

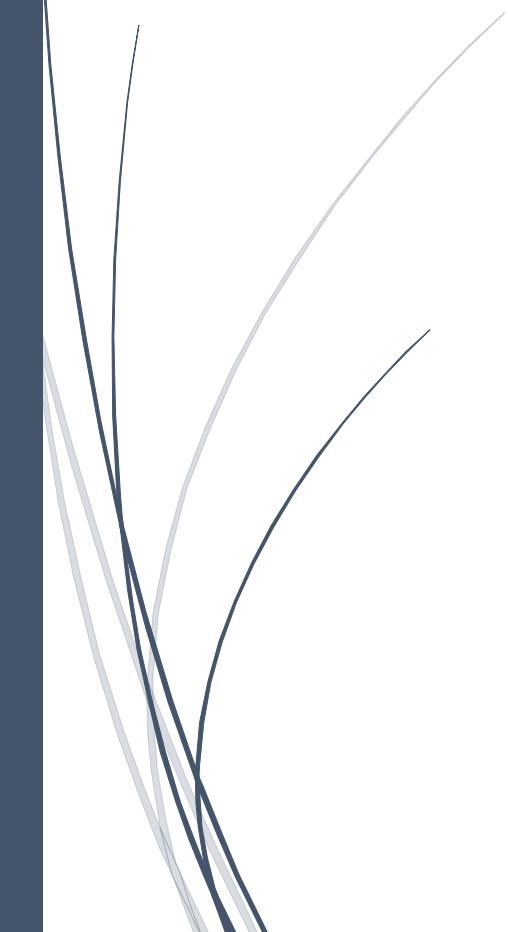


12/2/2019

Aston Wolf Conservation Sanctuary: Interactive Guide

Kiosk - based interaction design

2,312 Words



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1. INTRODUCTION

1.1. Report overview

This report provides a summary of the project, outlines the project goals and presents a detailed walkthrough of the user interface prior to analysing the effectiveness of the proposed user experience design supported by relevant theoretical principles.

Design prototype available at : <https://invis.io/XHV2NPLDE6S>

Please refer to screenshots when viewing invision prototype as prototype fails to render alpha values in background.

1.2. Project Introduction

The scope of this project is to design an interactive kiosk-based guide for the publicly accessible “Aston Wolf Conservation Sanctuary” providing engaging and educational resources to visitors of the parkland sanctuary.

1.3. Project objectives

The project objective is to provide a fully functional prototype accessible to all visitor across a large range of capabilities and ages with ease of navigation and lack of complexity thus optimising their visit as well as expanding their knowledge on wolves in the ecosystem

2. FINAL DESIGN

This section of the report provides a detailed overview of the final design with the aid of user journey diagrams and annotated designs.

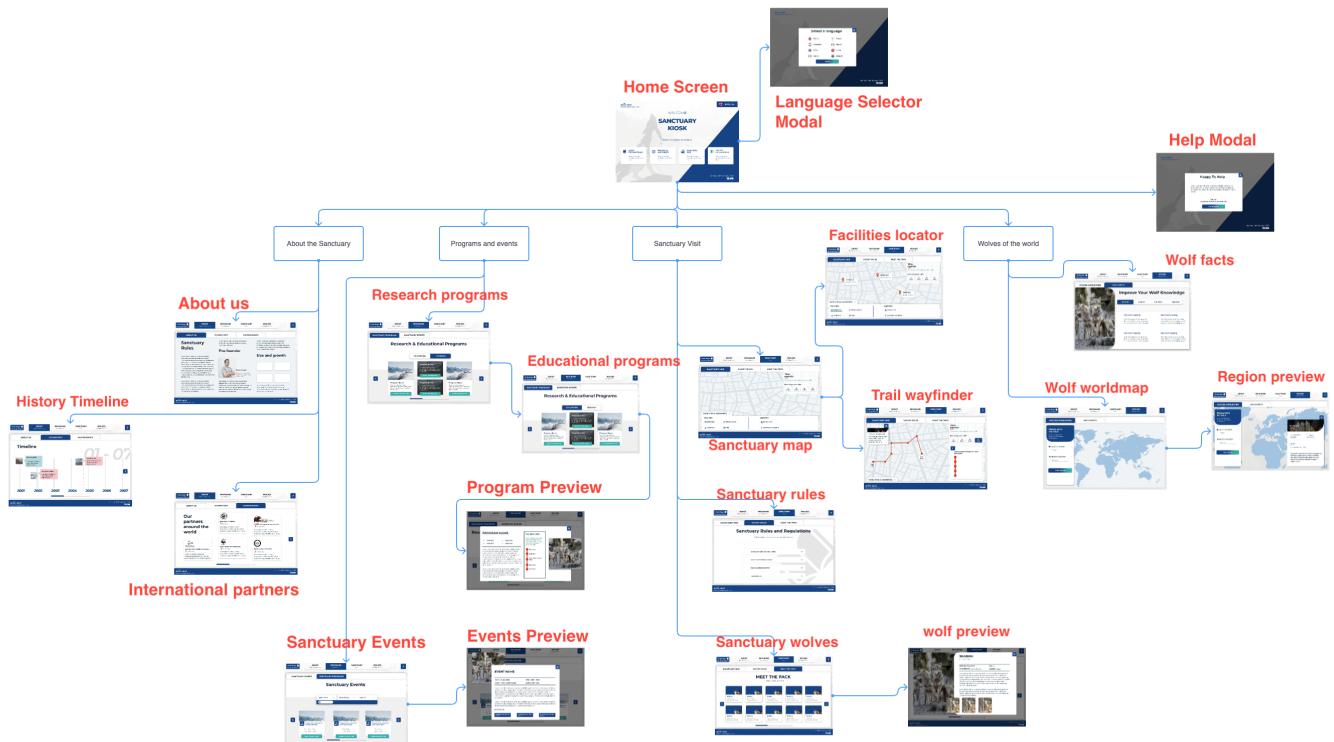


Figure 1: System architecture diagram

2.2 Design Walk-through

2.2.1 Welcome Screen

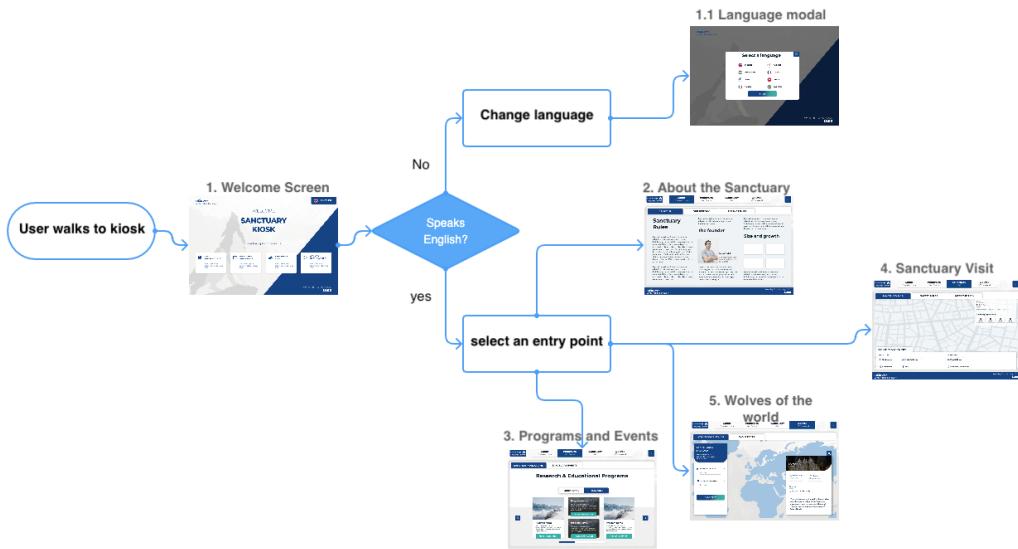


Figure 2: Site architecture diagram

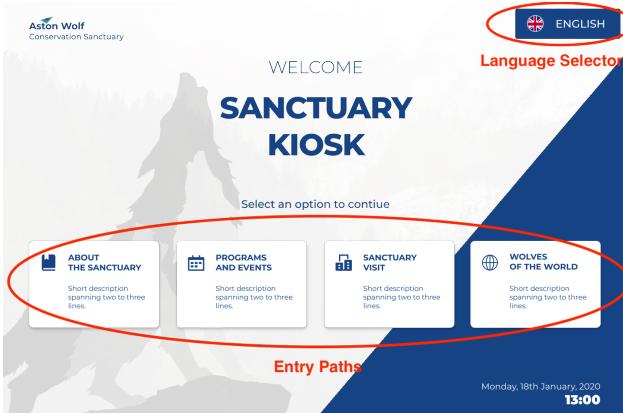


Figure 3: Welcome screen

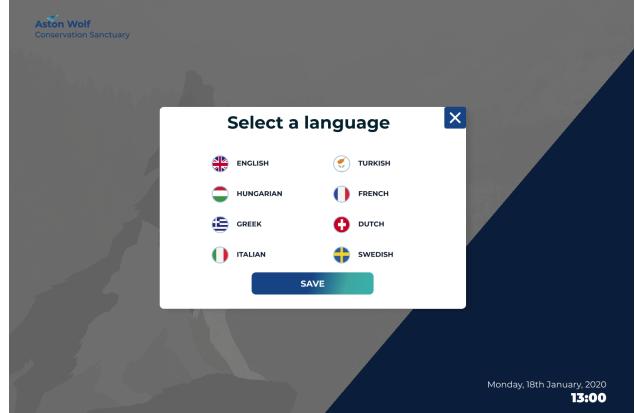


Figure 4: Language selector modal

The default language of the system is set to English, on approaching the kiosk the user is presented with a welcome screen introducing them to the system with a language selector four clear navigation entry points. The system automatically times out after 5 minutes of inactivity.

Note: When a user tries to navigate to current screen through local navigation tabs no event takes place, user is not redirected to start state of screen

Selection 1 – Language selector (figure 4)

This is a likely selection for non-native English speakers. Upon selection a modal appears on screen with available alternate language options, the user can either change the language of the entire system and save or exit the screen and return to previous screen

Selection 2 – Entry point



Figure 5: Example content page

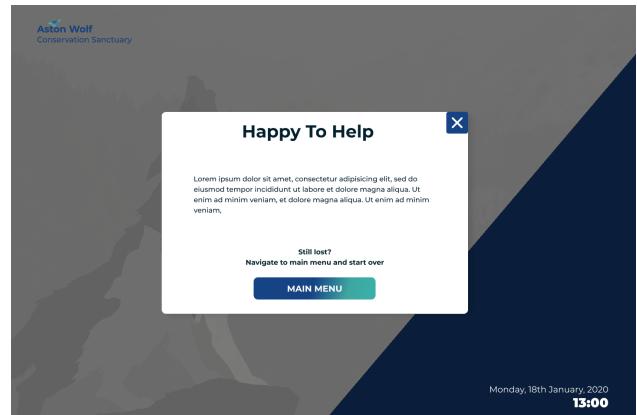


Figure 6: Help modal

Any Entry point selection renders a content page with the above layout (figure 5) populated with relevant information.

The layout consists of :

- **Global navigation :** User can access any entry points introduced on the welcome screen.
- **Escape Latch:** User can return to the main page from any screen within the system.
- **Help button:** Provides user with useful information about current screen, user can exit modal and return to previous screen or navigate to home screen.
- **Local navigation:** allows the user navigate between subcategories of chosen entry point
- **Sanctuary Logo**
- **Date & Time**

2.2.2 Entry Point 1 : About the Sanctuary

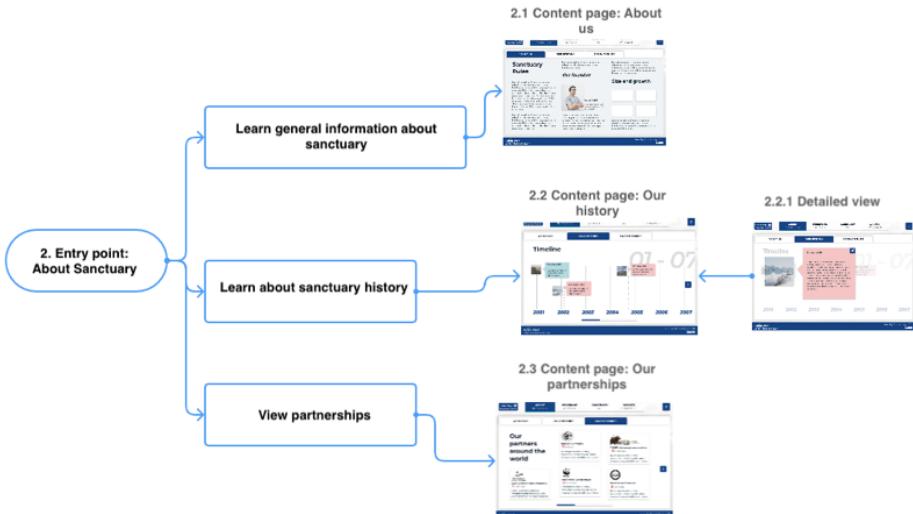


Figure 7: About sanctuary user flow

This path provides introductory information relating to the sanctuary as an organisation and consists of three subcategories that the user is able to navigate between: **About us**, **Our history** and **Partnerships**.

About us

Figure 8: About us content page

This screen provides general information about the sanctuary's goals and objectives, details on the founder, founding process and fast facts and figures on size, partnerships and visitors.

Our History

The screenshot shows a horizontal timeline from 2001 to 2007. Each year has a small thumbnail image. Overlaid on the timeline are four event cards with dates and placeholder text:

- 2001: 12th Feb, 2001 (blue box)
- 2002: 3rd March, 2002 (pink box)
- 2004: 6th Nov, 2001 (pink box)
- 2005: 6th Nov, 2001 (pink box)

A horizontal navigation arrow is located at the bottom right of the timeline area.

Figure 9: content page - "Our history"

The modal window displays the same timeline as the content page. A single event card for "3rd March, 2002" is shown in large detail, while other years remain inactive. The card includes a placeholder image of a snowy mountain peak and a large amount of placeholder text.

Figure 10: modal - "Our history"

“Our history” displays a timeline of important events in the sanctuary’s history presented alongside a complimentary image. A user can browse timeline using horizontal navigation button and select point in timeline triggering a modal with enlarged event including additional details. Other events and icons within timeline are rendered inactive until modal is closed.

Partnerships

The screenshot shows a grid of five cards, each representing a partner organization:

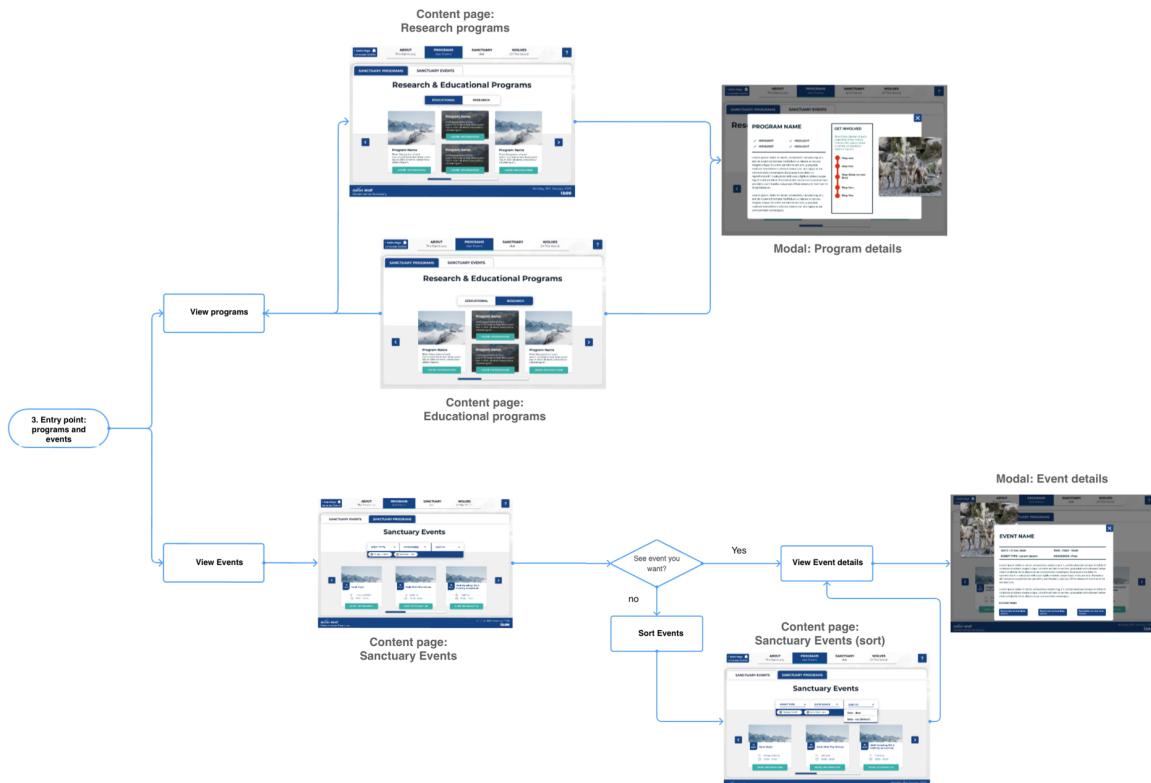
- Our partners around the world**: A heading with a list of partners.
- Defenders of Wildlife**: Romania. Placeholder text: "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eupe fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."
- WILDLIFE PERSPECTIVE**: Switzerland. Placeholder text: "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eupe fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."
- Saskatchewan Wildlife Federation**: California. Placeholder text: "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eupe fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."
- WWF**: Switzerland. Placeholder text: "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eupe fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."
- World Animal Protection**: California. Placeholder text: "Lorem ipsum dolor sit amet, consectetur adipisicing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua. Ut enim ad minim veniam, quis nostrud exercitation ullamco laboris nisi ut aliquip ex ea commodo consequat. Duis aute irure dolor in reprehenderit in voluptate velit esse cillum dolore eupe fugiat nulla pariatur. Excepteur sint occaecat cupidatat non proident, sunt in culpa qui officia deserunt mollit anim id est laborum."

Figure 11: content page - "partnerships"

A grid of cards is presented to the user detailing international wolf conservation partners of the sanctuary with individual organisation logos, names and locations as well as a short description of the organisation.

2.2.3 Entry Point 2 : Programs and Events

This path provides information about programs and events held at the sanctuary and consists of two subcategories that the user is able to navigate between: **Sanctuary programs and Sanctuary Events.**



Sanctuary Programs

Figure 13: content page - "Sanctuary Programs"

Figure 12: modal : program details

“Sanctuary programs” displays programs currently held by the sanctuary. Each program card displays an image of the program, the program name and a short description. A user can choose to view either educational programs or research programs, upon finding a program of interest, the user can select the “more information” button to render the program details modal (figure 12) which then provides additional information as well as steps to join the program.

Sanctuary Events

The screenshot shows the "Sanctuary Events" section of the website. At the top, there are navigation links for "ABOUT The Sanctuary", "PROGRAMS And Events", "SANCTUARY Visit", and "WOLVES Of The World". Below this, there are two tabs: "SANCTUARY EVENTS" and "SANCTUARY PROGRAMS". The main content area displays a grid of three event cards. Each card includes a thumbnail image, the date (18 SEPT), the event name, a brief description, and a "MORE INFORMATION" button. The events listed are "Howl Night", "Walk With The Wolves", and "Wolf Handling 101: A training on survival". The interface includes sorting and filtering options at the top.

Figure 14: content page - "Sanctuary events"

The screenshot shows a modal window titled "EVENT NAME" overlying the website. It contains event details: Date: 12 Dec 2020, Time: 13:00 - 16:00, Event Type: Lorem Ipsum, and Admission: Free. It also includes a large image of two wolves and several paragraphs of placeholder text. At the bottom, there are sections for "RESTRICTIONS" and "MORE INFORMATION".

Figure 15: modal - event details

“Sanctuary Events” displays upcoming events held by the sanctuary. Each event card displays an image of the program, the program type, name and date. A user can sort this events by date or filter by date range and/or event type, upon finding an event of interest, the user can select the “more information” button to render the event details modal (figure 14) which then provides additional information about the event

2.2.4 Entry Point 3 : Sanctuary Visit

This path provides information relating to a day visit at the sanctuary and consists of three subcategories that the user is able to navigate between: **Sanctuary Map**, **Safety Rules** and **Meet the Pack**.

Sanctuary Map

The screenshot shows the "Sanctuary Map" section of the website. At the top, there are navigation links for "ABOUT The Sanctuary", "PROGRAMS And Events", "SANCTUARY Visit", and "WOLVES Of The World". Below this, there are three tabs: "SANCTUARY MAP", "SAFETY RULES", and "MEET THE PACK". The main content area features an interactive map with various icons representing facilities like restrooms and amenities like food & drink. To the right, there is a "TRAIL MAPPER" section with a heading "See the sanctuary with one of our trails". It includes a "How Long is your visit?" dropdown with options: 15 Mins, 30 Mins, 45 Mins, and 60 Mins. There are also "RESTROOM Gender Neutral" icons and a "FACILITIES & AMENITIES" dropdown menu.

Figure 15: Content Page - "Sanctuary Map" (trail mapper)

The screenshot shows the "Sanctuary Map" section of the website. At the top, there are navigation links for "ABOUT The Sanctuary", "PROGRAMS And Events", "SANCTUARY Visit", and "WOLVES Of The World". Below this, there are three tabs: "SANCTUARY MAP", "SAFETY RULES", and "MEET THE PACK". The main content area features an interactive map with various icons representing facilities like restrooms and amenities like food & drink. To the right, there is a "TRAIL MAPPER" section with a heading "See the sanctuary with one of our trails". It includes a "How Long is your visit?" dropdown with options: 15 Mins, 30 Mins, 45 Mins, and 60 Mins. There is also a "Select a point of interest for more information" button. A callout box on the map provides information about a trail: "Gray Wolf (Canis Lupus) -The hunting grace for the wolf in Romania has been the rugged nature of the Carpathian Mountains".

Figure 16: Content Page - "Sanctuary Map" (facility locator)

“Sanctuary Map” displays an interactive area map. A user is able to locate all facilities and amenities around the parkland by selecting from the menu, once selected the map pans to regions surrounding the users current location and generates location pins pointing user to the closest of selected option with a short note of what is provided at those locations (seen in figure 15).

In addition, a user can choose to follow a sanctuary provided trail of the parkland using the “Trail Mapper” (figure 16). To generate a trail, the user chooses a duration for their visit and is presented with possible trails within given duration, after selecting a trail, trail is rendered on the map and user is presented with points of interest along the trail, the user now has the option of tapping on a point of interest denoted on the map to render a pop up with additional information.

Safety rules

The screenshot shows a mobile-style interface for the 'Safety Rules' section. At the top, there are navigation tabs: 'SANCTUARY MAP', 'SAFETY RULES' (which is the active tab), and 'MEET THE PACK'. Below these are three more tabs: 'ABOUT The Sanctuary', 'PROGRAMS And Events', and 'WOLVES Of The World'. A question mark icon is in the top right corner. The main content area is titled 'Sanctuary Rules and Regulations' and includes a placeholder text 'Select a region and country to learn about local wolves'. Below this are four expandable accordion sections: 'ADMISSION AND OPENING HOURS', 'WOLF SAFETY PRECAUTIONS', 'FILM AND PHOTOGRAPHY', and 'TOUR GROUPS'. At the bottom, it says 'Aston Wolf Conservation Sanctuary' and shows the date 'Monday, 18th January, 2020' and time '13:00'.

Figure 17: content page - "Safety Rules"

This screenshot shows the same 'Safety Rules' page as Figure 17, but the 'ADMISSION AND OPENING HOURS' section is now expanded, revealing a scrollable list of three placeholder rules: 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.', 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.', and 'Lorem ipsum dolor sit amet, consectetur adipiscing elit, sed do eiusmod tempor incididunt ut labore et dolore magna aliqua.'.

Figure 18: content page - "Safety Rules" (expanded)

“Safety rules” displays sanctuary rules and regulations. A user selects a category of rules, this category accordion slides down and a list of rules provided for the user to scroll through.

Meet the pack

The screenshot shows the 'Meet the pack' section. It features a grid of cards, each representing a wolf named 'Shabiru' who is 4 years old and a Gray Wolf. The cards are arranged in two rows of five. Navigation arrows are at the top and bottom of the grid. At the bottom, it says 'Aston Wolf Conservation Sanctuary' and shows the date 'Monday, 18th January, 2020' and time '13:00'.

Figure 19: content page - "Meet the pack"

This screenshot shows a modal window for a wolf named 'SHABIRU'. The title is 'REGION OF ORIGIN'. It contains a large image of the wolf standing. Below the image, it lists 'SPECIES : Gray Wolf', 'SUB-SPECIES : Lorem Ipsum', 'AGE : 4', 'GENDER : Male'. There are two columns of text in Latin. At the bottom, there are three smaller images of the wolf in different settings.

Figure 20: modal - wolf detail

“Meet the pack” displays a grid of cards, each card corresponding to a wolf within the sanctuary providing an image, name and specie. A user can browse the pack and select any wolf of interest, a selection triggers a modal with additional details on the wolf, its sub-species and how it was introduced to the parkland as well as images in its natural surroundings.

2.2.5 Entry Point 4 : Wolves of the world

This path provides general information, facts and data about wolves as animals detailing their distributions and history around the world. The section consists of two subcategories that the user is able to navigate between : **Wolves Worldwide and Meet the Pack.**

Wolves Worldwide

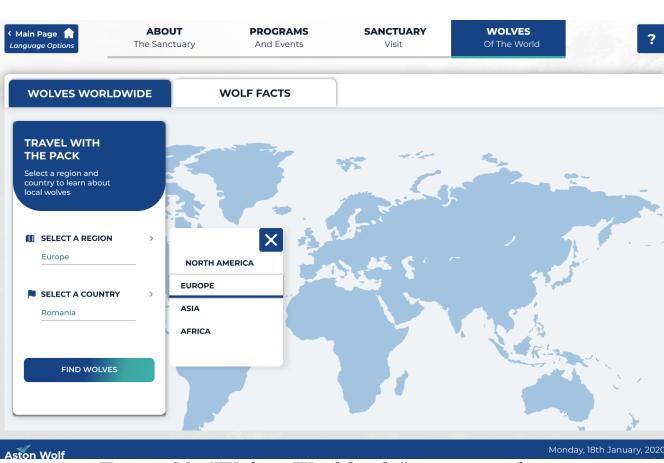


Figure 21: "Wolves Worldwide" - region selector

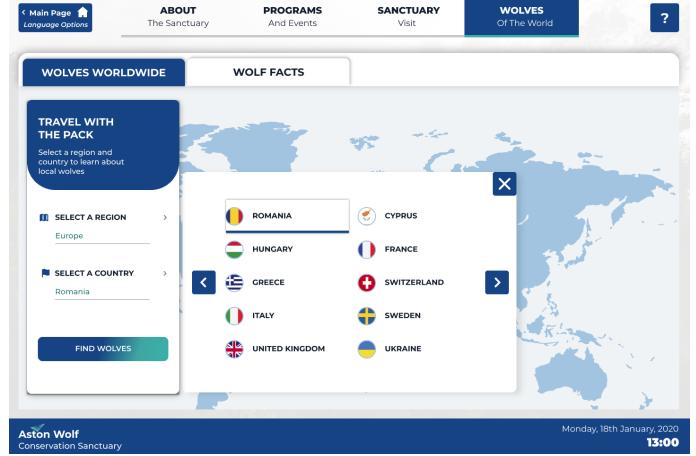


Figure 22: "Wolves Worldwide" - country selector

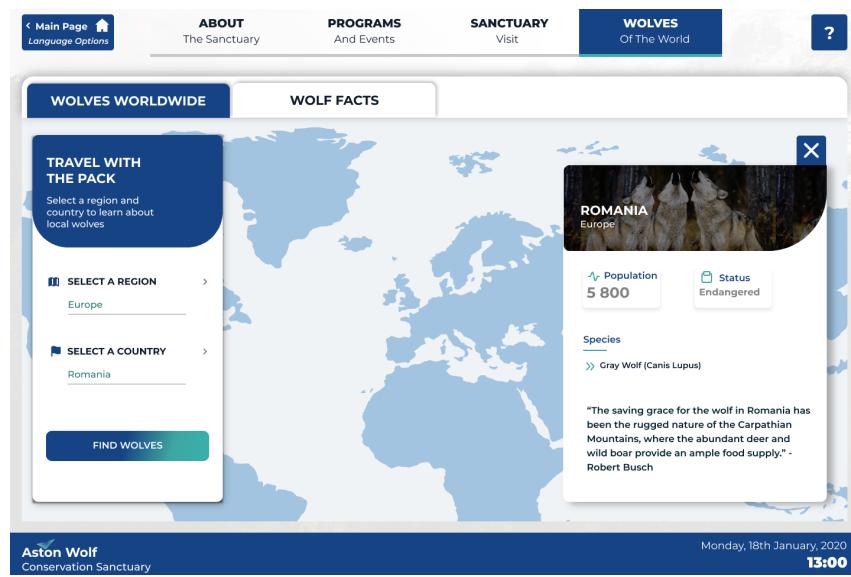


Figure 23: "Wolves Worldwide" - detail view

"Wolves Worldwide" renders an interactive world map. The user is prompted to select a region(figure 21) a list where wolves currently inhabit as well as a country within that region. Once selected. The user taps "Find Wolves" button, the map then pans to the region selected an zooms in on the country selected, a pop up window is displayed with an image of a type of wolf found in that area, species, information about the population, their status (if they are endangered) and additional information about their history and life. The process is repeatable as many times as desired.

Wolf Facts

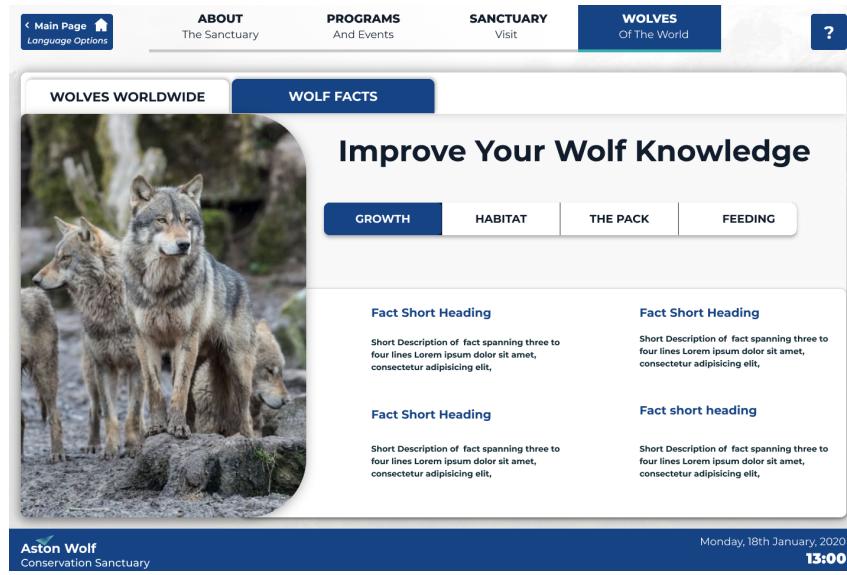


Figure 24: Content page - "Wolf facts"

“Wolf facts” provides short fun facts about wolves to improve visitor’s knowledge. A user can select a category of facts to see relating fun facts.

3. DESIGN RATIONAL

This section rationalises previously demonstrated design choices with relation to their underpinning theoretical significance in creating an optimal user experience.

3.1 Background

The design process was a combination of personal concepts, structures and ideas though brainstorming and creation of user flow journeys (presented in previous section), supported by background research through similar previous projects, physical visits to outdoor kiosks and user feedback in form of online card sorting activities to frame the underlying navigational structure.

Card	Sorted into	Categories	Frequency	Average position
amenities, visitor centre, wolf location)	5 different categories	Show all location and map The Sanctuary Show 2 more categories	1 time	3.0
Partnerships with other sanctuaries around the world	5 different categories	About Sanctuary Programmes and partnerships Networking Show 2 more categories	1 time 1 time 1 time	3.0 2.0 2.0
Photo gallery of wolves in sanctuary	5 different categories	Your Sanctuary visit Wolves The Sanctuary Show 2 more categories	1 time 1 time 1 time	4.0 3.0 2.0
Research programs run by sanctuary	5 different categories	Programmes and partnerships Programs Education Show 2 more categories	1 time 1 time 1 time	3.0 2.0 2.0
Sanctuary history (from start till date)	5 different categories	The Sanctuary Your Sanctuary visit General information Show 2 more categories	1 time 1 time 1 time	4.0 3.0 2.0

Figure 25: card sort results

The screenshot shows the OptimalSort software interface. On the left, there is a vertical list of items to be sorted: 'Factsheet about wolves in general (species information, behaviour of wolves)', 'Research programs run by sanctuary', 'Partnerships with other sanctuaries around the world', 'World map (showing wolf locations and populations around the world and migratory routes wolves take)', 'Sanctuary history (from start till date)', 'Events held in sanctuary', 'Inside Sanctuary map (amenities, visitor centre, wolf locations)', 'Sanctuary rules', 'Educational programmes for schools the sanctuary offers', and 'Photo gallery of wolves in sanctuary'. On the right, under 'Step 1', it says 'Take a quick look at the list of items to the left. We'd like you to sort them into groups that make sense to you. There is no right or wrong answer. Just do what comes naturally.' Under 'Step 2', it says 'Drag an item from the left into this area to create your first group.' A large blue rectangular area is provided for dragging items.

Figure 26: card sort in progress

3.2 Design considerations

The final design presented takes into account a series of environmental, contextual and audience based considerations

Environmental considerations

The physical kiosk will be located outdoors and used during the sanctuary's opening hours. As a result the effectiveness of the user interface is influenced by direct sunlight reflecting on the screen creating glare, possible exposure to conditions such as cold, heat, wind and background noise from animals and other visitors. This factor could affect the amount of time the user is willing to spend at the kiosk, their ability to hold concentration and screen legibility.

Contextual considerations

Users are likely to have time constraints affecting their ability navigate a complex system as well as distractions from friendship groups or family (like young children) once again affecting concentration.

Target audience

As stated earlier, the target audience of visitors covers a large range of ages, abilities, impairments and cultures. Design has to be suitable for use over these ranges.

The design aims to address these considerations by delivering a simple and intuitive user interface whose use involves low physical effort by eliminating drag and drop, text inserting, incorporating horizontal pagination to address environmental considerations. Contextual considerations are addressed through effective navigation and content design and finally, audience considerations are tackled through inclusively designing for worst case scenario.

3.3 Patterns

The final design combines multiple navigation pattern.

Clear Entry Points Pattern

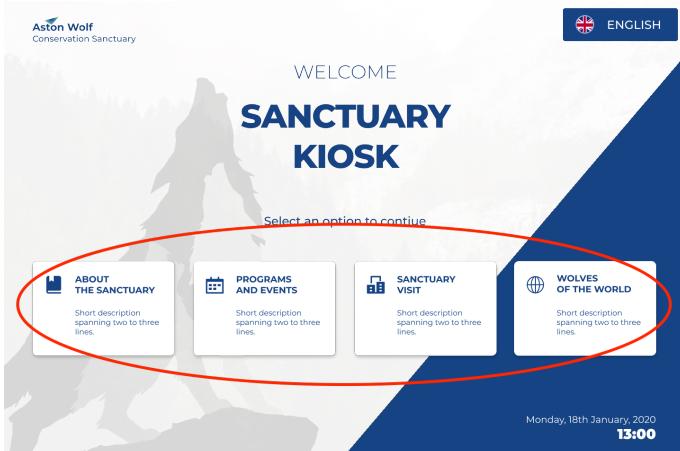


Figure 27: pattern - Clear entry points

Global Navigation Pattern



Figure 27: Pattern - global navigation

As a result of infrequent use of the system, users are likely to move between categories frequently as they explore information available a global navigation pattern shortens the distance and navigation cost between individual screens to 2-3 clicks, users are less likely to become frustrated with repetitive tasks e.g. returning to home screen to view other sections of the system as seen in a hub-and-spoke navigation pattern.

In addition, a previous users could leave system in different state from home screen, in an event where a new user approaches the system before time-out, this pattern denotes the current location within the system and exposes the underlying structure.

Centre-stage pattern

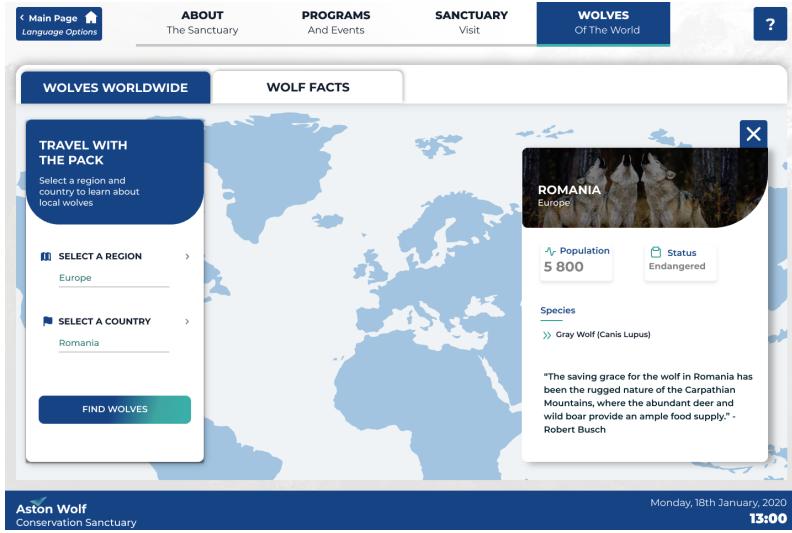


Figure 28: pattern - centre stage

This pattern offers strong visual cues drawing attention to the map and its contents, coupled with user input and a prominent done button (find wolves) it generates information in easily processible chunks and gives the user a sense of control as well as providing a sense of familiarity due to its popularity.

3.4 Design Principles

TYPOGRAPHY

MONTESERRAT

Regular Medium SemiBold Bold

HEADING 1 | 50px Bold

HEADING 2 | 40px Bold

Heading 3 | 35px Bold

Heading 4 | 22px Bold

Heading 5 | 16px Bold

Heading 6 | 14px Semibold

COLOUR



#164384



#D93218



#101B2B



#3AAFA9

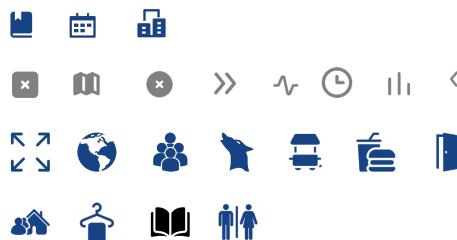


Figure 29: Design elements

Comprehensibility : User understanding is promoted through help button present on each screen with content and instructions for specific screen as well as descriptive subheadings. This improves efficiency and effectiveness.

Efficiency

Figure 30: progressive disclosure

Figure 31: progressive disclosure 2

Simplicity: progressive disclosure when rendering larger data (e.g. figures 30 & 31 : rules separated by category, rules in chose category displayed), constraints on user changing layout and colours so system not rendered unusable.

Predictability: The system offers consistency and re-enforces mental association through a uniform layout structure, colours and text sizes across all screens.

Visibility: System provides user with all available functionality and uses progressive disclosure to prevent overload.

Grouping

Figure 32: Grouping - gestalt

As seen, the design makes use of **gestalt principles** for grouping related objects e.g. using the **principle of proximity** with greater vertical distance to create the illusion of rows and the **principle of similarity** seen in individual wolf detail cards to promote cohesion.

proportion

Logical Hierarchy is enforced through typography heading variance (figure 29).

3.5 Colours

C O L O U R

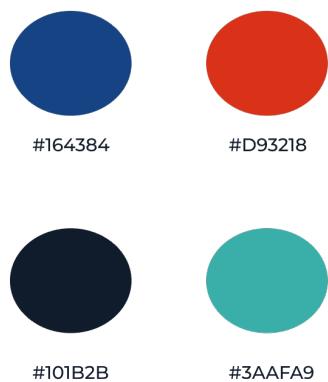


Figure 33: Design - colours

When choosing colours, audience and environmental conditions were greatly significant bright outdoor.

A light user interface with predominantly white background was chosen because of the effect of the sun, a darker user interface would emphasise glare and reflections as well as diminishing text readability by creating the illusion of taking light away from the screen.

For this design, 4 different desaturated, compound colours were used to create an interesting palette without stark contrasts and avoid overwhelming the user with many colours and degrading system performance, subtle value changes where used as seen in timeline (figure number) for variance, each colour hue was chosen to incorporate a good mix of RGB values for users with dichromatic vision.

The design established a strong visual hierarchy through typography, buttons and icons, this was further reinforced by colours to distinguish call to actions and objects of interest e.g. A clear path with points is drawn on the trail map the use of red enhances visibility but an absence or change of colour does not subtract from information provided.

Figure 34: Black/White - sanctuary programs

Figure 35: Black/White - sanctuary map

When combining colours for text, a high contrast foreground to background ratio was enforced to ensure that when colour was stripped away text remained legible as seen above.

Due to an international audience cultural colour connotations were considered and these colours presented no significantly negative connotations

Blue – positive connotations in most cultures promoting calm, healing, joy

Green – positive connotations of life environment

Red - energy, action, love, danger

3.6 Icons

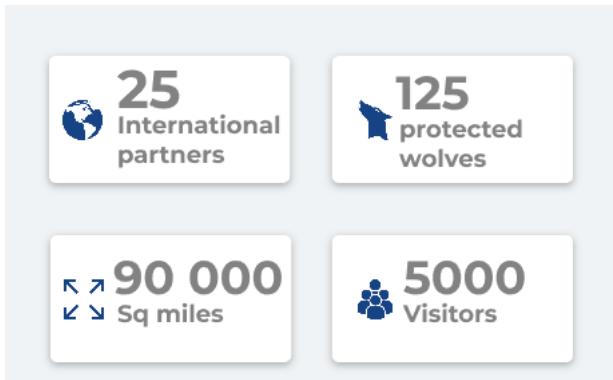


Figure 36: Icons- about us

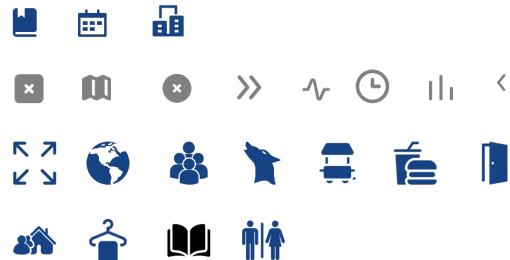


Figure 37: Icons

The design uses consistent silhouette style icons in combination with text to strengthen cognitive links and recognition as well as contribute aesthetically. Icons used where in form of pictograms to reduce need for mental connections as arbitrary icons which must be learned in a possibly noisy environment with external distractions.

With regards to presentation, icons were made large enough for easy distinguishability and used with low density to improve effectiveness.

3.7 Typography

TYPOGRAPHY

MONTESELLAT

Regular Medium SemiBold Bold

HEADING 1 | 50px Bold

HEADING 2 | 40px Bold

Heading 3 | 35px Bold

Heading 4 | 22px Bold

Heading 5 | 16px Bold

Heading 6 | 14px SemiBold

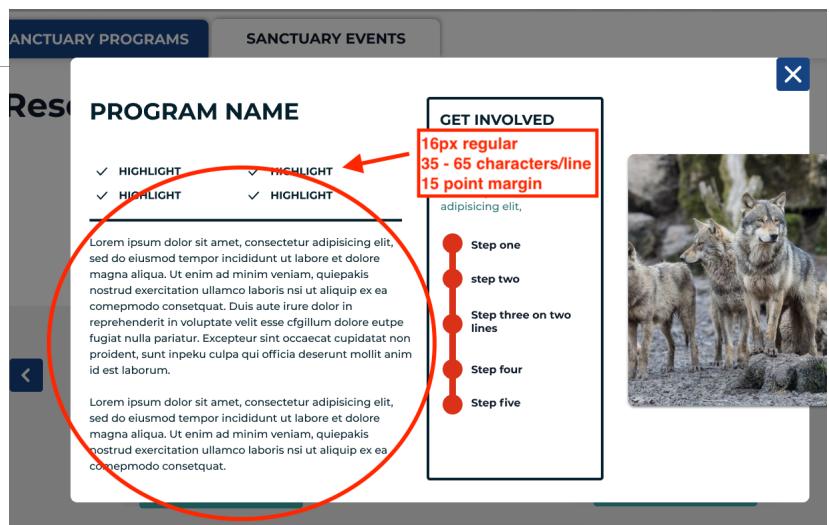


Figure 38: Typography

Figure 39: Typography - example

The “Montserrat” font was chosen for readability and easy distinguishability because of the large kernelling between letters and clean character outlines.

Screen text is formatted to have line spacing of 1.5x font-size, a minimum font-size of 14px in bold and 16px in regular to compensate for distance between user and screen. Text alignment set to “left” to suite western reading conventions.

To further enhance readability, a considerable margin width is used in combination with 35 - 65 characters per line to improve reading performance of large blocks of text.

DESIGN RESOURCES

Filler text

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