

## Overview of Project Echo

- **Purpose:** Project Echo focuses on mapping and analyzing data to assist with region-based animal tracking.
- **Key Features:**
  - Region-Based Mapping: Categorizes inputs into predefined regions.
  - Projected Movement Visualization: Predicts and displays movement patterns over time.
  - Data Management: Stores and organizes data for efficient retrieval.

## Design Components and Their Usage

### Region-Based Mapping

- **Description:** Allows users to upload data (e.g., coordinates) to categorize and display mapped regions.
- **Steps to Use:**
  1. Navigate to the *Region Mapping* section on the interface.
  2. Enter or upload relevant data (e.g., coordinates or region identifiers).
  3. Click **Submit** to view the mapped region on the interface.
- **Outputs:** Displays the assigned region name and mapped visualization.

### Projected Movement

- **Description:** Predicts future movements based on given coordinates and parameters like time and movement factor.
- **Steps to Use:**
  1. Navigate to the *Projected Movement* section.
  2. Input the current coordinates, movement factor, and time duration.
  3. Click **Calculate** to view the projected future coordinates.
- **Outputs:** Displays updated coordinates and projected movement paths.

## Navigation Guide

- **Home Page:**
  - Provides an introduction to the system and links to all major features.
- **Gallery Page:**
  - Displays all uploaded data with associated outputs for easy reference.
- **Documentation Section:**
  - Access the user guide and technical specifications.

## Accessibility Features

- Mobile-Friendly Interface: Ensures compatibility across devices with responsive design.
- Error Handling:
  - Provides prompts for invalid inputs (e.g., unsupported file formats).
  - Clear error messages guide users to correct mistakes.

## Troubleshooting Tips

- **Issue:** Upload button not functioning.  
**Solution:** Ensure the file meets the required format and size limits. Refresh the page if necessary.
- **Issue:** Data not displaying correctly.  
**Solution:** Check if all required fields are filled before submission.

## Future Enhancements

- Multi-language Support: Expanding accessibility for global users.
- Expanded Mapping Features: Adding dynamic user-defined regions.
- Enhanced Documentation: Including FAQs and video tutorials for better understanding.