QUZoo:
A Companion Website for Zoo Visitors

Requirements Specification Document

Revision History

Date	Description	Author	Comments
02/10/2018	v1.0 released for formal inspection.	AM	
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Document Approval

Signature	Printed Name	Title	Date
A McDowell	Andrew McDowell	Development Mgr	22/10/2018

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1   Introduction

The purpose of this document is to describe the system requirements for the QUZoo website. An online companion website for visitors to Belfast Zoo.
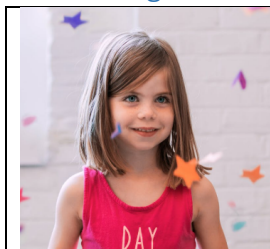
1.1   Background

Belfast Zoo opened in 1934 and is owned and operated by Belfast City Council. Currently, the zoo occupies a 55-acre site and is home to more than 130 species, many of which face increasing danger in their natural habitats. As one of the top fee-paying visitor attractions in Northern Ireland, more than 300,000 visitors each year come along to learn about the animals cared for in the zoo. One of the main mechanisms for educating visitors is the information signs at each of the enclosures. At peak visitor times, however, it can be difficult for everyone to see and read the signs. Additionally, they are not always suitable for visitors of all ages and abilities.

Currently under investigation is the development of a companion website, which can be used as a virtual guide to the zoo and provide information about the animals in a format suitable to all. Further useful information on Belfast Zoo may be accessed via their website: www.belfastzoo.com.

1.2   General Description of Project

In association with QUB, Belfast Zoo have commissioned the construction of a companion website to provide information on the Zoo's animals as visitors proceed around the park. Specifically, for smartphone users, the GPS location reported by the phone shall display information on animals to them in the park. In order to keep information on the companion website up to date, registered staff members shall be able to add, edit and delete information on the animals and their enclosures.

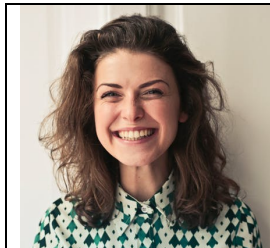## 1.3   Target User Personas

	Sarah Sarah is an 8-year-old girl and with her family, a member of the zoo. Visiting the Zoo frequently, she knows her way around the park well, to see her favourite animals. When Sarah can't see them, she will look at the pictures on the information boards beside each enclosure.
	Michael Michael is a 32-year-old man, who enjoys taking his family to the zoo when the weather is good outside. He usually likes to take them when something is happening whenever possible he times his visits with animal feeding times or similar events.
	Jane Jane is a zoo keeper, one of her responsibilities is tracking the location of animals throughout the zoo. This includes adding, removing and updating animal details from the zoo's central database as required. Jane is one of several zoo staff with this responsibility.

1.4   Definitions, Acronyms and Abbreviations

Term	Definition
Zoo	Reference to Belfast Zoo
Park	Reference to the grounds of Belfast Zoo
Enclosure	Reference to animal habitats – these may house one or more animals.
Website	Reference to the QUZoo companion website.
Animal	Unless stated otherwise, this refers to a species of animal, rather than an individual.
Click	This shall refer to both a mouse click for desktop devices and a finger tap for mobile/tablet devices.
GPS	Global Positioning System
QUB	Queens University Belfast
Website Manager	Person or team responsible for the management of content on the website.
Animal Name	Refers to the species of animal, rather than the animals individual name.
Animal Description	Refers to a description of the animal species.

2. Functional Requirements

This section outlines the functional requirements for the website.

2.1   Website Pages

R1.   The website shall consist of the following webpages:
- Home, Explore Animals, Animal Details, About, Login, Staff Landing, Update Animal Record, Add New Animal, Register and Error Page.

R2.   Access to the following web pages shall be restricted to staff users:
- Staff Landing, Update Animal Records and Add New Animal.

2.2   Navigation

R3.   The user shall be able to return to the *Home* page with one click from any screen.

R4.   The user shall be able to open the *About* page with one click from any screen.

R5.   The user shall be able to open the *Explore Animals* page with one click from any screen.

R6.   A navigation area shall be visible at all times to the user while using the website.

R7.   Clicking on the Belfast Zoo logo shall redirect users back to the home page.

R8.   Signed in users shall be able to sign out from any page.

R9.   Signed in users should have a link to the *Staff Landing* page displayed in the footer.

2.3   Home Page

R10.   The content area of this page shall show featured news stories about the zoo as defined by the website manager.

R11.   Featured news stories should be refreshed every 10 seconds.

R12.   Users shall be able to navigate between features news stories.

R13.   Each story shall include an image, headline and story text.

2.4   Explore Animals

R14.   On loading, a list of animals shall be displayed in distance order (nearest first) based on the GPS location provided by the client device. Distance will be measures in metres.

R15.   In the event that distance measurements are not available for ordering the animals list, animals shall be presented in alphabetical order (a-z).

R16.   Each item in the list of animals shall provide the animal name, animal description and an image of the species.

R17.   A 'Read' button shall be presented alongside each animal, this will redirect the user to the Animal Details page for the selected animal.

2.5   Animal Details

R18.   The content of the *Animal Details* page loaded shall correspond to the 'Read More' link clicked on the *Explore Animals* page.

R19.   The content of the *Animals Details* page shall be as follows:

R20.   Animal Name, Animal Image, Animal Description, Animal Habitat, Animal Diet, Animal Size, Animal Location (in the wild), Animal YouTube video.

R21.   The Animal YouTube video shall auto play once it comes above the page fold.

2.6   About

R22.   The *About* page shall contain three sections titled Operating Times, Find Us and Contact Us.

R23.   The user shall be able to navigate between the Operating Times, Find Us and Contact Us sections with a single click, while in the *About* page.

2.6.1   Operating Times

R24.   During the zoo's closed hours, this section shall display a countdown timer to the zoos next opening time. Alternatively, when the zoo is open, the timer shall be replaced by a countdown timer to last entry for the day.

R25.   The distance between the client device and the Zoo shall be displayed in km.

R26.   Seasonal operating times and closure days of the Zoo shall be displayed.

2.6.2   Find Us

R27.   This section shall provide directions to the zoo by car (from city centre and motorway) and by public transport from the city centre.

R28.   An interactive map showing the location of the zoo shall be displayed.

2.6.3   Contact Us

R29.   This section shall include the following contact details:

> *Phone*
> *Main: Tel:+44 (0)28 90976696*
>
> *Email*
> *Companion App Queries: myCompanion@zooBelfast.com*
> *General Zoo Information: info@zooBelfast.com*
>
> *Address*
> *Belfast Zoo*
> *Antrim Road, Belfast, Northern Ireland, BT36 7PN*

R30.   For this section, clicking on the email addresses shall open the user's email client with a new email message addressed accordingly.

R31.   For this section, clicking on the telephone number shall trigger a telephone call from compatible devices.

2.8   Staff Login

R32.   Registered users shall be able to login to the system using a valid username and password. A valid username shall be in the form of an email address. All valid email addresses shall use a '@zooBelfast.com' domain. If this requirement is not met, a validation error is displayed.

R33.   The page shall include direct links to the Forgot Password and Register facilities.

R34.   A forgotten password facility shall email a temporary password to the user's email account.

R35.   After four unsuccessful attempts to login the user shall be blocked from accessing the page for 5 minutes.

R36.   When invalid login credentials are submitted, the user shall be directed to the error page.

2.9   Error

R37.   This page shall display a login error and provide a link to redirect the user to the Login page.

2.10   Registration

R38.   This page shall enable a user to create a new staff account by registering their Username, Password, Forename and Surname.

R39.   A valid username for a staff account shall be in the form of an email address. All valid email addresses shall use a '@zooBelfast.com' domain.

R40.   A user shall be prevented from creating an account with a Username, which already exists within the system.

R41.   The password field shall reject passwords of less than six characters. If this requirement is not met, a validation error is displayed.

R42.   Forename and Surname fields must accept names with letters and hyphens only. Names containing any numbers, special characters or are less than three characters in length shall be rejected. If this requirement is not met, a validation error shall be displayed.

R43.   Upon completing the registration form correctly, the user shall be directed to the login page and an appropriate message displayed to confirm the successful registration.

2.11   Staff Landing

R44.   After a successful login, a personalised welcome message will be displayed on the screen. This message shall include the user's forename and surname.

R45.   A logoff link shall be available on this page. Once clicked, the user will be logged out, their session ended, and the browser window returned to the home page.

R46.   A facility to change the user's password shall be made available on this page. Once changed, the user shall be signed out and returned to the login page.

R47.   From this page, the user shall be able to select an animal to update. Once selected, the user shall be redirected to the Update Animal page, where they can modify its records.

R48.   A link to the Add New Animal page shall be available.

2.12   Add New Animal

R49.   The user shall be able to add a new animal to the website by providing the following data:

R50.   Animal Name, Animal Image (large and small), Animal Description, Animal Habitat, Animal Diet, Animal Size, Animal Location (in the wild), Animal YouTube Link, GPS coordinates for Animal Enclosure.

R51.   Once an animal record is added, the website shall return to the Staff Landing Page.

R52.   Image uploaders shall allow a picture (.jpg format) of the new animal to be added to the system. Only images under 2Mb and in a valid image format shall be accepted.

R53.   Once an animal record is successfully added, it should be available to view from the Staff Landing page and the Explore Animals page.

2.13   Update Animal

R54.   The user shall be able update the following textual data for any existing animal:

R55.   Animal Name, Animal Description, Animal Habitat, Animal Diet, Animal Size, Animal Location (in the wild), Animal YouTube Link, GPS coordinates for Animal Enclosure.

R56.   Image uploaders shall allow a new picture (.jpg format) of the animal to be added to the system. Only images under 2Mb and in a valid image format shall be accepted.

R57.   Once an animal record has been modified, the website shall return to the Staff Landing page.

R58.   Once an animal record is successfully modified, it should be available to view (with the new data) from the Landing page and the Explore Animals page.

3 Other Requirements

3.1 General User Experience Requirements

R59.   The overall style of the website shall be in line with the standards established in the parent website, available at www.belfastzoo.co.uk

R60.   The website shall have the company logo displayed in the header of each web page.

R61.   The website shall maintain a consistent design throughout all pages.

R62.   The primary navigation bar shall be consistently located throughout the website and visible above the page fold.

R63.   Each webpage shall have a HTML title corresponding to the nature of the page.

R64.   Each page shall have the Belfast Zoo logo set as the browser tab icon.

R65.   All dates shall be shown in the format dd/mm/yyyy and times hh:mm.

R66.   A footer with the copyright and site version information shall be available on all pages.

R67.   The type of browser being used shall be displayed in the footer of all pages.

3.2 Security & Data Integrity

R68.   Any data modification facilities shall be protected by a secure login system.

R69.   Secure password standards shall be enforced – minimum length of 8 characters and include at least one number.

R70.   All data input fields must be protected against potentially erroneous input.

R71.   Where any data validation rules are violated, a message describing the error and what action is required to correct the input shall be displayed.

3.3 Target Environments

R72.   The system shall operate/render consistently on mobile web browsers - Apple Safari version 11 (or above) for iOS is of particular interest.

R73.   The system shall operate render consistently on desktop browsers - Google Chrome Version 87 (or above) is of particular interest.

3.4 Performance

R74.   All media shall be of a suitable file type/size to facilitate operation on mobile data networks.

R75.   All pages shall fully render in less than five seconds.

R76.   The system shall support the number of expected users at peak times.

3.5 Accessibility

R77.   The system shall accommodate users of all ages and those with additional needs as required under relevant accessibility/disability legislation.