**Task 1**

Design documentation for project

# Visual/interface design

# Logo

* Use Canva to create a logo and discuss the link between the brand/client
* Set it based on the target audience age

# Colour Scheme

* Conduct research into competitor websites
* Identify dominant colours
* Represent the theme of the brand
* Use [Coolors - The super fast color palettes generator!](https://coolors.co/) To find a colour scheme

# HEX colour codes

* Show a list of hex colour codes
* #ae593, #3b3b46 etc
* When doing design in Figma, check contrasts and colours for compliance WCAG, for that using WebAIM website. [WebAIM: Contrast Checker](https://webaim.org/resources/contrastchecker/)

# Navigation Bar

* Attach the design of the navigation bar and the fact it can be adjusted in development

# Home Page

* Attach the design of the home page and the fact it can be adjusted in development

# About Page

* Attach the design of the about page and the fact it can be adjusted in development

# [Page]

* Attach the design of the page and the fact it can be adjusted in development

# Log In / Register

* Attach the design of the page and the fact it can be adjusted in development

# Full Solution

* Attach the full Figma design of all pages

# Data requirements

## ERD + Data flow

* Create an entity flow diagram in Lucidchart (e.g customer, booking)
* Create a data flow diagram again in Lucidchart

e.g

A diagram of a server

AI-generated content may be incorrect.

## Data dictionary

* Create a data dictionary showing the columns, data types, and default values

A screenshot of a computer

AI-generated content may be incorrect.

# Algorithm

## Wireframes and the flow

* Create wireframes of each page, and the database connection diagram

A screenshot of a computer

AI-generated content may be incorrect.

## Booking system flowchart, view – full flowchart

A diagram of a process

AI-generated content may be incorrect.

Booking system flowchart, view –closer on main logic

A diagram of a book

AI-generated content may be incorrect.

## Booking system flowchart, view – closer on booking a room logic

A diagram of a software system

AI-generated content may be incorrect.

## Booking system flowchart, view – closer on booking a ticket logic

A diagram of a software application

AI-generated content may be incorrect.

# A test strategy

Considering the scope of the project, we are going to be using manual testing. However, for future considerations, automated testing can also be used

|  |  |  |  |
| --- | --- | --- | --- |
| **Date of test** | **Component to be tested** | **Type of test to be carried out** | **Prerequisites and dependencies** |
| 18th April 2025 | Navigation bar | Black box testing  Functional testing  Integration testing | No data inputs needed, tester will go through the navbar and test if all correct pages are loaded |
| 18th April 2025 | Homepage | White box testing  Black box testing  Functional testing  Integration testing  Unit testing | No data needed. Test if all the buttons are functional, testing homepage unit, testing integration of page on the website |
| 18th April 2025 | Login system | Backend database testing | Test data needed: Valid username and password and invalid to check the robustness |
| 20th April 2025 | Booking system | Back-end database testing | Test if any errors are shown while executing queries  Test data needed: customer id, time slot, ticket type |
| Date | Page | Black box testing  Non-functional testing  Compatibility testing | OS needed: IOS, MacOS, Windows, Android  Browsers: Chrome, Edge, Firefox, Opera and Safari |

**PROPOSAL FOR**

**CLIENT**

**(CLIENT)**

****

# Business context

# Empathy map

* Discuss the client and their digitalisation, keeping customers satisfied
* Discuss what they offer
* Discuss what they are looking for
* Discuss the proposal to develop an interactive website

|  |  |
| --- | --- |
| **Says**  I need more information before visiting this zoo.  Could I buy a book that has all the animal’s description, so I get to learn while I’m on my educational trip as well?  Could I book my tickets and book a hotel in advance via website?  Could I create my account so I could manage my bookings? I need to cancel my booking for this Saturday because my child is not feeling well. | **Thinks**  I wish there was a website where I could see all the animals, it would be easy to decide if I want to go this zoo  It would be so much easier if they just had a booking system, and I could book a ticket in advance instead of standing in the line for hours.  I would rather book a hotel in advance, what if there are no rooms left when we visit.  Oh, I wish I had more personalised experience, I wish I had my own account. I don’t want to lose my money just because I couldn’t cancel my visit. |
| **Does**  Comes to the zoo with very little awareness  Comes to visit, but the zoo is too full today  Comes to visit and finds out that the hotel is overbooked | **Feels**  Overwhelmed  Confused  Stressed and annoyed because of the que to by ticket  Willing to be reassured that the hotel is booked for the time they come |

# User stories

|  |  |  |  |
| --- | --- | --- | --- |
| As a [user] | I want… | So that… | Acceptance Criteria |
| First time user | To visit a website and find some information on what the zoo is offering. Book my tickets online. | I can compare it to the other zoos and see why I should choose this one, as well as that I would be able to see if there are animals that I am particularly interested in. I will not have to wait I the queue for tickets when I visit. | The system should allow user to see the clear navigation bar at the top, in the main section there should be a carousel in the main section that will prompt users to all the other sections. When user visits the about page, all of the necessary info will be displayed in there such as how to get here, opening times, animals, facilities, hotel info. On the top right corner there will be a “Book” button that will prompt user to the booking page, it could be a ticket booking or a hotel booking. |
| Student | To visit website that is easy to follow and does not have unnecessary information, I also want to find educational trip section on there where I can browse and get all necessary materials for my trip, for ex book that describes all the animals that I’m going to see in the zoo. | When I am on my trip I was fully aware of what is going on and had enhanced experience, I also want to learn more when I’m on the trip. | The system should provide the educational visits page for students. On this page there should be a catalogue of things that they might need while on the trip. |
| Parent | To book a hotel and tickets in advance | I’m sure that when I come with my children we will have where to stay, and I will not need to drive all the way back home the same day. | In the booking area there is an option to book a hotel. |
| Loyal customer | To have a discount when I visit for the second time. To have my account where I would see how when I have visited. And to be able to cancel my future bookings if I need to do so. | If I visit multiple times, I can save some money. I also want to feel a more personalised experience. | The website should contain an option to create an account and login. When user is on any of the pages, he/she should be able to easily navigate to the Account section. When on the Account page, user should be able to Manage bookings, have reward for each visit. See his/her previous visits. |

# Functional requirements

# Home page

* The system should display a home page that consists of a navigation bar, main section and footer. In the main section provides a carousel of pictures with links that prompt the 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, and 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 like 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:

|  |  |
| --- | --- |
| Booking a room | Booking a ticket |
| •Stay from [], to []  •Room type (Single room, Double Room, Twin Room, Double Room -Disability Access)  •Number of visitors  •Full name  •Email | •Date and time  •Type of ticket (Adult,Child, Student, Educational trip)  •Full name  •Email |

# 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:

Repeat password

Password

Username

Email

Full name

User input requirements to log into an account:

Password

Username

# Non-functional requirements

# Security

* 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.

# 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.

# Decomposition

**Home**

Navigation bar

Carousel as a main section

Footer

**My account**

Navigation bar

Sign up/Sign in

Reset password

My rewards

Cancel booking

Logout

**Educational trip**

**Home**

Navigation bar

Catalogue of the materials for trip

Carousel as a main section

Footer

Safety info

Footer

**Home**

Navigation barCarousel as a main section

Footer

Book a ticket

Book a hotel

Footer

**About Us**

Navigation bar

Opening times

Our animals

Hotel info

How to get here

Footer

# KPI’s

# Business KPIs

* **Trustpilot reviews**
  + the higher the ranking on the third party’s ranking websites such as Trustpilot the better it is for the business, the reason being is that usually people look for the best option and it is crucial for them to be able to see what other people that have already visited place think, it is due to complex human psychology. Recent example: to conduct research and make a valid proposal I first had a look on the Trustpilot to see what competitors offer.
* **Visitor satisfaction rate**
  + It can help identifying areas of improvement and therefore boost customer’s experience. One way to track this KPI is to ask customers to fill in short surveys. Industry standard is to keep this rate 80% and higher, however the higher rate, better it is for the business, meaning that everything is managed to the highest standard. One drawback is that sometimes customers are too busy to do it and some of the are not bothered to read the question properly. To mitigate that, we need to make sure that the questionnaire is short and has and engaging element to it
* **The number of educational programs offered**
  + This can allow the business to make strong connections with public and have even more customers. It can be calculated by adding all of the programs offered per year. If the number growth over years that would mean that business has an adequate scaling up.
* **Percentage of repeat visitors**
  + It shows us the business’ ability to maintain customers. Therefore, if there’s a drop in this percentage business can easily spot that there is a problem with customer satisfaction and thus perhaps, they should consider their customer service more. This KPI will allow business to identify areas for improvement and faster long-term loyalty. In order to calculate this KPI business needs to have the number of repeat visitors and total amount of visitors. Then divide repeat visitor by total visitors and multiply by 100
* **Revenue growth rate**
  + Assesses clients financial performance, which can help to perform better informed decisions. The higher the business revenue growth rate the better.

# 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.
* **Average time on page**
  + It shows us how much time on average user spends on the website. Depending on the page this time can indicate different outcomes. For example, if the average time on the homepage or about page is high it’s a good indicator as it shows that the content is engaging and relevant for the user however if KPI is high on the booking page then that might show that there are some errors or it’s to hard for the user to understand. And thus, some changes should be made.

# 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.

# Justification

In the above paragraphs I have proposed a digital solution to the client. Which is an interactive website that meets different users needs, I have also stated the requirements: functional and non-functional and provided decomposition. I this section I will be justifying my proposal.

# How the solution meets the needs of the client

* Discuss each client need and how the solution **meets that need** in detail

# How potential risks will be mitigated

* In the proposal above I have mentioned that the website will contain following features: Info page (About Page), Educational visits, Booking system and personalised account system with loyalty program. In this passage I will walk through the potential risks and their mitigations.
* **Informational accuracy (poor data quality)**

This could lead to lost revenue, poor customer experience and in long term even to the reputational damage. The way to mitigate it is to hire staff that will oversee editing content and making sure it is up to date. Although for the scope of this project I will not be implementing CMS (Content Management System), it might be a sensible solution for farther development, as it will reduce the complexity of maintaining the website, therefore increase efficiency. The reason being is that it allows for content change in a nice user friendly interface, which essentially does not require programming knowledge, therefore could be done by content creators

* **Booking system – data loss**

There are a handful of risks when it comes to the booking system and its implementation like overcomplicating the booking process, not having enough customer support, failing to customize accordingly to business needs. However, what I want to concentrate is system glitches and data loss which could be dreadful to the business reputation. For example, if the data loss happens and the customers that booked a hotel to stay the night, it would be extremely unpleasant experience to them having to change their place and looking for different place on the day of a visit.

To mitigate this, the system must be thoroughly tested. However, for data loss it’s not always sufficient, therefore data backups will be a reasonable solution to this potential risk.

* **Personalised account – data breaches**
  + One of the risks with the most consequences is a data breach. As for the login system, we will gather some customer information, there is always a risk of this data to be stollen. To mitigate this, company should have a robust security plan, that comprise of multiple prevention technics. For this scope I will be implementing password encryptions to enhance the security.

# Regulatory guidelines and legal requirements will be addressed

To make sure the solution that I have proposed above meet the low, I will ensure that the website is compliant with such legislations as GDPR (General Data Protection Policy), COPPA(Children’s Online Privacy Protection Act), EU Cookie Law.

# Appendix 1

# Hardware and software

**e.g contactless payments, voice control, robots, ai chatbots**

# Emerging technologies

**e.g interactive maps, AR, blockchain, AI**

# Meeting different user needs

**e.g clear and easy to navigate website**

**show example websites**

**how info is displayed**

**Variety of pages and inspiration, how they link with my website**

# Guidelines and regulations

**Show table of guidelines and regulations**

# Appendix 2

**Show links to different sources of information**