Lead Examiner Report

Summer 2024

T Level Technical Qualification
in Digital Production, Design
and Development-
Occupational Specialism

Introduction

This was the third complete assessed series of the Occupational Specialism that took place.

The tasks set out in the assessment followed the format identified in both the Sample Assessment Materials (SAM) and the Additional Sample Assessment Materials (ADSAM) published on our website.

This assessment consisted of four tasks, requiring students to demonstrate knowledge of a range of specification topics and apply this knowledge to the scenario.

The majority of students this series were new students with only five resit students. The number of marks available was 145. The lowest mark achieved by students was 0 and the highest was 136. The mean mark was 65.47 which was a decrease of 4.95 from the previous series mean mark which was 70.42.

Individual questions

The following section considers each question on the paper, providing examples of good student responses and a brief commentary of why the responses gained the marks they did. This section should be considered with the live external assessment and corresponding mark scheme.

Task 1- Activity A (ii) The Proposal

In the digital Distinction Portfolio, the student needs to consider the problem and provide a comprehensive proposal with a justification. The proposal should clearly show its relevance to the scenario, not explain functional requirements or define legislation. The decomposition should demonstrate the problem that needs to be solved and how it meets the client's and the user's needs. The associated risks should be identified, and a plan for their mitigation should be provided.

The example below illustrates some key points and characteristics of earning a Distinction grade.

The student considered broader issues related to the scenario, the student has functional and non-functional requirements, and it addresses the client needs and hence related to the scenario. They have also added justification for each requirement.

Functional Requirements

Homepage

The system should display homepage that consists of Navigation bar, main section and footer. In the main section website provides A carousel of pictures with links that prompt user to other areas of the website, ex about page.

No data inputs required for this page.

When the user clicks on the links to different pages it should go to the required page. Ex. User clicks on the Book button, it should quickly navigate the user to the booking page.

Navigation Bar consists of:

- Home
- About
- Educational visit
- Book
- Account

About Page

The system displays the about page which is similar to the homepage and consists of the navigation bar, main section: Opening times, Our animals, Hotel info, How to get here; and a footer.

No data inputs required for this page.

Educational visits page

The system displays the educational visit page which consists of the navigation bar, main section where the user can browse the catalogue of useful materials for the educational trip and the pricing of it, as well as that user should be able to download a pdf guide with all the animals that are in the zoo.

No data inputs required for this page.

Booking system

The system should have two services options to book: book a room or book a ticket. Then user the correct form should be displayed, first user is prompted to select a day and timeslot, then fill in personal details. After user fills in the form, order should be placed and sent to the database, user should see the message of the successful placement or in case of any errors a message that something went wrong during ordering.

User input requirements:

Personal Account

The system should allow user to create an account, or sign in, if the account already exists. Once signed in to their account user should be able to manage their bookings ex. cancel, user should also see previous stays and rewards. The system should allow user to log out once needed.

User input requirements to create an account:

Full name ➔ Email ➔ Username ➔ Password ➔ Repeat password
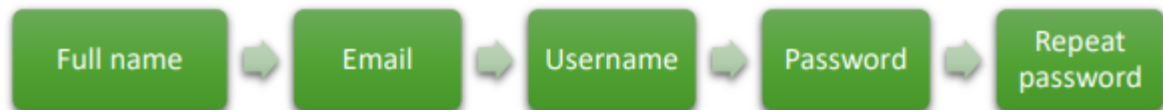
User input requirements to login into the account:

Username ➔ Password

This document clearly outlines the system's functional requirements, justifying a Distinction grade for the student. Each website section is detailed and well-structured, covering all necessary functionalities.

The homepage section specifies required elements, such as the navigation bar, main section, footer, and a carousel of pictures with links. User interactions are defined, stating that no data input is required and detailing the behaviours when users click links.

The navigation bar content is listed clearly for easy implementation. Subsequent pages like the About Page, Educational Visits Page, and Booking System are described with precise requirements. For instance, the About and Educational Visits pages require no data input, indicating their static nature.

The Booking System section outlines two service options (booking a room or ticket) and the steps of the booking process. User input requirements are clearly stated, including selecting a day and timeslot, filling in personal details, and providing feedback upon order placement or errors. This ensures the booking system's functionality is well understood.

The student has shown a firm grasp of functional requirements by clearly specifying each section's elements and behaviours. The document's clarity, structure, and thoroughness demonstrate high-level skills, justifying a Distinction grade.

Non-functional Requirements

Security

The system should be secure and robust:

- o System must validate all data inputs.
- o System must use secure cookies.
- o System must use SHA256 Encryption for the passwords.

Maintainability

It is important that after deployment system can be maintained cost-effectively.

To ensure good maintainability, I will only use good coding practises throughout the code, I will ensure that naming conventions are relevant and easy to follow, I will only use standard API formats.

Performance

- - Page speed/load: webpage should be loaded within 2-6 seconds.
- - Latency: it should take not more than 100 milliseconds for system to respond to the user.
- - The system should not be overloaded with API calls, as they might slow down the performance.

Usability -> Accessibility

The system should be straightforward to use, both for the end-users and the content editors that oversee backend system.

System should be adapted to different user needs: the system should be following Web Content Accessibility (WCAG) guidelines.

This document outlines the non-functional requirements of the system, highlighting key areas such as security, maintainability, performance, and usability.

Security: The system must be secure and robust by validating all data inputs, using secure cookies, and employing SHA256 encryption for passwords.
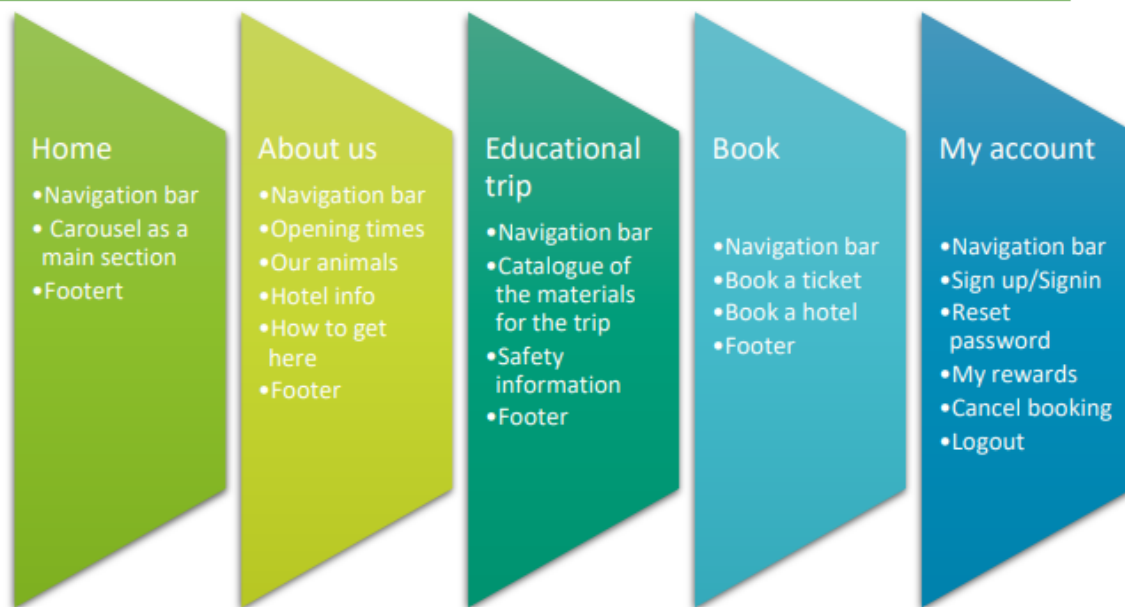
Maintainability: The system should be maintainable cost-effectively after deployment. To ensure this, good coding practices will be followed, relevant and clear naming conventions will be used, and standard API formats will be adhered to.

Performance: The system's performance should meet the following criteria:

- Page speed/load time should be within 2-6 seconds.

- Latency should be at most 100 milliseconds for user responses.

- API calls should be minimised to prevent performance slowdowns.

Usability: The system should be user-friendly for both end-users and content editors managing the backend. It should accommodate different user needs and comply with Web Content Accessibility Guidelines (WCAG).

Decomposition

Home
- Navigation bar
- Carousel as a main section
- Footert

About us
- Navigation bar
- Opening times
- Our animals
- Hotel info
- How to get here
- Footer

Educational trip
- Navigation bar
- Catalogue of the materials for the trip
- Safety information
- Footer

Book
- Navigation bar
- Book a ticket
- Book a hotel
- Footer

My account
- Navigation bar
- Sign up/Signin
- Reset password
- My rewards
- Cancel booking
- Logout

This well-organised decomposition chart details the system's key sections and components, reflecting high-quality work.

The **Home** section includes a navigation bar, a carousel as the main feature, and a footer. This setup ensures easy navigation and an engaging user experience.

The **About Us** section lists opening times, animal information, hotel details, and directions, with a navigation bar and footer for consistency. This thorough detailing ensures quick access to critical information.

The **Educational Trip** section includes a navigation bar, a catalogue of trip materials, safety information, and a footer. This structured section provides relevant content for educational visits and demonstrates anticipation of user needs.

The **Book** section features a navigation bar, options to book a ticket or hotel, and a footer. This clear setup facilitates efficient reservations and enhances functionality and user experience.

Finally, the **My Account** section offers sign-up/sign-in, password reset, reward management, booking cancellation, and logout options, with a navigation bar. This comprehensive setup ensures seamless account management.

Overall, this chart demonstrates a well-organised, user-friendly design with attention to detail and consistency, highlighting the student's proficiency in web design.

KPI's

Website KPI's

Page Load time

It is essentially how long it takes for page to load and appear on the user's screen. It is crucial that this time is as low as possible. Even few seconds can result into the loss of the protentional client. With the development of the digital sector, people tend to wait less and less if the there are any troubles accessing website as they are well aware of the vast amounts of options they've got.

This KPI can be seen using reporting tool, for example Google Analytics.

Bounce Rate

This KPI shows the percentage of users that visit the website and then leave immediately without taking any actions. It is logical that if this rate is high the website is either performing poorly or it is simply not appealing well to the user, one other reason might be hidden in the advertisement, if the website is offered to the wrong audience, it might be that they click without any interest in the sector at the first place. A good website though will keep the visitors to interact at least with few pages before leaving. Therefore, it is a crucial tool that will allow to see if the website needs any changes or not.

Traffic by source

It allows to see different sources of traffic. For example, what devices are most used to visit the website, and therefore RZA could investigate farther development of that device. If let's say most traffic comes from smartphones it is sensible to develop a mobile app.

Conversion rate

It indicates how well the website prompts customers to complete the action desired by the client. For example, RZA wants to have n number of bookings and y amount of account registrations per day then we would need to take those two goals per specific amount of time and divide it by total number of users and multiply it by 100%.
It is important that this rate is reasonably high, if the rate is low that would mean that the website is doing its function very poorly.

The student has provided a detailed list of key performance indicators (KPIs) and earned a Distinction for their work.

1. Comprehensive List of KPIs:
   o The student has identified various KPIs crucial for assessing a website's performance. These KPIs cover multiple aspects of user interaction, operational efficiency, and overall effectiveness.
2. Clarity and Relevance:
   o The KPIs listed are clearly defined and relevant to the context of a website's performance. Metrics such as the number of customers signed up, website usage per month, and session duration are essential for understanding user engagement and satisfaction.
3. Detail and Explanation:
   o The student has provided detailed explanations for some KPIs, particularly for average session duration, page load and response time, daily user visits, and bounce rate. These explanations help us understand each metric's importance and how they contribute to the website's overall performance.
   o For example, the explanation of average session duration highlights its significance in providing valuable information to users, and the discussion on page load time emphasises its impact on user experience and search engine rankings.
   o Technical Accuracy:
   o The technical language is mostly accurate, and the student has communicated complex concepts clearly and understandably.
   o However, there are a few typographical errors that need correction. For instance, "each week" should be "each week," and "How many book reservations" should be "How many reservations for the on-site hotel per month." The "bounce rate" should also be corrected to "bounce rate."
4. Evaluation of Importance:
   o The student has effectively evaluated the importance of each KPI. For instance, the importance of page load and response time in enhancing user experience and improving search engine rankings is well articulated. Similarly, the significance of bounce rate in measuring user engagement is clearly explained.

A description of proposed solution

In the above paragraphs I was decomposing, analysing, and setting the requirements for the system. In this section I will be summing up the proposal and its main benefits to the client – RZA.

The final proposal is an interactive website that will include following

Key features and benefits:
- Inclusive solution

  The website is going to be an inclusive platform that will allow all users navigate through and use its functionality. In this way RZA will ensure that all customers fill included and therefore satisfied with their services.

- Quick and easy booking

  One of the most important features is booking a ticket or a room in advance, which will help reduce ques for the tickets kiosks in the Zoo, as well as that users will be resting assured that they will have the place to stay overnight, not worrying that the hotel is overbooked.

- Materials for educational visits

  The website will allow students and their parents to see all the necessary information and materials for educational visits. As well as that they would be able to download a pdf with all the animals in the Zoo.

- Info Blocks

  Will provide customers with information about the zoo and facilities, opening times, hotel, and animals

- Personalised experience

  For loyal customers website offers to create an account and have some awards for each visit, for example a discount coupon. As well as that, customers will be able to see their previous visits and manage their current booking. Which will ensure that customers receive personalised experience and come back to the RZA.

The student has effectively summarised the proposal and its main benefits, presenting a well-thought-out interactive website for the client, RZA.

The **Inclusive Solution** ensures all users can navigate and use the website's functionality, demonstrating a keen understanding of accessibility and customer satisfaction.

The **Quick and Easy Booking** feature highlights advance ticket and room booking, reducing queues and providing users with peace of mind, reflecting a user-centric design approach.

In the **Materials for Educational Visits** section, the website offers necessary information and downloadable materials for students and parents, integrating educational resources effectively.

The **Info Blocks** provide comprehensive information about the zoo, facilities, opening times, hotel, and animals, showing attention to detail and enhancing the user experience.

Lastly, the **Personalised Experience** section outlines benefits for loyal customers, such as discount coupons and visit management, demonstrating an understanding of customer relationship management.

Home Page

Educational Visits Page
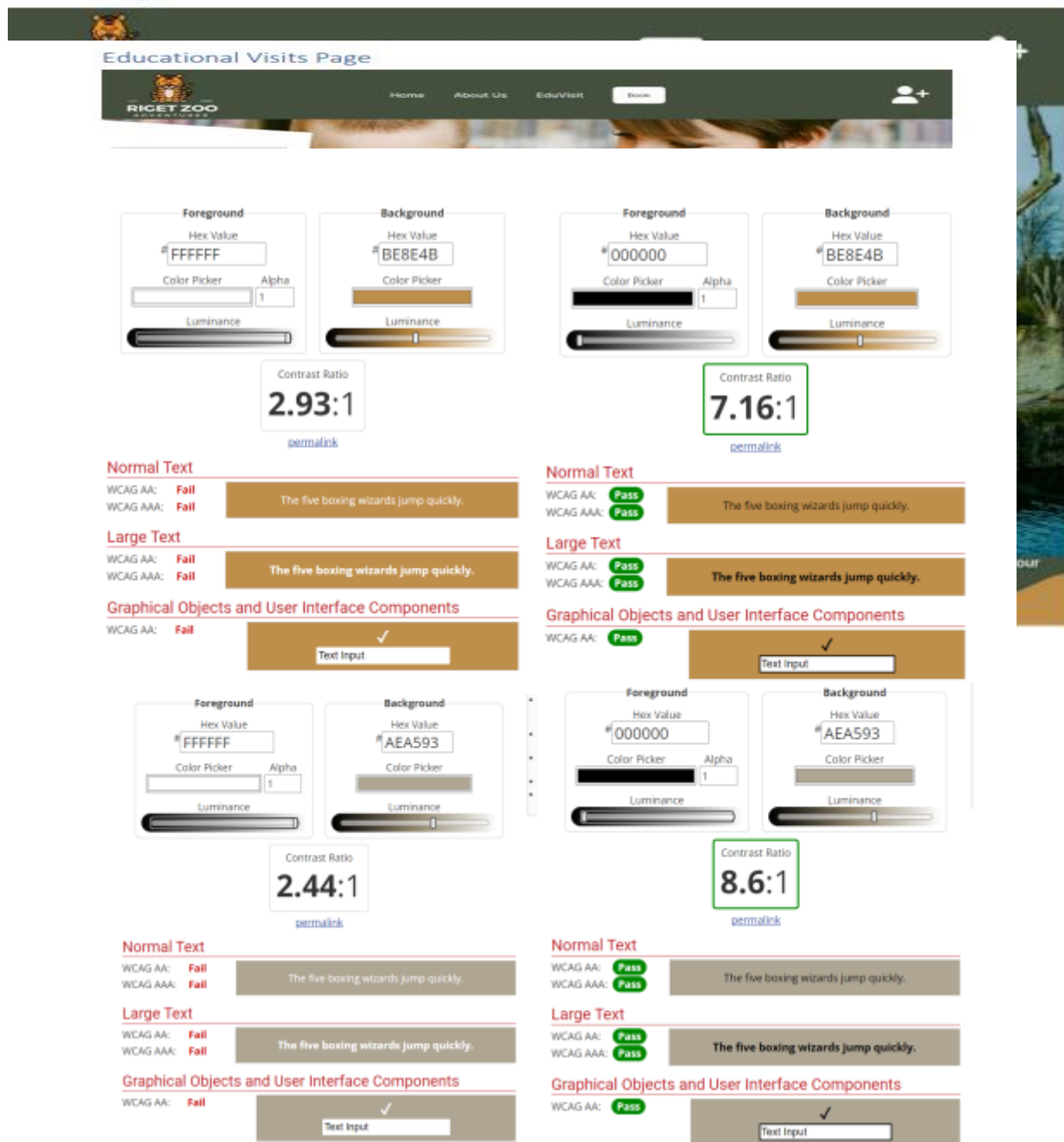
The Educational Visits Page design for Riget Zoo Adventures is visually appealing and well-structured, demonstrating a solid understanding of user interface principles. The clean, modern layout balances images and text effectively, with a large header image featuring a child and an adult that clearly conveys the page's educational focus.

The content is organised into categories such as Video, Audio, and Facts File, using colour-coded boxes that enhance both visual appeal and usability. Navigation is straightforward, with a clear top bar and footer links to essential sections like About Us, Educational Visits,

and Book. The call-to-action for booking educational trips is prominent and well-designed, providing concise information on pricing and features to encourage user engagement. Additionally, the layout appears responsive, likely adapting well to various screen sizes to ensure a good user experience on both desktop and mobile devices.

To achieve a distinction, several enhancements could be considered. Adding interactive elements such as hover effects on resource boxes could improve user engagement, while brief descriptions or previews on these boxes would help users understand the content before clicking. Ensuring all images have descriptive alt text for screen readers and providing options to adjust font size and contrast would improve accessibility. Including user reviews or testimonials from previous visits and a Frequently Asked Questions section could build trust and preemptively address common queries, enhancing user satisfaction. Additionally, optimising images and resources for quick loading times would improve performance, and maintaining consistent branding throughout the page would reinforce brand identity. These improvements would enhance the overall functionality, user-friendliness, and appeal of the design.

The student has provided evidence of detailed, compelling designs and shows enough for a third party to be able to create the whole artefact. The student has also considered the complex structure of the website and page specifications such as background colour, text sizes and type. You will notice that the student has provided layouts, visual hierarchy, and standard convention.

Students that did not perform in this section generally had poor visual designs with little consideration of the typical conventions. For example, how would the Web developer build the website without knowing text sizes, colours and other descriptive features.

Algorithm

Wireframes and the flow
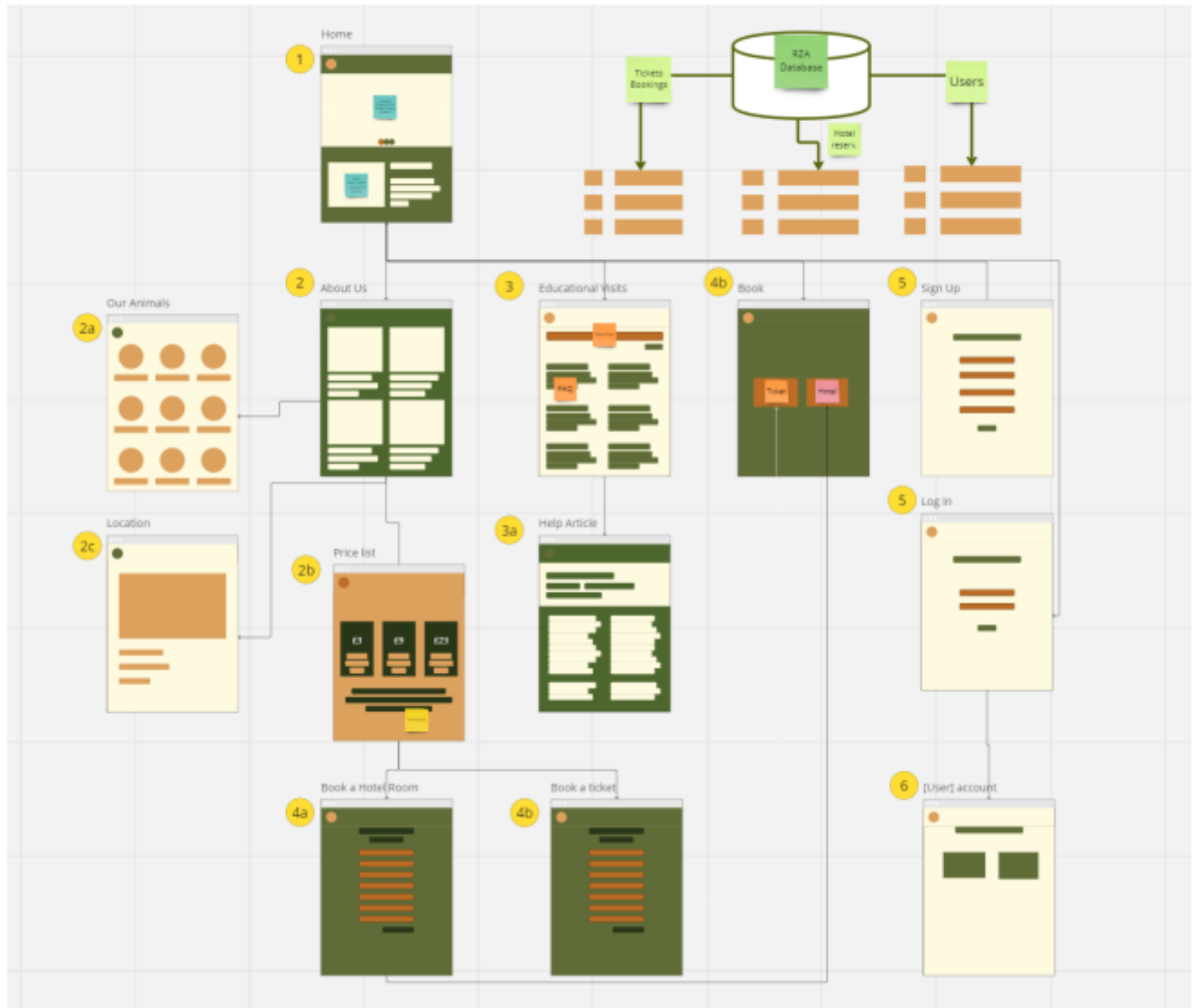
The student has demonstrated their ability to decompose the problem into smaller sub-systems shown as a visual diagram; using stepwise refinement or sensible other notions is also acceptable. First, the students must show the overall breakdown of the problem. From here, they should select one sub-system and break it down in the next stage, which would be the algorithm using a flowchart or pseudocode as demonstrated below.

This flowchart detailing the room booking process is a clear, organised, and thorough piece of work, justifying a Distinction grade.
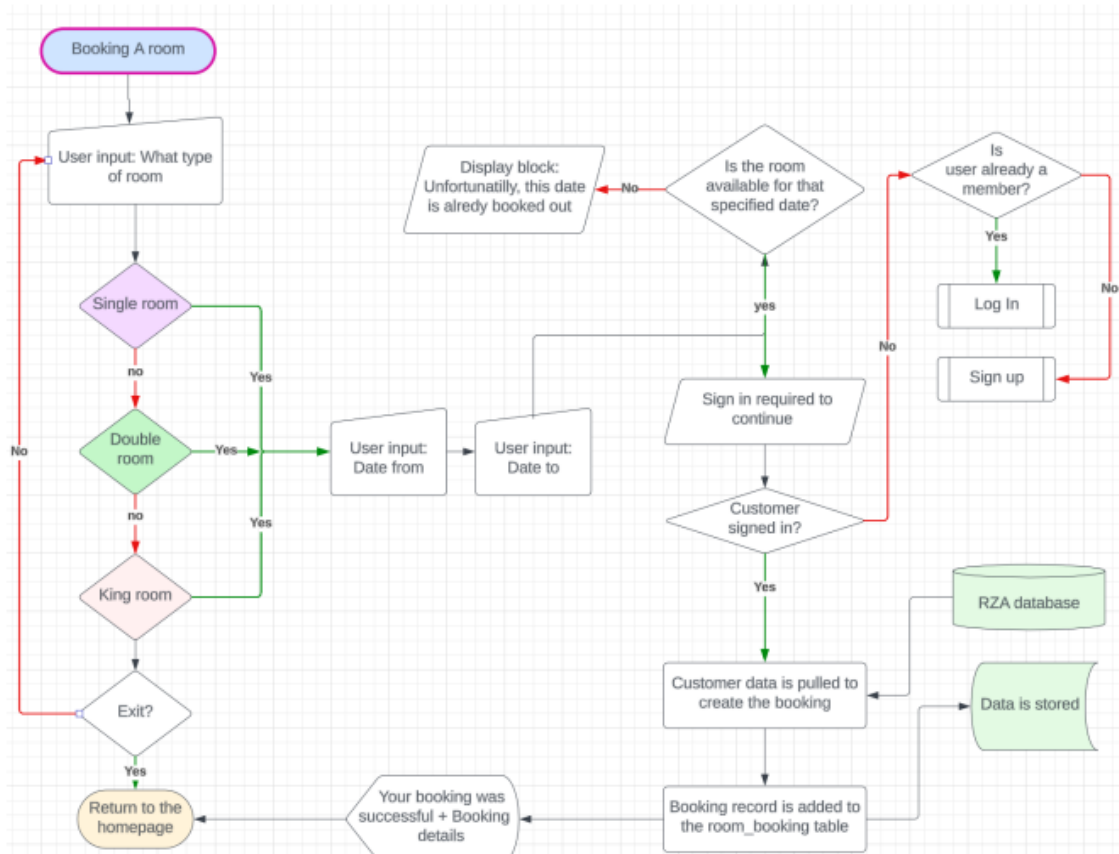
The flowchart is well-structured, starting with room type selection and logically progressing through availability checks, date input, and user authentication. Each step is accounted for, demonstrating attention to detail and an understanding of a structured booking process.

It effectively handles various scenarios, including different room types and user statuses (new or existing). This comprehensive coverage shows the student's ability to anticipate and plan for different user interactions, enhancing the user experience.

The flowchart also integrates essential backend processes like room availability checks, user authentication, and data storage in the RZA database, demonstrating a solid grasp of the technical aspects of room booking systems.

Overall, this flowchart showcases the student's ability to create a detailed, logical, and user-friendly booking process. The clear structure, comprehensive scenarios, and backend integration justify a Distinction grade, reflecting a high level of proficiency in system design and user experience planning.

Date of test	Component to be tested	Type of test to be carried out	Prerequisites and dependencies
18 April 2024	Navigation bar	Black box testing -> Functional testing: Integration testing	No data inputs needed at this stage, tester will go through the navbar and test if all the correct pages are loaded. EX. clicking on about us should load about us page
18 April 2024	Homepage	White box testing, Black box testing -> Functional testing: Integration testing, Unit testing	No Data needed. Testing if all the buttons are functional, testing homepage unit, testing integration of homepage within the website.
18 April 2024	About Page	White box testing, Black box testing -> Functional testing: Integration testing, Unit testing	No Data needed. Testing if all the buttons are functional, testing about page unit, testing integration of about page within the website.
18 April 2024	Educational visits page	White box testing, Black box testing -> Functional testing: Integration testing, Unit testing	No Data needed. Testing if all the buttons are functional, testing educational unit, testing integration of eduvisit within the website.

The test strategy is well-structured, detailing the components, the type of tests to be conducted, and the prerequisites and dependencies for each test. Each system component, such as the navigation bar, homepage, about page, and educational visits page, is covered, demonstrating a comprehensive approach.

The strategy includes black box testing, functional testing, and integration testing for the navigation bar. It clearly states that no data input is needed, and the tester will navigate through the navbar to ensure that all page's load correctly.

The homepage is planned for both white box and black box testing, including functional, integration, and unit testing. The strategy specifies testing all buttons, the homepage unit, and its integration within the website, showing attention to detail.

The **About Page** testing strategy is similar, with white box, black box, functional, integration, and unit testing. It highlights testing the functionality of all buttons and integrating the About page within the site.
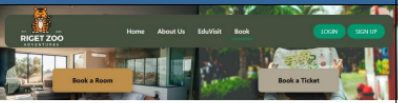
The **Educational Visits page** follows the same rigorous testing approach, thoroughly checking functionality and integration.

Overall, this test strategy is comprehensive and well-detailed, covering multiple testing types and ensuring all aspects of the website are thoroughly tested. The clear layout and thorough explanations demonstrate the student's understanding of testing methodologies and their application, justifying a Distinction at level 3.
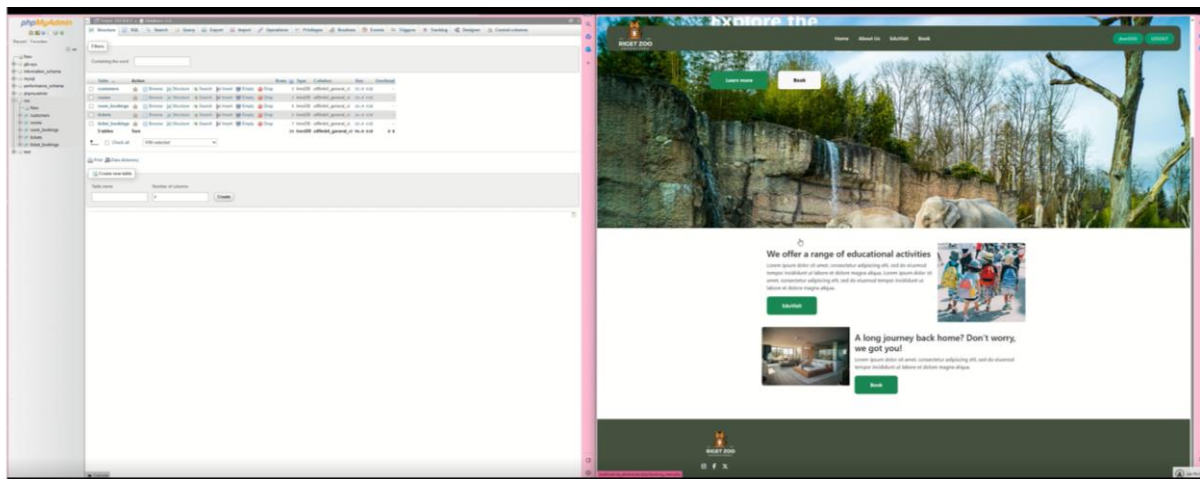
Task 2

Homepage
Screenshot of the design

Screenshot of the prototype
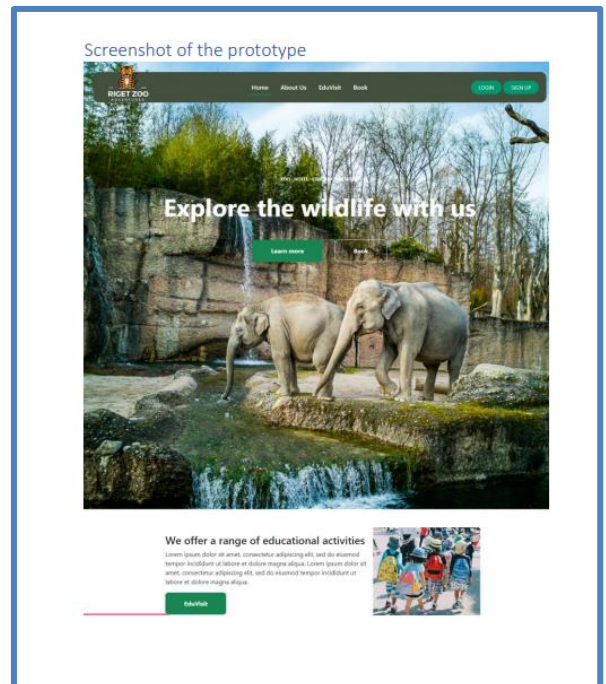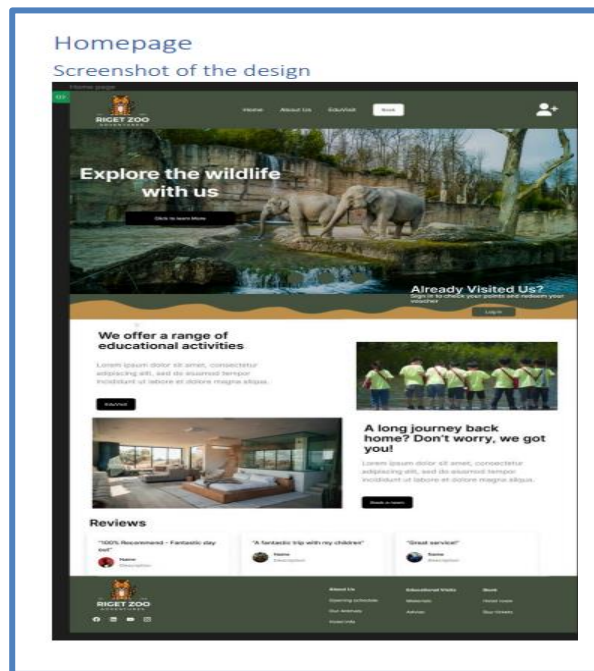
Task 2: Test log

Description of test	Test data to be used (if required)	Expected outcome	Actual outcome	Comments and intended actions
Navigation bar: Black box testing -> Functional testing: Integration testing	No data inputs needed at this stage, tester will go through the navbar and test if all the correct pages are loaded. EX. clicking on about us should load about us page	Navigation bar is displayed properly, it has four 3 sections: logo, links, signup/login. When hover over the links green line eases in. When clicking on the links it takes you to the page that it describes.	The Navbar works as expected. All the links work.	none
Homepage: White box testing, Black box testing -> Functional testing: Integration testing, Unit testing	No Data needed. Testing if all the buttons are functional, testing homepage unit, testing integration of homepage within the website.	Homepage is displayed properly, all buttons work: when user clicks on learn more button, it navigates to about page, book navigates to main booking page, EduVisit to eduvisit page, book that is in the hotel card navigates to	All the buttons work, page is properly integrated within website.	

```html
                    <li>Feature</li>
                    <li>Feature</li>
                </ul>
            </div>
            <div class="">
                <div class="d-grid gap-2">
                    <a class="btn btn-dark" href="booking_main.php">Select</a>
                </div>
            </div>
        </div>
    </div>
    <div class="col">
        <div class="card h-100">

            <div class="card-body">
                <small>Child Tecket</small>
                <p><h1 class="card-title">5£ </h1><small>per day</small></p>
                <ul>
                    <li>Feature</li>
                    <li>Feature</li>
                    <li>Feature</li>
                    <li>Feature</li>
                    <li>Feature</li>
                </ul>
            </div>
            <div class="">
                <div class="d-grid gap-2">
                    <a class="btn btn-dark" href="book_ticket.php">Select</a>
```

Regression testing, Checking if previous issue was fixed and if the user is routed to the correct page.	No Data needed. Testing if all the buttons are functional, testing about page unit, testing integration of about page within the website.	All select buttons should lead to the main booking page.	All the buttons now lead to the correct page


```
--

CREATE TABLE `customers` (
  `cust_id` int(11) NOT NULL,
  `username` varchar(255) NOT NULL,
  `password` varchar(1000) NOT NULL,
  `email` varchar(255) NOT NULL,
  `created_time` timestamp NOT NULL DEFAULT current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

--
-- Dumping data for table `customers`
--

INSERT INTO `customers` (`cust_id`, `username`, `password`, `email`, `created_time`) VALUES
(1, 'anastasia1234', '$2y$10$wX80AQUU0r9sSjJP/Dw4G.DCQ/bZnZ7Oa0F9iGI4c/cU55Ah8KqVW', '1479246@stu.tmc.ac.uk', '2024-04-15 12:58:51'),
(2, 'jhon5555', '$2y$10$NGejkxM7A2NtEahjeS2R6eJYQYkteCgVYEx6MSTJwkC7wPVSe/Gey', 'email@example.com', '2024-04-19 11:12:15'),
(4, 'Vlad9999', '$2y$10$AzcLsXKSItWU1n5T2hwAROT7A9vceqf9ubs1E20BZ5qLuV.gYPP5q', 'vlad.ol@yahoo.com', '2024-04-26 09:06:08'),
(5, 'olia9999', '$2y$10$zhWJLqixyDhdD8jpoDOdQOpnq7Zu/8MyUpWXFS1o0X6THm1L1VH3e', 'olia9999@gmail.com', '2024-04-26 09:59:54');

-- --------------------------------------------------------

--
-- Table structure for table `rooms`
--

CREATE TABLE `rooms` (
  `room_id` int(11) NOT NULL,
  `roomType` varchar(255) NOT NULL,
  `price` double(10,2) NOT NULL,
  `description` varchar(1000) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

--
-- Dumping data for table `rooms`
```

The student has clearly demonstrated efficient functional code using two languages. We tested the solution as the student provided executable files with 'read me file'. This helped focus point on user experience, and were able to test the input handling, error messages and outputs.

SQL Database Setup

The student has demonstrated a strong understanding of SQL and database management. The structure of both the customer and room tables is accurately defined with appropriate fields and constraints. The customer table uses primary keys, data types, and constraints such as NOT NULL and DEFAULT current timestamp correctly. Similarly, the room table is well-structured, ensuring data integrity. The SQL insert statements for populating the customer table with sample data are correct and show attention to detail, including secure password practices and realistic email formats.

PHP Code

The provided PHP code snippet demonstrates the student's understanding of web development session management and conditional rendering. The code effectively checks if a user is logged in by verifying the $_SESSION["userid"] variable. The code displays links to the user page and a logout option if the user is logged in. If the user is not logged in, it provides login and sign-up options. This snippet showcases the student's ability to implement dynamic content based on user authentication, reflecting a solid grasp of backend development and user session handling.

Test Log

The test log showcases a comprehensive and meticulous approach to testing various website components. The student has detailed the expected and actual outcomes for each test scenario, supported by relevant screenshots. For the navigation bar, black box testing for functional and integration aspects confirms that all links work correctly and the navigation bar is displayed properly. Testing of the homepage includes white box and black box testing, ensuring all buttons function as expected and the page integrates well within the website. The thorough documentation and unambiguous evidence provided through screenshots highlight the student's proficiency in quality assurance practices.

Homepage Design

The homepage design screenshot reflects a high UI/UX design skill level. The layout is clean and user-friendly, with key features such as the navigation bar, educational activities, reviews, and calls to action prominently displayed. The homepage's visual appeal, combined with its functional elements, indicates the student's ability to create an engaging and accessible web interface.

Prototype Screenshot

The screenshot of the website prototype shows a well-executed and consistent design that closely mirrors the final homepage layout. The prototype includes all key elements, such as the navigation bar and main content areas, demonstrating the student's ability to plan and visualise the product effectively. The high-quality images and clear calls to action enhance user engagement and experience.

Overall Evaluation

The student's work demonstrates high proficiency in SQL database management, web development, testing, UI/UX design, and backend programming. The SQL setup is accurate and follows best practices, ensuring data integrity and security. The test log is comprehensive and well-documented, showcasing thorough testing methodologies. The homepage design and prototype are visually appealing, functional, and user-friendly, reflecting a solid understanding of modern web design principles. The PHP code snippet adds to this by showing the student's capability to handle user sessions and dynamic content.

Areas for consideration in this task moving forward-

- Encourage students to consider the requirements of code as outlined in the task description, to help inform a testing strategy beyond syntax errors
- Encourage students to explore a range of methods of validation and or verification of inputs
- Encourage regression testing of any implemented solutions
- Encourage students to use a range of test data- normal, erroneous and extreme data

Task 3a & 3b
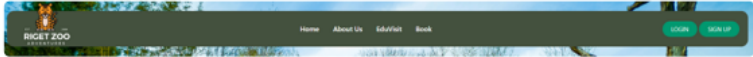
Is the layout intuitive and easy to navigate?

○ Yes

○ No

○ Maybe

7

How easy was it for you to find the website's navigation menu? What are your thoughts on the logo? Do you recon it is easily remembered by the user? Do you believe that the average user will quickly recognize it?

Please try to hover over navigation links, does the green line appear? What are your thoughts on it?

○ It is very interactive, a good feature to have

○ I did not like it, it's distracting

9

Please rate the logo and the navigation bar

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |

10

The colour palette of the website is:

○ User-friendly, goes well with RZA adventures

○ Is not very pleasant, I would rather change it

Navigation:

In the questionnaire I have asked the testers to see if the layout is intuitive and easy to navigate to which all the testers answered positively.

To support this, here is a pie chart formed from the answers:

6. Is the layout intuitive and easy to navigate?

More Details   Insights

● Yes	11
● No	0
● Maybe	0

The other question that I asked was:

How easy was it for you to find the website's navigation menu? What are your thoughts on the logo? Do you recon it is easily remembered by the user? Do you believe that the average user will quickly recognize it?

I have asked these questions to understand if the website will help my client RZA adventures to make strong connections with its customers. I was very much satisfied with the responses that I received. For ex.

Educational visit page

18. Please rate the EduVisit page (Keep in mind that the placeholders will be filled with useful information for students once the client provides data and prototype goes into development)

More Details   Insights

7.40
Average Rating
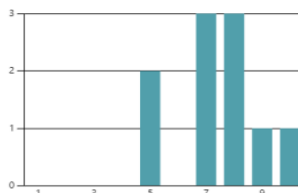
Main booking page, booking system & signup/login system.
The main booking page consists of two sections divided vertically: book a room and book a ticket. Once you press the button the system automatically checks if the user is signed in or not, if not, refers the end user to the login page first with a message. When user is logged in then he/she can proceed with booking which consists of 3 stages: choosing type of ticket or room, choosing the date and confirmation.

First thing I have decided to ask about this page is if it is appealing at first place:

The survey questions designed by the student are highly effective and demonstrate a thorough understanding of user experience evaluation, justifying an A grade. Each question is thoughtfully constructed to gather valuable insights into the website's usability, design, and functionality.

Intuitive Layout and Navigation

The first question asks users if the layout is intuitive and easy to navigate. This is a fundamental aspect of user experience, and by including options for "Yes," "No," and "Maybe," the student allows for nuanced feedback. This question effectively gauges the overall user satisfaction with the website's design.

Navigation Menu and Logo

The subsequent question delves deeper into specific elements, such as the ease of finding the navigation menu and user opinions on the logo. This question encourages detailed feedback and helps identify if the navigation and branding are straightforward and memorable. Including a screenshot of the navigation bar further aids users in providing precise and contextual responses.

Interactive Features

By asking users to hover over navigation links and comment on the appearance of a green line, the student evaluates the website's interactive elements. This question assesses whether such features enhance or detract from the user experience, providing crucial feedback on the design's effectiveness.

Rating System

Including rating scales for the logo, navigation bar, EduVisit page, and the main booking page allows users to quantify their experience. This feedback method is easy for users to provide and offers the student a clear, measurable understanding of user satisfaction across different website elements.

Colour Palette

The question regarding the colour palette asks users to choose between two clear options, evaluating whether the design is visually appealing and aligns with the website's theme. This straightforward question helps in understanding the visual preferences of the users.

Embedded Map

Another insightful question is asking about the usefulness of an embedded map on the About page. It assesses user preference for interactive versus textual information, aiding in making informed decisions about the website's content presentation.

Final Booking Experience

The final question examines the booking process, specifically focusing on ease of use regarding the login and sign-up process. This is crucial for understanding any potential barriers users might face when engaging with the website's core functionality.

Overall Evaluation

The student's survey is comprehensive and well-structured, covering key usability, design, and functionality aspects. The questions are clear, relevant, and designed to elicit detailed

and actionable feedback. By using a mix of multiple-choice, rating scales, and open-ended questions, the survey ensures a thorough evaluation of the user experience.

This approach demonstrates the student's proficiency in user research and design evaluation, making their work deserving of Distinction. The well-crafted survey questions reflect a deep understanding of gathering meaningful user insights to improve and refine the website.

Task 3b

Student's should provide the assets used and how valid the sources are, ensuring that no copyright laws have been broken and the reason as to why they chose them; this should be related to the scenario and why the object was used on the website page and how it would help the user.

Evaluations were appropriate and showed an understanding of the requirements of the set task brief. While students typically at this level provide evaluative comments concerning the requirements of the task, at the borderline, user needs were not effectively considered.

Introduction
In this passage, I will be evaluating the effectiveness of the digital solution that I've been developing during this assessment period and how it meets requirements. As well as that I will be sharing my ideas as to how the solution can be developed further.

The effectiveness of the assets and content used:
The reasoning behind selection
Most of the assets on the website were chosen in the design stage and then implemented during development. I have carefully chosen all of them, to make sure they are a good representation of my client – RZA adventures.

Our Facilities

Some of the assets like hotel pictures for our facilities section shown above, were chosen slightly later in the process, as I have decided to add this section after the beginning of the development.

Home page background:
I have chosen this specific background for various reasons such as:

- It is a good representation of the zoo, and user can very quickly understand what this website is for, when gathering feedback, I have established that the average user can understand the purpose of the website very quickly. Therefore, it seems now like this picture suites just right.
- It helps to emphasize that RZA is wild safari zoo
- It has a good contrast, thus suitable for different types of end users
- It fits the colour palate that I have previously chosen perfectly

The validity and reliability
For all the assets I have used a reliable source such as unsplash, for API I have used Google API. Because I have not added any content like RZA history, information about animals or facilities, there is no risk of invalid information, once the content is provided by the client, then it is going to be added to the website. Specifically, to prevent erroneous information and content on the website I have used Lorem ipsum text as a placeholder in all the places that require some info.

Legal and ethical implications
All the background pictures and icons are Copy right free, therefore legal to use and there is no need to change them before the deployment, unless the client has its own pictures that would like to be used instead. As for the content once again, I think it would be completely unethical to just copy it from competitors' website or just have it written by the AI and therefore I have used placeholders instead.

How the digital solution meets the requirements of the solution

Functional and non-functional requirements

Functional requirements

In my proposal I have stated that the system should include:

- Home page
- About page
- Educational visit page
- Booking System
- Login/Signup/Account system

The solution that I have produced meets all those requirements. I have developed the website that I very close to the initial designs and proposal.

It has the homepage, about page with all 4 required sections: Opening times, Our animals, Hotel info, how to get here. EduVisit page that has main section where the user can browse the catalogue of useful materials (now they are just placeholders, however when content is provided by the client it will contain all that is required). Booking System that has a main page where user can choose what to book: a room or a ticket. Then user is directed to that page. I have changed the logic of the system from the initial design. In the initial proposal I have proposed to make a system that would ask user for details like email and name every time that the booking is made. However, while developing the solution, I realised that this is not the best way to go about it. Instead, the system now checks if the user is signed in, if not kindly asks to sign in or create account first and then to make a booking. In the way, the database is well structured and is easy to track KPI's for my client, however it is also useful for users as it is much quicker and prevents from entering wrong details.

Login system has been developed exactly like I proposed, and I have used same required inputs that I previously proposed, please see belove.

Personal Account

The system should allow user to create an account, or sign in, if the account already exists. Once signed in to their account user should be able to manage their bookings ex. cancel, user should also see previous stays and rewards. The system should allow user to log out once needed.

Non-functional requirements

Security considerations

The system should be secure and robust:

- System must validate all data inputs.
- System must use secure cookies.
- System must use SHA256 Encryption for the passwords.

All the inputs are validated on the backend level, I have essentially considered both types of validation: frontend(html) validation and backend validation. I have chosen to go with backend validation as it is the most secure method. It prevents malicious users from submitting wrong data using developer tools in browser, whereas html does not protect from this.

System uses secure cookies.

The solution contains signup/login system, I made sure it is secure by hashing all the passwords using SHA256 Encryption before they reach the database and then they're stored in that way.

Accessibility features

- The system should be straightforward to use, both for the end-users and the content editors that oversee backend system.
- System should be adapted to different user needs: the system should be following Web Content
- Accessibility (WCAG) guidelines

All of those requirements are met in the solution. Before starting to develop the prototype, I have made sure that my previous design is inclusive for different types of users. For example, I have checked if all the colours and contrasts are accepted by the WCAG by using online checker.

Another example would be a map API that is easier to use then just a small text in the footer stating the location.

How the prototype could be developed further

First of all, in farther development there should be all the required content added, as for this solution I have not provided the content like animals' info, hotel info. Before deploying this info should be added.

Secondly, because of the security considerations I have not added the feature to buy a ticket or pay for the room in advance. However, I this it would be a sensible feature to have as some users may want to do just that.

Thirdly, it was my intention to develop a rewards system, for example when the user, has three visits to the zoo in her/his account, they get a free visit next or discount on the room, which is a good stimulation for customers. However, in this scope I was not able to develop it. Once the user page is displayed after logging in, there is a placeholder for "Loyalty points" though. Therefore, once it is developed it will be very beneficial feature for the RZA to have.

Another feature, that I consider to be a great feature is Animal API, that could be added to the education page. For example, user is interested in a particular animal, he/she enters the name of the animal and some interesting facts about the animal will be displayed.

Finally, the hosting of the website, currently it is running on the localhost. But to be a live projected it should be deployed.

The student has identified several critical areas for further development of the prototype, demonstrating a clear understanding of user needs and technical considerations:

1. The student highlights the necessity of adding essential content, such as animal information and hotel details, before deployment, showing an awareness of the importance of comprehensive content for user satisfaction.
2. The decision to delay the implementation of a booking and payment feature due to security concerns indicates a thoughtful approach to prioritising user safety. The student's intention to develop a rewards system, despite being unable to implement it within the current scope, shows foresight and a customer-centric approach.
3. The suggestion to incorporate an Animal API for educational purposes and the need for live deployment instead of localhost further reflect the student's strategic thinking and dedication to enhancing the prototype.

Non-Functional Requirements

The student has meticulously detailed the non-functional requirements, focusing on security and accessibility. The security considerations are robust, with backend validation, secure cookies, and SHA256 password encryption, ensuring data protection and user safety. The accessibility features are comprehensive, aiming to make the system user-friendly for end-users and backend content editors. The student's adherence to Web Content Accessibility Guidelines (WCAG) demonstrates a commitment to inclusivity. These thorough considerations indicate a deep understanding of web development and user experience design best practices.

How the Digital Solution Meets the Requirements

The student has successfully developed a solution that meets their proposal's functional and non-functional requirements. Including essential sections like the homepage, about page, educational visit page, booking system, and login/sign-up system shows adherence to the initial design. Adjusting the booking system logic and asking users to log in before booking enhances user experience and data management. This change reflects the student's ability to adapt and improve upon initial designs based on practical considerations and user needs.

Validity, Reliability, Legal and Ethical Implications

The student has used reliable sources like Unsplash and Google API, ensuring the validity and reliability of assets and information. Using placeholders for content not yet provided by the client prevents misinformation, demonstrating a careful and ethical approach to content management. Considering copyright-free images and avoiding content plagiarism further highlights the student awareness of legal and ethical implications, ensuring the prototype adheres to legal standards.

Effectiveness of Assets and Content Used

The student has effectively chosen assets representing the client's brand, RZA Adventures, and enhancing user understanding. The selection of background images for the homepage, based on representational accuracy, contrast, and visual appeal, shows a strategic approach to visual design. The reasoning behind asset selection is well-articulated, ensuring each element serves a purpose and contributes to the overall user experience.

Pearson

Overall Evaluation

The student's work is comprehensive, well-considered, and highly proficient in web development and user experience design. The detailed approach to prototype development, non-functional requirements, content validity, and ethical considerations indicates a thorough understanding of the complexities of creating a robust digital solution. The student's ability to adapt and improve upon initial designs, coupled with a strategic selection of assets, justifies the Distinction achieved. This work reflects strong analytical skills, attention to detail, and a deep commitment to creating an effective and user-friendly prototype.