# Project Timeline Overview

### Phase Overview

| **Phase** | **Duration** | **Start Week** | **End Week** |  | **Key Milestones** |
| --- | --- | --- | --- | --- | --- |
| **1. Planning & Requirements** | **3 weeks** | Week 1 | Week 3 |  | - Define project scope and objectives - Conduct stakeholder consultations - Finalize requirements document |
| **2. Design Phase** | **5 weeks** | Week 4 | Week 8 |  | - Complete database schema design - Finalize API design - Develop UI/UX wireframes and mockups |
| **3. Development Phase** | **10 weeks** | Week 9 | Week 18 |  | - Front-end development - Back-end development - Develop automated data extraction tools |
| **4. Integration Phase** | **3 weeks** | Week 19 | Week 21 |  | - Integrate front-end with back-end - Integrate automated data extraction with the database |
| **5. Testing Phase** | **4 weeks** | Week 22 | Week 25 |  | - Conduct unit, integration, and user acceptance testing - Perform accessibility and performance testing |
| **6. Deployment Phase** | **2 weeks** | Week 26 | Week 27 |  | - Deploy to staging environment - Conduct final testing - Deploy to production |
| **7. Post-Deployment** | **2 weeks** | Week 28 | Week 29 |  | - User training and documentation - Monitor application performance - Gather initial user feedback |
| **8. Maintenance & Iteration** | **Ongoing** | Week 30 | Ongoing |  | - Regular updates and bug fixes - Implement user feedback and enhancements |

## Detailed Phase Breakdown

### **1. Planning & Requirements (3 Weeks)**

**Objective:** Establish a clear foundation for the project by defining scope, objectives, and gathering detailed requirements.

**Key Milestones:**

* **Week 1:** Define Project Scope and Objectives
  + Finalize the list of features using the MoSCoW prioritization.
  + Document project goals and expected outcomes.
* **Week 2:** Conduct Stakeholder Consultations
  + Identify and reach out to all relevant stakeholders.
  + Schedule and conduct interviews, surveys, and workshops.
* **Week 3:** Finalize Requirements Document
  + Analyze and synthesize feedback from stakeholders.
  + Create a comprehensive requirements specification document.
  + Obtain approval from key stakeholders.

**Deliverables:**

* Project Scope Document
* Requirements Specification Document
* Stakeholder Analysis Report

### **2. Design Phase (5 Weeks)**

**Objective:** Create detailed designs for the database, API, and user interface to guide the development process.

**Key Milestones:**

* **Week 4:** Complete Database Schema Design
  + Finalize data models and relationships.
  + Ensure scalability and normalization.
* **Week 5-6:** Finalize API Design
  + Define all necessary API endpoints.
  + Establish authentication and authorization protocols.
  + Create API documentation.
* **Week 7-8:** Develop UI/UX Wireframes and Mockups
  + Create wireframes for key application screens.
  + Develop high-fidelity mockups based on user feedback.
  + Conduct design reviews and iterate as needed.

**Deliverables:**

* Database Schema Diagrams
* API Design Documentation
* UI/UX Wireframes and Mockups

### **3. Development Phase (10 Weeks)**

**Objective:** Build the front-end, back-end, and automated data extraction tools based on the finalized designs.

**Key Milestones:**

* **Week 9-12:** Front-End Development
  + Set up front-end project structure using chosen framework (e.g., React, Vue.js).
  + Develop reusable UI components.
  + Implement responsive design and accessibility features.
* **Week 13-16:** Back-End Development
  + Set up server environment and back-end framework (e.g., Node.js with Express).
  + Develop and test API endpoints.
  + Integrate the back-end with the database.
* **Week 17-18:** Develop Automated Data Extraction Tools
  + Choose appropriate tools/libraries (e.g., Python with Beautiful Soup or Scrapy).
  + Develop scripts for data extraction, transformation, and loading (ETL).
  + Test and validate data extraction processes.

**Deliverables:**

* Functional Front-End Application
* Developed and Tested API Endpoints
* Automated Data Extraction Scripts

### **4. Integration Phase (3 Weeks)**

**Objective:** Ensure seamless interaction between front-end, back-end, and data extraction tools.

**Key Milestones:**

* **Week 19:** Integrate Front-End with Back-End APIs
  + Connect UI components to API endpoints.
  + Implement state management (e.g., Redux, Vuex).
* **Week 20:** Integrate Automated Data Extraction with Database
  + Schedule automated data extraction tasks (e.g., cron jobs).
  + Ensure data consistency and integrity.
* **Week 21:** Conduct Initial Integration Testing
  + Perform end-to-end testing of integrated components.
  + Resolve any integration issues.

**Deliverables:**

* Integrated Front-End and Back-End Systems
* Automated Data Extraction Pipeline
* Integration Test Reports

### **5. Testing Phase (4 Weeks)**

**Objective:** Validate the functionality, performance, and usability of the OSV application through comprehensive testing.

**Key Milestones:**

* **Week 22-23:** Conduct Unit and Integration Testing
  + Test individual front-end components and back-end APIs.
  + Ensure all units function correctly in isolation and together.
* **Week 24:** Perform User Acceptance Testing (UAT)
  + Engage stakeholders to test the application.
  + Gather feedback and identify any discrepancies.
* **Week 25:** Accessibility and Performance Testing
  + Use tools (e.g., Lighthouse, Axe) to assess accessibility compliance.
  + Conduct performance testing to ensure response times and system stability.

**Deliverables:**

* Unit and Integration Test Results
* UAT Feedback Report
* Accessibility and Performance Test Reports

### **6. Deployment Phase (2 Weeks)**

**Objective:** Launch the OSV application to the production environment, ensuring stability and readiness for users.

**Key Milestones:**

* **Week 26:** Deploy to Staging Environment
  + Set up a staging environment that mirrors production.
  + Conduct final pre-deployment testing.
* **Week 27:** Production Deployment
  + Execute the deployment plan to move the application to the production environment.
  + Monitor deployment for any immediate issues.
  + Ensure minimal downtime during the transition.

**Deliverables:**

* Staging Environment Setup
* Deployed Production Application
* Deployment Logs and Documentation

### **7. Post-Deployment (2 Weeks)**

**Objective:** Ensure users are trained, documentation is complete, and the application is performing as expected post-launch.

**Key Milestones:**

* **Week 28:** User Training and Documentation
  + Develop and distribute user guides and tutorials.
  + Conduct training sessions for stakeholders and end-users.
* **Week 29:** Monitor Application Performance and Gather Feedback
  + Use monitoring tools to track system performance and uptime.
  + Collect initial user feedback for immediate improvements.

**Deliverables:**

* User Guides and Training Materials
* Training Session Reports
* Initial Performance and Feedback Reports

### **8. Maintenance & Iteration (Ongoing)**

**Objective:** Continuously improve the OSV application based on user feedback, performance data, and evolving requirements.

**Key Activities:**

* **Regular Updates and Bug Fixes:**
  + Address any issues or bugs reported by users.
  + Apply security patches and updates as necessary.
* **Implement User Feedback and Enhancements:**
  + Prioritize and develop new features or improvements based on user needs.
  + Conduct periodic reviews to assess the application's effectiveness.
* **Performance Monitoring:**
  + Continuously monitor system performance and optimize as needed.
  + Ensure data integrity and security are maintained.

**Deliverables:**

* Updated Application Versions
* Enhanced Features and Functionalities
* Ongoing Performance and Security Reports