

## Coursework Submission Sheet

**Complete your details and read the information below. Please attach this sheet to your online submission to confirm that you understand and accept the ONCAMPUS academic regulations regarding coursework.**

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<b>Programme:</b> (e.g. UFP)	<b>IY1</b>
<b>Programme Start Date:</b> (e.g. September 2020)	<b>September 2023</b>

Please confirm your understanding that:

1. At ONCAMPUS, we recognize that English may not be your first language. Our assessments are designed to allow you to achieve while continuing to develop your academic English skills. We expect all submitted work to be your own words (apart from in-text quotations), written in a style that reflects your English language level.
2. At any time, you may be asked to attend an interview with at least two members of academic staff to discuss the content of your submitted coursework. It is likely that one interviewer will be the Centre Head or Deputy Centre Head. Interviews may be requested as part of a random check, or if there is suspicion that an academic offence has been committed. We expect all students to be able to discuss and/or explain the main ideas and vocabulary used in submitted coursework.
3. It is your responsibility to read the programme handbook, including the policy on late submission, and information on available support if you are finding your studies difficult.
4. If you are unsure about any part of your coursework, you must ask your tutors for help before the submission deadline.

***By attaching this sheet, you confirm that that you understand and accept all of the information above. You understand that all submitted coursework must include this coursework submission sheet, and that submissions without the sheet included will be rejected.***

## Table of Contents

Complete your details and read the information below. Please attach this sheet to your online submission to confirm that you understand and accept the ONCAMPUS academic regulations regarding coursework. ..... 1

1.	Requirement Analysis.....	3
1.1.	Introduction .....	3
1.2.	Purpose.....	3
1.3.	Objectives .....	3
1.4.	Target Audience .....	4
1.5.	Significance of the task .....	4
1.5.	Activity Timeline.....	5
1.6.	Gantt Chart .....	5
1.7.	Equipment & Budget Planning.....	6
2.	Design Specification .....	6
2.1.	Navigation Structure .....	6
2.2.	Configuring the CSS Box Model .....	9
2.3.	Storyboard .....	11
2.4.	Database Design.....	28
2.4.1.	Conceptual Design (Data Descriptions) .....	28
2.4.1.1.	Data Constructs .....	28
2.4.1.2.	Detailed Data Description .....	28
2.4.1.3.	The Constructed Data Models.....	32
2.4.2.	Logical Design (ERD, Normalisations) .....	32
2.4.3.	Physical Design (Relational Models).....	36
3.	Testing & Implementation.....	37
3.1.	Code Analysis with Screenshots.....	37
3.1.1.	Front-end Development .....	37
3.1.2.	Back-end Development .....	59
3.1.3.	Connection (PHP) .....	64
3.2.	Strategy to Implement this Product .....	65
4.	Reflection & Critical Review .....	67
4.1.	Questionnaire .....	67
4.2.	Critical Feedback Review .....	69

## 1. Requirement Analysis

### 1.1. Introduction

In this portfolio, we will make steps and considerations on how to build interactive website portfolio that addresses different needs and goals. Building a website from scratch is a process that I will shed light on and explain the intricacies of in this portfolio report. We will delve into the concepts of how the platform operates, how it is to use, and how it looks. We do aspire to have a highly interactive, friendly, and reader-friendly website which is easier to navigate around and hand over a report that focuses on every detail of web design and discusses and criticizes on every feature of it and its testing outcomes.

### 1.2. Purpose

The purpose of doing this project is to:

- i. Create a database-driven website which would store the details of the users in the database as they interact with the website.
- ii. Create a website that would assist the users in getting tickets swiftly online.
- iii. Create a website that a user can easily navigate around and understand.
- iv. Create a responsive and interactive website.

### 1.3. Objectives

The objectives of this project are:

- i. Create a responsive, well-represented, and dynamic website which would include client-side and server-side programming.
- ii. Design and create a database required for the website.
- iii. Integrate the database with client and server-side technologies
- iv. To create an attractive blog website to navigate viewers to different webpages.
- v. To create a responsive and interactive website to meet end-user requirements
- vi. To test and implement an interactive front-end website using HTML, java, and CSS.
- vii. To document the website development process using software development framework.

## 1.4. Target Audience

There are two types of users of the website.

- i. The Creator: who can create and make changes to the web design and maintain the website.
- ii. The general audience/ interested parties: who will go through the contents of the website and explore what is in it to get to know more about Railway website. They could be someone or any organisation that would want to work or collaborate with the owner of the website.

## 1.5. Significance of the task

This website is going to provide a platform to its users to easily book tickets and enjoy their journey onboard. The responsive website provides the users with sufficient information regarding the train information for them to make the most of their journey with the Go website.

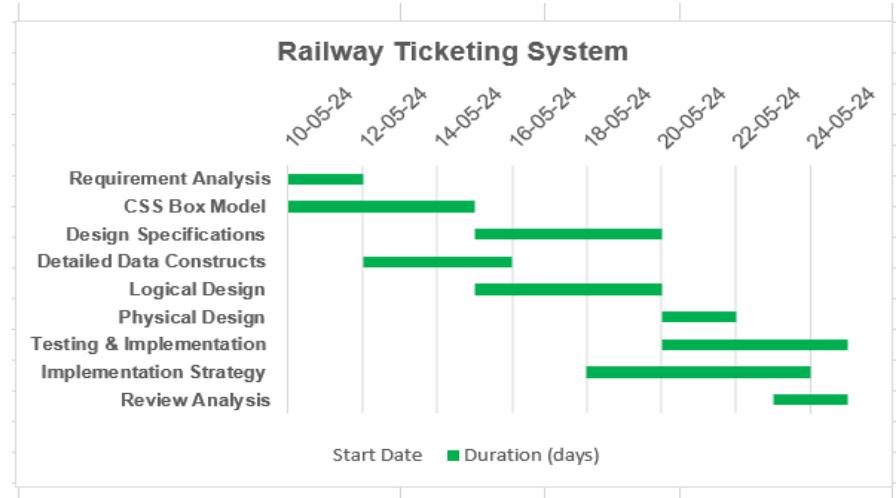
## 1.5. Activity Timeline

S. No	Assessed Criteria	Activity	Duration (Days)	Dependencies
1.	AC01	Requirement Analysis	02	
2.		Gantt Chart	01	
3.		Equipment & Budget Planning	01	
4.	AC02	Document Outline & Design Planning	03	
5.	AC03	Navigation Structure	01	04
6.		CSS Box Model	01	05
7.		Storyboard for webpages	01	06
8.		Conceptual Database Design	02	
9.		Logical Database Design	02	08
10.		Physical Design	02	09
11.	AC04	Testing & Implementation	03	
12.	AC05	Reflection & Critical Evaluation	02	11

## 1.6. Gantt Chart

Tasks	Start Date	End Date	Duration (days)
<b>Requirement Analysis</b>	10-05-24	12-05-24	2
<b>CSS Box Model</b>	10-05-24	15-05-24	5
<b>Design Specifications</b>	15-05-24	20-05-24	5
<b>Detailed Data Constructs</b>	12-05-24	16-05-24	4
<b>Logical Design</b>	15-05-24	20-05-24	5
<b>Physical Design</b>	20-05-24	22-05-24	2
<b>Testing &amp; Implementation</b>	20-05-24	25-05-24	5
<b>Implementation Strategy</b>	18-05-24	24-05-24	6
<b>Review Analysis</b>	23-05-24	25-05-24	2

Table 1.6.(a). shows the timeline for the Gantt Chart



**Figure 1.6.(b).** represents the Gantt Chart for the timeline demonstrated in Table 1.6.(a).

## 1.7. Equipment & Budget Planning

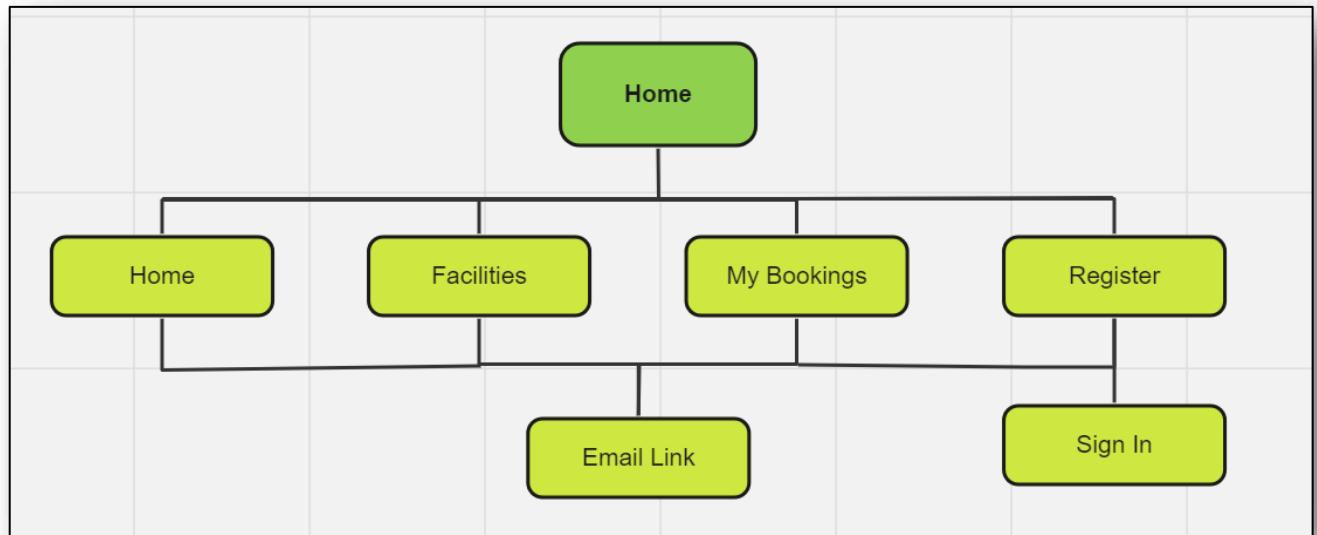
Column	Equipment	Description	Cost
Hardware	HP Elitebook	<ul style="list-style-type: none"> <li><b>Device name:</b> 840 G6</li> <li><b>Processor:</b> intel i5 8th gen</li> <li><b>Installed RAM:</b> 8.00 GB</li> <li><b>System type:</b> 64-bit operating system, x64-based processor</li> </ul>	\$500
Software	1. PhpMyAdmin/MySQL 2. XAMPP 3. VSCode (HTML, CSS, JS, PHP)	<ul style="list-style-type: none"> <li>Software to create Train Ticketing website (Front-End &amp; Back-End) and to connect the ends</li> <li>Software to create the webpage layout and to style it</li> </ul>	Free
	4. Microsoft Office (Word & Excel)	<ul style="list-style-type: none"> <li>Software to create and format document and to make necessary tables</li> </ul>	\$70 per year
	5. Miro/ Canva	<ul style="list-style-type: none"> <li>Software to create ER Diagram, Storyboard, &amp; Relational Model</li> </ul>	Free-Trial

**Table 1.7.(a).** represents the Equipment and Budget Plan for this project

## 2. Design Specification

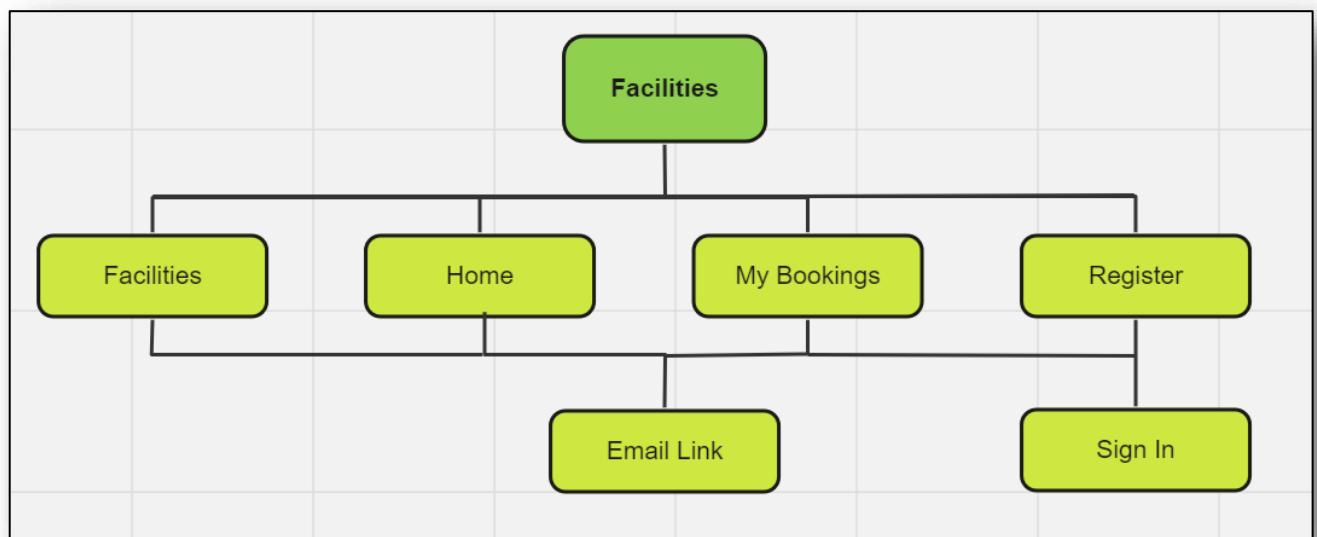
### 2.1. Navigation Structure

This section will delve into detailed explanation and representation of the navigation features in the travel blog website. It will display all the webpages and the navigation features that the users can use to switch from one page to other with ease.



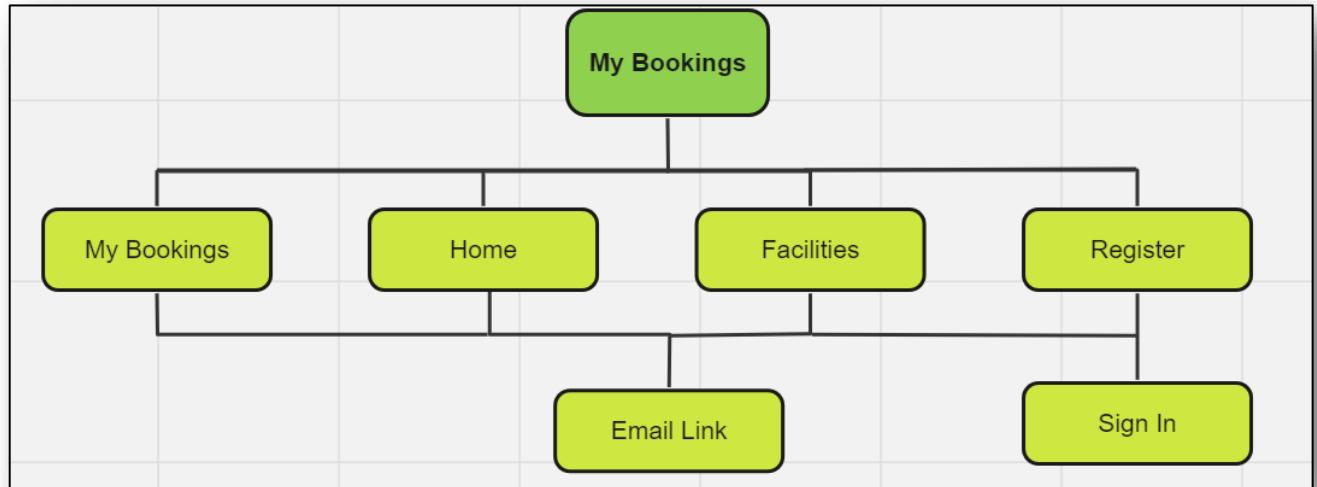
**Image 2.1.(a). demonstrates the Home Page Navigation Structure**

The image displayed above demonstrates the navigation structure from the home page to the other pages. The users can access the rest of the pages from the home page smoothly. They can also contact the organisation via the email link provided.



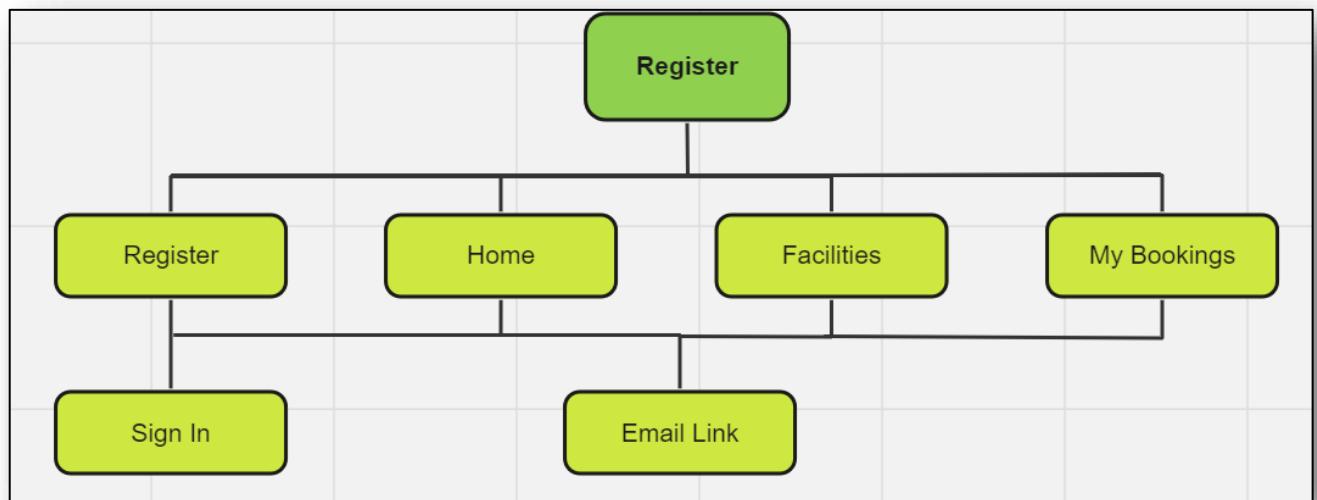
**Image 2.1.(b). demonstrates the Facilities Page Navigation Structure**

The image displayed above demonstrates the navigation structure from the facilities page to the other pages. The users can access the rest of the pages from the facilities page smoothly. They can also contact the organisation via the email link provided in the footer section of the webpages.



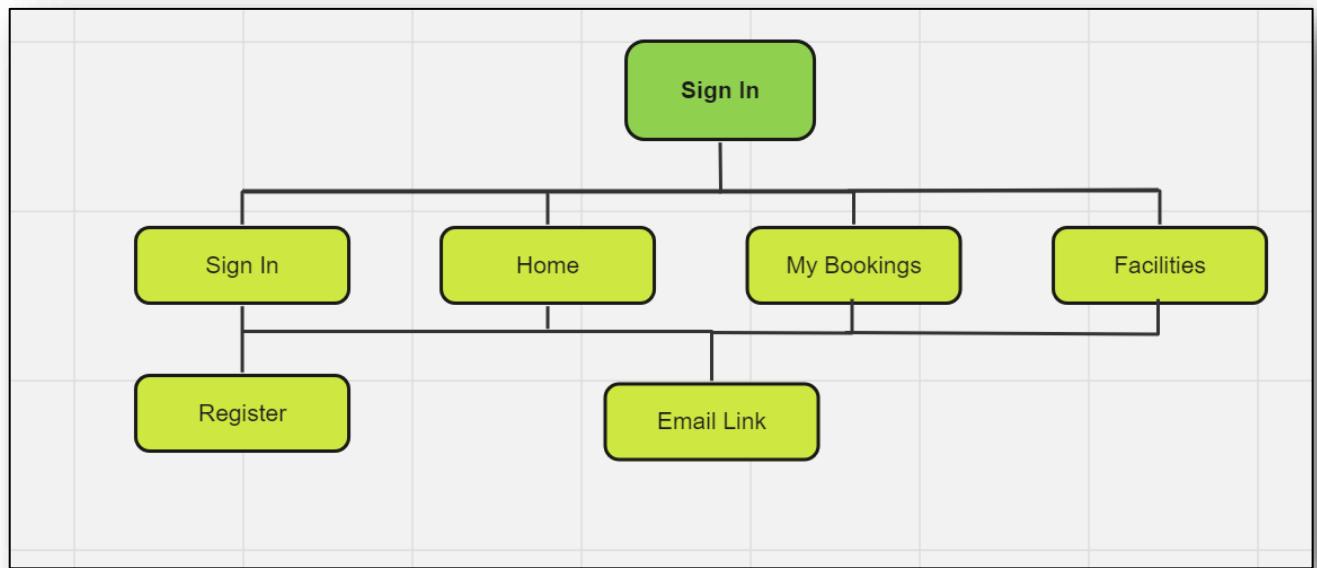
**Image 2.1.(c). demonstrates the My Bookings Page Navigation Structure**

The image displayed above demonstrates the navigation structure from the My Booking page to the other pages. The users can access the rest of the pages from the booking page smoothly. They can also contact the organisation via the email link provided in the footer section of the webpages.



**Image 2.1.(d). demonstrates the Register Page Navigation Structure**

The image displayed above demonstrates the navigation structure from the register page to the other pages. The users can access the rest of the pages from the register page smoothly. They can also contact the organisation via the email link provided in the footer section of the webpages.



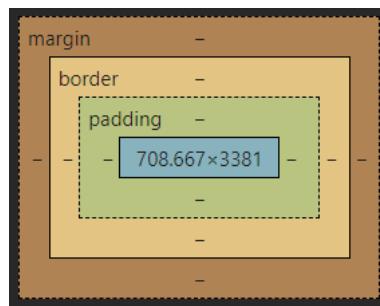
***Image 2.1.(e). demonstrates the Sign in Page Navigation Structure***

The image displayed above demonstrates the navigation structure from the sign in page to the other pages. The users can access the rest of the pages from the sign in page smoothly.

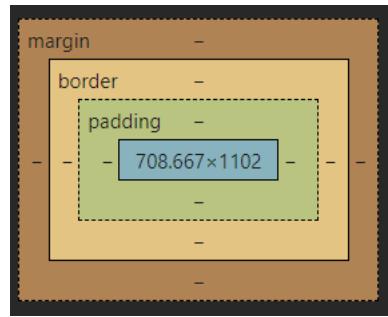
## 2.2. Configuring the CSS Box Model



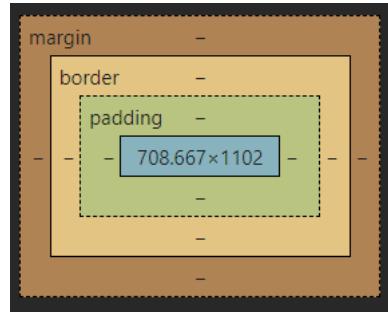
***2.2.(a). Home Page***



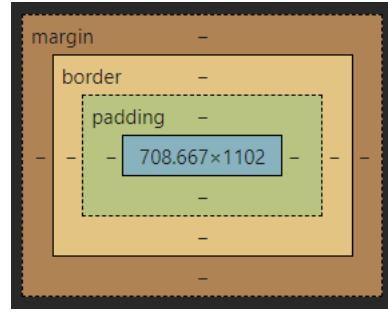
***2.2.(b). Facilities Page***



**2.2.(c). Booking Page**

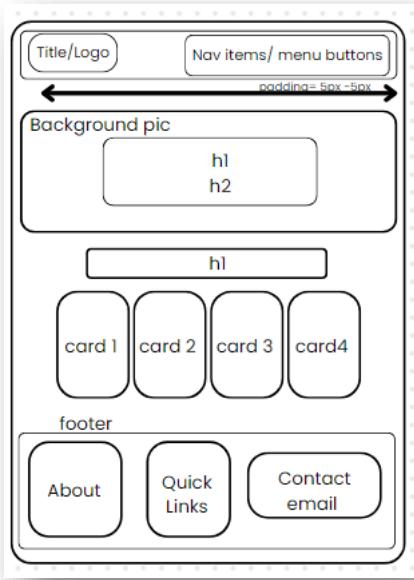


**2.2.(d). Register Page**



**2.2.(e). Sign In Page**

## 2.3. Storyboard



*Image 2.3.(a). demonstrates storyboard for the Home webpage*

Feature	Position	Value
.navigation-items > a:before	position: absolute;	-
	background	#fff
	width	0
	height	3px
	bottom	0
	left	50%
	transform	translateX(-50%)
.layer	position: absolute;	-
	background	linear-gradient(to top, rgba(0, 0, 0, 1), rgba(0, 0, 0, 0))
	bottom	0
	width	100%
	height	75%
	opacity	0
.info	position: absolute;	-
	bottom	-50%
	padding	15px
	opacity	0
.menu-btn .fas	position: absolute;	-
	top	50%
	left	50%

	transform	translate(-50%, -50%)
.menu-btn .fa-bars	position: absolute;	-
	top	50%
	left	50%
.menu-btn .fa-times	position: absolute;	-
	top	50%
	left	50%

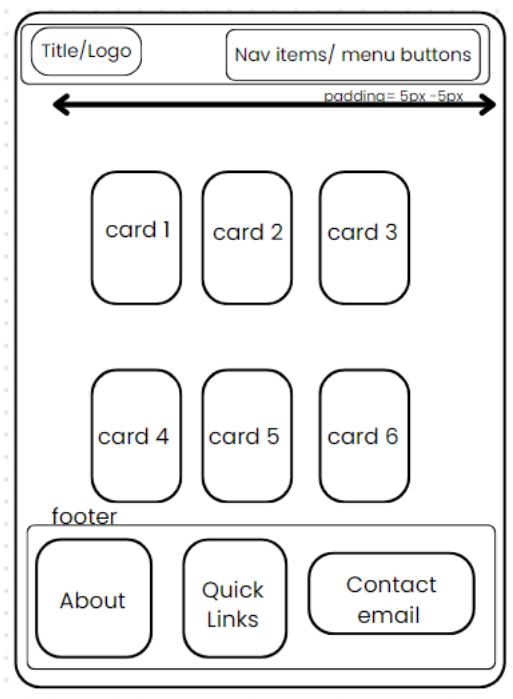
**Table 2.3.(a).** demonstrates the detailed specifications of the features in the Home Page

Property	Value	Description
<b>body, h1, h2, p, ul, li, a, input, textarea, button</b>	margin: 0; padding: 0; box-sizing: border-box; font-family: "Poppins", sans-serif;	Resets default margins, paddings, and applies border-box sizing for all elements. Sets the font family to "Poppins", sans-serif for the body text and listed elements.
<b>header</b>	z-index: 1000; position: fixed; top: 0; left: 0; width: 100%; display: flex; justify-content: space-between; align-items: center; padding: 5px - 5px; transition: 0.5s ease; background-color: #000000;	Styles the header element with fixed positioning, full width, flexbox layout, and black background color.
<b>header .brand</b>	color: #fff; font-size: 1.5em; font-weight: 700; text-transform: uppercase; text-decoration: none; padding: 20px; margin-right: auto;	Styles the brand element within the header with white color, larger font size, bold weight, uppercase text, and right margin.
<b>header .navigation</b>	position: relative; display: flex; justify-content: flex-end; margin-left: auto;	Styles the navigation element within the header with relative positioning, flexbox layout, and right margin.

<b>header .navigation &gt; .navigation-items</b>	display: flex; align-items: center; max-width: 80%; flex-wrap: nowrap; margin-right: 50px;	Styles the navigation items element within the navigation with flexbox layout, centered alignment, and right margin.
<b>header .navigation &gt; .navigation-items &gt; a</b>	position: relative; color: #fff; font-size: 1em; font-weight: 500; text-decoration: none; padding: 10px 20px; border-radius: 5px; margin-bottom: 10px; flex-shrink: 0; transition: 0.3s ease;	Styles the anchor tags within navigation items with white color, medium font size, rounded corners, and bottom margin.
<b>header .navigation &gt; .navigation-items &gt; a:before</b>	content: ""; position: absolute; background: #fff; width: 0; height: 3px; bottom: 0; left: 50%; transform: translateX(-50%); transition: 0.3s ease;	Creates an invisible element before each anchor tag that acts as an underline animation on hover.
<b>header .navigation &gt; .navigation-items &gt; a:hover:before</b>	width: 100%;	Animates the underline to full width on hover.
<b>section</b>	padding: 60px 120px;	Defines padding for sections.
<b>.form-section-container</b>	background-image: url('FINAL.jpeg'); background-size: cover; background-position: center; height: 600px; display: flex; align-items: center; justify-content: center; color: #fff;	Styles the form section container with a background image, centered content, and white color for text.
<b>.form-container</b>	text-align: center; padding: 20px; border-radius: 10px;	Styles the form container with centered text, padding, and rounded corners.
<b>.form-container h1</b>	font-size: 3em; margin-bottom: 20px;	Styles the heading within the form container with a larger font size and bottom margin.

.form-container h2	font-size: 2em;	Styles the subheading within the form container with a medium font size.
.destinations-heading	text-align: center; margin-top: 10px; margin-bottom: 20px;	Styles the destinations heading with centered text and margins.
.card-section	margin-top: -10px; display: flex; justify-content: center; align-items: center;	Styles the card section with negative top margin, flexbox layout, and centered content.
.card-group	margin-top: 20px; display:	

**Table 2.3.(a).** gives a detailed overview with explanation of each specification



**Image 2.3.(b).** demonstrates storyboard for the Facilities webpage

Feature	Position	Value
@import	url	'https://fonts.googleapis.com/css2?family=Poppins:ital,wght@0,400;0,500;1,300&display=swap'
*	margin	0
	padding	0
	box-sizing	border-box
	font-family	'Poppins', sans-serif
body	background	#111
	color	white
.container	padding	30px 20px
	width	100%
	max-width	1200px
	margin	0 auto
.container h2	text-align	center
	text-transform	uppercase
	font-size	35px
	margin-bottom	25px
	font-family	'Lucida Sans', 'Lucida Sans Regular', 'Lucida Grande', 'Lucida Sans Unicode', Geneva, Verdana, sans-serif
.services	display	flex
	justify-content	space-around
	flex-wrap	wrap
	gap	20px
.card	width	300px
	text-align	center
	background	#222
	padding	20px 15px
	margin-bottom	30px
	border-radius	10px
	cursor	pointer
	transition	0.3s
	display	flex
	flex-direction	column
	align-items	center
.card:hover	background	blueviolet
.content	transition	0.3s
.card:hover .content	transform	scale(1.07)
.icon	padding	5px 0
	color	white
.icon i	font-size	40px
.card:hover .title	color	white
.title	padding	5px 0
	font-size	24px
	font-weight	500

	color	blueviolet
	transition	0.3s
p	font-size	16px
	line-height	1.5
@media (max-width: 768px)	.services	flex-direction: column; align-items: center;
@media (max-width: 768px)	.card	width: 80%;
@media (min-width: 769px) and (max-width: 1200px)	.card	width: 45%;

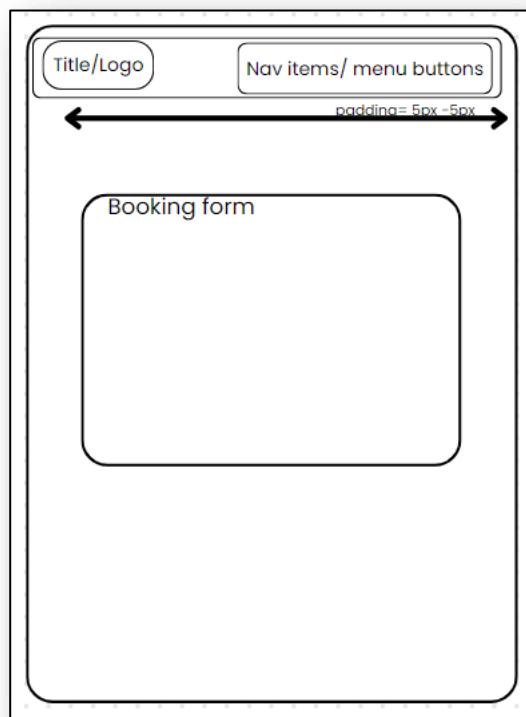
**Table 2.3.(b).** demonstrates the detailed specifications of the features in the Facilities Page

Property	Value	Description
@import url('https://fonts.googleapis.com/css2?family=Poppins:ital,wght@0,400;0,500;1,300&display=swap');		Imports the Poppins font from Google Fonts with various styles (italic, weight) for use in the document.
* (all elements)	margin: 0; padding: 0; box-sizing: border-box; font-family: 'Poppins', sans-serif;	Resets default margins, paddings, applies border-box sizing for all elements, and sets the default font family to "Poppins", sans-serif (fallback to sans-serif if Poppins is not loaded).
body	background: #111; color: white;	Sets the background color of the body to dark grey (#111) and text color to white.
.container	padding: 30px 20px; width: 100%; max-width: 1200px; margin: 0 auto;	Styles the container element with padding, sets the width to 100% (full width) with a maximum of 1200px, and centers it horizontally.
.container h2	text-align: center; text-transform: uppercase; font-size: 35px; margin-bottom: 25px; font-family: 'Lucida Sans', 'Lucida Sans Regular', 'Lucida	Styles the heading (h2) within the container with centered text, uppercase transformation, larger font size, and

	Grande', 'Lucida Sans Unicode', Geneva, Verdana, sans-serif;	bottom margin. It also specifies a fallback font stack for "Lucida Sans".
.services	display: flex; justify-content: space-around; flex-wrap: wrap; gap: 20px;	Styles the services section with flexbox layout, spaced-around justification, wrapping on overflow, and sets a gap of 20px between elements.
.card	width: 300px; text-align: center; background: #222; padding: 20px 15px; margin-bottom: 30px; border-radius: 10px; cursor: pointer; transition: 0.3s; display: flex; flex-direction: column; align-items: center;	Styles the card element with a defined width, centered text, dark grey background, padding, bottom margin, rounded corners, pointer cursor, smooth transition effect, flexbox layout with column direction, and centered alignment.
.card:hover	background: blueviolet;	Changes the background color of the card to blueviolet on hover.
.content	transition: 0.3s;	Applies a smooth transition effect to the content element.
.card:hover .content	transform: scale(1.07);	Scales up the content element slightly (1.07) on hover of the card.
.icon	padding: 5px 0; color: white;	Styles the icon element with padding and white color.
.icon i	font-size: 40px;	Sets the font size of the icon element (likely an icon font) to 40px.
.card:hover .title	color: white;	Changes the title color to white on hover of the card.
.title	padding: 5px 0; font-size: 24px; font-weight: 500; color: blueviolet; transition: 0.3s;	Styles the title element with padding, font size, medium weight, blueviolet color, and a smooth transition effect.
p	font-size: 16px; line-height: 1.5;	Styles paragraphs with a font size of 16px and a line-height of 1.5 for better readability.

@media (max-width: 768px)		Defines media query for screens with a maximum width of 768px.
.services	flex-direction: column; align-items: center;	Applies styles to the services section within the media query: changes the layout to a column and centers the items.
.card	width: 80%;	Sets the

**Table 2.3.(b).** gives a detailed overview with explanation of each specification



**Image 2.3.(c).** demonstrates storyboard for the Booking webpage

Feature	Position	Value
<b>body</b>	background-image	url('bg24.webp')
	background-size	cover
	background-position	center
	font-family	'Poppins', sans-serif
	margin	0
	padding	0
	color	#333
	z-index	1000
	position	fixed
	top	0
<b>header</b>	left	0
	width	100%
	display	flex
	justify-content	space-between
	align-items	center
	padding	5px -5px
	transition	0.5s ease
	background-color	#000000
	color	#fff
	font-size	1.5em
<b>header .brand</b>	font-weight	700
	text-transform	uppercase
	text-decoration	none
	padding	20px
	margin-right	auto
	position	relative
<b>header .navigation</b>	display	flex
	justify-content	flex-end
	margin-left	auto
	display	flex
<b>header .navigation &gt; .navigation-items</b>	align-items	center
	max-width	80%
	flex-wrap	nowrap
	margin-right	50px
	position	relative
<b>header .navigation &gt; .navigation-items &gt; a</b>	color	#fff
	font-size	1em
	font-weight	500
	text-decoration	none
	padding	10px 20px
	border-radius	5px
	margin-bottom	10px
	flex-shrink	0
	transition	0.3s ease
	content	"
<b>header .navigation &gt; .navigation-items &gt; a:before</b>	position	absolute
	background	#fff
	width	0

# Coursework Submission Agreement

	height	3px
	bottom	0
	left	50%
	transform	translateX(-50%)
	transition	0.3s ease
<b>header .navigation &gt;</b> <b>.navigation-items &gt;</b> <b>a:hover:before</b>	width	100%
<b>section</b>	padding	60px 120px
<b>.container</b>	display	flex
	justify-content	center
	align-items	center
	height	100vh
<b>.form</b>	display	flex
	flex-direction	column
	gap	10px
	max-width	400px
	background-color	rgba(255, 255, 255, 0.9)
	padding	20px
	border-radius	10px
	box-shadow	0 2px 4px rgba(0, 0, 0, 0.1)
<b>.title</b>	font-size	28px
	color	royalblue
	font-weight	600
	letter-spacing	-1px
	text-align	center
<b>.message</b>	color	rgba(88, 87, 87, 0.822)
	font-size	14px
	text-align	center
<b>.form label</b>	position	relative
	flex	1
<b>.form label .input</b>	width	100%
	padding	10px
	border	1px solid rgba(105, 105, 105, 0.397)
	border-radius	5px
	font-size	16px
<b>.form label .input + span</b>	position	absolute
	left	10px
	top	10px
	color	grey
	font-size	0.9em
	cursor	text
	transition	0.3s ease
<b>.form label</b> <b>.input:placeholder-shown + span</b>	top	10px
	font-size	0.9em
<b>.form label</b> <b>.input:focus + span</b> , <b>.form label</b> <b>.input:valid + span</b>	top	-10px
	font-size	0.7em
	font-weight	600
	background-color	white

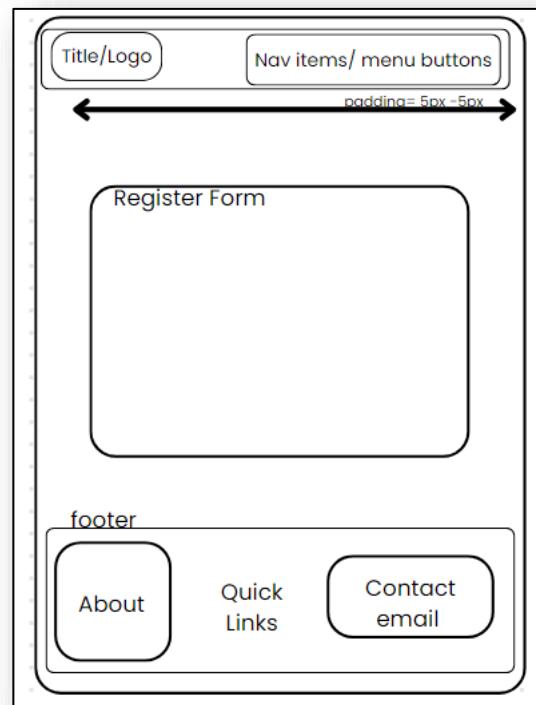
	padding	0 5px
.form label .input:valid + span	color	green
.submit	border	none
	background-color	royalblue
	padding	10px
	border-radius	5px
	color	#fff
	font-size	16px
	cursor	pointer
	transition	background-color 0.3s ease
.submit:hover	background-color	rgb(56, 90, 194)

**Table 2.3.(c). demonstrates the detailed specifications of the features in the Booking Page**

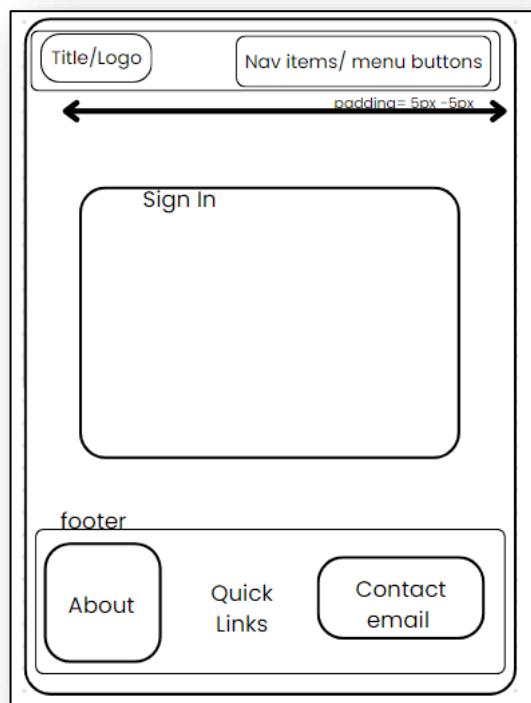
Property	Value	Description
body	background-image: url('bg24.webp'); background-size: cover; background-position: center; font-family: 'Poppins', sans-serif; margin: 0; padding: 0; color: #333;	Sets the background of the body with an image (bg24.webp), covers the entire viewport, positions it in the center, sets the font family to "Poppins", sans-serif, removes default margins and paddings, and sets the text color to a dark grey (#333).
header	z-index: 1000; position: fixed; top: 0; left: 0; width: 100%; display: flex; justify-content: space-between; align-items: center; padding: 5px -5px; transition: 0.5s ease; background-color: #000000;	Styles the header element with a high z-index to ensure it stays on top, fixed positioning to stay at the top of the viewport, full width, flexbox layout, spaced-between justification for horizontal alignment, centered alignment for vertical alignment, some padding adjustments, smooth transition effect, and a black background color.
header .brand	color: #fff; font-size: 1.5em; font-weight: 700; text-transform: uppercase; text-decoration: none; padding: 20px; margin-right: auto;	Styles the brand element within the header with white text color, larger font size, bold weight, uppercase transformation, removes text decoration (underline), adds padding, and sets right margin to automatically position it on the left side.
header .navigation	position: relative; display: flex; justify-content: flex-end; margin-left: auto;	Styles the navigation element within the header with relative positioning (for nested elements), flexbox layout, flex-end justification to position it on the right side,

		and left margin to offset it from the left edge.
<b>header</b> <b>.navigation &gt;</b> <b>.navigation-items</b>	display: flex; align-items: center; max-width: 80%; flex-wrap: nowrap; margin-right: 50px;	Styles the navigation items element within navigation with flexbox layout, centered alignment, limits the width to 80% of the viewport, prevents wrapping on overflow, and adds right margin.
<b>header</b> <b>.navigation &gt;</b> <b>.navigation-items &gt; a</b>	position: relative; color: #fff; font-size: 1em; font-weight: 500; text-decoration: none; padding: 10px 20px; border-radius: 5px; margin-bottom: 10px; flex-shrink: 0; transition: 0.3s ease;	Styles the anchor tags within navigation items with relative positioning (for the underline effect), white text color, medium font size, medium weight, removes text decoration, adds padding, rounded corners, some margin for spacing, prevents shrinking on flexbox layout changes, and applies a smooth transition effect.
<b>header</b> <b>.navigation &gt;</b> <b>.navigation-items &gt; a:before</b>	content: ""; position: absolute; background: #fff; width: 0; height: 3px; bottom: 0; left: 50%; transform: translateX(-50%); transition: 0.3s ease;	Creates an invisible element before each anchor tag that acts as an underline animation on hover. It sets the content to be empty, positions it absolutely, sets the background color to white (for the underline), sets initial width to 0, sets height to 3px for the underline thickness, positions it at the bottom, centers it horizontally, and applies a smooth transition effect.
<b>header</b> <b>.navigation &gt;</b> <b>.navigation-items &gt; a:hover:before</b>	width: 100%;	Animates the underline to full width on hover by changing the width property.
<b>section</b>	padding: 60px 120px;	Defines padding for sections, adding space on top, bottom, left, and right.
<b>.container</b>	display: flex; justify-content: center; align-items: center; height: 100vh;	Styles the container element with flexbox layout, centers content horizontally and vertically, and sets the height to 100% of the viewport height.
<b>.form</b>	display: flex; flex-direction: column; gap: 10px; max-width:	

**Table 2.3.(c).** gives a detailed overview with explanation of each specification



**Image 2.3.(d). demonstrates storyboard for the Register webpage**



**Image 2.3.(e). demonstrates storyboard for the Sign In webpage**

Feature	Position	Value
<b>body</b>	background-image	url('bg24.webp')
	background-size	cover
	background-position	center
<b>.container</b>	display	flex
	justify-content	center
	align-items	center
	height	100vh
	padding-top	50px
<b>.form</b>	display	flex
	flex-direction	column
	gap	10px
	max-width	350px
	background-color	#fff
	padding	20px
	border-radius	20px
	position	relative
<b>.title</b>	font-size	28px
	color	Royal blue
	font-weight	600
	letter-spacing	-1px
	position	relative
	display	flex
	align-items	center
	padding-left	30px
<b>.title::before, .title::after</b>	position	absolute
	content	""
	height	16px
	width	16px
	border-radius	50%
	left	0px
	background-color	royalblue
<b>.title::before</b>	width	18px
	height	18px
	background-color	royalblue
<b>.title::after</b>	width	18px
	height	18px
	animation	pulse 1s linear infinite
<b>.message, .signin</b>	color	rgba(88, 87, 87, 0.822)
	font-size	14px
<b>.signin</b>	text-align	center
<b>.signin a</b>	color	royalblue
<b>.signin a:hover</b>	text-decoration	underline royalblue
<b>.flex</b>	display	flex
	width	100%
	gap	6px

.form label	position	relative
.form label .input	width	100%
	padding	10px 10px 20px 10px
	outline	0
	border	1px solid rgba(105, 105, 105, 0.397)
	border-radius	10px
.form label .input + span	position	absolute
	left	10px
	top	15px
	color	grey
	font-size	0.9em
	cursor	text
	transition	0.3s ease
.form label .input:placeholder-shown + span	top	15px
	font-size	0.9em
.form label .input:focus + span, .form label .input:valid + span	top	0px
	font-size	0.7em
	font-weight	600
.form label .input:valid + span	color	green
.submit	border	none
	outline	none
	background-color	royalblue
	padding	10px
	border-radius	10px
	color	#fff
	font-size	16px
	transform	.3s ease
.submit:hover	background-color	rgb(56, 90, 194)
	cursor	pointer
@keyframes pulse	from	transform: scale(0.9); opacity: 1;
	to	transform: scale(1.8); opacity: 0;

**Table 2.3.(d).** demonstrates the detailed specifications of the features in the Register & Sign In Page

Property	Value	Description
<b>body</b>	background-image: url('bg24.webp'); background-size: cover; background-position: center;	Sets the background of the body with an image (bg24.webp), covers the entire viewport, and positions it in the center.
<b>.container</b>	display: flex; justify-content: center; align-items: center; height: 100vh; padding-top: 50px;	Styles the container element with flexbox layout, centers content horizontally and vertically, sets the height to 100% of the viewport height, and adds padding to the top for some spacing.
<b>.form</b>	display: flex; flex-direction: column; gap: 10px; max-width: 350px; background-color: #fff; padding: 20px; border-radius: 20px; position: relative;	Styles the form element with flexbox layout arranged in a column, adds spacing between elements, limits the width, sets a white background color, adds padding, rounded corners, and positions it relatively (for child elements with absolute positioning).
<b>.title</b>	font-size: 28px; color: royalblue; font-weight: 600; letter-spacing: -1px; position: relative; display: flex; align-items: center; padding-left: 30px;	Styles the title element with a larger font size, royal blue color, bold weight, adjusted letter-spacing for a tighter fit, relative positioning (for pseudo-elements), flexbox layout for potential icons, centered alignment of content within the title, and left padding.
<b>.title::before, .title::after</b>	position: absolute; content: ""; height: 16px; width: 16px; border-radius: 50%; left: 0px; background-color: royalblue;	Creates two pseudo-elements (::before and ::after) positioned absolutely relative to the title. They are both empty content (""), have a square size (16px), rounded corners (circle), positioned on the left (0px), and have a royal blue background color. These are likely circles for decoration.

<b>.title::before</b>	width: 18px; height: 18px; background-color: royalblue;	Modifies the styles for the first pseudo-element (::before) to be slightly larger (18px) for a stacked circle effect.
<b>.title::after</b>	width: 18px; height: 18px; animation: pulse 1s linear infinite;	Modifies the styles for the second pseudo-element (::after) to be slightly larger (18px) and applies an animation named "pulse" for a pulsating effect.
<b>.message, .signin</b>	color: rgba(88, 87, 87, 0.822); font-size: 14px;	Styles both the message and signin elements with a slightly grey text color and a smaller font size.
<b>.signin</b>	text-align: center;	Centers the text content within the signin element.
<b>.signin a</b>	color: royalblue;	Sets the text color of anchor tags within signin to royal blue.
<b>.signin a:hover</b>	text-decoration: underline royalblue;	Applies an underline decoration in royal blue on hover for the anchor tags within signin.
<b>.flex</b>	display: flex; width: 100%; gap: 6px;	Styles the flex element with flexbox layout, sets the width to 100% (likely for a row layout within the form), and adds spacing between elements.
<b>.form label</b>	position: relative;	Positions the label element within the form relatively (for child elements with absolute positioning).
<b>.form label .input</b>	width: 100%; padding: 10px 10px 20px 10px; outline: 0; border: 1px solid rgba(105, 105, 105, 0.397); border-radius: 10px;	Styles the input element within the label with a full width, custom padding for potential icons, removes the default outline, sets a solid border with a slightly grey color, and rounded corners.
<b>.form label .input + span</b>	position: absolute; left: 10	

**Table 2.3.(d). gives a detailed overview with explanation of each specification**

## 2.4. Database Design

### 2.4.1. Conceptual Design (Data Descriptions)

#### 2.4.1.1. Data Constructs

2.4.1.1.1. Train: The Train table encompasses all the crucial details of the train. It consists of the main attributes like Train ID which is a unique identifier for the train table, Train name, Departure time, departure station, arrival time, arrival station, platform, available seats, total seats, and coaches.

2.4.1.1.2. Booking: The Booking table consists of the booking date and the booking status.

2.4.1.1.3. Payment: The payment table consists of the payment details of the users in the database like the unique payment id and the payment amount.

2.4.1.1.4. Ticket: The ticket table consists of the important information about the ticket table like the unique ticket id for every ticket, and the price.

2.4.1.1.5. Railcard: The Railcard table consists of the important details of the railcard holders like the unique railcard id and Railcard type.

2.4.1.1.6. Users: The users table consists of the new users information like user id which is unique for every user, username, password, email, and phone number.

#### 2.4.1.2. Detailed Data Description

Trains				
Attribute	Data Type	Size	Constraints	Description
TrainID	INT		PK, Not NULL	It's a unique identifier for the Trains table
TrainName	VARCHAR	100		This is an attribute in the Trains table which holds the train names
DepTime	TIME			This is an attribute in the Trains table which holds the departure time of trains
DepartureStation	VARCHAR	100		This is an attribute in the Trains table which holds the departure station of train

ArrTime	TIME			This is an attribute in the Trains table which holds the arrival time of trains
ArrivalStation	VARCHAR	100		This is an attribute in the Trains table which holds the arrival station of train
Platform	VARCHAR	20		This is an attribute in the Trains table which holds the information about the platform of train
Available Seats	INT			This is an attribute in the Trains table which holds the information about available seats in a train
Total Seats	INT			This is an attribute in the Trains table which holds the information about total seats in a train
Coaches	INT			This is an attribute in the Trains table which holds the information about No. of coaches in a train

**Table 2.4.1.2.(a).** represents the data constructs for the Train table

Booking				
Attribute	Data Type	Size	Constraints	Description
Booking ID	INT		PK, Not NULL	It's a unique identifier for the Booking table
Payment ID	INT		Foreign Key	It's a foreign key which connects the Payment table to the Booking table.
User ID	INT		Foreign Key	It's a foreign key which connects the User table to the Booking table
Booking Date	DATE			This is an attribute in the Booking table which holds the booking date of ticket
Booking Status	VARCHAR	50		This is an attribute in the Booking table which holds the information about booking status of a ticket

**Table 2.4.1.2.(b).** represents the data constructs for the Booking table

<b>Payment</b>				
<b>Attribute</b>	<b>Data Type</b>	<b>Size</b>	<b>Constraints</b>	<b>Description</b>
<b>Payment ID</b>	INT		PK, Not NULL	It's a unique identifier for the Payment table
<b>Railcard ID</b>	INT		Foreign Key	It's a foreign key which connects the Railcard table to the Payment table
<b>Payment</b>	DECIMAL	(10,2)		This is an attribute in the Payment table which holds the information about ticket's payment

**Table 2.4.1.2.(c).** represents the data constructs for the Payment table

<b>Ticket</b>				
<b>Attribute</b>	<b>Data Type</b>	<b>Size</b>	<b>Constraints</b>	<b>Description</b>
<b>Ticket ID</b>	INT		PK, Not NULL	It's a unique identifier for the Ticket table
<b>Train ID</b>	INT		Foreign Key	It's a foreign key which connects the Train table to the ticket table
<b>Booking ID</b>	INT		Foreign Key	It's a foreign key which connects the Booking table to the Ticket table
<b>Price</b>	DECIMAL	(10,2)		This is an attribute in the Ticket table which holds the information about price of ticket

**Table 2.4.1.2.(d).** represents the data constructs for the Ticket table

<b>Railcard</b>				
<b>Attribute</b>	<b>Data Type</b>	<b>Size</b>	<b>Constraints</b>	<b>Description</b>
<b>Railcard ID</b>	INT		PK, Not NULL	It's a unique identifier for the Railcard table
<b>RailCard Type</b>	VARCHAR	100		This is an attribute in the Railcard table which holds the information about the type of Railcard

**Table 2.4.1.2.(e).** represents the data constructs for the Railcard table

<b>User</b>				
<b>Attribute</b>	<b>Data Type</b>	<b>Size</b>	<b>Constraints</b>	<b>Description</b>
User ID	INT		PK, Not NULL	It's a unique identifier for the User table
Username	VARCHAR	100		This is an attribute in the User table which holds user's account username
Password	VARCHAR	100		This is an attribute in the User table which holds user's account password
Email	VARCHAR	100		This is an attribute in the User table which holds user's email address
Phone No.	VARCHAR	20		This is an attribute in the User table which holds user's contact details

**Table 2.4.1.2.(f).** represents the data constructs for the User table

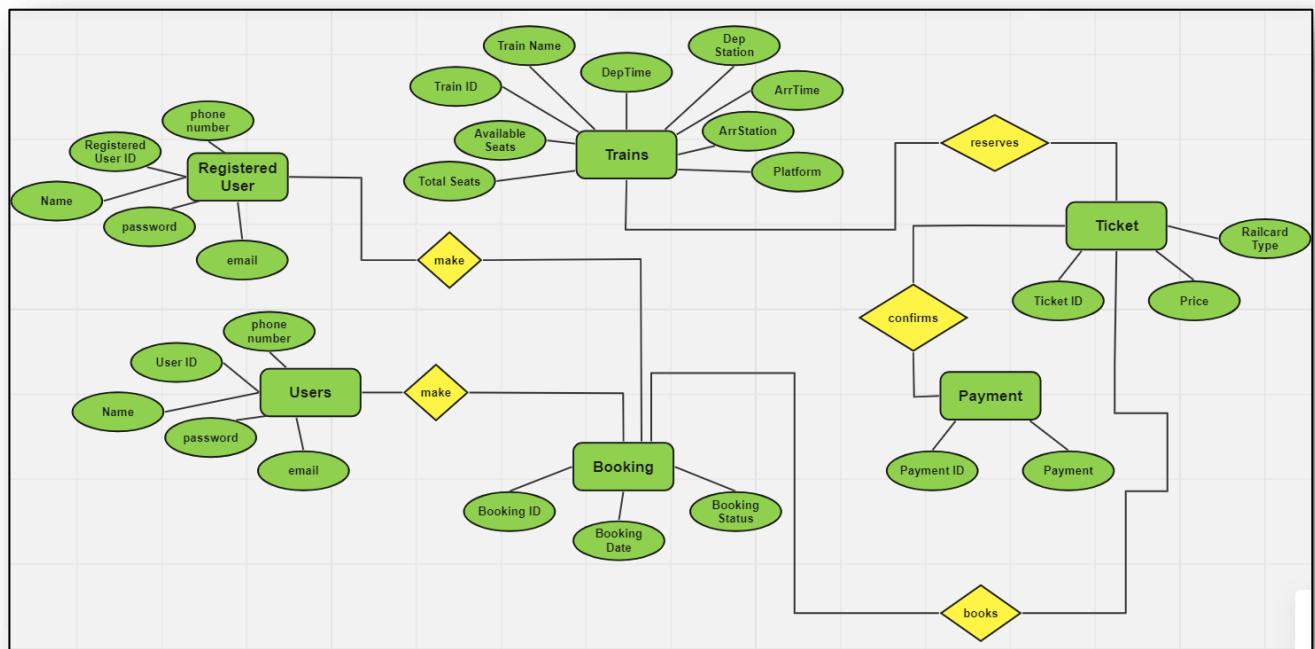
<b>Registered User</b>				
<b>Attribute</b>	<b>Data Type</b>	<b>Size</b>	<b>Constraints</b>	<b>Description</b>
R. User ID	INT		PK, Not NULL	It's a unique identifier for the Registered User table
Booking ID	INT		Foreign Key	It's a foreign key which connects the Booking table to the Registered User table
R. Username	VARCHAR	100		This is an attribute in the Registered User table which holds registered user's account username
Password	VARCHAR	100		This is an attribute in the Registered User table which holds registered user's account password
Email	VARCHAR	100		This is an attribute in the Registered User table which holds registered user's email address
Phone No.	VARCHAR	20		This is an attribute in the Registered User table which holds registered user's contact details

**Table 2.4.1.2.(g).** represents the data constructs for the Registered Users table

### 2.4.1.3. The Constructed Data Models

- 2.4.1.3.1. Train: Train ID, Train Name, Departure Time, Departure Station, Arrival Time, Arrival Station, Platform, Available seats, Total Seats, and Coaches.
- 2.4.1.3.2. Booking: Booking ID, Booking Status, and Booking Date.
- 2.4.1.3.3. Ticket: Ticket ID and Price.
- 2.4.1.3.4. Railcard: Railcard ID and Railcard Type.
- 2.4.1.3.5. User: User ID, Username, Password and Phone Number.
- 2.4.1.3.6. Registered User: Registered User ID, Password, Email, and Phone Number.

### 2.4.2. Logical Design (ERD, Normalisations)



### 2.4.2.2. Normalisations

#### 1<sup>st</sup> Normal Form:

#### Conditions:

- 1) Every tuple must have a single atomic value.
- 2) Every tuple should be unique.

Trains									
TrainID	TrainName	DepTime	DepartureStation	ArrTime	ArrivalStation	Platform	Available Seats	Total Seats	Coaches

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**Table 2.4.2.2.(a).** represents a table for the Train details in the Railway Ticketing System Database

Booking	
Booking Date	Booking Status

**Table 2.4.2.2.(b).** represents a table for the Booking details in the Railway Ticketing System Database

Ticket							
Ticket ID	Dep Date	Dep Time	Arr Date	Arr Time	Seat Number	Price	Railcard

**Table 2.4.2.2.(c).** represents a table for the Ticket details in the Railway Ticketing System Database

User				
User ID	Username	Password	Email	Phone No.

**Table 2.4.2.2.(d).** represents a table for the User details in the Railway Ticketing System Database

R.User					
R. User ID	R. Username	Password	Email	Phone No.	Railcard

**Table 2.4.2.2.(e).** represents a table for the Registered User details in the Railway Ticketing System Database

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### 2<sup>nd</sup> Normal Form:

#### Conditions:

- 1) Tables must be in 1<sup>st</sup> Normal Form.
- 2) There should be no partial dependency of non-key attributes on the key attributes. They should be fully functional dependent.

Trains									
TrainID	TrainName	DepTime	DepartureStation	ArrTime	ArrivalStation	Platform	Available Seats	Total Seats	Coaches

**Table 2.4.2.2.(f).** represents a table for the Train details in the Railway Ticketing System Database

The above table is normalised as no partial dependency can be seen between the attributes.

Booking				
Booking ID	Booking Date	Booking Status	Payment ID	User ID

**Table 2.4.2.2.(g).** represents a table for the Booking details in the Railway Ticketing System Database

The above table is normalised as no partial dependency can be seen between the attributes.

Payment		
PaymentID	Payment	RailcardID

**Table 2.4.2.2.(h).** represents a table for the Payment details in the Railway Ticketing System Database

Ticket			
Ticket ID	Train ID	Price	Booking ID

**Table 2.4.2.2.(i).** represents a table for the Ticket details in the Railway Ticketing System Database

Railcard	
Railcard ID	Railcard Type

**Table 2.4.2.2.(g).** represents a table for the Railcard details in the Railway Ticketing System Database

User				
User ID	Username	Password	Email	Phone No.

**Table 2.4.2.2.(h).** represents a table for the User details in the Railway Ticketing System Database

Registered User					
R. User ID	R. Username	Password	Email	Phone No.	Booking ID

**Table 2.4.2.2.(i).** represents a table for the Registered Users details in the Railway Ticketing System Database

It can be safely said that the above tables are fully normalised that is there is no partial dependency and no transitive dependency can be seen.

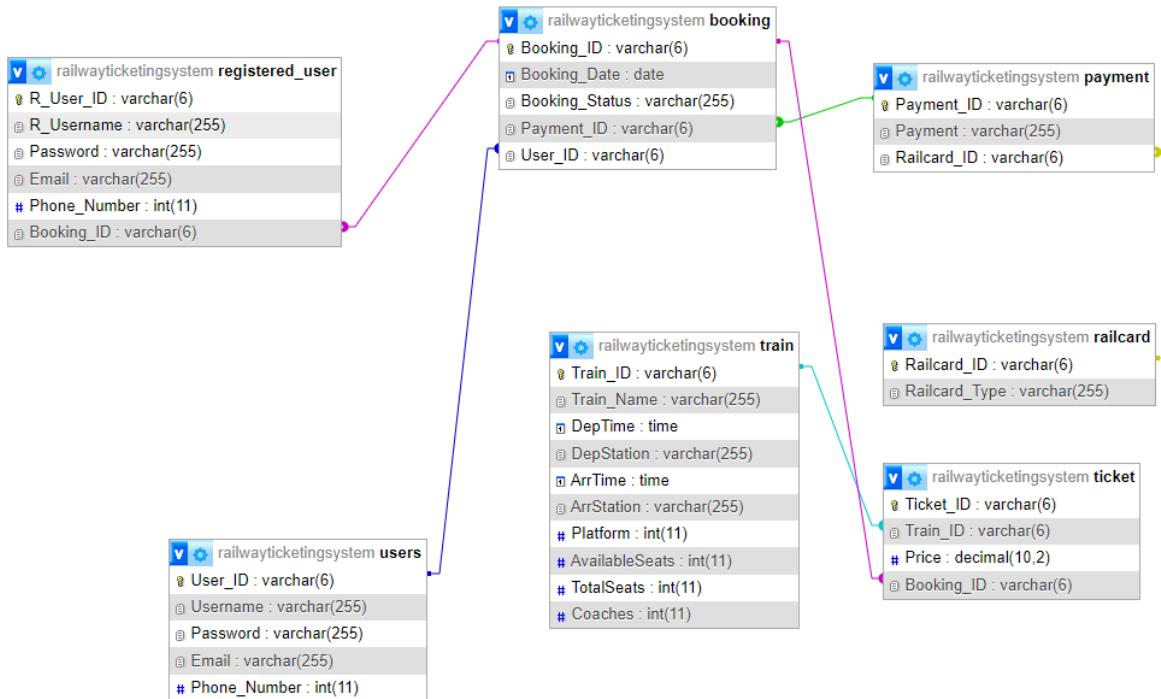
### **3<sup>rd</sup> Normal Form:**

#### **Conditions:**

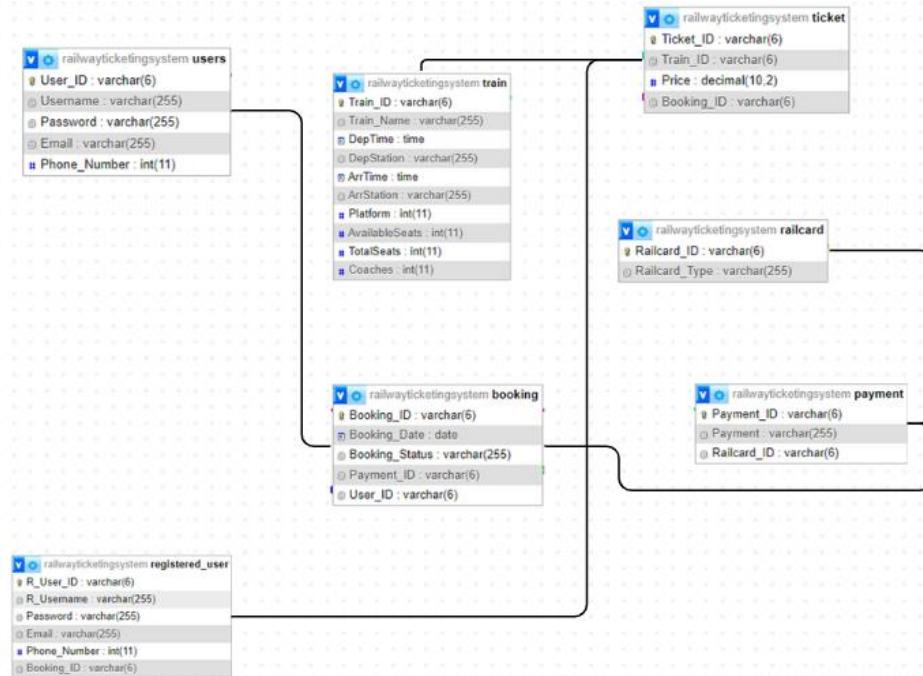
- 1) Tables must be in 2<sup>nd</sup> Normal Form.
- 2) There should be no transitive dependency of non-key attributes on the prime attributes.

The above tables are fully normalised as there is no transitive dependency seen. Hence there is no need to normalise the tables into 3NF as they are already normalised.

### 2.4.3. Physical Design (Relational Models)



*Design 2.4.3.(a). represents the Relational Model for the Database*



*Image 2.4.3.(b). represents the design schema for the relational model of Railway Ticketing System*

## 3. Testing & Implementation

### 3.1. Code Analysis with Screenshots

In this section, we will delve into the structure, designing, and coding part of the website. How it all came into being using HTML, CSS, and JavaScript.

#### 3.1.1. Front-end Development

```

1  <!DOCTYPE html>
2  <html lang="en" dir="ltr">
3
4  <head>
5      <!-- Set character set -->
6      <meta charset="UTF-8">
7      <!-- Responsive viewport settings -->
8      <meta name="viewport" content="width=device-width, initial-scale=1.0">
9      <!-- Page title -->
10     <title>Go</title>
11     <!-- Link to external stylesheet -->
12     <link rel="stylesheet" href="style.css">
13     <!-- Google Fonts -->
14     <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@400;500;600;700;900&display=swap" rel="stylesheet">
15     <!-- Font Awesome Icons -->
16     <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.14.0/css/all.min.css">
17 </head>
18
19 <!-- Header section -->
20 <header>
21     <!-- Website brand/logo -->
22     
23     <a href="#" class="brand">Go</a>
24     <!-- Menu button -->
25     <div class="menu-btn">
26         <i class="fas fa-bars"></i> <!-- Menu icon -->
27         <i class="fas fa-times"></i> <!-- Close icon -->
28     </div>
29     <!-- Navigation menu -->
30     <div class="navigation">
31         <!-- Navigation items -->
32         <div class="navigation-items">
33             <!-- Navigation links -->
34             <a href="indextrain.html">Home</a>
35             <a href="facilities.html">Facilities</a>
36             <a href="booking.html">My Bookings</a>
37             <a href="register.html">Register</a>
38         </div>
39     </div>
40 </header>
41
42
43
44
45
46
47
48

```

**Screenshot 3.1.(a).** represents the HTML code for the Home page navigation structure

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```

41 <body>
42   <div class="container">
43     <div class="form-section-container">
44       <div class="form-container">
45         <h1>LET'S EMBARK ON <span>A WONDERFUL JOURNEY!</span></h1>
46         <h2>LET'S GO!</h2>
47       </div>
48     </div>
49   </div>
50
51
52
53
54   <h1 class="destinations-heading">Destinations</h1>
55   <section class="card-section">
56     <div class="card-group">
57       <div class="card">
58         
59         <div class="layer"></div>
60         <div class="info">
61           <h1>London, United Kingdom</h1>
62           <p></p>
63         </div>
64       </div>
65     </div>
66     <div class="card-group">
67       <div class="card">
68         
69         <div class="layer"></div>
70         <div class="info">
71           <h1>Manchester, United Kingdom</h1>
72           <p></p>
73         </div>
74       </div>
75     </div>
76     <div class="card-group">
77       <div class="card">
78         
79         <div class="layer"></div>
80         <div class="info">
81           <h1>Birmingham, United Kingdom</h1>
82           <p></p>
83         </div>
84       </div>
85     </div>
86     <div class="card-group">
87       <div class="card">
88         
89         <div class="layer"></div>
90         <div class="info">
91           <h1>Coventry, United Kingdom</h1>
92           <p></p>
93         </div>
94       </div>
95     </div>
96   </section>

```

Screenshot 3.1.(b). represents HTML code for the Destination section of the Home Page

```

100 <!-- Footer -->
101 <footer>
102   <div class="footer_info">
103     <div class="footer_width about">
104       <ul>
105         <li><a href="#">About</a></li>
106       </ul>
107     </div>
108     <div class="footer_width link">
109       <ul>
110         <li><a href="#">Quick Links</a></li>
111         <li><a href="#">Back to Top</a></li>
112         <li><a href="facilities.html">Facilities Onboard</a></li>
113         <li><a href="booking.html">Book a Ticket</a></li>
114         <li><a href="register.html">Sign Up</a></li>
115       </ul>
116     </div>
117     <div class="footer_width contact">
118       <h2>Get in Touch!</h2>
119       <ul>
120         <li><i class="fa fa-envelope"></i>
121           <ul>
122             <li><a href="mailto:sobia.sarfraz2104@gmail.com">info@go.co.uk</a>
123             </li>
124           </ul>
125         </li>
126       </ul>
127       <div class="copy-right">
128         <p>© 2024 Go. All Rights Reserved</p>
129       </div>
130     </div>
131   </div>
132
133   <body>
134     <?php
135       include("search.php");
136     ?>
137   </html>

```

Screenshot 3.1.(c). represents HTML code for the footer section of the Home Page

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```
1  /* Reset and Base Styles */
2  body, h1, h2, p, ul, li, a, input, textarea, button {
3      margin: 0;
4      padding: 0;
5      box-sizing: border-box;
6      font-family: "Poppins", sans-serif;
7  }
8
9  /* Header Styles */
10 header {
11     z-index: 1000;
12     position: fixed;
13     top: 0;
14     left: 0;
15     width: 100%;
16     display: flex;
17     justify-content: space-between;
18     align-items: center;
19     padding: 5px -5px;
20     transition: 0.5s ease;
21     background-color: #000000;
22 }
23
24 header .brand {
25     color: #ffff;
26     font-size: 1.5em;
27     font-weight: 700;
28     text-transform: uppercase;
29     text-decoration: none;
30     padding: 20px;
31     margin-right: auto;
32 }
33
34 header .navigation {
35     position: relative;
36     display: flex;
37     justify-content: flex-end;
38     margin-left: auto;
39 }
40
41 header .navigation > .navigation-items {
42     display: flex;
43     align-items: center;
44     max-width: 80px;
45     flex-wrap: nowrap;
46     margin-right: 50px;
47 }
48
49 header .navigation > .navigation-items > a {
50     position: relative;
51     color: #ffff;
52     font-size: 1em;
53     font-weight: 500;
54     text-decoration: none;
55     padding: 10px 20px;
56     border-radius: 5px;
57     margin-bottom: 10px;
58     flex-shrink: 0;
59     transition: 0.3s ease;
60 }
```

*Screenshot 3.1.(d). represents the CSS for the Home page*

# Coursework Submission Agreement

```
41 header .navigation > .navigation-items {  
42   display: flex;  
43   align-items: center;  
44   max-width: 80%;  
45   flex-wrap: nowrap;  
46   margin-right: 50px;  
47 }  
48  
49 header .navigation > .navigation-items > a {  
50   position: relative;  
51   color: #ffff;  
52   font-size: 1em;  
53   font-weight: 500;  
54   text-decoration: none;  
55   padding: 10px 20px;  
56   border-radius: 5px;  
57   margin-bottom: 10px;  
58   flex-shrink: 0;  
59   transition: 0.3s ease;  
60 }  
61  
62 header .navigation > .navigation-items > a:before {  
63   content: '';  
64   position: absolute;  
65   background: #ffff;  
66   width: 0;  
67   height: 3px;  
68   bottom: 0;  
69   left: 50%;  
70   transform: translateX(-50%);  
71   transition: 0.3s ease;  
72 }  
73  
74 header .navigation > .navigation-items > a:hover:before {  
75   width: 100%;  
76 }  
77  
78 section {  
79   padding: 60px 120px;  
80 }  
81  
82 .form-section-container {  
83   background-image: url('FINAL.jpeg'); /* Add your image URL here */  
84   background-size: cover;  
85   background-position: center;  
86   height: 600px;  
87   display: flex;  
88   align-items: center;  
89   justify-content: center;  
90   color: #ffff;  
91 }  
92  
93 .form-container {  
94   text-align: center;  
95   padding: 20px;  
96   border-radius: 10px;  
97 }
```

Screenshot 3.1.(e). represents the CSS for the Home page

# Coursework Submission Agreement

```
91
92 .form-container {
93   text-align: center;
94   padding: 20px;
95   border-radius: 10px;
96 }
97
98 .form-container h1 {
99   font-size: 3em;
100  margin-bottom: 20px;
101 }
102
103 .form-container h2 {
104   font-size: 2em;
105 }
106
107 /* Additional styles for other sections */
108 .destinations-heading {
109   text-align: center;
110   margin-top: 10px;
111   margin-bottom: 20px;
112 }
113
114 .card-section {
115   margin-top: -10px;
116   display: flex;
117   justify-content: center;
118   align-items: center;
119 }
120
121 .card-group {
122   margin-top: 20px;
123   display: flex;
124   gap: 20px;
125 }
126
127 .card {
128   width: 225px;
129   height: 400px;
130   border-radius: 16px;
131   overflow: hidden;
132   position: relative;
133   transition: 0.5s;
134   cursor: pointer;
135   padding-right: 20px;
136 }
137
138 .card:hover {
139   box-shadow: 0 0 20px rgba(0, 0, 0, 0.3);
140 }
141
142 .card:last-child {
143   margin-right: 0;
144 }
145 }
```

**Screenshot 3.1.(f). represents the CSS for Home Page**

# Coursework Submission Agreement

```
142 .card:last-child {
143   margin-right: 0;
144 }
145
146 .card img {
147   width: 100%;
148   height: 100%;
149   object-fit: cover;
150   pointer-events: none;
151   transition: 0.5s;
152 }
153
154 .card .layer {
155   background: linear-gradient(to top, #rgba(0, 0, 0, 1), #rgba(0, 0, 0, 0));
156   position: absolute;
157   bottom: 0;
158   width: 100%;
159   height: 75%;
160   opacity: 0;
161   transition: 0.3s;
162 }
163
164 .card .info {
165   position: absolute;
166   bottom: -50px;
167   padding: 15px;
168   opacity: 0;
169   transition: 0.5s bottom, 1.75s opacity;
170   color: #fff;
171 }
172
173
174 .card:hover,
175 .card:hover img,
176 .card:hover .layer {
177   transform: scale(1.1);
178 }
179
180 .card:hover > .layer {
181   opacity: 1;
182 }
183
184 .card:hover > .info {
185   bottom: 0;
186   opacity: 1;
187 }
188
189 .card-group:hover > .card:not(:hover) {
190   filter: blur(5px);
191 }
192
193
194 .info p {
195   font-size: 14px;
196   margin-top: 3px;
197 }
198
199
200 .menu-btn {
201   background: none;
202   color: #0a0909;
203   width: 30px;
204   height: 30px;
205   cursor: pointer;
206   z-index: 1000;
```

**Screenshot 3.1.(g).** represents the CSS for the Home Page

# Coursework Submission Agreement

```
200 .menu-btn {
201   background: none;
202   color: #0a0909;
203   width: 30px;
204   height: 30px;
205   cursor: pointer;
206   z-index: 1000;
207   position: relative;
208   transition: 0.3s ease;
209   display: none;
210   align-items: center;
211   justify-content: center;
212 }
213 @media (max-width: 1040px) {
214   header {
215     padding: 10px 15px;
216   }
217   section {
218     padding: 50px 15px;
219   }
220   .Home .media-icons {
221     right: 10px;
222   }
223   header .navigation {
224     display: none;
225   }
226   header .navigation.active {
227     position: fixed;
228     width: 100%;
229     height: 100vh;
230     top: 0;
231     left: 0;
232     display: flex;
233     justify-content: center;
234     align-items: center;
235     background: rgba(1, 1, 1, 0.5);
236   }
237   header .navigation.active .navigation-items {
238     background: #0a0909;
239     width: 600px;
240     max-width: 600px;
241     margin: 40px;
242     padding: 20px;
243     display: flex;
244     flex-direction: column;
245     align-items: center;
246     border-radius: 5px;
247     box-shadow: 0 5px 25px rgba(1, 1, 1, 0.2);
248   }
249   header .navigation.active > .navigation-items > a {
250     color: #fff;
251     font-size: 1.2em;
252     margin: 10px;
253   }
254 }
```

**Screenshot 3.1.(h).** represents the CSS for the Home Page

```

253   |   box-shadow: 0 5px 25px □rgb(1 1 1 / 20%);
254   |
255
256   header .navigation.active > .navigation-items > a {
257   |   color: □#fff;
258   |   font-size: 1.2em;
259   |   margin: 10px;
260   |
261
262   header .navigation.active .navigation-items a:before {
263   |   background: □#fff;
264   |   height: 5px;
265   |
266
267   .menu-btn {
268   |   background: none;
269   |   color: □#0a0909;
270   |   width: 30px;
271   |   height: 30px;
272   |   cursor: pointer;
273   |   z-index: 1000;
274   |   position: relative;
275   |   transition: 0.3s ease;
276   |   display: flex;
277   |   align-items: center;
278   |   justify-content: center;
279   |
280
281   /* Menu and Close Icons */
282   .menu-btn .fas {
283   |   position: absolute;
284   |   top: 50%;
285   |   left: 50%;
286   |   transform: translate(-50%, -50%);
287   |
288
289   /* Initial state: Show menu icon, hide close icon */
290   .menu-btn .fa-bars {
291   |   display: block;
292   |   z-index: 2;
293   |
294
295   .menu-btn .fa-times {
296   |   display: none;
297   |   z-index: 1;
298   |
299
300   /* When menu is active: Hide menu icon, show close icon */
301   .menu-btn.active .fa-bars {
302   |   display: none;
303   |
304
305   .menu-btn.active .fa-times {
306   |   display: block;
307   |
308
309   /* Display menu button when menu is active */
310   .menu-btn {
311   |   display: flex; /* Show menu button when menu is active */
312   }

```

*Screenshot 3.1.(i). represents the CSS for the Home Page*

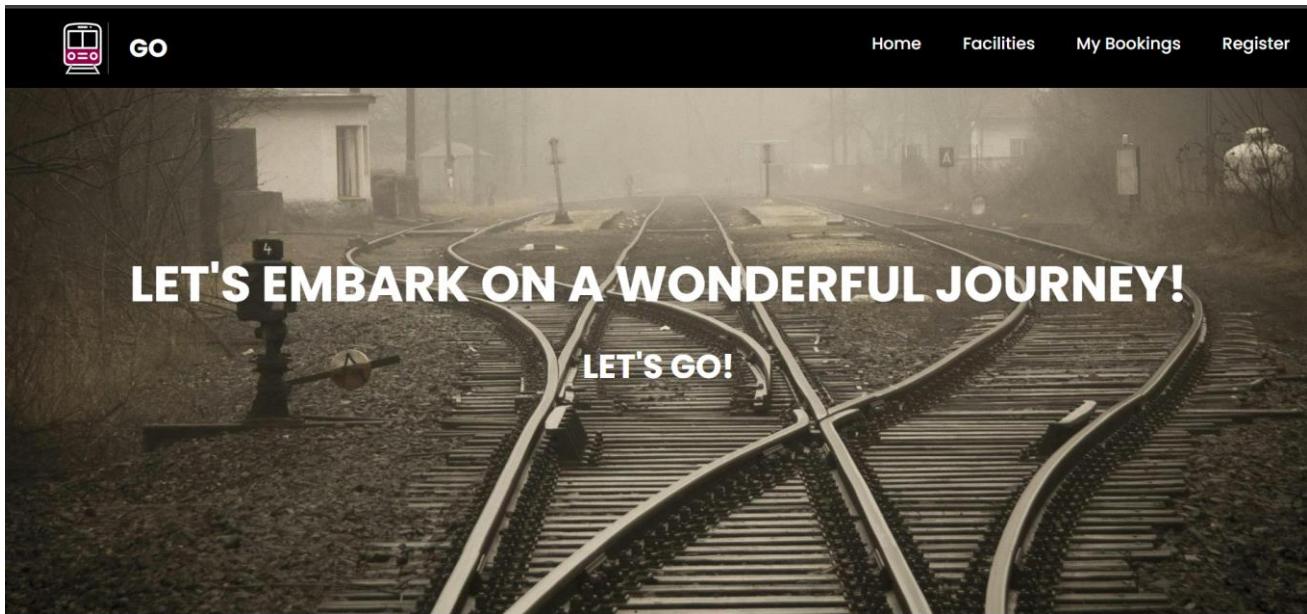
```
304 |     .menu-btn.active .fa-times {
305 |     | display: block;
306 |     }
307 |
308 |
309 |     /* Display menu button when menu is active */
310 |     .menu-btn {
311 |     | display: flex; /* Show menu button when menu is active */
312 |     }
313 |
314 |
315 |     @media (min-width: 1000px) {
316 |     .menu-btn {
317 |     | display: none;
318 |     }
319 |
320 |
321 |     main {
322 |     | flex: 1; /* Fill remaining vertical space */
323 |     }
324 |
325 |
326 |     footer {
327 |     | background-color: □#000000;
328 |     | color: □#fff;
329 |     | padding: 20px 0;
330 |     | text-align: center;
331 |     | margin-top: 40px;
332 |     }
333 |
334 |     .footer_info {
335 |     | display: flex;
336 |     | justify-content: space-around;
337 |     | flex-wrap: wrap;
338 |     }
339 |
340 |     .footer_width {
341 |     | width: 30%;
342 |     | margin: 20px 0;
343 |     }
344 |
345 |     .footer_width h2 {
346 |     | margin-bottom: 10px;
347 |     }
348 |
349 |     .footer_width ul {
350 |     | list-style: none;
351 |     | padding: 0;
352 |     | margin: 0;
353 |     }
354 |
355 |     .footer_width ul li {
356 |     | margin-bottom: 10px;
357 |     }
358 |
359 |     .footer_width ul li a {
360 |     | color: □#ccc;
361 |     | text-decoration: none;
362 |     | transition: color 0.3s;
363 |     }
364 |
```

**Screenshot 3.1.(j). represents the CSS of the Home Page**

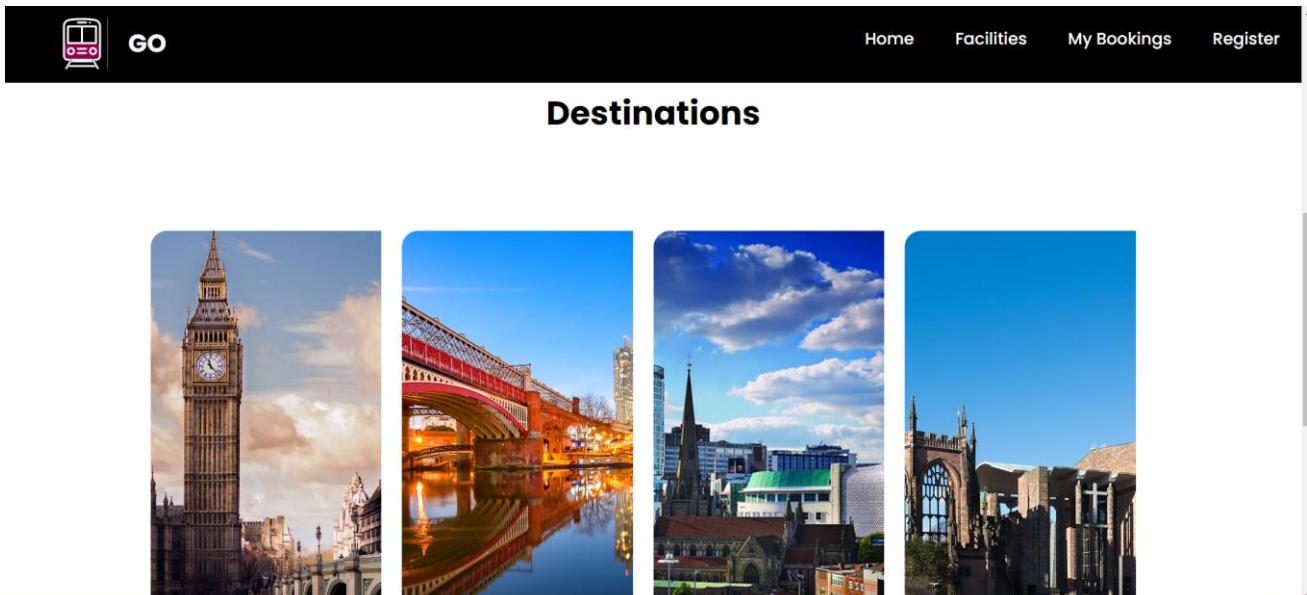
# Coursework Submission Agreement

```
321 main {
322   flex: 1; /* Fill remaining vertical space */
323 }
325
326 footer {
327   background-color: #000000;
328   color: #ffff;
329   padding: 20px 0;
330   text-align: center;
331   margin-top: 40px;
332 }
333
334 .footer_info {
335   display: flex;
336   justify-content: space-around;
337   flex-wrap: wrap;
338 }
339
340 .footer_width {
341   width: 30%;
342   margin: 20px 0;
343 }
344
345 .footer_width h2 {
346   margin-bottom: 10px;
347 }
348
349 .footer_width ul {
350   list-style: none;
351   padding: 0;
352   margin: 0;
353 }
354
355 .footer_width ul li {
356   margin-bottom: 10px;
357 }
358
359 .footer_width ul li a {
360   color: #ccc;
361   text-decoration: none;
362   transition: color 0.3s;
363 }
364
365 .footer_width ul li a:hover {
366   color: #ffff;
367 }
368
369 .copy-right {
370   margin-top: 20px;
371 }
```

**Screenshot 3.1.(k). represents the CSS for the Home Page**

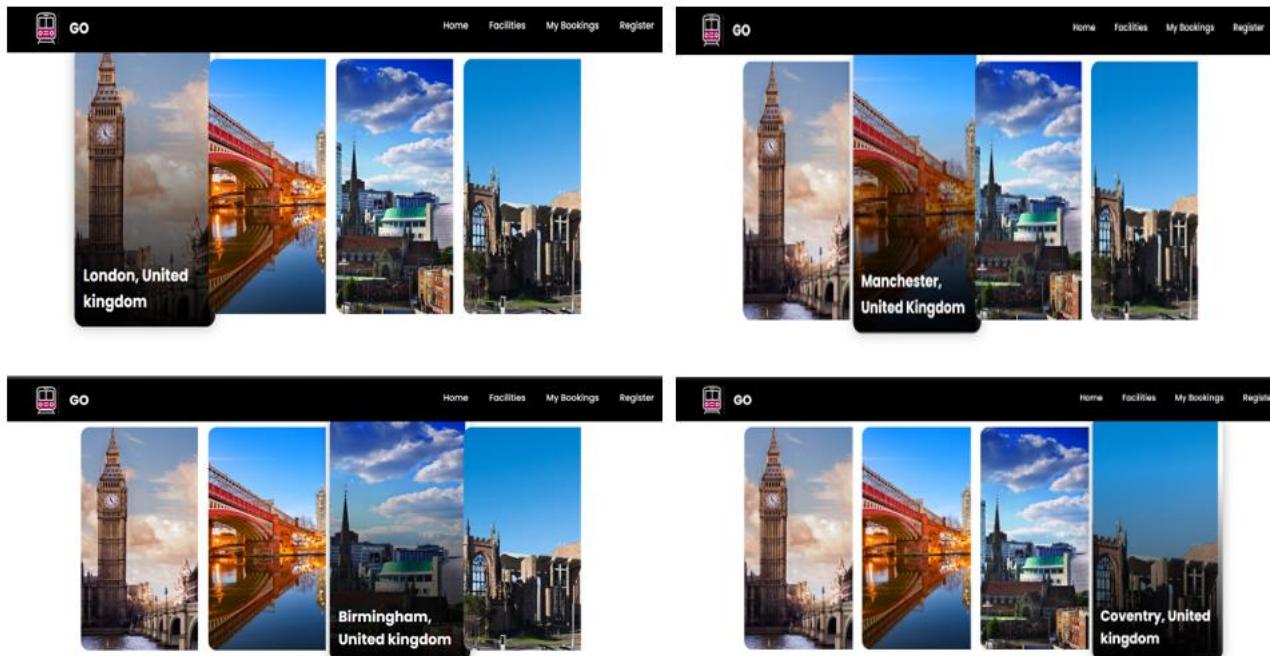


*Screenshot 3.1.(a). represents the final outcome of the header section of the Home Page*



*Screenshot 3.1.(b). represents the destination section of the Home Page*

## Coursework Submission Agreement



**Screenshot 3.1.(c). represents the detailed overview of the destination section of the Home Page**

**About**

Welcome to The Go Train Ticketing Site, your one-stop solution for seamless and efficient train travel booking. Our mission is to make your journey as smooth and hassle-free as possible by providing a reliable and user-friendly platform for purchasing train tickets

**Quick Links**

- [Back to Top](#)
- [Facilities Onboard](#)
- [Book a Ticket](#)
- [Sign Up](#)

**Get in Touch!**

[✉ info@go.co.uk](mailto:info@go.co.uk)

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**Screenshot 3.1.(d). represents the footer section of the Home Page**

# Coursework Submission Agreement

```

1  <!DOCTYPE html>
2  <html lang="en">
3  <head>
4      <meta charset="UTF-8">
5      <meta http-equiv="X-UA-Compatible" content="IE=edge">
6      <meta name="viewport" content="width=device-width, initial-scale=1.0">
7      <link rel="stylesheet" href="facilities.css">
8      <link rel="stylesheet" href="style.css">
9      <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.15.4/css/all.min.css">
10     <title>Our Services</title>
11 </head>
12 <body>
13     <!-- Header section -->
14     <header>
15         <!-- Website brand/logo -->
16         
17         <a href="#" class="brand">Go</a>
18         <!-- Menu button -->
19         <div class="menu-btn">
20             <i class="fas fa-bars"></i> <!-- Menu icon -->
21             <i class="fas fa-times"></i> <!-- Close icon -->
22         </div>
23         <!-- Navigation menu -->
24         <div class="navigation">
25             <!-- Navigation items -->
26             <div class="navigation-items">
27                 <!-- Navigation links -->
28                 <a href="indextrain.html">Home</a>
29                 <a href="facilities.html">Facilities</a>
30                 <a href="booking.html">My Bookings</a>
31                 <a href="register.html">Register</a>
32             </div>
33         </div>
34     </header>
35 
```

Screenshot 3.1.(a). for the HTML of the Facilities Page

```

35 <main>
36     <div class="container">
37         <h2>Our Services</h2>
38         <section class="services">
39             <div class="card">
40                 <div class="content">
41                     <div class="icon"><i class="fas fa-couch"></i></div>
42                     <div class="title">Comfort</div>
43                     <p>Comfortable seating and airconditioning in all trains. Enjoy your travel with us.</p>
44                 </div>
45             </div>
46             <div class="card">
47                 <div class="content">
48                     <div class="icon"><i class="fas fa-wifi"></i></div>
49                     <div class="title">Onboard Free WiFi</div>
50                     <p>Travel without worry. Stay connected on all our trains with the free wifi provided onboard.</p>
51                 </div>
52             </div>
53             <div class="card">
54                 <div class="content">
55                     <div class="icon"><i class="fas fa-bolt"></i></div>
56                     <div class="title">Power Outlets</div>
57                     <p>Stay connected on all our trains. Charge your devices hassle free on all our trains.</p>
58                 </div>
59             </div>
60             <div class="card">
61                 <div class="content">
62                     <div class="icon"><i class="fas fa-volume-off"></i></div>
63                     <div class="title">Quiet Zones</div>
64                     <p>Need to study or work in peace. With the Go trains you can get that in our C, D, and E coaches of all trains.</p>
65                 </div>
66             </div>
67             <div class="card">
68                 <div class="content">
69                     <div class="icon"><i class="fas fa-wheelchair"></i></div>
70                     <div class="title">Accessible Toilets</div>
71                     <p>Toilets available on all our trains. Easier access for differently abled people.</p>
72                 </div>
73             </div>
74             <div class="card">
75                 <div class="content">
76                     <div class="icon"><i class="fas fa-coffee"></i></div>
77                     <div class="title">Cafeteria</div>
78                     <p>24/7 open shops for the passengers to grab snack during their journey with us.</p>
79                 </div>
80             </div>
81         </div>
82     </section>
83 </main>
84 
```

Screenshot 3.1.(b). for the HTML of the Facilities Page

## Coursework Submission Agreement

```

87 <!-- Footer -->
88 <footer>
89   <div class="footer_info">
90     <div class="Footer_width about">
91       <p>Welcome to The Go Train Ticketing Site, your one-stop solution for seamless and efficient train travel booking. Our mission is to make your journey as smooth and hassle-free as possible by providing a reliable and user-friendly platform for purchasing train tickets.</p>
92     </div>
93     <div class="Footer_width links">
94       <h2>Quick Links</h2>
95       <ul>
96         <li><a href="#">Back to Top</a></li>
97         <li><a href="indextrain.html">Home</a></li>
98         <li><a href="booking.html">Book a Ticket</a></li>
99         <li><a href="register.html">Sign Up</a></li>
100       </ul>
101     </div>
102   <div class="Footer_width contact">
103     <h2>Get in Touch!</h2>
104     <ul>
105       <li><img alt="Email icon" style="vertical-align: middle;"/> <a href="mailto:sobis.sarfraz2104@gmail.com">info@go.co.uk</a></li>
106     </ul>
107   </div>
108 </div>
109 <div class="copy-right">
110   |   <p>©2024 Go. All Rights Reserved.</p>
111   |   </div>
112 </footer>
113 </body>
114 </html>
115
116
117

```

**Screenshot 3.1.(c). represents the HTML for the Facilities Page**

```

1  @import url('https://fonts.googleapis.com/css2?family=Poppins:ital,wght@0,400;0,500;1,300&display=swap');
2
3  * {
4    margin: 0;
5    padding: 0;
6    box-sizing: border-box;
7    font-family: 'Poppins', sans-serif;
8  }
9
10 body {
11   background: #111;
12   color: white;
13 }
14
15 .container {
16   padding: 30px 20px;
17   width: 100%;
18   max-width: 1200px;
19   margin: 0 auto;
20 }
21
22 .container h2 {
23   text-align: center;
24   text-transform: uppercase;
25   font-size: 35px;
26   margin-bottom: 25px;
27   font-family: 'Lucida Sans', 'Lucida Sans Regular', 'Lucida Grande', 'Lucida Sans Unicode', Geneva, Verdana, sans-serif;
28 }
29
30 .services {
31   display: flex;
32   justify-content: space-around;
33   flex-wrap: wrap;
34   gap: 20px;
35 }
36
37 .card {
38   width: 300px;
39   text-align: center;
40   background: #222;
41   padding: 20px 15px;
42   margin-bottom: 30px;
43   border-radius: 10px;
44   cursor: pointer;
45   transition: 0.3s;
46   display: flex;
47   flex-direction: column;
48   align-items: center;
49 }
50
51 .card:hover {
52   background: blueviolet;
53 }
54
55 .content {
56   transition: 0.3s;
57 }
58
59 .card:hover .content {
60   transform: scale(1.07);
61 }
62
63

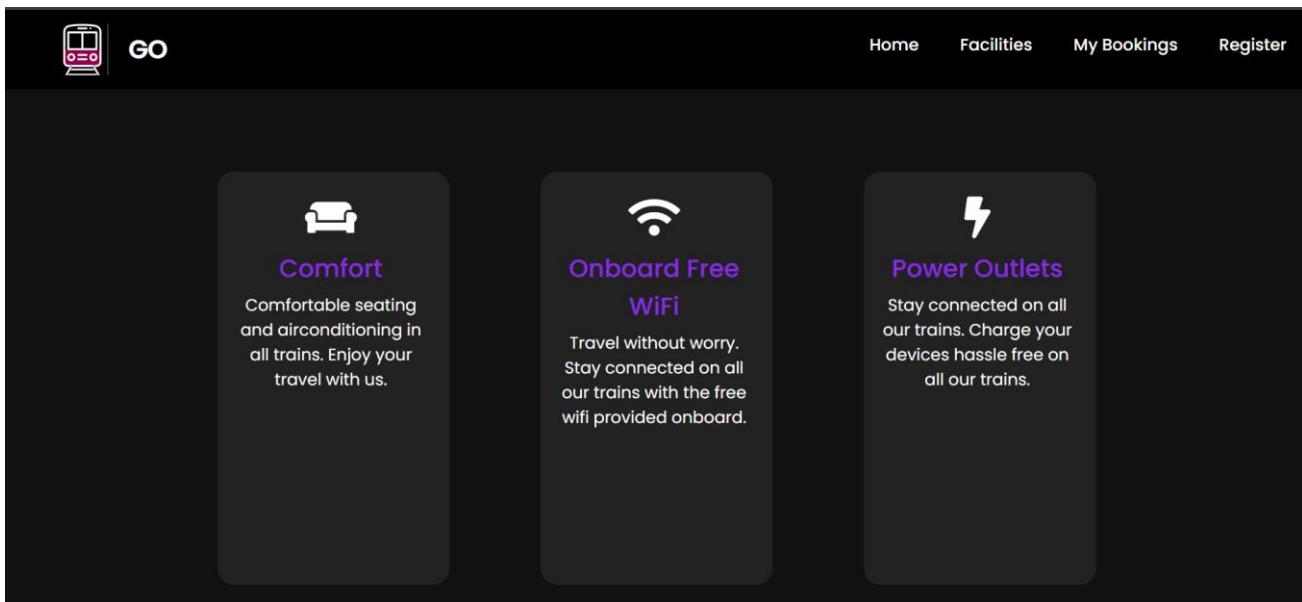
```

**Screenshot 3.1.(d). represents the CSS for the Facilities Page**

# Coursework Submission Agreement

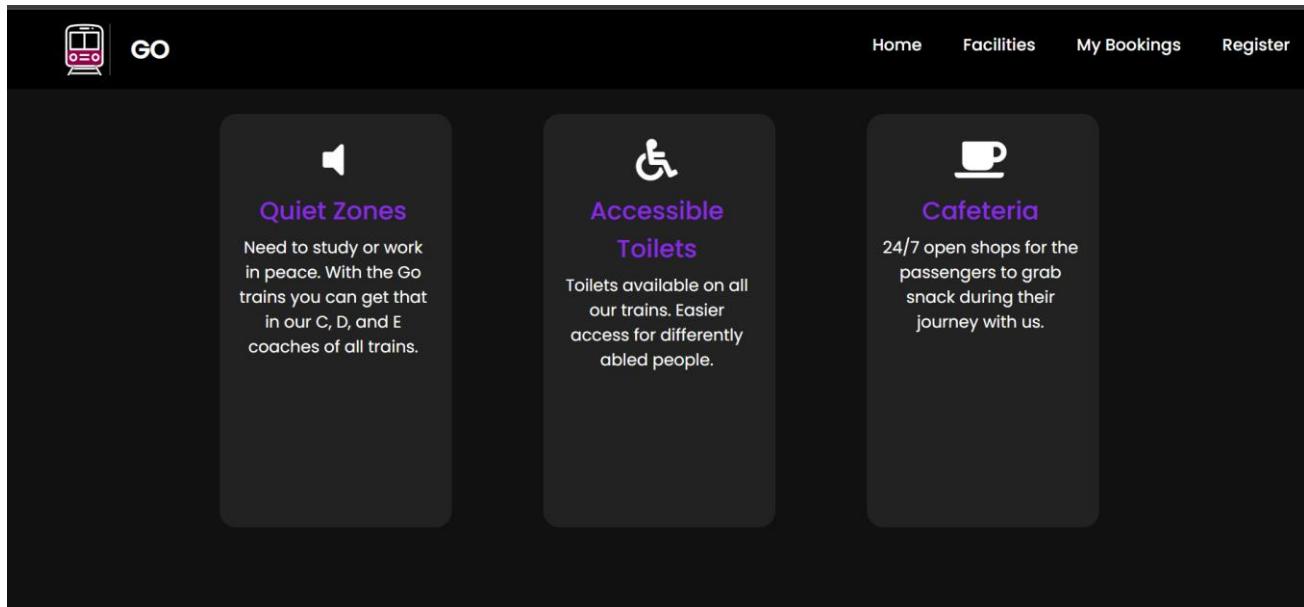
```
63 .icon {
64   padding: 5px 0;
65   color: white;
66 }
67
68 .icon i {
69   font-size: 40px;
70 }
71
72 .card:hover .title {
73   color: white;
74 }
75
76 .title {
77   padding: 5px 0;
78   font-size: 24px;
79   font-weight: 500;
80   color: blueviolet;
81   transition: 0.3s;
82 }
83
84 p {
85   font-size: 16px;
86   line-height: 1.5;
87 }
88
89 @media (max-width: 768px) {
90   .services {
91     flex-direction: column;
92     align-items: center;
93   }
94
95   .card {
96     width: 80%;
97   }
98 }
99
100 @media (min-width: 769px) and (max-width: 1200px) {
101   .card {
102     width: 45%;
103   }
104 }
```

Screenshot 3.1.(e). for the CSS of the Facilities Page

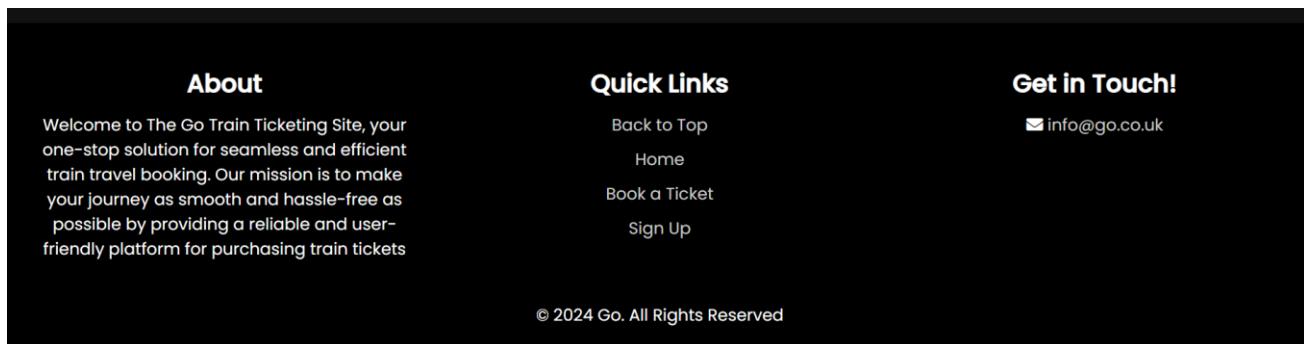


Screenshot 3.1.(a). the outcome of the Facilities Page

## Coursework Submission Agreement



**Screenshot 3.1.(b).** represents the output of the Facilities Page



The footer is divided into three columns:

- About**: Welcome to The Go Train Ticketing Site, your one-stop solution for seamless and efficient train travel booking. Our mission is to make your journey as smooth and hassle-free as possible by providing a reliable and user-friendly platform for purchasing train tickets.
- Quick Links**: Back to Top, Home, Book a Ticket, Sign Up.
- Get in Touch!**: Email info@go.co.uk

At the bottom center is the copyright notice: © 2024 Go. All Rights Reserved.

**Screenshot 3.1.(c).** represents the footer section of the Facilities Page

```

1  <!DOCTYPE html>
2  <html lang="en" dir="ltr">
3
4  <head>
5      <!-- Set character set -->
6      <meta charset="UTF-8">
7      <!-- Responsive viewport settings -->
8      <meta name="viewport" content="width=device-width, initial-scale=1.0">
9      <!-- Page title -->
10     <title>Train Ticket Booking</title>
11     <!-- Link to external stylesheet -->
12     <link rel="stylesheet" href="style.css">
13     <link rel="stylesheet" href="booking.css">
14     <!-- Google Fonts -->
15     <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@400;500;600;700;900&display=swap" rel="stylesheet">
16     <!-- Font Awesome icons -->
17     <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.14.0/css/all.min.css">
18 </head>
19
20 <body>
21     <!-- Header section -->
22     <header>
23         <!-- Website brand/logo -->
24         
25         <a href="#" class="brand">Go</a>
26         <!-- Menu button -->
27         <div class="menu-btn">
28             <i class="fas fa-bars"></i> <!-- Menu icon -->
29             <i class="fas fa-times"></i> <!-- Close icon -->
30         </div>
31         <!-- Navigation menu -->
32         <div class="navigation">
33             <!-- Navigation items -->
34             <div class="navigation-items">
35                 <!-- Navigation links -->
36                 <a href="indextrain.html">Home</a>
37                 <a href="facilities.html">Facilities</a>
38                 <a href="booking.html">My Bookings</a>
39                 <a href="register.html">Register</a>
40             </div>
41         </div>
42     </header>

```

## Coursework Submission Agreement

**Screenshot 3.1.(a). represents the HTML for the header section of the Booking Page**

```

43   <div class="container">
44     <form class="form">
45       <p class="title">Book a Ticket</p>
46       <p class="message">Fill in the details to book your train ticket.</p>
47
48
49       <label>
50         <input class="input" type="text" placeholder="" required="">
51         <span>From</span>
52       </label>
53
54       <label>
55         <input class="input" type="text" placeholder="" required="">
56         <span>To</span>
57       </label>
58
59       <label>
60         <input class="input" type="date" placeholder="" required="">
61         <span>Date of Journey</span>
62       </label>
63
64       <label>
65         <input class="input" type="number" placeholder="" required="">
66         <span>Number of Passengers</span>
67       </label>
68
69       <button class="submit">Submit</button>
70     </form>
71   </div>
72
73
74
75 </html>
76

```

**Screenshot 3.1.(b). represents the HTML code for the Booking form of the Booking Page**

# Coursework Submission Agreement

```
1 body {
2   background-image: url('bg24.webp');
3   background-size: cover;
4   background-position: center;
5   font-family: 'Poppins', sans-serif;
6   margin: 0;
7   padding: 0;
8   color: #333;
9 }
10
11 header {
12   z-index: 1000;
13   position: fixed;
14   top: 0;
15   left: 0;
16   width: 100%;
17   display: flex;
18   justify-content: space-between;
19   align-items: center;
20   padding: 5px -5px;
21   transition: 0.5s ease;
22   background-color: #000000;
23 }
24
25 header .brand {
26   color: #fff;
27   font-size: 1.5em;
28   font-weight: 700;
29   text-transform: uppercase;
30   text-decoration: none;
31   padding: 20px;
32   margin-right: auto;
33 }
34
35 header .navigation {
36   position: relative;
37   display: flex;
38   justify-content: flex-end;
39   margin-left: auto;
40 }
41
42 header .navigation > .navigation-items {
43   display: flex;
44   align-items: center;
45   max-width: 80%;
46   flex-wrap: nowrap;
47   margin-right: 50px;
48 }
49
50 header .navigation > .navigation-items > a {
51   position: relative;
52   color: #fff;
53   font-size: 1em;
54   font-weight: 500;
55   text-decoration: none;
56   padding: 10px 20px;
57   border-radius: 5px;
58   margin-bottom: 10px;
59   flex-shrink: 0;
60   transition: 0.3s ease;
61 }
```

**Screenshot 3.1.(d). for the CSS of the Header section of the Booking Page**

# Coursework Submission Agreement

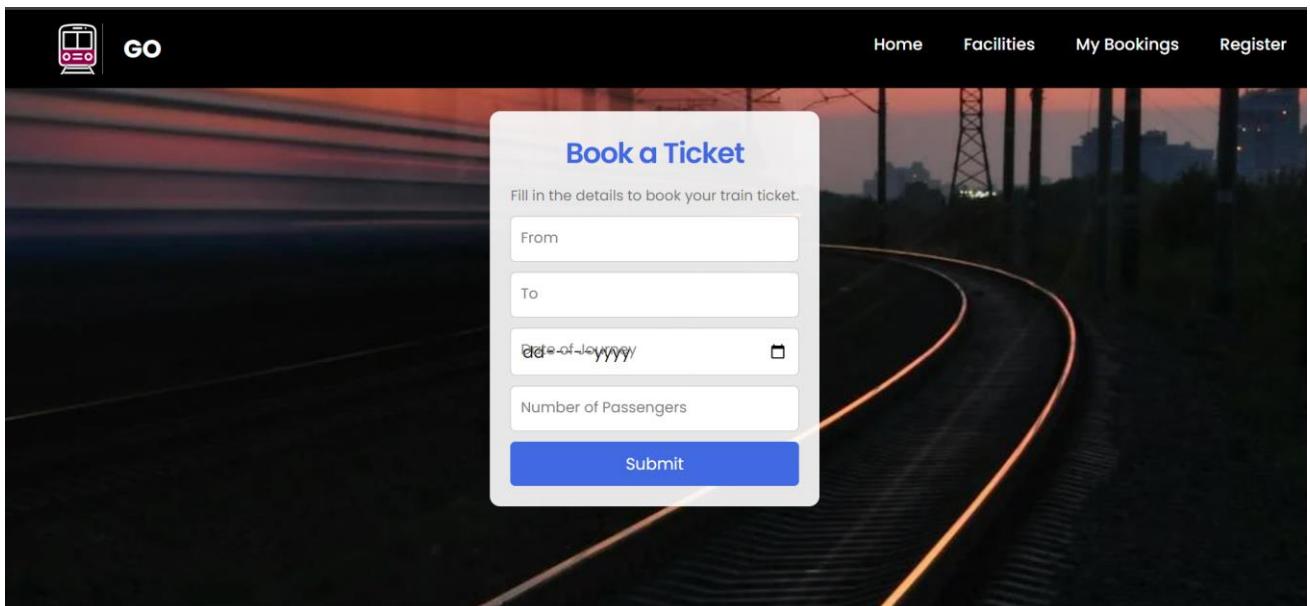
```
62  header .navigation > .navigation-items > a::before {
63    content: '';
64    position: absolute;
65    background: ■#ffff;
66    width: 0;
67    height: 3px;
68    bottom: 0;
69    left: 50%;
70    transform: translateX(-50%);
71    transition: 0.3s ease;
72  }
73
74  header .navigation > .navigation-items > a:hover::before {
75    width: 100%;
76  }
77
78  section {
79    padding: 60px 120px;
80  }
81
82  .container {
83    display: flex;
84    justify-content: center;
85    align-items: center;
86    height: 100vh;
87  }
88
89  .form {
90    display: flex;
91    flex-direction: column;
92    gap: 10px;
93    max-width: 400px;
94    background-color: ■rgba(255, 255, 255, 0.9);
95    padding: 20px;
96    border-radius: 10px;
97    box-shadow: 0 2px 4px □rgba(0, 0, 0, 0.1);
98  }
99
100 .title {
101   font-size: 28px;
102   color: ■royalblue;
103   font-weight: 600;
104   letter-spacing: -1px;
105   text-align: center;
106 }
107
108 .message {
109   color: ■rgba(88, 87, 87, 0.822);
110   font-size: 14px;
111   text-align: center;
112 }
113
114 .form label {
115   position: relative;
116   flex: 1;
117 }
118 }
119
```

*Screenshot 3.1.(e). for the CSS of the Booking Page*

## Coursework Submission Agreement

```
120 .form label .input {  
121 | width: 100%;  
122 | padding: 10px;  
123 | border: 1px solid #rgba(105, 105, 105, 0.397);  
124 | border-radius: 5px;  
125 | font-size: 16px;  
126 }  
127  
128 .form label .input + span {  
129 | position: absolute;  
130 | left: 10px;  
131 | top: 10px;  
132 | color: #grey;  
133 | font-size: 0.9em;  
134 | cursor: text;  
135 | transition: 0.3s ease;  
136 }  
137  
138 .form label .input:placeholder-shown + span {  
139 | top: 10px;  
140 | font-size: 0.9em;  
141 }  
142  
143 .form label .input:focus + span, .form label .input:valid + span {  
144 | top: -10px;  
145 | font-size: 0.7em;  
146 | font-weight: 600;  
147 | background-color: #white;  
148 | padding: 0 5px;  
149 }  
150  
151 .form label .input:valid + span {  
152 | color: #green;  
153 }  
154  
155 .submit {  
156 | border: none;  
157 | background-color: #royalblue;  
158 | padding: 10px;  
159 | border-radius: 5px;  
160 | color: #fff;  
161 | font-size: 16px;  
162 | cursor: pointer;  
163 | transition: background-color 0.3s ease;  
164 }  
165  
166 .submit:hover {  
167 | background-color: #rgb(56, 90, 194);  
168 }
```

Screenshot 3.1.(f). for the CSS of the Booking Page



Screenshot 3.1.(a). the output of the Booking Page

# Coursework Submission Agreement

```

1  <!DOCTYPE HTML>
2  <html lang="en" dir="ltr">
3
4  <head>
5      <!-- Set character set -->
6      <meta charset="UTF-8">
7      <!-- Responsive viewport settings -->
8      <meta name="viewport" content="width=device-width, initial-scale=1.0">
9      <!-- Page title -->
10     <title>Go</title>
11     <!-- Link to external stylesheet -->
12     <link rel="stylesheet" href="style.css">
13     <link rel="stylesheet" href="register.css">
14     <!-- Google Fonts -->
15     <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@400;500;600;700;900&display=swap" rel="stylesheet">
16     <!-- Font Awesome icons -->
17     <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.14.0/css/all.min.css">
18  </head>
19
20  <!-- Header section -->
21  <header>
22      <!-- Website brand/logo -->
23      
24      <a href="#" class="brand">Go</a>
25      <!-- Menu button -->
26      <div class="menu-btn">
27          <i class="fas fa-bars"></i> <!-- Menu icon -->
28          <i class="fas fa-times"></i> <!-- Close icon -->
29      </div>
30      <!-- Navigation menu -->
31      <div class="navigation">
32          <!-- Navigation items -->
33          <div class="navigation-items">
34              <!-- Navigation links -->
35              <a href="indextrain.html">Home</a>
36              <a href="facilities.html">Facilities</a>
37              <a href="booking.html">My Bookings</a>
38              <a href="register.html">Register</a>
39          </div>
40      </div>
41  </header>
42
43  <!-- Sign In Form -->
44  <div class="container">
45      <form class="form">
46          <p class="title">Sign In</p>
47          <p class="message">Welcome back! Please sign in to your account.</p>
48          <label>
49              <input class="input" type="email" placeholder="" required="">
50              <span>Email</span>
51          </label>
52          <label>
53              <input class="input" type="password" placeholder="" required="">
54              <span>Password</span>
55          </label>
56          <button class="submit">Submit</button>
57          <p class="signin">Don't have an account? <a href="register.html">Register</a></p>
58      </form>
59  </div>
60

```

**Screenshot 3.1.(a).** represents the HTML for the Sign in Page

```

61  <!-- Footer -->
62  <footer>
63      <div class="footer_info">
64          <div class="footer_width about">
65              <h2>About</h2>
66              <p>Welcome to The Go Train Ticketing Site, your one-stop solution for seamless and efficient train travel booking. Our mission is to make your journey as smooth and hassle-free as possible by providing a reliable and user-friendly platform for purchasing train tickets.</p>
67          </div>
68          <div class="footer_width links">
69              <h2>Quick Links</h2>
70              <ul>
71                  <li><a href="#">Back to Top</a></li>
72                  <li><a href="facilities.html">Facilities Onboard</a></li>
73                  <li><a href="booking.html">Book a Ticket</a></li>
74                  <li><a href="register.html">Sign Up</a></li>
75              </ul>
76          </div>
77          <div class="footer_width contact">
78              <h2>Get in Touch!</h2>
79              <ul>
80                  <li><i class="fas fa-envelope"></i> <a href="mailto:sobia.sarfraz2204@gmail.com">info@go.co.uk</a></li>
81                  <li><i class="fas fa-phone"></i> +44 1234 567890</li>
82              </ul>
83          </div>
84      </div>
85      <div class="copy-right">
86          <p>© Go. All Rights Reserved.</p>
87      </div>
88  </footer>
89 </body>
90 </html>

```

**Screenshot 3.1.(b).** represents the HTML code for the footer section of the Sign In Page

# Coursework Submission Agreement

```

1  <!DOCTYPE html>
2  <html lang="en" dir="ltr">
3
4  <head>
5      <!-- Set character set -->
6      <meta charset="UTF-8">
7      <!-- Responsive viewport settings -->
8      <meta name="viewport" content="width=device-width, initial-scale=1.0">
9      <!-- Page title -->
10     <title>Go</title>
11     <!-- Link to external stylesheet -->
12     <link rel="stylesheet" href="style.css">
13     <link rel="stylesheet" href="register.css">
14     <!-- Google Fonts -->
15     <link href="https://fonts.googleapis.com/css2?family=Poppins:wght@400;500;600;700;900&display=swap" rel="stylesheet">
16     <!-- Font Awesome icons -->
17     <link rel="stylesheet" href="https://cdnjs.cloudflare.com/ajax/libs/font-awesome/5.14.0/css/all.min.css">
18 </head>
19
20 <!-- Header section -->
21 <header>
22     <!-- Website brand/logo -->
23     
24     <a href="#" class="brand">Go</a>
25     <!-- Menu button -->
26     <div class="menu-btn">
27         <i class="fas fa-bars"></i> <!-- Menu icon -->
28         <i class="fas fa-times"></i> <!-- Close icon -->
29     </div>
30     <!-- Navigation menu -->
31     <div class="navigation">
32         <!-- Navigation items -->
33         <div class="navigation-items">
34             <!-- Navigation links -->
35             <a href="indextrain.html">Home</a>
36             <a href="facilities.html">Facilities</a>
37             <a href="booking.html">My Bookings</a>
38             <a href="register.html">Register</a>
39         </div>
40     </div>
41 </header>

```

**Screenshot 3.1.(a).** represents the HTML of the Register Page

```

44 <div class="container">
45     <form class="form">
46         <p class="title">Register </p>
47         <p class="message">Signup now and get full access to our app. </p>
48         <div class="flex">
49             <label>
50                 <input class="input" type="text" placeholder="" required="">
51                 <span>Firstname</span>
52             </label>
53
54             <label>
55                 <input class="input" type="text" placeholder="" required="">
56                 <span>Lastname</span>
57             </label>
58         </div>
59
60         <label>
61             <input class="input" type="email" placeholder="" required="">
62             <span>Email</span>
63         </label>
64
65         <label>
66             <input class="input" type="password" placeholder="" required="">
67             <span>Password</span>
68         </label>
69         <label>
70             <input class="input" type="password" placeholder="" required="">
71             <span>Confirm password</span>
72         </label>
73         <button class="submit">Submit</button>
74         <p class="signin">Already have an account ? <a href="signin.html">Signin</a> </p>
75     </form>
76 </div>

```

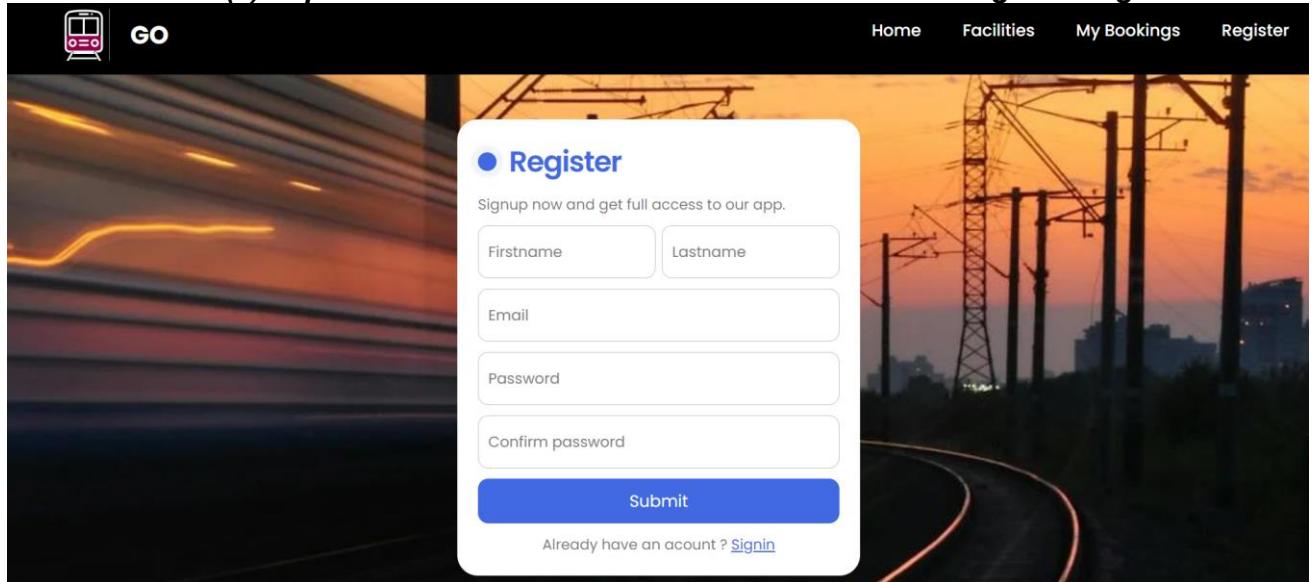
**Screenshot 3.1.(b).** represents the HTML of the Register Page

```

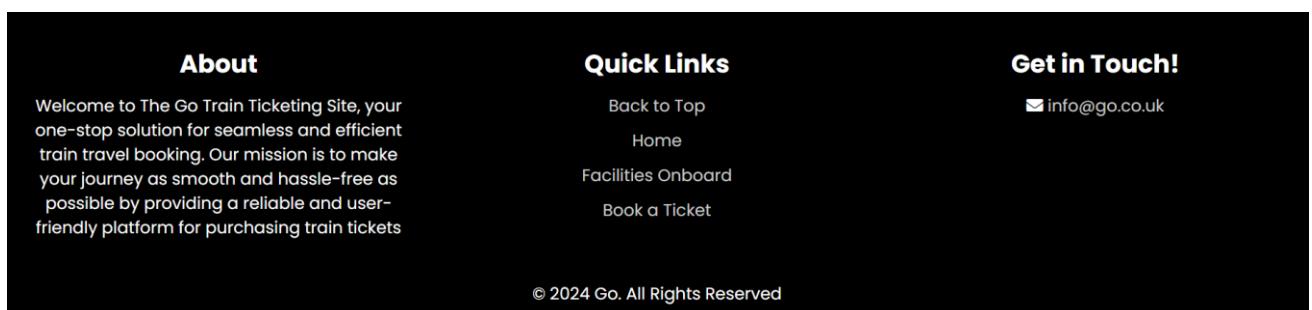
78 <!-- Footer -->
79 <footer>
80     <div class="footer_info">
81         <div class="footer_width about">
82             <div class="about_link">
83                 <p>Welcome to The Go Train Ticketing Site, your one-stop solution for seamless and efficient train travel booking. Our mission is to make your journey as smooth and hassle-free as possible by providing a reliable and user-friendly platform for purchasing train tickets.</p>
84             </div>
85             <div class="quick_links">
86                 <h2>Quick Links</h2>
87                 <ul>
88                     <li><a href="#">Back to Top</a></li>
89                     <li><a href="indextrain.html">Home</a></li>
90                     <li><a href="facilities.html">Facilities Onboard</a></li>
91                     <li><a href="booking.html">Book a Ticket</a></li>
92                 </ul>
93             </div>
94             <div class="footer_width contact">
95                 <h2>Get in Touch!</h2>
96                 <ul>
97                     <li><img alt="Email icon" class="fa fa-envelope"></li>
98                         <li><a href="mailto:sobila.sarfraz2104@gmail.com">info@g.co.uk</a></li>
99                     </ul>
100                </div>
101            </div>
102        <div class="copy-right">
103            <img alt="Copyright icon" data-bbox="85 875 100 890"/> 2024 Go. All Rights Reserved.
104        </div>
105    </div>
106 </body>
107 </html>

```

**Screenshot 3.1.(c). represents the HTML of the footer section of the Register Page**



**Screenshot 3.1.(a). represents the outcome of the Register Page**

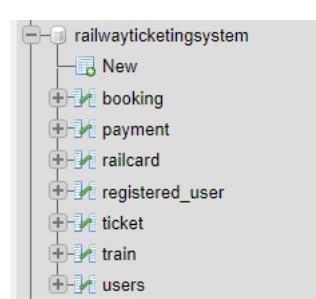


**Screenshot 3.1.(b). represents the outcome of the Register Page**

### 3.1.2. Back-end Development

```
1 CREATE DATABASE RailwayTicketingSystem;
```

**Screenshot 3.1.2.(a). represents the creation of the Database**



**Screenshot 3.1.2.(b). represents the Railway Ticketing System Database**

Table	Action	Rows	Type	Collation	Size	Overhead
booking		5	InnoDB	utf8mb4_general_ci	48.0 KiB	-
payment		5	InnoDB	utf8mb4_general_ci	32.0 KiB	-
railcard		5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
registered_user		5	InnoDB	utf8mb4_general_ci	32.0 KiB	-
ticket		5	InnoDB	utf8mb4_general_ci	48.0 KiB	-
train		5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
users		5	InnoDB	utf8mb4_general_ci	16.0 KiB	-
7 tables	Sum	35	InnoDB	utf8mb4_general_ci	208.0 KiB	0 B

**Screenshot 3.1.2.(c). represents the overview of the Railway Ticketing System Database**

```

3   CREATE TABLE RailwayTicketingSystem.Train (
4     Train_ID VARCHAR(6) PRIMARY KEY NOT NULL,
5     Train_Name VARCHAR(255),
6     DepTime TIME,
7     DepStation VARCHAR(255),
8     ArrTime TIME,
9     ArrStation VARCHAR(255),
10    Platform INT,
11    AvailableSeats INT,
12    TotalSeats INT,
13    Coaches INT
14 );

```

**Screenshot 3.1.2.(c). represents the creation of the Train Table**

```

16 -- Insert 5 rows of data into the Train table
17 INSERT INTO RailwayTicketingSystem.Train (Train_ID, Train_Name, DepTime, DepStation, ArrTime, ArrStation, Platform, AvailableSeats, TotalSeats, Coaches)
18 VALUES
19 ('T00001', 'West Midlands', '08:00:00', 'Birmingham New Street', '12:00:00', 'Coventry Station', 1, 100, 150, 10),
20 ('T00002', 'Avanti West Coast', '09:30:00', 'London Euston', '14:30:00', 'Birmingham New Street', 2, 120, 180, 12),
21 ('T00003', 'Avanti West Coast', '07:45:00', 'Coventry Station', '11:45:00', 'Manchester Piccadilly', 3, 80, 120, 8),
22 ('T00004', 'West Midlands', '06:15:00', 'Coventry Station', '10:15:00', 'Birmingham New Street', 4, 90, 140, 9),
23 ('T00005', 'London Northwestern', '10:00:00', 'Coventry', '14:00:00', 'London Euston', 5, 110, 160, 11);

```

**Screenshot 3.1.2.(c). represents the population of the Train Table**

	Train_ID	Train_Name	DepTime	DepStation	ArrTime	ArrStation	Platform	AvailableSeats	TotalSeats	Coaches
<input type="checkbox"/>	T00001	West Midlands	08:00:00	Birmingham New Street	12:00:00	Coventry Station	1	100	150	10
<input type="checkbox"/>	T00002	Avanti West Coast	09:30:00	London Euston	14:30:00	Birmingham New Street	2	120	180	12
<input type="checkbox"/>	T00003	Avanti West Coast	07:45:00	Coventry Station	11:45:00	Manchester Piccadilly	3	80	120	8
<input type="checkbox"/>	T00004	West Midlands	06:15:00	Coventry Station	10:15:00	Birmingham New Street	4	90	140	9
<input type="checkbox"/>	T00005	London Northwestern	10:00:00	Coventry	14:00:00	London Euston	5	110	160	11

Check all    With selected:  Edit  Copy  Delete  Export

**Screenshot 3.1.2.(c). represents the Trains table in the Railway Ticketing System**

```

25   CREATE TABLE RailwayTicketingSystem.Railcard (
26     Railcard_ID VARCHAR(6) PRIMARY KEY NOT NULL,
27     Railcard_Type VARCHAR (255)
28 );

```

**Screenshot 3.1.2.(d). represents the creation of the Railcard Table**

```

30  -- Insert 5 rows of data into the Railcard table
31  INSERT INTO RailwayTicketingSystem.Railcard (Railcard_ID, Railcard_Type)
32  VALUES
33  ('R00001', 'Senior Railcard'),
34  ('R00002', 'Student Railcard'),
35  ('R00003', 'Family Railcard'),
36  ('R00004', 'Disabled Railcard'),
37  ('R00005', 'Veterans Railcard');

```

**Screenshot 3.1.2.(d). represents the population of the Railcard Table**

	Railcard_ID	Railcard_Type
<input type="checkbox"/>	Edit Copy Delete	R00001 Senior Railcard
<input type="checkbox"/>	Edit Copy Delete	R00002 Student Railcard
<input type="checkbox"/>	Edit Copy Delete	R00003 Family Railcard
<input type="checkbox"/>	Edit Copy Delete	R00004 Disabled Railcard
<input type="checkbox"/>	Edit Copy Delete	R00005 Veterans Railcard

**Screenshot 3.1.2.(d). represents the Railcard table in the Railway Ticketing System**

```

39  CREATE TABLE RailwayTicketingSystem.Payment (
40    Payment_ID VARCHAR(6) PRIMARY KEY NOT NULL,
41    Payment VARCHAR(255),
42    Railcard_ID VARCHAR(6),
43    FOREIGN KEY (Railcard_ID) REFERENCES Railcard(Railcard_ID)
44  );

```

**Screenshot 3.1.2.(e). represents the creation of the Payment table**

```

46  INSERT INTO RailwayTicketingSystem.Payment (Payment_ID, Payment, Railcard_ID)
47  VALUES
48  ('P00001', 'Credit Card', 'R00001'),
49  ('P00002', 'Debit Card', 'R00002'),
50  ('P00003', 'PayPal', 'R00003'),
51  ('P00004', 'Bank Transfer', 'R00004'),
52  ('P00005', 'Cash', 'R00005');

```

**Screenshot 3.1.2.(e). represents the population of the Payment table**

	Payment_ID	Payment	Railcard_ID
<input type="checkbox"/>	Edit Copy Delete	P00001 Credit Card	R00001
<input type="checkbox"/>	Edit Copy Delete	P00002 Debit Card	R00002
<input type="checkbox"/>	Edit Copy Delete	P00003 Paypal	R00003
<input type="checkbox"/>	Edit Copy Delete	P00004 Bank Transfer	R00004
<input type="checkbox"/>	Edit Copy Delete	P00005 Cash	R00005

**Screenshot 3.1.2.(e). represents the Payment table in the Railway Ticketing System**

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```

55  CREATE TABLE RailwayTicketingSystem.Users (
56    User_ID VARCHAR(6) PRIMARY KEY NOT NULL,
57    Username VARCHAR(255),
58    Password VARCHAR(255),
59    Email VARCHAR(255),
60    Phone_Number INT
61 );
62
63 INSERT INTO RailwayTicketingSystem.Users (User_ID, Username, Password, Email, Phone_Number)
64 VALUES
65 ('U00001', 'john_doe', 'password123', 'john_doe@google.com', 1234567890),
66 ('U00002', 'jane_smith', 'securepassword', 'jane_smith@google.com', 2345678901),
67 ('U00003', 'alice_jones', 'alicepass', 'alice_jones@google.com', 3456789012),
68 ('U00004', 'bob_brown', 'bobpassword', 'bob_brown@google.com', 4567890123),
69 ('U00005', 'charlie_black', 'charliepass', 'charlie_black@google.com', 5678901234);

```

**Screenshot 3.1.2.(f). represents the Creation of the Users table**

	User_ID	Username	Password	Email	Phone_Number
<input type="checkbox"/>	U00001	john_doe	password123	john_doe@example.com	1234567890
<input type="checkbox"/>	U00002	jane_smith	securepassword	jane_smith@example.com	2147483647
<input type="checkbox"/>	U00003	alice_jones	alicepass	alice_jones@example.com	2147483647
<input type="checkbox"/>	U00004	bob_brown	bobpassword	bob_brown@example.com	2147483647
<input type="checkbox"/>	U00005	charlie_black	charliepass	charlie_black@example.com	2147483647

Check all    With selected:    
     
     
    

**Screenshot 3.1.2.(f). represents the Users table**

```

71  CREATE TABLE RailwayTicketingSystem.Booking(
72    Booking_ID VARCHAR(6) PRIMARY KEY NOT NULL,
73    Booking_Date DATE,
74    Booking_Status VARCHAR(255),
75    Payment_ID VARCHAR(6),
76    User_ID VARCHAR(6),
77    FOREIGN KEY (Payment_ID) REFERENCES Payment(Payment_ID),
78    FOREIGN KEY (User_ID) REFERENCES Users(User_ID)
79 );
80
81 INSERT INTO RailwayTicketingSystem.Booking (Booking_ID, Booking_Date, Booking_Status, Payment_ID, User_ID)
82 VALUES
83 ('B00001', '2024-01-01', 'Confirmed', 'P00001', 'U00001'),
84 ('B00002', '2024-02-01', 'Pending', 'P00002', 'U00002'),
85 ('B00003', '2024-03-01', 'Cancelled', 'P00003', 'U00003'),
86 ('B00004', '2024-04-01', 'Confirmed', 'P00004', 'U00004'),
87 ('B00005', '2024-05-01', 'Confirmed', 'P00005', 'U00005');

```

**Screenshot 3.1.2.(g). represents the Creation of the Booking table**

## Coursework Submission Agreement

	Booking_ID	Booking_Date	Booking_Status	Payment_ID	User_ID
<input type="checkbox"/>	B00001	2024-01-01	Confirmed	P00001	U00001
<input type="checkbox"/>	B00002	2024-02-01	Pending	P00002	U00002
<input type="checkbox"/>	B00003	2024-03-01	Cancelled	P00003	U00003
<input type="checkbox"/>	B00004	2024-04-01	Confirmed	P00004	U00004
<input type="checkbox"/>	B00005	2024-05-01	Confirmed	P00005	U00005

Check all     With selected:    
 [Edit](#)    
 [Copy](#)    
 [Delete](#)    
 [Export](#)

**Screenshot 3.1.2.(g). represents the Booking table**

```

89  CREATE TABLE RailwayTicketingSystem.Ticket (
90      Ticket_ID VARCHAR(6) PRIMARY KEY NOT NULL,
91      Train_ID VARCHAR(6),
92      Price DECIMAL(10, 2),
93      Booking_ID VARCHAR(6),
94      FOREIGN KEY (Train_ID) REFERENCES RailwayTicketingSystem.Train(Train_ID),
95      FOREIGN KEY (Booking_ID) REFERENCES RailwayTicketingSystem.Booking(Booking_ID)
96  );
97
98  INSERT INTO RailwayTicketingSystem.Ticket (Ticket_ID, Train_ID, Price, Booking_ID)
99  VALUES
100 ('T00001', 'T00001', 50.00, 'B00001'),
101 ('T00002', 'T00002', 30.50, 'B00002'),
102 ('T00003', 'T00003', 45.75, 'B00003'),
103 ('T00004', 'T00004', 60.00, 'B00004'),
104 ('T00005', 'T00005', 55.25, 'B00005');

```

**Screenshot 3.1.2.(h). represents the Creation of the Ticket table**

	Ticket_ID	Train_ID	Price	Booking_ID
<input type="checkbox"/>	T00001	T00001	50.00	B00001
<input type="checkbox"/>	T00002	T00002	30.50	B00002
<input type="checkbox"/>	T00003	T00003	45.75	B00003
<input type="checkbox"/>	T00004	T00004	60.00	B00004
<input type="checkbox"/>	T00005	T00005	55.25	B00005

**Screenshot 3.1.2.(h). represents the Ticket table**

```

107  CREATE TABLE RailwayTicketingSystem.Registered_User (
108      R_User_ID VARCHAR(6) PRIMARY KEY NOT NULL,
109      R_Username VARCHAR(255),
110      Password VARCHAR(255),
111      Email VARCHAR(255),
112      Phone_Number INT,
113      Booking_ID VARCHAR(6),
114      FOREIGN KEY (Booking_ID) REFERENCES RailwayTicketingSystem.Booking(Booking_ID)
115  );
116
117  INSERT INTO RailwayTicketingSystem.Registered_User (R_User_ID, R_Username, Password, Email, Phone_Number, Booking_ID)
118  VALUES
119  ('RU0001', 'Ravi Kumar', 'password123', 'ravi_kumar@google.com', 1234567890, 'B00001'),
120  ('RU0002', 'Priya Patel', 'securepassword', 'priya_patel@google.com', 2345678901, 'B00002'),
121  ('RU0003', 'Amit Singh', 'amitpass', 'amit_singh@google.com', 3456789012, 'B00003'),
122  ('RU0004', 'Sonia Khan', 'soniapassword', 'sonia_khan@google.com', 4567890123, 'B00004'),
123  ('RU0005', 'Sanjay Gupta', 'sanjaypass', 'sanjay_gupta@google.com', 5678901234, 'B00005');
124

```

**Screenshot 3.1.2.(i). represents the Creation of the Registered User table**

	R_User_ID	R_Username	Password	Email	Phone_Number	Booking_ID
<input type="checkbox"/>	Edit Copy Delete RU0001	Ravi Kumar	password123	ravi_kumar@google.com	1234567890	B00001
<input type="checkbox"/>	Edit Copy Delete RU0002	Priya Patel	securepassword	priya_patel@google.com	2147483647	B00002
<input type="checkbox"/>	Edit Copy Delete RU0003	Amit Singh	amitpass	amit_singh@google.com	2147483647	B00003
<input type="checkbox"/>	Edit Copy Delete RU0004	Sonia Khan	soniapassword	sonia_khan@google.com	2147483647	B00004
<input type="checkbox"/>	Edit Copy Delete RU0005	Sanjay Gupta	sanjaypass	sanjay_gupta@google.com	2147483647	B00005

**Screenshot 3.1.2.(i). represents the Registered User table**

### 3.1.3. Connection (PHP)

```

search.php
1 <?php
2 // Assuming you have already established a MySQL database connection
3 // Server name must be localhost
4 $servername = "localhost";
5
6 // In my case, user name will be root
7 $username = "root";
8
9 // Password is empty
10 $password = "";
11
12 // Databasename
13 $database="railwayticketingsystem";
14
15 // Creating a connection
16 $conn = new mysqli($servername, $username, $password, $database);
17
18 // Check connection
19 if ($conn->connect_error) {
20     die("Connection failure: "
21     . $conn->connect_error);
22 }
23 else printf("Successful");
24
25 // Retrieve user input
26 $source = $_POST['source'];
27 $destination = $_POST['destination'];
28 //$date = $_POST['date'];
29
30 // Query the database for available trains
31 $sql = "SELECT * FROM train WHERE DepStation = '$source' AND ArrStation = '$destination'";
32 $result = mysqli_query($conn, $sql);
33
34 // Check if there are any results
35 if (mysqli_num_rows($result) > 0) {
36     // Display available trains
37     echo "<h2>Available Trains</h2>";
38     echo "<table>";
39     echo "<tr><th>Train Number</th><th>Train Name</th><th>Departure Time</th><th>Arrival Time</th></tr>";
40     while ($row = mysqli_fetch_assoc($result)) {
41         echo "<tr>";
42         echo "<td>" . $row['train_number'] . "</td>";
43         echo "<td>" . $row['train_name'] . "</td>";
44         echo "<td>" . $row['departure_time'] . "</td>";
45         echo "<td>" . $row['arrival_time'] . "</td>";
46         echo "</tr>";
47     }
48     echo "</table>";
49 } else {
50     echo "No trains available for the selected route and date.";
51 }
52
53 // Close database connection
54 mysqli_close($conn);
55 ?>

```

**Screenshot 3.1.3.(a). represents the connection file to display the train details**

### 3.2. Strategy to Implement this Product

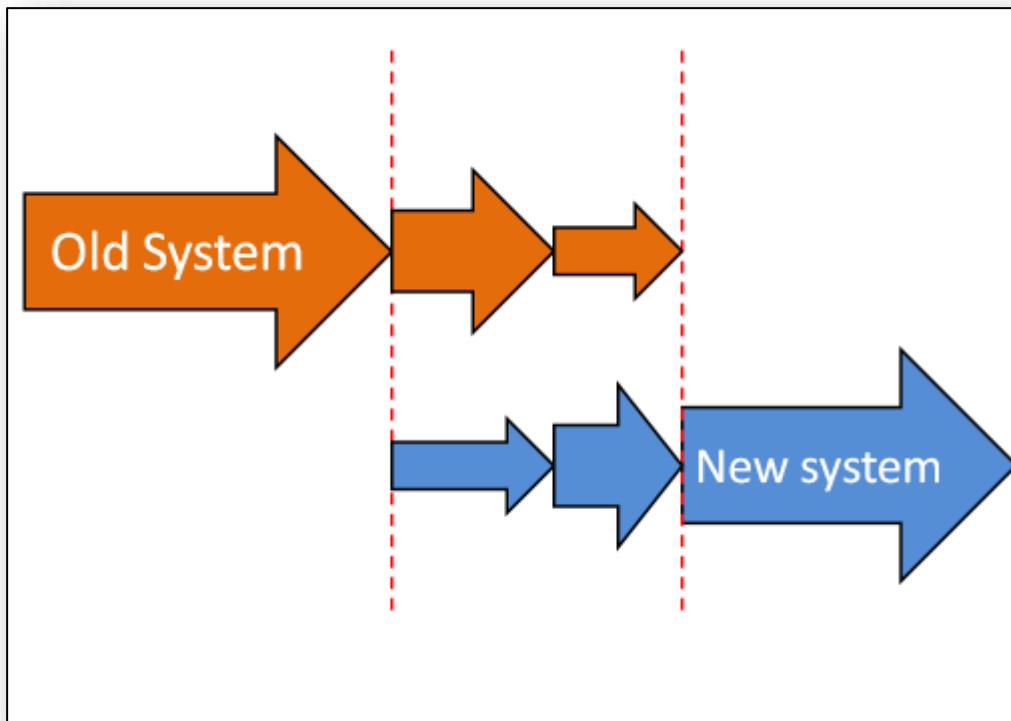
In order to implement this product variety of testing was done to ensure it matches the preset standards. Functionality testing was done to ensure seamless and proper operation. Every option, link, button was checked multiple times for this purpose.

Security testing was done to identify and address potential vulnerabilities in case of payment and other functions that could lead to security breach.

During the implementation process, working closely with the users help with the necessary improvements due to the user's point of view of the product. For this purpose, only, we created a team of developers and highly skilled workers to work closely with the users in order to deploy a more user-friendly interface. This was the best decision so far as the team knew the product in and out. They were working closely with the users and helping the developers with the testing (suggesting possible corrections). Continuous collection and integration of user feedback played a crucial role in enhancing the overall user experience. User Acceptance Testing (UAT) was employed to gather feedback on the system's user-friendliness and its alignment with end-user requirements.

In order to implement this, we used marketing strategies to gain more users for this website. We advertised our website using different platforms like email marketing. We sent email promotions to our registered users who have already subscribed to our promotional email offers specially designed for them and will sent them offers.

**System Testing:** System testing was performed to verify the overall functionalities of the implemented system.



*Image 3.2.(a). represents phased implementation*

## Coursework Submission Agreement

Another approach would be to implement the product using phased implementation in which a system is introduced in stages. The fact that the implementation of the database has been divided into phases serves the purpose of risk prevention, adequate testing for any shortcoming, and easier transition for organisations. This method also shows that the time must be taken to acquire feedback from the users in the middle of the phase and at the end. He also stated that this feedback is used to make changes and iterations as a learning process before transitioning to the next step. The iterative process serves as a critical factor in improving the user experience and guaranteeing the system's proper working. This application requires regular updating that involves addressing the noted bugs and incorporating enhancements to bolster system performance.

## 4. Reflection & Critical Review

### 4.1. Questionnaire

#### PORTFOLIO EVALUATION

REVIEW	RATING
Was the portfolio informative enough?	☆ ☆ ☆ ☆ ☆
Did the portfolio adequately address the problem statement of the project?	☆ ☆ ☆ ☆ ☆
How detailed is the Gantt chart in terms of project timeline and milestones?	☆ ☆ ☆ ☆ ☆
Were the objectives/ aims of this project met?	☆ ☆ ☆ ☆ ☆
Did the project meet your expectations?	☆ ☆ ☆ ☆ ☆
Was the timeline followed as per the Gantt chart?	☆ ☆ ☆ ☆ ☆
Were potential risks and challenges discussed in this project?	☆ ☆ ☆ ☆ ☆
Was the project completed within the given timeline and budget?	☆ ☆ ☆ ☆ ☆

## USER EXPERIENCE & WEBSITE EVALUATION

REVIEW	RATING
How User-friendly is the implemented solution?	
How well did the project manage unexpected errors/ challenges?	
How easy was it for the users to navigate around the website?	
How responsive was the website?	
How satisfied are you with the responsiveness of the system and its updates?	
How well did the project adhere to budget constraints?	
How well did the project team demonstrate flexibility in responding to the customer feedback and making necessary adjustments?	
How well did the project meet the end-user expectations?	

## 4.2. Critical Feedback Review

Users found the navigation system of the website to be complex and difficult to get hang of. They were struggling to find the menu buttons. Steps were taken to resolve this issue like user testing was conducted and feedbacks were gathered via surveys to identify pain points in navigation. Navigation structure and menu structures were simplified and descriptive labels were used to make it easier for the users to find their way around the webpage. Essential information was made easily accessible from the homepage. Buttons were created on the home page that would navigate the user to the contact pages and blog posts easily.

Users encountered difficulties navigating the website on mobile devices due to a lack of mobile optimization, resulting in distorted layouts and cumbersome interactions. Recognizing the importance of catering to mobile users, a responsive design approach was adopted to ensure seamless adaptation to various screen sizes and devices. Extensive testing was conducted across different mobile platforms and browsers to identify and address layout and functionality issues.

There were many bugs related to the connections which need attention. Errors related to sign in and redirecting towards the respective page had connection issues mainly due to php issues. This is still under consideration.

Gantt chart not detailed enough: Users complained that the activity timeline for the Gantt chart was not detailed enough to comprehend it as it did not clearly define each step part of the activity timeline and only gave brief overview of the portfolio. The Gantt chart underwent a review, and tasks were subdivided into sub components, enhancing the project's visibility.