Alpha Team Module 2.1 March 19, 2025

Moffat Bay TDD

Alpha Team consists of Andres Melendez, Jeffrey Reid, Edgar Arroyo, Jordany Gonzalez, and Matthew Trinh

**Introduction:**

* 1. **Purpose**

This document outlines the technical design, development plan, and testing strategies for the Moffat Bay Lodge website. The system will provide public access to lodge information and require user registration/login to book vacations. Reservations will be confirmed via form submission and saved to a MySQL database for retrieval on a reservation lookup page.

**1.2 Terminology**

* **TDD:** Technical Design Document
* **ERD:** Entity-Relationship Diagram
* **QA:** Quality Assurance
* **Session:** Server-side storage of user state
* **Regex:** Regular Expression used for pattern validation
* **CRUD:** Create, Read, Update, Delete – basic operations used in databases and application development to manage data

**1.3 User Personas**

**Persona 1: John Walker**

* **Age:** 55
* **Tech Skill:** Low
* **Background:** Retired postal worker
* **Interests:** Family travel, nature watching, low-impact adventures
* **Health:** Has a heart condition
* **Goals:** Simple, calm travel experiences with minimal effort

**Persona 2: Max Carter**

* **Age:** 23
* **Tech Skill:** High
* **Background:** Computer science student, former Eagle Scout
* **Interests:** Birdwatching, kayaking, outdoor photography
* **Goals:** Adventure and wildlife experiences with in-depth activity details

**Persona 3: Emily Chen**

* **Age:** 29
* **Tech Skill:** Moderate
* **Background:** Travel vlogger and freelance content creator
* **Interests:** Adventure trips, social sharing, comfortable accommodations
* **Goals:** Multi-option packages, content creation during trips

**1.4 User Stories with Story Points**

**John Walker’s User Stories (Low-Tech Traveler)**

1. **As a father**, I want to take my family on a gentle hiking trip to enjoy nature without stress. *(Story Points: 3)*
2. **As a husband**, I want dolphin-watching tours listed with images so I can book something my wife will enjoy. *(Story Points: 2)*
3. **As John**, I want to avoid complicated booking steps so I can plan everything easily. *(Story Points: 3)*

**Max Carter’s User Stories (Tech-Savvy Explorer)**

1. **As a birdwatcher**, I want a detailed bird-spotting guide on the site so I can track species during my trip. *(Story Points: 5)*
2. **As a former Scout**, I want to view available kayaking routes with safety info so I can plan my river trip. *(Story Points: 3)*
3. **As Max**, I want to browse trip options with price breakdowns and detailed activity descriptions. *(Story Points: 3)*

**Emily Chen’s User Stories (Social Traveler & Vlogger)**

1. **As a vlogger**, I want to know which activities allow cameras so I can record content for my followers. *(Story Points: 2)*
2. **As Emily**, I want to see activity bundles so I can experience various things during the same trip. *(Story Points: 4)*
3. **As Emily**, I want a “share my trip” option to invite friends via social media. *(Story Points: 3)*

**1.5 Work Estimations & To-do List**

**Planning & Requirements**

* Finalize user personas
* Finalize user stories with story points
* Create Entity-Relationship Diagram (ERD)

**Design**

* Wireframes for:
  + Landing Page
  + Registration Page
  + Login Page
  + Reservation Page
  + Reservation Summary Page
  + Reservation Lookup Page
  + About Us Page
  + Contact Us Page
  + Attractions Page
* High-fidelity prototypes (desktop and mobile)
* User journey maps per persona

**Development *(Separate task per page/feature)***

* Build a Landing Page
* Build About Us Page
* Build Contact Us Page
* Build Attractions Page
* Build a Registration Page with form validation (regex, required fields)
* Build a Login Page with session tracking
* Build a Reservation Page (room size, guests, dates)
* Build a Reservation Summary Page
* Build a Reservation Lookup Page
* Implement password hashing using secure algorithms
* Error handling for invalid login, form validation, and missing fields

**Database Design**

* Create and document database schema:
  + users table (user info, hashed password, email)
  + reservations table (room type, dates, guest count, user ID)
* Create the MySQL database
* Implement CRUD functionality for:
  + User accounts (register, login, update info)
  + Reservations (create, read, cancel)

**QA Testing *(Functional Testing separated per page)***

* General Functional Testing
  + Landing Page
  + Registration Page
  + Login Page
  + About Us Page
  + Contact Us Page
  + Attractions Page
  + Reservation Summary Page
  + Reservation Lookup Page
* Reservation Page – Detailed Testing
  + Test room type selection logic
  + Test date validation (check-in/check-out rules)
  + Test total price calculation
  + Test reservation submission & DB insertion
* Data Validation and Persistence
  + Test input validation (email format, password regex)
  + Test reservation lookup by email or ID
  + Confirm database saves and retrieves data accurately
  + Confirm user sessions persist after login

**Presentations & Final Adjustments**

* Module 11: Create Presentation showcasing:
  + Development Progress
  + Visual mockups
  + Key features in action
  + ERD and QA results
* Module 12: Implement user critique-based revisions
  + Identify suggestions from peer or instructor feedback
  + Update pages, code, or UX as needed

**Design:**

2.1 Prototypes

2.2 ERD

**QA Testing:**

3.1 QA Test Plan