Zoo Explorer

Project Document

Project Duration:	2.5 weeks (18 days)
Start Date:	September 1, 2025
End Date:	September 19, 2025
Team Size:	2 developers (David & Kevin)
Document Version:	1.0
Last Updated:	September 17, 2025

A collaborative web project showcasing wildlife from around the world through an interactive zoo experience.

Contents

1 Feature Requirements

1.1 Core Features

1.1.1 Multi-Zoo Navigation System

- **Main Landing Page**: Central hub for zoo selection with visual cards
- **Zoo Selection Interface**: Clean, intuitive navigation between different zoo sections
- **Responsive Design**: Seamless experience across desktop, tablet, and mobile devices
- **Visual Feedback**: Hover effects and smooth transitions for enhanced user experience

1.1.2 Animal Information System

- **Animal Detail Pages**: Comprehensive individual pages for each species
- **Educational Content**: Scientific information, habitat details, and conservation status
- **Image Galleries**: High-quality photographs with captions and descriptions
- **Conservation Focus**: IUCN status, threats, and conservation efforts for each species

1.1.3 Template-Based Architecture

- **Animal Page Templates**: Reusable template system for creating new animal pages
- **Zoo Page Templates**: Standardized templates for new zoo sections
- **Documentation System**: Comprehensive guides for template usage and maintenance
- **Consistent Styling**: Unified design language across all pages

1.1.4 Interactive Elements

- **Navigation System**: JavaScript-powered navigation with back/home functionality
- **Hover Effects**: Enhanced visual feedback on interactive elements
- **Smooth Animations**: CSS transitions and transforms for professional feel
- **Accessibility**: Keyboard navigation and semantic HTML structure

1.2 Content Requirements

1.2.1 Educational Standards

- **Scientific Accuracy**: All information must be factually correct and up-to-date
- **Comprehensive Coverage**: Physical characteristics, behavior, habitat, diet, and conservation
- **Source Citations**: Minimum 8 authoritative sources per animal page
- **Visual Learning**: High-quality imagery to support educational content

1.2.2 Conservation Focus

- **IUCN Status**: Current conservation status for each species
- **Threat Analysis**: Detailed information about species-specific threats
- **Conservation Efforts**: Current and ongoing conservation initiatives
- **Educational Messaging**: Clear communication about wildlife preservation

1.3 Technical Requirements

1.3.1 Performance

- Fast Loading: Optimized images and efficient CSS/JavaScript
- Cross-Browser Compatibility: Support for all major browsers
- Mobile Optimization: Responsive design with mobile-first approach

1.3.2 Maintainability

- Template System: Easy addition of new animals and zoo sections
- Documentation: Comprehensive guides for future development
- Code Organization: Clean, well-structured HTML, CSS, and JavaScript
- Version Control: Git-based development workflow

2 Application Architecture Description and Diagram

2.1 Architecture Overview

The Zoo Explorer application follows a **static website architecture** with a **template-based content management system**. The architecture is designed for simplicity, maintainability, and educational focus.

2.2 System Components

2.2.1 Frontend Layer

- **HTML5**: Semantic markup for content structure
- **CSS3**: Advanced styling with Grid, Flexbox, and animations
- **JavaScript (ES6+)**: Interactive navigation and user experience enhancements
- **Images**: Optimized photographic assets for visual content

2.2.2 Template System

- **Animal Template**: Standardized structure for individual animal pages
- **Zoo Template**: Template for main zoo landing pages
- **CSS Framework**: Shared styling system for consistency
- **Documentation**: Template usage guides and quick reference

2.2.3 Content Management

- **Static File Structure**: Organized directory hierarchy
- **Image Management**: Centralized asset storage and optimization
- **Template Variables**: Placeholder system for content customization
- **Documentation System**: Comprehensive guides for content creation

2.3 Architecture Diagram

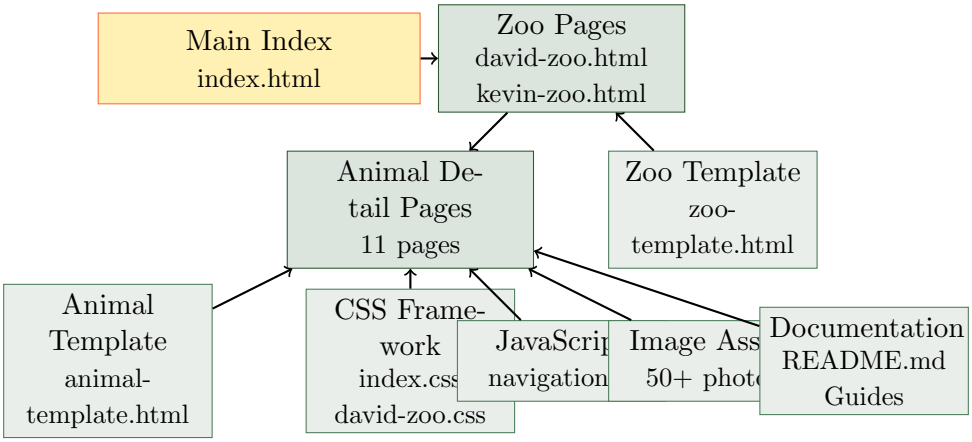

Figure 1: Zoo Explorer Application Architecture

2.4 Data Flow

1. **User Entry**: User visits main index page
2. **Zoo Selection**: User chooses between David's or Kevin's zoo
3. **Animal Browsing**: User views animal grid on zoo page
4. **Detail View**: User clicks animal card to view detailed information
5. **Navigation**: User can navigate back to zoo or home using navigation buttons
6. **Template System**: New content created using standardized templates

2.5 Technology Stack

- **Frontend**: HTML5, CSS3, JavaScript (ES6+)
- **Styling**: CSS Grid, Flexbox, CSS Animations
- **Images**: Optimized JPEG/PNG/WebP formats
- **Hosting**: GitHub Pages (static hosting)
- **Version Control**: Git
- **Development**: Local development with live server

3 Epics, User Stories, and Acceptance Criteria

3.1 Epic 1: Core Website Infrastructure

3.1.1 User Story 1.1: Main Landing Page

As a visitor to the zoo website
I want to see a welcoming landing page with zoo options
So that I can easily choose which zoo section to explore
Acceptance Criteria:

- Landing page displays two zoo cards (David's and Kevin's)
- Each zoo card shows name, description, and entry button
- Cards have hover effects and smooth transitions
- Page is fully responsive on all device sizes
- Navigation buttons work correctly to respective zoo pages

3.1.2 User Story 1.2: Responsive Design

As a user on any device
I want to have an optimal viewing experience
So that I can easily navigate and read content on any screen size
Acceptance Criteria:

- Website works on desktop (1200px+), tablet (768px-1199px), and mobile (320px-767px)
- Text is readable without horizontal scrolling
- Images scale appropriately
- Navigation remains accessible on all devices
- Touch targets are appropriately sized for mobile

3.2 Epic 2: Zoo Section Management

3.2.1 User Story 2.1: Zoo Landing Pages

As a visitor
I want to see a grid of animals when I enter a zoo section
So that I can browse and select animals to learn about
Acceptance Criteria:

- Zoo page displays 6 animal cards in a responsive grid
- Each animal card shows image, name, description, and location/diet tags
- Cards are clickable and navigate to animal detail pages
- Page includes welcome message and zoo information
- Navigation includes home button and proper header

3.2.2 User Story 2.2: Animal Detail Pages

As a visitor interested in a specific animal
I want to view comprehensive information about that animal
So that I can learn about its characteristics, habitat, and conservation status
Acceptance Criteria:

- Page displays hero section with animal name, scientific name, and main image
- Content includes detailed sections: About, Physical Characteristics, Habitat, Diet, Behavior, Conservation
- Sidebar shows quick facts, adaptations, and statistics
- Image gallery displays 4+ images with captions
- Citations section includes 8+ authoritative sources
- Navigation includes back to zoo and home buttons

3.3 Epic 3: Template System

3.3.1 User Story 3.1: Animal Page Template

As a developer adding new animals
I want to use a standardized template
So that I can create consistent, high-quality animal pages efficiently
Acceptance Criteria:

- Template includes all required sections and placeholders
- Documentation explains how to replace placeholder values
- Template produces pages that match existing design standards
- All placeholder values are clearly marked and documented
- Template includes proper HTML structure and CSS classes

3.3.2 User Story 3.2: Zoo Page Template

As a developer creating new zoo sections
I want to use a standardized zoo template
So that I can create new zoo pages that match the existing design
Acceptance Criteria:

- Template includes animal grid structure for 6 animals
- Placeholder system for zoo name, description, and animal information
- Template produces pages consistent with existing zoo pages
- Documentation includes step-by-step creation guide
- Template includes proper navigation and styling

3.4 Epic 4: Educational Content

3.4.1 User Story 4.1: Scientific Accuracy

As a visitor seeking educational content
I want to trust that all information is accurate and current
So that I can rely on the website for learning
Acceptance Criteria:

- All animal information is scientifically accurate
- Conservation status reflects current IUCN data
- Geographic information is correct and up-to-date
- All claims are supported by authoritative sources
- Sources are properly cited and accessible

3.4.2 User Story 4.2: Conservation Education

As a visitor concerned about wildlife conservation
I want to learn about conservation challenges and efforts
So that I can understand how to help protect these species
Acceptance Criteria:

- Each animal page includes current conservation status
- Threats to species are clearly explained
- Conservation efforts and organizations are highlighted
- Information is presented in an engaging, accessible way
- Call-to-action elements encourage conservation awareness

3.5 Epic 5: User Experience

3.5.1 User Story 5.1: Intuitive Navigation

As a visitor browsing the website
I want to easily navigate between sections
So that I can explore content without getting lost
Acceptance Criteria:

- Clear navigation buttons on all pages
- Back button returns to appropriate zoo page
- Home button returns to main landing page
- Navigation is consistent across all pages
- Visual feedback indicates clickable elements

3.5.2 User Story 5.2: Visual Appeal

As a visitor
I want to enjoy an attractive, professional website
So that I have an engaging learning experience

Acceptance Criteria:

- National Geographic-inspired design with professional typography
- High-quality images that load quickly
- Consistent color scheme and branding
- Smooth animations and hover effects
- Clean, uncluttered layout

4 Project Schedule Chart (Gantt Chart)

4.1 Project Timeline Overview

Project Duration: 2.5 weeks (18 days)
Start Date: September 1, 2025
End Date: September 19, 2025
Team Size: 2 developers (David & Kevin)

4.2 Detailed Gantt Chart

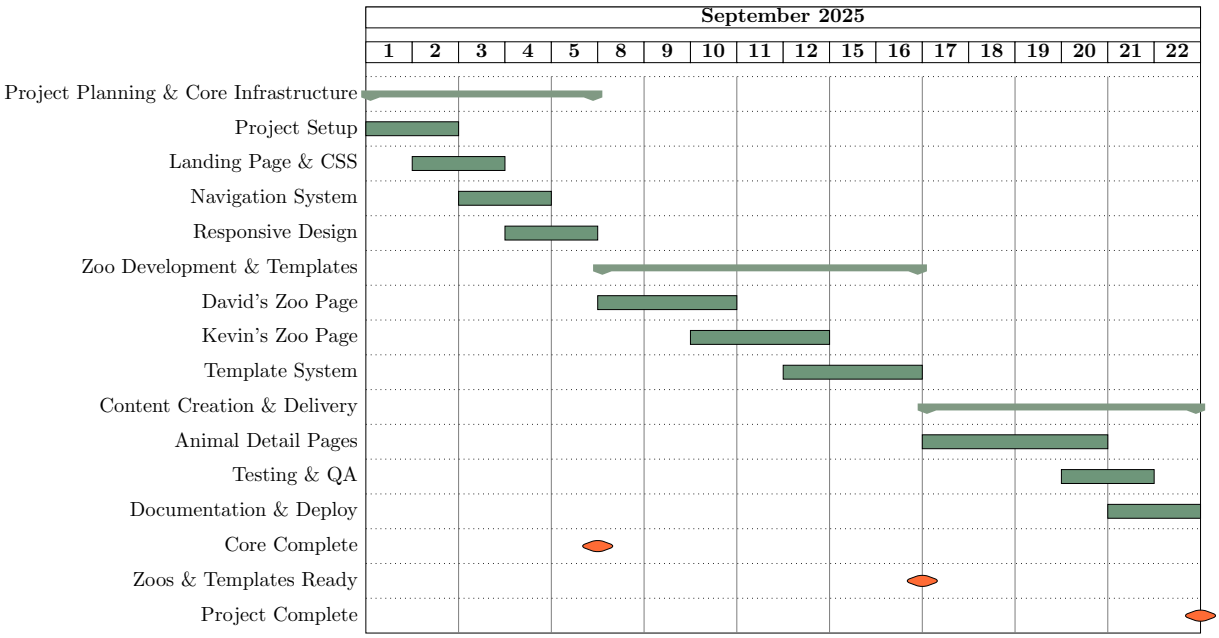

Figure 2: Project Timeline - Gantt Chart

4.3 Phase Breakdown

4.3.1 Phase 1: Project Planning & Core Infrastructure (Sept 1-5)

Tasks: Project requirements analysis, technology stack selection, main landing page (index.html), base CSS framework (index.css), navigation system (navigation.js), responsive design implementation

Deliverables: Project charter, functional landing page, CSS framework, JavaScript navigation system

Team: Kevin (lead), David (support)

4.3.2 Phase 2: Zoo Development & Templates (Sept 8-12)

Tasks: David's zoo main page (david-zoo.html), Kevin's zoo main page (kevin-zoo.html), shared CSS styling (david-zoo.css), animal card grid implementation, template system creation, animal page template, zoo page template, template documentation

Deliverables: Both zoo landing pages with animal grids, template system, template documentation

Team: David (David's zoo), Kevin (Kevin's zoo + templates)

4.3.3 Phase 3: Content Creation & Final Delivery (Sept 15-19)

Tasks: David's animal detail pages (6 pages), Kevin's animal detail pages (5 pages), image optimization, content research and writing, cross-browser testing, mobile responsiveness testing, content accuracy review, performance optimization, README.md updates, GitHub Pages deployment, final testing and validation

Deliverables: 11 complete animal detail pages, optimized image assets, scientific content and citations, complete project documentation, live website deployment

Team: David (6 animal pages), Kevin (5 animal pages + testing + deployment)

4.4 Milestones

- **September 5**: Core infrastructure complete
- **September 12**: Both zoo sections functional and template system ready
- **September 19**: Project complete and deployed

4.5 Risk Management

4.5.1 Identified Risks:

- **Content Research Delays**: Scientific accuracy requires thorough research
- **Image Quality Issues**: High-quality images may be difficult to source
- **Cross-browser Compatibility**: Ensuring consistent experience across browsers
- **Mobile Responsiveness**: Complex layouts may be challenging on small screens

4.5.2 Mitigation Strategies:

- **Early Content Research**: Begin research during infrastructure development
- **Image Backup Plans**: Identify multiple image sources and optimization tools
- **Progressive Testing**: Test browser compatibility throughout development

4.6 Resource Allocation

- **David**: 5 hours/week (East Asian Wildlife focus)
- **Kevin**: 5 hours/week (Project management and global wildlife)
- **Total Project Hours**: 30 hours
- **Budget**: $0 (open source project)
- **Tools**: Free development tools and GitHub Pages hosting