



SKILLSBUILDER JOURNEY

User Manual

Group 56

Version 2.6.2

Contents

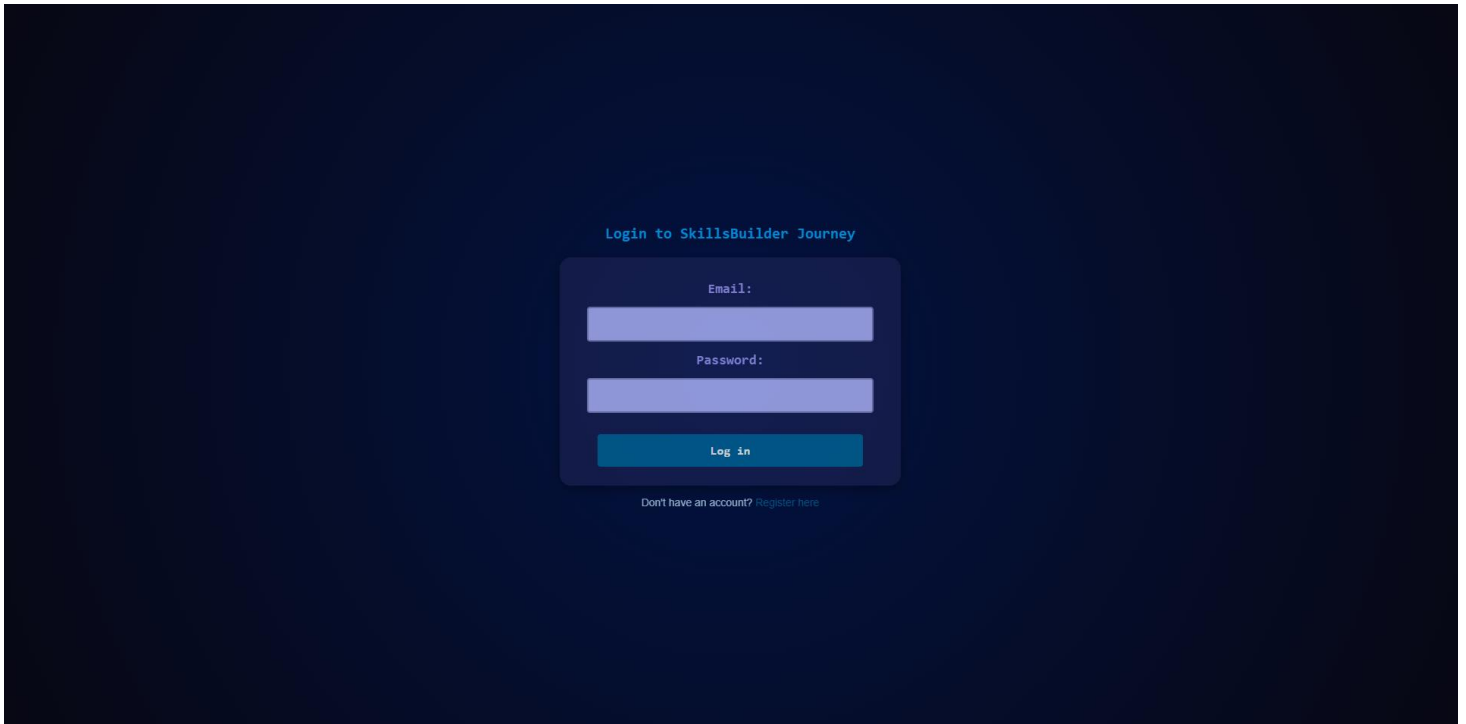
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Accounts

Relevant stories: 'Login and Register'

Login

Before being authorised, a potential user is automatically redirected to the /login page when attempting to access the website (shown below). Successfully logging in redirects to /dashboard by default. Clicking "Register here" takes the user to the /register page. The /login page is shown below:

The image shows a login form titled "Login to SkillsBuilder Journey" centered on a dark blue background. The form itself is a lighter blue rectangle with rounded corners. It contains two input fields: "Email:" and "Password:", each with a corresponding text input box. Below these fields is a teal "Log in" button. At the bottom of the form, there is a link that says "Don't have an account? Register here".

If the user clicks 'Log In' with an incorrect password, or if the email does not exist in the database, a relevant error is shown:

Incorrect email or password.

Login to SkillsBuilder Journey

Email:

Password:

Log in

Don't have an account? [Register here](#)

If either field is left blank when "Log In" is clicked, a temporary validation error is shown, which does not erase the values left in other fields. This is shown below:

Login to SkillsBuilder Journey

Email:

Password:

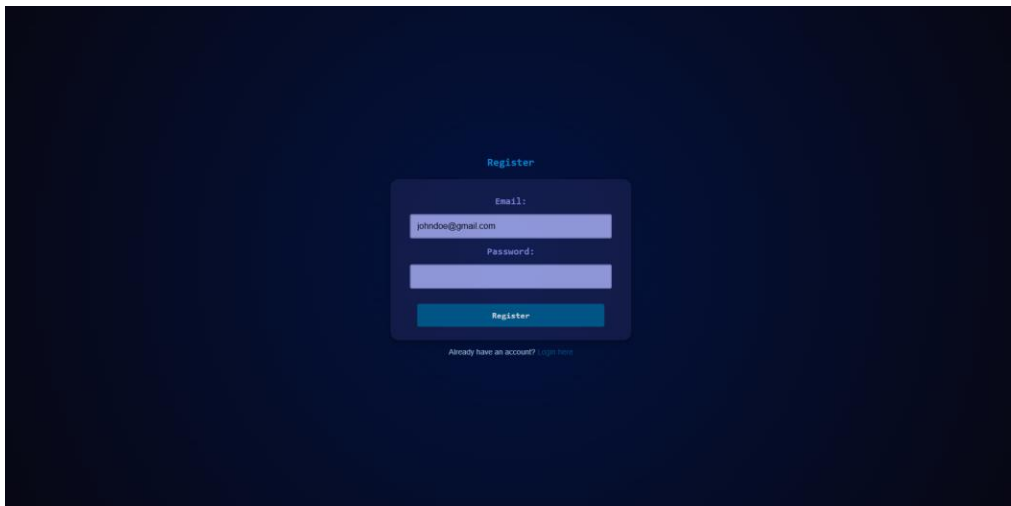
Please fill in this field.

Log in

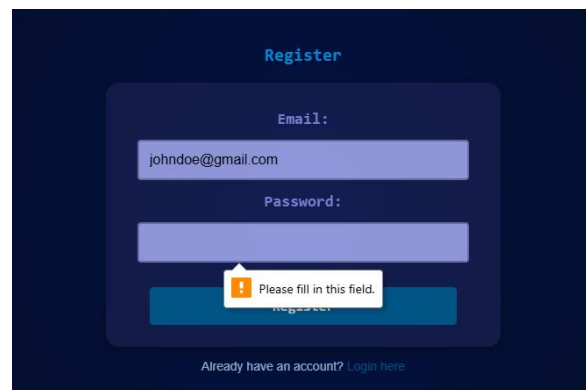
Don't have an account? [Register here](#)

Register

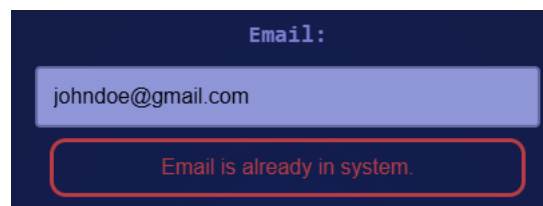
By navigating from the login page, the users can go to the /register page, where they may enter email and password fields to register an account. Clicking "Login here" takes the user back to the /login page. The registration page is shown below:



If either field is left blank when "Register" is clicked, a temporary validation error is shown, which does not erase the values left in other fields.



If an email is already registered when the user clicks 'Register' with non-empty fields, a specific error is shown:



An email is also required to be valid, in that must have a 'name' part, an @, and a domain. If any of these conditions are not met, the

Passwords also have 4 constraints to ensure that they meet a certain strength. A password must:

- Contain an uppercase letter
- Contain a number
- Contain a special character
- Be at least 6 characters long

Each unfulfilled constraint is stated separately as an error to make information very clear to the user. In addition to this, the email field is not erased when a password is invalid, to save the user time. Below is an example after "abcdef" is entered as a password but the email was valid:

The image shows a 'Register' form on a dark blue background. At the top, the word 'Register' is written in a light blue font. Below it, there is a form container with a light blue border. Inside, the 'Email:' label is followed by a text input field containing 'janedoe@gmail.com'. Below that, the 'Password:' label is followed by a text input field. A red-bordered box highlights the password requirements: 'Must contain at least one uppercase letter.', 'Must contain at least one number.', and 'Must contain at least one special character.'. Below the password field is a blue 'Register' button. At the bottom of the form container, there is a link: 'Already have an account? [Login here](#)'.

The length of the password is a higher priority constraint which means the other password-validation errors are hidden when it is shown. This is to prevent too many errors from being shown at once when not all are immediately relevant to the user. Below is an example of when 'abc' is entered as a password (which does not fulfil any of the constraints):

The image is a close-up of the password field from the previous form. The 'Password:' label is at the top. Below it is a text input field. A red-bordered box highlights the validation error: 'Must be at least 6 characters long.'.

If the user clicks 'Register' with a valid email and password, it takes them to the /login page and displays a success message:

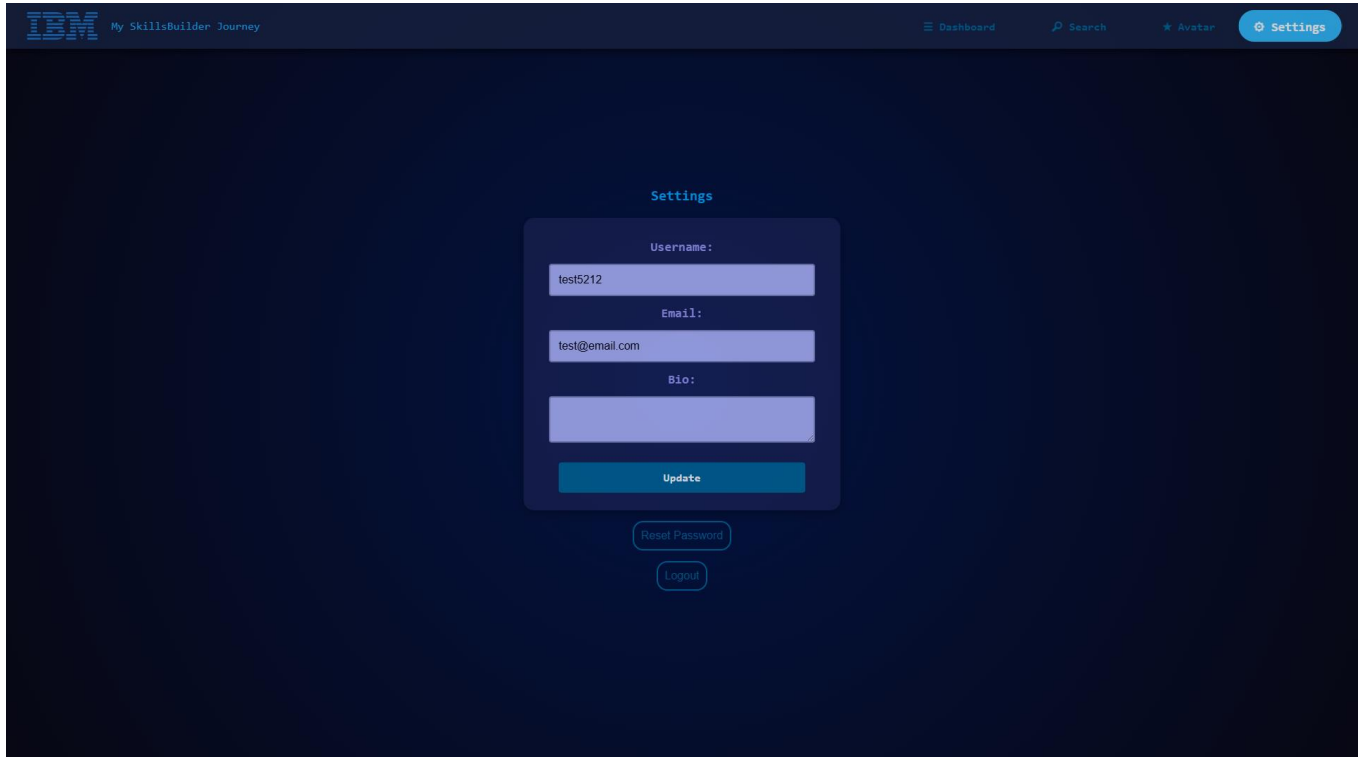
The image shows a login page on a dark blue background. At the top, a green-bordered box displays the message 'Registered successfully.'. Below this, the text 'Login to SkillsBuilder Journey' is written in a light blue font. There is a form container with a light blue border. Inside, the 'Email:' label is followed by a text input field. Below that, the 'Password:' label is followed by a text input field. Below the password field is a blue 'Log in' button. At the bottom of the form container, there is a link: 'Don't have an account? [Register here](#)'.

Settings

Relevant stories: 'User Profile Management'

Clicking the settings button on the navbar will direct the user to the /settings page. This also highlights the button in the navigation bar.

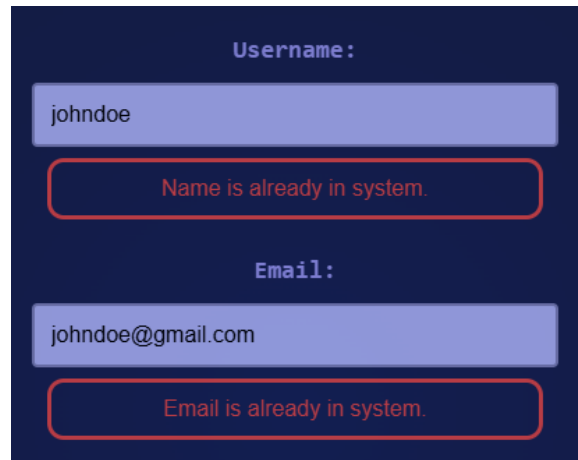
The settings page is a form that allows the user to update their information in the database. It is automatically filled by existing information in the system. When a new account is created, they are given an autogenerated username, which is created by appending 4 random digits to the name before the @ in their email address). By default, a user does not have a bio. Below is an example for an account that was registered with the email 'test@email.com':



Each field is unique and has validation:

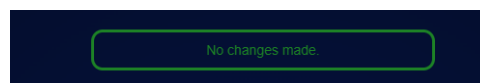
- A username must not already exist in the database, be at least 3 characters long, and only contain letters, '_' and '-'.
- An email must not already exist in the database, and must contain a name part, an @ symbol, and a domain.
- A bio is limited to 200 characters.

Each error is independent which means they can happen simultaneously. Below is an example of both the username and email being taken:



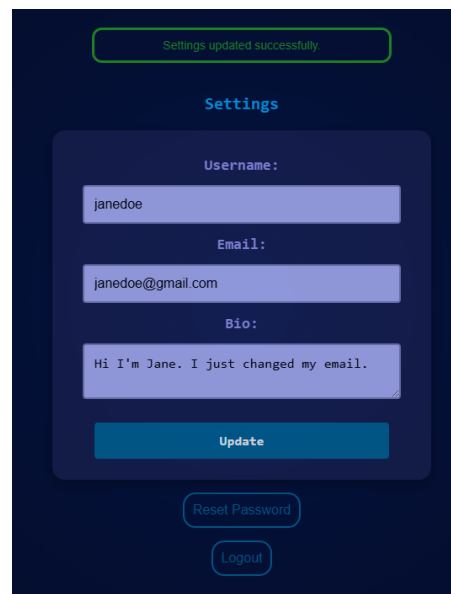
A screenshot of a user profile update form on a dark blue background. The form has two input fields. The first field is labeled 'Username:' and contains the text 'johndoe'. Below it is a red rounded rectangle containing the text 'Name is already in system.' The second field is labeled 'Email:' and contains the text 'johndoe@gmail.com'. Below it is another red rounded rectangle containing the text 'Email is already in system.'

If the user clicks update when no changes were made in the fields, they are notified that no changes were made, as shown below:



A screenshot of a notification message. It consists of a green rounded rectangle containing the text 'No changes made.'

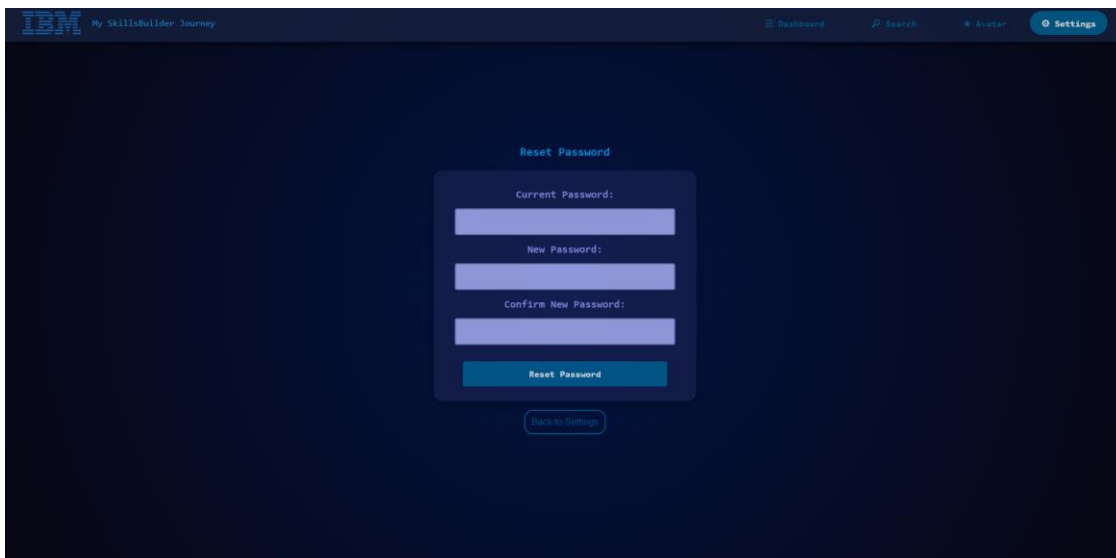
If all fields are valid and the user clicks 'Update', then the data is saved in the database and they are given a success message, as shown below:



A screenshot of a user profile update form on a dark blue background. At the top, there is a green rounded rectangle containing the text 'Settings updated successfully.' Below this is a section titled 'Settings' in blue. Inside this section is a form with three input fields: 'Username:' containing 'janedoe', 'Email:' containing 'janedoe@gmail.com', and 'Bio:' containing 'Hi I'm Jane. I just changed my email.' Below these fields is a blue 'Update' button. At the bottom of the form are two buttons: 'Reset Password' and 'Logout'.

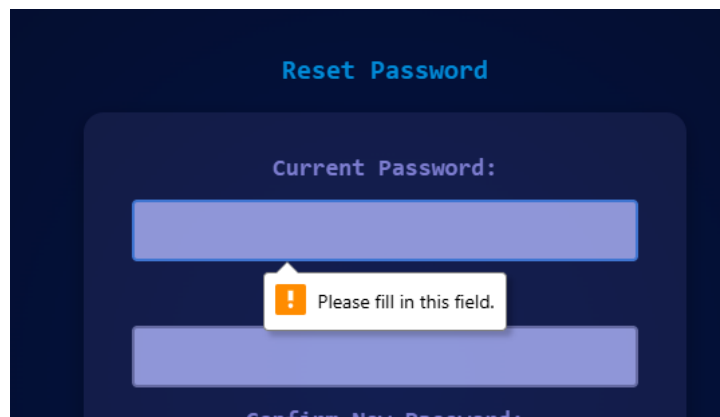
Reset Password

Clicking 'Reset Password' will direct the user to the /settings/reset-password page. They can return to the /settings page by clicking the 'Back to Settings' button, which will not make any changes to their password. The starting state of this page is shown below:



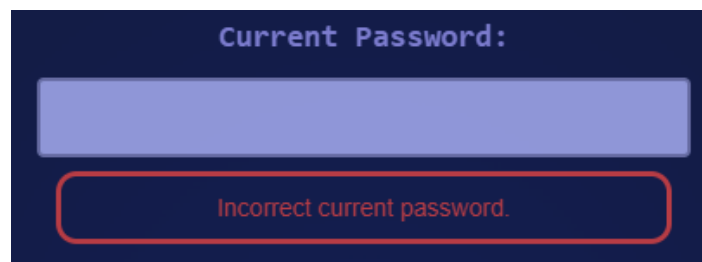
The screenshot shows the IBM SkillsBuilder Journey interface. At the top, there is a navigation bar with the IBM logo, 'My SkillsBuilder Journey', and links for 'Dashboard', 'Search', 'Avatar', and 'Settings'. The main content area is dark blue and features a 'Reset Password' form. The form has three input fields labeled 'Current Password:', 'New Password:', and 'Confirm New Password:'. Below these fields is a blue 'Reset Password' button and a 'Back to Settings' button.

Clicking 'Reset Password' without entering all fields will prompt the user to fill in the top-most empty field, as shown below:



This screenshot shows the 'Reset Password' form with an error message. The 'Current Password:' field is empty, and a yellow tooltip with an exclamation mark icon and the text 'Please fill in this field.' is pointing to it. The 'New Password:' and 'Confirm New Password:' fields are also visible but empty.

Assuming all fields are filled, entering the incorrect current password will result in the error shown below:



This screenshot shows the 'Current Password:' field with an error message. The field is filled with a password, and a red rounded rectangle below it contains the text 'Incorrect current password.'

The new password is validated in the same way as it is when the user initially registers an account.

This means, it must:

- Be at least 6 characters long
- Contain a special character
- Contain a number
- Contain an uppercase letter

There is a specific error that corresponds to each constraint so that the user knows where to improve the a password. Similar to registration, if a password is too short, the length validation error takes priority, as to not show too many errors at once. For example, below are two examples. On the left, 'abc' was entered, and on the right, 'abcdef':

New Password:

Must be at least 6 characters long.

This form shows a 'New Password' input field with a red error message below it stating 'Must be at least 6 characters long.' This indicates that the password 'abc' was entered, which is too short.

New Password:

Must contain at least one special character.
Must contain at least one number.
Must contain at least one uppercase letter.

This form shows a 'New Password' input field with a red error message box below it. The message contains three lines: 'Must contain at least one special character.', 'Must contain at least one number.', and 'Must contain at least one uppercase letter.' This indicates that the password 'abcdef' was entered, which fails all three character composition constraints.

The new password confirmation field will only return an error if the password entries don't match, regardless of whether the password is valid. Furthermore, the errors for each field are independent, which means they can display simultaneously. Below is an example for when errors are triggered for all three:

Reset Password

Current Password:

Incorrect current password.

New Password:

Must contain at least one special character.

Confirm New Password:

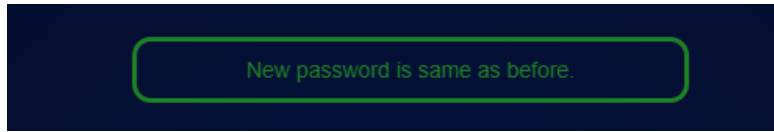
New password entries do not match.

Reset Password

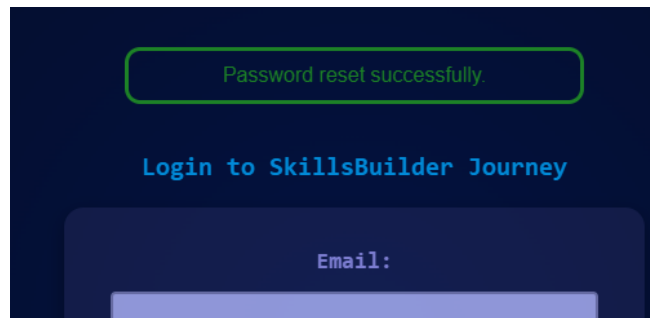
Back to Settings

This form, titled 'Reset Password', contains three input fields. The 'Current Password' field has a red error message 'Incorrect current password.' below it. The 'New Password' field has a red error message 'Must contain at least one special character.' below it. The 'Confirm New Password' field has a red error message 'New password entries do not match.' below it. At the bottom of the form are two buttons: 'Reset Password' and 'Back to Settings'.

If the user their current password in all of the fields and click 'Reset Password', they get the following message:

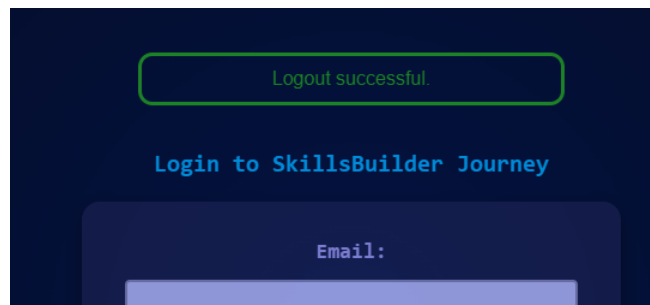


If the user enters correct and valid values for all fields and click 'Reset Password', they get logged out and redirected to the /login page, where a success message is displayed, as shown below:



Logout

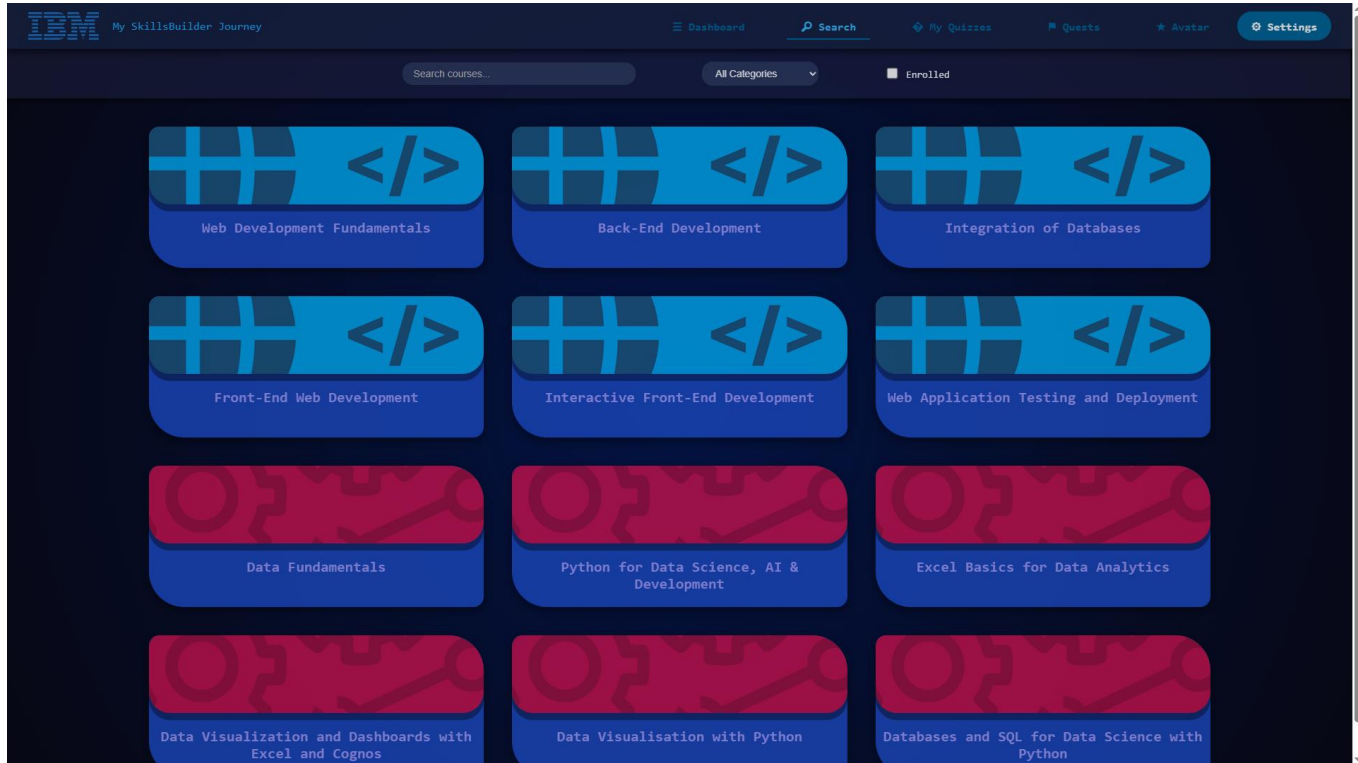
If the user clicks 'Logout', they are immediately logged out of their account and taken to the /login page, where a success message is displayed, as shown below:



Courses

Relevant stories: 'View Dashboard', 'Search and Filter Courses', 'Record Start Times', 'Record Completion'

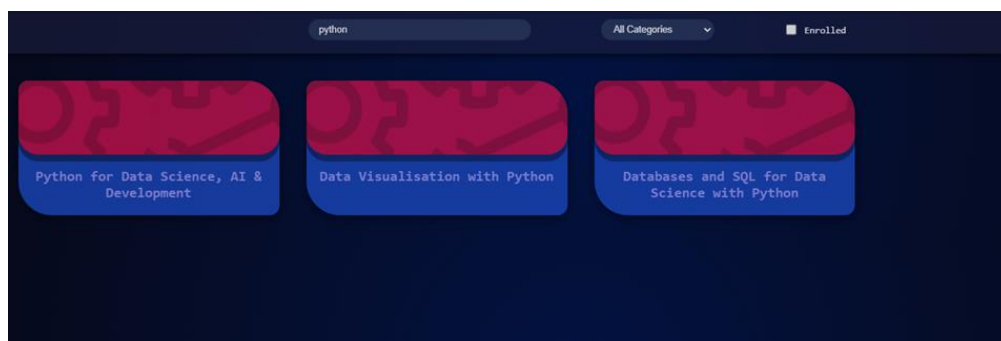
By clicking on "Search" in the navigation bar, the user can navigate to the /courses page, which highlights the nav button. The initial state is shown below:



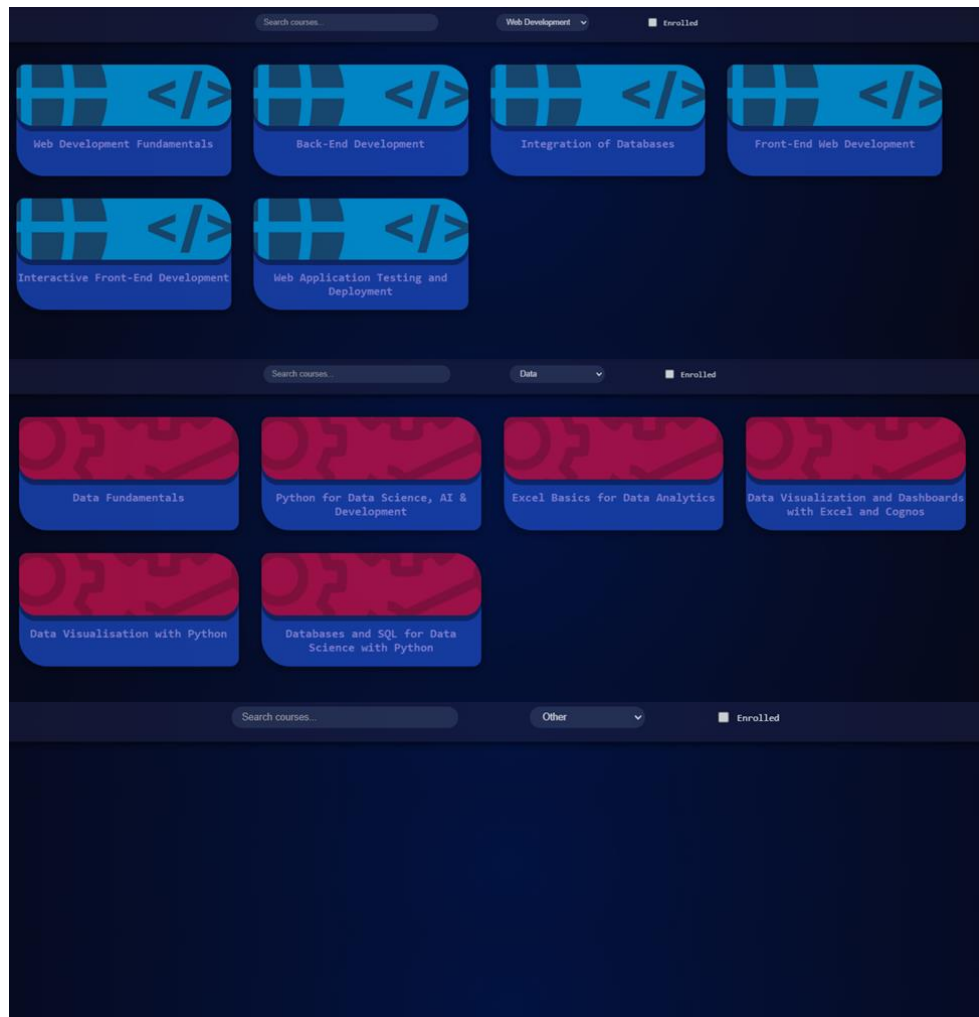
All courses stored in the database are shown in a grid, with their names and a suitable image based on their associated learning path (currently only Web Development or Data are in the database). Courses attached to a learning path are also displayed on learning paths. See the 'Learning Paths' section for more information.

Filtering and Searching Results

By typing text into the 'Search courses...' bar, the courses can be filtered by their titles. It ensures that courses are only displayed if the entered string is contained in its title. The image below shows the result of typing 'python'.



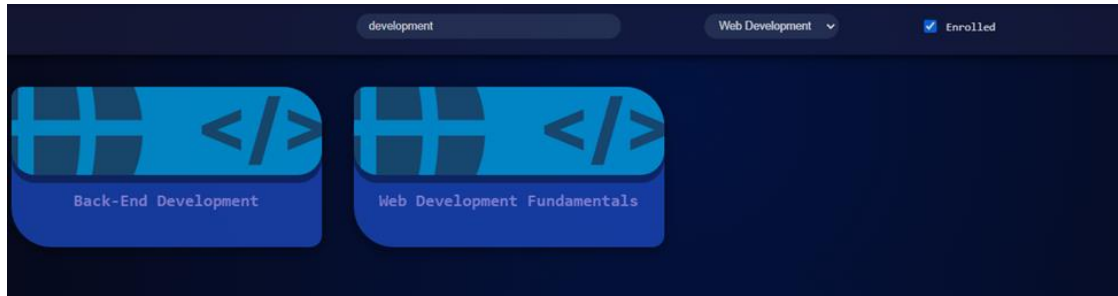
It is also possible to sort by category, meaning the learning path associated with a course. Because there are two learning paths implemented, the drop down gives 4 options. No filter (All Categories), Web Development, Data, and Other. Each course is customised to show a banner based on its category. The results of the Web Development, Data, and Other filters with an empty search filter are respectively shown below. As all courses are currently in a learning path, the Other filter currently displays no courses.



The Enrolled checkbox will exclusively show courses that the active user is enrolled in. In the example below, the user is enrolled in 3 Web Development courses.

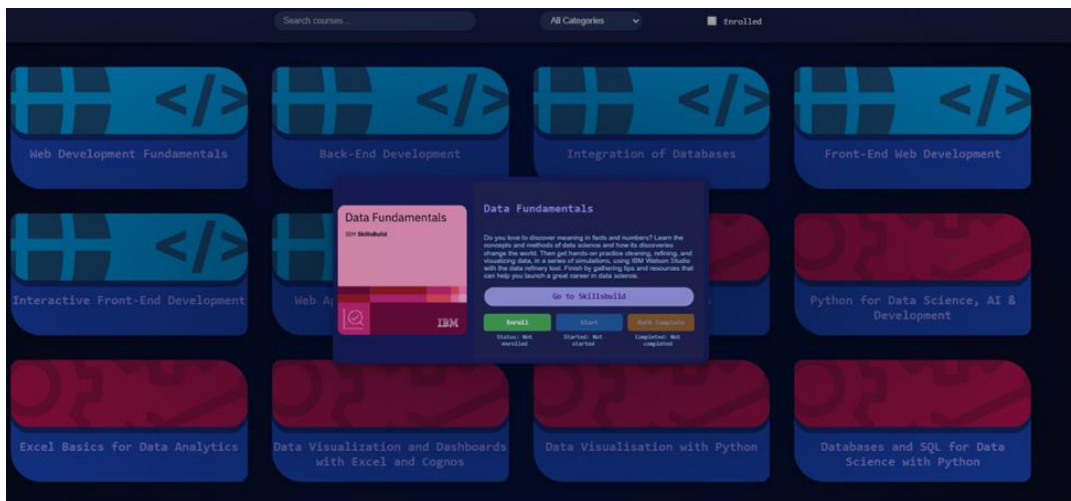


These filters can be combined. For example, the result of all Web Development courses with 'development' in the title that the current user is enrolled in is shown below:

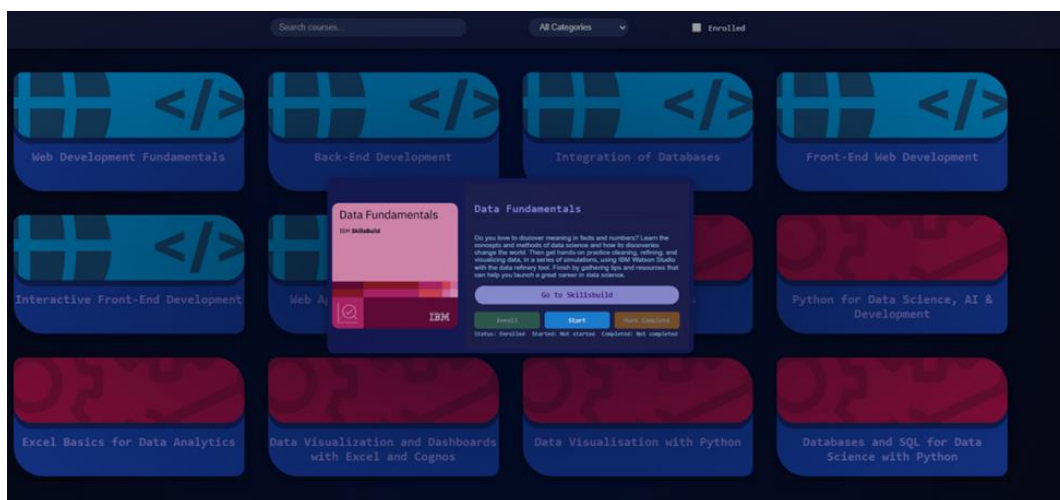


Enrolment Modal

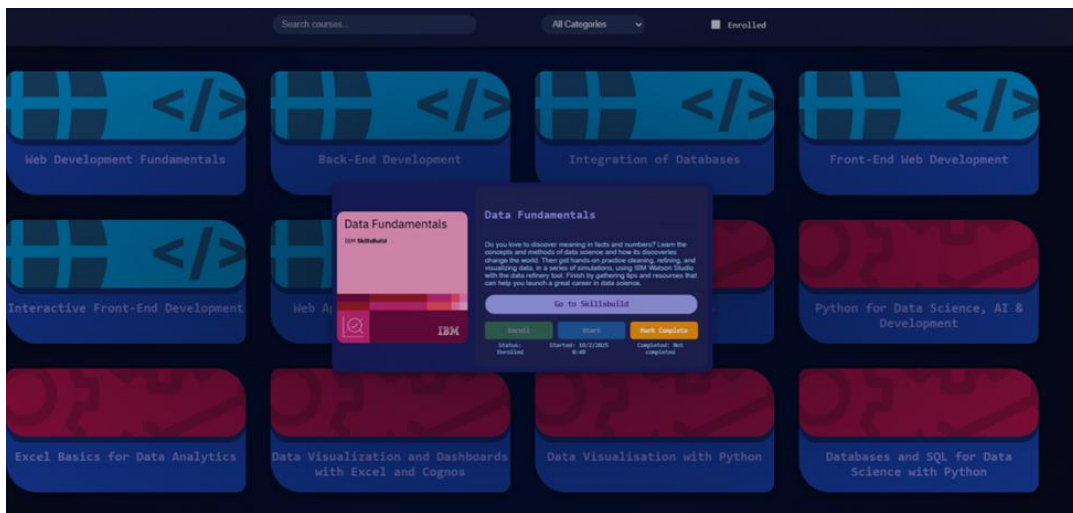
By clicking on a node on a learning path (see the 'Learning Paths' section) or clicking on a course card on /courses, a modal is opened, which gives the user access to course-related functionality. On the /courses page (shown in the 'Courses' section), the user may click on a course and see a popup.



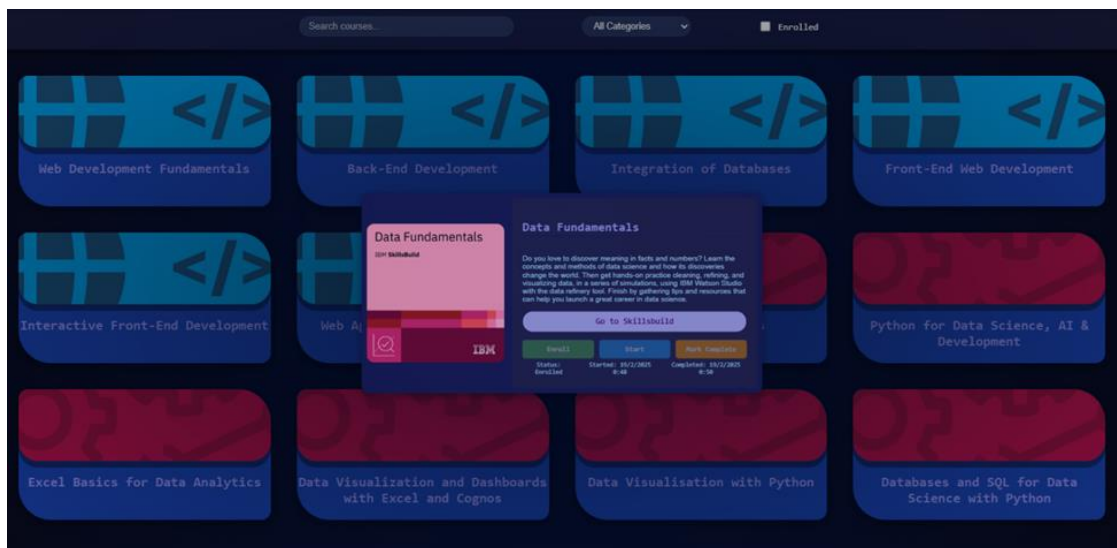
This popup enables enrolling into that course by clicking the green enrol button, placing an entry in the enrolment table in the database. After clicking, the green button is greyed out and the blue start button enabled and brightened. This is the appearance after pressing enrol.



The user may now press start. This records the starting time in the enrolment table in the database, displays it on the page, and greys out the start button. The mark complete button is then brightened and enabled.



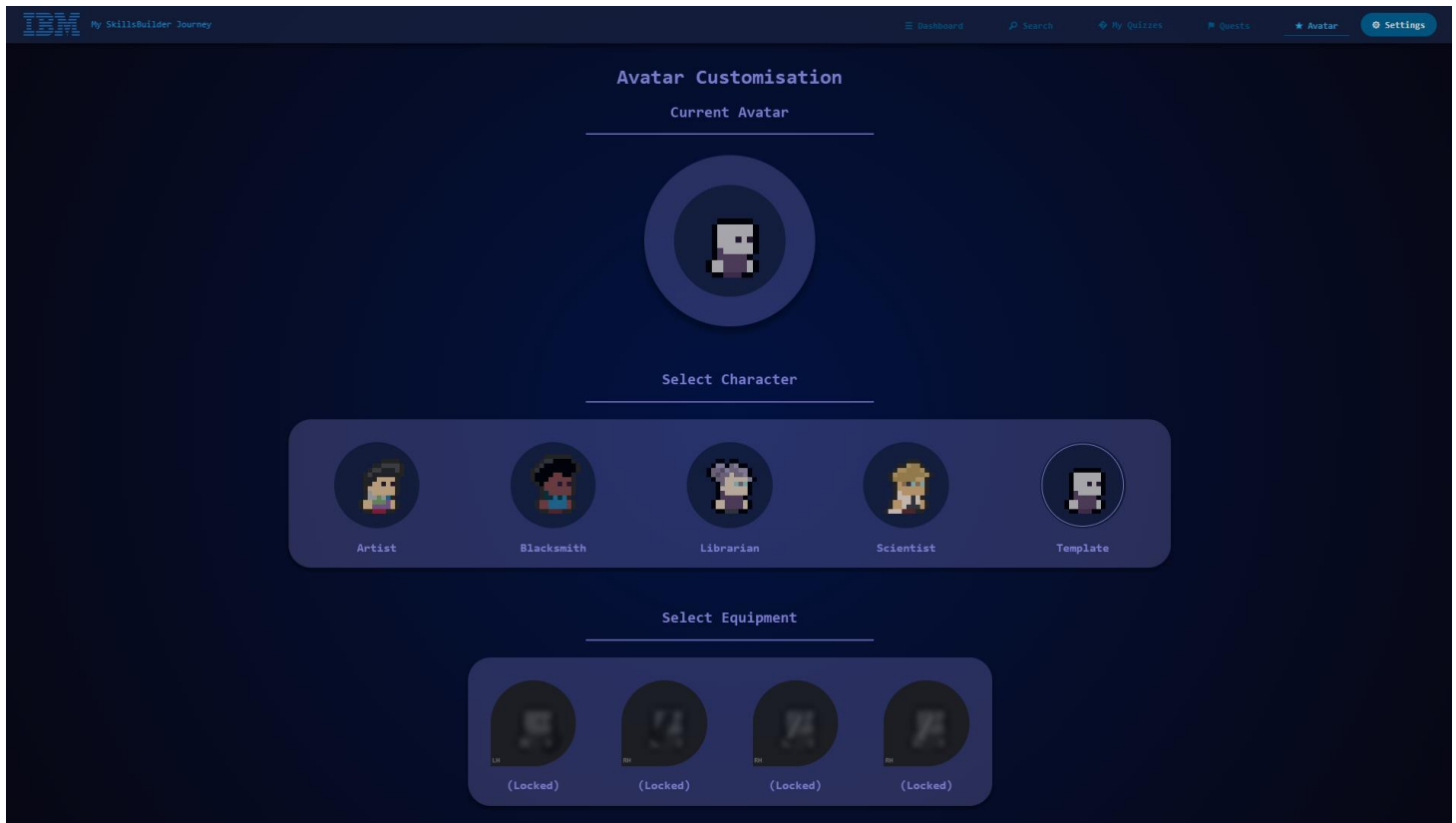
The user may now complete the course. This changes a field in the database record to mark it as complete and then greys out the mark complete button as shown. It also displays the completion time along with the start time.



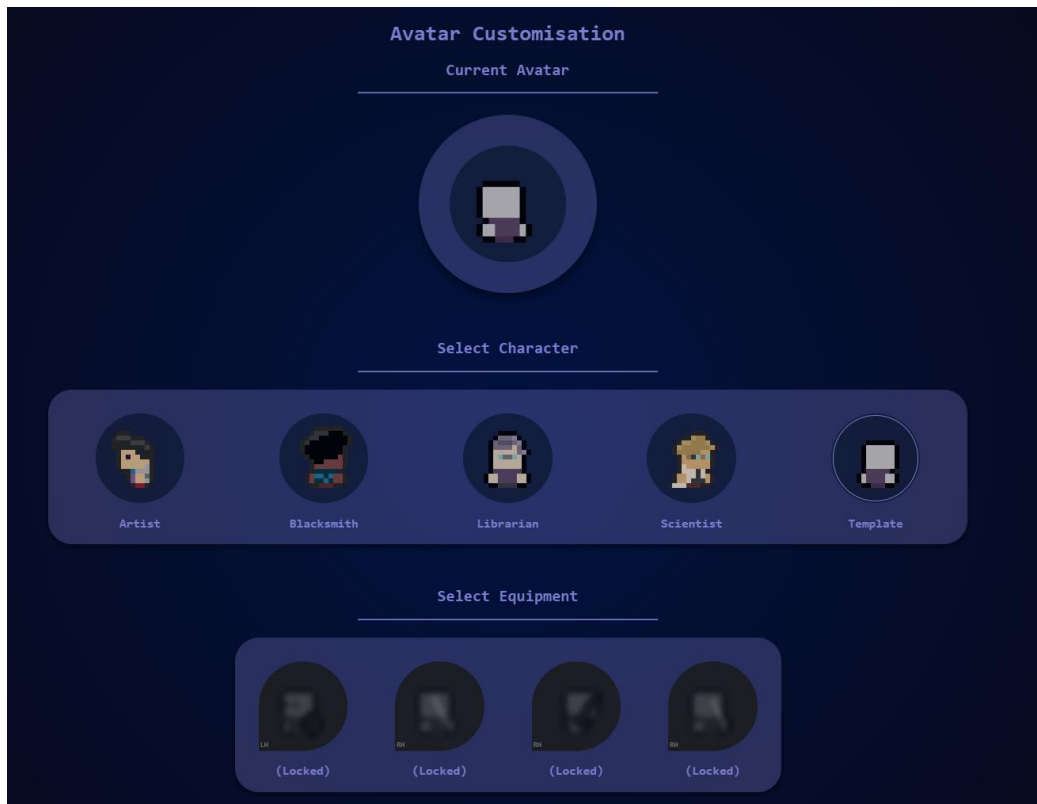
Avatars

Relevant Stories: 'Customisable Avatars', 'Displaying Items'

By clicking 'Avatar' on the navigation bar, the button is highlighted, and the user navigates to the /avatar page, where they can customise their avatar. The default character for a new user is "template", and they have no unlocked equipment. Below is the state of the whole page for a new account:

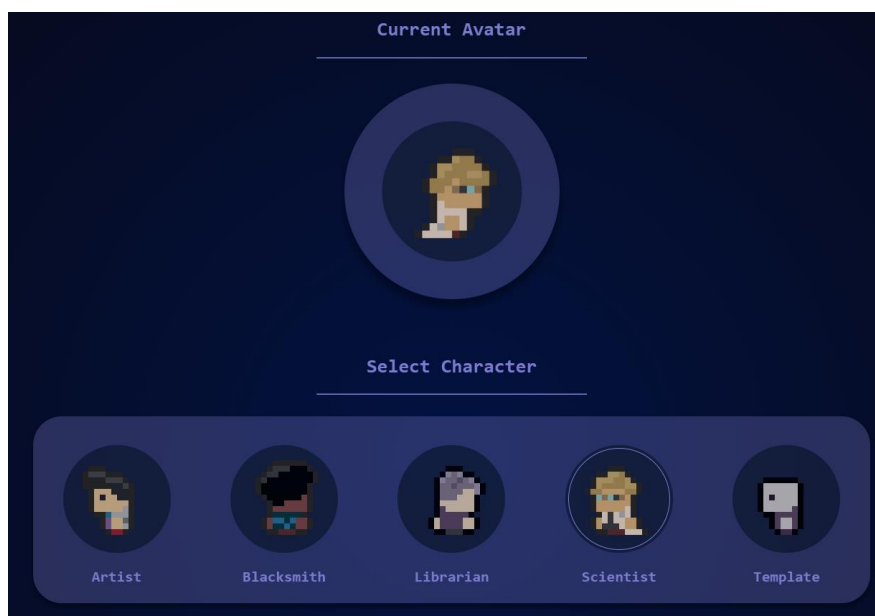


Every avatar is animated to be able to face any direction and can be rotated by hovering over it with the cursor. Since they do not reset to their initial directions when the mouse no longer hovers over them, they can all be rotated independently and face different directions simultaneously. Below is an example of all avatars facing random directions, including locked equipment:



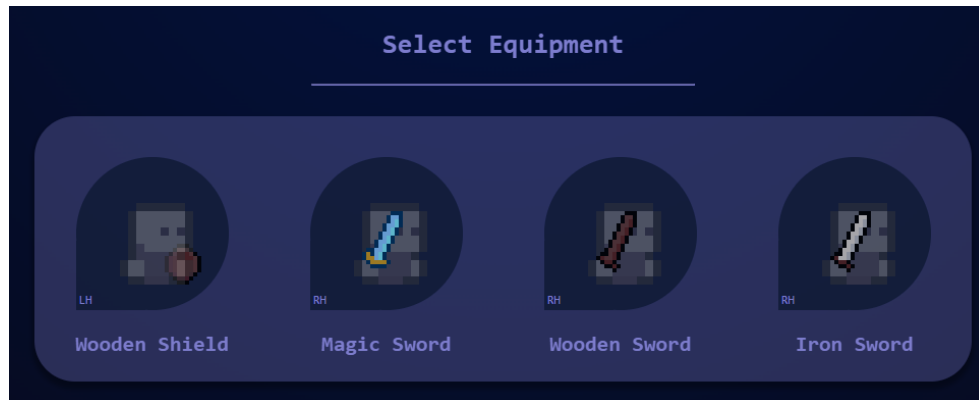
Characters

An avatar has a base character that's animated. Every character in the database is listed and selectable. The currently selected character is given a subtle border and also displayed in the current avatar section. Below is an example of when the 'Scientist' is selected and no equipment is equipped:

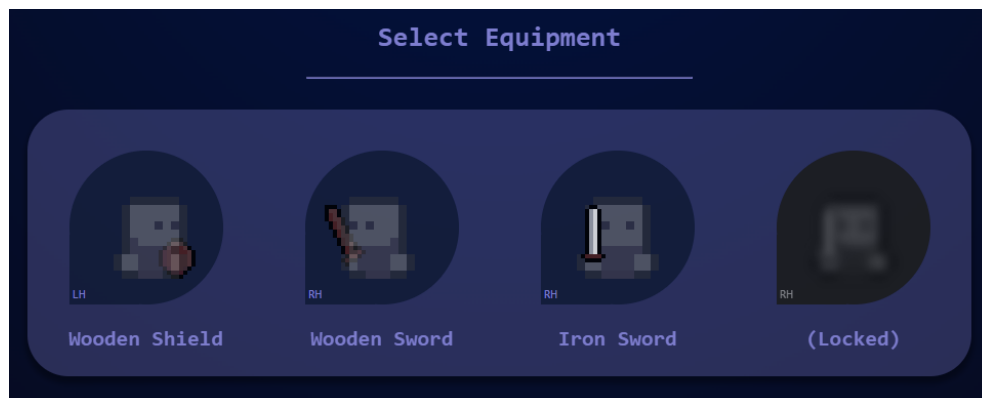


Equipment

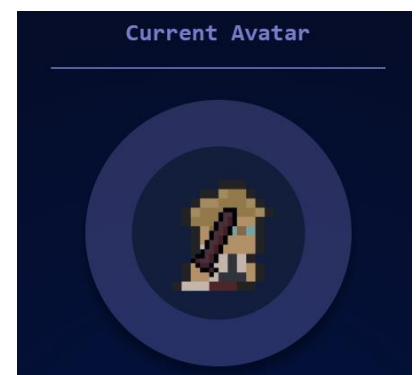
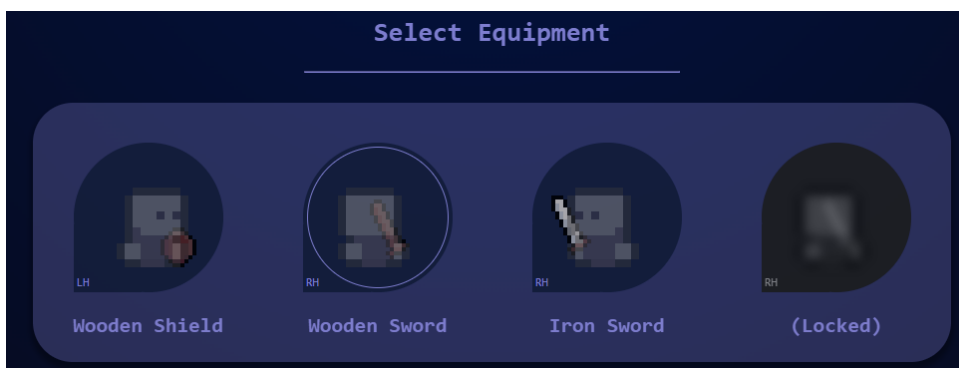
A user must earn wearable equipment (which are cosmetic) by completing quests. Equipment is sorted in order of type, as opposed to being purely alphabetical. For example, swords appear consecutively. All equipment is displayed with a semi-transparent template character to demonstrate their appearance in context. They are also displayed either in front of or behind the avatar based on orientation. In the bottom left of each avatar, the equip slot is shown, to signal which equipment are mutually exclusive. Below is an example where the user has unlocked all equipment but has none of it equipped:



If a user has any equipment still locked, it will be moved to the end of the sequence to demonstrate that it cannot be interacted with. Locked equipment have their names replaced with '(Locked)' and have their avatar blurred and greyed out, as shown below:

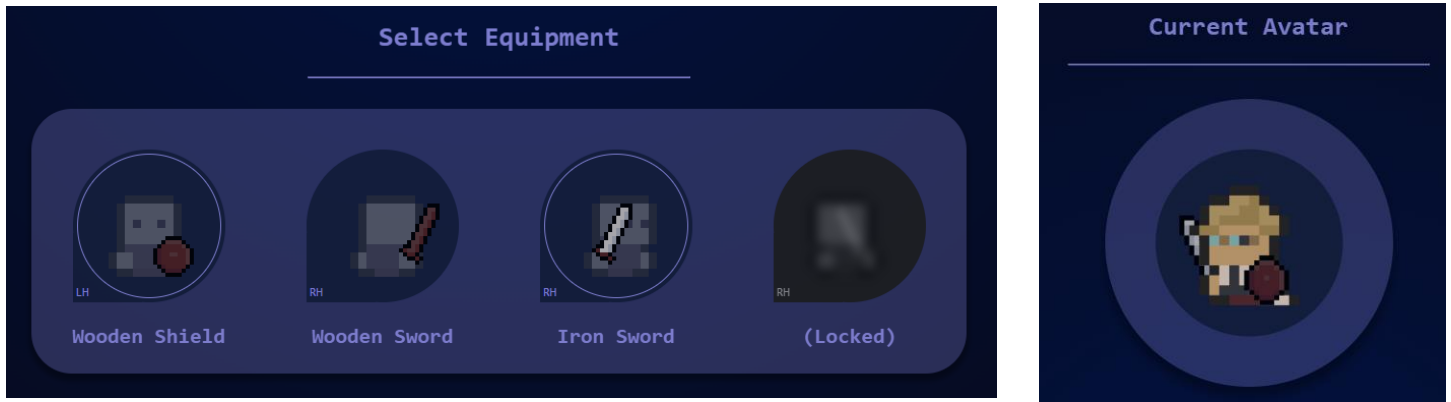


Any equipment that is not locked can be equipped by clicking on it. Similar to a character, this gives it a clear border to demonstrate this. It also updates the current avatar. Below is an example of when a 'wooden sword' is equipped and 'scientist' is the selected character:

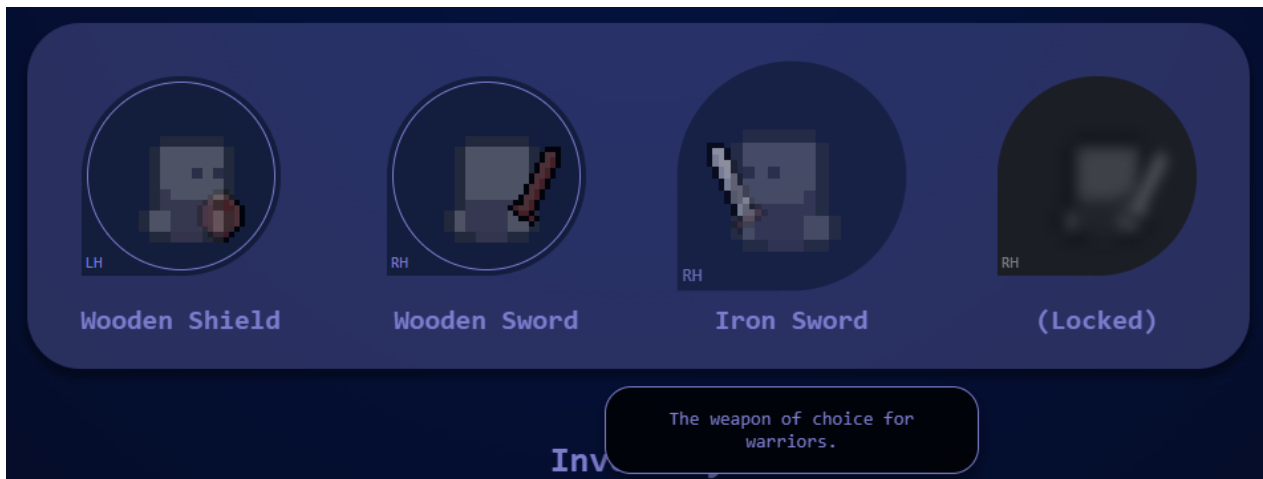


An avatar can only have one equipped item per slot. In the case above, if the user were to equip the 'iron sword' while the 'wooden sword' is equipped, the 'wooden sword' would be unequipped first. In addition, a piece of equipment can be unequipped by clicking on it again.

Equipment from different slots can be equipped at the same time. Below is an example of equipping the 'wooden shield' while the 'iron sword' is equipped, and how that affects the current avatar:

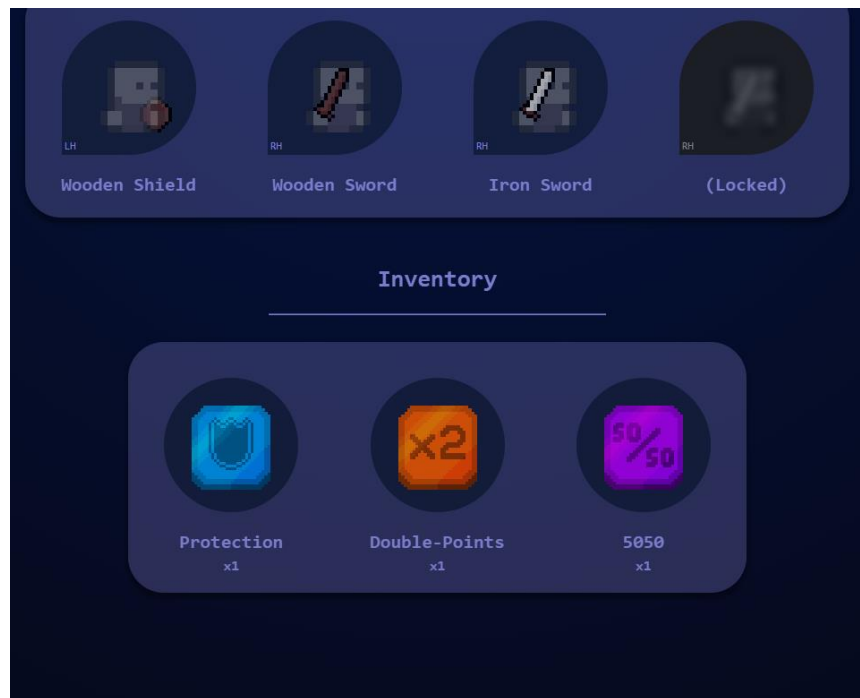


Although equipment is cosmetic, they do have tooltips that appear when the user hovers over them, as shown below:



Inventory

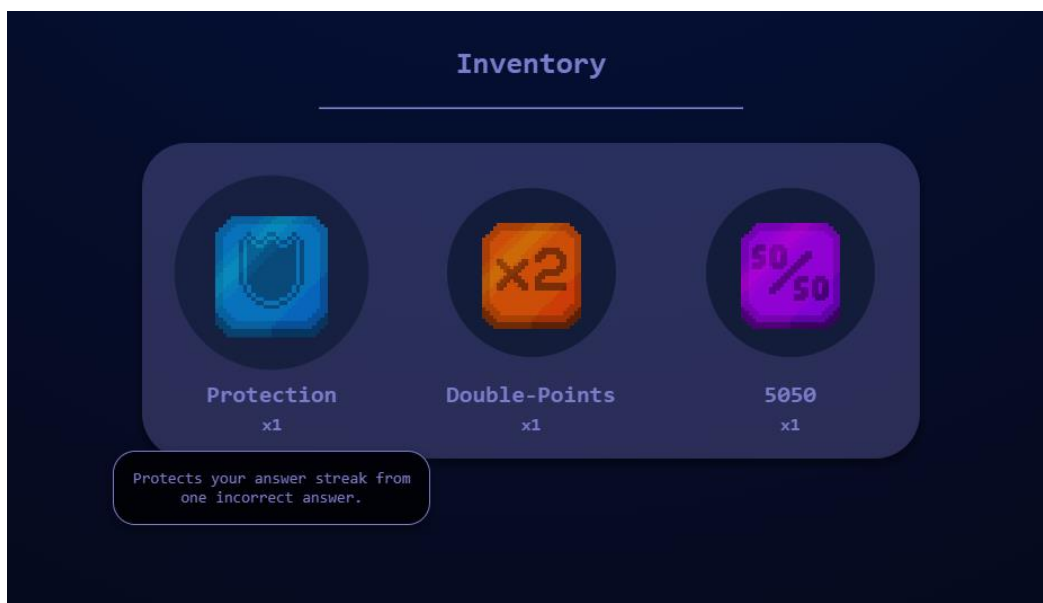
A user also has an inventory of consumables beneath their equipment. However, this does not appear if the user does not have any items. If the user has items in their inventory, the items they have, and their quantities will be displayed below the equipment, as shown below:



The user can obtain the following one-use items when completing quests:

- Protection: Protects your answer streak from one incorrect answer.
- Double Points: Doubles the points you'll earn for the question you use it on.
- 50/50: Removes two incorrect answers from the options.

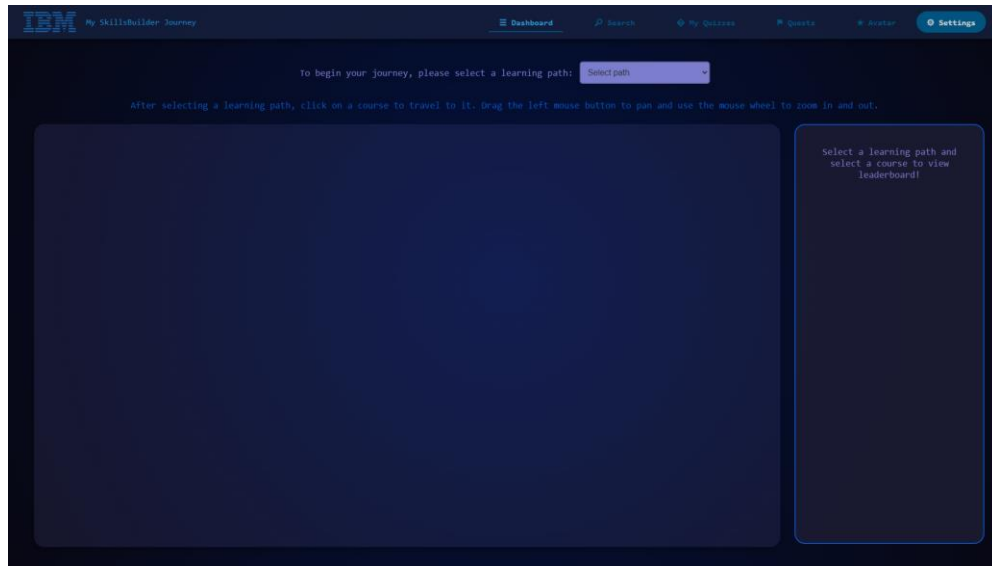
You can hover over any of the items in your inventory to see a tooltip which describes their use.



Dashboard

Relevant stories: 'View Dashboard', 'Leaderboard', 'Quizzes', 'Displaying Items', 'Customisable Avatars'

The /dashboard page, which can be opened by using the navigation bar or will be redirected to from home ('/'), is dedicated to viewing learning paths and leaderboards. The default state is shown below:



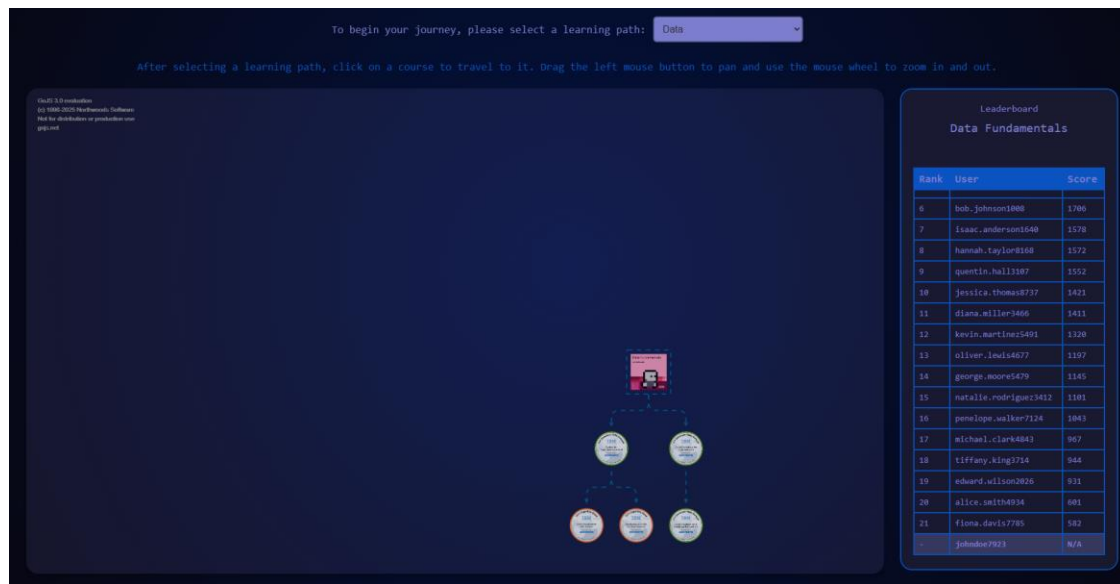
Learning Paths

Learning paths are a visual system that connects quizzes to courses by topic and displays a tree of courses based on their assumed knowledge from previous courses.

The user can change the currently selected learning path by clicking an option in the drop-down, which loads into the page dynamically. Each course is shown as a node represented by their icon on the IBM SkillsBuild website. Furthermore, the currently selected avatar of the user is represented in the tree, starting on the root node. Assuming the user has a newly made account, the result of clicking 'Data' in the drop-down is shown below:



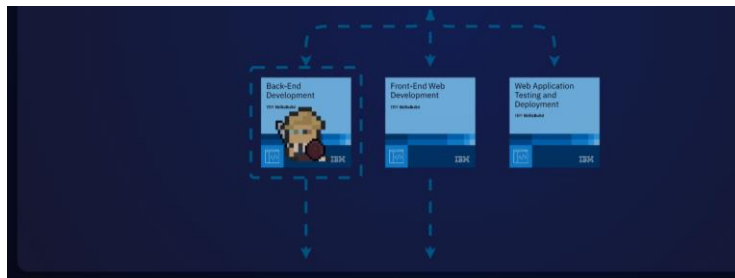
Within the learning path space, the user can freely zoom in and out (using the mouse wheel or pinching a touch-screen) and pan around the area without affecting the rest of the page, which means that learning paths could be much larger than demonstrated. An example is shown below:



If the user clicks on any course not currently selected, the course will be given a faint blue outline and the character will begin traversing towards it, node by node, using the shortest path available, being fully animated in the process and smoothly facing the direction that it moves. Below are separate examples of when nearby and distant nodes are selected, and different characters are selected (see 'Avatars'). In the latter case, you can see that the avatar routes via the root node because that is the only way to reach the distant node. All movement is fully interruptible, which means the user is not forced into a decision for any time at all.



In addition to displaying the avatar character, it also displays any equipped items (see 'Avatars') and animates them with the character. It also places them either in front or behind the character depending on what makes sense for the orientation. After the avatar arrives at the course, the outline of the course becomes less faint to indicate that they have arrived. Below is an example of an avatar with both a LH and RH piece of equipment that have stopped at a node in the 'Web Development' learning path:

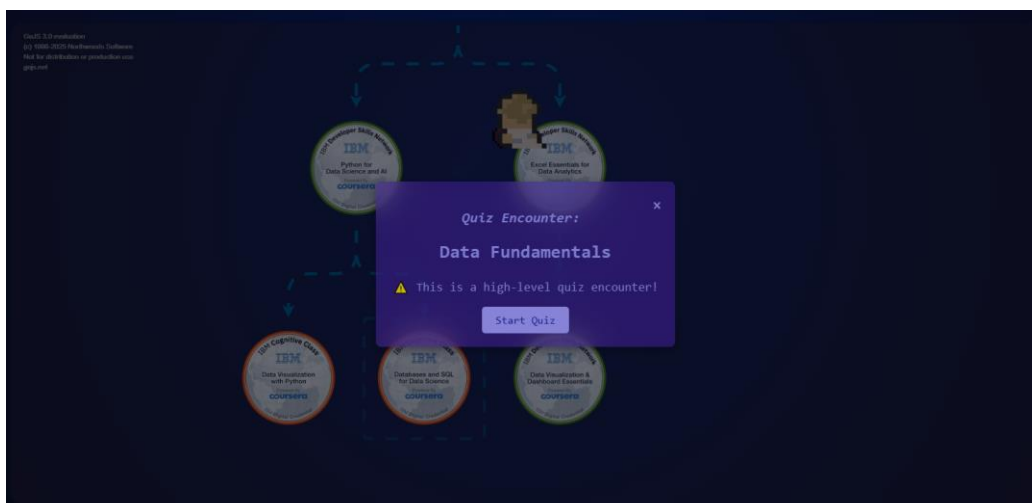


After an avatar has stopped at a node, the node can be clicked, which opens a modal with more information and functionality with the course (see the 'Enrolment Modal' subsection in the 'Courses' section). Below is an example of opening the modal:

Rank	User	Score
1	John Doe	2500
2	James Youngblood	1812
3	Isabella Harris10211	1800
4	Patrick Allison890	1615
5	Charles Brown1288	1620
6	Bob Johnson1800	1700
7	David Anderson1640	1570
8	Samuel Taylor1600	1572
9	Jonathan Hall11407	1552
10	Jessica Thomas2737	1421
11	Olivia Miller1400	1411
12	Kevin Martinez15491	1320

Whenever the avatar moves between any two nodes, there is a 10% chance of having an encounter. In this situation, the user will be prompted with a random knowledge quiz (see the 'Quizzes' section for more information), pausing the movement of their avatar.

The user can dismiss the prompt (by clicking the 'x') and the avatar will resume the path it was taking, preventing further encounters. Below is an example of the prompt:



Leaderboard

To the right of the interactive learning path, the user can see an embedded leaderboard which shows the highest scoring users for quizzes for the currently selected course (see the 'Quizzes' section). Opening a learning path automatically loads the leaderboard for the root course.

The leaderboard displays the scores and ranks of other users that have tried the quizzes. It will also highlight the score of the current user and automatically scroll down to reveal it. Despite no scrollbar, the user can freely scroll up and down the leaderboard. If they have not attempted a quiz but are enrolled, their rank will be displayed as '-' and their score will be displayed as 'N/A'.

Below is an example of the view for a user that has not attempted the quiz:

The screenshot shows the IBM SkillsBuilder Journey interface. At the top, there's a navigation bar with 'Dashboard', 'Search', 'My Quizzes', 'Quests', 'Avatar', and 'Settings'. Below the navigation bar, a message says 'To begin your journey, please select a learning path:' followed by a dropdown menu set to 'Data'. Below this, a message says 'After selecting a learning path, click on a course to travel to it. Drag the left mouse button to pan and use the mouse wheel to zoom in and out.'

The main area displays a learning path diagram. At the top is a box for 'Data Fundamentals' (IBM SkillsBuilder). Below it are two circular icons representing courses: 'Python for Data Science and AI' (powered by Coursera) and 'Excel Basics for Data Analytics' (powered by IBM SkillsBuilder). The 'Excel Basics for Data Analytics' course is highlighted with a dashed blue border.

On the right side, there is a 'Leaderboard' for 'Excel Basics for Data Analytics'. It shows a table with columns 'Rank', 'User', and 'Score'. The table lists 20 users, with the last user, 'test6719', having a rank of '-' and a score of 'N/A'.

Rank	User	Score
6	laura.harris8211	1531
7	oliver.lewis4677	1522
8	michael.clark4843	1326
9	jessica.thomas8737	1238
10	alice.smith4934	1174
11	natalie.rodriguez3412	998
12	hannah.taylor8168	932
13	edward.wilson2826	842
14	isaac.anderson1648	839
15	samuel.young8899	801
16	kevin.martinez5491	731
17	tiffany.king3714	704
18	bob.johnson1808	647
19	rachel.allen4889	535
20	diana.miller3466	512
-	test6719	N/A

Hovering over any user's name will display their bio, if they have one.

The close-up shows the leaderboard table with columns 'Rank', 'User', and 'Score'. The row for 'jessica.thomas8737' with a score of '1421' is highlighted. A tooltip is displayed over the user's name, containing the text 'Hello! My name is: jessica thomas'.

Rank	User	Score
10	jessica.thomas8737	1421
11		
12		
13	oliver.lewis4677	1197

If the current user is high up on the leaderboard, it will not automatically scroll down. Below is an example where the current user has a different username and has the top score on a different quiz:

The image displays a quiz interface and a leaderboard. The quiz interface on the left features a 'Data Fundamentals' title, a user avatar, and two circular progress indicators for 'Python for Data Science and AI' and 'Excel Essentials for Data Analytics'. The leaderboard on the right is titled 'Leaderboard Data Fundamentals' and lists 18 users with their ranks and scores.

Rank	User	Score
1	johndoe	2950
2	samuel.young8899	1932
3	laura.harris8211	1880
4	rachel.allen4809	1875
5	charlie.brown9388	1826
6	bob.johnson1008	1706
7	isaac.anderson1648	1578
8	hannah.taylor8168	1572
9	quentin.hall3107	1552
10	jessica.thomas8737	1421
11	diana.miller3466	1411
12	kevin.martinez5491	1320
13	oliver.lewis4677	1197
14	george.moore5479	1145
15	natalie.rodriquez3412	1101
16	penelope.walker7124	1043
17	michael.clark4843	967
18	tiffany.king3714	944

Quizzes

Relevant stories: 'Quizzes', 'Quiz Tab', 'Quiz Scoring', 'Using Items', 'Displaying Items', 'Customisable Avatars',

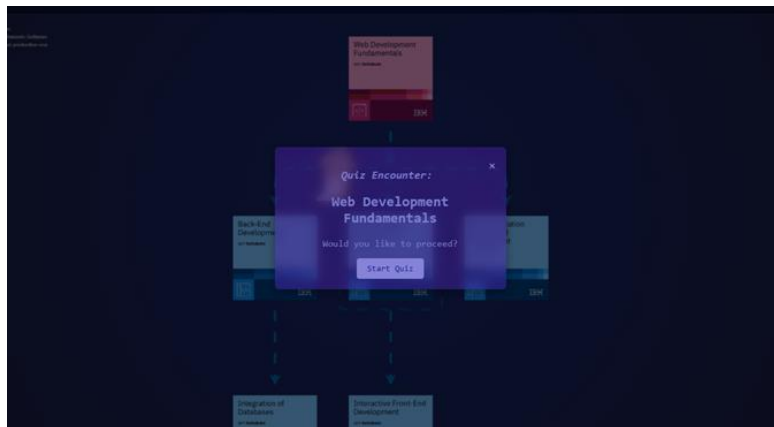
Quiz Encounters

A random quiz can be encountered on a learning path (see the 'Learning Paths' section for more information on what triggers this).

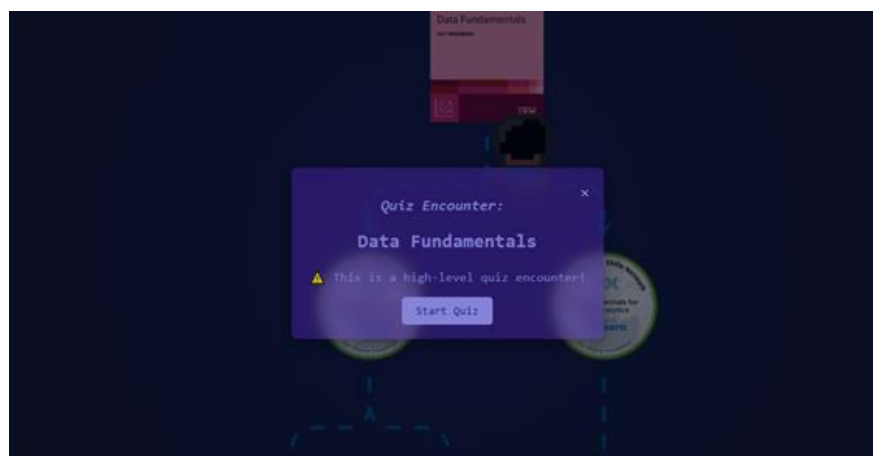
The random quiz is:

- Relevant to the current learning path.
- From a course where the scoring requirement has not been met (see 'Quiz Scoring')
- From a course that has been started or completed.

Below is an example of encountering a quiz for a course *that has been marked as complete*, but the scoring requirement for the quiz to stop appearing has not yet been met.



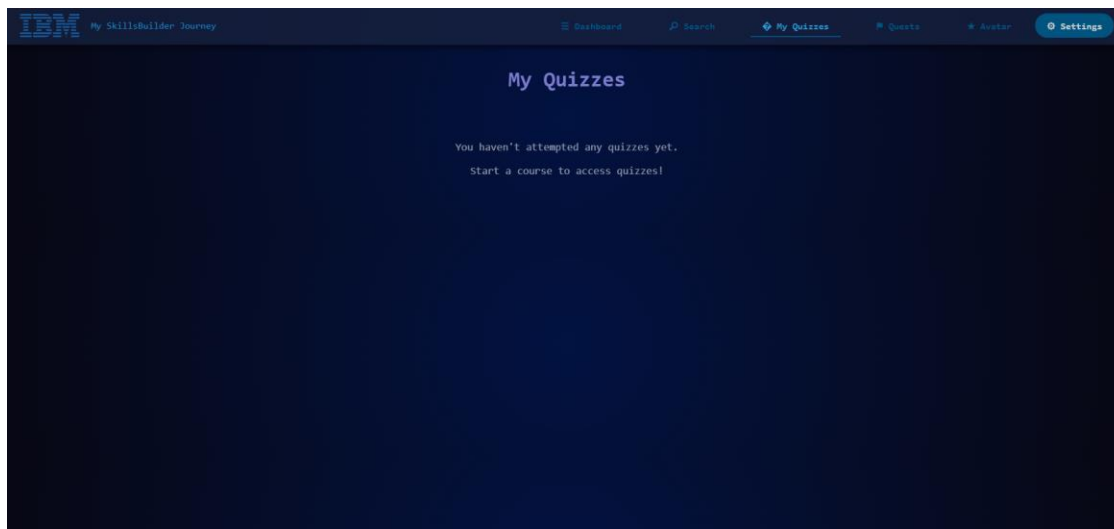
On the other hand, this quiz is for a course that has been started but not completed. It is therefore marked as a "High level encounter". This is a gamified indicator that the user may be quizzed on knowledge they've not yet learned, as shown below:



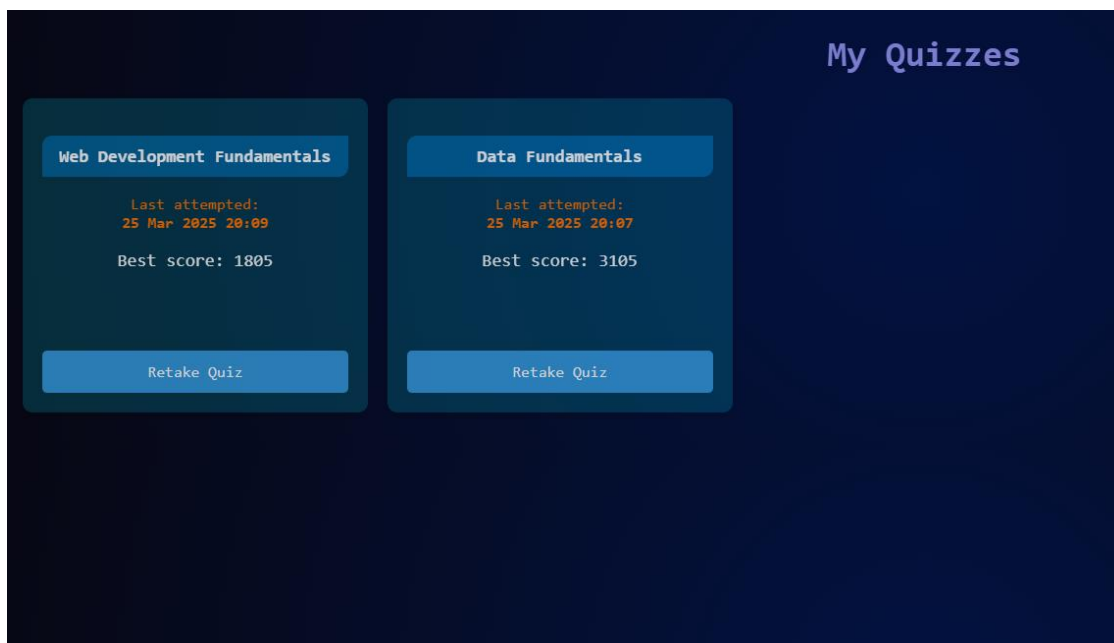
Clicking 'Start Quiz' takes them to the corresponding quiz page. See the 'Answering Quizzes' subsection for more details.

Quiz Tab

The user can navigate to the /quizzes page by clicking 'My Quizzes' in the navbar. This is where they can try past quizzes to improve their score. Before the user has attempted any quizzes, the page will remain blank, except for a reminder that quizzes will become accessible once a user begins a course:



Once the user has attempted some quizzes, the quiz tab will begin to populate, displaying the date of the title of the associated course, their best score, and the timestamp of the last attempt, as shown below:

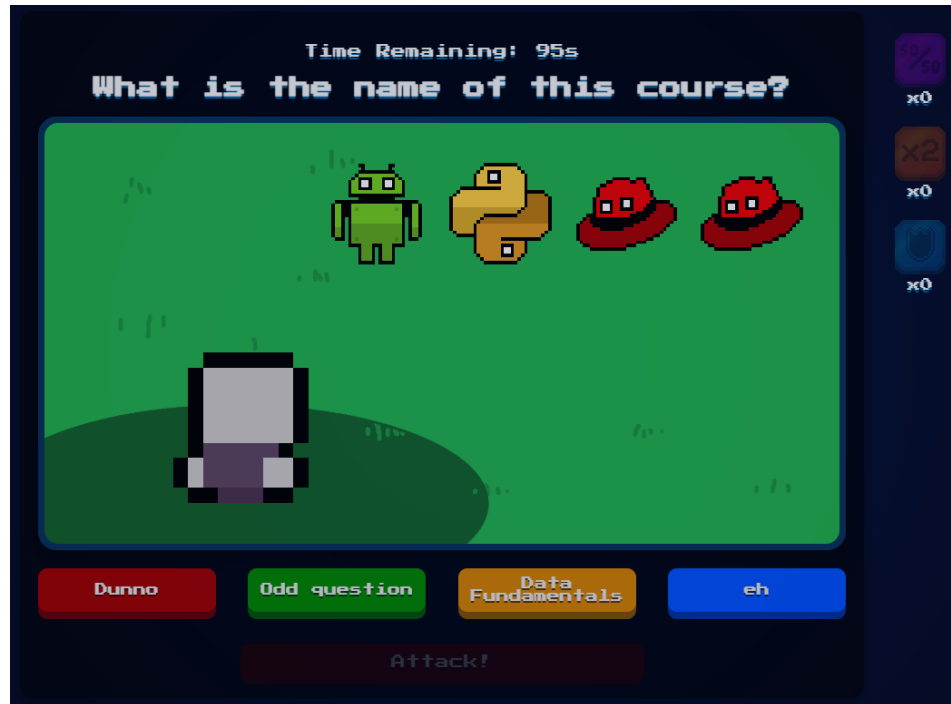


The user can click on the "retake quiz" button which will take them directly to the corresponding quiz. See the 'Answering Quizzes' subsection for more details.

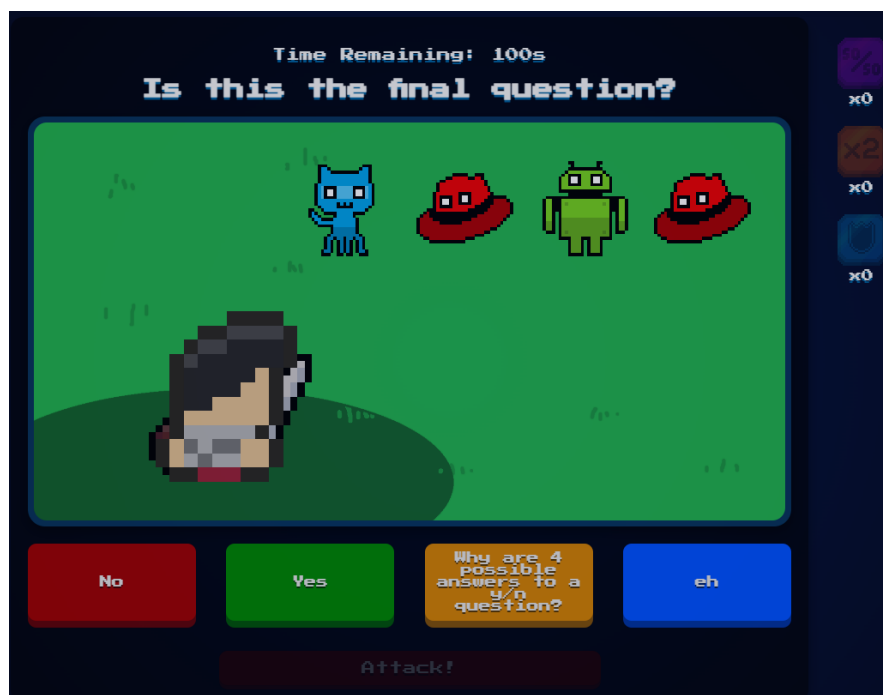
Answering Quizzes

If "Start Quiz" is pressed", it takes you to the corresponding quiz page where background music plays, and your avatar is displayed. Four random enemies spawn opposite the player.

- Once the quiz begins, the user has 100 seconds to answer questions.
- Each enemy spawned is of a random type of either red, green, yellow or blue.



Seen below is the start of the same quiz, showing that the question order and enemy types are both randomised, and that the avatar displayed respects user customisation.



In order to press the "attack" button (A gamified submit answer button) the user must both select an answer, and target one of the four enemies. Clicking on an enemy will highlight them as seen below. However, as an answer has not also been selected, the attack button remains disabled.

Whilst answering, the user can optionally select to use one item, displayed to the right of the quiz (see 'Using Consumables') if they have them in their inventory.

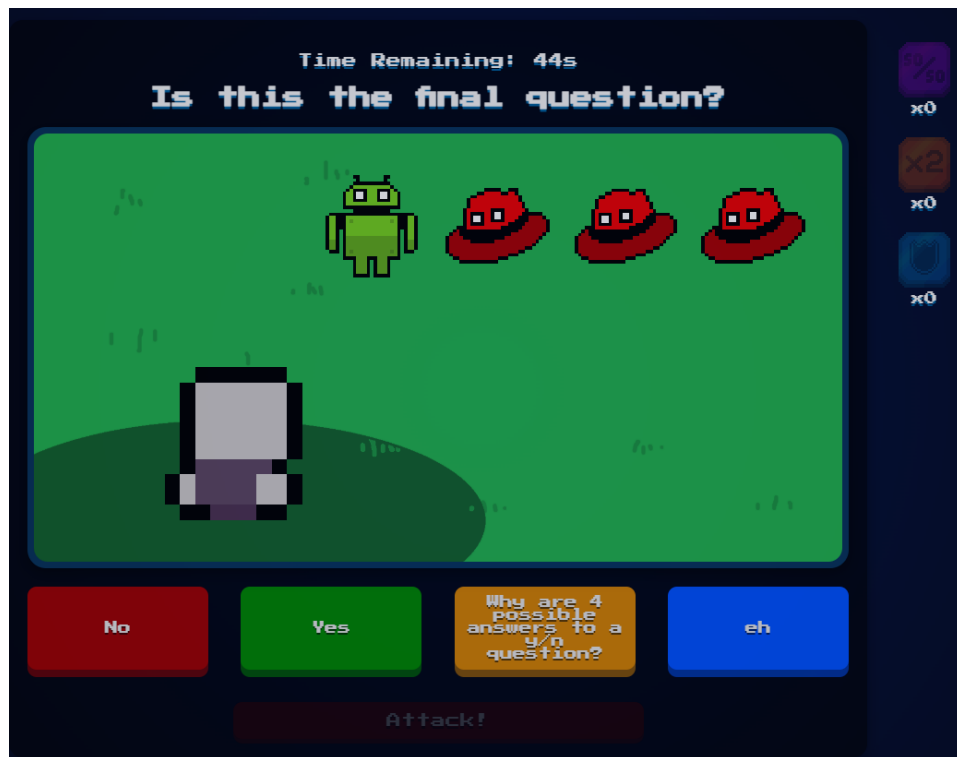


Seen below, the user has now selected an answer (as indicated by the selection highlight). The user is free to change their selections, or they may now press the "attack" button.



When the user submits their answer:

If they answered correctly (as with this example), the targeted enemy will be "killed", causing them to disappear and to be replaced by another enemy. Both the enemy and answer will be deselected and the user will be asked a new question.



In the image below, the user has selected the incorrect answer:



Therefore, when the user submits their answer, the avatar will flash red to indicate it was incorrect. The enemy remains selected, but the quiz moves on to the next question. However, the question that the user got wrong will not be removed from the list of questions they can be asked until they answer it correctly.



Finishing Quizzes

Quizzes can be completed in one of two ways:

- The user runs out of time before answering all questions correctly.
- The user correctly answers all available questions.

In either case, when a quiz ends a modal appears showing the user their score (see 'Quiz Scoring') and prompting the user to "Return to Dashboard". Clicking this button will return the user to /dashboard.

Seen below, the user has run out of time to answer questions (implied as "Time Remaining" is at 1s):



Meanwhile, this user has 72s of time remaining, and thus the modal has appeared as they've met the condition of answering all the questions correctly:



Quiz Scoring

When a user answers a question, correctly or incorrectly, their score will be updated.

- If correct, there will be a minimum increase of 100 points. This can then be increased by two factors, the user's current 'streak' and the usage of the x2 item (see 'Using Consumables').
- If the question was answered incorrectly, a flat penalty of 50 will be applied to the score. This cannot lower it below 0.
- If the user answers correctly, and the colour of the enemy targeted matches the colour of the of an answer selected, the user will be awarded a minimum of 150 points.

The user's streak is simply the number of consecutive questions answered correctly, which is reset to 0 upon an incorrect answer.

If the streak is positive, the score increase is calculated by the following equation:

$$\text{increase} = 100 * \left(1 + \frac{\text{streak}}{10}\right)$$

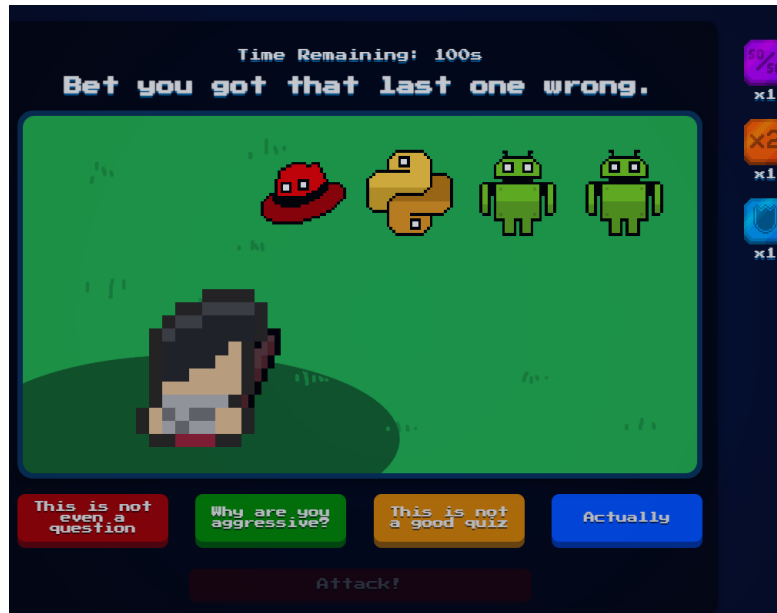
If the streak is 0, the increase will equal 100.

The 2x score item is used, this increase will simply be multiplied by 2 for that question.

Using Consumables

The items available to the user and their quantities are displayed to the right of the quiz. Each turn, the user may optionally select an item to use.

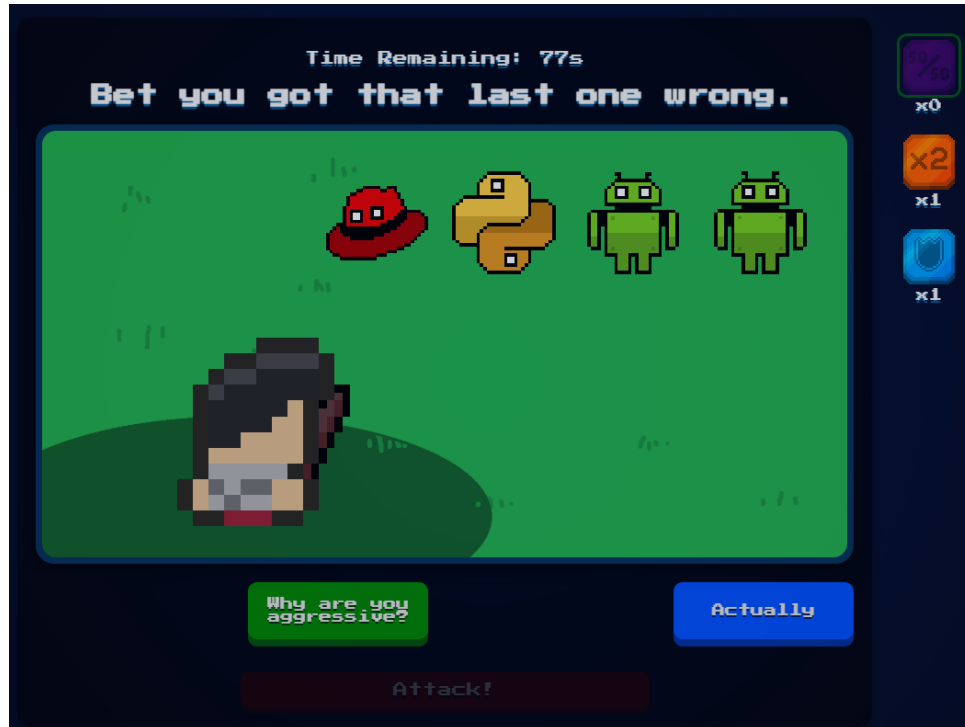
The user may only select one item each turn. Once an item has been selected, the other items are no longer clickable.



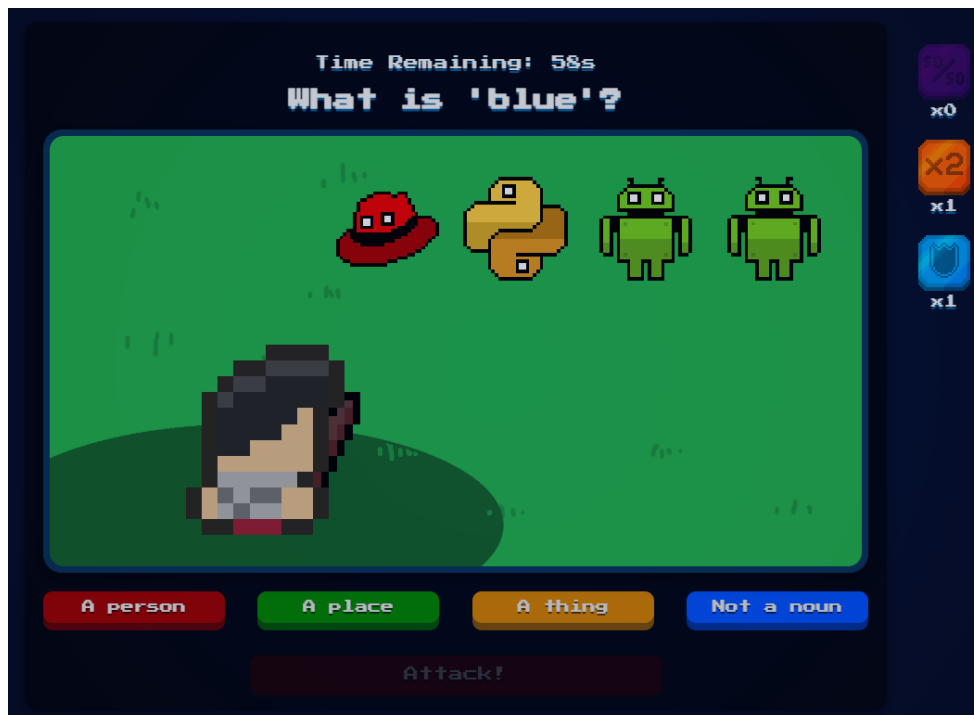
Upon clicking an item:

- The first instance of the item in the user's inventory is deleted.
- The quantity of the item updates to reflect this.
- If the quantity is now zero, then the item will appear as greyed-out.
- As the item has been selected it will gain a green border.

The user has used the 50/50 item. This immediately eliminates two incorrect answers. As it was their last 50/50 item, whilst it is highlighted green it is also greyed out.



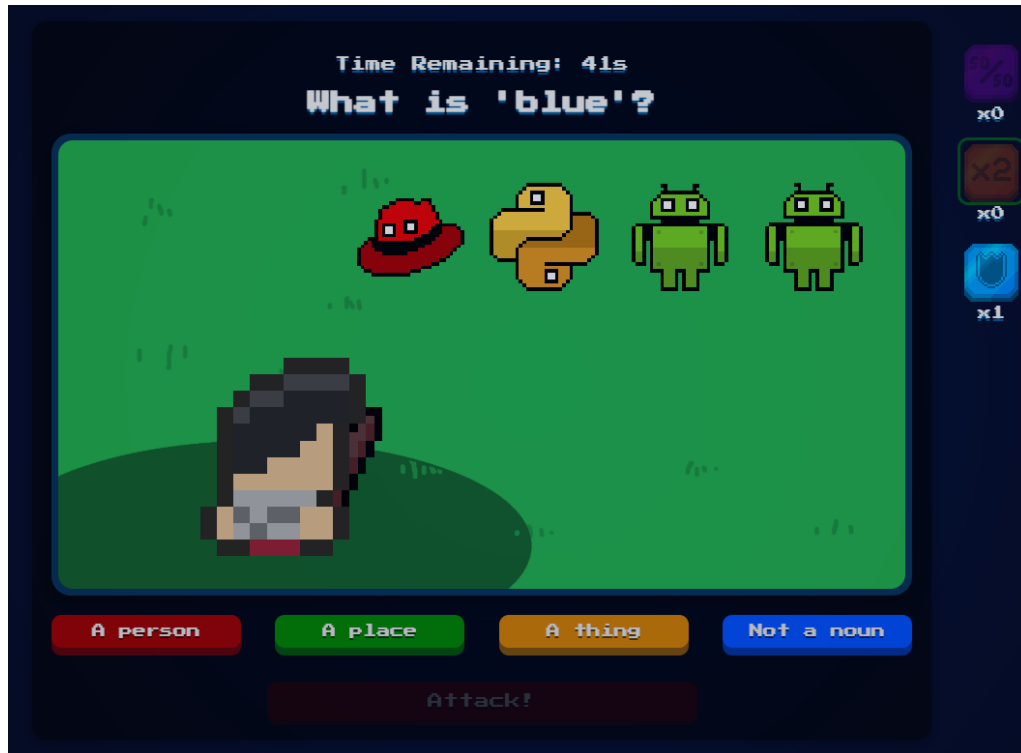
As seen below, the 50/50 item remains greyed out and the quantity persists to the next question.



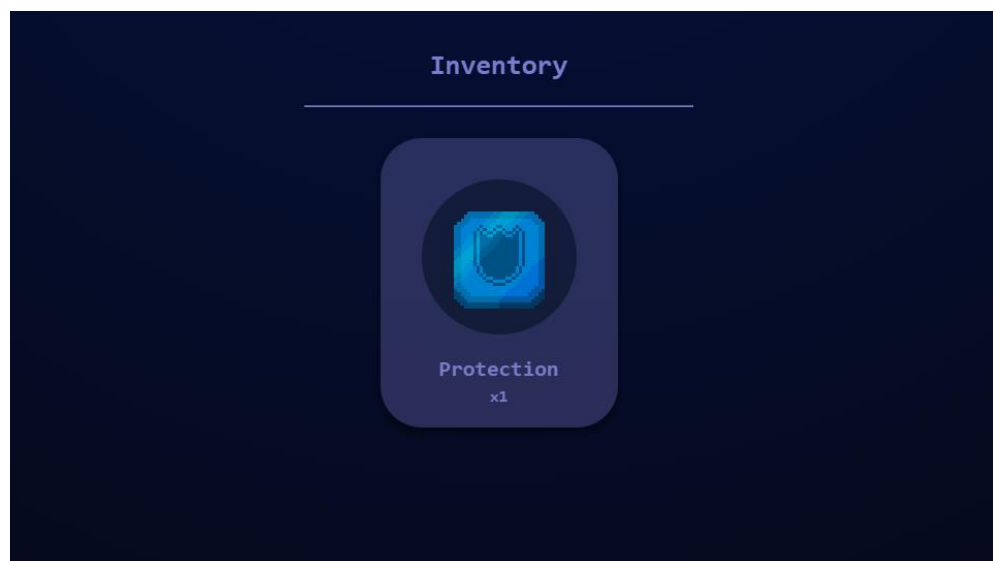
Selecting the Double points (as seen below) or Protection power up will not have an immediate effect, as unlike 50/50 which affects the question, the other two only trigger once an answer is submitted.

- The double points logic will only trigger if the user gets the question right.
- The protection logic will only trigger if the user gets the question wrong.

(See 'Quiz Scoring')



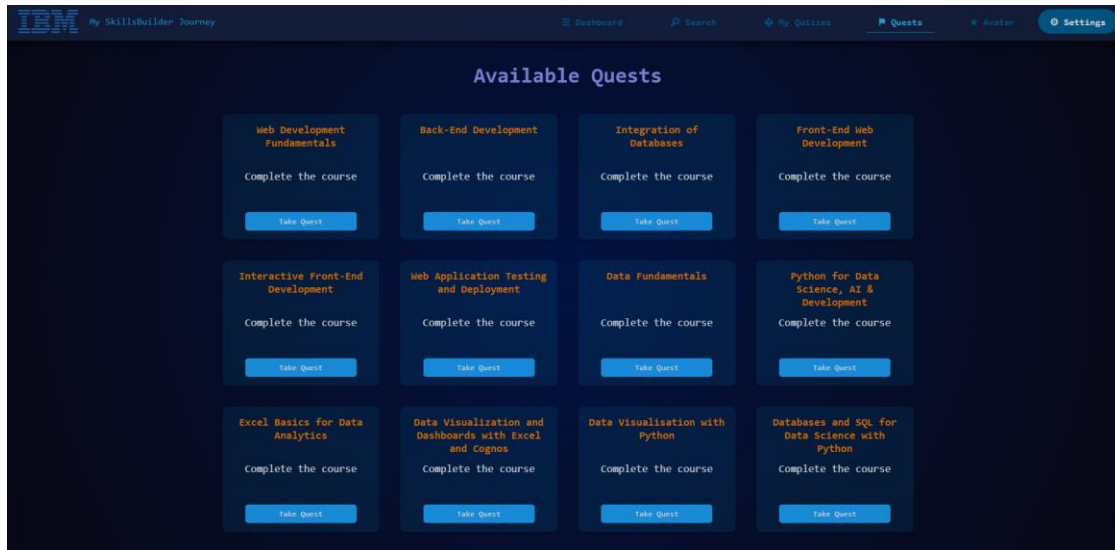
As the user used both their 50/50 and their Double Points during the quiz, we can see this persists as going back to the avatar page and looking at the user's inventory will show that they only have 1 Protection item remaining.



Quests

Relevant Stories: 'Completion Quests', 'Using Items', 'Displaying Items', 'Customisable Avatars'

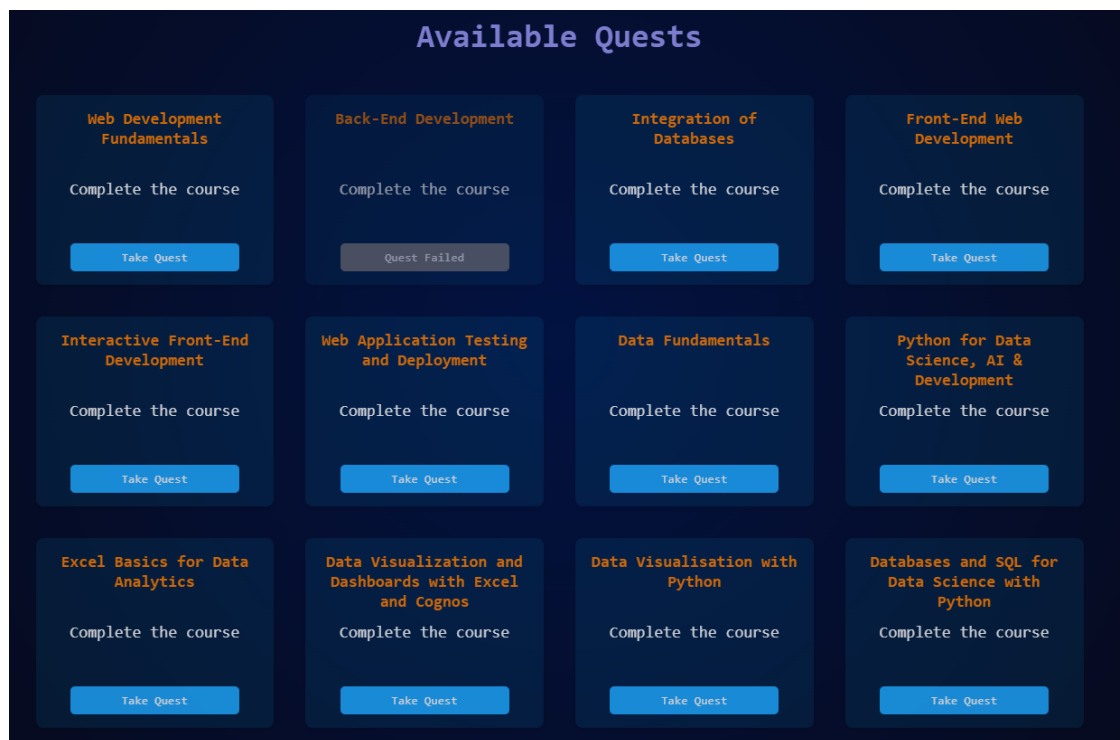
Users can take on quests that challenge them to complete a course within a deadline, granting them a reward if they are successful. Upon opening the quest page, they will see a quest for each course they are enrolled on. Below is an example for a user enrolled on all courses.



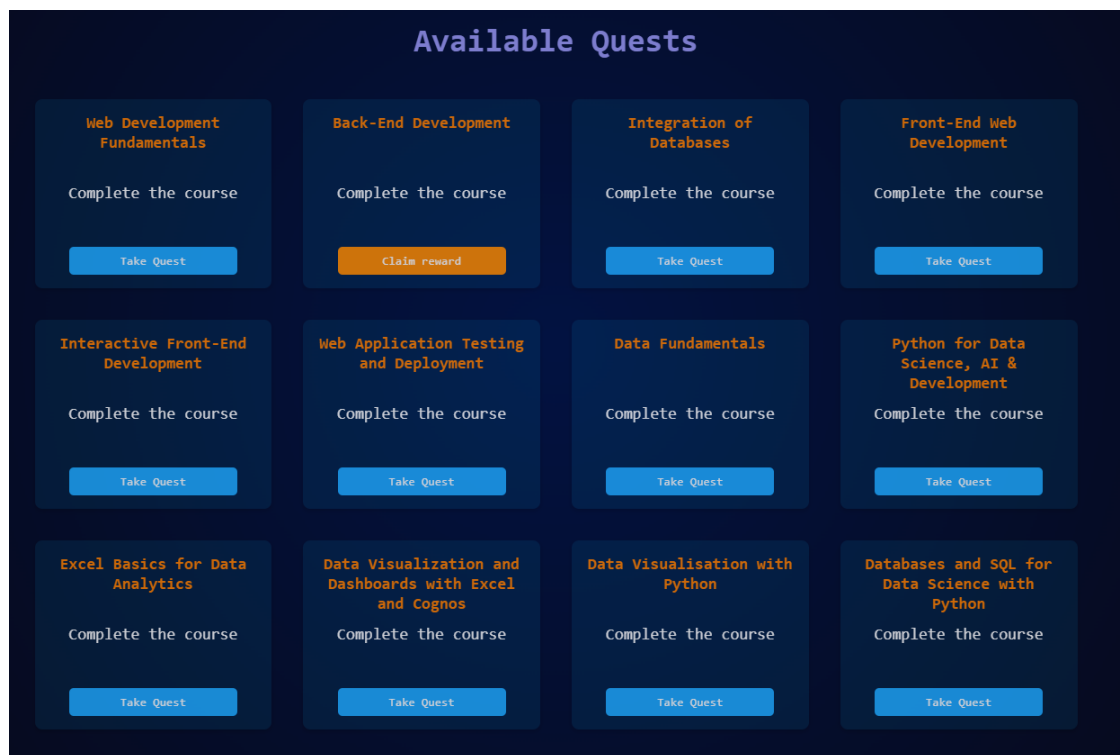
Clicking 'Take Quest' on Back-End Development will record that the user is taking the quest in the database while generating a deadline. The button also changes its text and colour to indicate this.



It now shows '14 minutes remaining' (if the site was actually deployed, more time would be given). If the user comes back to the page after the deadline without having completed the quest, it will have failed. The box will have greyed out and the button's colour and text changed.



If the user completed the course in time, they will be able to claim their reward. If the website was integrated with IBM Skillsbuild, this would be based on their API. With the simulation of integration, users can click on the course popup (found on the dashboard and search pages) to complete courses.



Clicking the 'Claim reward' button will grant a reward, which will either be a piece of equipment (which is cosmetic) or a consumable (see 'Avatars'). They can be awarded duplicate consumables but not equipment. In the case of equipment, they are awarded the lowest tier that they don't have. If there is no match, the type of reward is rerolled. In the example below, the user is awarded a magic sword, because they already had both a wooden sword and an iron sword:

