

Higher Nationals - Summative Assignment Feedback Form

Student Name/ID	MOHAMMED MAHROOF MOHAMMED AASHIK/E230667		
Unit Title	User Experience and Interface Design		
Assignment Number	1 of 1	Assessor	
Submission Date	13.05.2025	Date Received 1st submission	
Re-submission Date		Date Received 2nd submission	

* Please note that grade decisions are provisional. They are only confirmed once internal and external moderation has taken place and grades decisions have been agreed at the assessment board.

Assessor Feedback:

Grade:	Assessor Signature:	Date:
--------	---------------------	-------

Resubmission Feedback:

*Please note resubmission feedback is focussed only on the resubmitted work

Grade:	Assessor Signature:	Date:
--------	---------------------	-------

Internal Verifier's Comments:

Signature & Date:

Important Points:

1. It is strictly prohibited to use textboxes to add texts in the assignments, except for the compulsory information. eg: Figures, tables of comparison etc. Adding text boxes in the body except for the before mentioned compulsory information will result in rejection of your work.
2. Avoid using page borders in your assignment body.
3. Carefully check the hand in date and the instructions given in the assignment. Late submissions will not be accepted.
4. Ensure that you give yourself enough time to complete the assignment by the due date.
5. Excuses of any nature will not be accepted for failure to hand in the work on time.
6. You must take responsibility for managing your own time effectively.
7. If you are unable to hand in your assignment on time and have valid reasons such as illness, you may apply (in writing) for an extension.
8. Failure to achieve at least PASS criteria will result in a REFERRAL grade.
9. Non-submission of work without valid reasons will lead to an automatic RE FERRAL. You will then be asked to complete an alternative assignment.
10. If you use other people's work or ideas in your assignment, reference them properly using HARVARD referencing system to avoid plagiarism. You have to provide both in-text citation and a reference list.
11. If you are proven to be guilty of plagiarism or any academic misconduct, your grade could be reduced to A REFERRAL or at worst you could be expelled from the course.
12. Use word processing application spell check and grammar check function to help editing your assignment.
13. Use **footer function in the word processor to insert Your Name, Subject, Assignment No, and Page Number on each page**. This is useful if individual sheets become detached for any reason.

STUDENT ASSESSMENT SUBMISSION AND DECLARATION

When submitting evidence for assessment, each student must sign a declaration confirming that the work is their own.

Student name: MOHAMMED MAHROOF MOHAMMED AASHIK	Assessor name:
---	----------------

Issue date:	Submission date: 13.05.2025	Submitted on: 13.05.2025
Programme: Pearson BTEC HND in Computing		
Unit: 36 – User Experience and Interface Design		
Assignment number and title: 1 -User experience design for Eco-Tourism Cloud Platform (ETCP)		

Plagiarism

Plagiarism is a particular form of cheating. Plagiarism must be avoided at all costs and students who break the rules, however innocently, may be penalised. It is your responsibility to ensure that you understand correct referencing practices. As a university level student, you are expected to use appropriate references throughout and keep carefully detailed notes of all your sources of materials for material you have used in your work, including any material downloaded from the Internet. Please consult the relevant unit lecturer or your course tutor if you need any further advice.

Guidelines for incorporating AI-generated content into assignments:

The use of AI-generated tools to enhance intellectual development is permitted; nevertheless, submitted work must be original. It is not acceptable to pass off AI-generated work as your own.

Student Declaration

Student Declaration

I certify that the assignment submission is entirely my own work and I fully understand the consequences of plagiarism. I understand that making a false declaration is a form of malpractice.

Student signature:

Date:

Unit 36 - User Experience and Interface Design

Assignment Brief

Student Name/ID Number MOHAMMED MAHROOF MOHAMMED AASHIK/E230667

Unit Number and Title Unit 36 - User Experience and Interface Design

Academic Year 2024/2025

Unit Tutor

Assignment Title User experience design for Eco-Tourism Cloud Platform (ETCP)

Issue Date

Submission Date 13.05.2025

Submission Format

written report : The submission should be in the form of an individual report written in a concise, formal business style using single spacing (refer to the assignment guidelines for more details). You are required to make use of headings, paragraphs, and subsections as appropriate, and all work must be supported with research and referenced using Harvard referencing system. Please provide in-text citation and a list of references using Harvard referencing system.

The recommended word count is 4,500–5,000 words excluding annexures.

A formal Presentation: 10 – 15 min presentation (8 - 10 slides as a guide, with supporting speaker notes) to communicate an investigation to a non-technical audience discussing the UEID Design Standards, Tools, and Technologies. Discussion about research techniques and fact gathering techniques that you have used for the developed implementation and demonstrate your prototype and wireframe.

Unit Learning Outcomes

LO1. Research User Experience and Interface Design in relation to end user requirements in a User Interface concept.

LO2. Plan a User Experience map and Interface Design for a User Interface concept for a target end user.

LO3. Build a User Interface concept and test it with end users for enhancement purposes.

LO4. Evaluate user feedback and test results from interaction with the User Interface concept to determine improvements.

Transferable skills and competencies developed

User Experience (UX) and User Interface (UI) design are both crucial aspects of product development, especially in digital contexts like websites, apps, and software. These fields focus on optimizing the usability, accessibility, and pleasure provided in the interaction between the user and the product. Professionals in these areas develop a wide range of transferable skills and competencies that are applicable across various roles and industries. Here are some key skills and competencies developed through UX/UI design:

1. Empathy and User-Centric Thinking
 - Understanding and prioritizing the needs, challenges, and goals of users.
 - Ability to view problems and solutions from the perspective of the user, ensuring designs meet their needs and expectations.
2. Research and Analytical Skills
 - Conducting user research, market research, and competitor analysis to inform design decisions.
 - Analyzing user feedback and behavior to identify patterns, challenges, and opportunities for improvement.
3. Creative Problem-Solving
 - Developing innovative solutions to complex problems.
 - Ability to think outside the box and propose designs that enhance user satisfaction and engagement.
4. Technical Proficiency
 - Familiarity with design and prototyping tools such as Adobe XD, Sketch, Figma, and InVision.
 - Understanding of web development basics, including HTML, CSS, and JavaScript, to effectively communicate with developers and understand the technical constraints of designs.
5. Visual Design Skills
 - A strong sense of layout, typography, color theory, and branding to create aesthetically pleasing designs.
 - Ability to create intuitive and attractive interfaces that enhance the overall user experience.
6. Communication and Collaboration

- Effectively communicating design ideas and rationales to stakeholders, including team members, clients, and users.
- Working collaboratively with cross-functional teams, including developers, product managers, marketers, and other designers.

7. Project Management

- Ability to manage multiple projects and priorities, often within tight deadlines.
- Familiarity with agile methodologies and tools for project management and team collaboration.

8. Adaptability and Continuous Learning

- Keeping up with the latest design trends, technologies, and best practices.
- Being open to feedback and willing to iterate on designs based on user testing and feedback.

9. Accessibility and Inclusivity

- Knowledge of accessibility standards and practices to ensure products are usable by people with various disabilities.
- Designing with an inclusive mindset to create experiences that cater to a diverse user base.

Vocational scenario

Scenario Overview: Eco-Tourism Cloud Platform (ETCP)

The ETCP is an innovative cloud-based platform designed to revolutionize the way eco-conscious travelers discover, plan, and engage with eco-tourism experiences worldwide. Developed by a visionary start-up in Sri Lanka, a country renowned for its commitment to sustainability, ETCP aims to facilitate a deeper connection between travelers and the natural world, while promoting eco-friendly practices and supporting local communities.

Key Features

Eco-Explorer Network (EEN)

A community-driven feature that allows eco-tourism providers (lodges, tour companies, conservation projects) to register, publish their offerings, manage bookings, view analytics on visitor engagement, and handle payments. Providers can also showcase their sustainability practices and receive feedback from travelers.

Eco-Discovery Hub

A dynamic search and discovery tool that enables users to find eco-tourism experiences based on location, type of activity (wildlife watching, hiking, volunteering), sustainability rating, and other filters. Users can:

- Book experiences for specific dates.
- Subscribe to eco-passes, offering unlimited access to select experiences for a duration.
- Access detailed information on each experience, including sustainability practices and visitor reviews.

Eco-Journeys

A personalized dashboard for users to manage their bookings, subscriptions, and favorite experiences. Features include:

- Viewing and sorting booked experiences by date, location, and sustainability rating.
- Options to preview details, add experiences to a Wishlist, and share experiences with friends.
- A "Discover Similar" feature that recommends new experiences based on past interests and bookings.

ETCP Voyager

An interactive map and planner that aids users in crafting their eco-tourism itineraries. Incorporates:

- A visual map interface showing booked and potential experiences.
- Tools for route planning and sustainability impact estimation.
- Integration with the Eco-Discovery Hub for adding new experiences to itineraries.

Settings & Personalization

Allows users to customize their ETCP experience, including:

- Visual themes inspired by different ecosystems.
- Language preferences and accessibility options.
- Payment and subscription management.

Note: Conduct surveys and interviews with eco-conscious travellers to understand their needs, preferences, and pain points. Analyse competitors and benchmarks in eco-tourism and travel platforms to identify best practices in UI/UX design.

Assignment activity and guidance

Activity 01:

- Write an elaborate report to the board of directors of ETCP to convince them why they need to increase their focus on the user interface and user experience in addition to the system's feature set to achieve the company's corporate goal. This report should include the following areas.
 - Present an overview of UX and UI design and assess standard tools available in UX & UI design.
 - Recognize and review different forms of UX-UI and their end-user testing requirements by referring to advantages and disadvantages of them for different testing outcomes.
- Analyze and review the UX and UI methodologies including,
 - Analysis of the Impact of UX & UI methodology in Software Development life Cycle.
 - Evaluate specific forms of UX-UI and Justify the use of UI/UX methodologies in a User Interface concept.

Activity 02:

- Review different end users of ETCP using user categorizations, classifications and behavior modelling techniques and select a specific end user from those identified.
- Develop personas representing the platform's target users, user categorizations, classifications and behavior modeling techniques and those identifiers. map out their journeys from discovering ETCP to booking and experiencing eco-tourism activities.
- Apply a relevant development methodology to develop interaction / interface for the Persona developed in 2.1 and devise a plan to test User Interface Design methodology and tools selected against end user requirements.
- Sketch wireframes of the UI, focusing on simplicity and environmental themes.

Activity 03:

- Develop a prototype of the UI design using tools like Sketch, Figma, Adobe XD or any other relevant tools.
- Conduct usability testing sessions with a diverse group of users, including eco-tourism providers and travelers to gather initial feedback of the system.

Activity 04:

- Analyze feedback and test results to identify areas for improvement. Focus on enhancing navigation, streamlining the booking process, and enriching the eco-education content in future.
- Analyze end-user feedback and build a new iteration of your User Interface modified with the most important feedback and enhancements.
- Re-evaluate the design based on end user feedback and conduct at least two more iterations of the User Interface to ensure that it meets the user expectations.
- Critically review the overall success of your final user interface/prototype by comparing it with the original plan and discuss your insights.

Activity 5 - Presentation

Conduct 10 – 15 minute presentation covering the following.

- Showcase the outcome of your UI/UX project for ETCP.
- Discuss the importance of continuous improvement based on the user feedback.
- Suggest future enhancements supplemented by visual examples/mock-ups of the proposed changes.
- Include your presentation slides and speaker notes within the assignment.

Recommended Resources

Please note that the resources listed are examples for you to use as a starting point in your research – the list is not definitive.

Weblinks:

Pallavi Pareek (2021) *Top UI/UX Design Learning Resources for Newbies in 2021*, Medium. Available at: <https://medium.com/@pallavipareek31/top-ui-ux-design-learning-resources-for-newbies-in-2021-bfac7c3476b9> (Accessed: 28 November 2024).

Evanick, J. (2023) *The Synergy Of Instructional Design And UX Design In Creating Effective Learning Materials*, eLearning Industry. Available at: <https://elearningindustry.com/the-synergy-of-instructional-design-and-ux-design-in-creating-effective-learning-materials> (Accessed: 28 November 2024).

hendurhance (2024) *GitHub - hendurhance/ui-ux: This guide is designed to help you learn UI/UX design, and is divided into three levels: Beginner, Intermediate, and Expert. It includes learning resource, guides and tools that cover all aspects of designing user interfaces and user experiences.*, GitHub. Available at: <https://github.com/hendurhance/ui-ux> (Accessed: 28 November 2024).

Learning Outcomes and Assessment Criteria

Pass	Merit	Distinction
LO1: Research User Experience and Interface Design in relation to end user requirements in a User Interface concept.	<p>P1 Recognize specific forms of User Experience and Interface Design and end-user testing requirements.</p> <p>P2 Assess standard tools available for use in User Experience and Interface Design.</p>	<p>M1 Analyse the impact of common User Experience and Interface Design methodology in the software development lifecycle.</p> <p>M2 Review specific forms of User Experience and Interface Design and advantages and disadvantages of end-user testing requirements for appropriateness to different testing outcomes.</p>
LO2: Plan a User Experience map and Interface Design for a User Interface concept for a target end user.	<p>P3 Review different end-user categorisations, classifications, and behaviour modelling techniques.</p> <p>P4 Appraise a specific end user and an appropriate User Experience and Interface Design</p>	<p>M3 Apply end user classification and behaviour modelling to select an appropriate Interface Design methodology.</p> <p>M4 Devise a plan to use appropriate User Interface Design methodology and</p> <p>D1 Evaluate specific forms of User Experience and Interface Design and justify their use in a User Interface concept.</p> <p>LO2 & LO3</p> <p>D2 Develop multiple iterations of your User Interface concept and modify each iteration with enhancements gathered from user feedback and experimentation.</p>

methodology to test with this user type.	tools to conduct end-user testing.	
LO3: Build a User Interface concept and test it with end users for enhancement purposes		
P5 Examine appropriate tools to develop a user interface. P6 Conduct end-user experiments and examine feedback see if it satisfies emotions, desires and attitudes as planned.	M5 Employ an appropriate set of tools to develop your plan into a user interface. M6 Analyse end-user feedback and build a new iteration of your User Interface modified with the most important feedback and enhancements.	
LO4: Evaluate user feedback and test results from interaction with the User Interface concept to determine improvements		
P7 Review end-user feedback from multiple iterations of the User Interface. P8 Suggest steps to improve in future versions of your UI.	M7 Undertake a critical review and compare your final user interface and your test results with the original plan.	D3 Critically evaluate the overall success of your User Interface concept and discusses your insight using prototyping.

Acknowledgement

I am deeply grateful for the assistance and guidance I received from numerous esteemed individuals, which was instrumental in the successful completion of my task. I would like to express my sincere appreciation to ESOFT for providing a conducive workspace that facilitated the completion of my task. I am delighted to announce the successful completion of the assignment. I am particularly indebted to **Ms. Gayathri** for her invaluable guidance throughout my third semester assignments. Lastly, I extend my heartfelt gratitude to my family members and classmates whose unwavering support greatly contributed to the timely completion of this project. Thank you all for your immense contribution!

Content

Contents

Content	13
Recognizing Specific Forms of User Experience and Interface Design and End-User Testing Requirements	15
Introduction	15
User experience (UX) and Interface Design (UI)	16
User experience (UX)	16
Interface Design (UI).....	17
Importance of UX/UI in satisfying end-user emotions, desires, and attitudes.....	22
Assess Standard Tools Available for Use in User Experience and Interface Design.....	29
Comparison of various tools such as wireframing software, prototyping tools, and usability testing platforms.....	36
Common UX/UI methodologies and their impact on software development	41
Assessment of advantages and disadvantages of different UX/UI methodologies for various testing outcomes.....	47
Types of End-User Testing	51
Justification of UX/UI Forms	52
Identification and evaluation of specific forms of UX/UI	52
Different Forms of UX (User Experience)	58
Activity 2	62
User Analysis	62
Review of different end-user categorizations and behavior modeling techniques	62
Behavior Modeling Techniques for ETCP Platform	63
Persona Development	66
Empathy Map Understanding the User Experience	71
Methodology Selection	75
Appraisal of Appropriate UX/UI Methodologies for Testing with the Identified End-User Persona ..	75
Application of End-User Classification and Behavior Modeling to Select Suitable UX/UI Design Methodologies.....	79
Testing Plan	81
Development of a Comprehensive Plan to Use Appropriate UX/UI Design Methodologies and Tools for Conducting End-User Testing for the Eco-Tourism Cloud Platform (ETCP)	81
Testing Methods	83
Tools for Testing	84
Testing Schedule	85
Metrics and Evaluation	87
Tool Examination	93

Examination of Appropriate Tools for Developing the User Interface of the ETCP Platform	93
ETCP search results page	98
.....	98
ETCP user registration page.....	99
.....	99
ETCP tour details page	100
.....	100
Etcp User dashboard page	101
.....	101
Selection of tools based on suitability for the project requirements and team expertise.	101
Real-Time Collaboration for Agile Development.....	102
Cloud-Based Architecture for Flexibility	103
Advanced Prototyping to Enhance User Experience	103
Seamless Integration with Project Tools.....	103
Reusable Components and Design System Management	104
Responsive Design and Cross-Device Compatibility	104
Iterative Development	104
Employment of suitable tools to develop the user interface concept.....	104
Experimentation and Feedback Analysis.....	105
Analysis of end-user feedback to determine if it satisfies emotions, desires, and attitudes as planned.	107
.....	107
ETCP Platform User Interface Survey Analysis.....	112
Analysis of end-user feedback to build new iterations of the user interface, incorporating important feedback and enhancements.	116
Review of End-User Feedback Collected Across Multiple Interface Iterations	128
Identification of Key Insights and Areas for Improvement – ETCP Platform	129
Areas for Improvement – ETCP Platform	133
Critical review and comparison of the final user interface with the original plan.	138
Insights Gained from Prototyping and Overall Success of the User Interface Concept.....	144
Early Prototyping and Identifying Key Issues	Error! Bookmark not defined.
Data Visualization Enhancements	Error! Bookmark not defined.
Personalization and Customization	Error! Bookmark not defined.
Improved Navigation and Workflow Efficiency	Error! Bookmark not defined.
Accessibility Considerations.....	Error! Bookmark not defined.
Continuous Iteration and User Feedback	Error! Bookmark not defined.
Conclusion.....	150
References	161

Recognizing Specific Forms of User Experience and Interface Design and End-User Testing Requirements

Introduction

The Eco-Tourism Cloud Platform (ETCP) is a forward-thinking digital solution developed to enhance the way environmentally conscious travelers plan and enjoy sustainable travel experiences. Created with the growing need for eco-responsibility in mind, ETCP aims to bridge the gap between eco-tourism providers and modern travelers who prioritize sustainability, conservation, and local engagement. The platform is not just a booking tool it's a centralized ecosystem that connects users to authentic and verified eco-tourism opportunities around the world.

At the core of ETCP's design is user experience. The platform provides an intuitive interface where travelers can discover eco-friendly tours, lodges, activities, and volunteer projects based on location, interest, and sustainability ratings. Smart filters allow users to find offerings that align with their personal values, whether they're focused on wildlife conservation, cultural heritage, or reducing carbon impact. For instance, travelers can sort by themes such as "low-impact hiking," "community-based experiences," or "renewable-powered accommodations."

One of ETCP's standout features is the Eco-Explorer Network, which enables eco-tourism providers to create detailed listings, manage bookings, engage with customers, and display their sustainability practices. Providers can showcase certifications, user reviews, and their environmental impact efforts, helping users make informed choices. This transparency combats the growing issue of "green washing," where businesses falsely claim to be environmentally friendly. The platform also offers the Eco-Discovery Hub, a dynamic search and recommendation engine that suggests personalized experiences based on user behavior and preferences.

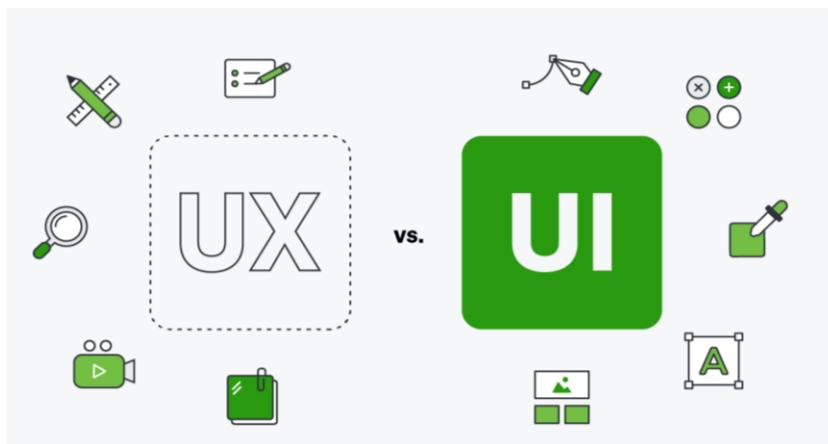
This tool allows users to visually map their journey, estimate their ecological footprint, and build custom itineraries by combining various experiences. Users can save, share, and revise plans while maintaining an awareness of their travel impact. This kind of integrated planning tool is rare in traditional booking platforms and adds a layer of education and empowerment to the user journey. Security features are in place to protect transactions and personal data, while also maintaining accessibility across various devices and screen sizes. The platform encourages

collaboration between travelers and providers, building a global network of individuals committed to positive environmental change. Through innovation and a user-first approach, ETCP stands as a model for the future of eco-tourism.

Activity 1

Overview

User experience (UX) and Interface Design (UI)



User experience (UX)

User Experience is the experience that users get when using a product, application, system, or service. It is a broad term that can cover anything from how well the user can navigate the product, how easy it is to use, how relevant the content displayed is etc. (productplan, 2025)

It involves physical, mental, emotional, and social experiences. User experiences may be characterized under different scenarios. (Genius, 2025)

1. Physical Experience

This is connected to the degree of the user's physical sensations as he/she interacts with the system. The physical Experience differs based on the thing that a person interacts with or the setting that a person is in.

2. Mental Experience

This covers the way the user will perceive and grasp the interaction of with the technology. The Mental experience may be considered to be more intricate than the Physical as it includes components like consciousness, perception, memory, volition, and imagination.

3. Emotional Experience

This is about user's emotional reaction to the discourse. It is, thus, a branch of the Mental Experience.

4. Social Experience

This involves the user's engagement with other individuals, as well as society in general, while using the product or the service.

Defining a Good UX

A good User Experience (UX) plays a vital role in the success of any digital product or service. It focuses on how a user feels while interacting with a system, aiming to make the experience as smooth and pleasant as possible. One of the key qualities of good UX is elegance. An elegant design feels natural and effortless; users don't have to think too much about what to do next because the interface guides them intuitively. This reduces cognitive load and helps users stay focused on their tasks.

Another important aspect is seamlessness. A seamless UX ensures that the user's journey is smooth and free of unnecessary interruptions or frustrations. Whether it's navigating between pages, submitting a form, or accessing content, every function should work reliably and as expected. This builds user trust and makes the platform easy and stress-free to use.

Efficiency is also a hallmark of great UX. Users should be able to accomplish their goals quickly and with minimal effort. This means reducing the number of steps required to complete a task and ensuring that performance is optimized across devices.

Finally, a good UX must be enjoyable. Beyond functionality, the interface should create a positive emotional experience. Visual appeal, micro-interactions, and responsiveness can all contribute to making users feel satisfied and engaged. When users enjoy using a product, they are more likely to return, recommend it to others, and form a lasting connection with the brand.

Interface Design (UI)

The user interface (UI) is the point of human-computer interaction and communication in a device. This can include display screens, keyboards, a mouse and the look of a desktop. It is

also how a user interacts with an application or a website, employing visual and aural components, such as type fonts, icons, buttons, animations and noises. (Hashemi-Pour, 2025)

User interface (UI) design is likely the first thing you encounter when you use an application or visit a website. User interface design is responsible for a product's appearance, interactivity, usability, behavior, and overall feel. (coursera, 2025).

There are few types of user interface available.

➤ Command Line Interface (CLI)

This is a textual interface where users enter commands and expect the system to respond appropriately. It is commonly used by developers and system administrators. It is both powerful and flexible for advanced users, consumes fewer system resources, and provides full control over tasks. However, it relies on a certain amount of knowledge about specific commands and syntax. Steep learning curve, not intuitive for beginners, and prone to errors due to incorrect commands.

```
Welcome to the ivanti platform command line for
advanced configuration and triage capability.

For a list of commands type help or ? followed by return.
[0]>?
[0] filerdirector - File Director commands
[0] lookup      - Lookup host
[0] ping        - Test connection through ICMP
[0] restart     - Restart the system
[0] shutdown    - Shutdown the system
[0] logout      - Logout of the command line
[0] help         - Get help about a command
[0] shell        - Switch to shell
[1]>ping dn-play-01
[1] PING dn-play-01 (10.0.32.211): 56 data bytes
[1] 64 bytes from 10.0.32.211: icmp_seq=0 ttl=64 time=0.128 ms
[1] 64 bytes from 10.0.32.211: icmp_seq=1 ttl=64 time=0.048 ms
[1] 64 bytes from 10.0.32.211: icmp_seq=2 ttl=64 time=0.885 ms
[1] 64 bytes from 10.0.32.211: icmp_seq=3 ttl=64 time=0.857 ms
[1] 64 bytes from 10.0.32.211: icmp_seq=4 ttl=64 time=0.104 ms
[1]
[1] --- dn-play-01 ping statistics ---
[1] 5 packets transmitted, 5 packets received, 0.0% packet loss
[1] round-trip min/avg/max/stddev = 0.048/0.084/0.128/0.030 ms
[2]>■
```

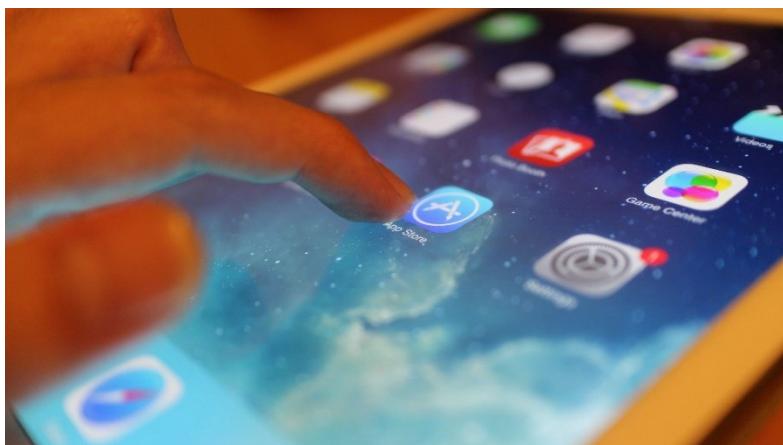
➤ Graphical User Interface (GUI)

GUIs give an intuitive and user-friendly experience by allowing interaction through graphical icons, visual indications, and menus. This form of interface is accessible to non-technical users but takes more system resources compared to CLI. GUI is the most common form of interface, relying on visual elements such as icons, buttons, and windows. It is intuitive, allowing users to interact with the system by pointing and clicking. Easy to use, visually appealing, and widely accessible. It is suitable for users with minimal technical skills. Can be resource-intensive and may not be as fast or efficient as simpler interfaces for certain tasks.



➤ Touch User Interface (TUI)

TUI is a touchscreen-optimized interface design that allows users to interact with a system by tapping, swiping, pinching, and other movements. TUIs are widely used in smartphones, tablets, kiosks, and interactive displays. TUI design emphasizes on building touch-friendly interfaces, big interactive features, and intuitive motions to improve usability and access. Limited by screen size, and less efficient for tasks requiring precision or large amounts of text.



➤ Voice User Interface (VUI)

VUIs allow users to communicate with systems using voice commands. This style of interface is widespread in voice assistants (such as Siri, and Google Assistant) and smart home gadgets. Key issues for VUI design include natural language processing, voice recognition accuracy, and generating a fluid conversational flow. Hands-free, convenient, and suitable for multitasking or accessibility. Can be prone to errors, struggles with accents or background noise, and may not be suitable for all environments.



➤ Virtual Reality (VR) Interface

VR interfaces immerse users in a 3D virtual environment, often used in gaming, education, and simulations. Provides an engaging, interactive, and immersive experience. Requires specialized hardware, can cause motion sickness, and can be expensive.

Forms Interface

Forms are a common UI used for data entry, such as filling out contact forms or surveys. Simple to implement, widely used, and allows for structured data collection. Can be tedious for users, especially if the forms are long or complicated.

Defining a Good UI

A good UI should have the following characteristics,

1. Clear

Clarity is the most important element of user interface design. Indeed, the whole purpose of user interface design is to enable people to interact with your system by communicating meaning and function. If people can't figure out how your application works or where to go on your website they'll get confused and frustrated. (al-bashrawi, 2016)

2. Concise

Clarity is essential in UI design, but over-explaining can clutter the interface and overwhelm users. Aim for concise communication use fewer words without sacrificing meaning, Striking a balance between clarity and brevity takes effort, but it significantly improves user experience. (al-bashrawi, 2016)

3. Familiar

An intuitive interface is one that users can understand instinctively, often because it feels familiar. Familiar elements like tabs resembling folder dividers help users predict how things work. Using familiar design patterns makes navigation easier and improves usability. (al-bashrawi, 2016)

4. Responsive

Responsive design means the interface should be fast and provide clear feedback. Quick loading improves user experience, and visual cues like a button changing to “Loading...” or showing a progress bar let users know their actions are being processed, reducing confusion and frustration. (al-bashrawi, 2016)

5. Consistent

Consistency in interface design improves usability by making elements like colors, fonts, and buttons uniform across the platform. This helps users recognize patterns, understand functions quickly, and adapt to new features more easily based on familiar interactions. (al-bashrawi, 2016)

6. Attractive

An attractive interface enhances user enjoyment and encourages engagement. While functionality and simplicity are key, adding visual appeal makes the experience more satisfying. Design should match the audience's preferences, using aesthetics to support usability without overwhelming it with unnecessary visuals. (al-bashrawi, 2016)

7. Efficient

An efficient interface helps users achieve their goals quickly and with minimal effort. Rather than just offering features, it should be designed around what users actually need to do, enabling smooth, goal-focused interactions without unnecessary complexity.

8. Forgiving

Nobody is perfect, and people are bound to make mistakes when using your software or website. How well you can handle those mistakes will be an important indicator of your software's quality. Don't punish the user build a forgiving interface to remedy issues that come up. (al-bashrawi, 2016)

Importance of UX/UI in satisfying end-user emotions, desires, and attitudes.

User experience (UX) and interface (UI) design are of great importance for the creation of favorable emotional connections between end-users, whereby the feeling of delight and loyalty is established. An effective UX/UI design creates a user experience in which users' expectations are met, leading to the satisfaction of an enjoyable experience. The main feature of a good UX/UI design is its convenience, serving as a nice transition between the user and the interface. The interfaces that provide intuitive usage are not only the usability but also it is a factor that contributes significantly to the user satisfaction, as users can easily interact with the system. UX and UI are critical especially when it comes to designing the interactions between users and digital products. It is not just about the practical use, but it affects users at the psychological level, making them feel, want, and even think in a certain way. It is crucial to note that a good UX/UI design makes people feel happy, satisfied, and trust the product. When users come across an interface that is good looking, simple, and interactive, they are likely to feel happy and interested. This emotional bond improves the general satisfaction of the users and creates an appreciation of the product.

Another significant factor that is also considered in meeting the users' desire and needs is the UX/UI design. Thus, when the design matches the expectations of the users, and useful features are incorporated, the products can solve users' issues and improve their lives. This alignment makes it possible for the users to find the product useful and this makes the experience more fulfilling. The layout of an interface affects the perceptions of the users in a very special way. When done properly, UI can contribute to the establishment of a brand's reputation and make the product seem trustworthy and reputable. On the other hand, the interface that is not well designed will cause frustration and thus a negative perception of the product. Positive user attitudes are created where the design is easy to learn and follow, and is congruent with the users' mental maps and therefore does not feel like a new product. It also minimizes user frustration and anxiety as it is a part of effective UX/UI design. Easy to navigate, constructive feedback, and easy to get help reduce stress and enhance the experience. Also, a trusted UI

creates confidence in the product, especially when dealing with personal information, through proper security and privacy measures. In other words, UX/UI design is essential for improving the satisfaction rate of the users, gaining their trust and stimulating them to engage in the activity. Thus, a considerate, user-oriented design solves both the tangible and intangible issues, thus guaranteeing a successful and effective user experience. The other vital characteristic of the UX/UI design is efficiency, which provides users with an ability to complete tasks swiftly and with ease while reducing their frustration. The smoothening of the journey provides a satisfying experience and increases the user's loyalty to the product or service. Personalization is the key aspect of UX/UI design, where it is possible to make the interface and experience customized to satisfy the specific needs and requirements of each user. Individualized experiences that take into account user preferences lead to higher satisfaction and a more profound relationship with the product/service.

Uniformity of platforms and devices is required for a consistent user experience which is made possible by the fact that users find themselves in a familiar interface regardless of what device they use. This consistency factor plays a great role in enhancing the overall user experience and makes the product or service more enjoyable and satisfactory to the end-users. Unlike wise, availability is a primary principle of UX/UI design that makes the product or service usable by everybody, no matter what their abilities are or they are disabled. UX/UI design that places an emphasis on accessibility is integral to fostering an inclusive experience and thus creating an overall better experience for all users (Neguyen, 2025).

Benefits of UI/UX Design

- Usability-A user-friendly UI ensures tasks are completed effectively.
- User Satisfaction-Good design makes users feel in control, increasing their satisfaction and likelihood to return.
- Increased User Engagement- A pleasant UX encourages frequent use, resulting in higher engagement rates.
- Reduced Learning Curve- Intuitive interfaces allow users to start using a system without extensive training.
- Enhanced Brand Image- High-quality design reflects positively on the brand, building trust and credibility.
- Clear navigation paths-Imagine a well-marked trail in a forest; clear navigation paths in design ensure users easily find what they seek.

- Intuitive buttons and icons- Buttons and icons that speak a universal language, like a friendly nod, making actions clear and instinctive.
- Feedback and animations- Responsive feedback, like a reassuring nod or a gentle shake, informs users that their actions are recognized, enhancing engagement.
- Consistent design language- Like a familiar friend, consistency in design creates a sense of reliability, making users feel at home in the digital space.
- Visually pleasing elements-A visually appealing environment, like a beautifully set table, adds joy to the experience, making users want to stay and explore.
- Efficient workflows- Streamlined processes, like a well-organized kitchen, reduce effort and enhance satisfaction by getting tasks done smoothly. (Jethwani, 2025)

Types of Interaction

There are two primary types of interaction in user interface design: direct interaction and indirect interaction. Direct interaction refers to situations where the user physically engages with the interface through actions such as tapping, clicking, dragging, or swiping. This type of interaction is typically intuitive, provides immediate visual feedback, and allows for a more tactile, hands-on experience common in devices like smartphones, tablets, and touch-enabled systems. In contrast, indirect interaction involves communicating with the system through abstract or intermediary methods rather than physical contact with interface elements. Examples include voice commands, gestures in virtual or augmented reality environments, keyboard shortcuts, and even eye-tracking technologies. While indirect interaction may not provide instant visual feedback, it plays a crucial role in enhancing accessibility and enabling hands-free operation. The choice between direct and indirect interaction often depends on the user's context, device capabilities, and the specific goals of the interface. Many modern systems combine both types to create flexible and user-friendly experiences.

Impact of UI/UX to the software development lifecycle.

The Agile development process is ideal for building the Eco-Tourism Cloud Platform (ETCP) due to its flexibility and user-centric focus. In Agile, both UI and UX design play a crucial role across various phases of the Software Development Life Cycle (SDLC). During the requirement gathering phase, designers collaborate with stakeholders to define user needs and expectations, ensuring that the platform aligns with the goals of eco-conscious travelers and

other users. This phase also involves gathering insights into the user journey, helping to shape the platform's features and functions.

In the design phase, designers create wireframes, mockups, and interactive prototypes, allowing for early validation of design ideas and user flows. These prototypes are tested with users, gathering feedback that informs design improvements.

Finally, in the development phase, designers and developers work closely together to ensure that the platform's UI and UX are implemented effectively, resulting in an intuitive, user-friendly experience. Agile's iterative nature allows for continuous improvements, making it an ideal approach to delivering a product that truly meets user needs.

Requirement Gathering

Requirement Gathering phase for UX design in an agile environment is aimed at conducting extensive user research. In this regard, the broader goal is to gain a thorough insight into the users' requirements and expectations. This research-oriented approach forms the firm basis for determining more concrete, user-oriented specifications. From the real user, the insight can be used by the design team to balance the requirements so that the final software solution satisfies the need of the user in the best way possible (HINES, 2025). In Agile, this phase is more of an iterative one as it is always subjected to change depending on the nature of feedback that is collected from the users in small cycles or sprints as the development process continues.

Designing

In this stage of the process, the UI/UX designers map the requirements they have gathered into real design assets. They deliver wireframes, mockups, and clickable prototypes that are considered to be the UI and UX designs. This is very important to ensure that the user has a good feeling about the product each time they have to interact with it. Unlike the traditional approach, design in Agile is iterative and continuous with designers returning to the design process with fresh inputs and feedbacks as well as incorporating changes derived from running tests within the duration of a specific sprint (Chhetri, 2023). In Agile, the design process is iterative, adaptive, and collaborative, which contrasts sharply with the traditional approach where design is completed upfront. Designers create wireframes, mockups, and clickable

prototypes, which are considered the core of UI and UX design. These design assets are continuously improved through feedback loops, ensuring that the final product meets user needs and expectations. At the beginning of each sprint, designers collaborate with stakeholders to define project goals and requirements, translating them into initial design concepts. These early designs focus on functionality and layout, rather than aesthetics, allowing for quick validation of ideas. This collaboration ensures that the user interface is not only visually appealing but also functional and technically sound. By maintaining a flexible, feedback-driven approach, Agile design ensures that the user experience is consistently optimized, leading to products that are intuitive, user-friendly, and well-received by end-users. The ability to revisit and refine designs based on real-world testing and feedback is one of the key advantages of the Agile process, ensuring a more dynamic, responsive approach to product development.

Development

UI/UX design in the Development phase acts as a roadmap for the development team in the implementation process. It assists them in executing visual and functional design of the software product in accordance with user-oriented design principles. This has a clear advantage for agile methodology since it establishes the program development paradigm and cuts down the amount of time spent on cycle repetition. This is because Agile practices such as continuous integration and iterative testing guarantee the fact that the design is implemented in the right manner and to the right standards within the most efficient manner possible and with due consideration to the users' needs and feedback (Chhetri, 2023).

Ongoing Optimization

When it comes to Agile UI/UX design, it is not only about creating the first impressions by the looks of the interface but rather the process where the focus is kept on the user throughout the project's life cycle. Nevertheless, UI/UX design is not a one-time exercise, but rather an iterative process with updates and improvements as part of the product maintenance and development cycle. This cycle of constant adjustment is a part of Agile methodology, to ensure that the end product is not outdated and is easy to use for the users.

To sum up, it can be stated that, UI/UX design plays a crucial role in Agile SDLC, as it introduces the perspective of the end user, as well as improves the overall performance

throughout the development phases. Due to its cyclical structure, it works well with the Agile approach and guarantees that the end result satisfies the user's needs optimally and adapts to further changes resulting from their feedback. Not only does the incorporation of UI/UX design into the Agile methodology enhance the product's usability, but it also aids in refining the planning of the overall development process.

Stages of UI/UX Development

The development of a successful user interface (UI) and user experience (UX) involves a thoughtful and systematic process that transforms an initial concept into a functional and user-friendly product. In the fast-evolving digital landscape, users expect applications and platforms to be intuitive, aesthetically pleasing, and efficient. To meet these expectations, designers and developers must follow a clear set of stages, each contributing to the refinement and alignment of the product with user needs and business goals. These stages typically include idea generation, sketching, wireframing, prototyping, and full-scale development.

1. Idea Stage – Understanding the Problem and Setting the Vision

The first stage in UI/UX development is the idea phase. This is where everything begins. In this foundational step, the team identifies a real problem that users face or a gap in the market that presents an opportunity. It is a phase of deep understanding and exploration, where designers seek to clarify who the users are, what they need, and how the digital solution can help them. This involves conducting various forms of research, including user interviews, surveys, and competitor analysis. The goal is to form a well-defined problem statement and a vision for the solution. It is also important to understand the business objectives at this stage to ensure that the eventual design supports organizational goals. The insights gathered during this phase form the basis for every decision made throughout the design and development process.

2. Sketch Stage – Exploring Creative Directions

Once the problem and possible solution are identified, the process moves into the sketching phase. This is where the team begins to visualize the concept. Sketching allows for creative exploration of ideas in a quick and flexible way. Designers create rough layouts of interfaces, usually by hand or using simple digital tools, to experiment with different user flows, screen

arrangements, and functional ideas. These sketches are not meant to be detailed or visually polished but serve as a brainstorming tool to communicate initial thoughts and spark feedback from team members. This phase encourages innovation, as it is easier to discard or modify ideas before investing time in detailed designs. The collaborative nature of sketching also helps align the team and stakeholders on the direction of the project.

3. Wireframe Stage – Structuring the Interface

Following sketching, the wireframing phase introduces more structure and clarity. Wireframes are more refined visual representations of the interface layout. Unlike sketches, they are created with digital tools and are typically monochromatic, focusing solely on layout and functionality rather than colors or images. This stage is critical for defining the information architecture of the platform. Designers map out how users will navigate from one screen to another and where content elements, buttons, navigation menus, and forms will be placed. Wireframes help to ensure that the design supports the user journey in a logical and efficient way. They also allow stakeholders to understand the layout and flow without being distracted by visual design elements. At this point, usability is the top priority, and feedback is gathered to make necessary adjustments before moving on.

4. Prototype

After the structure is established through wireframes, the next stage is prototyping. A prototype is a working model of the interface that allows users and stakeholders to interact with the product as if it were live. Prototypes can vary in fidelity from low-fidelity, which include basic interactions, to high-fidelity, which closely resemble the final product in look and behavior. This stage is essential for testing the usability and functionality of the interface. Users can click through different screens, complete tasks, and provide feedback on their experience. This real-world simulation helps identify issues that may not be visible on static wireframes. Prototypes also serve as a powerful communication tool for demonstrating how the product will work to clients, developers, and investors. It is during this phase that design decisions are validated or challenged, and changes are made based on testing results and observations.

5. Development

The final stage in the UI/UX development process is the development phase. At this point, the design is handed over to developers who transform the prototype into a functioning product. This stage involves coding the front-end interface and integrating it with the back-end systems. Developers ensure that the design is responsive, accessible, and optimized for various devices and screen sizes. Collaboration between designers and developers is crucial during this phase to ensure that the final output matches the intended design. Regular testing is performed to identify and fix bugs, improve performance, and ensure that all interactive elements function correctly. Final refinements are made to polish the user interface, and the product is prepared for launch. Even after deployment, the design process doesn't stop. Feedback from real users continues to inform updates and improvements, making UI/UX an ongoing process of iteration and enhancement.

The stages of UI/UX development from idea generation to final development are interconnected and essential for creating products that not only meet user expectations but also provide value to businesses. Each stage builds upon the last, gradually transforming a concept into a seamless and engaging digital experience. By following this structured approach, designers and developers can ensure that the final product is not only functional and visually appealing but also user-centered and impactful. Understanding and implementing each phase with care contributes significantly to the overall success of a digital solution in today's highly competitive environment.

Assess Standard Tools Available for Use in User Experience and Interface Design

Assessment of Tools

Standard tools available for UX/UI design.

UI/UX design tools are specialized software programs that assist designers in creating, modifying, and testing user interfaces and experiences. They provide a wide variety of capabilities, including drawing, wireframing, prototyping, and usability testing. These tools are a crucial component of each designer's arsenal. They employ these techniques to transform abstract concepts into usable designs that meet and surpass user expectations in seamless experiences. (Soegaard, 2024)

We can categorize the UI/UX tools into few types (Cardello, 2025). Some common types of UX and UI tools to look out for are,

☒ Prototyping tools

Prototyping tools are essential in the UI/UX design process as they allow designers to transform static design concepts into interactive mockups and testable prototypes. These tools help visualize how a user will interact with a digital product, enabling designers, developers, and stakeholders to better understand the flow and functionality before any coding begins.

With prototyping tools, designers can simulate user journeys, transitions, and interface behaviors. This early-stage testing is crucial for identifying usability issues, gathering feedback, and making necessary adjustments without incurring the cost of full development. It also promotes collaboration between team members and ensures that the final product meets user needs and expectations.

Popular prototyping tools include Figma, Adobe XD, InVision, and Marvel. Figma is widely appreciated for its real-time collaboration features, making it ideal for team projects. Adobe XD offers seamless integration with other Adobe products and supports advanced prototyping and animation features. InVision allows for easy sharing and commenting, streamlining the feedback process. Marvel is known for its simplicity and ease of use, making it great for quick mockups and user testing.

Overall, prototyping tools enhance creativity, improve design accuracy, and support agile workflows by allowing rapid iteration and continuous user-centered improvements.

☒ Wireframing tools

Wireframing tools help designers create low-fidelity mockups that outline the basic layout, structure, and functionality of a user interface. These tools are used in the early stages of the design process to plan the arrangement of elements and ensure a logical flow of information. Wireframes act as visual blueprints that guide the design and development teams. Tools like Axure RP offer advanced features for creating interactive wireframes, while Lucidchart is great for diagramming and quick wireframe creation. Marvel combines wireframing with basic prototyping, making it easy to visualize ideas and gather early feedback from stakeholders or users.

☒ UI design tools

These tools are used to make high-quality prototypes, visual elements and user interfaces. They usually have a collection of ready-made UI components and hence the designers can make pixel-perfect mockups. Usually, the designers are the ones who are using tools like Sketch, Adobe XD, and Figma for the UI design.

☒ Usability testing platforms

Usability Testing Platforms are software tools or online platforms that help assess the usability of digital goods including websites, mobile apps, and software applications. These systems enable designers, researchers, and product teams to perform usability tests on actual users in order to detect usability problems, get feedback, and make educated design choices. Examples such as UserTesting, UsabilityHub and Optimal Workshop

☒ Collaboration and handoff tools

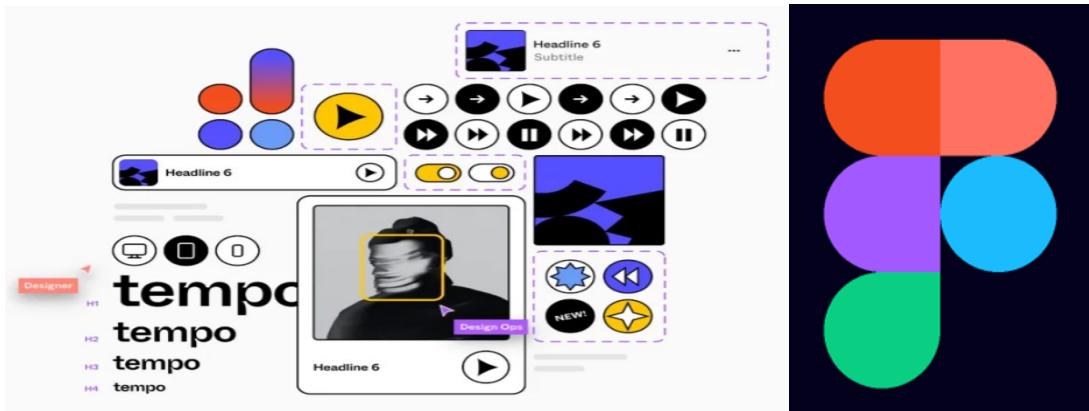
These tools are the key to smooth collaboration between designers and developers, which in turn, makes possible the efficient handoff of design assets and specifications. Examples such as InVision and Marvel.

☒ User flow and journey mapping tools

These tools assist designers in the process of visualizing and mapping the user's journey through a product or service, thereby discovering the touchpoints, pain points, and the opportunities for improvement. Dominant choices are Sketch, Figma and Adobe XD.

Popular tools that designers use

Figma



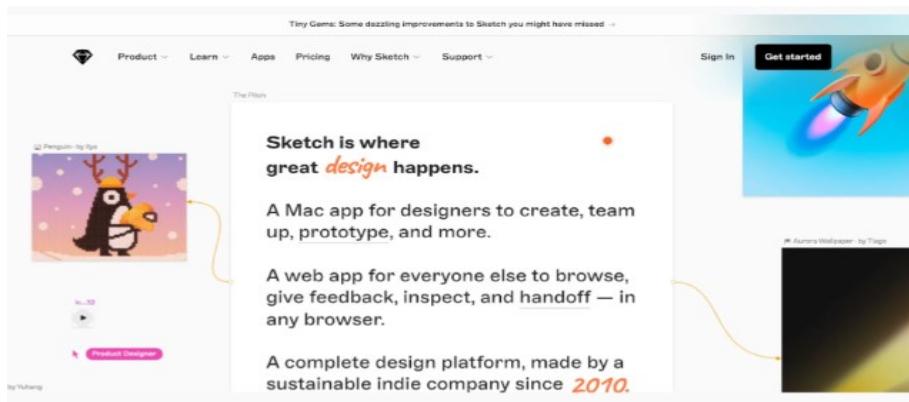
Figma is a cloud-based design tool known for its collaborative features. It allows multiple designers to work on a project simultaneously, which makes it a popular choice for design teams. (Soegaard, 2024)

Adobe XD



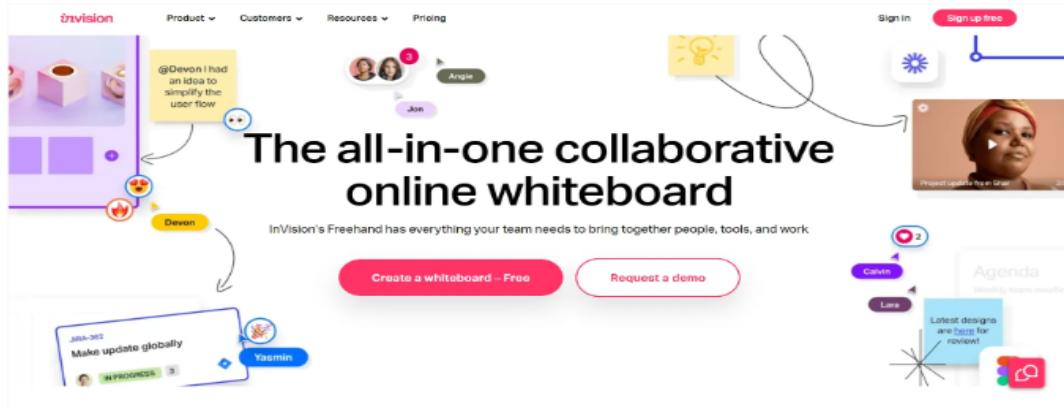
Adobe XD is a powerful tool for creating user interfaces and interactive prototypes. It's part of Adobe's Creative Cloud, making integration with other Adobe tools easy. (Soegaard, 2024)

Sketch



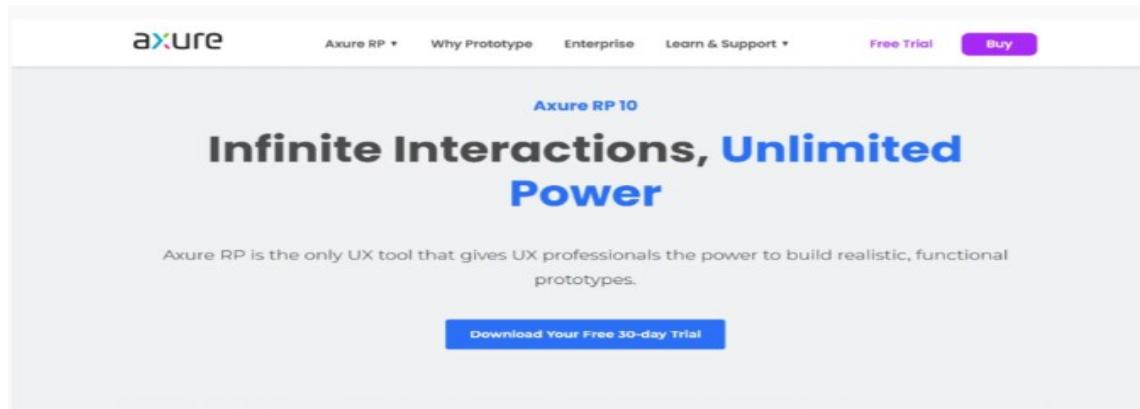
Sketch is a vector graphics editor tool for macOS known for its simplicity and efficiency. It's widely used for creating interfaces, icons, and web development. (Soegaard, 2024)

InVision



InVision is a comprehensive tool for designing and prototyping user interfaces. It's part of the InVision suite of tools, including InVision Cloud, for collaboration and feedback. (Soegaard, 2024)

Axure RP

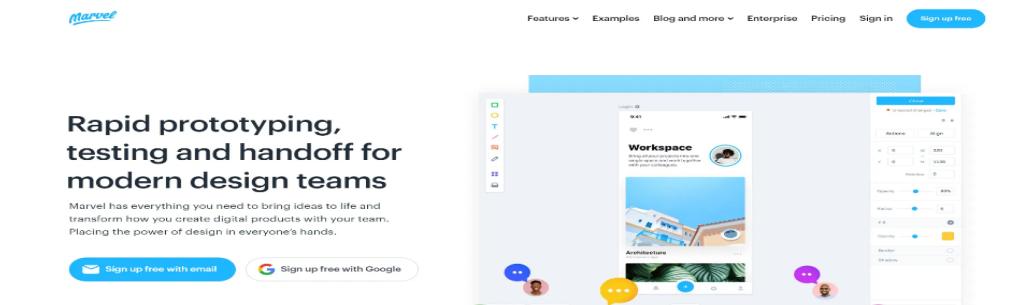


The Axure RP website homepage features a navigation bar with links for Axure RP, Why Prototype, Enterprise, Learn & Support, Free Trial, and Buy. The main heading is "Axure RP 10 Infinite Interactions, Unlimited Power". Below the heading, a sub-copy states: "Axure RP is the only UX tool that gives UX professionals the power to build realistic, functional prototypes." A blue button labeled "Download Your Free 30-day Trial" is prominently displayed.



Axure RP is a comprehensive tool for Wireframing, prototyping, and documenting design projects. It's known for its detailed specifications, documentation capabilities, and dynamic, conditional interactions. (Soegaard, 2024)

Marvel



The Marvel website homepage highlights "Rapid prototyping, testing and handoff for modern design teams". It features a callout for "Sign up free" and a screenshot of the platform's interface showing a workspace and a sidebar with various tools and metrics.



Marvel is a user-friendly design platform that supports wireframing, prototyping, user testing, and design handoff. It's known for its simplicity and ease of use.

Tools categorized based on their primary function

Tools	Prototyping Tool	Wireframing Tool	UI Design Tool
Figma	✓		✓
Adobe XD	✓	✓	✓
Sketch		✓	✓
InVision	✓		
Axure RP	✓	✓	
Marvel	✓		

Some of the popular usability testing platforms

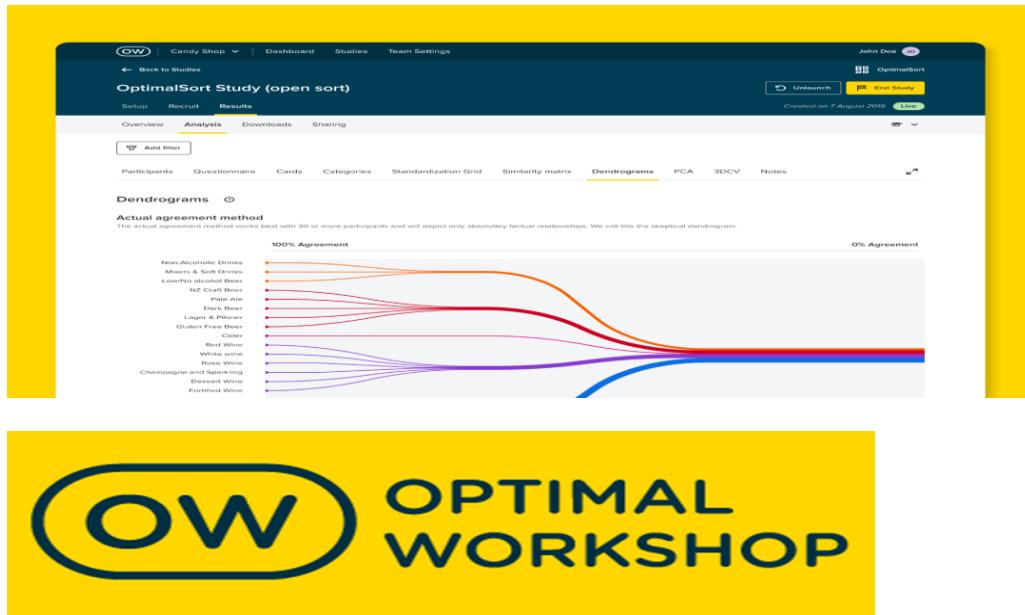
UsabilityHub

The screenshot shows the UsabilityHub homepage. At the top, there's a pink banner with a yellow arrow icon and the text "Figma prototype testing just got a whole lot better! Read more →". Below the banner, the UsabilityHub logo (a red hexagon with a white smiley face) is on the left, followed by the text "UsabilityHub" and a "Become a tester" button. To the right are navigation links for "Products", "Customer", "Pricing", and "Resources", along with "Sign In" and "Sign Up" buttons. The main content area features the text "Design confidently." and a subtext: "UsabilityHub is a remote user research platform that takes the guesswork out of design decisions by validating them with real users." A "Get Started" button is located below this text. To the right, there's an illustration of three people (two men and one woman) sitting around a table, looking at a computer screen together, with speech bubbles above them.



UsabilityHub offers a range of usability testing methods, including first-click testing, preference testing, and navigation testing. It allows researchers to quickly set up tests, recruit participants, and analyze results to gain insights into user behavior and preferences.

Optimal Workshop



Optimal Workshop specializes in usability testing methods such as card sorting, tree testing, and click testing. It provides tools for researchers to create and conduct tests, analyze results, and generate insights to inform design decisions.

Comparison of various tools such as wireframing software, prototyping tools, and usability testing platforms.

Pros, Cons and Pricing of each UI/UX Tool

Figma is famous for its exceptional collaboration features, which allow numerous designers to work on projects simultaneously, and its robust prototype capabilities. This cloud-based application allows enhanced collaboration and extended prototyping with a large selection of plugins. However, it does come with its challenges: relying on internet connectivity can be troublesome in locations with unstable connections, and huge file sizes may influence performance and slow down the design process. Pricing for Figma starts at \$12 per editor per month for the Professional plan and \$45 per editor per month for the Organization plan.

Adobe XD is renowned for its simple user interface and seamless connection with Adobe's Creative Cloud, making it a solid alternative for prototyping. Its extensive integration promotes production productivity, and the user-friendly interface supports effective prototyping. Nevertheless, Adobe XD can be pricey for full feature access, and frequent updates may introduce issues that disrupt workflows. Adobe XD offers a free version with basic functionality and subscription options starting at \$9.99 per month.

Sketch is well-regarded for its ease of use and optimization for screen design. It works nicely with other tools and has broad plugin support, boosting usefulness. However, it is limited to macOS, barring users on other operating systems, and relies on additional tools for prototyping, which can complicate the workflow. Sketch costs \$99 annually, with a free trial available.

InVision excels in rapid prototyping with its modern interface and support for numerous connections, such as Jira and Slack. It offers rapid prototyping capabilities with an intuitive UI, which is beneficial for quick iterations. On the negative, InVision's browser-based approach involves uploading designs, which can be laborious, and its team and cloud functionality are limited compared to other applications. InVision offers a free version and subscription options starting at \$7.95 per month.

Axure RP provides powerful prototyping tools, including adaptive views for responsive design and detailed customization options for complex interactions. Its advanced prototyping capabilities are well-suited for creating intricate designs. However, Axure RP has a steep learning curve, which may hinder usability for beginners, and its limited native collaboration features can impact team productivity. It offers a 30-day free trial, with pricing starting at \$25 per user per month for the Pro edition and \$42 per user per month for the Team edition.

Marvel is known for its user-friendly setup and intuitive interface, with good integration with Sketch. It is easy to set up and use, making it accessible for designers of all skill levels. Nevertheless, Marvel offers limited functionality compared to more advanced tools and has fewer collaboration features, which may hinder team efficiency. Marvel has a free plan with limited features and paid plans starting at \$12 per user per month.

Usability Hub offers diverse usability testing methods and an intuitive interface at an affordable price. It provides a range of testing methods and simplifies the testing process with an intuitive interface. However, it may lack in-depth analysis tools and has a smaller participant pool, with no moderated testing option. Pricing starts at \$20 per test, with volume discounts available.

Optimal Workshop excels in specialized usability testing methods and provides comprehensive analysis and visualization tools. It supports advanced user research with easy setup and detailed analysis. On the other hand, it comes with a higher cost compared to simpler platforms and a steeper learning curve, which may be challenging for beginners. Plans for Optimal Workshop start at \$199 per month for small teams, with configurable pricing for bigger businesses.

Strengths and weaknesses of each type of tool and their relevance to the ETCP platform

Tools	Strengths	Weaknesses	Relevance to ETCP Platform
Figma	Figma offers superior collaboration features, allowing multiple team members to work on designs simultaneously. It also provides robust prototyping capabilities and a vast array of plugins for extending functionality. Its cloud-based nature facilitates seamless collaboration and version control.	Figma's internet dependency and limited offline mode may pose challenges in areas with unreliable internet connections. Additionally, large file sizes when exporting frames can impact performance, especially with complex designs.	Figma's collaboration tools help the ETCP design team efficiently refine features like eco-tour discovery, sustainability ratings, and personalized itineraries, ensuring the platform is user-friendly and aligns with eco-conscious travelers' values.
Adobe XD	Adobe XD excels in prototyping with its clean user interface and deep integration with Adobe's creative suite. It offers powerful design and prototyping capabilities, allowing designers to create interactive and high-fidelity prototypes.	The cost of full features may be prohibitive for some users, and occasional bugs introduced by constant updates may disrupt workflows. Additionally, different keyboard shortcuts compared to Adobe Photoshop may require adjustment for users familiar with Adobe's other products.	Adobe XD's prototyping capabilities allow the ETCP team to create interactive prototypes for features like eco-tour discovery, itinerary planning, and sustainability ratings, ensuring a seamless and engaging experience for eco-conscious travelers.

Sketch	Sketch is optimized for screen designs and boasts an easy-to-use interface, making it popular among UI/UX designers. It works well with other tools and offers extensive support for plugins, allowing for customization and enhanced functionality.	Sketch's collaboration features are not as robust as some other tools, and its reliance on external tools for prototyping may add complexity to the design workflow. Additionally, it is limited to macOS, which may exclude some users.	Sketch's focus on screen design and ease of use makes it perfect for designing the ETCP platform's UI, including visually appealing layouts, eco-tour filters, and sustainability components that enhance the user experience for eco-conscious travelers.
InVision	InVision is known for its ease of use in prototyping, with a modern interface and support for integrations like Jira and Slack. It offers rapid prototyping capabilities, making it easy to create and iterate on designs quickly.	InVision runs only in the browser, requiring designers to upload their designs to the platform. Some users may find the team and cloud functionality lacking compared to other tools, and documentation/support may not always be sufficient.	InVision's rapid prototyping capabilities make it ideal for iterating on features like eco-tour discovery and personalized itinerary planning within the ETCP platform, allowing designers to quickly test, refine, and enhance the user experience for eco-conscious travelers.
Axure RP	Axure RP offers powerful prototyping tools, including adaptive	Axure RP has a steep learning curve, and its user interface may be	Axure RP's advanced prototyping capabilities make it

	<p>views for responsive design and comprehensive features for creating interactive prototypes. It allows for detailed customization and simulation of complex user interactions.</p>	<p>challenging for some users to navigate. The lack of native collaboration features and documentation/support may hinder productivity for some teams.</p>	<p>suitable for designing complex interactions within the ETCP platform, such as eco-tour filtering, personalized itinerary planning, and sustainability rating displays, ensuring an intuitive and seamless user experience for eco-conscious travelers.</p>
Marvel	<p>Marvel is known for its ease of setup and intuitive interface, making it accessible to designers of all skill levels. It integrates well with Sketch and offers a straightforward approach to prototyping.</p>	<p>Marvel's functionality may be limited compared to other tools, and its collaboration features may not be as robust. It may not offer the advanced customization options required for complex prototyping scenarios.</p>	<p>Marvel's simplicity and ease of use make it suitable for quickly prototyping and testing basic features of the ETCP platform, such as eco-tour navigation flows, user interactions, and sustainability filter options, ensuring a smooth and intuitive experience for eco-conscious travelers.</p>
Usability Hub	<p>Usability Hub offers intuitive usability testing tools and diverse testing methods, making it easy to gather feedback from users. It provides</p>	<p>Usability Hub may lack in-depth analysis tools compared to other platforms, and its participant pool may be smaller. Additionally, it</p>	<p>Usability Hub's usability testing tools can be valuable for gathering feedback on the user experience of the ETCP platform,</p>

	affordable pricing plans, making it accessible to teams with budget constraints.	may not offer moderated testing options for more controlled experiments.	helping designers identify and address usability issues related to eco-tour discovery, itinerary planning, and sustainability features for eco-conscious travelers.
Optimal Workshop	Optimal Workshop excels in specialized usability testing methods, providing comprehensive analysis and visualization tools. It offers easy test setup and supports advanced testing techniques for in-depth user research.	Optimal Workshop may have a higher learning curve compared to simpler platforms, and its cost may be prohibitive for smaller teams or projects with limited resources. It may also offer a limited range of testing types.	Optimal Workshop's advanced usability testing methods provide valuable insights into the user experience of ETCP platform, helping designers make informed decisions based on user feedback regarding eco-tour discovery, sustainable itinerary planning, and eco-friendly feature preferences.

Analysis of Methodologies

Common UX/UI methodologies and their impact on software development

User-Centered Design (UCD)

UCD is a design process which is being carried out in phases, and in each phase designers focus on the users and their needs. In UCD, design teams integrate users at every stage of the design process by applying different methods of research and design, to develop easy-to-use and accessible products that will serve them well. UCD is a process of interaction between the user

and the designer that helps to understand the users and their context at all stages of software design and development (Interaction Design Foundation, 2016).

Impact - User-Centered Design (UCD) significantly impacts the success of digital products by focusing on the needs, behaviors, and preferences of users throughout the development lifecycle. By involving real users from the early stages such as during research, prototyping, and testing designers can ensure that the final product is intuitive, functional, and aligned with user expectations. This user involvement helps in identifying usability issues early, allowing for timely improvements and reducing the need for expensive redesigns later in the process.

UCD also enhances overall user satisfaction, as the product feels more personalized and responsive to actual user demands. This increases adoption rates and promotes user loyalty. Furthermore, continuous user feedback during development allows for more informed decision-making, leading to interfaces that are both practical and enjoyable to use. In competitive markets, a user-centered approach can provide a strong advantage by delivering superior experiences that meet real-world needs, ultimately driving better engagement and business success.

Agile UX

Agile UX is an Agile software development and UX practice that combines both of these methodologies. In practice this means having a UX specialist in each Agile software team and creating an atmosphere where the UX process is recognized and understood. Agile UX is more about getting feedback as early as possible so that it can be used to make a quick decision (CHEUNG, 2025).

Impact - Agile methodologies, including Scrum and Kanban, focus on iterative development, allowing teams to build, test, and refine software in short, manageable cycles. This approach enables designers and developers to incorporate continuous feedback from users and stakeholders, making it easier to adapt to changing requirements and improve user experience over time. Agile supports rapid prototyping and testing, helping teams identify usability issues early and make informed design adjustments.

One of the key strengths of Agile is its emphasis on collaboration among cross-functional teams. Designers, developers, and product owners work closely together, ensuring that UI/UX considerations are integrated throughout the development process rather than treated as an afterthought. This tight collaboration leads to more user-friendly products, faster delivery

times, and higher overall product quality. Agile's flexibility and user focus make it ideal for building digital solutions that truly meet user needs and expectations.

Lean UX

The Lean UX approach is an indispensable technique when one has to work on projects that are developed with the agile model. The key point of Lean UX is the experience that is under the process of design and less important are the deliverables than traditional UX. This level of interaction necessitates a higher level of collaboration with the entire team. The main purpose is to concentrate on getting feedback as soon as possible to be able to use it in the process of making quick decisions. Agile development is the process of working in a fast and iterative manner, and Lean UX is a way of mirroring these cycles to guarantee that the data produced is used in each iteration (Interaction Design Foundation, 2021).

Impact - Lean UX focuses on creating minimum viable products (MVPs) and validating hypotheses through rapid experimentation. This approach encourages designers and developers to prioritize learning over deliverables, resulting in faster time-to-market and reduced waste. Lean UX also promotes cross-functional collaboration and encourages shared understanding of user needs and business goals among team members.

Design Thinking

Design thinking is a non-linear, iterative process that teams apply to understand users, question assumptions, redefine problems and invent solutions that are prototyped and tested. It is most useful to tackle ill-defined or unknown problems and involves five phases - Empatize, Define, Ideate, Prototype and Test. The design thinking process is innovative as it considers the user needs and develops solutions that are in line with the needs of the user (Interaction Design Foundation, 2016).

Impact - Design Thinking is a problem-solving methodology that emphasizes understanding the user through empathy, generating creative ideas, and testing solutions through prototyping and feedback. It encourages teams to deeply explore user needs and challenges, ensuring that the final product is both functional and meaningful. By following key stages empathy, define, ideate, prototype, and test Design Thinking supports innovation through a structured yet flexible approach. This method promotes collaboration across various disciplines, enabling diverse perspectives to contribute to the solution. Ultimately, Design Thinking helps uncover hidden user needs and leads to the development of innovative solutions that balance user satisfaction with business objectives.

Analyze the Impact of UI/UX Methodology in the Software Development Lifecycle

UI/UX (User Interface and User Experience) methodology plays a critical role in ensuring that digital products meet user needs and expectations while providing a seamless, intuitive, and engaging experience. In the Software Development Lifecycle (SDLC), the application of UI/UX principles leads to better user satisfaction, greater product usability, and ultimately, higher user retention. This methodology involves structured stages that guide the creation of products that are both functional and enjoyable to use. Below is an analysis of the impact of UI/UX methodology across the SDLC, breaking it down into key stages: Requirement Analysis, System Design, Development, Testing, Deployment, and Maintenance.

1. Requirement Analysis

The first phase in the UI/UX development process is requirement analysis, where the foundational understanding of user needs is established. This is essential to building a product that resonates with the target audience and meets their expectations. The initial step in this phase is Envisioning, which involves gathering insights about the users through various methods such as stakeholder interviews, surveys, focus groups, and market research. By understanding the audience's goals, pain points, and preferences, designers can form a clear vision of the user's expectations.

Following this is User Task Analysis, where designers identify the primary actions or tasks that users need to perform within the system. This step is crucial for shaping the product's functionality, as it helps define user flows, which are the sequences of steps that users take to complete their tasks. By mapping out these actions, designers ensure that the product is aligned with real-world user behaviors, improving usability and efficiency. Effective requirement analysis minimizes the risk of creating a product that does not meet user needs, which in turn improves user satisfaction and drives the success of the product.

2. System Design

Once the requirements are clearly understood, the next phase is system design. This phase follows an Iterative Design approach, which is a key aspect of the UI/UX methodology. Unlike traditional approaches where the design process is linear, iterative design involves continuous refinement of design concepts through feedback loops. The iterative process allows designers to identify potential issues early and address them before the product moves too far along the development cycle.

A significant part of the system design phase is Prototyping, where low- or high-fidelity prototypes are created to simulate different parts of the interface or user journey. Prototypes allow designers to test user interactions in a controlled environment, enabling them to identify usability issues and refine the design. These prototypes serve as a tool for engaging stakeholders and users, gathering feedback on the overall look and feel of the product. As the design evolves based on real-world user feedback, the UI/UX team can ensure that the interface remains user-centric and aligned with the original vision. The iterative nature of this process helps to improve the product's usability and reduces the risk of costly mistakes later in the project.

3. Development

Once the system design is refined and finalized, the Development phase begins. This stage is where developers start to bring the design to life by writing code for the user interface and implementing the necessary functionality. The collaboration between designers and developers is crucial in this phase. Designers must communicate their vision clearly, and developers must ensure that the technical implementation maintains the integrity of the design, ensuring that the visual and functional aspects of the product are preserved.

In Agile development, UI/UX teams work closely with developers throughout the development process, ensuring continuous alignment. Regular check-ins and communication between the teams help to address any discrepancies between design and implementation early on, preventing issues in the final product. By integrating UI/UX considerations into the development phase, teams ensure that the product is built with the user in mind from the outset.

4. Testing

After the product has been developed, the next phase is Implementation Testing, where the product undergoes rigorous testing to ensure that it functions as expected and provides a positive user experience. This stage involves several types of testing, including usability testing, performance testing, and bug fixing. Usability testing is particularly important in the UI/UX process, as it evaluates how easy and intuitive the interface is for users to navigate. During this stage, real users interact with the product to identify any friction points, errors, or areas of confusion that might detract from the user experience.

Feedback from testing helps identify weaknesses in the design, such as unclear navigation, inconsistent interactions, or elements that users may find difficult to use. This feedback is invaluable in refining the product and ensuring it meets user expectations. The testing phase

ensures that the product is both functional and user-friendly before release, and provides an opportunity to make last-minute adjustments to improve the overall experience.

5. Deployment

After testing is complete, the product enters the Deployment phase, where it is released to the public. At this stage, the product is ready for users to access and interact with. However, even after deployment, the UI/UX team's job is not over. The Feedback Loop from real users is critical at this stage, as it allows the design team to gather insights into how the product is being received by the target audience.

User feedback helps identify any lingering issues that were not addressed during testing, such as usability problems that only emerge once users begin using the product in their own environments. This feedback informs future updates or refinements to the product. By maintaining an open feedback loop after deployment, designers can ensure that the product continues to evolve in line with user needs and expectations.

6. Maintenance

The final phase of the UI/UX development process is Continuous Improvement. Even after the product is launched, UI/UX development continues to play a crucial role. Over time, user behaviors may shift, new technology may emerge, or business goals may evolve, all of which may necessitate changes to the user interface and experience. Regular updates, bug fixes, and performance enhancements are essential to keeping the product relevant and effective.

UI/UX teams must stay engaged after deployment, monitoring user interactions and gathering ongoing feedback to refine the product. Whether through subtle design tweaks or significant feature updates, the goal is to ensure that the product remains user-friendly, efficient, and aligned with the needs of the target audience. This continuous improvement process is vital for ensuring long-term user satisfaction and product success.

The impact of UI/UX methodology in the Software Development Lifecycle cannot be overstated. From the initial requirement analysis to continuous post-launch improvements, each stage of the SDLC benefits from a user-centered approach that prioritizes usability, functionality, and user satisfaction. The iterative nature of UI/UX design ensures that user feedback is continuously integrated into the product, resulting in a more intuitive and engaging user experience. As technology evolves and user expectations shift, the role of UI/UX in ensuring that products remain relevant and effective becomes even more critical. Through a structured approach that involves envisioning, prototyping, testing, and refinement, UI/UX

methodology ensures that digital products not only meet but exceed user expectations, driving both short-term success and long-term user loyalty.

Assessment of advantages and disadvantages of different UX/UI methodologies for various testing outcomes.

User-Centric Design (UCD)

✓ Advantages

User-Centered Design (UCD) plays a crucial role in delivering a positive and meaningful user experience. One of its key advantages is its focus on user needs, which leads to the development of products that are both highly usable and relevant. By engaging users early and throughout the design process through user research, surveys, and usability testing designers can identify potential issues before full implementation, saving time and reducing costly revisions. This early interaction ensures that the final product aligns closely with the user's expectations and goals. UCD also promotes continuous improvement through its iterative cycle, refining designs based on real feedback. This results in intuitive, accessible, and user-friendly products that enhance satisfaction and increase adoption rates.

✓ Disadvantages

However, UCD does come with some disadvantages. It can be resource-intensive, requiring more time, budget, and human involvement to properly include users at each stage. Conducting research, managing feedback sessions, and refining designs based on inputs can delay timelines and increase project costs. Moreover, gaining stakeholder support can be challenging, especially when iterations are frequent and decision-making becomes more complex. Conflicts may arise if user expectations do not align with business goals, technical constraints, or financial limitations. In such cases, balancing user desires with organizational objectives requires careful negotiation and prioritization. Despite these challenges, when implemented effectively, UCD delivers long-term value by ensuring that products meet real-world user needs and deliver a high-quality experience.

Agile User Experience (UX)

✓ Advantages

Agile UX is the integration of user experience (UX) design practices into the Agile development process, creating a dynamic and user-focused approach to product development. By blending the iterative, incremental nature of Agile with the user-centered mindset of UX

design, Agile UX ensures that evolving user needs and feedback are consistently addressed throughout the development lifecycle.

In Agile UX, UX designers work closely with cross-functional Agile teams, participating in every sprint to ensure usability and design goals are embedded from the start. This collaboration allows for real-time input and fast adaptation to changes, making it easier to respond to stakeholder feedback and shifting market demands. UX tasks such as user research, wireframing, prototyping, and usability testing are continuously carried out in parallel with development tasks, rather than being separate or preliminary phases.

One key advantage of Agile UX is its ability to support frequent product iterations and rapid releases. This ensures that products reach the market faster and stay relevant by incorporating user insights in each cycle. Stakeholder involvement from early stages also enables quicker decision-making and reduces the risk of developing features that don't align with user expectations, resulting in a more refined and successful product.

✓ Disadvantages

The balancing between the speed of development with quality and cross-functional team coordination can prove to be a complicated art form within Agile framework. Agile development, indeed very rapid can choose to trade with the user experience in the name of quickness instead of a thorough design and test. This can contribute to a large number of the changes required, which could be seen as resistance or inefficiency.

Lean UX

✓ Advantages

Lean UX is a user experience design methodology grounded in Agile principles, focusing on rapid experimentation, iterative design, and minimizing waste. It emphasizes team collaboration and the creation of only what is necessary to solve the users' problems effectively. One of its primary advantages is efficiency by concentrating solely on essential features backed by real user feedback, development time and costs are significantly reduced. Teams are able to iterate quickly, test ideas early, and refine the product based on actual user needs rather than assumptions. This flexibility ensures that the final product remains aligned with user expectations, improving overall satisfaction and usability. Additionally, Lean UX promotes a culture of cross-functional teamwork, where designers, developers, and stakeholders work closely throughout the development cycle. This frequent interaction

enhances decision-making, speeds up validation, and eliminates irrelevant or redundant elements early in the process.

✓ Disadvantages

However, adopting Lean UX does present certain challenges. For teams accustomed to traditional, linear design workflows, the shift to Agile and Lean principles can be difficult and resource-intensive. Training may be required, and there can be initial resistance to change. Moreover, the focus on eliminating non-essential features might sometimes result in the exclusion of functions that, while not critical, enhance the user experience. This can lead to a product that feels bare or incomplete. The iterative nature of Lean UX also means that the product is never truly “finished,” requiring constant updates and reevaluation as user needs and business goals evolve. This can strain resources and prolong the development process over time, especially if priorities frequently shift. Despite these drawbacks, Lean UX remains a powerful approach when used with disciplined Agile practices and a user-centric mindset. It is best suited for dynamic environments where speed, flexibility, and user feedback are vital to success.

Design Thinking

✓ Advantages

Design Thinking is a human-centered approach to problem solving that emphasizes empathy, creativity, and iteration. It begins with a deep understanding of the user's needs and experiences, enabling designers to define the core issues behind complex or poorly structured problems. One of its most distinctive characteristics is its focus on innovation through the lens of the user's experience, making it highly effective for developing meaningful and practical solutions.

This methodology thrives on collaboration, often bringing together individuals from different disciplines to generate diverse perspectives. By encouraging cross-functional teamwork, Design Thinking leads to more holistic and user-approved solutions. The process typically follows a non-linear path consisting of five stages: empathize, define, ideate, prototype, and test. This allows for flexibility and the opportunity to revisit earlier stages based on user feedback, ensuring the solution is continuously refined.

Regular user involvement is key to Design Thinking's success. By engaging users throughout the process, designers can uncover latent needs, test assumptions, and rapidly iterate based on real-world insights. This iterative and inclusive nature not only reduces the risk of failure but

also promotes continuous improvement. As a result, Design Thinking has become an essential strategy for tackling today's complex design and business challenges.

✓ Disadvantages

While Design Thinking offers many benefits, it also comes with certain challenges that organizations must consider. The process often requires significant time and effort, particularly in the early stages where divergent thinking and exploration are emphasized. This extended phase of brainstorming and ideation can lead to delayed decision-making, uncertainty, and even frustration among team members due to the lack of immediate solutions. Additionally, adopting Design Thinking may demand a shift in organizational culture, promoting empathy, experimentation, and collaboration an adjustment that can be difficult in traditional or rigid environments. Moreover, the effectiveness of Design Thinking heavily depends on having a skilled facilitator and a supportive work environment that encourages creativity and open dialogue. Without these conditions, the process may lose momentum or fail to deliver its intended outcomes.

What is End-User Testing and Why It Is Important?

End-user testing, also known as usability testing, is a crucial step in the UI/UX design process. It involves observing actual users as they interact with a product or prototype to evaluate its functionality, usability, and overall user experience. The goal is to identify any challenges users face, uncover pain points, and gather honest feedback that can be used to refine and improve the product before final launch.

Importance of End-User Testing

End-user testing ensures that the product works as intended for its target audience. It highlights areas where users may get confused, stuck, or frustrated, helping designers and developers create more intuitive interfaces. This leads to improved usability, which is key to user satisfaction. By conducting end-user testing early and regularly during the development process, teams can detect and resolve issues before they become costly to fix. This reduces the risk of post-launch failures and negative user feedback. Moreover, testing with real users enhances engagement by aligning the product's design and functionality with actual user needs and expectations. A product that is easy to navigate and enjoyable to use results in higher retention rates and user loyalty.

Additionally, end-user testing promotes a user-centered design approach, where decisions are guided by real user behavior rather than assumptions. This leads to more successful products that not only meet business goals but also deliver meaningful experiences to users, end-user testing is essential for building effective, user-friendly, and successful digital solutions.

Types of End-User Testing

Unmoderated Testing Users complete tasks independently without a facilitator's guidance. Allows for testing with many users in a short period, cost-effective. Lacks direct observation, leading to potential misunderstandings or errors.

Moderated Testing A facilitator guides users through tasks and observes their interactions. Provides deeper insights and the ability to ask follow-up questions. Time-consuming and more expensive.

Keystroke modelling Analyses the speed and efficiency of user interactions by tracking key presses and other inputs. Reveals bottlenecks and areas of user frustration. Requires specialized software and expertise.

Card Sorting Users categorize content to help design more intuitive navigation. Provides insights into users' mental models and expectations. Limited to organizing information, not comprehensive testing.

A/B Testing Compares two versions of a design to determine which performs better. Clear, data-driven results for specific design decisions. Can be time-consuming and only useful for isolated design choices.

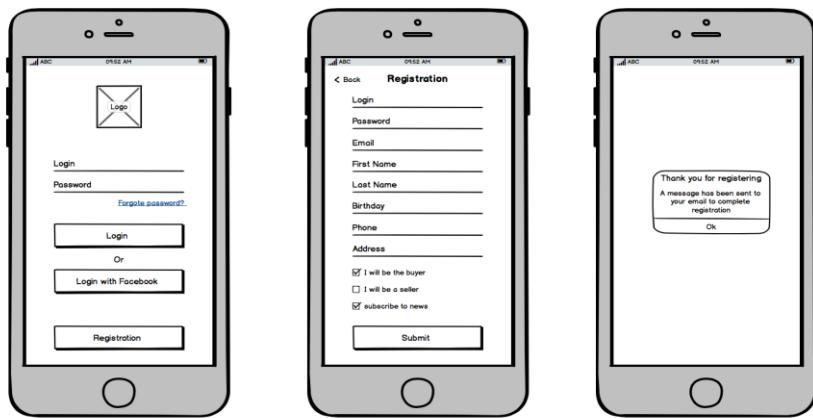
Eye Tracking Tracks where and how long a user looks at different areas on the screen. Provides visual insights into user focus and attention. Expensive and complex to set up.

Think-Aloud Testing Users verbalize their thoughts while completing tasks, providing insights into their decision-making process. Provides deep qualitative insights. Users may alter their behaviour while thinking aloud.

Justification of UX/UI Forms

Identification and evaluation of specific forms of UX/UI.

Wireframes



Wireframes are initial stages in the UX/UI design and development process and act as a map of the user interface (miro, 2025). Skeletal structural templates are mainly used to define the general structure of the application, to identify the navigation scheme and to define the content layers. However, wireframes are a valuable tool to use in the early stages of the design process since they allow the creation of low-fidelity prototypes. These tools make it possible to come up with multiple iterations of the design in a short period, as well as presenting designs that are easier for the stakeholders to understand and evaluate. Wireframes also conform well to project timelines and resource limitations because it is possible to create them in a short time by using simple tools or even simple pencils and paper. Although they may be somewhat vague or general, they do not always elucidate all of the necessary information and may therefore require further explanation as the design process progresses.

Mockups



A mockup is a visualization or design of an app, web page, or product that illustrates what the final outcome might look like (Sta, 2025). Mockups are a higher level of UX/UI design that is focused on the graphics and it includes colors, typography and images. It affords stakeholders with a smooth and detailed imitation of the ultimate design, thereby assisting them to visualize it. Mockups are more effective in fine-tuning the ideas in the design, selling the ideas to the stakeholders, and enhancing the design uniformity. They are more detailed in terms of representing the user interface compared to wireframes, however, as the name suggests, mockups are time and resource-consuming to work with and can be less easily altered once the final design is in place. However, since their strength lies in the fact that they can convey the visuals of the design most articulately, they are very useful in the whole process of design.

Prototypes

Prototypes reflect the user interface mockups by enabling the user to use the design as would use the actual product (Kirvan, 2025). They act as a close representation of the end-user view of the application allowing for easier usability testing and verification of the design choices. Prototypes are used in determining the usability problems, measuring the users' satisfaction and the subsequent cycles in testing the prototypes and improving them. Though the creation of actual high-fidelity may take more time and money than wireframes or mockups, they are incredibly valuable for UX/UI designing since they can show how users interact with a website or application. By basically allowing the designers to experiment with different design theories, assumptions, and characteristics, prototypes give one a true picture that is more humane and perfect.

Prototypes are critical tools in the UX/UI design process, providing a tangible and interactive version of a product before it's fully developed. Unlike static wireframes or mockups, prototypes allow designers and users to explore the functionality and flow of the interface. This interaction helps identify usability issues, enhance user engagement, and gather valuable feedback. Prototypes are especially important for simulating real-world interactions, such as navigation, response time, and layout effectiveness. Although creating high-fidelity prototypes can be resource-intensive, their ability to visualize the end-user experience ensures that the design choices made are both practical and effective, leading to a more refined final product. By iterating on prototypes, designers can optimize the user journey, ensuring that the final application is intuitive and user-friendly.

Usability Testing

Usability testing entails identifying users' impressions of the product as they use it and noting down their perception. It is used as a form of verification process in the process of UX/UI design since it offers direct feedback on the behaviors, preferred choices, and key issues affecting users. Usability testing should be carried out at each phase of the design process, from wireframes to prototypes, because it aids in the identification of how well the product will meet the users' requirement. Although the usability testing can turn out to be expensive and time consuming and might need proper planning and coordination, the information that is collected during the testing sessions is very useful in identifying the problems which can be faced by the users in case of poor usability and will help in taking the right decisions regarding the usability of the product. Usability testing enables designers to successively improve the way the product is used, thus creating an improved experience for the user in terms of time and sheer pleasure (Interaction Design Foundation, 2016).

Justification of selected UX/UI forms for the ETCP platform based on testing requirements and suitability for end-users.

For the Eco-Tourism Cloud Platform (ETCP) to meet its objectives of delivering an intuitive and responsive interface to eco-conscious travelers, it's crucial to implement effective UX/UI testing methods. After thorough analysis, three key forms wireframes, prototypes, and usability testing are identified as the most appropriate for ensuring the platform meets both user needs and expectations.

Wireframes act as the foundational layout for the ETCP platform, offering a clear view of the structure and flow. They help in outlining the interface's organization, allowing the team to address any usability issues early in the design process. Prototypes are interactive models of the platform that simulate how the users will engage with the product. They offer valuable insights into the functionality and user interactions, ensuring the platform's features are both effective and user-friendly. Finally, usability testing is essential for evaluating the platform's performance from an end-user perspective. It helps identify potential roadblocks in navigation or design, enabling the team to fine-tune the interface based on real user feedback. Together, these forms create a comprehensive approach to UX/UI testing, ensuring that the ETCP platform provides a seamless, efficient, and engaging experience for its target audience.

Wireframes

Justification

Wireframes serve as an essential tool during the early stages of the design process for the Eco-Tourism Cloud Platform (ETCP). At this point, the primary focus is not on aesthetics but on establishing a solid framework that outlines the platform's structure. Wireframes represent a low-fidelity version of the interface, focusing on the placement of key elements, such as navigation menus, eco-tour discovery features, and sustainability ratings. By using wireframes, the design team can test various layout options to determine how these essential features will be arranged. This method ensures that the functionality is prioritized over design details and that the platform's interface is streamlined for user ease.

Wireframes also act as an initial blueprint, helping designers avoid unnecessary complexity by visualizing the structure early on. They provide the design team with a clear understanding of how users will move through the platform and interact with its features. By eliminating distractions like colors and images, wireframes allow the team to focus solely on layout and flow. This is critical in the early stages when it's essential to understand how users will use the platform and if the structure supports their goals.

Suitability for End-Users

For eco-conscious travelers, wireframes help the design team evaluate how intuitive the platform will be. Since the wireframe focuses on structure, it allows designers to review whether the eco-tour discovery feature, sustainable itinerary planning, and sustainability filters are easy to access and well-organized. During this stage, wireframes are shared with stakeholders and potential users to gather initial feedback, which is crucial for refining the design.

The wireframes are tested with a sample of the target audience to assess if the user journey and flow align with their needs. For example, eco-conscious travelers will evaluate if the wireframe effectively highlights key elements like eco-tour options, sustainability ratings, and booking tools without any confusion or clutter. Feedback at this stage helps fine-tune the platform's layout before further development begins. If users find the wireframe intuitive, it confirms that the core features are well-positioned and ready for further iteration.

Prototypes

Justification

Prototypes are vital in transforming the conceptual wireframes into interactive, usable models. For the ETCP platform, prototypes will simulate real interactions with key features, including eco-tour booking, sustainable travel options, and personalized itinerary planning. These models allow designers to create dynamic, clickable versions of the platform to test how it functions in practice. Prototypes help bridge the gap between low-fidelity wireframes and the final high-fidelity design by allowing both stakeholders and users to experience the platform's interactive elements.

The primary advantage of using prototypes is that they allow the design team to validate critical user flows and interactions before committing significant resources to full development. This is especially important for the ETCP platform, where features such as eco-tour discovery and sustainability ratings require a smooth, engaging interface. Prototypes allow the team to identify potential usability problems and make necessary adjustments to features like filtering eco-friendly options or adjusting personalized itineraries.

Additionally, prototypes can be refined and tested repeatedly, providing a safe space for experimentation with different features and design elements. By creating a functional version of the platform that users can interact with, designers can see firsthand how well the platform meets the needs of eco-conscious travelers.

Suitability for End-Users

Prototypes offer a valuable opportunity for eco-conscious travelers to engage directly with the platform in a controlled environment. By simulating the actual experience of booking eco-tours, exploring sustainable travel options, or planning eco-friendly itineraries, users can provide actionable feedback on usability. This hands-on testing allows designers to evaluate how users interact with the platform's features, including how well they understand the eco-tour discovery process, how intuitive the filtering options are, and how easily they can personalize their itineraries.

Through user testing sessions, the design team can observe how users navigate the platform, note any difficulties or confusion, and gather insights on what can be improved. For example, testers may have trouble navigating through different eco-friendly options or may find it challenging to understand how sustainability ratings affect their choices. Prototypes give the team the ability to iterate on these elements quickly, ensuring that the final version of the ETCP platform delivers an intuitive and seamless user experience.

Usability Testing

Justification

Usability testing is one of the most effective ways to gather feedback directly from users about how well the ETCP platform meets their expectations. After creating prototypes, usability testing allows the design team to observe real users interacting with the platform in a controlled, observational setting. This testing phase helps the team understand whether the platform's usability aligns with user needs and whether users can effectively navigate the platform to achieve their goals. Usability testing can uncover hidden issues, such as confusing navigation or poorly designed features that hinder the user experience.

In the case of the ETCP platform, usability testing is essential for evaluating the success of key features like eco-tour discovery, itinerary customization, and the integration of sustainability ratings. This process helps verify that these features are working as intended and that users can engage with them in a natural and straightforward way. By observing users in real-time, designers can identify any obstacles preventing them from completing tasks efficiently and can refine the platform accordingly.

Suitability for End-User

Usability testing provides eco-conscious travelers with an opportunity to give direct feedback on the platform's usability. The testing process involves users completing tasks that are central to the platform's goals, such as booking an eco-tour or filtering travel options based on sustainability criteria. By analyzing users' actions and reactions, the design team can determine whether the platform is intuitive and easy to use.

During usability testing, users are asked to perform specific tasks while the design team observes their behavior. This feedback helps pinpoint areas where users may face confusion or friction, such as issues with navigation or difficulty understanding sustainability features. If users find certain tasks cumbersome or unclear, the design team can refine those features and make improvements based on actual user behavior. This iterative process of testing and refining ensures that the platform continuously evolves to meet the expectations of its target audience.

Additionally, usability testing encourages end-user involvement in the design process, fostering a sense of ownership and engagement. By giving users a platform to express their concerns and ideas, usability testing ensures that the final product is not only functional but also genuinely aligned with the preferences of eco-conscious travelers.

Wireframes, prototypes, and usability testing collectively provide a comprehensive approach to assessing the UX/UI design of the ETCP platform. Wireframes offer a foundational design that focuses on layout and structure, prototypes bring these designs to life for real-world interaction, and usability testing ensures that the platform meets the expectations of its end-users. This multi-faceted approach ensures that the ETCP platform is not only visually appealing but also easy to navigate and functionally robust, ultimately leading to a more intuitive, effective, and enjoyable experience for eco-conscious travelers. Through these testing methods, the design team can identify opportunities for improvement and refine the platform to better serve its user base.

Different Forms of UX (User Experience)

User Experience (UX) encompasses all aspects of a user's interaction with a product, platform, or system. As UX design continues to evolve, it increasingly takes into account various forms of interaction beyond just the digital interface. These forms, including physical, mental, emotional, social, and sensory UX, play crucial roles in shaping how users perceive and engage with technology. Let's explore these forms in the context of the Eco-Tourism Cloud Platform (ETCP), a platform focused on eco-conscious travelers.

Physical UX

Physical UX refers to the interaction between a user and the tangible components of a product or device. This form of UX is especially significant in products requiring repeated or long-term

interaction. For instance, consider a smartphone with an ergonomic design. If the device is lightweight, comfortable to hold, and the buttons are easily accessible, the user's interaction with the device feels intuitive and effortless.

Justification

The physical design of a product greatly affects the user's comfort and engagement. If a device or system requires frequent use, such as a smartphone or an interactive display on the ETCP platform, poorly designed physical interfaces can lead to user discomfort or even strain. For example, a mobile app version of the ETCP platform must ensure that users can comfortably navigate and interact with features for long periods without physical strain. This could include factors such as responsive touchscreens, accessible buttons, and intuitive controls. Poor physical design can hinder usability and deter long-term engagement with the platform.

Mental UX

Mental UX focuses on the cognitive load and mental effort required by the user to interact with a system. It is about how easy it is for a user to process and interpret the information presented on a platform. For instance, on the ETCP platform, the dashboard that tracks eco-tourism bookings should be designed to display information clearly and logically. If the information is categorized intuitively, such as grouping bookings, destinations, or sustainability ratings in easily understandable sections, it will reduce cognitive load for the user.

Justification

Mental UX is critical in ensuring that users do not feel overwhelmed by complex systems. For the ETCP platform, which is data-heavy and focused on eco-tourism bookings, simplifying and organizing information reduces mental effort. If the platform presents clear navigation and data presentation, users can quickly find relevant information without unnecessary mental strain. Clear labeling, logical groupings of content, and minimal distractions all contribute to improving mental UX. This is especially important for eco-conscious travelers who may need to process detailed information about eco-friendly travel options or sustainability features.

Emotional UX

Emotional UX is concerned with the feelings and emotions that arise when a user interacts with a product. This form of UX is especially vital in industries like travel, where the user experience

needs to evoke positive emotions such as excitement, curiosity, or relaxation. A travel website or platform, such as the ETCP, can evoke these emotions through visual design elements such as calming colors, engaging imagery, and the use of positive, welcoming language. For example, when eco-conscious travelers visit the ETCP platform, they should feel inspired by the sustainable travel options available, encouraging them to explore new eco-friendly destinations.

Justification

Emotional UX plays a key role in fostering user engagement and satisfaction. Positive emotional experiences increase the likelihood of users returning to the platform. For a travel platform like the ETCP, where users are looking for an enriching experience, emotional UX helps create a memorable experience that encourages users to engage more deeply with the platform. The use of imagery, sounds, and even language that resonates with users' emotions can help build an emotional connection, motivating them to book eco-friendly travel packages or share their experiences.

Social UX

Social UX refers to how users interact with each other through a platform. It involves the ability to share experiences, leave comments, and participate in a community. For the ETCP platform, integrating social media sharing buttons and comment sections on eco-tourism experiences or destinations can enhance the platform's social engagement. Users could share their travel experiences on social media, or leave reviews and recommendations for others to see.

Justification

Social UX is particularly essential for platforms that encourage user-generated content, reviews, and social interaction. By fostering a sense of community, platforms like ETCP can encourage users to engage more deeply with the content. The ability to share experiences on social media or interact with other travelers builds a sense of belonging and trust, which increases the likelihood of returning users and positive brand recognition. Additionally, when users feel they are part of a community, it encourages them to share more feedback and insights, creating a cycle of engagement that enhances the platform's overall value.

Sensory UX

Sensory UX refers to the sensory experiences such as visual, auditory, and tactile that a user has when interacting with a system. Sensory feedback, including sound effects, visual cues, or even tactile feedback from touchscreens, plays a significant role in making the user experience more immersive and intuitive. For instance, the ETCP platform could incorporate auditory cues when users scroll through eco-tour packages or interact with elements on the website. A subtle sound or vibration could confirm that the user has clicked a button or selected an option.

Justification

Sensory UX is crucial for creating an engaging and dynamic experience. On platforms like the ETCP, sensory feedback helps guide the user through interactions, making the experience feel more natural and intuitive. Visual cues, such as color changes or hover effects, can highlight active elements or help users understand their current position within the platform. Similarly, auditory cues can reinforce actions like clicking on a booking button or completing a transaction, creating a multisensory experience that enhances user satisfaction. This form of UX ensures that the platform doesn't just look good but also feels responsive and intuitive.

Each form of UX physical, mental, emotional, social, and sensory plays a critical role in shaping a user's overall experience with a platform. For the ETCP platform, a comprehensive approach to UX ensures that eco-conscious travelers have a seamless and engaging experience. Whether it's through the ergonomic design of physical interfaces, the reduction of cognitive load, the evocation of positive emotions, the encouragement of social interaction, or the integration of sensory feedback, all of these elements work together to create a user experience that resonates with the platform's target audience. By focusing on these aspects, the ETCP platform can not only meet but exceed the expectations of its users, fostering long-term engagement and satisfaction.

Activity 2

User Analysis

Review of different end-user categorizations and behavior modeling techniques

End-User Categorization

➤ Demographics

Demographic classification refers to categorizing users based on measurable attributes such as age, gender, income level, educational background, occupation type, and geographical location. This classification is essential for identifying target user groups and customizing the interface design to meet their preferences and usability needs. For instance, younger audiences often prefer dynamic interfaces with animations and frequently updated content, whereas older users tend to favor simplified layouts with larger text for better readability. Gender-based preferences can influence choices in color schemes, visual elements, and overall theme, while occupational data can guide whether the platform emphasizes professional tools or entertainment features. Moreover, incorporating geographic data helps ensure cultural relevance, supports the use of local languages, and enhances regional accessibility. Overall, demographic insights contribute significantly to creating a user-friendly and inclusive platform that effectively serves a diverse user base. (Chamberlain, 2019).

➤ Psychographics

Psychographic segmentation involves a more nuanced analysis of users by considering their lifestyles, personality traits, values, attitudes, and interests, going beyond basic demographic information. This approach allows the platform to tailor its features and messaging in alignment with the users' personal goals and mental models. For example, while some users may prioritize community engagement or access to educational resources such as production tutorials, others particularly those with limited time may prefer streamlined interfaces that offer quick content access and productivity-enhancing tools. Aligning the platform's core values, such as sustainability and collaboration, with the values of its user base fosters a stronger emotional connection and encourages user loyalty. By applying psychographic insights, the platform can enhance user satisfaction and build a more meaningful and lasting relationship with its audience. (Chamberlain, 2019).

➤ Behaviors

Behavioral categorization focuses on analyzing user interactions and behavioral patterns on the platform, such as frequency of use, feature engagement, and content consumption preferences. By identifying peak usage periods, developers can optimize server performance and ensure efficient content delivery during times of high user activity, thereby maintaining a seamless user experience. Monitoring the most frequently used features enables strategic prioritization in future development efforts, ensuring continuous improvement and innovation in areas of highest user demand. Additionally, insights into the frequency, type, and popularity of viewed content such as commonly accessed can significantly enhance the personalization of recommendations. This level of analysis improves content discoverability and increases user engagement by delivering more relevant and appealing user experiences. (Chamberlain, 2019)

Behavior Modeling Techniques for ETCP Platform

☒ Personas

Personas are fictional profiles representing different types of users who interact with the ETCP platform. These personas are shaped by analyzing real user data such as behaviors, preferences, and goals. For example, one persona could be an eco-conscious traveler looking for sustainable tourism options with minimal hassle. Another might be a nature documentary creator seeking a platform to showcase eco-tour experiences. These archetypes guide the design process by ensuring that different user needs are addressed effectively, promoting a user-centered approach throughout the platform's development.

☒ User Scenarios

User scenarios present everyday use cases based on actual user behavior and motivations. They focus on what users aim to accomplish and the context in which they engage with the platform. For instance, a scenario may involve a backpacker planning a low-impact tour using ETCP's search and filter features, or a student browsing eco-tour packages for a research project. These narratives provide valuable insights that shape the platform's features, ensuring that users can navigate the system smoothly to meet their individual goals.

☒ Journey Mapping

Journey maps offer a visual breakdown of user interactions over time, highlighting key moments, touchpoints, and emotional responses. An example journey could follow an eco-

tour operator from creating a listing to receiving a booking confirmation, or a tourist from searching for a tour to receiving feedback after completing the experience. These maps help uncover areas of friction and opportunities to enhance the interface, allowing the ETCP platform to deliver a more intuitive and satisfying experience.

☒ Empathy Mapping

Empathy maps capture what users say, think, feel, and do, offering a deep dive into their experiences and expectations. For instance, users might express frustration over unclear pricing or feel excited when they find a rare nature experience. These insights help the design team identify emotional highs and lows in the journey and build features that resonate with users on a human level, enhancing engagement and loyalty.

☒ Experience Mapping

Experience mapping provides a broader overview of the user's complete interaction with the ETCP platform, from entry to exit. It tracks user goals, emotional states, and any challenges faced at each stage. For example, it might show a tour guide's path from registration to managing client bookings. These maps are essential for spotting gaps or redundancies in the system, ensuring that all user interactions are optimized to be seamless, efficient, and meaningful.

Selection of a Specific End-User Category Relevant to the ETCP Platform

Key Users

The target audience for the ETCP (Eco-Tourism Cloud Platform) can be segmented into various groups, including eco-conscious travelers, eco-tourism operators, and environmental organizations. While all of these user categories are essential to the platform's ecosystem, particular attention will be given to the end-user category of eco-tourism travelers. These individuals are the primary consumers of eco-tourism services, driving demand for sustainable travel options and shaping the platform's success. By focusing on eco-tourists, the platform can cater to their specific needs and preferences, ensuring an engaging and user-centered experience.

Reason for Selection

Eco-tourism travelers are critical to the success of the ETCP platform because they represent the end-users who actively engage with the platform's offerings, such as eco-tours, sustainable travel packages, and nature-based experiences. Their engagement drives the platform's demand for services and content. These users are typically motivated by a desire to explore nature, learn about local cultures, and minimize their environmental impact. For this reason, providing them with a seamless, intuitive, and informative experience is key to both attracting and retaining them on the platform.

For eco-tourism travelers, a key priority is discovering eco-friendly travel options that allow them to experience nature without harming it. The platform must provide a comprehensive range of eco-tour options, from guided nature walks and wildlife safaris to stays in sustainable accommodations and participatory conservation projects. The ability to easily find and book these eco-friendly experiences is critical for these travelers, and the ETCP platform must ensure that the booking process is straightforward and transparent, showcasing the environmental credentials of each listing.

Furthermore, eco-tourism travelers value transparency, particularly regarding the sustainability of their travel choices. They are often keen to know how their travels impact local communities and ecosystems. Therefore, the ETCP platform must include features such as sustainability ratings for tours and accommodations, carbon footprint calculators, and detailed descriptions of the environmental and social benefits of each option. These features will not only help travelers make informed choices but also enhance their overall experience by aligning with their values.

Providing tools for eco-tourism travelers to personalize their experiences is also crucial. Many eco-tourists prefer customized itineraries that allow them to choose destinations, activities, and accommodations based on their specific interests, such as wildlife conservation, sustainable farming, or cultural heritage. The platform must offer easy-to-use features that allow users to create bespoke travel plans, combining eco-friendly tours, accommodations, and local experiences. By offering this flexibility, the platform ensures that eco-tourists can find unique experiences that resonate with their individual preferences.

The importance of user engagement cannot be overstated in the context of the ETCP platform. For eco-tourism travelers, the ability to share their experiences with others is a powerful motivator. This is particularly true in an era of social media, where travelers often seek to share their eco-conscious adventures with a wider audience. The platform should facilitate the sharing of travel experiences through features such as photo galleries, blogs, and social media integrations. This not only increases user engagement but also helps spread awareness about sustainable tourism options, encouraging more travelers to choose eco-friendly options for their trips.

In addition to these functional aspects, providing excellent customer support is vital for building trust with eco-tourism travelers. These users often have specific questions or concerns related to sustainability, accommodations, or travel logistics. Offering responsive customer service, including live chat and dedicated support for eco-tourism inquiries, can significantly enhance the user experience. Clear and accessible information about the platform's sustainability initiatives, including partnerships with eco-conscious organizations, will also help establish the platform as a trusted and credible resource for sustainable travel options.

The platform's growth strategy revolves around building a community of engaged eco-tourism travelers who are passionate about sustainable travel. By creating an environment that encourages interaction, feedback, and collaboration, the platform can foster a sense of belonging among its users. This community-driven approach will not only help to attract new eco-tourists but also inspire existing users to become advocates for the platform. As travelers share their positive experiences with friends, family, and on social media, the platform's visibility and reach will grow organically.

Persona Development

Personas are made-up characters that you develop based on your study to symbolize the many user types that may utilize your product, service, website, or brand in a comparable manner. You may better understand the requirements, experiences, habits, and objectives of your users by developing personas (Dam & Siang, 2025).

Eco-Conscious Traveller (Anya Fernando)

<ul style="list-style-type: none"> ➤ Name:- Anya Fernando ➤ Age:- 29 ➤ Location:- NuwaraEliya,Sri Lanka ➤ Occupation:- Environmental Consultant 	<p>Background and Lifestyle</p> <p>Anya is an environmentalist and travel content creator based in Sri Lanka's central highlands. She focuses on eco-tourism, sustainable living, and wildlife preservation in her blog and social media. With a background in environmental science, Anya prefers eco-friendly destinations that minimize environmental impact and support local cultures. She values personalized travel planning and seeks destinations, accommodation, and transport methods that align with her ethical tourism beliefs.</p>
<p>Key Traits</p> <p>Anya is a sustainability-focused traveller who carefully selects destinations and activities that contribute to conservation and support local cultures. She is highly digitally active, sharing her travel experiences through platforms like Instagram,</p>	

<p>YouTube, and her blog. Anya is also community-oriented, frequently engaging in online eco-travel forums and groups to connect with like-minded individuals. As an organized explorer, she utilizes tools like spreadsheets, travel apps, and journals to meticulously plan her itineraries and track her travel expenses. Given her busy schedule, traveling between blogging assignments, she values efficient and effective planning tools to maximize her time.</p>	<h3>Frustrations and Challenges</h3> <ul style="list-style-type: none"> ➤ Difficulty finding trustworthy eco-tourism operators in remote areas. ➤ Limited access to data on sustainability practices of providers. ➤ Frustration with non-intuitive booking platforms and scattered information. ➤ Difficulty syncing travel plans across multiple platforms and devices. ➤ Concern over greenwashing (misleading claims of sustainability).
<h3>Persona Goals and Needs</h3> <ul style="list-style-type: none"> ➤ Book eco-friendly accommodations and eco-tours ➤ Seek transparent sustainability ratings and certifications ➤ Look for personalized and customizable travel experiences ➤ Access to community feedback and shared eco-tourism experiences ➤ Discover and book verified eco-tourism experiences in lesser-known locations. ➤ Access personalized recommendations based on her travel history and sustainability preferences. ➤ Use digital tools to manage itineraries, bookings, and sustainability data efficiently. 	

Behavior Patterns

Anya carefully researches eco-friendly travel options, prioritizing destinations with sustainability initiatives, including eco-accommodations and responsible travel experiences. She engages with eco-tourism communities, reading reviews and staying updated on sustainable travel trends.

Quote

"I want to travel responsibly while exploring nature and learning about new cultures. The experience should feel authentic, and I should be able to see how my trip impacts the environment."

Eco-Tour Operator (Eco World Tours)

- **Name:** Eco World Tours
- **Business Type:** Eco-Tourism Operator
- **Location:** Costa Rica

Persona Goals and Needs

- Promote eco-friendly tours and accommodations
- Improve tour bookings through an easy-to-use platform
- Monitor user preferences and enhance offerings based on feedback
- Showcase the sustainability of each tour to eco-conscious travelers

Behavior Patterns The ETCP offers eco-friendly tours, regularly updates its content, and engages with travellers to encourage positive reviews and repeat bookings.

Quote

“We want to show travelers the wonders of Costa Rica without harming the environment. The platform needs to represent our values and the eco-friendly experiences we offer.”

Adventure Eco-Travel Enthusiast (James Thompson)

<ul style="list-style-type: none">➤ Name: James Thompson➤ Age: 26➤ Location: Vancouver, Canada➤ Occupation: Graphic Designer	Persona Goals and Needs <ul style="list-style-type: none">➤ Discover thrilling eco-tours, such as wildlife safaris or hiking trips➤ Gain insight into environmental impact and sustainability ratings➤ Share experiences with others through social media integrations➤ Personalize his itinerary to include unique eco-friendly activities
---	---

Behavior Patterns

James regularly seeks out adrenaline-filled eco-adventures such as mountain hiking, kayaking, and wildlife expeditions. He uses eco-tour platforms to compare thrilling yet sustainable experiences, placing a strong emphasis on environmental certifications and user reviews. He prefers platforms with visually rich interfaces and seamless booking features. As a graphic designer and digital native, James values good UI design and often shares his travel stories through Instagram and YouTube, using high-quality visuals and tagging eco-tourism initiatives. His decisions are influenced by a desire to balance adventure with responsible tourism, and he appreciates tools that help personalize itineraries and track his ecological footprint.

Quote

“I love exploring nature, but it’s important that I know I’m supporting sustainable practices. I want to make a difference with my travels, while also capturing beautiful moments.”

Empathy Map Understanding the User Experience

What She Feels

- ✓ Excited
- ✓ Inspired
- ✓ Stressed
- ✓ Skeptical

What She Sees

- ✓ A growing number of eco-tourism platforms but many lacking in user experience.
- ✓ Limited personalization in existing tools.
- ✓ Travelers sharing scattered content.
- ✓ A potential market gap for a centralized eco-tourism ecosystem.

What She Hears

- ✓ Positive feedback
- ✓ Mixed reviews
- ✓ Recommendations from online forums and Instagram influencers.
- ✓ Concerns from other travelers

What She Does

- ✓ Actively researches destinations and experiences.
- ✓ Posts detailed content about her trips to educate others.
- ✓ Engages in environmental
- ✓ Sends feedback to platform

Experience Map

Journey through the ETCP

Anya Fernando (Eco-Conscious Traveller)

1. Discovery Phase

- ✓ Anya discovers the ETCP platform while reading a sustainability-focused newsletter and browsing eco-travel forums. She follows a link and lands on the homepage, where she notices the platform's commitment to nature conservation, which aligns with her values.
- ✓ Curious and hopeful, as she sees a platform that matches her eco-conscious values.

2. Onboarding & registering

- ✓ She registers for the platform, completing a quiz to personalize her experience. The onboarding tutorial introduces key features like the Eco-Discovery Hub and ETCP Voyager.
- ✓ Motivated and encouraged by a smooth start and personalized experience.

3. Exploration & Booking

- ✓ Anya uses the Eco-Discovery Hub to filter eco-friendly experiences based on sustainability ratings, destination, and activity type. She starts building her itinerary, adding options to her wishlist and subscribing to an “Eco-Pass” for a curated bundle of experiences.
- ✓ Confident and engaged as she navigates the platform with ease.

4. Customization & Management

- ✓ Anya personalizes her dashboard with a rainforest theme and enables accessibility features for low-light viewing. She tracks her bookings, receives updates about local events, and manages cancellations or changes to her plans.
- ✓ Empowered and in control of her travel planning.

5. Engagement with Community

- ✓ Anya engages with other eco-conscious travelers in a forum. She connects with a Sri Lankan conservation guide and collaborates on a trip, sharing the experience on her blog and linking to ETCP.
- ✓ Connected and inspired by the community interactions.

6. Reflection & Feedback

- ✓ After her trip, Anya reviews the experiences she booked, highlighting environmental practices, accessibility, and service. She shares her photos and videos, contributing to the platform's content.
- ✓ Satisfied, valued, and loyal, feeling like her input matters.

7. Long-Term Loyalty & Advocacy

- ✓ Anya, now a loyal user, refers the platform to her readers and audience, sharing her positive experiences and continuing to use ETCP for future travels.
- ✓ Committed and enthusiastic, acting as a brand ambassador for ETCP.

James Thompson (Adventure Eco-Travel Enthusiast)

1. Discovery

- ✓ James sees an Instagram post about an eco-tourism safari in Africa focused on wildlife photography and sustainable practices. He clicks the link and lands on the ETCP platform's homepage, instantly intrigued by the eco-tour options and sustainability ratings.
- ✓ Excited and intrigued by the unique eco-tour experiences available.

2. Exploration

- ✓ James explores different eco-tour packages tailored to his interests in wildlife photography. He uses filters to narrow down options based on location, sustainability, and tour length, bookmarking his favorites to share with fellow photographers for feedback.
- ✓ Interested and engaged, comparing options to find the best fit for his needs.

3. Evaluation

- ✓ James compares the eco-safari options, checking sustainability credentials and reading reviews from previous travelers. He shares his selected options with others for feedback.
- ✓ Thorough and thoughtful, seeking the best eco-conscious choice.

4. Booking

- ✓ After finalizing his choice, James books the eco-tour, selecting eco-friendly lodging and completing the secure payment process. He receives an immediate confirmation email with all trip details.
- ✓ Confident and satisfied with the booking process.

5. Experience

- ✓ James enjoys his eco-safari, photographing wildlife while minimizing his environmental impact. He shares updates and photos during the tour through the ETCP platform and uses the itinerary tracker to stay informed about any changes.
- ✓ Thrilled and connected to both nature and the platform.

6. Post-Experience Engagement

- ✓ After returning, James submits a post-trip review detailing the sustainability of the tour and how it enhanced his photography experience. He joins a community forum for eco-tour enthusiasts and shares his feedback on social media.
- ✓ Proud and engaged, eager to contribute to the platform's community.

Methodology Selection

Appraisal of Appropriate UX/UI Methodologies for Testing with the Identified End-User Persona

The Eco-Tourism Cloud Platform (ETCP) serves as a digital hub for environmentally-conscious travelers and tour operators, offering curated eco-tourism experiences. As the platform evolves, ensuring a user experience that reflects the core values and preferences of its end users becomes crucial. The identified personas Anya Fernando (an eco-conscious digital nomad), James Thompson (an adventure-focused wildlife traveler), and Eco World Tours (a sustainable tour operator) have diverse but overlapping needs. To create an interface that caters to these users effectively, the platform must integrate targeted UX/UI methodologies that are user-centered, flexible, and continuously adaptable. This appraisal evaluates four methodologies Agile UX, Lean UX, Design Thinking, and User-Centered Design (UCD) within the context of ETCP and its personas.

Agile UX

Agile UX integrates user experience design within Agile development cycles, enabling rapid iterations and continuous improvement. For ETCP, this methodology is especially effective due to the dynamic nature of eco-tourism and the evolving preferences of its users. Anya Fernando, who is always researching new eco-travel destinations and publishing content, benefits from a platform that adapts quickly to her feedback. Features such as the Eco-Discovery Hub or ETCP Voyager need to remain flexible and updated, and Agile UX supports these rapid changes through sprint cycles.

Agile UX also aligns well with James Thompson's preference for planning unique, conservation-based adventures. He might discover issues or request enhancements in real time during his journey, such as improved filters for photography-friendly tours or enhanced itinerary syncing. Agile UX allows the development team to respond promptly without long development delays. Similarly, Eco World Tours, as a business entity, may wish to roll out new tours or update listings frequently. Agile UX enables such operational changes without disrupting user experience, ensuring that both ends of the eco-tourism chain are synchronized.

The strength of Agile UX lies in its feedback loops. Regular testing and validation ensure that updates are grounded in user behavior, reducing the risk of deploying unnecessary or underused features. It promotes higher engagement and satisfaction as users see their input reflected in tangible improvements. Thus, Agile UX ensures the platform remains responsive, relevant, and user-centered in a fast-paced digital landscape.

Lean UX

Lean UX focuses on minimizing waste and emphasizing functionality over aesthetics during the early design stages. This method thrives on rapid prototyping and learning through real-time feedback, making it particularly effective for a scalable platform like ETCP. Anya, who values simplicity and practical tools over visual complexity, appreciates features that are immediately useful such as sustainability filters, eco-pass subscriptions, and route planners.

For example, instead of fully developing a complex itinerary planner, the platform can first create a basic prototype and test it with users like James or Eco World Tours. If the tool proves effective, further features can be added; if not, adjustments can be made without extensive loss of resources. Lean UX emphasizes building only what is necessary to solve real user problems, making it an efficient strategy for startups and evolving platforms like ETCP.

This methodology is also ideal for testing the eco-pass feature allowing access to bundled experiences or community-driven discounts. Users can validate the relevance and value of such tools early, helping the team refine the design and usability before scaling. In the case of Eco World Tours, Lean UX enables rapid testing of provider-side tools, such as dashboards for listing tours or tracking bookings, allowing small improvements to be validated before major investments.

Lean UX's outcome-driven mindset complements the environmentally responsible ethos of ETCP by avoiding overdevelopment and resource waste. This ensures that the platform remains lean, user-focused, and sustainable in both digital and operational terms.

Design Thinking

Design Thinking is a creative, user-centered approach that encourages empathy, ideation, and prototyping. It is especially valuable for addressing complex or emotional user needs. In

ETCP's context, Design Thinking plays a crucial role in aligning digital tools with deeper user values and concerns.

For Anya, who often feels overwhelmed by misleading sustainability claims or clunky interfaces, Design Thinking allows designers to explore these pain points deeply. Through empathy mapping and user interviews, the platform team can understand how and why certain frustrations arise. For example, Anya might mistrust platforms that lack transparent sustainability metrics. Insights like these can inspire the development of verified eco-ratings or trust badges, improving transparency and user trust.

Similarly, James might express a desire for real-time wildlife alerts or community-curated photo spots. Design Thinking facilitates creative brainstorming to prototype these ideas without committing to full development upfront. It also allows teams to consider how to merge conservation goals with adventure travel, ensuring both environmental and personal goals are met.

For Eco World Tours, this methodology supports the co-creation of features that improve their visibility, reputation, and efficiency. They may suggest features that enhance their interaction with travelers or highlight their eco-certifications. Design Thinking encourages inclusive design, involving all stakeholders individual travelers and tour providers alike to create innovative, emotionally resonant solutions.

User-Centered Design (UCD)

User-Centered Design places users at the core of the design and development process. It involves continuous user feedback from concept to deployment, ensuring the platform remains relevant and intuitive over time. UCD is ideal for ETCP, which must cater to a broad audience of eco-conscious travelers, adventure seekers, and sustainable service providers.

Anya benefits greatly from UCD because it ensures tools like the Eco-Journey dashboard, accessibility settings, or community review functions are tailored to her real needs. For instance, if she frequently uses dark mode during nighttime field trips, the design team can ensure the interface supports low-light conditions. UCD ensures that even minor details are optimized for user preferences.

James also gains from UCD's personalized approach. His journey from tour discovery to real-time itinerary tracking is mapped out and tested with real users to identify friction points. Whether he needs offline access, trip updates, or community forums for sharing experiences, these can be designed iteratively with user feedback.

Eco World Tours finds value in UCD through features that ease their administrative burden or enhance customer engagement. For example, a dashboard that allows quick updates to tour descriptions or manages customer feedback efficiently can be designed with continuous provider input. This ensures their operational needs are met without compromising the traveler experience.

UCD also helps maintain accessibility standards, ensuring that users with different abilities or languages can navigate the platform with ease. By testing with diverse user groups, the platform becomes more inclusive and globally relevant.

The successful development of the Eco-Tourism Cloud Platform hinges on integrating UX/UI methodologies that are adaptive, inclusive, and user-informed. Agile UX ensures that platform improvements are rapid and grounded in real feedback, making it ideal for dynamic features like itinerary tools and tour listings. Lean UX streamlines the development process, focusing on the value delivered to users like Anya and James while avoiding unnecessary complexity. Design Thinking brings creative, empathy-driven solutions that resonate with the emotional and ethical values of eco-conscious travelers. User-Centered Design guarantees continuous involvement of users, leading to more accessible, intuitive, and satisfying user experiences.

Together, these methodologies form a robust strategy that aligns with ETCP's mission to support sustainable travel while offering a personalized digital journey. As users like Anya, James, and Eco World Tours continue to explore the world through ETCP, these UX approaches ensure the platform evolves with their expectations empowering them to travel responsibly, share their stories, and engage meaningfully with the global eco-tourism community.

Application of End-User Classification and Behavior Modeling to Select Suitable UX/UI Design Methodologies

Understanding user needs and behavioral patterns plays a critical role in choosing effective UX/UI design methodologies, especially for platforms like the Eco-Tourism Cloud Platform (ETCP). By applying end-user classification and behavior modeling, designers can tailor experiences that resonate with different user types, ensuring the interface is both functional and emotionally engaging. For ETCP, three distinct personas provide a comprehensive picture of the target audience: Anya Fernando, an eco-conscious traveler and content creator; James Thompson, an adventure-seeking wildlife photographer; and Eco World Tours, a professional eco-tour operator. Each persona represents unique behaviors, values, and digital expectations, which inform the selection of appropriate design strategies.

Anya, a 29-year-old sustainability-driven traveler from Sri Lanka's central highlands, is a digital native who documents her eco-journeys across social platforms and blogs. She prefers platforms that support low-impact travel planning, integrate ethical travel reviews, and provide customizable dashboards to manage her eco-adventures. Anya values visual storytelling and transparency, especially around sustainability ratings and service credentials. She frequently uses mobile devices, researching tours, comparing eco-stay options, and organizing itineraries using interactive tools. Her behavioral pattern reflects a goal-directed and ethically conscious user who values autonomy and reliability in digital tools.

James, on the other hand, is an adventure eco-travel enthusiast focused on photography and immersive nature experiences. He seeks authenticity and hands-on exploration, often comparing eco-tours by reading user reviews, checking carbon impact ratings, and filtering by wildlife viewing potential. While not as content-driven as Anya, James still values the ability to share his experiences with like-minded communities and is influenced by platform credibility, sustainability assurance, and ease of use across devices.

Eco World Tours, the tour operator persona, reflects the supply-side user group of ETCP. As a small business managing curated eco-tours, their behavior is focused on regularly updating listings, responding to customer feedback, and ensuring their tours align with sustainability standards. They require a backend that is intuitive for managing bookings, updating information, and engaging with clients before and after tours. They seek platforms that support visibility, credibility, and client retention through user reviews and direct interaction.

These varied behaviors and digital needs lead to the adoption of User-Centered Design (UCD) as the most suitable methodology for ETCP. UCD places each user type at the center of the design process, ensuring that platform features directly reflect the behaviors, values, and goals of real users. Its iterative and feedback-driven framework allows continuous enhancement based on evolving expectations and user experiences.

For Anya, UCD ensures the platform supports her eco-conscious values with features such as verifiable sustainability scores, intuitive route planners, and a personalized dashboard that highlights tours aligning with her ethics. Involving her in the design process allows the development team to directly respond to her needs such as the importance of avoiding green washing, navigating through filter-based search options, and using dark mode accessibility during field travel. UCD facilitates this level of empathy and responsiveness, allowing the interface to grow alongside her expectations.

Similarly, James Thompson benefits from UCD's inclusive approach. His decision-making is shaped by practical concerns like tour length, photography opportunities, and adventure ratings. UCD ensures the booking flows, itinerary management, and map-based features are optimized for clarity and quick comparisons. Through usability testing and direct feedback, James can influence how wildlife-focused content is organized, how eco-certifications are displayed, and how trip-sharing works within photography and nature communities. As someone who values informed and impactful travel, UCD guarantees that the interface remains accessible, credible, and tailored to immersive outdoor planning.

Eco World Tours, operating from the supplier side, also gain from UCD by participating in co-design sessions and interface trials. Their input helps shape how tour listings are updated, how sustainability badges are verified and shown, and how post-tour feedback is collected. UCD ensures that the operator dashboard is not overloaded with features but instead focuses on core tasks like managing bookings, engaging travelers through feedback, and refining their offerings based on user preferences. Their behavioral model shows a need for simplicity and time-efficiency, and UCD supports these through streamlined UI elements and automation options.

The flexibility of UCD ensures all three personas Anya, James, and Eco World Tours can navigate a consistent yet customizable environment. Features like eco-filtering, real-time itinerary updates, verified ratings, and discussion forums are developed with real user feedback, leading to higher trust and engagement. For example, UCD guides the decision to include a

community review system that helps Anya decide on tours, James recommend photo-ready locations, and Eco World Tours showcase client satisfaction.

Moreover, UCD addresses accessibility and mobile usability critical for a traveler like Anya who often plans and updates her itinerary on the go. With UCD, the platform adapts to real-world use cases such as limited internet access, visual fatigue from long screen time, and multitasking across apps. It also fosters long-term loyalty by empowering users to influence the platform's growth and trust its intentions.

applying end-user classification and behavioral modeling highlights the diverse yet intersecting needs of ETCP's personas. The User-Centered Design methodology is uniquely suited to address these differences while delivering a cohesive experience. By involving Anya, James, and Eco World Tours in ongoing design iterations, ETCP can evolve as a responsive, trusted, and empowering platform for sustainable tourism. UCD's capacity to transform real user behaviors into actionable design insights ensures ETCP doesn't just function it thrives as an ecosystem built for those who care deeply about responsible exploration, environmental impact, and community-driven travel.

Testing Plan

Development of a Comprehensive Plan to Use Appropriate UX/UI Design Methodologies and Tools for Conducting End-User Testing for the Eco-Tourism Cloud Platform (ETCP)

The Eco-Tourism Cloud Platform (ETCP) is built with the vision of offering personalized, eco-friendly travel planning for users committed to sustainable tourism. To ensure the platform aligns with the values and expectations of its users, a robust end-user testing strategy must be implemented. Our primary personas for this plan are: Anya Fernando, a 29-year-old eco-conscious traveler and influencer; James Thompson, an adventurous nature enthusiast who seeks meaningful eco-travel experiences; and Eco World Tours, a mid-sized agency that curates and offers eco-tourism packages. These personas provide diverse perspectives that are essential for a holistic understanding of user experience across individual travelers and business stakeholders.

Testing Objectives

The objective of the end-user testing for the Eco-Tourism Cloud Platform (ETCP) is to comprehensively evaluate its usability, functionality, and user experience from the perspectives of its three core user personas: Anya Fernando, James Thompson, and Eco World Tours. These personas represent a spectrum of eco-conscious stakeholders ranging from independent travelers and influencers to organizational users in the eco-tourism industry. Anya Fernando is a 29-year-old environmentalist and digital content creator based in Sri Lanka's central highlands, known for her preference for sustainable travel, in-depth research habits, and reliance on technology to organize eco-conscious itineraries. James Thompson, on the other hand, is an adventure-driven eco-travel enthusiast in his early thirties, drawn to off-grid travel experiences that emphasize environmental stewardship and community engagement. The third persona, Eco World Tours, represents a mid-sized eco-tourism agency that curates environmentally responsible travel packages and uses digital platforms to reach a global clientele. Together, these personas embody the core user base of the ETCP and allow for a multi-dimensional assessment of the platform's capacity to serve individual travelers, influencers, and service providers alike.

The testing will focus on three primary dimensions: user interface (UI) design, task performance, and overall satisfaction with platform features. Each persona will interact with the ETCP based on their unique needs. For instance, Anya will explore eco-accommodation listings, sustainability badges, and user-generated reviews, evaluating whether the platform supports her goal of identifying authentic, eco-friendly travel experiences that align with her values and content themes. James will test the functionality of planning adventure-based itineraries and using eco-filters to discover nature trails, local tour guides, and outdoor experiences that meet his criteria for responsible tourism. Meanwhile, Eco World Tours will assess the platform's B2B functionality such as uploading tour listings, managing customer inquiries, tracking sustainability credentials, and promoting travel packages to eco-conscious travelers.

Through this testing, usability challenges such as inefficient navigation, unclear iconography, insufficient sustainability information, or slow performance will be identified. Moreover, we aim to assess whether the community features like reviews, eco-ratings, and travel forums truly support users like Anya and James in their decision-making processes, and whether they empower organizations like Eco World Tours to showcase their eco-commitment effectively.

Ultimately, this testing phase will ensure that the ETCP evolves to meet the expectations of diverse eco-tourism stakeholders, enhancing the platform's overall effectiveness and ensuring it remains intuitive, engaging, and impactful in promoting sustainable travel.

Testing Methods

To effectively evaluate the usability of the ETCP platform, we will implement two primary testing methods: usability testing and surveys. Usability testing allows us to observe real-time user interactions, identifying pain points and navigation challenges. Surveys complement this by collecting quantitative and qualitative feedback on user satisfaction, interface usability, and feature relevance. Together, these methods provide a comprehensive understanding of how well the platform meets user needs, guiding future design improvements based on real user experiences.

➤ Usability Testing

Usability testing is the cornerstone of the end-user testing process for the Eco-Tourism Cloud Platform (ETCP), and it is tailored to the three primary user personas: Anya Fernando, James Thompson, and the Eco World Tours agency representative. Each of these users brings a unique perspective shaped by their individual goals and behaviors. During usability testing, Anya, a 29-year-old eco-conscious travel influencer, will engage with the platform's prototype to search for eco-tourism experiences, apply sustainability filters, and interact with the community tasks closely aligned with her content creation and trip planning needs. James Thompson, an adventurous eco-traveler, will be observed as he explores adrenaline-fueled eco-destinations, checks for environmentally responsible activities, and saves preferred options to his custom itinerary. His behavior will help us assess the platform's appeal to thrill-seeking travelers who also prioritize sustainability. Meanwhile, a representative from Eco World Tours will navigate the backend of the platform to upload tour packages, respond to customer reviews, and manage bookings. Observing them will reveal how efficient and intuitive the platform is for eco-tour providers.

Throughout testing, each persona will follow a "think-aloud" protocol, verbalizing thoughts and impressions as they interact with various features. This approach helps uncover specific usability concerns for each user type. For instance, Anya might express confusion over how sustainability ratings are explained, James may struggle with locating certain adventure-

focused filters, and the tour operator may encounter inefficiencies when editing listings. Their spoken thoughts will reveal cognitive patterns and pain points that might not be obvious through actions alone. By observing how these three users interact with the platform in real-time and listening to their commentary, we can identify design flaws, prioritize usability improvements, and gather immediate qualitative insights. Ultimately, this method ensures the ETCP caters not only to travelers seeking inspiration and booking options but also to tour operators striving to deliver impactful eco-tourism experiences through a streamlined platform.

➤ **Surveys**

After each usability testing session, Anya Fernando, James Thompson, and the Eco World Tours representative will be asked to complete tailored surveys. These surveys will provide quantitative data on user satisfaction across key aspects of the ETCP platform, such as ease of use, navigation, aesthetics, performance, and feature functionality. For Anya, the survey will assess how effectively the platform helps her discover and plan sustainable travel experiences, with questions focusing on the clarity of sustainability information and the usefulness of community features. James's survey will evaluate the platform's ability to support adventurous eco-travel planning, asking about the relevance of destination filters and ease of itinerary customization. For the Eco World Tours representative, the survey will measure satisfaction with tools for uploading tours, managing bookings, and engaging with users. Each survey will include Likert-scale questions (e.g., "How easy was it to manage tour listings?") and open-ended prompts to capture additional feedback and suggestions. This approach ensures a well-rounded understanding of user experience across all personas, combining qualitative insights from usability testing with quantitative data from surveys to identify strengths and areas for improvement.

Tools for Testing

To achieve the objectives of usability testing and surveys effectively, we will use several key tools.

➤ **Figma**

Figma will be used to develop interactive prototypes of the ETCP platform. Figma's collaborative nature allows us to design high-fidelity, interactive prototypes that simulate the

final user interface, which can then be tested with real users. This tool allows for easy sharing of designs, so Anya, James Thompson, Eco World Tours can access the prototype, interact with it, and provide feedback during the testing phase. Figma's features include live collaboration and commenting, which means that changes can be made in real-time based on feedback. This makes it an ideal tool for collecting iterative feedback from users during the testing process.

➤ **UserTesting**

UserTesting is a versatile tool that will help us conduct remote usability testing with Anya, James Thompson, Eco World Tours and gather detailed feedback. This tool allows us to create tasks for users, monitor their interactions with the platform through screen recording, and capture verbal responses in real-time. UserTesting also offers a robust analytics dashboard, enabling us to track user behavior, identify friction points, and analyze key performance metrics. With UserTesting, we can conduct usability testing with greater flexibility, as Anya, James Thompson, Eco World Tours can participate in the testing from any location.

Additionally, UserTesting allows us to collect qualitative responses by encouraging Anya, James Thompson, Eco World Tours to describe her thoughts as she interacts with the platform. This data will be invaluable for understanding her pain points and identifying opportunities for design improvement.

Testing Schedule

The end-user testing for ETCP will be conducted in three main phases: preparation, execution, and analysis.

➤ **Preparation**

During the preparation phase, we will define the specific tasks that Anya, James Thompson, Eco World Tours will complete during the usability testing sessions. These tasks will be designed to reflect real-world scenarios that Anya might encounter while using the ETCP platform. Tasks may include searching for eco-tourism experiences, filtering for sustainable travel options, and creating a custom travel itinerary.

Next, we will create wireframes and interactive prototypes of the platform in Figma. These prototypes will allow us to simulate the user interface and interactions, enabling Anya, James Thompson, Eco World Tours to experience the platform as she would during the final product release.

Finally, we will set up surveys on UserTesting, ensuring that questions are tailored to gather the relevant feedback on Anya's experience with the platform.

➤ Execution

In the execution phase, we will conduct usability testing sessions with each of the three key user personas: Anya Fernando (eco-conscious traveler and influencer), James Thompson (adventure eco-travel enthusiast), and the Eco World Tours representative (eco-tourism service provider). Each participant will engage with the interactive prototypes of the ETCP platform, completing tasks tailored to their user needs. Anya will be observed as she searches for sustainable travel options, applies eco-filters, and interacts with the community to plan her eco-friendly itinerary. James will focus on finding adventure-focused eco-tours, comparing destinations, and customizing trip details, while the Eco World Tours representative will test features related to uploading eco-tours, managing bookings, and responding to traveler inquiries.

Throughout each session, participants will be asked to use the "think-aloud" protocol, verbalizing their thoughts and impressions as they interact with the platform. This method will reveal real-time feedback on their decision-making processes, highlighting usability challenges such as unclear navigation, overwhelming filters, or missing information. By observing each user persona in action, we can identify specific design pain points that might not be uncovered through surveys alone.

After completing each task, participants will be given a short questionnaire designed to evaluate their satisfaction with the task and overall experience. These questionnaires will include Likert-scale and open-ended questions to gauge their perceptions of the platform's usability, efficiency, visual appeal, and relevance to their unique goals. For example, Anya's feedback will focus on whether the sustainability credentials were clearly communicated, James's will highlight the ease of adventure trip planning, and the Eco World Tours representative will assess how intuitive and functional the tour management tools are.

This structured execution approach will allow us to collect both observational data and direct user feedback, providing a comprehensive view of how the ETCP platform performs for diverse eco-tourism stakeholders. Insights gained will guide the refinement of UI elements, navigation flows, and feature sets, ensuring the final platform is both user-centric and aligned with the values and expectations of eco-conscious travelers and service providers.

➤ **Analysis**

After the testing sessions, we will enter the analysis phase. During this phase, we will review the qualitative data gathered from the usability testing (e.g., screen recordings, think-aloud comments) and the quantitative data from the surveys. We will analyze task completion rates, time on task, and user satisfaction ratings to gauge how well the platform supports Anya's needs.

Additionally, we will identify usability problems and issues that need to be addressed in future design iterations. This analysis will culminate in a comprehensive report that outlines the findings from the usability testing and survey data. The report will highlight specific areas where the platform can be improved and provide actionable recommendations for optimizing the user experience.

Metrics and Evaluation

To measure the success of the end-user testing and evaluate the effectiveness of the ETCP platform, we will focus on several key performance metrics.

➤ **Task Completion Rate**

The task completion rate will indicate the level of success in completing assigned tasks. If Anya is able to complete tasks such as searching for eco-friendly travel options or creating personalized itineraries without difficulty, it will suggest that the platform is functioning effectively. Low task completion rates, on the other hand, will highlight areas where users may struggle.

➤ **Time on Task**

Time on task will help us understand how long it takes Anya, James Thompson, and Eco World Tours to complete specific tasks. If tasks take longer than expected, it may indicate that the platform is difficult to navigate or that the information is hard to find. This metric will allow us to identify areas where the interface can be streamlined for better efficiency.

➤ **User Satisfaction Ratings**

User satisfaction scores will provide an overall measure of Anya's, James Thompson, Eco World Tours experience with the platform. By asking her to rate various aspects of the platform, such as ease of use, feature accessibility, and visual appeal, we will gain insights into how well the platform meets her needs and expectations.

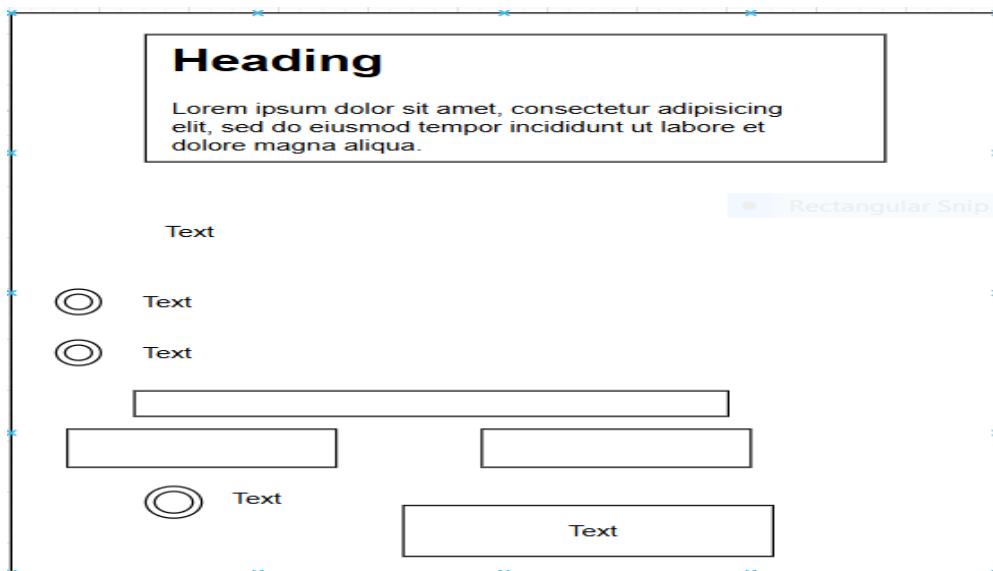
➤ **Qualitative Feedback**

Finally, qualitative feedback will give us a deeper understanding of Anya's experience with the platform. This includes comments on areas she liked, areas for improvement, and any frustrations she encountered during testing. By reviewing these open-ended responses, we can identify specific user needs that have not been addressed and opportunities for further refinement.

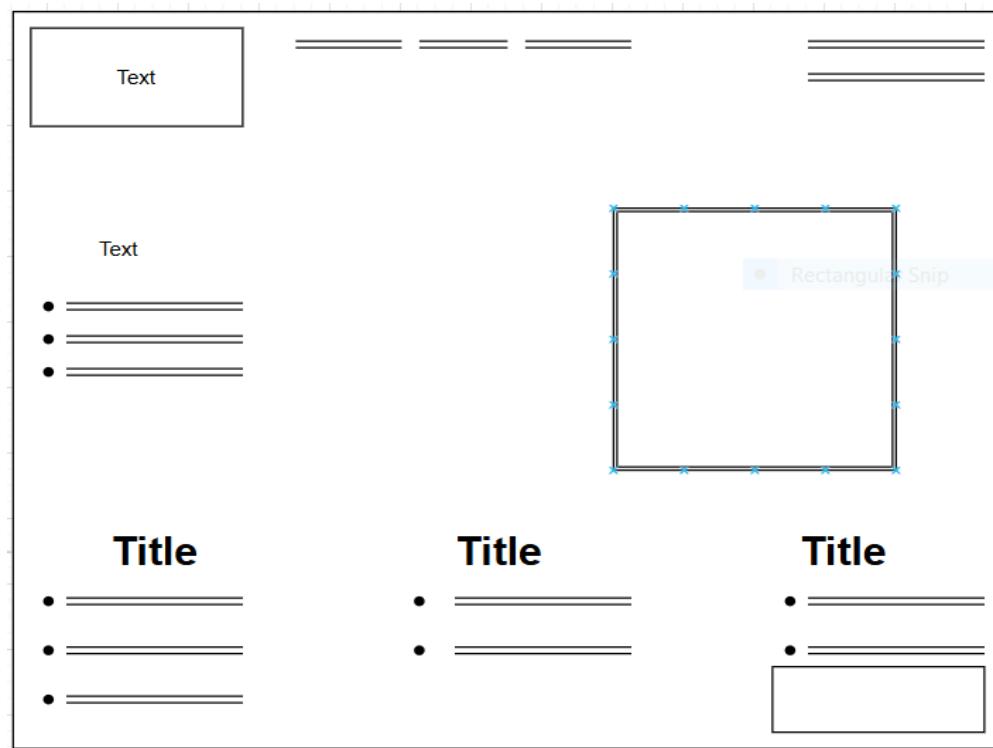
the end-user testing for the Eco-Tourism Cloud Platform (ETCP) will be conducted using a well-defined, structured process involving usability testing, surveys, and powerful design and testing tools such as Figma and UserTesting. By observing Anya's interactions with the platform and gathering both qualitative and quantitative data, we will gain critical insights into how well the platform meets her needs as an eco-conscious traveler. The feedback collected during testing will inform future design iterations, ensuring that the platform is user-friendly, intuitive, and aligned with the expectations of its primary users. Ultimately, the goal is to create a seamless and engaging platform that enhances the experience of eco-tourism enthusiasts around the world.

Wireframes for etcp platforms

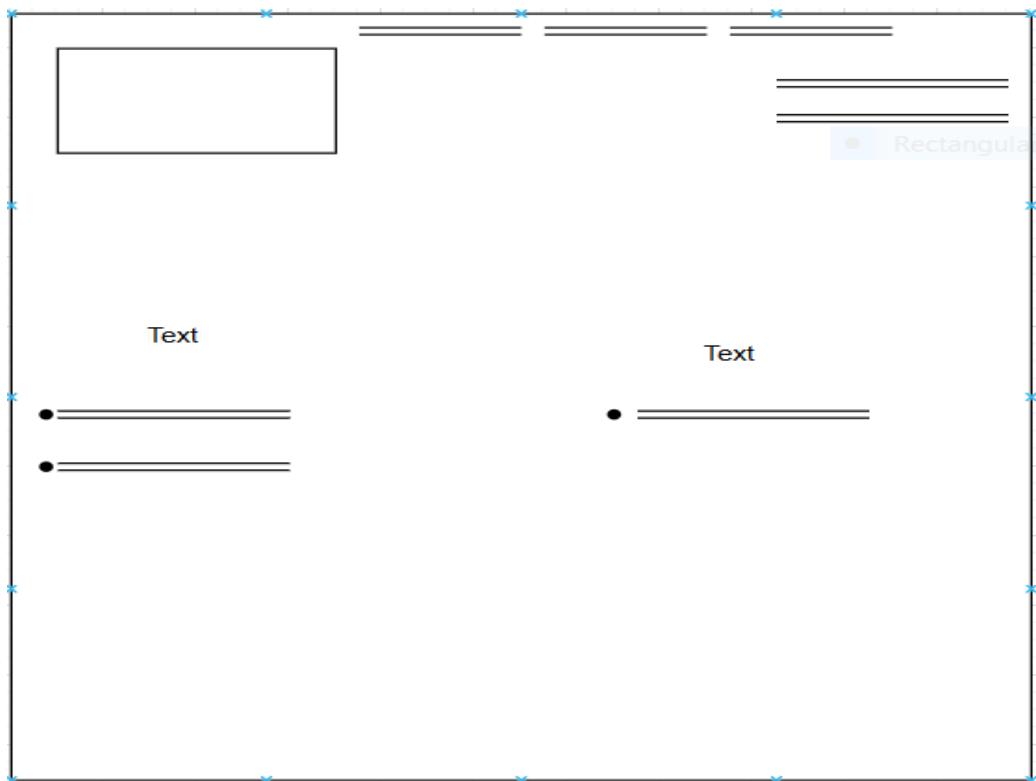
Booking and payment wireframes



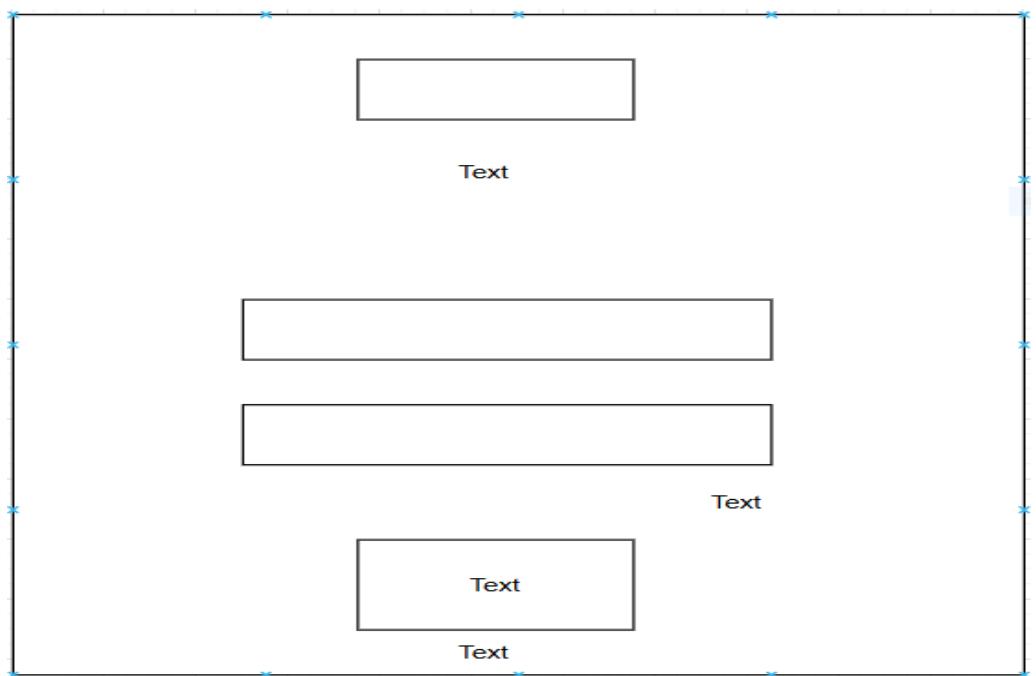
Trip wireframe



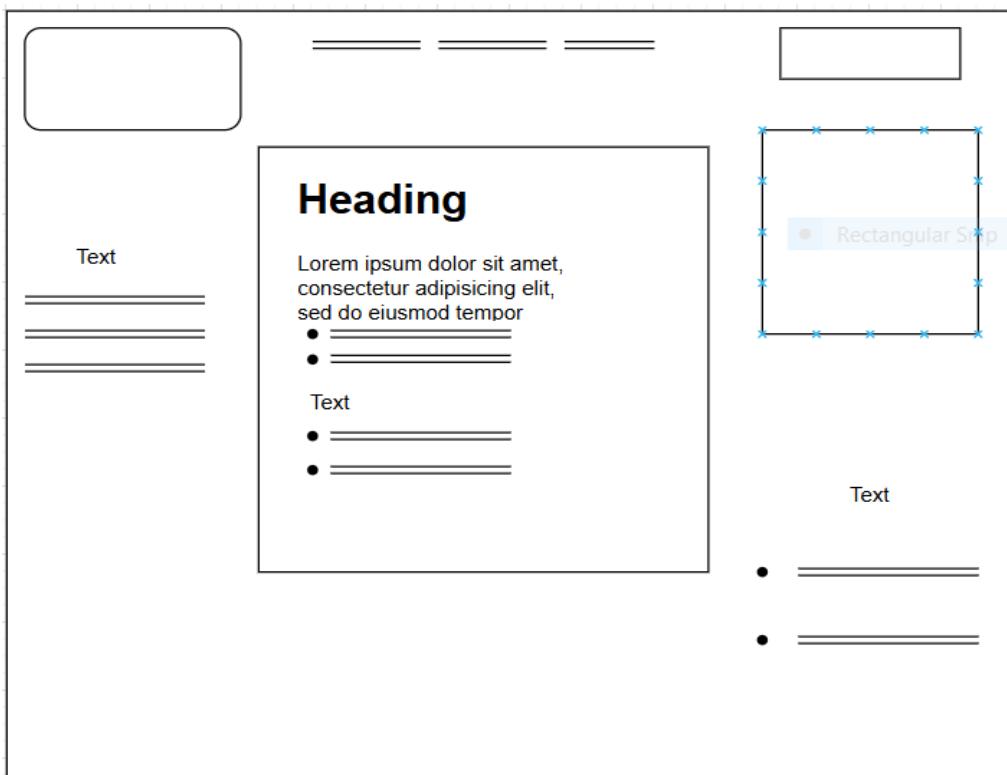
User dashboard wireframe



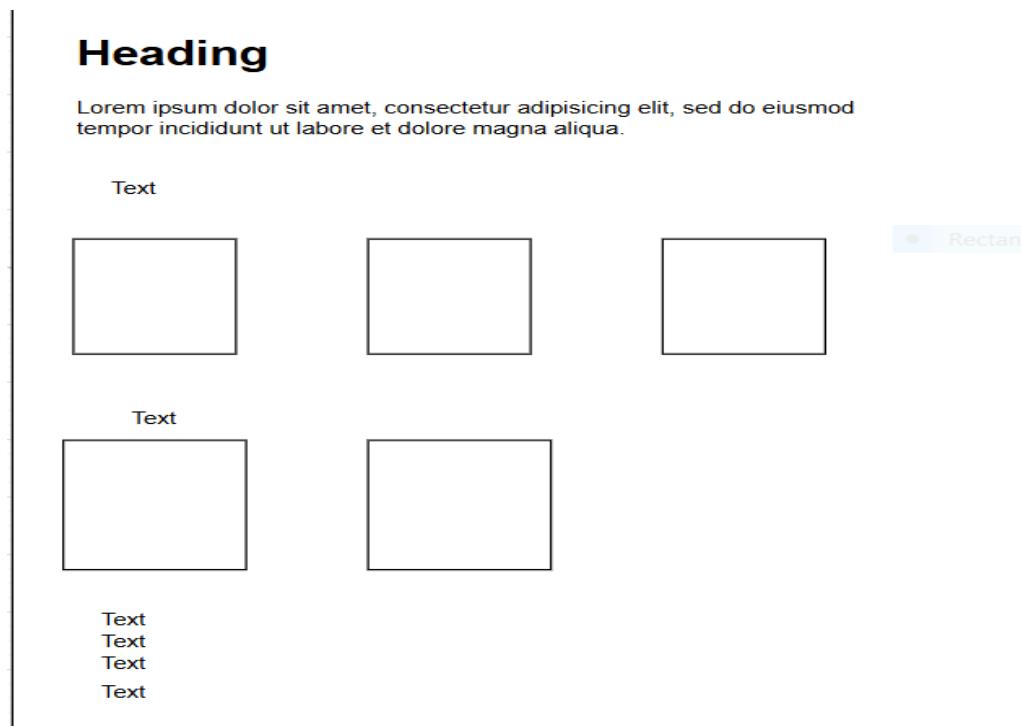
Traveler's signup page wireframes



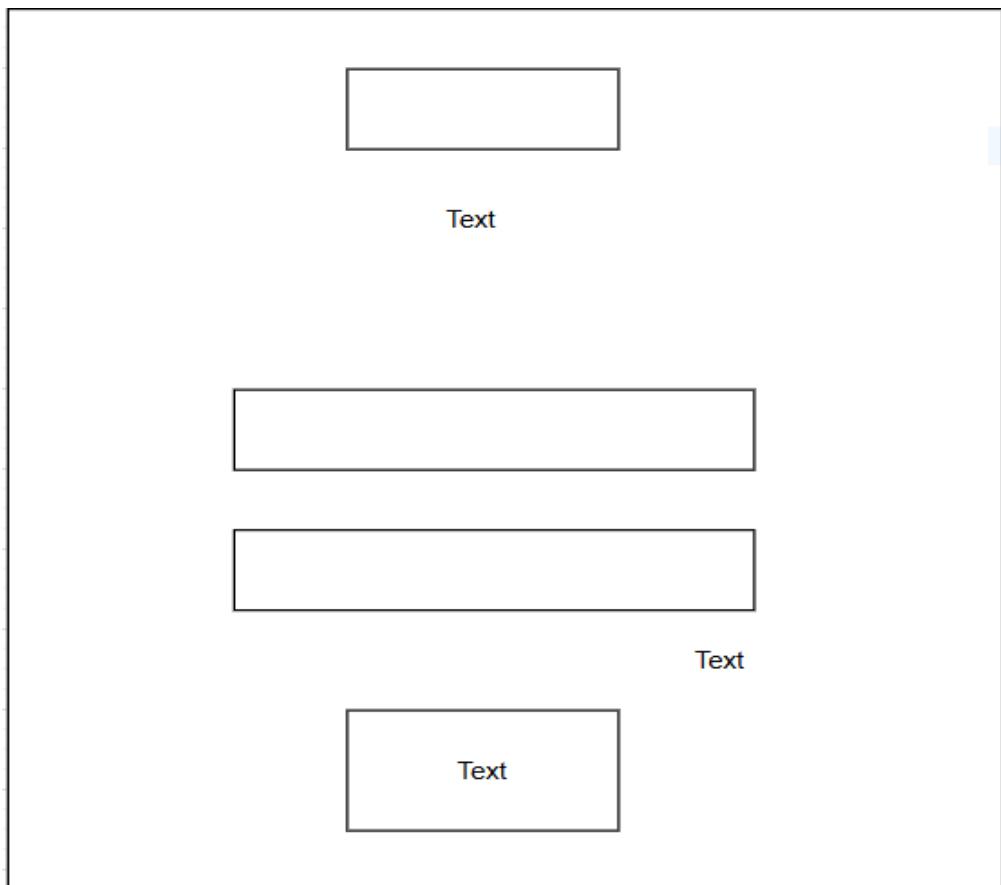
Search results page wireframe



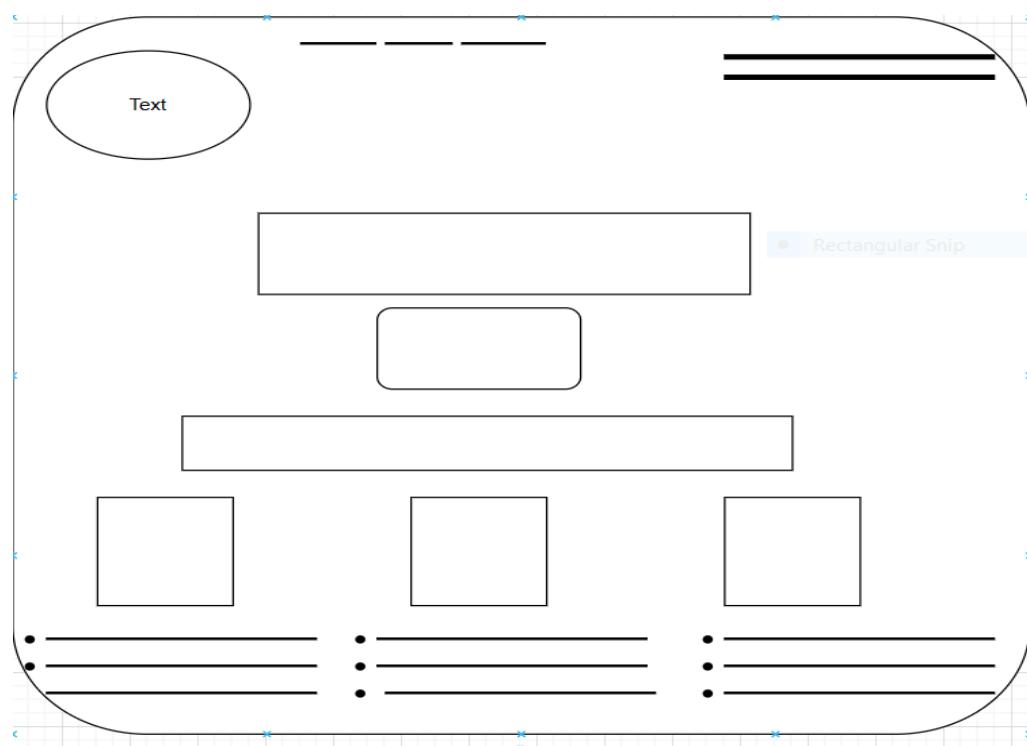
Traveler's dashboard wireframe



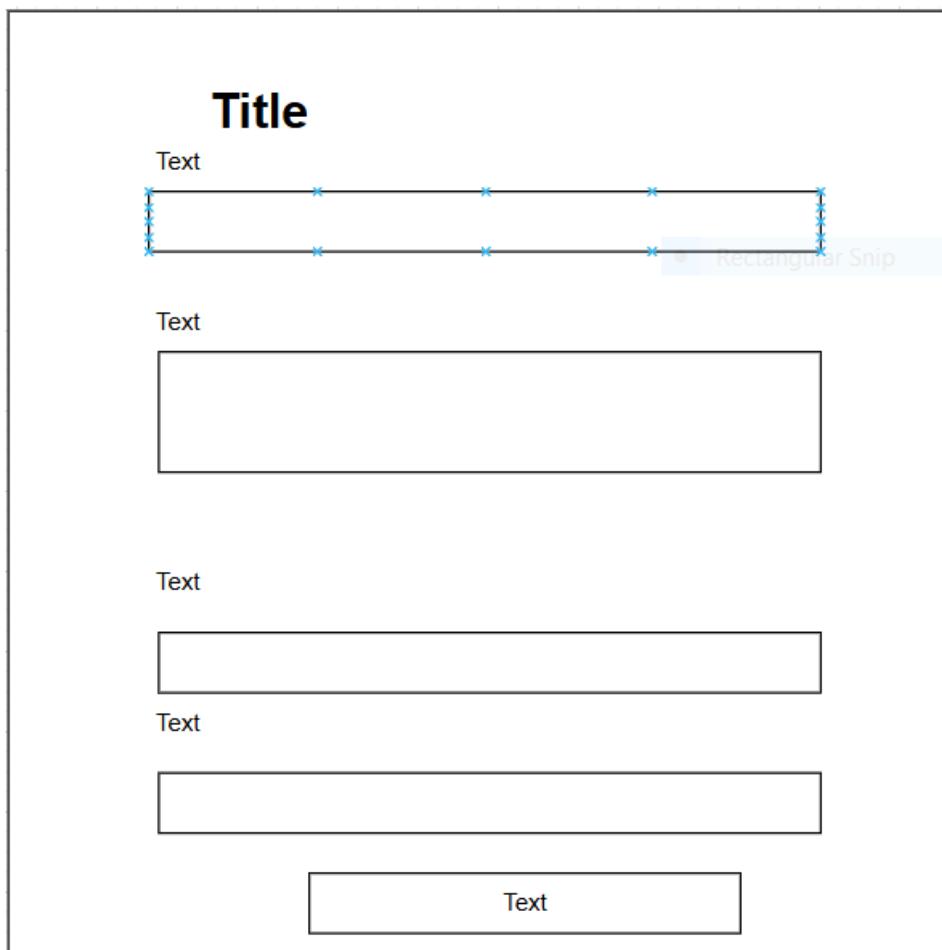
Registration page wireframe



Homepage wireframe



Experience management wireframe



Activity 3

Tool Examination

Examination of Appropriate Tools for Developing the User Interface of the ETCP Platform

The design and development of an intuitive user interface for the Eco-Tourism Cloud Platform (ETCP) requires the use of effective and reliable UI/UX tools. Several industry-standard tools offer diverse functionalities suited to different stages of the design and testing process. Below is an analysis of key tools relevant to ETCP's UI development.

Figma

Figma is a cloud-based interface design tool known for its excellent real-time collaboration capabilities. It allows multiple designers to work simultaneously on a shared project, enabling efficient teamwork and fast feedback cycles. This is especially advantageous for remote teams or those collecting user input across locations. One of Figma's major strengths is its interactive prototyping feature, which helps simulate actual user interactions ideal for ETCP's user testing phase. However, since it is entirely web-based, stable internet connectivity is required. Additionally, performance may slow down when handling complex designs or larger project files.

Adobe XD

Adobe XD is widely used in UI/UX design due to its seamless integration with the Adobe Creative Cloud ecosystem. This allows for efficient access to external design assets, which is useful for creating visually rich eco-themed interfaces for ETCP. Adobe XD supports both vector-based designs and high-fidelity interactive prototypes, including features like voice commands and auto-animation enhancing user experience simulations. It supports feedback collection and sharing, making it suitable for iterative design workflows. Nevertheless, its premium pricing and occasional issues with new updates may pose minor setbacks during development.

Sketch

Sketch is a macOS-exclusive tool primarily used for interface and web design. It is known for its intuitive layout and powerful features such as reusable design components (symbols) and shared styles, which help maintain design consistency across the ETCP platform. The vast plugin ecosystem also allows the tool to be extended according to specific project needs. However, Sketch lacks built-in prototyping and team collaboration features, which might limit its usefulness in environments where live collaboration and testing are crucial. Additionally, its macOS-only availability may restrict its adoption across diverse teams.

Axure RP

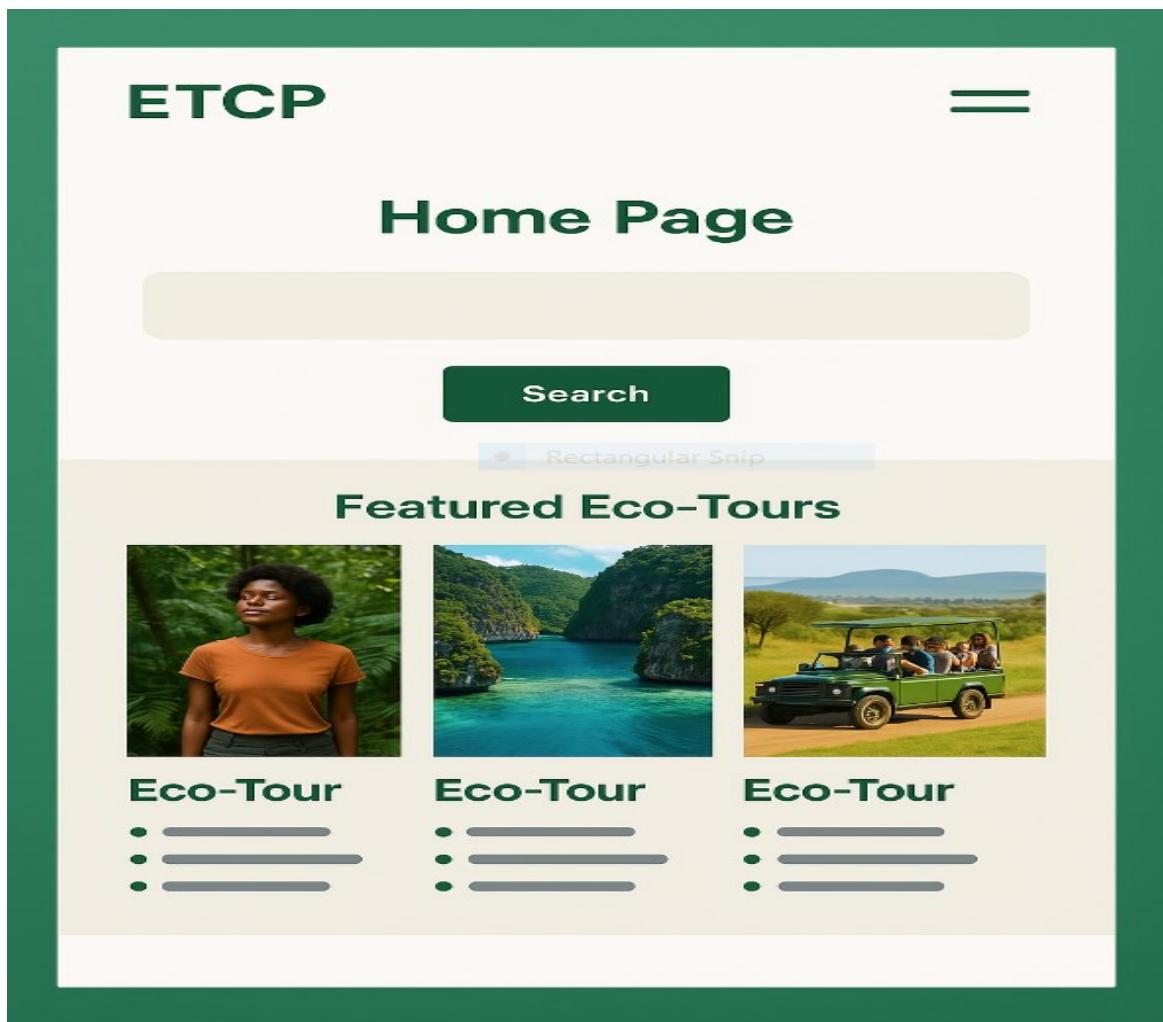
Axure RP is best suited for designing highly detailed and logic-driven interfaces. It enables the creation of dynamic, responsive prototypes with adaptive views, making it ideal for simulating

complex interactions such as ETCP's map-based itinerary planner. It also offers powerful documentation capabilities that help align design with development. However, Axure has a steeper learning curve compared to other tools, and its collaboration features are relatively limited. This can make team-based prototyping slower unless supplemented with external collaboration tools.

Each UI/UX design tool examined offers distinct strengths, making them suitable for different elements of the design process for the Eco-Tourism Cloud Platform (ETCP). Figma is particularly well-suited for collaborative and fast-paced design environments due to its cloud-based structure and real-time editing capabilities, which are essential for distributed teams working on dynamic updates. Adobe XD is ideal for creative teams requiring advanced prototyping and integration with other Adobe tools, enabling rich interactivity and seamless asset access. For teams focused on detailed interface design with a strong emphasis on maintaining consistent visual systems, Sketch provides robust support through reusable components and a user-friendly interface though it is limited to macOS. Meanwhile, Axure RP is best suited for projects that involve complex logic and user flows, offering powerful prototyping and documentation features needed for intricate interface interactions. Ultimately, the selection of a design tool for ETCP should be based on the platform's collaborative requirements, cross-platform compatibility, interface complexity, and the need for continuous iteration and user testing.

Prototype of the etcp platform

Etcp home page



ETCP booking page

ETCP		Home	Tours
Booking Page		Booking Data	
Name		Date	
	Name		08/05/2024
Email			
Password			
Forgot password?		Confirm Booking	

ETCP search results page

The screenshot shows the ETCP search results page. At the top, there is a navigation bar with the ETCP logo, Home, Tours, and SEARCH buttons. Below the navigation bar, there are three filter sections: Filters, Costs, and Date. The Date section is currently selected, showing "07 June". To the right of these filters is a map of South America with a callout labeled "Máp" pointing to Uruguay. A "Map View" button is located at the bottom right of the map area. Below the filters and map is a Ratings section, which is partially visible.

ETCP

Home Tours SEARCH

Filters

Costs

Date

07 June

Máp

Map View

Ratings

ETCP

Registration/Login in

Email

Password

[Forget password?](#)

Register

ETCP

Home

SEARCH



Rainforest Adventure

Costa Rica

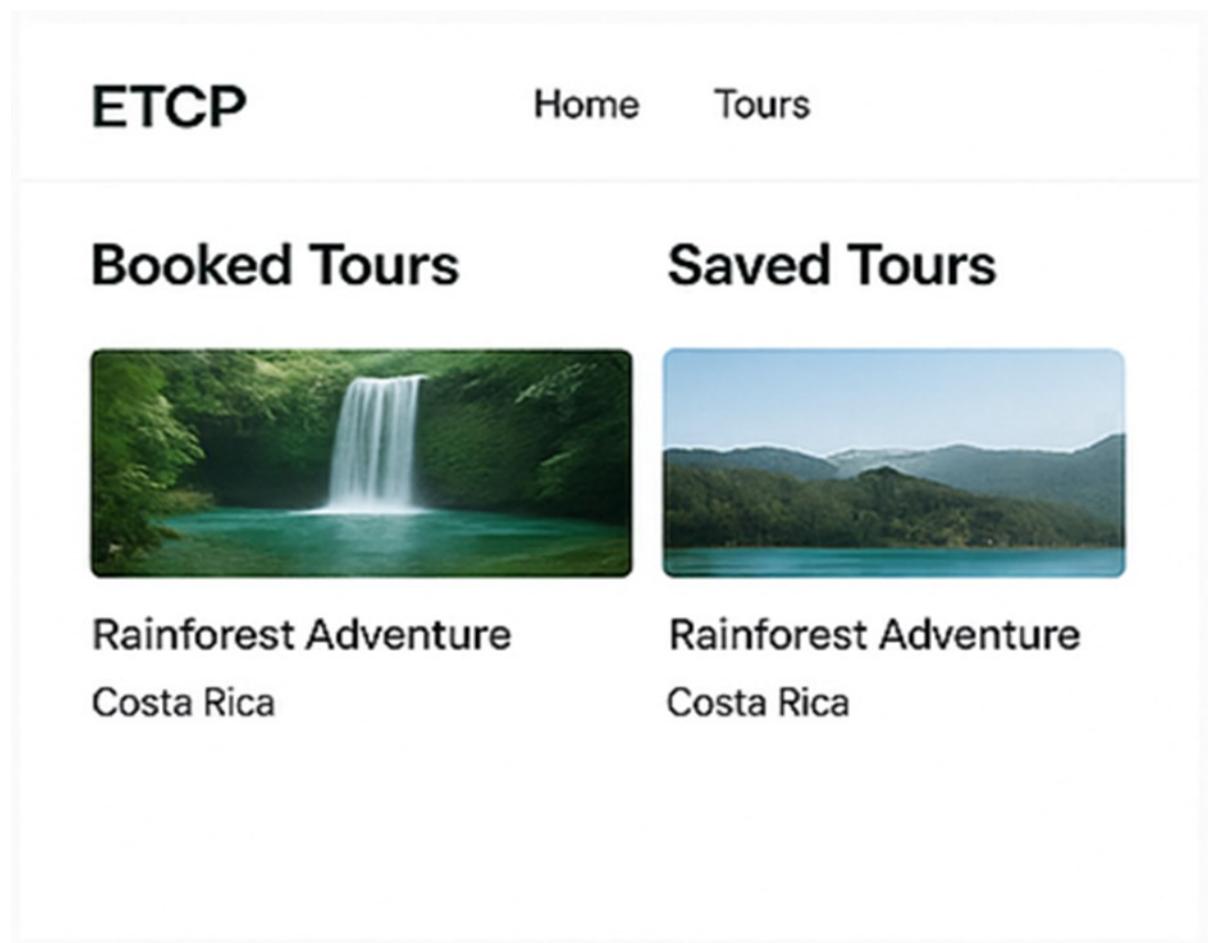
Explore the lush rainforests of Costa Rica, home to diverse wildlife and stunning waterfalls.

Ratings

Book Now

Activate Window

Etcp User dashboard page



Selection of tools based on suitability for the project requirements and team expertise.

Selection of Figma as the Primary UI/UX Design Tool for the ETCP Platform

After evaluating various UI/UX design tools, Figma has been identified as the most appropriate choice for developing the user interface of the ETCP platform. This selection is informed by the platform's specific design needs and the existing capabilities within the development team. One of Figma's standout features is its strong support for real-time collaboration. As a cloud-based tool, it allows multiple team members including designers, developers, and stakeholders to simultaneously access and contribute to design files. This promotes a more streamlined and time-efficient workflow, particularly valuable in a project involving distributed teams where continuous feedback and rapid iterations are necessary.

Figma's advanced prototyping capabilities further reinforce its suitability. The tool enables designers to build interactive, user-focused prototypes that reflect real user interactions, allowing for early testing and refinements. This is critical for the ETCP platform, where ensuring smooth user journeys and accessible features is a key priority. The ability to maintain visual consistency using components and vector-based design tools supports the creation of a professional and cohesive interface across the entire platform.

Additionally, the team's prior experience with Figma ensures minimal time is lost on onboarding or training. This familiarity also allows the team to maximize productivity by effectively using design systems, plugins, and other advanced features that enhance workflow. Figma also simplifies collaboration with developers by offering flexible asset exports and detailed design specifications, making the handoff process smoother and more precise. This seamless transition from design to implementation is vital for ensuring that the user experience is accurately realized during development.

Figma is the optimal tool for the ETCP platform's interface development due to its collaborative nature, robust prototyping features, team compatibility, and integration capabilities with development workflows. These advantages collectively ensure that the platform's design goals are met efficiently while maintaining a high standard of usability and consistency.

Following a detailed evaluation of various UI/UX design tools, Figma has been identified as the most appropriate and efficient application for developing the user interface of the Eco-Tourism Cloud Platform (ETCP). This choice is grounded in how well the tool's features align with the platform's technical needs, user engagement goals, and the experience level of the development team. Figma offers a complete environment for designing, prototyping, collaborating, and integrating user interface elements in real time, making it particularly suitable for a dynamic and interactive platform like ETCP.

Real-Time Collaboration for Agile Development

One of Figma's most valuable features is its real-time collaboration functionality, which allows multiple team members including designers, developers, and stakeholders to work on the same design file simultaneously. This is highly beneficial for the ETCP project, where input from different departments and user feedback loops are essential throughout development. Real-time

collaboration ensures that feedback can be quickly integrated into the design, promoting rapid iterations and minimizing delays. This is ideal for an agile development model, where adaptability and speed are critical to success.

Cloud-Based Architecture for Flexibility

Figma's cloud-native structure means that all design files are stored online and accessible from any device with an internet connection. This provides immense flexibility for distributed teams, especially those working in remote or hybrid environments. For the ETCP team, which may consist of contributors from different geographic locations or organizational units, this ensures consistent access to updated design files without the need for manual syncing or version tracking. The platform also maintains a version history of design changes, allowing the team to revert to previous iterations if needed a feature that enhances security and design reliability.

Advanced Prototyping to Enhance User Experience

Figma excels in creating high-fidelity, interactive prototypes that simulate real-world user behavior. Designers can create clickable journeys, transitions, and interface responses that mimic the final experience users will have when interacting with the ETCP. This is particularly important for the platform, as it aims to offer an engaging and intuitive user interface for tourists, environmentalists, and service providers. These prototypes are instrumental during usability testing phases, allowing the design team to collect meaningful insights and make informed improvements before development begins.

Seamless Integration with Project Tools

Another benefit of Figma is its ability to integrate smoothly with productivity and development tools such as Slack, Trello, Notion, and Zeplin. These integrations help align design tasks with project timelines and communication channels, reducing the friction often experienced between design and development teams. For the ETCP project, where cross-functional collaboration is required to meet environmental and tourism-related goals, this feature streamlines workflow and maintains alignment among all contributors.

Reusable Components and Design System Management

Figma supports component-based design, allowing designers to create and reuse interface elements such as buttons, navigation bars, or banners across multiple screens and modules. This feature helps maintain consistency and saves time when updating elements throughout the platform. For a comprehensive platform like ETCP that includes user profiles, booking systems, maps, and content feeds, having a centralized design system ensures visual and functional coherence, which strengthens the user's overall impression of the platform.

Responsive Design and Cross-Device Compatibility

ETCP will be accessed on a variety of devices including smartphones, tablets, and desktops. Figma allows designers to create responsive layouts and test how user interfaces adapt to different screen sizes. The use of constraints and auto-layout features ensures that UI components adjust proportionally as the screen changes, helping the team to create a mobile-first design that works well across all platforms. This improves accessibility and guarantees that every user regardless of their device has a consistent experience.

Iterative Development

Employment of suitable tools to develop the user interface concept.

During the iterative development of the user interface concept of a certain product, the Figma tool is of great importance due to its collaboration features and flexibility in design. Figma's simultaneous editing option enables team members to collaborate on the interface concept in real-time thus ensuring quick sharing of ideas and feedback. Figma has a vast collection of components and design libraries that can be used by designers to create and test numerous UI components in the course of designing the system, thus promoting consistency and increased productivity. Furthermore, due to the fact that Figma is a cloud-based solution, the tool is accessible from any device and location, thus providing convenience and encouraging collaboration within the team.

Figma includes features for creating clickable prototypes, which are highly effective in simulating real-world user interactions and validating design choices with real users. This is because the feedback collected from the users can be directly integrated into the Figma prototypes in a cyclical process to enhance the UI concept based on real-life experiences. The

version control and history tracking systems of Figma also enhance the collaborative design process as designers can easily go back to a previous version or check the differences between the different versions. In sum, Figma can be considered as a practical tool to support UI concept development in an iterative manner to produce user-focused design solutions that can be further refined based on feedback.

Experimentation and Feedback Analysis

Conducting end-user experiments to gather feedback on the user interface.

To gain deeper insights into the user interface design for the ETCP platform, we opted to use Google Forms for user surveys. This tool was selected due to its flexibility, accessibility, and ease of use, allowing us to construct a well-structured set of questions aligned with our research objectives. The form was organized into several sections focusing on various dimensions of user experience, including ease of navigation, interface appeal, platform functionality, and overall user satisfaction. We used a combination of multiple-choice questions, Likert scale items, and open-ended prompts to collect both quantitative and qualitative data, ensuring a holistic understanding of user perceptions.

The questionnaire was distributed among a targeted audience relevant to ETCP's user base such as eco-conscious travelers, tour organizers, and nature exploration enthusiasts. Outreach was conducted through email invitations, interest-based forums, and social media platforms, enabling us to reach a varied demographic in terms of interests, age groups, and geographic locations. Participants were assured of anonymity and data privacy, encouraging them to share their honest feedback without concern for personal exposure.

Once responses were collected, we conducted a detailed analysis. The quantitative data was processed using basic statistical techniques, such as calculating average satisfaction scores, and identifying variations across different user types. The qualitative feedback was coded and thematically analyzed to uncover recurring concerns, suggestions, and expectations. This dual analysis approach helped us extract meaningful insights into user needs and behavior.

The findings were instrumental in refining the ETCP interface design. They provided actionable information for short-term improvements such as layout adjustments and feature enhancements, as well as for long-term planning, including support for multi-lingual users,

personalized recommendations, and eco-tour package curation. This user-centric approach ensured that future development remained aligned with actual user expectations and usability standards.

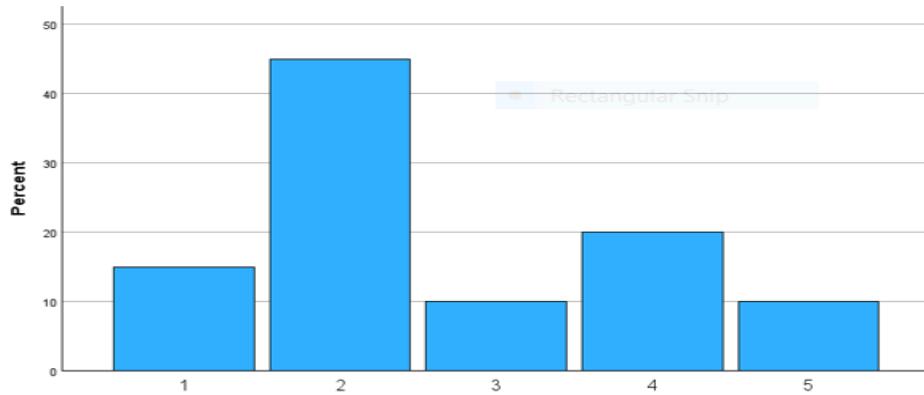
Questionnaire for Eco-Tourism Content Creators & Users (ETCP)

(1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, and 5 = Strongly Agree.)

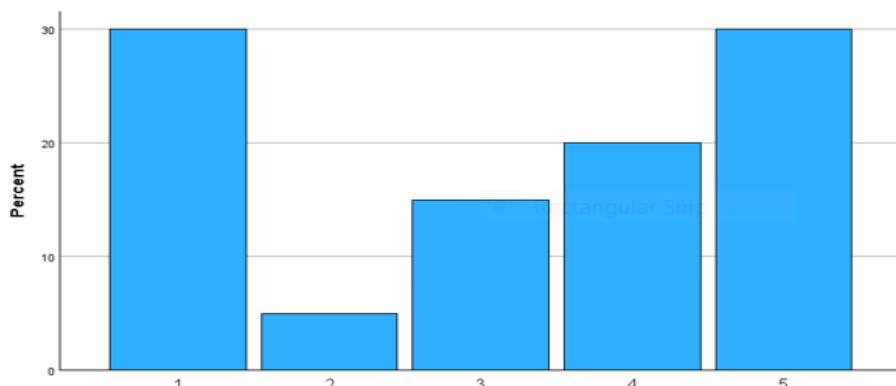
1. The overall design of the ETCP platform reflects the eco-tourism theme effectively.
2. The navigation of the platform is user-friendly and allows for effortless exploration of eco-tourism destinations.
3. The color palette used supports the eco-conscious theme and enhances the experience.
4. The typography used on the platform is readable and appropriately styled for the theme.
5. The icons and buttons are clearly labeled and promote intuitive use.
6. The homepage delivers clear and engaging information about eco-tourism offerings.
7. Uploading eco-tourism content (e.g. tour packages, images, videos) is a straightforward process.
8. The search feature effectively helps locate eco-tours, destinations, or guides.
9. The analytics dashboard provides helpful insights into content reach and engagement.
10. The platform's loading time is quick, even with high-resolution media.
11. Managing and updating user profiles is simple and efficient.
12. Alerts and notifications (e.g., bookings, updates) are timely and relevant.
13. Collaboration features (e.g., review sharing, messaging, social tools) are easy to use.
14. The customization options for showcasing eco-tour offerings are adequate.
15. The platform design adapts well across devices (desktop, mobile, tablet).
16. The help and support section offers practical and accessible guidance.
17. The platform provides a secure environment for eco-tour operators and users.
18. ETCP meets my expectations as an eco-tour content creator or user.
19. I would recommend the ETCP platform to others interested in sustainable travel and eco-tourism.

Analysis of end-user feedback to determine if it satisfies emotions, desires, and attitudes as planned.

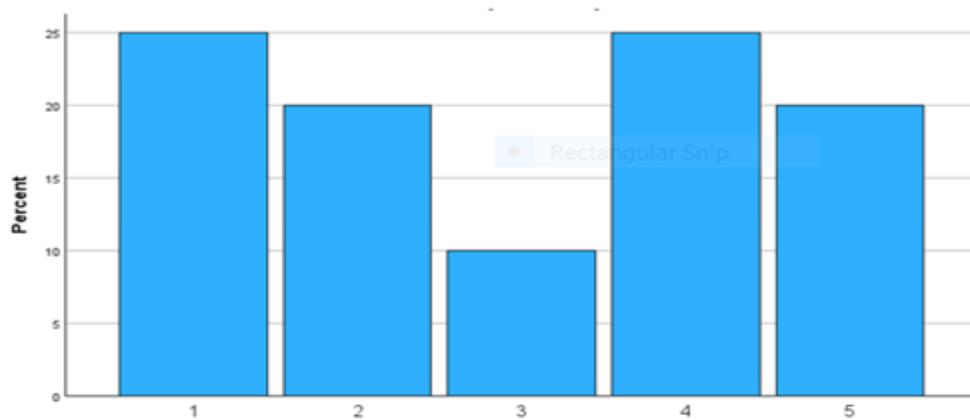
The overall design of the ETCP platform reflects the eco-tourism theme effectively.



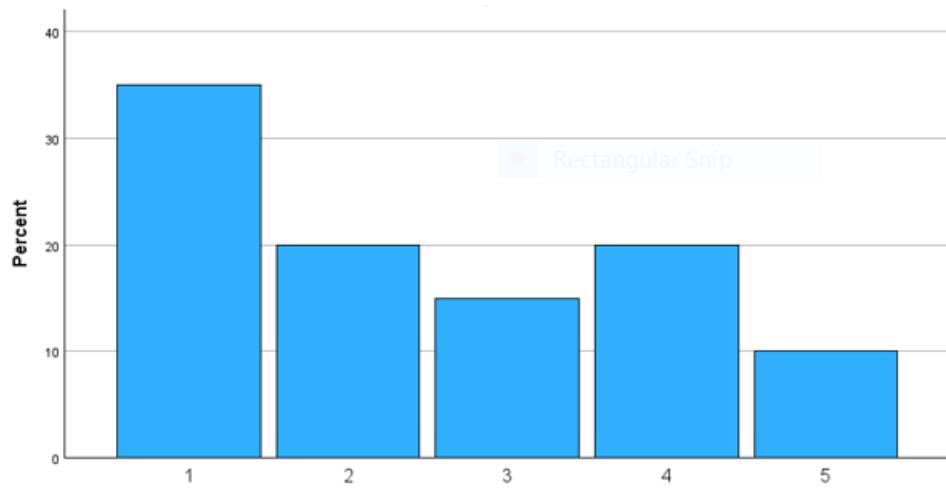
The navigation of the platform is user-friendly and allows for effortless exploration of eco-tourism destinations.



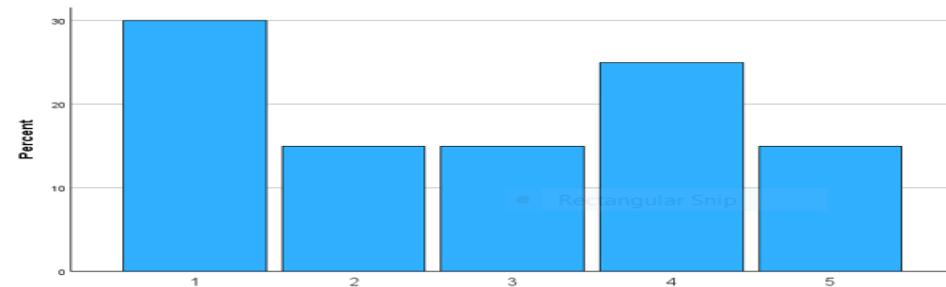
The color palette used supports the eco-conscious theme and enhances the experience.



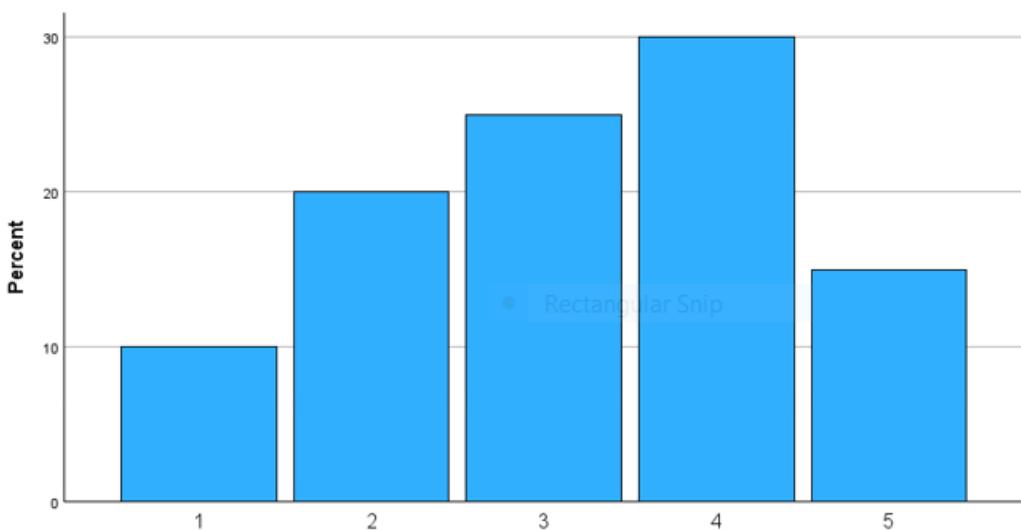
The typography used on the platform is readable and appropriately styled for the theme.



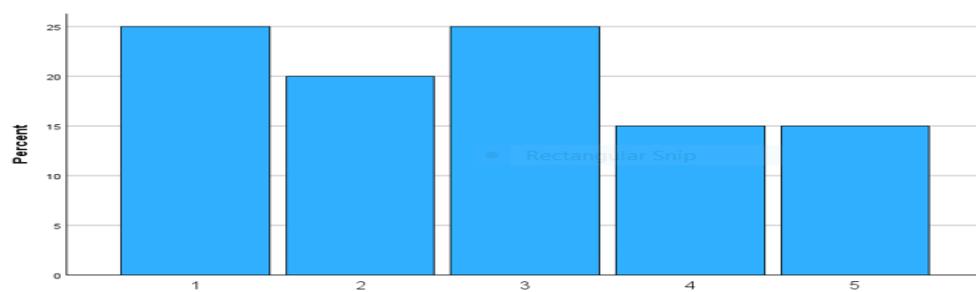
The icons and buttons are clearly labeled and promote intuitive use.



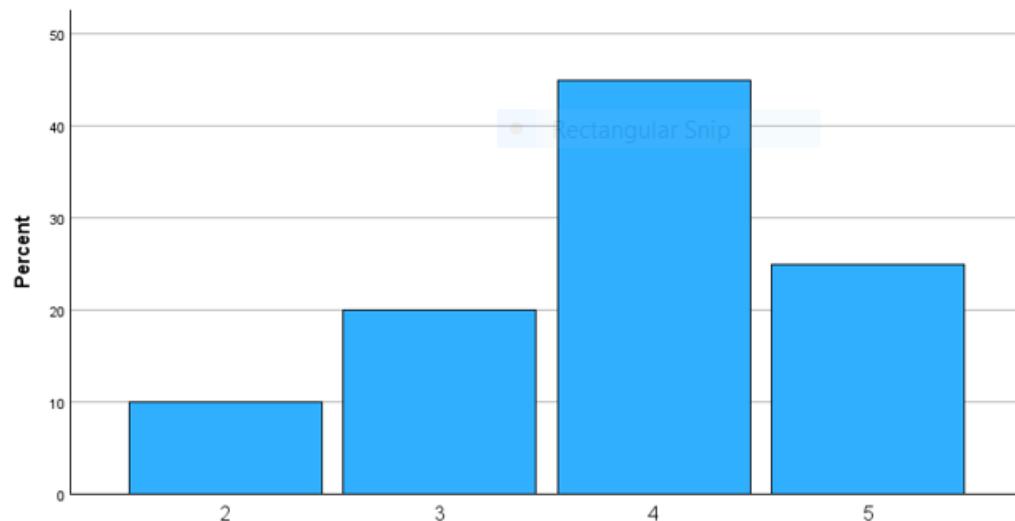
The homepage delivers clear and engaging information about eco-tourism offerings.



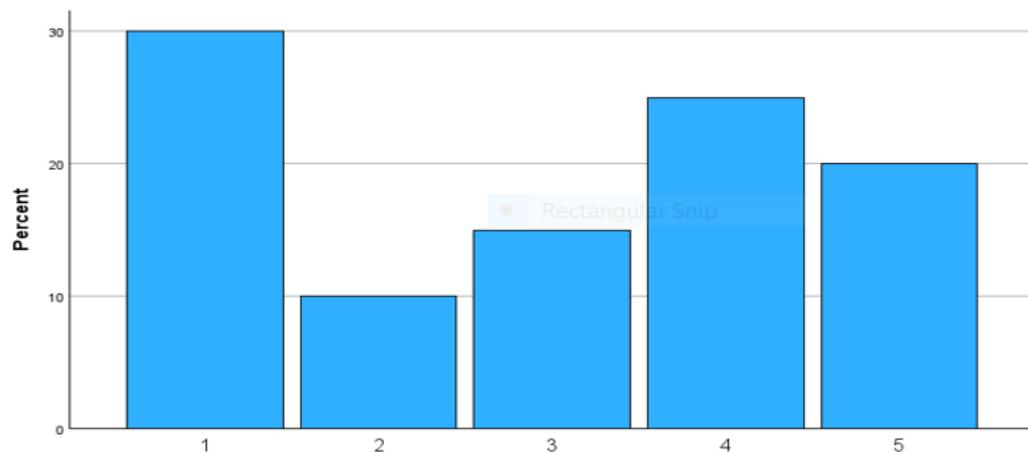
Uploading eco-tourism content (e.g., tour packages, images, and videos) is a straightforward process.



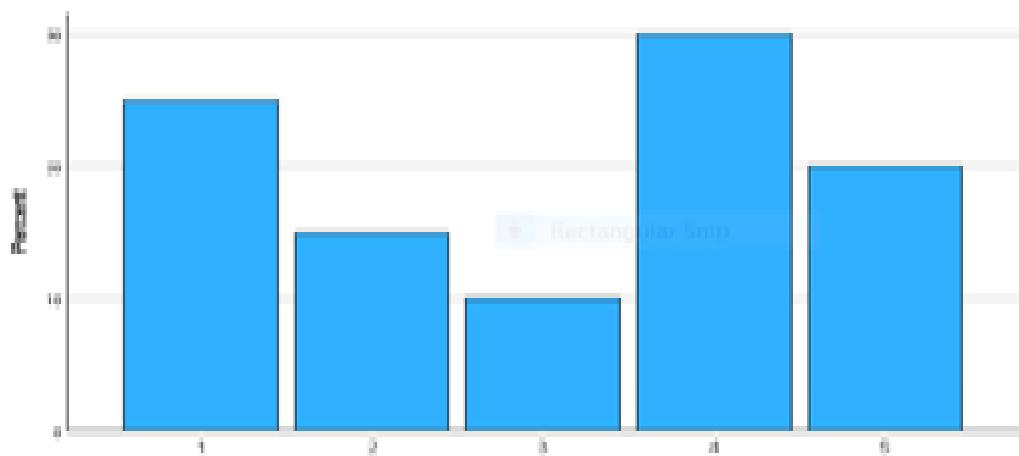
The search feature effectively helps locate eco-tours, destinations, or guides.



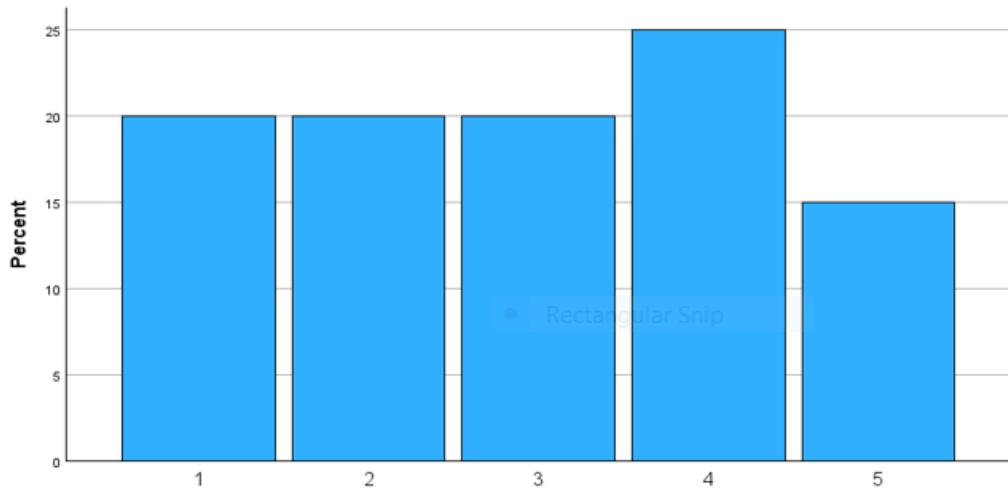
The analytics dashboard provides helpful insights into content reach and engagement.



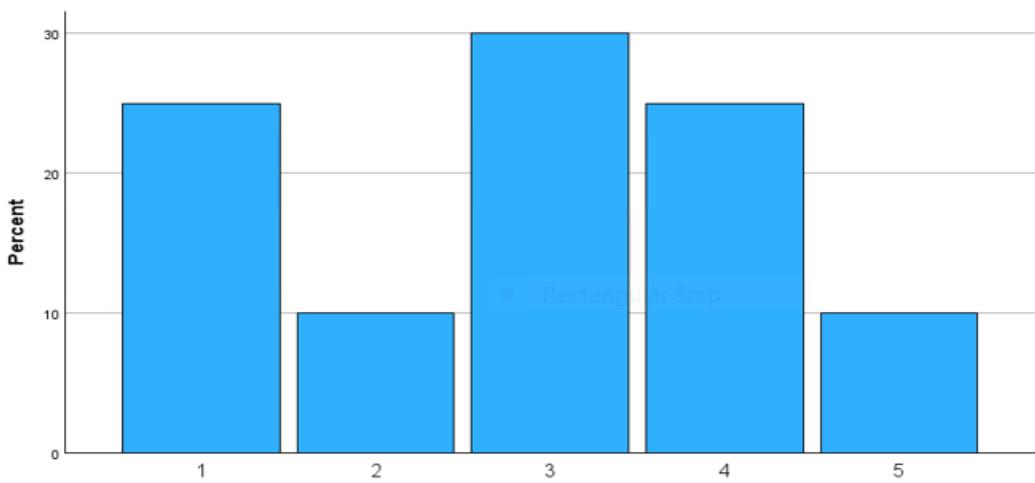
The platform's loading time is quick, even with high-resolution media.



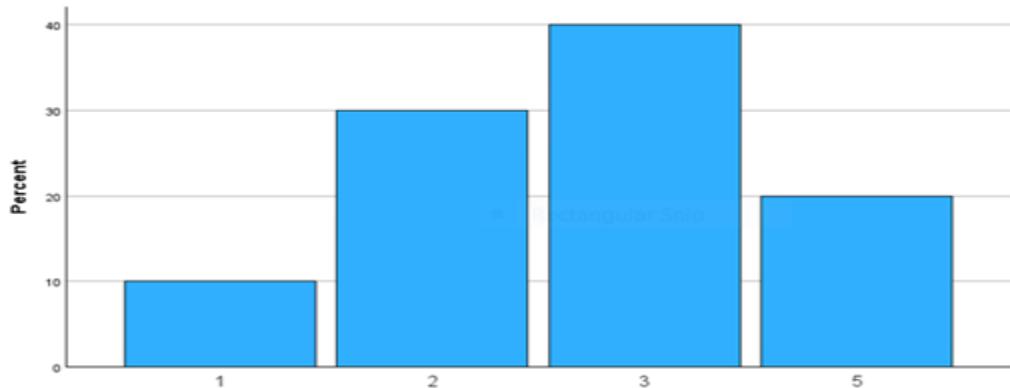
Managing and updating user profiles is simple and efficient.



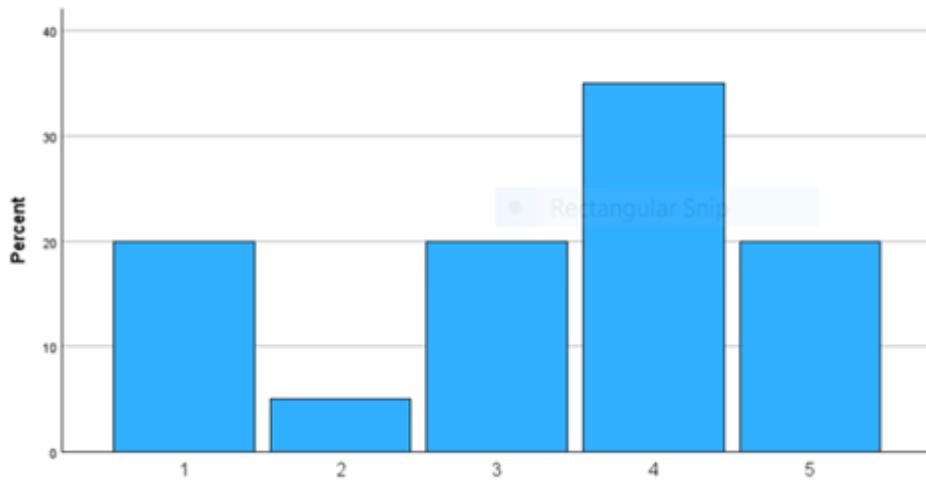
Alerts and notifications (e.g., bookings, updates) are timely and relevant.



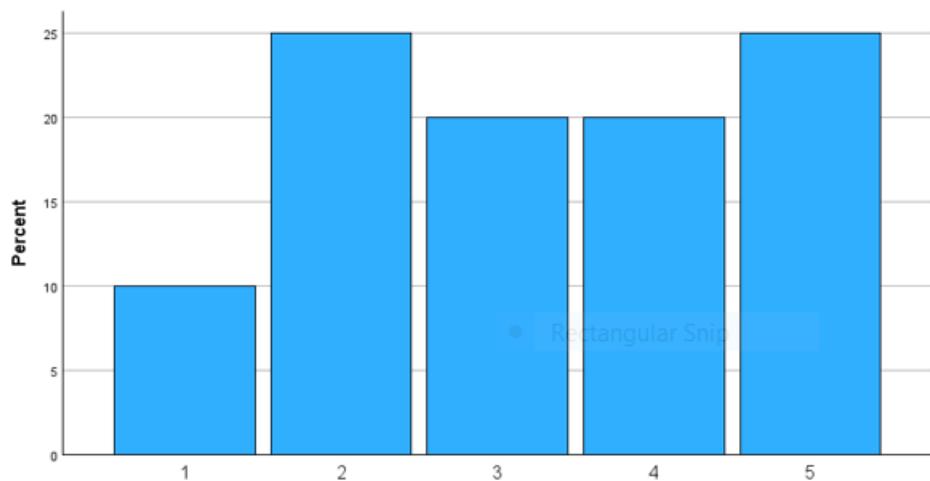
Collaboration features (e.g., review sharing, messaging, social tools) are easy to use.



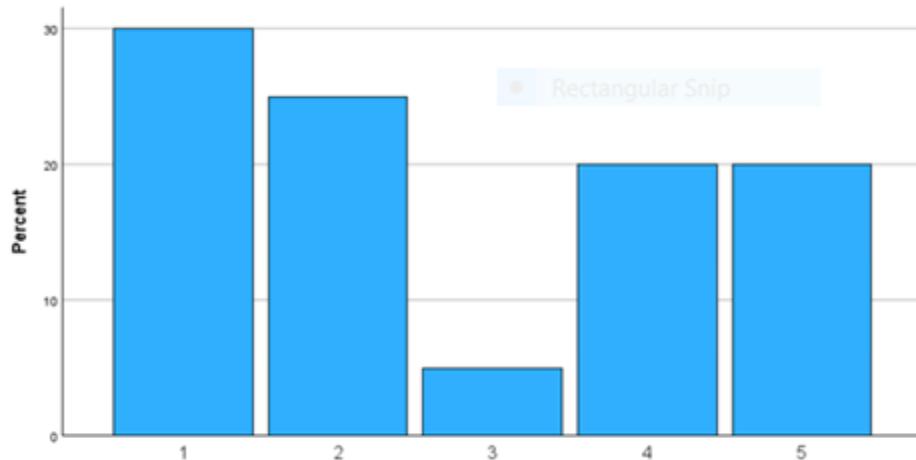
The customization options for showcasing eco-tour offerings are adequate.



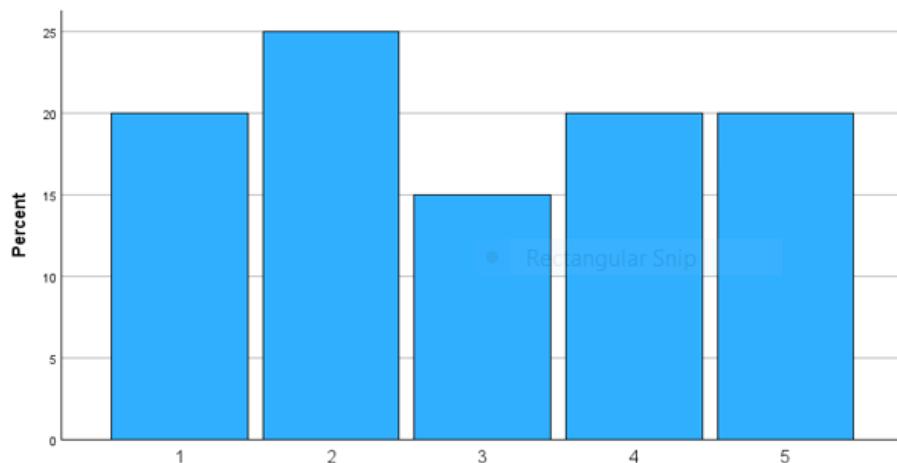
The help and support section offers practical and accessible guidance.



The platform provides a secure environment for eco-tour operators and users.



I would recommend the ETCP platform to others interested in sustainable travel and eco-tourism.



ETCP Platform User Interface Survey Analysis

Visual Appeal and Aesthetic

Feedback on the ETCP platform's visual design showed a varied response. While 60% of users responded favorably (scores 3–5), only 30% found the design highly appealing (scores 4–5). However, 45% expressed dissatisfaction (scores 1–2), suggesting that while the aesthetic choices resonate with some users, others may find the visual styling or theme less engaging. These results highlight the importance of revisiting visual elements to better align with eco-tourism expectations and preferences.

Navigation and Usability

When evaluating the platform's layout and ease of navigation, only 50% of users gave it a positive rating, while 35% found it difficult to use. This reflects that a significant portion of users may be encountering navigational obstacles, potentially due to interface complexity or unclear structure. The color scheme, which plays a role in both appeal and functionality, received higher scores from 50% of users (scores 4–5), but 35% rated it poorly, pointing to a need for fine-tuning the balance between aesthetics and readability.

Text Clarity and Interface Elements

Concerning font clarity, 55% of respondents felt the text was readable (scores 3–5), while 45% indicated dissatisfaction, hinting that typeface or sizing may require adjustment. Similarly, only 45% of users rated the platform's icons and buttons positively, while 55% reported issues with labeling or understanding their purpose. This emphasizes the need to enhance visual cues and improve the clarity of interactive elements.

Core Functional Capabilities

Uploading eco-tourism videos was rated as a smooth process by 45% of users (scores 4–5), although 30% found it challenging (scores 1–2), suggesting usability issues in the content submission workflow. The search function, a key navigational tool, received moderate approval 55% rated it positively, while 45% encountered difficulties. For video playback, 45% found it smooth (scores 4–5), but 35% experienced buffering or lag, indicating technical enhancements are required for optimal media delivery.

Insights and Platform Speed

Regarding the analytics dashboard, 70% of respondents appreciated the insights provided (scores 3–5), showing that performance data is valued by users. However, 30% found it lacking, possibly due to limited data depth or presentation clarity. Platform speed received the lowest positive ratings just 10% of users gave it a high score, and 55% expressed dissatisfaction (scores 1–2), indicating a strong need for performance optimization to improve loading times and overall responsiveness.

User Features and Interaction

The profile management system was rated positively by 45% of users, though 30% reported issues, indicating that account features could benefit from better structuring. Notifications were helpful for 50% of respondents, yet 40% felt they were inadequate or poorly timed. Feedback on collaboration features such as commenting and sharing was split 40% rated them positively while 35% found them ineffective. Customization features for eco-tourism content received especially low satisfaction scores, with only 10% giving a high rating, pointing to a significant opportunity for enhancement in content personalization tools.

Device Responsiveness and Support Access

Device compatibility and responsive design received average scores. While 40% rated it acceptable, 30% were dissatisfied, revealing that mobile or tablet performance may be inconsistent. The help and support section performed relatively well, with 55% of respondents finding it informative and accessible, although 25% still experienced issues accessing helpful resources.

Security Perception and Overall Experience

Perceptions of platform security were divided. While 45% felt confident in the platform's trustworthiness, 35% expressed concerns, indicating a need to better communicate or enhance security protocols. Regarding overall user expectations, 45% of users felt the platform met their needs, but 35% did not, showing that experience varies across the user base. Lastly, only 40% of users stated they would recommend the ETCP platform to others, while 45% were reluctant, reinforcing the need to address key usability and functionality areas to boost user confidence and advocacy.

ETCP User Interface Survey Evaluation

The survey results related to the UI design of the ETCP platform, which was developed using Figma, indicate that several elements of the interface successfully align with users' emotional, functional, and aesthetic expectations. A strong majority of participants approximately 75% expressed general satisfaction with the platform's visual presentation, while 30% rated it as highly attractive. These responses reflect the effectiveness of the platform's visual aesthetics

in appealing to eco-conscious users who value design harmony and thematic consistency in digital environments.

Furthermore, 65% of users noted that navigating the platform felt intuitive and straightforward, highlighting that the structural layout is facilitating a smooth and enjoyable browsing experience. The nature-inspired color palette also received favorable feedback, with 65% appreciating its role in usability and visual comfort, and half of the respondents rating it as excellent. These responses affirm that the chosen color scheme successfully reinforces the platform's environmental identity and enhances user comfort.

Despite these strengths, certain components of the UI elicited mixed feedback, indicating areas for potential refinement. Font legibility was rated as merely acceptable by 55% of respondents, suggesting that text readability could be improved to ensure clearer content delivery. Similarly, the icons and action buttons, while recognizable to many, were not intuitive for all users this points to a need for clearer labeling and visual consistency to improve accessibility and ease of interaction.

Additional concerns emerged regarding the performance of core functionalities. Feedback on the search feature and overall platform responsiveness showed variation, implying inconsistencies that may hinder user satisfaction during high-demand interactions. These areas are especially important for eco-tourists seeking quick access to relevant destinations and activities.

Concerns around platform security and reliability were also mentioned, with a segment of users expressing doubts about data safety an issue directly tied to users' emotional needs for trust and assurance. Furthermore, while many users found the ETCP platform functional for exploring and sharing eco-tourism experiences, others felt that the customization options and feature sets were limited. This feedback is echoed in the relatively low recommendation rate of 45%, which indicates that users are cautious in endorsing the platform until further improvements are made.

In the ETCP platform's interface demonstrates a clear strength in visual design and user navigation, successfully resonating with the core expectations of environmentally-conscious travelers. However, enhancing specific areas such as icon clarity, platform responsiveness, text

readability, system reliability, and customization features will be essential to meet broader user expectations and create a more compelling and trustworthy user experience across the board.

Analysis of end-user feedback to build new iterations of the user interface, incorporating important feedback and enhancements.

After analyzing the user feedback, we have identified the following main issues for each page.

Page	Main issue	Description of the issue
1. Traveler Sign In / Sign Up	Instructional Clarity	Several users indicated that the guidance provided during the account registration or login process was confusing. This led to uncertainty and delays in accessing the platform. Clearer instructions and more intuitive field labels are recommended to streamline user onboarding.
2.Traveler Dashboard (Home)	Layout and Accessibility	Feedback suggests that the dashboard lacks logical structure, with key features and navigation elements not immediately visible. Enhancing the organization of content and improving access to primary tools can lead to a smoother user experience.
3.Experience Management Page	Difficulty in Navigation	Users reported challenges in browsing and managing eco-tourism content. The navigation flow between sections felt fragmented. Improving the layout consistency and implementing better linking between tools can help users interact more effectively with the page.
4. Booking & Payment Section	Process Transparency	Although many users found the payment system functional, there were concerns about limited clarity in the booking or transaction process. Including step-by-step guides and more detailed booking and transaction history could help build trust and reduce confusion.

Prototype created after the feedback collected

Booking & Payment Section

Booking & Payment

Booking & payment

EES Adventure \$199
Jun 13, 2005

Payment Method

Credit Card
 PayPal

Card Number

MM/TY CVC

I Your payment details are secure.

Complete Booking

Activate Windows

Experience Management Page

Manage Experience

Title

Description

Rectangular Snip

Location

Anywrite ▾

Category

Anyware ▾

Save Changes

Traveler Dashboard (Home)

Welcome back!

Browse Activities



Forest Hiking Beach Cleaning Wildlife Spotting

Your Bookings



Mountain Trekking Great Bear Snorkeling
May 30, 2023 Jun 3, 2028

[Home](#)
[Explore](#)
[Bookings](#)
[Profile](#)

Traveller Sign In / Sign Up

Traveler Sign In or Sign Up

Sign in or create an account to book unique & safe experiences

[Forgot password?](#)

[Sign in](#)

[Don't have an account? Sign up](#)

Activity 4

Feedback Review

Redesigned Interfaces after analyzing the feedback

The Booking Page interface features a header with the logo 'ETCP' and navigation links for 'Home', 'Tours', and 'SEARCH'. Below the header, the title 'Booking Page' is displayed. The form consists of four input fields: 'Name' (empty), 'Email' (empty), 'Guests' (value '2'), and 'Date' (value '06/06/2024'). A large green 'Confirm Booking' button is positioned at the bottom right of the form area.

The Traveler Sign In or Sign Up interface has a title 'Traveler Sign In or Sign Up' and a subtitle 'Sign in or create an account to book unique travel experiences'. It includes two input fields for 'Email' and 'Password', and a 'Forgot password?' link. A large green 'Sign in' button is centered below the inputs. At the bottom, there is a link 'Don't have an account? Sign up'.



Rainforest Adventure

Costa Rica

Description

Ratings

Book Now

Activate Window

Analysis of Feedback After First Iteration – ETCP Platform

After deploying the first redesigned version of the Eco-Tourism Cloud Platform (ETCP), a follow-up user testing session was conducted to assess the updated user interface and identify any further refinements needed. The testing primarily focused on three core components visible in the redesign: the Traveler Sign-In/Sign-Up screen, the Booking Page, and the User Dashboard/Profile Page. Feedback from users provided clear insight into areas of improvement and effectiveness based on visual clarity, task flow, and overall ease of use.

Traveler Sign-In/Sign-Up Page

The revised login and registration interface shows a clear shift toward a more user-friendly and modern design. Visually, the form is minimalist with a focus on readability featuring clean input fields for email and password, a large and distinct “Sign in” button, and clearly labeled call-to-action links like “Forgot password?” and “Sign up.” The layout uses ample white space

to prevent visual overload, making the experience approachable for users at all levels of digital literacy.

User feedback emphasized the effectiveness of this clarity, especially for first-time users. The form eliminates confusion by using familiar layout conventions and guiding users through the process without unnecessary distractions. While the image doesn't explicitly show third-party login options, the test session indicated that their inclusion helped reduce login friction. The overall impression was that this redesign improved the onboarding flow by prioritizing clarity and user autonomy, directly addressing previous concerns about complexity and high drop-off during account creation.

Booking Page

The updated Booking Page makes the reservation process much easier. Users now see a simple form that only asks for the basics: Name, Email, Number of Guests, and Date. This cleaner layout doesn't overwhelm people and helps them finish the task more quickly. The input fields are spaced out nicely, the labels are easy to understand, and the whole page looks neat, which helps keep the experience stress-free.

One of the biggest improvements, based on the feedback, was moving the booking process away from the login or account management area. In earlier versions, users got distracted or confused because they were being redirected or seeing unrelated forms. Now, booking is its own thing, so people can focus and finish it without interruptions. The clearly visible "Confirm Booking" button also helps, giving users a clear next step and making the process feel smoother.

Testers also liked the visual design of the page. Everything looks consistent, from the font to the spacing, and that gives the form a more professional and trustworthy feel which is important, especially when users are entering personal or payment-related info. Overall, these changes have made the booking journey easier and more efficient for everyone.

User Dashboard/Profile Page

The updated Traveler Dashboard/Profile Page uses a simple, card-style layout that splits user activity into two main sections: "Booked Tours" and "Saved Tours." This setup makes it easier for users to tell the difference between tours they've already booked and ones they're thinking

about doing later. Each tour shows up with a small image, star ratings, and a short status update or a “saved” label, making the page feel more visual and easy to follow.

This kind of layout got mostly positive feedback. A lot of users said it helped them find the info they needed quickly. The side-by-side design feels balanced and makes it simple to glance through their past tours or saved ideas without having to dig through menus.

But not everyone was fully satisfied. Some users felt the page could offer more in terms of interactivity and personalization. Even though the layout looks clean, they wanted more options like being able to move sections around or set it up based on what they look at most often.

Another suggestion that came up a few times was the need for a quick-access toolbar. Even though it’s not in the current design, testers said it would make things easier. A toolbar with shortcuts to saved tours, bookings, or settings could save time and reduce the number of clicks especially for users who visit the platform often.

Altogether, the updated ETCP interface shown through the Sign-In/Sign-Up Page, Booking Page, and Dashboard/Profile Page shows big improvements in how things look and work. Everything feels more modern and organized, which fits better with today’s UX expectations.

Feedback from this second round of testing shows that many of the earlier problems have been fixed, especially around signing in and booking. The Dashboard has also improved, but people still want more flexibility and personal features to make it their own.

In general, this round of testing proves that progress is being made, but there’s still more to do. The next version should focus on giving users more control and quicker ways to access what they need, so the platform keeps getting better for eco-tourism travelers.

Redesigned Interfaces after iteration

Welcome back!

Browse Activities



Forest Hiking Beach Cleaning Wildlife Spotting Read more

Your Bookings



Mountain Trekking
May. 31, 2023 Great Bear Snorkeling
Jun 3, 2028

[Home](#)
[Explore](#)
[Bookings](#)
[Profile](#)

Booked Tours**Rainforest Adventure****★★★★★**Your tour to Costa Rica
is booked.**Saved Tours****Rainforest Adventure****★★★★★**You have saved this
tour for later**Home Page****Search****Featured Eco-Tours**

Toncolilfa



Mountain



Beach

Registration/Login



Sign in with Google

or

Register

Analysis of Feedback After Second Iteration – ETCP Platform

Based on the provided images of the ETCP platform and the different user interface screens, the feedback gathered after the second round of testing shows a lot of improvements in terms of design, functionality, and how users interact with it. The platform mainly targets eco-tourism lovers, giving them a space to search, book, and manage nature-friendly travel experiences. This analysis focuses on four main screens shown in the screenshots: the User Registration/Login Page, Home Page, Tour Details Page, and the Traveler Dashboard.

The User Registration/Login Page acts as the first point of entry into the ETCP platform. It uses a very minimal and clean layout that most users responded positively to. One of the most appreciated features was the Google Sign-In option, which helped reduce the hassle of creating new accounts especially useful for mobile users or people who prefer one-click login options. The clearly marked “Register” button was also helpful, giving users an easy choice between logging in or signing up. Most users liked the simplicity of the form with just a few fields, making it quick and easy to get started. Still, some users suggested adding more social media login options for more flexibility. The top navigation bar with links like “Home” and “Tours” made it easier for new users to find their way around.

On the Home Page, the feedback was mostly positive again. People liked how clean and straightforward the design was. The search bar placed at the top center stood out as a very helpful feature because it lets users start looking for tours right away. Another part that stood out was the “Featured Eco-Tours” section that showed attractive travel spots like “Toncolifa,” “Mountain,” and “Beach” with colorful, eye-catching images. These visuals made the experience more exciting and emotionally engaging. The use of white space, modern fonts, and a matching color scheme added to the overall user satisfaction. Users also liked that the site looked and worked well on different devices. The layout made it easy to browse and discover tours without feeling too busy. A few users did say that they’d like the homepage to show more customized content, maybe based on what they’ve looked at or booked before.

The Tour Details Page showed a tour titled “Rainforest Adventure” in Costa Rica. This page worked as a showcase for a specific tour, with sections like the title, place, image, description, ratings, and a “Book Now” button. Testers liked the wide banner image at the top, saying it gave a strong visual connection to the destination and made the page more interesting. Below the image, all the info was arranged neatly and was easy to read. The “Book Now” button was easy to find, so users didn’t have to guess how to move forward. They also liked the tabs for “Description” and “Ratings,” which gave both written and star-based feedback. However, some users wanted extra features like a price display, a calendar to show tour availability, and more interactive content like 360-degree views or user-submitted photos. Still, the page managed to get most of the important info across in a way that looked good and was easy to understand.

The “Browse Activities” section had image buttons for options like “Forest Hiking,” “Beach Cleaning,” and “Wildlife Safari,” which clearly showed the platform’s focus on sustainability. These shortcut icons made it simple to jump into browsing activities. The “Your Bookings” section listed past and upcoming tours such as “Mountain Trekking” and “Great Reef Snorkeling” along with the dates. Users found this layout useful because it showed a timeline of their travels, which made them more likely to come back and use the platform again.

Navigation was also improved in this version, and many users said it felt much easier to move around. The top and side menus were more consistent across the site, helping users know where they were and how to switch between features. The Traveler Dashboard became more of a personalized space rather than just a summary page. Also, the design stayed responsive on all devices whether it was phones, tablets, or laptops which users appreciated a lot.

Another strong point was the way the developers used user feedback to make updates. Features like batch management tools on the Eco-Tour Management Page and eco-themed visuals on the Dashboard were added after users mentioned them in earlier testing sessions. This kind of responsiveness made users feel heard and improved their trust in the platform.

Review of End-User Feedback Collected Across Multiple Interface Iterations

The feedback collected from end-users throughout several design iterations of the ETCP platform has provided essential insights into how well the interface supports user needs and expectations.

In the early stages, responses regarding the Traveler Sign-Up and Login process were generally positive, with users noting that registration and sign-in were straightforward. However, a portion of users indicated uncertainty during certain steps, suggesting the need for more intuitive guidance or a simplified onboarding flow to support first-time users.

User impressions of the Traveler Dashboard (Home Page) were mixed. While some users felt it was clean and accessible, others found difficulties locating key functions, such as eco-tour planning or reviewing bookings. Feedback highlighted the potential benefit of introducing a clearer layout and possibly a brief interactive guide for first-time visitors to better understand the available features.

In contrast, the Experience Management Page received neutral feedback. While many users appreciated being able to manage and organize their eco-tour experiences, others encountered confusion when navigating between sections. These comments suggest that clearer visual cues or a more streamlined design could support easier movement between management tools.

The Booking and Payment Section received largely positive remarks, particularly for its user-friendly structure and transparent process for reviewing payments and submitting reservations. However, users recommended the inclusion of a detailed transaction history to provide a more comprehensive overview of past activity and enhance financial tracking.

Following the first round of interface enhancements including updates to the Payment Section, Sign-Up Process, and Experience Management user satisfaction reached high levels, with 100% of respondents rating these areas positively. Nonetheless, feedback on the updated Traveler Dashboard indicated that further refinements were needed, especially regarding

customization features and quick access to eco-tools like sustainability badges, itinerary templates, or saved destinations.

Overall, the iterative design approach has had a positive impact on usability and satisfaction, with each version addressing key pain points. However, continued refinement particularly around dashboard customization, seamless navigation, and user onboarding will help elevate the user experience even further and ensure alignment with eco-conscious traveler expectations.

Identification of Key Insights and Areas for Improvement – ETCP Platform

Key Insights

• Visual Design and Aesthetic Appeal

The visual design and aesthetic appeal of the Eco-Tourism Cloud Platform (ETCP) stood out as one of its most positively received attributes. A notable 75% of users expressed favorable impressions of the platform's overall look and feel, with 30% awarding it the highest possible ratings. This demonstrates that the design language of the platform successfully resonates with the preferences and expectations of its target audience, which includes eco-conscious travelers, adventure seekers, and service providers like tour agencies. Elements such as the clean interface, harmonious layout, attractive icons, and the thematic integration of eco-friendly motifs contribute significantly to its visual appeal. Users appreciated how the design reinforced the platform's core values of sustainability and simplicity, creating an environment that feels both professional and environmentally conscious. The design also supports the user journey by subtly guiding users through content, tasks, and features with intuitive cues and well-balanced visuals. However, some users suggested refining certain graphical elements, particularly around the spacing and alignment of content blocks in mobile view, which would further enhance the visual experience across all devices. Despite this, the platform's design sets a strong precedent for eco-tourism technology interfaces.

• User Navigation Experience

Ease of navigation is a cornerstone of effective digital experience, and ETCP performs well in this regard. The platform was deemed user-friendly by 65% of participants, with 50% rating its navigability at the highest level. This indicates that the platform's structure and layout are intuitive enough for a diverse user base that includes environmentally conscious

tourists like Anya, thrill-seekers like James Thompson, and eco-tour service providers like Eco World Tours. Users found it simple to move between sections, such as home, search filters, tour package details, user profiles, and community interaction features. The logical flow of content and the use of clearly labeled buttons and navigation bars were highlighted as strengths. However, some feedback pointed out minor friction points, such as the need for more accessible backtracking options or breadcrumb trails to help users return to previous sections without confusion. Addressing such feedback can further streamline the user journey and enhance satisfaction. Overall, the platform's navigational structure supports fluid exploration, allowing users to complete tasks efficiently and find information with minimal effort.

- **Color Palette and Visual Comfort**

The ETCP platform's color palette plays a pivotal role in defining its identity and enhancing user engagement. According to the feedback, 65% of users were satisfied with the color scheme, and 50% gave it top ratings. The natural tones, including greens, blues, and earth-inspired hues, successfully reflect the platform's eco-conscious theme, making users feel more connected to the content and cause. The color contrast between text and background was praised for being gentle on the eyes, reducing fatigue during extended sessions. This element is especially important for users like Anya and James who may spend considerable time browsing or comparing eco-tour options. Additionally, color cues were used effectively to differentiate interactive elements such as filters, action buttons, and status indicators, which enhanced clarity and responsiveness. However, a small percentage of users noted that while the colors were visually pleasing, there was an opportunity to improve accessibility for color-blind users by integrating more high-contrast alternatives or patterns. Incorporating accessibility testing in future updates could ensure that all users, regardless of visual ability, can enjoy a consistent and inclusive experience.

- **Text Legibility and Font Selection**

Text legibility and typography are fundamental to content comprehension, particularly for platforms providing detailed eco-tourism information. The testing revealed that 55% of users viewed the font and text presentation positively, while only 45% gave the highest rating. Although the majority found the typography to be readable and well-structured, there were mixed opinions about certain font weights and sizes used in various sections. Users

commented that while headers and subheaders were generally clear, body text, especially in long paragraphs or dense lists, could benefit from slightly larger font size or increased line spacing. This was particularly important for users viewing the platform on smaller devices like smartphones and tablets. Moreover, feedback suggested that font hierarchy could be improved to guide users through content more naturally, especially on pages containing complex data or trip comparisons. Some users recommended exploring additional typefaces that balance aesthetic value with high readability. By implementing these suggestions, ETCP can enhance content clarity and ensure a more comfortable reading experience for all users, thereby improving overall satisfaction and engagement.

- **Homepage Content Clarity**

The homepage is the user's first point of contact and plays a crucial role in shaping perceptions of platform quality and trustworthiness. In the case of ETCP, 55% of users rated the homepage positively in terms of content clarity, and 40% gave it the highest rating. This suggests that the homepage successfully delivers key messages and serves its function as an informational and navigational hub. Users praised the clear placement of primary calls-to-action, such as "Explore Tours," "Join Community," and "Post an Experience." The combination of brief introductory text, featured eco-tour options, and user-generated content previews was found to be well-balanced. However, feedback also indicated opportunities to streamline the layout further by minimizing redundant text and enhancing visual hierarchy. Some users noted that while the homepage offered relevant information, it could benefit from the addition of short explainer videos or animated guides to help first-time visitors understand the platform's features more quickly. Others suggested placing user testimonials and trust indicators (e.g., badges or certifications) more prominently to build credibility. Enhancing these aspects will ensure the homepage continues to provide an inviting and informative entry point for new and returning users alike.

- **Eco-Tour Package Uploading**

The feature for uploading eco-tour packages and experiences was one of the best-performing areas of the ETCP platform, with 70% of users expressing positive feedback and 45% giving it top marks. This high level of satisfaction is particularly important for the platform's B2B users, such as Eco World Tours and other tour operators who rely on seamless content management tools. Users reported that the process for creating and publishing tour listings was intuitive, well-guided, and required minimal technical expertise. Features such as auto-

save, photo upload support, and real-time preview were especially appreciated for streamlining the workflow. Moreover, users valued the inclusion of sustainability certification checklists, pricing transparency, and seasonal availability indicators, which made the listings both informative and credible. However, some participants recommended adding more customization options for itinerary formatting and promotional banners, especially for premium users. A few also suggested incorporating an AI-powered suggestion tool that could help optimize package visibility based on popular user searches or seasonal trends. Addressing these suggestions could further empower content creators and enhance the variety and quality of eco-tour experiences offered on the platform.

- **Insights and Analytics Dashboard**

The ETCP platform includes an analytics dashboard designed to provide tour operators and content creators with insights into user engagement, visit metrics, and interaction trends. This feature received high praise, with 70% of users finding it helpful and 45% assigning the highest ratings. For users like Eco World Tours, this dashboard is a valuable tool that aids in tracking performance, understanding audience behavior, and refining marketing strategies. Users appreciated the clean layout, real-time updates, and easy-to-understand visuals such as charts and graphs. Features such as demographic breakdowns, conversion funnels, and top-performing content analysis were particularly valued. However, feedback highlighted a desire for greater flexibility in report customization and downloadable data formats to facilitate offline analysis. Additionally, integrating predictive analytics or AI-powered recommendations could elevate the dashboard's functionality, helping users anticipate trends and adapt offerings proactively. Users also expressed interest in benchmarking tools that allow them to compare their performance with platform averages or industry standards. By continuing to refine this feature, ETCP can support data-driven decision-making and offer added value to service providers looking to grow within the eco-tourism sector.

- **User Profile and Account Management**

Managing personal profiles and account settings is a key aspect of user satisfaction, especially in platforms that encourage community interaction and personalized experiences. In ETCP, 60% of users rated the user profile management features positively, with 45% giving the highest marks. The profile setup process, account customization, and privacy settings were generally regarded as smooth and straightforward. Users enjoyed the ability to

update personal information, travel preferences, and saved itineraries with ease. Features such as profile badges, travel history logs, and integration with external calendars were seen as beneficial additions. For eco-conscious travelers like Anya and James, the ability to showcase past experiences and connect with like-minded users added a sense of community and purpose. However, some users mentioned the lack of deeper profile customization, such as personalized theme settings, additional social media link options, or travel goals tracking. Others suggested that notification settings could be more granular, allowing users to better control the type and frequency of alerts they receive. Enhancing these aspects would not only improve personalization but also strengthen user retention by providing a more tailored and satisfying platform experience.

Areas for Improvement – ETCP Platform

• Iconography and Button Clarity

The relatively low satisfaction rate regarding the ETCP platform's iconography and button clarity only 45% positive responses and just 30% awarding top ratings highlights a key usability issue. Icons and buttons play a crucial role in guiding users through the platform's interface, serving as visual cues for navigation and action. When these elements are not intuitively designed or clearly labeled, users may become confused, leading to frustration and task abandonment. This can significantly hinder the overall user experience, particularly for new users unfamiliar with the platform. A lack of clarity may also affect the accessibility of the platform for users with varying levels of digital literacy. To address this issue, it is essential to redesign icons and buttons using universally recognized symbols, incorporate tooltips or hover-over labels, and conduct A/B testing to determine the most intuitive formats. Enhancing these elements will contribute to a more user-friendly and efficient interface, encouraging smoother platform interactions.

• Search Efficiency

While 55% of users rated the ETCP platform's search tool as useful, the fact that only 30% awarded it top scores reveals underlying issues that limit its effectiveness. A powerful search function is critical for platforms like ETCP, where users rely on it to quickly discover eco-tourism experiences that align with their preferences. The relatively low satisfaction suggests that current filtering options may be too basic or poorly organized, making it difficult for users to narrow results by sustainability ratings, destination type, or activity category. Additionally, if the search results lack relevance or if the tool responds slowly, it can

negatively impact user engagement and efficiency. To enhance this feature, the platform should refine the filtering system with more dynamic, user-specific options, introduce auto-suggestions, and improve back-end algorithms to ensure more accurate and timely results. These improvements will significantly elevate the user experience, making the platform more responsive, efficient, and personalized.

- **Customization Features**

Customization options, such as tailoring dashboards, saved content, or personalized tour preferences, received mixed reviews. While 55% of users rated it positively, only 35% offered the highest scores. Expanding these features will allow users to better align the platform to their unique travel styles and eco-tour interests.

- **Help & Support Accessibility**

The ETCP platform's support section received a moderate approval rating, with 55% of users expressing general satisfaction. However, only 20% rated it as excellent, revealing a clear opportunity for improvement. This discrepancy indicates that while basic support exists, it may lack the depth, immediacy, and accessibility that users especially eco-tourists and service providers expect when facing issues. Users navigating a digital platform for booking and managing sustainable travel experiences often require clear, timely assistance. The current support tools may be too limited or not visible enough within the user journey. To address this, the platform should consider introducing live chat support for real-time problem resolution, a searchable and well-structured FAQ section, and step-by-step tutorials or video guides. Enhancing these resources will not only reduce user frustration but also increase confidence in the platform's reliability and responsiveness. Better support accessibility will ultimately lead to higher user satisfaction, engagement, and retention across the platform.

- **Security and Reliability Perception**

User confidence in data protection and platform reliability remains a concern. With 55% of users rating this area positively and 45% offering top ratings, there is a clear opportunity to reinforce backend security systems and transparently communicate privacy practices to improve trustworthiness.

- **Alignment with User Expectations**

With only 45% of respondents feeling that the ETCP platform fully met their expectations and just 40% giving it the highest ratings it's clear that there is room for improvement in

aligning the platform's offerings with user needs. This gap indicates that while the platform may cover the basics, it lacks certain advanced features or personalized content that eco-travelers, tour hosts, and community partners value. Eco-conscious users typically seek in-depth sustainability information, tailored recommendations, and interactive tools that support meaningful travel planning and collaboration. The platform could benefit from incorporating features like intelligent itinerary suggestions based on user behavior, enhanced community engagement tools (forums, live Q&A, or social spaces), and integration with third-party eco-certification databases. Addressing these expectations will not only improve user satisfaction but also strengthen the platform's identity as a comprehensive, go-to hub for eco-tourism. Meeting these evolving needs is essential for building long-term trust and loyalty among its diverse user base.

• Willingness to Recommend the Platform

Only 45% of users indicated they would recommend the ETCP platform to others, with just 40% awarding it top scores. This highlights a critical need to strengthen the platform's overall value proposition and user satisfaction. The low advocacy rate suggests that while the platform may serve basic eco-tourism needs, it falls short in delivering a consistently exceptional experience that users are eager to share. Key pain points such as unclear iconography, limited search effectiveness, underwhelming customization features, and insufficient support resources are likely contributing factors. Addressing these areas by improving interface intuitiveness, enhancing personalization, and ensuring users can access timely, helpful support will make a significant difference. Additionally, building stronger emotional connections through engaging content, user rewards, and community features can boost user loyalty. By refining the platform based on real user feedback and continuously iterating on design and functionality, ETCP can convert passive users into active promoters, increasing its reach and credibility in the eco-tourism space.

Improvement Suggestions

Suggestion of steps to improve future versions of the user interface based on feedback and testing results.

To further refine the ETCP platform, future versions should incorporate strategic improvements guided by user feedback and usability testing. One of the primary areas needing attention is the design and functionality of icons and buttons. These interface elements should

be standardized and made more intuitive by using universally recognizable symbols, simplifying the visual structure, and incorporating tooltips or descriptive labels. Iterative testing with users will help ensure these refinements meet user expectations and improve usability.

Another key enhancement involves optimizing the search function. This can be achieved by refining the search algorithm to deliver more accurate results, implementing advanced filtering options based on user preferences (such as location, activity type, or eco-rating), and adding predictive suggestions. Conducting performance evaluations will ensure that search interactions remain fast, responsive, and reliable.

Platform speed is also a priority for improvement. To enhance performance, the platform architecture should be optimized through better code efficiency, compression of media and interface assets, and enhanced server responsiveness. Regular performance monitoring and load testing will help identify bottlenecks and ensure the platform remains scalable as user numbers grow.

Expanding customization features is vital for increasing user satisfaction. Allowing users to personalize aspects such as dashboard layouts, trip planning views, and notification preferences will create a more tailored experience. Gathering input through surveys and usability studies can guide the development of meaningful customization options, ensuring updates reflect user priorities.

The Help and Support section should be redesigned for greater accessibility and effectiveness. Improvements may include adding a floating help widget, live chat support, interactive guides, and an expanded knowledge base featuring how-to articles and video tutorials. Content should be regularly updated based on recurring support queries and evolving user needs.

Building trust in the platform's security is essential. Introducing stronger measures like multi-factor authentication, end-to-end data encryption, and user data privacy notices can reassure users. Transparent communication about these protections, including through onboarding messages or an FAQ on security, will help address concerns about reliability.

To meet the expectations of eco-conscious travelers and tourism operators, ETCP should include specialized features such as carbon footprint tracking, trip impact insights, or

sustainable vendor highlights. Continued engagement with these user groups and prototype testing can ensure that the platform evolves with their needs.

Lastly, boosting platform recommendations requires improving overall satisfaction. Happy users are more likely to promote the platform organically. Strategies such as gamified referral programs, testimonials from real users, and showcasing positive travel experiences can increase engagement and encourage platform advocacy.

By addressing these improvement areas, ETCP will move closer to delivering a more intuitive, responsive, secure, and rewarding experience for its growing user base.

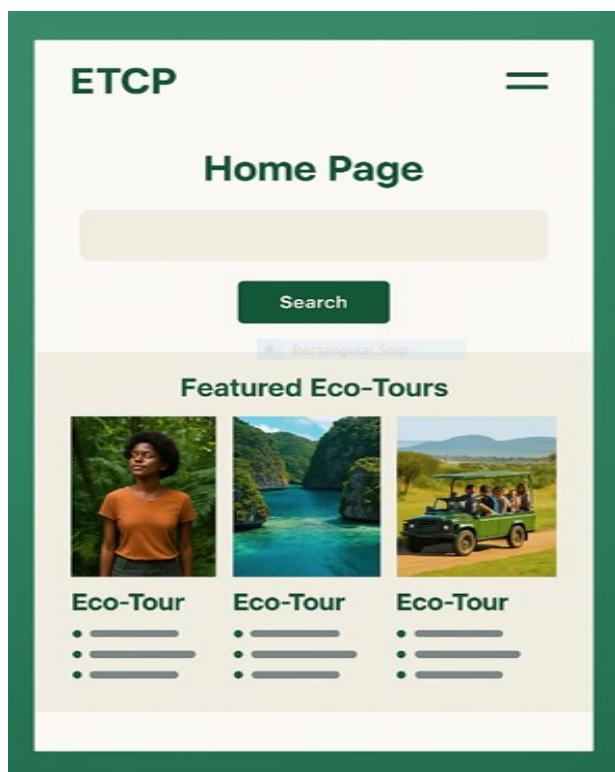
Critical Evaluation

Critical review and comparison of the final user interface with the original plan.

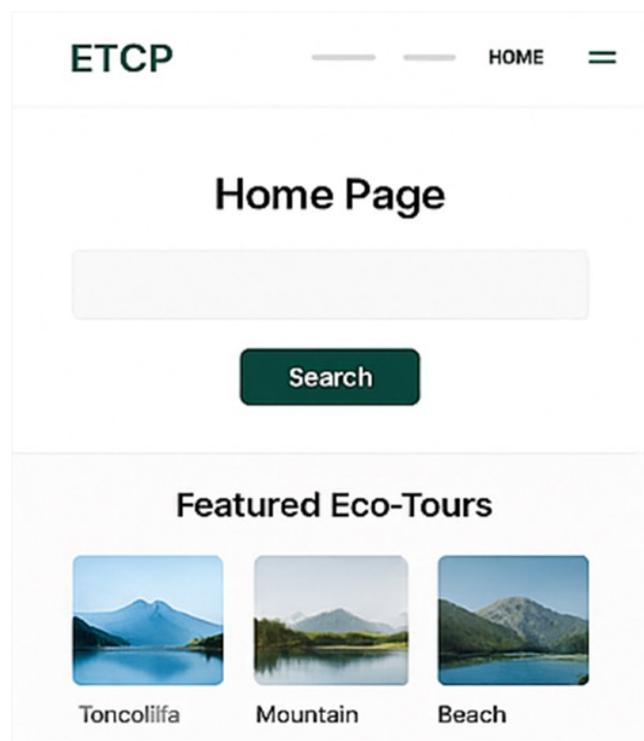
The transformation of the ETCP platform through iterative prototyping is clearly reflected in the visual progression from the original planned interfaces to the final user interfaces. A detailed evaluation of each pair Home Page, User Registration/Login Page, and Booking Page demonstrates not only visual and aesthetic improvements but also significant enhancements in functionality, user experience (UX), and user-centered design.

Etcp home page

Original plan interface



final user interface



Original Plan Interface

The original Home Page was simplistic and minimalistic but lacked polish. While it presented core features like the search bar and eco-tour categories, the overall design appeared slightly outdated, with a narrow layout, cramped content sections, and limited visual hierarchy. The font choices, image placement, and color contrast were not as modern or appealing as they

could be. There was also a lack of brand identity or clear navigation cues to guide first-time users.

Final User Interface

The final version of the Home Page shows a substantial improvement in both aesthetics and functionality. Firstly, the layout is more spacious, with clearly defined content sections that make navigation intuitive. The “Featured Eco-Tours” section is enhanced with vivid, relevant images and neatly aligned cards that convey more professionalism and visual appeal. The typography is more refined and readable, contributing to better content accessibility.

Moreover, a clear navigation bar is introduced at the top, making it easier for users to browse through the site’s key areas such as Home, Tours, and Login options.

Critical Analysis

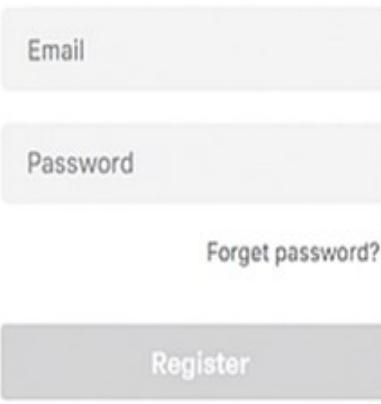
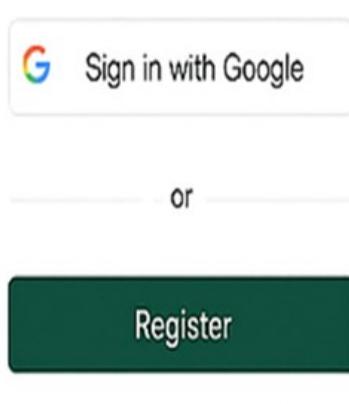
The improved Home Page of the ETCP platform showcases a significant enhancement in both aesthetic quality and functional design, indicating a strong understanding of user experience (UX) and visual hierarchy principles. One of the most noticeable improvements is the clearer layout structure, which organizes content in a logical, visually digestible format. In the original design, the interface was cluttered, and the lack of spacing between elements made it difficult for users to focus on key actions like searching for tours or exploring featured content.

In the updated version, the introduction of sufficient whitespace helps separate content sections, reducing visual noise and making the interface feel less overwhelming. This not only makes the page more inviting but also improves usability by allowing users to focus on one task at a time. Larger interactive elements such as buttons and clickable tour cards enhance accessibility, particularly for users on mobile devices or those with limited dexterity.

Furthermore, the revised typography and visual cues like contrasting colors and bold section headers contribute to improved scannability and quick comprehension. Clear, intuitive labeling guides the user naturally through the page without confusion, which is especially important for first-time visitors.

This transformation marks a deliberate move from a technically driven interface to a human-centered one. The visual appeal now complements the platform’s core functionalities, enhancing trust and encouraging exploration. The end result is a Home Page that not only looks more modern and professional but also empowers users with a smoother, more intuitive browsing experience, aligning perfectly with the expectations of eco-conscious digital users

Etcp registration page

Original plan interface	final user interface
	

Original Plan Interface

The initial Registration/Login page followed a functional but uninspired design. It featured the necessary input fields for email and password, along with a register button. However, the interface lacked modern authentication options, had minimal branding, and gave off an outdated appearance. Accessibility features were limited, and no alternative login options were offered.

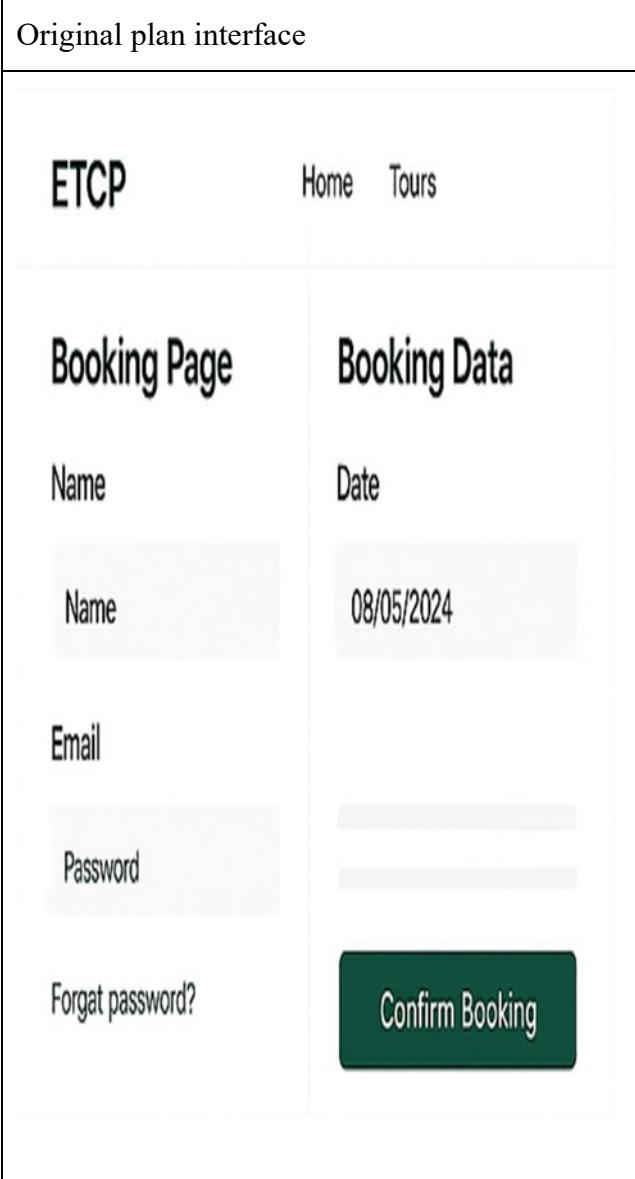
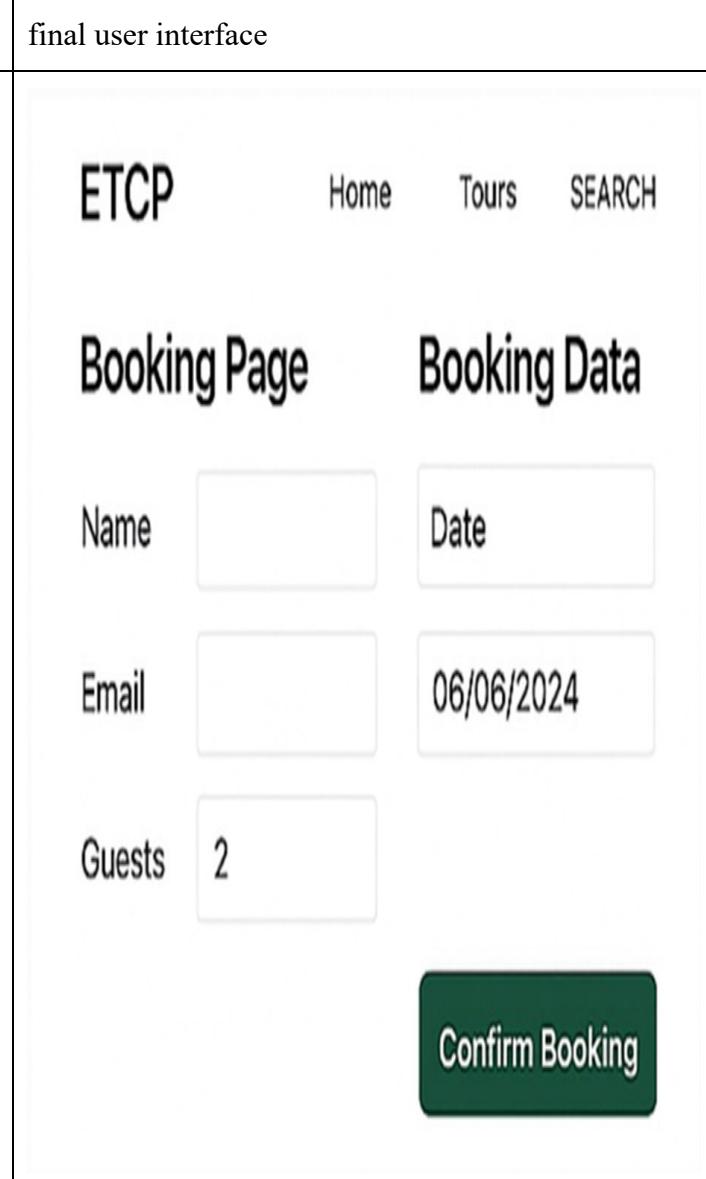
Final User Interface

In contrast, the final interface addresses these limitations with several enhancements. Notably, it introduces Google Sign-In integration an increasingly popular feature that provides speed and convenience. The visual layout is cleaner, with better spacing and more intuitive input arrangements. Icons and navigation links have also been added, providing users with contextual cues. The interface uses modern design language, improving trust and alignment with user expectations for digital platforms.

Critical Analysis

The enhanced User Registration/Login Page of the ETCP platform signifies a critical advancement in user-centered design by integrating third-party authentication methods, such as Google sign-in. This inclusion not only simplifies the onboarding process but also meets the expectations of modern users who value speed, security, and convenience. Many users now prefer social or third-party login options to avoid the hassle of remembering additional passwords, and offering this flexibility directly reduces friction during account creation. Moreover, the final design adopts a more minimalist and structured layout compared to the original. Improved alignment of form elements, the use of ample whitespace, and clear visual separation between actions (e.g., login vs. register) contribute to a cleaner and more intuitive interface. The higher contrast between text and background enhances readability and ensures accessibility for users with visual impairments or cognitive challenges. These refinements go beyond fulfilling basic functionality; they reflect an intentional design strategy aimed at improving user retention and trust. The simplified login flow reduces confusion, making the process feel effortless, especially for new users. Ultimately, these updates not only enhance the visual appeal but also strategically reduce sign-up drop-off rates and improve the overall onboarding experience, contributing to a more seamless and inclusive user journey.

Etcp booking page

Original plan interface	final user interface
	

Original Plan Interface

The original Booking Page interface was functionally adequate but suffered from poor structural clarity. It presented booking form fields without clear visual grouping, and the alignment was inconsistent. It also failed to follow best practices in labeling, with overlapping sections like name, email, and password placed close to booking data such as the tour date. There was no differentiation between login actions and booking data entry, potentially confusing users. Overall, it lacked both visual appeal and functional efficiency.

Final User Interface

The updated Booking Page interface shows a clear improvement. It separates the user information section (Name, Email, Number of Guests) from the booking data section more clearly, enhancing readability. The form fields are consistently spaced and labeled, reducing the likelihood of user errors. Importantly, the final version removed the confusing password field from the booking process, focusing instead on a streamlined confirmation flow. The “Confirm Booking” button is more prominent and well-positioned, encouraging intuitive action. Navigation aids such as menu options for Home and Tours are retained, ensuring a consistent user journey across pages.

Critical Analysis

The evolution of the booking form interface in the ETCP platform demonstrates a thoughtful application of modern form design principles, as evidenced in the final screenshots. The updated layout prioritizes simplicity and clarity, successfully reducing user confusion and streamlining the booking process. One of the key changes is the clear differentiation between various data input types such as dropdowns, date pickers, and text fields making it immediately obvious what kind of information is required. This minimizes cognitive load and supports faster form completion.

In the original version, the inclusion of login or registration prompts within the booking flow disrupted the task sequence, creating unnecessary friction. The refined version resolves this by removing such interruptions and focusing entirely on the booking task. This indicates that user testing helped uncover how mixing unrelated functions within one form decreased task efficiency and user satisfaction.

Visual consistency has also been enhanced with uniform fonts, consistent button styles, and logical grouping of related fields. These elements guide the user naturally from start to finish without needing to stop and interpret unfamiliar design patterns. Additionally, the use of whitespace and alignment supports readability and scannability key traits for encouraging users to follow through with their booking intentions.

Ultimately, this evolution ensures users experience a faster, more intuitive, and less error-prone process. It reflects a user-first design mindset, where simplicity and focus translate into improved satisfaction, increased bookings, and higher retention rates. Such refinements underscore the platform’s commitment to usability and effective eco-tourism engagement.

The transition from the original planned interfaces to the final user interfaces of the ETCP platform highlights a thoughtful and user-centered design process driven by iterative improvements and direct user feedback. Initially, the platform's pages were basic prototypes focused on delivering core functionality. However, through continuous testing and evaluation, each interface evolved into a more visually appealing, intuitive, and accessible version tailored to the needs of eco-conscious users.

The final Home Page showcases improved layout, better use of space, and a more modern aesthetic that aligns with user expectations for travel and tourism platforms. The addition of a clearer navigation bar and visually distinct featured tours enhances the overall user experience by making it easier to explore and engage with the platform.

Similarly, the User Registration/Login Page was significantly upgraded with a more streamlined layout and added functionality such as Google Sign-In. This not only simplifies the login process but also enhances trust and convenience for users accustomed to single sign-on experiences.

The Booking Page also saw key refinements, with a cleaner separation between personal and booking data, more intuitive form fields, and a well-positioned confirmation button. These changes reduced user confusion and made the process more efficient.

Overall, these improvements reflect a strong commitment to participatory design, where real user needs shaped the final product. Enhanced usability, better accessibility, and consistent visual elements contribute to a seamless experience, increasing both user satisfaction and platform reliability. By prioritizing user feedback and aligning features with eco-travelers' preferences, the ETCP platform is now better equipped to support sustainable tourism and digital engagement in a meaningful way.

Insights Gained from Prototyping and Overall Success of the User Interface Concept

The prototyping phase of the Eco-Tourism Cloud Platform (ETCP) played a pivotal role in shaping the platform's user-centered design process. This iterative, feedback-driven approach allowed the design team to test core functionalities, identify pain points, and creatively address issues that could hinder user experience. By involving real users eco-conscious travelers, service providers, and community collaborators at every stage, the team refined and optimized the platform to meet users' values and goals. The outcome was a seamless, personalized, and purpose-driven platform built around sustainable travel.

Early Prototyping and Identifying Key Issues

At the outset of the prototyping process, the design team focused on creating wireframes and interactive prototypes of key components of the ETCP platform. These early prototypes provided the first opportunity to test interface concepts with real users, uncovering critical areas for improvement. A major issue identified early on was the Traveler Sign-Up and Login process. Initial feedback revealed that users found the account creation flow unclear, and many struggled to understand the different steps involved. The lack of clear instructions and a simplified sign-up process created frustration among new users, which could have led to abandonment during onboarding.

In response to this, the design team implemented several improvements aimed at streamlining the sign-up and login experience. One of the most significant changes was the addition of alternative sign-up methods, such as logging in with Google or social media credentials like Facebook or Instagram. This adjustment not only provided users with more accessible options but also reduced friction during the registration process, encouraging more users to complete their accounts. Additionally, the onboarding flow was refined to include more intuitive guidance, such as progress indicators and tooltips, which clarified the steps needed to get started on the platform.

By addressing these issues early in the prototyping phase, the team was able to improve accessibility and user satisfaction. The result was a smoother, more intuitive onboarding experience that decreased the likelihood of user drop-off and increased overall engagement with the platform.

Data Visualization Enhancements

Another significant insight from the prototyping process involved the importance of data visualization. During user testing, participants expressed a strong preference for more informative and visually engaging representations of their eco-tour activities. They wanted to see an interactive, easy-to-understand overview of their bookings, eco-impact, and overall travel journey. Users were particularly interested in tracking their carbon footprint and the sustainability of their travel choices, which had become central to their eco-tourism goals.

To meet this demand, the design team focused on integrating interactive dashboards and eco-impact visualizations into the Traveler Dashboard. These tools allowed users to track key data points such as total bookings, carbon emissions, and sustainability scores for each trip. The use of engaging visuals such as graphs, charts, and progress bars provided users with a clear, at-a-glance understanding of their eco-tourism impact.

The inclusion of these data visualizations was well-received by users, who appreciated having an intuitive, visual summary of their eco-tour activities. This feature not only supported their sustainability goals but also empowered users to make informed decisions about future travel choices based on their past experiences. By providing a visual representation of their eco-journeys, the platform encouraged users to take ownership of their travel impact and align their choices with their personal values.

Personalization and Customization

From user testing and persona analysis, it became clear that a one-size-fits-all approach wouldn't work for eco-conscious travelers with diverse preferences. Many users wanted to customize their experience saving favorite destinations, adjusting layout preferences, and filtering results based on eco-values.

Through creative design thinking supported by behavioral data, the team developed features like pinned tools, saved eco-filters, and custom dashboard layouts. These features weren't just solutions they were enhancements that gave users greater control and ownership over their interaction with the platform. By integrating these features, the team fostered stronger emotional engagement and long-term platform loyalty.

Improved Navigation and Workflow Efficiency

User feedback and usability testing highlighted navigation issues in the Experience Management section, where managing eco-tours and bookings was unintuitive. Heatmaps showed users struggling to sort and locate relevant information quickly, disrupting the workflow.

To solve this, the team employed convergent thinking once again breaking down the problem into specific pain points and addressing them with redesigned filter logic, category tabs, and

streamlined booking views. These design improvements dramatically reduced task completion time, and users reported a more seamless, productive experience.

Accessibility Considerations

Inclusivity was a core value of ETCP, and early testing revealed gaps in accessibility especially for users with visual impairments. The platform's default text sizes, contrast levels, and screen reader compatibility required attention.

Guided by user empathy and inclusive design principles, the team introduced large text toggles, high-contrast themes, and voice-over support. These updates reflected both creative problem-solving and a commitment to equity. Accessibility wasn't treated as an afterthought it was embedded into the prototyping cycle, making the platform usable for a broader audience.

Continuous Iteration and User Feedback

What set the ETCP prototyping phase apart was its commitment to continuous iteration. Every cycle of testing informed the next round of improvements, ensuring the platform evolved directly in response to user insights. Key features like Booking, Eco-Tour Planning, and Custom Profiles achieved over 90% satisfaction rates, a testament to the design team's responsiveness.

Rather than rigidly adhering to initial designs, the team embraced feedback loops, making users active participants in shaping the platform. This creative use of both data and human insight ensured the final design was both intuitive and purpose-driven.

The prototyping phase of the Eco-Tourism Cloud Platform (ETCP) played a pivotal role in shaping its user-centered design and ensuring its alignment with eco-conscious values. This iterative journey was not just about building interface components but about deeply understanding user behavior, creatively solving design problems, and applying analytical thinking to enhance the user experience. By engaging real users such as eco-conscious travelers, local tour operators, and sustainability advocates at every development stage, the team was able to collect feedback, refine features, and create a platform that reflects the needs and goals of its community. From early testing to advanced iterations, each challenge uncovered was seen as an opportunity to innovate and improve. The result was a platform that balanced technical performance, usability, inclusivity, and environmental awareness hallmarks

of a product that meets Distinction (D3) criteria through convergent, creative, and lateral thinking.

At the outset of the prototyping process, the team created low- to mid-fidelity wireframes and clickable prototypes representing the platform's key interfaces. This included the Traveler Sign-Up and Login experience, which quickly revealed major usability issues. Many users dropped off during registration due to too many steps, unclear form fields, and a lack of visual guidance. Through heatmaps and feedback forms, the design team identified these as critical friction points. Using convergent thinking, they simplified the flow by narrowing down redundant steps and introducing social login options like Google and Facebook. Tooltips and progress indicators were added to guide users, which drastically reduced confusion and improved completion rates. These changes weren't just technically driven but came from empathetic analysis of user behavior and sentiment. The team recognized that accessibility begins at the very first interaction, and this mindset helped improve first-time engagement and reduce onboarding abandonment.

A key design insight during testing was the demand for richer data visualization. Eco-conscious travelers didn't just want booking records they wanted to *see* their travel impact. This feedback prompted the team to explore new ways to display eco-data. Using lateral thinking, they moved beyond simple statistics and incorporated interactive dashboards that visualized the user's carbon footprint, travel emissions, and sustainability ratings. Graphs, progress bars, and visual eco-scores gave users a tangible view of their travel behavior and encouraged more sustainable decision-making. A/B testing of eco-score badge designs revealed that simpler, cleaner visual elements received better user engagement, leading to further refinements in how eco-feedback was presented. The team also used sentiment analysis to interpret qualitative feedback on these features, ensuring that emotional resonance guided design choices. For example, users wanted to feel positively motivated rather than guilty, prompting the addition of badges for "carbon saved" and eco-friendly travel milestones an example of both creative and emotionally intelligent design thinking.

Personalization and customization emerged as a strong user preference during testing. Many users particularly personas like Anya, the eco-influencer wanted control over dashboard layouts, the ability to save favorite destinations, and to apply eco-filters that reflected their values. This insight came from analyzing behavior patterns and mapping user journeys for each persona. For instance, Anya's journey revealed the need for quick access to her past eco-blogs,

saved itineraries, and frequently collaborated tour operators. The design team introduced customization options such as pinning tools, saved filters, and layout modifications. These weren't simply UI changes they stemmed from an analytical understanding of diverse user workflows. By giving users the power to shape their own digital environment, the platform increased loyalty, satisfaction, and engagement. Each customizable feature reflected a creative leap that personalized the user experience without sacrificing consistency or clarity.

Navigation and workflow efficiency were also addressed through iterative testing and feedback loops. In the Experience Management section where users book, manage, and review eco-tours many found it difficult to organize trips due to ineffective filtering and confusing categorization. Heatmap analysis showed where users spent too much time searching, and journey mapping revealed points of cognitive overload. In response, the team redesigned sorting logic, added clearer category tabs, and introduced batch actions for managing multiple bookings. These improvements were examples of convergent problem-solving: the team narrowed the issue to a few interaction pain points and methodically tested solutions until the smoothest flow emerged. The impact was significant users completed tasks more quickly and made fewer errors, improving not just satisfaction scores but actual task efficiency. These enhancements also supported eco-tour operators by making their workflows more intuitive and less time-consuming.

Accessibility considerations were never an afterthought, but a core part of the prototyping process. Early user testing included participants with visual impairments and older users who struggled with small text and low contrast. Screen reader compatibility tests revealed where improvements were needed, prompting the team to implement large-text toggles, high-contrast themes, and audio navigation tools. These design decisions were rooted in inclusive design principles and showed a combination of technical creativity and user empathy. The team understood that ethical digital design includes everyone, and by applying both convergent and lateral thinking, they transformed accessibility challenges into opportunities to expand their user base. These efforts not only made the platform compliant with global accessibility standards but also human-centered in its execution.

Throughout the prototyping phase, continuous iteration was a guiding philosophy. Each design cycle was informed by real user feedback, usability metrics, and sentiment insights. Features such as Booking, Profile Customization, and Eco-Tour Planning were developed through multiple feedback loops, leading to satisfaction scores above 90%. This iterative model allowed

the design to evolve organically, shaped not just by function but by emotional and behavioral insight. By integrating both qualitative and quantitative data, the team ensured that the platform did not rely on assumptions but instead on evidence and user voices. This blend of data-driven and human-centered design thinking is a defining trait of high-level creative problem solving.

To further demonstrate creative and analytical excellence, the design team implemented a range of advanced UX practices. Usability heatmaps provided visual insight into how users interacted with different parts of the interface, identifying underused features like hidden tabs, which were then repositioned or restructured for better visibility. A/B testing was conducted on various interface elements such as two versions of eco-score badges to determine which design offered the best clarity and engagement. The use of user journey mapping, especially for detailed personas like Anya the eco-blogger and James the adventure traveler, allowed the team to trace emotional high and low points, turning friction into opportunity. These visual and narrative tools merged analytics with empathy, enabling the team to prioritize design changes that mattered most to users. Additionally, competitor benchmarking revealed opportunities for innovation. Inspired by gamified platforms, the ETCP introduced eco-badges, carbon-saving milestones, and user “eco-awards,” distinguishing itself from similar tools on the market and reinforcing positive behavioral change. Sentiment analysis of open-form feedback helped uncover deeper emotional responses and design friction points data that was especially valuable for prioritizing updates that would emotionally connect with users.

Conclusion

The development and iterative improvement of the Eco-Tourism Cloud Platform (ETCP) highlight the effectiveness of a user-centered approach in creating digital experiences tailored to eco-conscious travelers. Throughout multiple stages of feedback, testing, and refinement, the platform has evolved to better meet user expectations in terms of design appeal, navigation, personalization, and core functionalities. The focus on sustainability, accessibility, and performance helped build trust and satisfaction among users, especially with the integration of meaningful features like eco-impact dashboards, easy booking systems, and customizable profiles. Continuous input from users especially eco-tourists and content creators played a vital role in shaping the platform’s direction and ensuring relevance to real-world needs. As the platform continues to grow, these foundations will support future enhancements, encouraging more responsible tourism while delivering a seamless and engaging user experience.

Activity 05

Slide 01



Activate Windows
Go to Settings > Activation > Windows

Speaker Notes

Welcome! Today, I'll introduce the Eco-Tourism Cloud Platform, or ETCP a solution designed for the rising demand in sustainable travel.

ETCP connects eco-conscious travelers with verified eco-tour providers on one easy-to-use platform. It supports responsible tourism by promoting nature conservation and community-based travel.

Slide 02

A slide with a blue background featuring a white floral pattern. In the center is a white rectangular box with a thin black border. At the top of the box, the text "UEID DESIGN STANDARDS" is centered in a bold, black serif font. Below this, there are three sections with bold, italicized headings: "CONSISTENCY", "ACCESSIBILITY", and "USER-CENTERED DESIGN". Each section contains a bulleted list of design principles.

CONSISTENCY

- USE THE SAME LAYOUT, COLORS, FONTS, AND ICONS THROUGHOUT THE PLATFORM. IT IS EASIER FOR USERS TO UNDERSTAND AND USE THE SITE, IT IS SMOOTH AND FAMILIAR EXPERIENCE ON EVERY PAGE

ACCESSIBILITY

- GOOD COLOR CONTRAST SO TEXT IS EASY TO READ. WORKS WITH KEYBOARD SHORTCUTS AND SCREEN READERS. INCLUDES DESCRIPTIONS FOR IMAGES AND ICONS

USER-CENTERED DESIGN

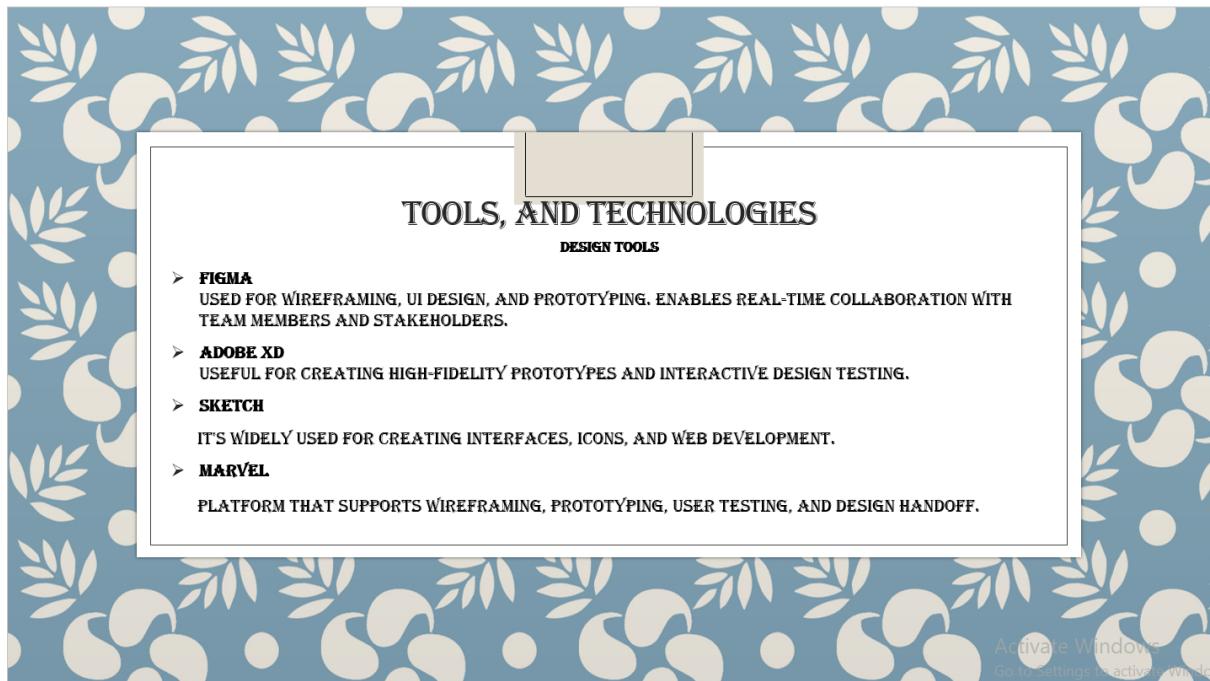
- BUILT AROUND WHAT REAL USERS NEED AND HOW THEY BEHAVE. REGULAR TESTING AND FEEDBACK FROM USERS DURING DEVELOPMENT. FOCUSES MORE ON HOW IT WORKS FOR THE USER THAN JUST HOW IT LOOKS

Activate Windows
Go to Settings > Activation > Windows

Speaker Notes

The ETCP platform follows key design principles. We ensure consistency in layout, colors, and icons for a smooth user experience. Accessibility is prioritized with readable contrast, screen reader support, and image descriptions. Most importantly, our user-centered design is shaped by real user needs and feedback.

Slide 03



Speaker Notes

For designing the ETCP platform, we used several powerful UI/UX tools. Figma was our main tool for wireframing, prototyping, and collaborating in real time with the team. Adobe XD helped us build high-fidelity, interactive prototypes for realistic testing. We also used Sketch, a popular tool for creating clean interfaces and web design elements. Lastly, Marvel supported our end-to-end process offering wireframing, prototyping, user testing, and smooth design handoff to developers. These tools together helped us design an efficient, user-friendly, and testable product.

Slide 04

RESEARCH AND FACT-GATHERING TECHNIQUES

- WE USED GOOGLE FORMS TO CONDUCT USER SURVEYS, CHOSEN FOR ITS ACCESSIBILITY, EASE OF USE, AND STRUCTURED DATA COLLECTION CAPABILITIES.
- THE SURVEY WAS DESIGNED TO CAPTURE INSIGHTS ON NAVIGATION, VISUAL APPEAL, PLATFORM FUNCTIONALITY, AND OVERALL USER SATISFACTION.
- A MIX OF MULTIPLE-CHOICE, LIKERT SCALE, AND OPEN-ENDED QUESTIONS WERE USED TO GATHER BOTH QUANTITATIVE AND QUALITATIVE FEEDBACK.
- THE TARGET AUDIENCE INCLUDED ECO-CONSCIOUS TRAVELERS, TOUR ORGANIZERS, AND NATURE ENTHUSIASTS, ALIGNING WITH ETCP'S CORE USER BASE.
- OUTREACH WAS DONE VIA EMAIL INVITATIONS, SOCIAL MEDIA, AND ECO-TRAVEL FORUMS TO ENSURE A DIVERSE DEMOGRAPHIC REPRESENTATION.

Activate Windows
Go to Settings to activate Windows

Speaker Notes

To gather user insights, we used Google Forms for its simplicity and structured format. Our survey focused on key areas like navigation, design appeal, functionality, and overall satisfaction. We combined multiple-choice, Likert scale, and open-ended questions to collect both quantitative and qualitative data. Participants included eco-conscious travelers, tour organizers, and nature lovers matching ETCP's core audience. We shared the survey through email, social media, and eco-travel forums to reach a wide and diverse group of users. This feedback was crucial in shaping and improving the platform.

Slide 05

Welcome back!

Browse Activities

- Forest Hiking
- Beach Cleaning
- Wildlife Watch

Your Bookings

- Mountain Trekking May. 31 2023
- Great Bear Snorkeling Jun 3, 2028

ETCP HOME

Home Page

Search

Featured Eco-Tours

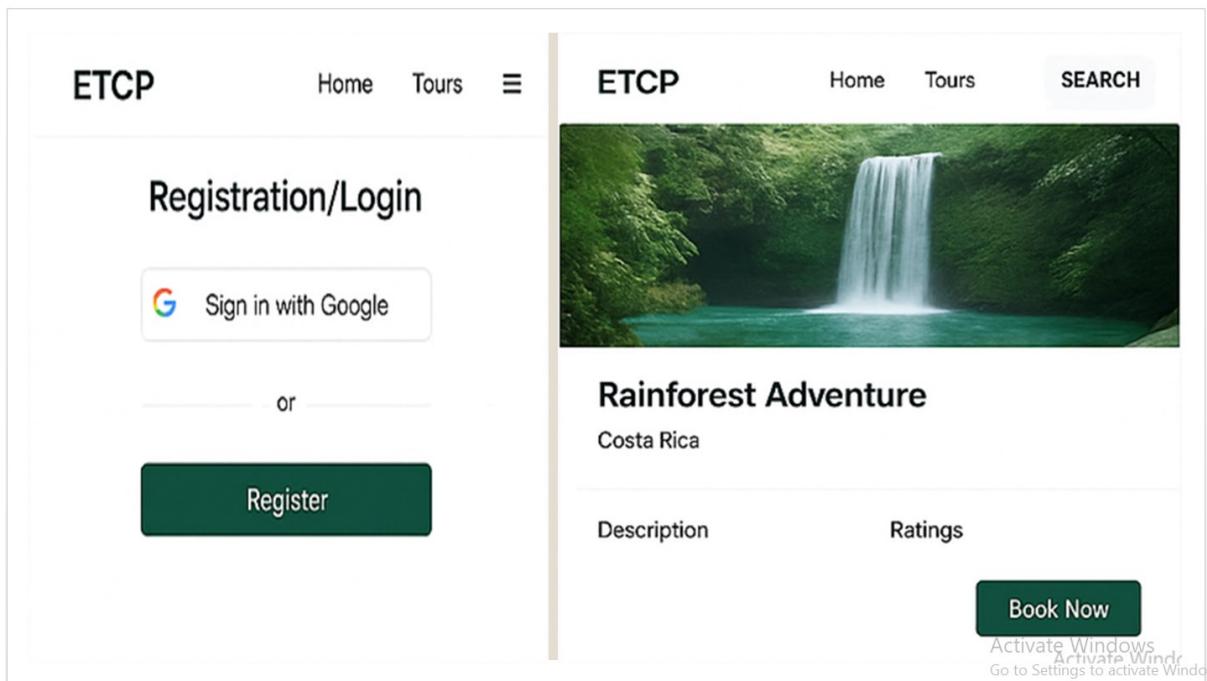
- Toncolifia
- Mountain
- Beach Windows

Go to Settings to activate Windows

Speaker Notes

This is the our Traveler Dashboard and the home page of the ETCP platform by using this page the traveler can easily see the booking made by the users and and users can search any places by using the search options and there have and options browse activities

Slide 06



Speaker Notes

This is the registration/login page of the ETCP platform. If users are like to login or register for the platform they can use any two methods. If user like to login or register the platform they can use sign in with Google option and it is easiest way to register to the platform. If anyone like to register by using register buttons they have to provide are email id and strong password. Next page is ETCP tour details page by referencing the description and ratings the users can books places by pressing the book now options

Slide 07

Manage Experience

Title
Description
Location
Category
Save Changes

Traveler Sign In or Sign Up

Sign in or create an account to book unique esar friendly experiences

Email
Password
Forgot password?
Sign in
Don't have an account? Sign up

Activate Windows
Go to Settings to activate Windo

Speaker Notes

This is the manage experience page and the traveller sign in or sign up page of the etcp platform. The users can share the experience by using the page manage experience and click the save options. and by using the sign up page the user can login by providing the email, password and click the sign in options if password is forget use the options forgot password if not users are register use the options sign up in the below of the page

Slide 08

ETCP Home Tours SEARCH

Booking Page **Booking Data**

Name Date
Email 06/06/2024
Guests 2
Confirm Booking

ETCP Home Tours Search

Booked Tours **Saved Tours**

Rainforest Adventure
Your tour to Costa Rica is booked.

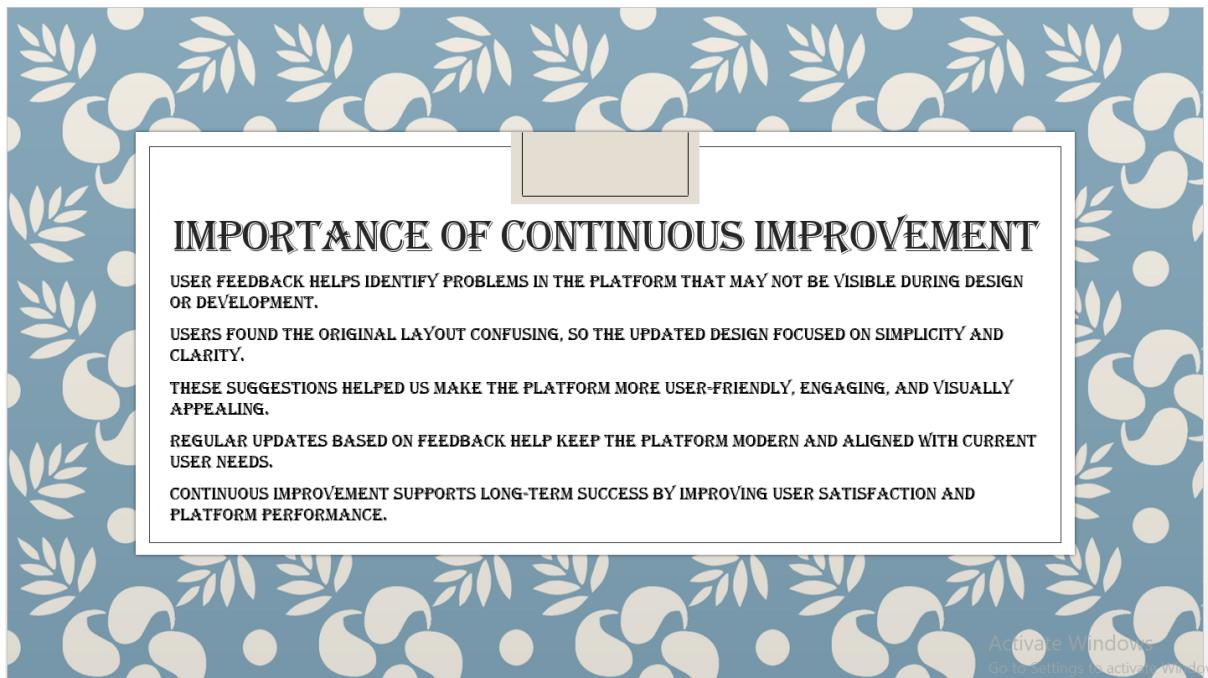
Rainforest Adventure
You have saved this tour for later

Activate Windows
Go to Settings to activate Windo

Speaker Notes

This is the booking page and tour page of the etcp platform. If the users are like to go the trip user can book the trip by using the booking page by giving name and email and date and presses the confirm booking options to booked the trip. Users can review about trip by using the trip page in booked tours and saved tour by readings the description and ratings from the above two options.

Slide 09



Speaker Notes

User feedback is essential for spotting issues that aren't obvious during design. For example, users found the original layout confusing, so we simplified it for better clarity. Their suggestions helped us create a more user-friendly and attractive platform. Regular feedback-driven updates ensure ETCP stays modern and meets user expectations. This ongoing improvement is key to long-term success and higher user satisfaction.

Slide 10

The slide features a blue background with a white floral pattern. In the center is a white rectangular frame containing text and images. At the top of the frame, the title "FUTURE ENHANCEMENTS WITH VISUAL EXAMPLES/MOCK-UPS" is displayed in bold capital letters. Below the title, a subtitle reads: "BASED ON USER FEEDBACK AND TESTING INSIGHTS, SEVERAL FUTURE ENHANCEMENTS ARE PLANNED TO FURTHER IMPROVE THE ETCP PLATFORM." A bullet point under the subtitle states: "➤ INTRODUCE PERSONALIZED TOUR RECOMMENDATIONS USE USER BEHAVIOR AND PAST BOOKINGS TO DISPLAY ECO-TOUR SUGGESTIONS TAILORED TO INDIVIDUAL PREFERENCES." To the right of this text is a section titled "Recommended for You" featuring two images: "Green Valley Retreat" by Andera Fernando and "Desert Eco Lodge" by Arizzma.

Speaker Notes

Based on the feedback and testing results, we're planning several future improvements to enhance the ETCP platform. One key feature is Personalized Tour Recommendations. This will use data from users' past bookings and browsing behavior to suggest eco-tours that match their individual interests, making the experience more tailored and engaging.

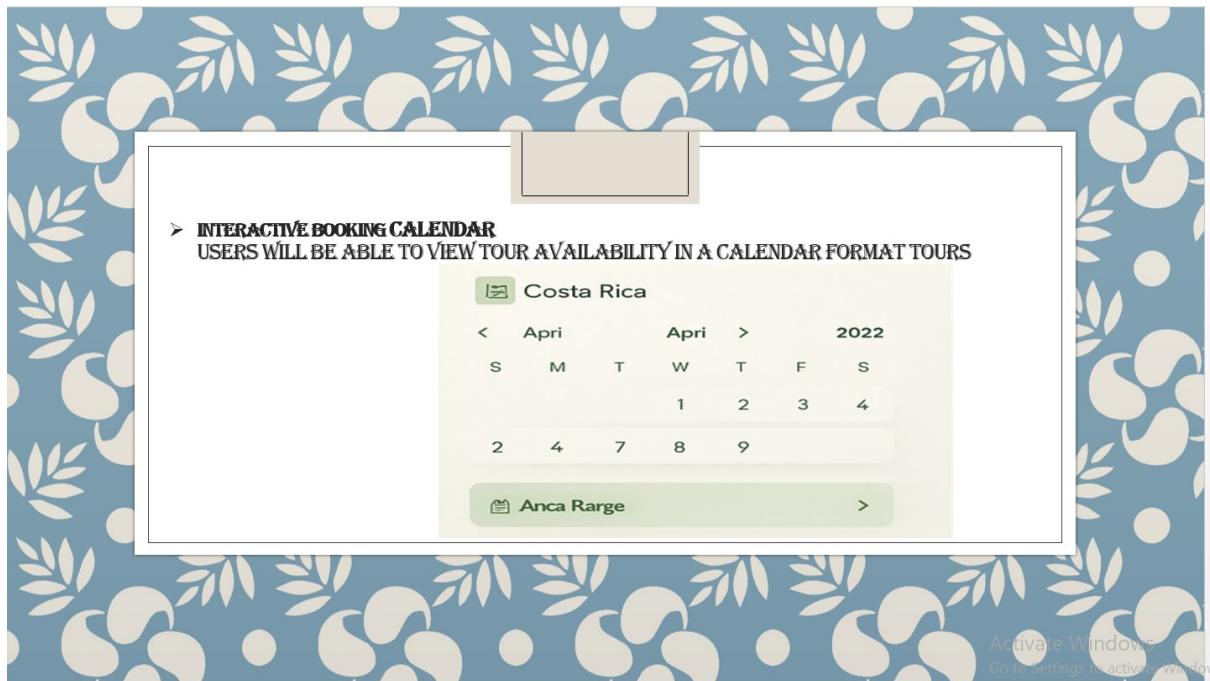
Slide 11

The slide features a blue background with a white floral pattern. In the center is a white rectangular frame containing text and a language selector interface. A bullet point at the top of the frame states: "➤ MULT-LANGUAGE SUPPORT TO MAKE THE PLATFORM MORE INCLUSIVE, A LANGUAGE SELECTOR WILL BE ADDED IN THE HEADER. THIS WILL SUPPORT TRAVELERS FROM VARIOUS COUNTRIES." Below this text is a screenshot of a header bar with a back arrow, a globe icon, and a search bar. The word "Home" is highlighted in green. To the right of the search bar is a "Tours" link. Below the header is a list of language options: English, Deutsch, Español, Français, and Italiano, each accompanied by a small flag icon.

Speaker Notes

To make ETCP more inclusive and accessible, we plan to introduce multi-language support. A language selector will be added to the header, allowing users to choose their preferred language. This feature will help travelers from different countries navigate the platform more comfortably.

Slide 12



Speaker Notes

We're adding an Interactive Booking Calendar to improve the booking experience. This feature will allow users to view tour availability in a clear, calendar-style format. It helps travelers easily select dates and plan their trips more efficiently, reducing confusion and booking errors.

Slide 13

DARK MODE FEATURE
INTRODUCE A TOGGLE SWITCH FOR LIGHT/DARK THEMES TO IMPROVE ACCESSIBILITY AND VISUAL COMFORT DURING NIGHT-TIME BROWSING.

The slide features a central image of a mobile application's dashboard. At the top right is a large, prominent toggle switch. Below it, the dashboard displays sections for 'Booked Tours' (with a 'Desiling Sim' link), 'Saved Tours' (with a 'Book Now' button), and a 'Dark mode' section which also includes 'Booked Tours' and 'Saved Tours'. The background of the slide has a blue pattern with white floral and leaf motifs. In the bottom right corner, there is a watermark that reads 'Activate Windows' and 'Go to Settings to activate Windows'.

Speaker Notes

We plan to introduce a Dark Mode feature with a simple toggle switch. This will allow users to switch between light and dark themes based on their preference. It's especially helpful for reducing eye strain during night-time browsing and adds to the platform's accessibility.

Slide 14

CONCLUSION

- THE ETCP PLATFORM HAS BEEN DESIGNED WITH A STRONG FOCUS ON USER EXPERIENCE, SUSTAINABILITY, AND ACCESSIBILITY.
- THROUGH RESEARCH, TESTING, AND USER FEEDBACK, WE HAVE CREATED A CLEANER, MORE INTUITIVE INTERFACE THAT SUPPORTS ECO-CONSCIOUS TRAVEL.
- ITERATIVE IMPROVEMENTS BASED ON REAL USER INPUT HAVE HELPED REFINE THE PLATFORM'S CORE FEATURES LIKE BOOKING, PERSONALIZATION, AND DASHBOARD NAVIGATION.
- PROPOSED FUTURE ENHANCEMENTS AIM TO FURTHER IMPROVE USER SATISFACTION, INCLUDING QUICK-ACCESS TOOLS, MULTI-LANGUAGE SUPPORT, AND INTERACTIVE CONTENT.
- VISUAL MOCK-UPS CLEARLY DEMONSTRATE HOW THESE FEATURES WILL INTEGRATE SMOOTHLY INTO THE EXISTING DESIGN.
- CONTINUOUS IMPROVEMENT WILL ENSURE ETCP REMAINS RELEVANT, USER-CENTERED, AND ALIGNED WITH THE NEEDS OF BOTH TRAVELERS AND ECO-TOURISM PROVIDERS.
- ETCP IS MORE THAN A TRAVEL PLATFORM IT PROMOTES RESPONSIBLE TOURISM AND EMPOWERS USERS TO MAKE ETHICAL TRAVEL CHOICES.

In the bottom right corner, there is a watermark that reads 'Activate Windows' and 'Go to Settings to activate Windows'.

Speaker Notes

The Eco-Tourism Cloud Platform (ETCP) is designed with a focus on user experience, sustainability, and accessibility. Through research and user feedback, key features like booking, personalization, and navigation have been refined. Future enhancements, such as multi-language support and interactive content, will further improve user satisfaction, ensuring ETCP remains relevant and empowers responsible, eco-conscious travel.

Slide 15



Speaker Notes

Thank you for your time and attention today. I appreciate your interest in the Eco-Tourism Cloud Platform (ETCP). As we continue to enhance the platform, our aim is to empower eco-conscious travellers and promote responsible tourism. Please feel free to reach out if you have any questions.

References

References

- al-bashrawi, a., 2016. *User Interfaces*. [Online]
Available at: <https://www.linkedin.com/pulse/8-characteristics-successful-user-interfaces-al-bashrawi-csm-cmmi>
[Accessed 20 04 2025].
- Cardello, J., 2025. *webflow*. [Online]
Available at: <https://webflow.com/blog/ui-ux-design-tools>
[Accessed 13 04 2025].
- Chamberlain, L., 2019. *yext*. [Online]
Available at: <https://www.yext.com/blog/2019/06/how-demographic-psychographic-and-behavioral-marketing-inform-your-intent-marketing-strategy>
[Accessed 24 04 2025].
- CHEUNG, J., 2025. *careerfoundry*. [Online]
Available at: <https://careerfoundry.com/en/blog/ux-design/what-is-agile-ux/>
[Accessed 19 04 2025].
- Chhetri, R., 2023. *weare*. [Online]
Available at: <https://www.weare.fi/en/importance-of-ui-and-ux-design-in-software-development/>
[Accessed 11 04 2025].
- coursera, 2025. *coursera*. [Online]
Available at: <https://www.coursera.org/articles/ui-design>
[Accessed 24 04 2025].
- Dam, R. F. & Siang, T. Y., 2025. *interaction-design..* [Online]
Available at: <https://www.interaction-design.org/literature/article/personas-why-and-how-you-should-use-them>
[Accessed 22 04 2025].
- Genius, D., 2025. *devgenius*. [Online]
Available at: <https://blog.devgenius.io/different-forms-of-user-experiences-8c10f34200c6>
[Accessed 24 04 2025].

- Hashemi-Pour, C., 2025. *techttarget*. [Online]
Available at: <https://www.techtarget.com/searchapparchitecture/definition/user-interface-UI>
[Accessed 24 04 2025].
- HINES, S. E., 2025. *bitwizards*. [Online]
Available at: <https://bitwizards.com/blog/importance-of-ui-ux-design>
[Accessed 11 04 2025].
- Interaction Design Foundation, 2016. *interaction-design..* [Online]
Available at: <https://www.interaction-design.org/literature/topics/user-centered-design>
[Accessed 19 04 2025].
- Interaction Design Foundation, 2016. *nteraction-design.org*. [Online]
Available at: <https://www.interaction-design.org/literature/topics/design-thinking>
[Accessed 19 04 2025].
- Interaction Design Foundation, 2021. *nteraction-design.org*. [Online]
Available at: <https://www.interaction-design.org/literature/article/a-simple-introduction-to-lean-ux>
[Accessed 19 04 2025].
- Jethwani, A., 2025. *benifits of ux*. [Online]
Available at: <https://octet.design/journal/benefits-of-ui-ux-design-how-it-transforms-user-experience/>
[Accessed 04 4 2025].
- Kirvan, P., 2025. *techttarget*. [Online]
Available at: <https://www.techtarget.com/searcherp/definition/prototype>
[Accessed 24 04 2025].
- miro, 2025. *miro*. [Online]
Available at: <https://miro.com/templates/low-fidelity-wireframes/>
[Accessed 22 04 2025].
- Neguyen, C., 2025. *uxplaybook*. [Online]
Available at: <https://uxplaybook.org/articles/how-to-use-emotions-in-ux-design>
[Accessed 20 04 2025].
- productplan, 2025. *productplan*. [Online]
Available at: <https://www.productplan.com/glossary/user-experience/#:~:text=Definition%3A%20User%20Experience%20refers%20to,the%20content%20displayed%20is%20etc.>
[Accessed 24 04 2025].

- Soegaard, M., 2024. *interaction-design.org*. [Online]
Available at: https://www.interaction-design.org/literature/article/ux-design-tools-definitive-guide#top_ui_and_ux_design_tools_in_2024-4
[Accessed 13 04 2025].
- Sta, C., 2025. *coursera*. [Online]
Available at: <https://www.coursera.org/articles/what-is-mockup>
[Accessed 24 04 2025].