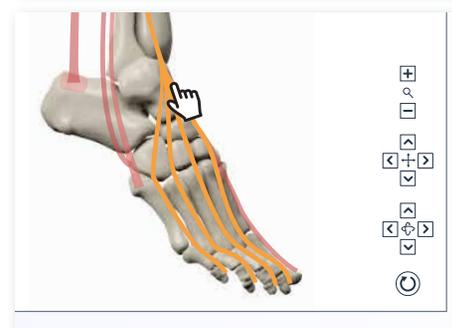
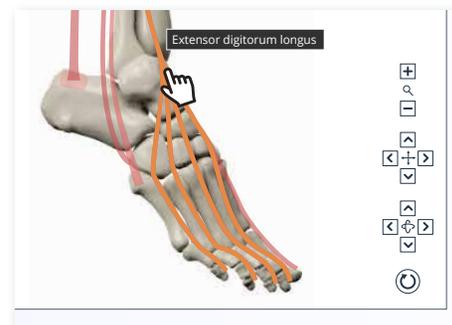
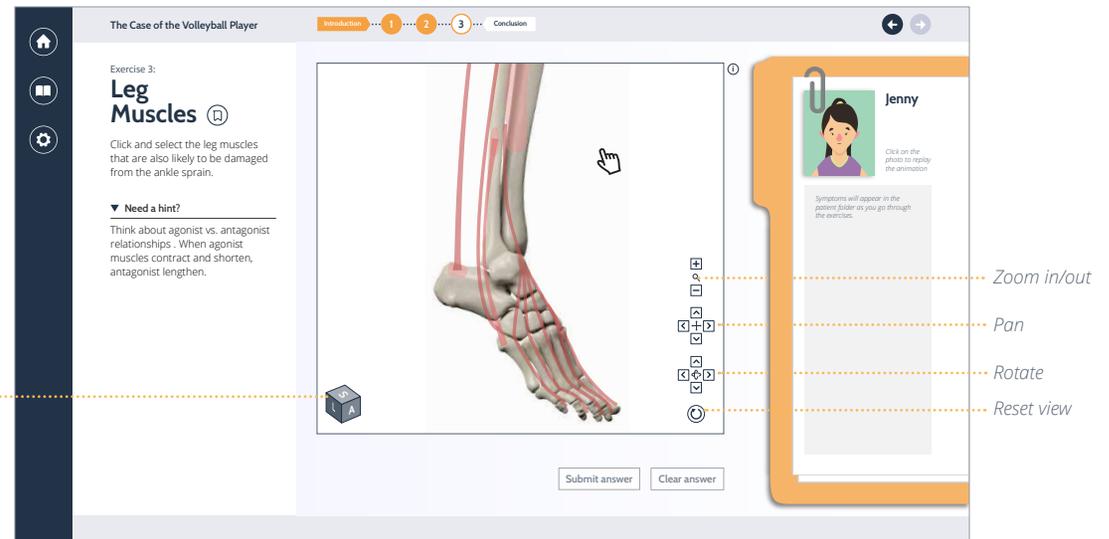
The user clicks on the anatomical structure to select their answer. The user can click on a selected structure to deselect it.

The user can click to select up to the number of structures the question instructs. For “*Submit answer*” to become active, the user must select the number of structures specified by the question.

Orientation box automatically updates as the user rotates the model

On hover, the structure's label appears and the structure becomes highlighted at 80% saturation

On click, the structure becomes selected and highlighted at 100% saturation



4 Case Study: Question Types

3D MODEL DRAW

One question asks the user to 'draw' ligaments on the skeletal model by clicking on attachment points.

The user clicks on the button to indicate which ligament they would like to draw. Then they click on the origin point and insertion point. The user must click on the points in the right order (origin, then insertion) for the answer to be correct.

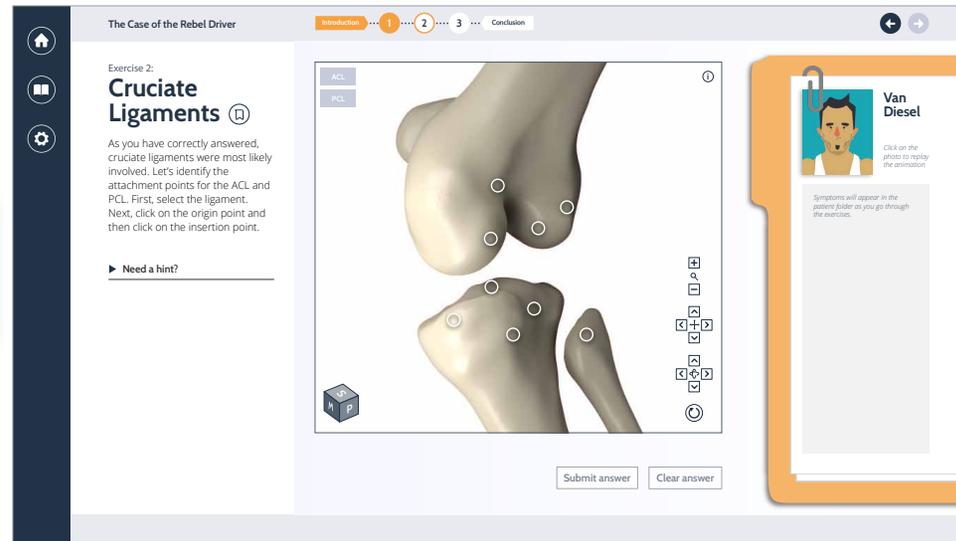
For "Submit answer" to become active, the user must draw both ligaments.



On hover and onclick, the button becomes coloured, indicating which ligament the user is 'drawing'

IF THE USER WANTS TO CHANGE THEIR ANSWER...

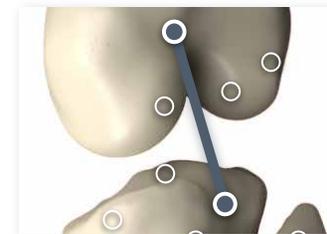
The user can click on another attachment point to represent the new insertion point and the original answer disappears.



On hover, the attachment points become bigger and are highlighted



Onclick, the attachment point becomes filled



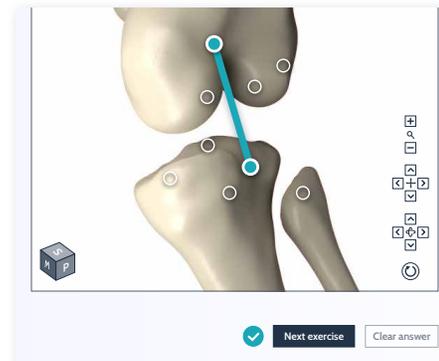
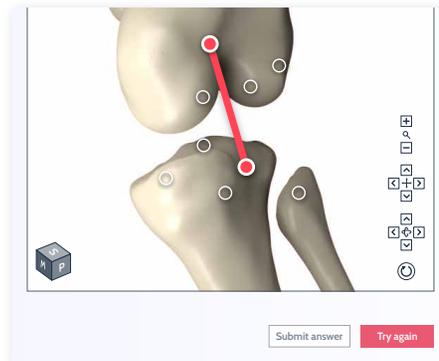
After the user has selected the insertion point, a line connects the two attachment points representing the ligament

IF THE USER ANSWERS INCORRECTLY...

After the user hits "Submit answer", the incorrect structures become red. The user is prompted to try again to reset the wrong answer.

IF THE USER ANSWERS CORRECTLY...

Correct answers turn green and become inactive.



4 Case Study: Re-Kinnect Review

For a few exercises, there is an associated **Re-Kinnect Review** exercise. Users are automatically directed to the review if they answer the question incorrectly. The user can also access this review from a linked button on the exercise page. Similar to a regular exercise, there is a *question area* and an *interactive area*. The type of interactivity is a slider.

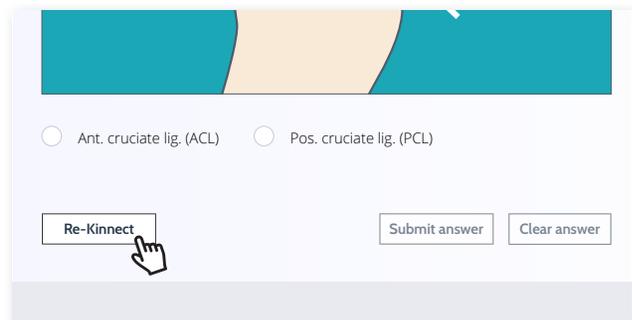
Bookmark

Users can click on the icon to bookmark the exercise for re-access in the **Library**.

Navigation

The user can click the “*Back to Exercise*” button to return to the main exercise.

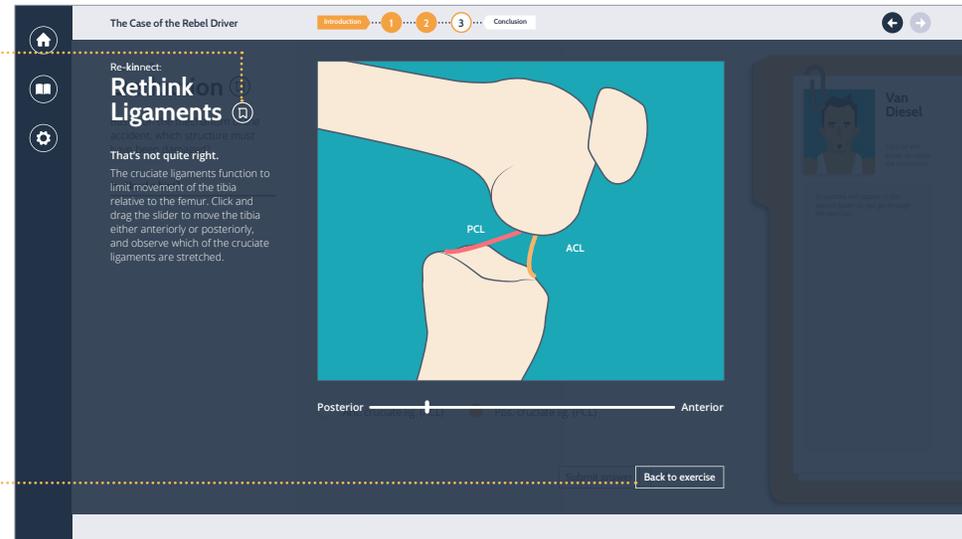
The user can re-access the **Re-Kinnect Review** by clicking on the button from the exercise page.



Button colours invert on hover and onclick



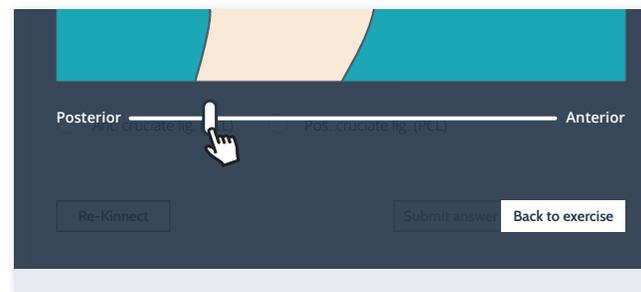
Button colours invert on hover and onclick



SLIDER

When the user clicks and drags the slider left or right, the 2D illustration changes accordingly. If the user releases the mouse button, the slider stays in place.

Slider handle becomes enlarged onclick



4 Case Study: Conclusion

After completing all the exercises, the user is directed to **Case Study Conclusion**. Here, they can read the *Main Takeaways* and view the *Case Study Recap* flowchart for the case study. Some conclusions include an explanatory animation.

Bookmark

Users can click on the icon to bookmark the exercise for re-access in the **Library**.



Navigation

Users can click on the **Home** icon in the global navigation or the "Back to home" button to go back to the **Home** screen.

