SSD Institute Web App

Final Design Specification Package

*Prepared by **TEAM JAST***

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Submitted Monday, December 1st, 2025

Table of Contents

Introduction

This document details the complete final specification package for the SSD Web App, the culmination of this semester's work. It includes all documents previously submitted regarding the planning and architecture of the web application.

The SSD Web App is intended to educate the public regarding the core concepts that the SSD Institute (Scientific Self-Determination) advocates for. It is a unique civic information system that provides the public with informative articles, as well as data visualizations showing the concepts in practice.

In this specification package, we have enumerated a sophisticated planned architecture and project plan that we can act on to fully build the SSD web app from the ground up.

Project Charter

The project charter outlines the broad strokes of the project defining what it is and what it is not, setting forth the project's overall structure and development goals.

Project Abstract

Project Purpose

To create a functional web application with visualizations to clearly convey the institutes beliefs, political suggestions and civic impact.

Beliefs

Creating clear descriptions with a minimum of 500 words of each concept so that an average person can understand the purpose and potential of the governance concepts.

Political Suggestions

Visualizing the political suggestions and concepts via three static Ploty charts for citizen viewing which will be coupled with the concept descriptions mentioned earlier. The fourth "Minimum amount of space" visualization will be a stretch goal with the same general concept of visualization and description.

Civic Impact

In addition to concept descriptions having a separate portion of each concept and explaining why they could be impactful in the modern landscape, we also intend on having a minimum of a 250 word explanation of why these concepts could be civically impactful for the average person.

Stakeholders

The main project stakeholders are:

1. Business leaders at SSD Institute (Thom Mo & Joe Pek)
2. End-users of the civic public (The American public, and those with an internet access to interact with the site)
3. Collaboratorsx` and IT proffesioanls affiliated with SSD Institute

Secondary Stakeholders:

1. Hosting partners Python Anywhere
2. Academic staff at Pennsylvania Western University
3. Donors
4. Subject matter expert advisors

Anticipated Completion

Milestones

End of December 2025 - Semeter 1

- Full founding documentation available on Github (I.e: Concepts, Charter, Scope, FAQ, User Stores, etc)
- A prototype displaying all four potential visualizations and documentation in an example
- The seeding of the framework (Flask) pushed to the main repository

End of April 2026

- Three visualizations for collaborative veto, supreme court check and Multi-voting
- Clear documentation with each visuilzation one portion explaining concept the other impact
- Hosted for the general public to see with SSL, HTTPS connections via Python Anywhere servers
- Updatable in a clear way via Github repo and commits for future SSD Institute affiliates

This Flask, Gunicorn web application with three Plotly, and optional one D3.js visualizations is planned to be completed on May 1st 2026, deployed for public access via Python Anywhere so citizens can view the GUI interface and documentation.

Functional Scope Table

Feature / Functionality	Description	Priority	Deliverable Phase
Static Concept Pages	Written explanations (At least 500 words each) of Collaborative Veto, Multi-choice Voting, Supreme Court Veto, and Minimum Space concepts.	Core	MVP
Plotly Visualizations (3)	Static charts for Collaborative Veto (county/state view), Multi-choice Voting (bar chart), and Supreme Court Veto (choropleth map).	Core	MVP
Documentation Pages	Clear markdown documentation including FAQ, Concepts, Scope, Charter, User Stories, Getting Started.	Core	MVP
Civic Impact Section	250-word civic impact analysis accompanying each governance concept.	Core	MVP
Flask Web Framework Setup	Functional Flask app hosted on PythonAnywhere with Gunicorn, HTTPS, and GitHub integration.	Core	MVP

Feature / Functionality	Description	Priority	Deliverable Phase
Mobile Responsiveness	CSS styling to ensure public usability on phones/tablets.	Core	MVP
GitHub Version Control	Active Git repository with issues, milestones, and clear commit messages.	Core	MVP
D3.js Visualization (Minimum Space)	Land allocation concept visualization (treemap/cartogram) based on population and land data.	Stretch	Phase 2
Interactive Map Functionality	Basic click/hover tooltips or toggles for states/counties in Plotly visualizations.	Stretch	Phase 2
User Feedback Form	Simple contact form for users to submit feedback or questions.	Stretch	Phase 2
Automated Updates	Scripts to refresh data or regenerate charts dynamically.	Stretch	Phase 2
Expanded Publications Feature	Blog-like section accessible to Institute staff for updates or papers.	Stretch	Phase 2

Approved Budgets

1. Purchase of a domain up to $50 dollars for visibility purposes
2. Purchase of a PythonAnywhere entry subscription able to hold 10,000 monthly visitors for $60 annually; for hosting the web application
3. Purchase of a SSL certificate for HTTPS connections up to $20.

Project Team

- Justin Maga: Dev, Minute/Note-taker, Backup Business Analyst, Backup Documentation Reviewer
- Austin Pringle: Sr Dev, Business Analyst, Backup Devops
- Stuart Krugger: QA, DevOps, Content Writer, Backup Project Manager
- Thom Mo: Project Manager, Dev, QA backup, DevOps, Documentation Reviewer

Sign off of Stakeholders

- I Thom J Mondeaux, non profit liaison and project manager, Sign off on this Project.
- We the JAST Team Sign off on this project as Developers.
- I Joe Pek sign off on this project as Non-Profit coordinator.

Scope Document

Problem Description

Many residents struggle to make informed decisions at the ballot box due to limited access to timely, trustworthy, and localized information. Critical updates, such as **ongoing legal cases, newly passed legislation, and court decisions**, often remain buried in complex documents or scattered across inaccessible platforms. This lack of transparency creates a disconnect between community members and the policies that directly affect their lives.

Without a centralized, user-friendly source of public information, voters are left navigating fragmented data, outdated resources, or biased interpretations. This gap undermines civic engagement and weakens the democratic process at the local level.

A **web-based application**, supported by clear vision documentation and accessible text resources, addresses this issue by consolidating and presenting relevant updates fairly and transparently. By making this information easily available, the platform empowers residents to understand how local developments impact their communities, helping them make informed choices when it comes to voting.

Anticipated Business Benefits

The **Civic Insight Initiative** is a comprehensive, grassroots-driven project dedicated to empowering communities through radical transparency and accessible information, ultimately fostering informed voting and civic participation.

The core of this initiative is the development of a dynamic web application that serves as a central hub for critical public data, moving beyond standard election information. This platform will feature a **Legislative and Legal Context Library** that simplifies and centralizes complex information, including recently passed legislation, major court documents, and detailed legal analyses of the current regulatory landscape that directly impacts the community.

The project will also focus on making innovative political models, such as those from the **Scientific Self-Determination** project, understandable through clear explanations and visualizations.

Governance Concepts (from Scientific Self-Determination)

- **Collaborative Veto**: The idea that local communities can override a higher authority's decision (e.g., one-third of counties can veto a state law, shifting the decision to the county level). This leads to more local decision-making and increases participation in local elections.
- **Multi-choice Voting**: Allows citizens to vote for as many candidates as they support, preventing "spoiler effects" and more accurately reflecting citizen preferences.
- **Supreme Court Veto**: A collective check where a simple majority of states (26 or more)

can reject a Supreme Court decision, allowing each state to set its own policy on the issue. This introduces a democratic check on a powerful branch of government.
- **Minimum Amount of Space**: A proposal guaranteeing every citizen an inalienable, untaxed minimum space of land, replacing welfare programs with a universal right to exist and live independently.

By aggregating and simplifying this disparate data, the project aims to ensure every citizen understands the full context of the decisions they make at the ballot box. The primary operational focus is to aggregate, simplify, and disseminate public information, particularly emphasizing local factors that will affect the community's decision, such as **detailed budget reports, major development proposals, and public meeting transcripts**. All information will be rigorously sourced from verifiable public records, with clear indicators showing whether a decision's authority stems from legislation passed by lawmakers, court documents, or administrative actions.

Measurable Objectives (Evaluation Outcomes)

The project will be evaluated against the following measurable outcomes:

Objective	Target
Timeliness	Achieve a target of 100% of legislative updates correctly summarized within 24 hours of publication.
Readability	Maintain an Average readability score (Flesch-Kincaid grade ≤ 10) for all plain-language summaries.
Responsiveness	Maintain an Average response time < 3 seconds for user queries.
Usability	Incorporate feedback from limited user testing (5–10 participants) to assess clarity, accuracy, and accessibility of the interface.

System Capabilities

The project centers on a **centralized, user-friendly web-based hub** designed to deliver critical public information in real time.

- The application will provide updates on legal and legislative developments using **plain-language summaries** to make complex policy content accessible to all residents.
- Through **location-based filtering**, users will receive information tailored to their specific communities.
- All content will be transparently sourced from **verified public records** (government, legislative, and court databases) and accompanied by clear disclaimers to foster trust and accountability.

Technically, the application will be hosted on **PythonAnywhere**, a reliable cloud-based platform for deploying Python web apps. It will be seamlessly connected to a custom domain. The system's architecture is built on **Flux**, enabling scalable and reactive data flows essential for handling frequent updates to legislation and court rulings. This ensures the platform remains stable, responsive, and capable of delivering transparent, up-to-date information to users as soon as it becomes available.

Risk Analysis

Evaluate Feasibility: Cultural/Organizational

- The project operates within a flexible and fast-paced environment, characterized by high power distance and directive leadership, but remains **adaptable to change**. Decision-making is efficient and goal-oriented, with a strong emphasis on short-term execution and rapid iteration.
- Organizationally, the team embraces a pragmatic mindset, prioritizing **speed, responsiveness, and practical outcomes** over rigid long-term planning. The system is designed to shift direction as needed based on feedback, testing, and emerging community needs.

Evaluate Feasibility: Technological

The application will be hosted on **PythonAnywhere** and configured to connect seamlessly with a custom domain. The system is designed to run natively with **Flux architecture**, supporting scalable and reactive data flows. Once the software is purchased and deployed, the domain integration will allow users to access the platform directly, enabling real-time updates and transparent information sharing.

Schedule

- **First Semester**: Focus on laying the groundwork, including the overall design, structure, and layout of the website. This phase will establish the system's architecture, user interface plans, and documentation to guide development.
- **Second Semester**: Dedicated to building the application itself, implementing core features, and conducting thorough testing to identify and resolve any bugs or issues that arise during development.

Resource (Team Members' Talents)

The team demonstrates a well-rounded blend of technical expertise, strategic leadership, and operational precision.

- **Technical Strengths**: Members like **Thomas Mondeaux, Austin Pringle, Stuart Krueger, and Justin Maga** bring specialized skills in **Python, SQL, Laravel, and GitHub Actions**, along with experience in full-stack development, CI/CD pipelines, and scalable deployment strategies.

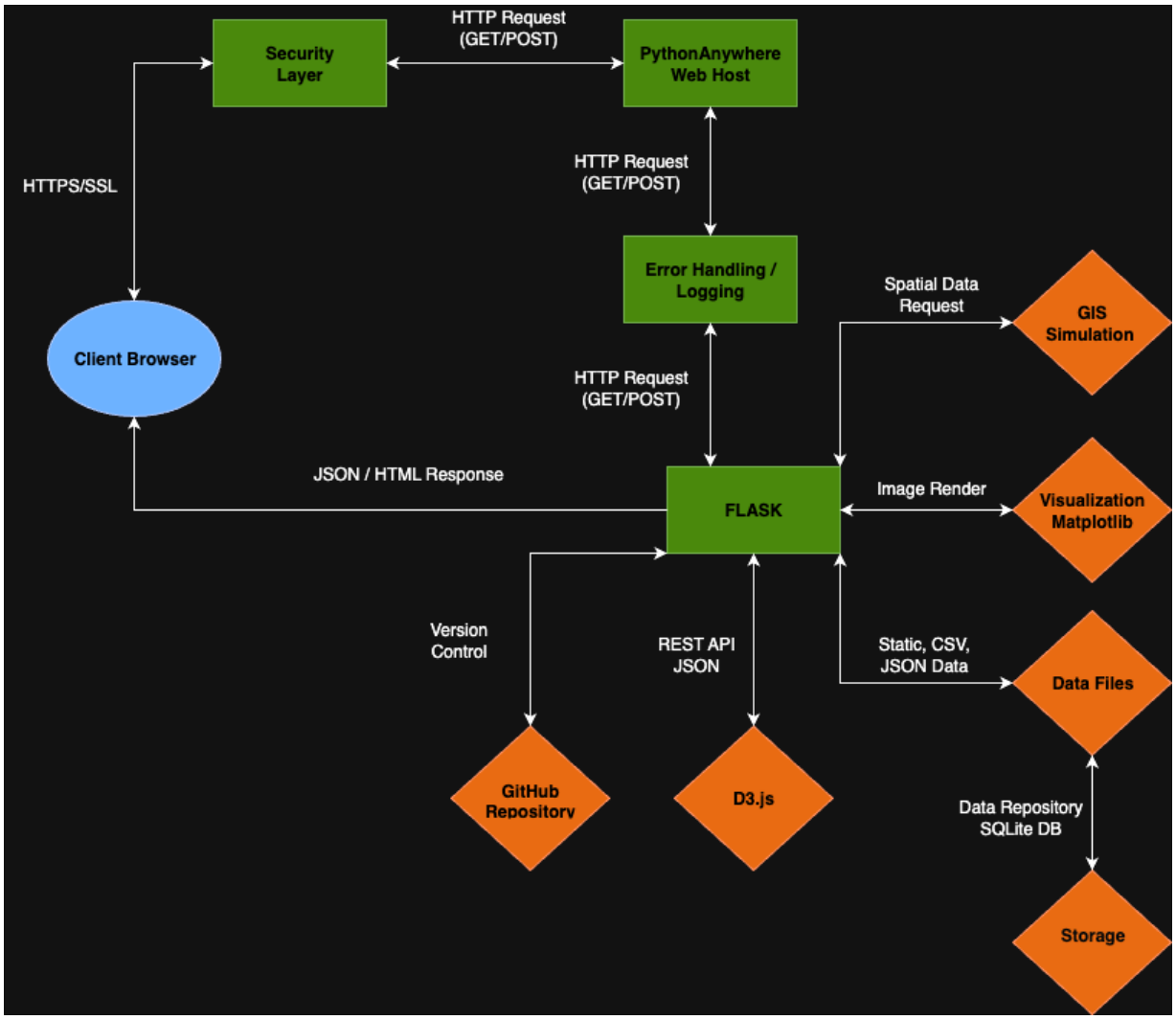
- **Leadership and Operations**: Stuart Krueger and Thomas Mondeaux offer deep experience in project planning, workflow optimization, and end-to-end delivery. Austin Pringle and Justin Maga contribute compliance, cybersecurity, and IT support expertise.
- **Communication**: The team's ability to translate complex regulatory content into plain-language summaries ensures accessibility for all users.

Document Constraints and Limitations

The platform must balance transparency with legal and ethical responsibility.

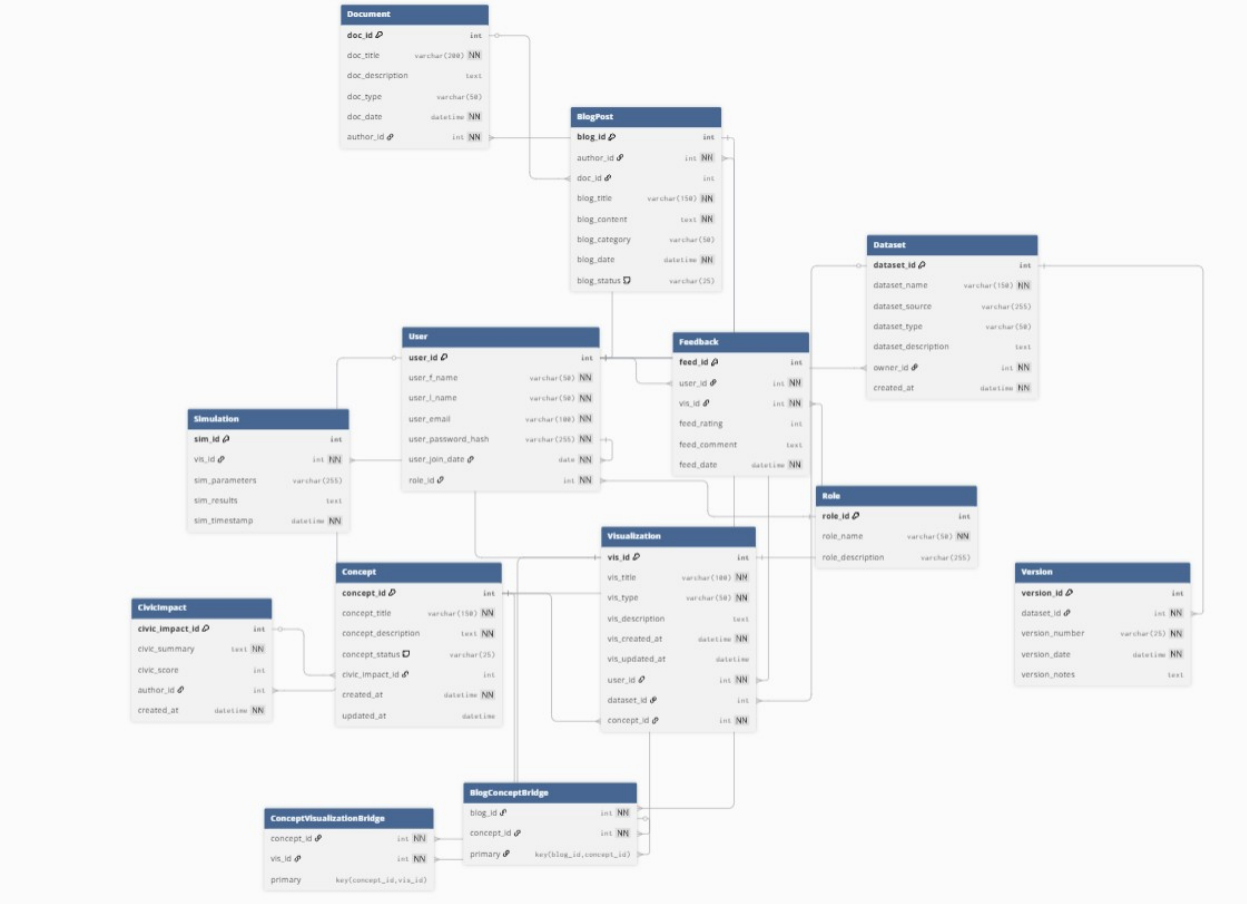
Constraint / Limitation	Description
Data Sourcing	The system will **only** include documents from **verified public sources** (government websites, legislative portals, and court databases) to ensure transparency and trust.
Data Formatting	Documents must be formatted for readability and accessibility, with **plain-language summaries**.
Scope of Content	The platform will focus on materials that directly impact **local decision-making**, using location-based filters.
Legal/Ethical Boundaries	**Sensitive personal data** may need to be redacted. Some documents may be restricted by **copyright, paywalls, or jurisdictional limits**.
Misinformation Risk	Frequent updates to legislation and court rulings require **version control** to avoid misinformation.
Liability	All content must be **clearly sourced and accompanied by disclaimers** to protect against liability.
Future Enhancements	AI/automation (LLMs for summarization) will be restricted to a future enhancement, not a core deliverable for the capstone.

Architectural Design Topology Diagram



Entity Relationship Diagrams and Data Flow Diagrams

ERD

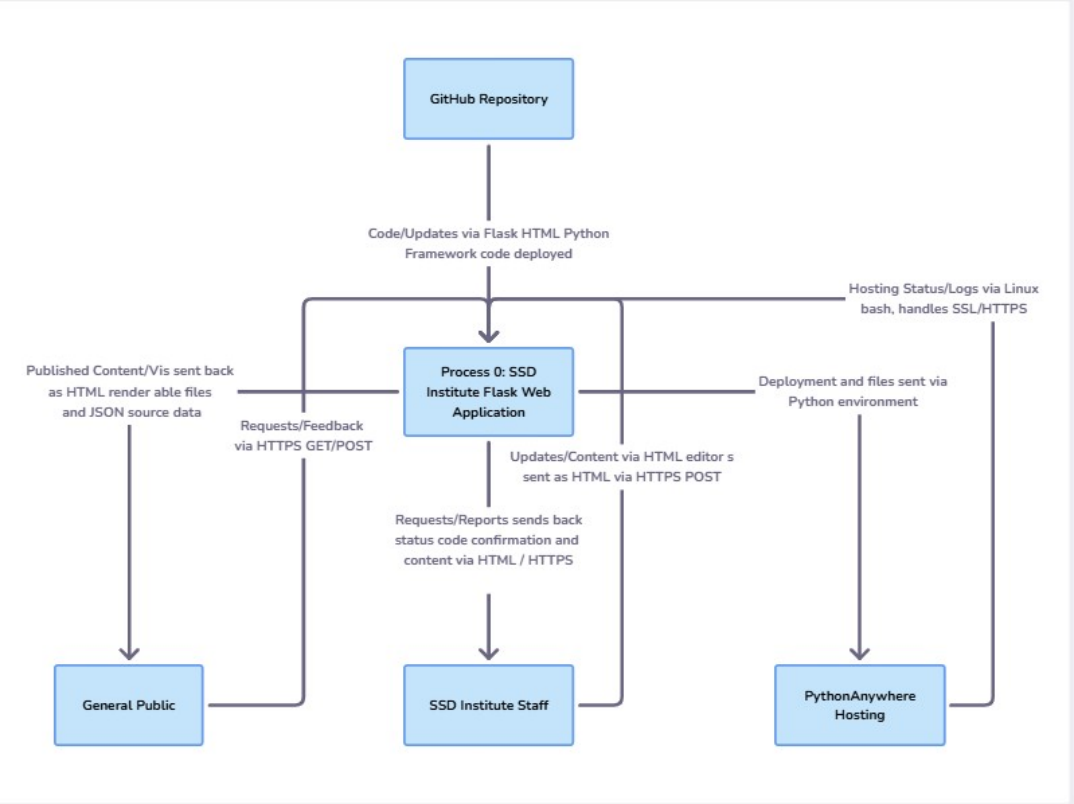


The Entity-Relationship Diagram (ERD) represents the data architecture for the Flask-based SSD Institute web application. This system is designed to manage users, projects, datasets, and analytical reports within a structured and scalable database model. The diagram captures the logical relationships among entities such as Users, Projects, Datasets, Analyses, Reports, and Feedback, ensuring that each component of the application can interact seamlessly through well-defined relationships and constraints. This is the final at scale ERD considering that the MVP does not include a database. Primary and foreign keys are established to maintain data integrity, while normalization is applied to eliminate redundancy and support efficient querying.

The purpose of this ERD is to provide a blueprint for database implementation and application integration for the final version of the SSD web app. By clearly defining cardinalities and data dependencies, our model ensures that users can create projects, upload datasets, perform

analyses, and generate reports with consistent and traceable data flow. The structure supports role-based user access, report generation, and an iterative feedback process, by forming the foundation for a reliable and maintainable backend. This ERD serves as both a development reference and a communication tool, aligning design intent across developers, analysts, and stakeholders for the present and future of the project.

Data Flow Diagram, Level 0 (DFD-0)



Purpose: Show the entire SSD Institute Web App as one process and its interaction with external entities.

Entities

- SSD Institute Staff
  - Provide concept content, political suggestions, and updates.
  - Receive feedback and reports on site usage.
- General Public (End Users)
  - View governance concepts and visualizations.
  - Submit questions or feedback (stretch feature).

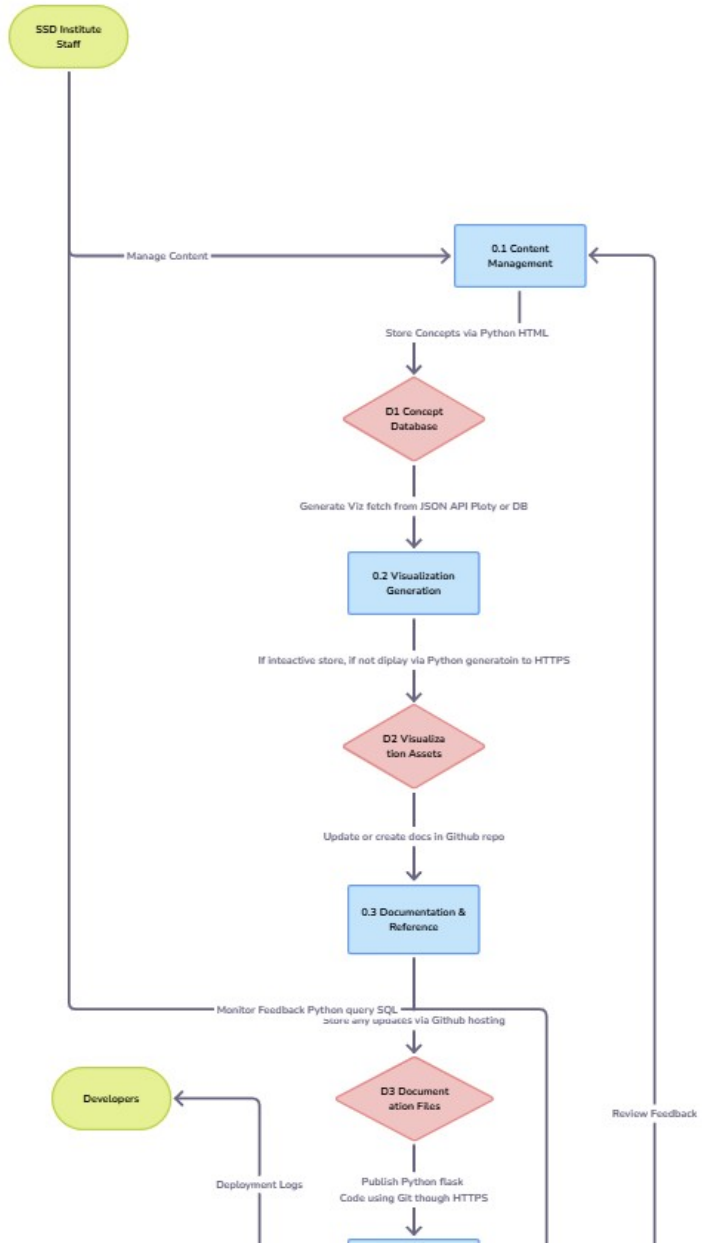
- GitHub Repository / Hosting (Developers)
  - Stores code, documentation, and updates.
  - Sends deployment updates to the hosted app.
- PythonAnywhere Hosting Service
  - Hosts the live Flask web app and manages SSL/HTTPS.

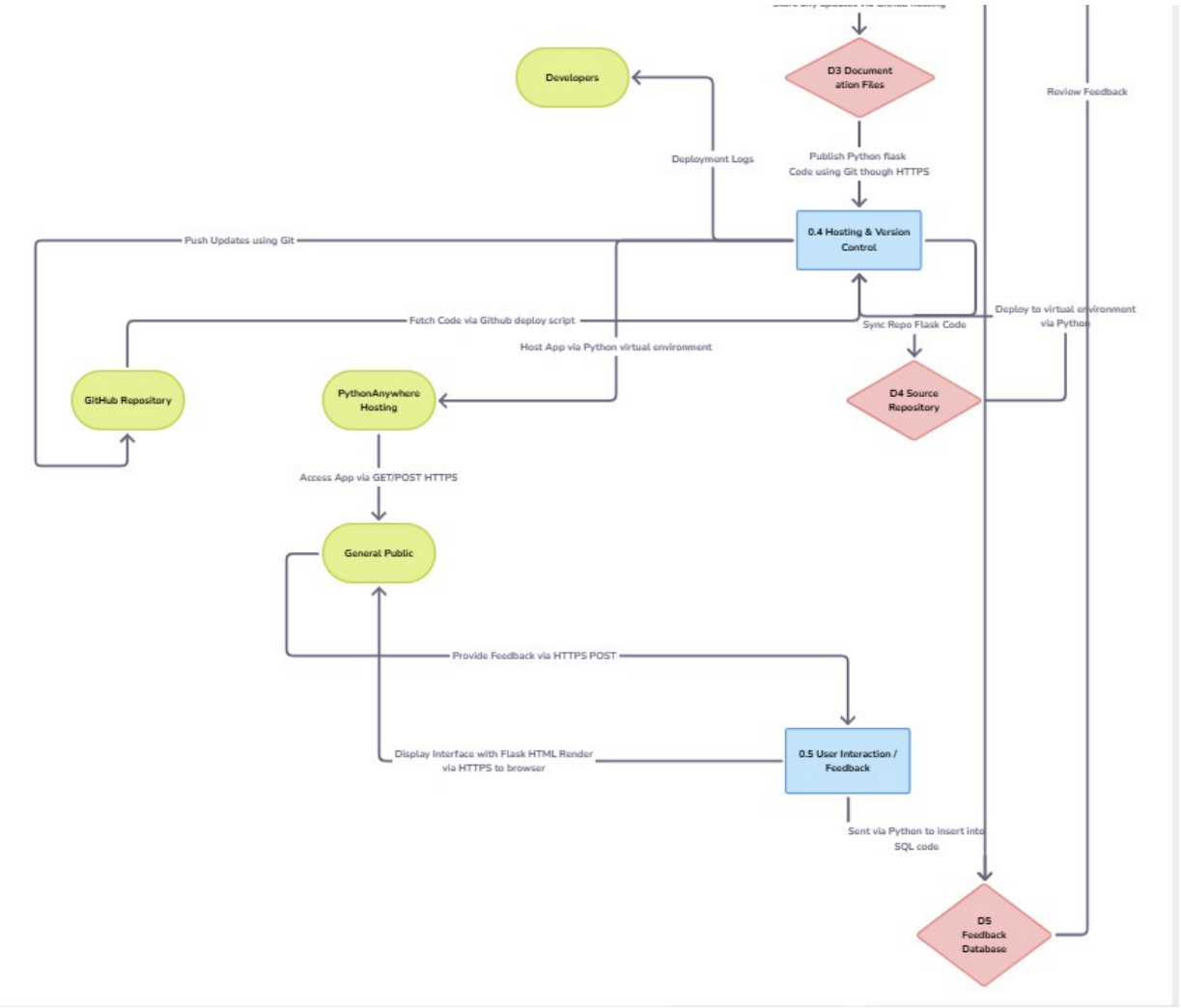
Process List

Process 0: SSD Institute Web Application Displays governance concepts, civic impacts, and visualizations through a public Flask site.

Data Flow Diagram, Level 1 (DFD-1)

Continued on next page.





Purpose: Break down the overall app into major modules.

Process 0.1 — Content Management

Input : Written concepts, civic impact explanations.

Output : Published pages and updated documentation.

Data Store D1 – Concept Database (markdown or JSON files).

Process 0.2 — Visualization Generation

Input : Governance data sets, visualization specs.

Output : Static Plotly/D3 charts displayed on pages.

Data Store D2 – Visualization Assets (storage of chart data + images).

Process 0.3 — Documentation & Reference

Input : Scope, Charter, FAQ, User Stories.

Output : Linked markdown documentation on the site.

Data Store D3 – Documentation Files (repo directory).

Process 0.4 — Hosting & Version Control

Input : Code commits / updates from developers.

Output : Deployed Flask App on PythonAnywhere.

Data Store D4 – Source Repository (GitHub).

Process 0.5 — User Interaction / Feedback (Stretch Feature)

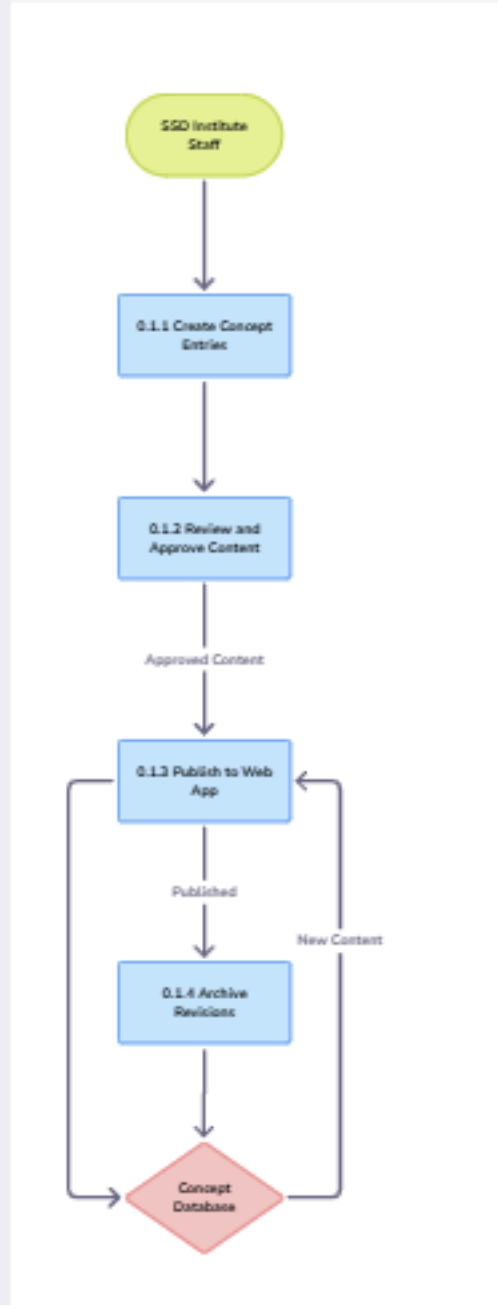
Input : Feedback forms / questions from users.

Output : Messages to SSD Institute staff for review.

Data Store D5 – Feedback Database (simple SQLite table).

Data Flow Diagram, Level 2 (DFD-2)

Content Management

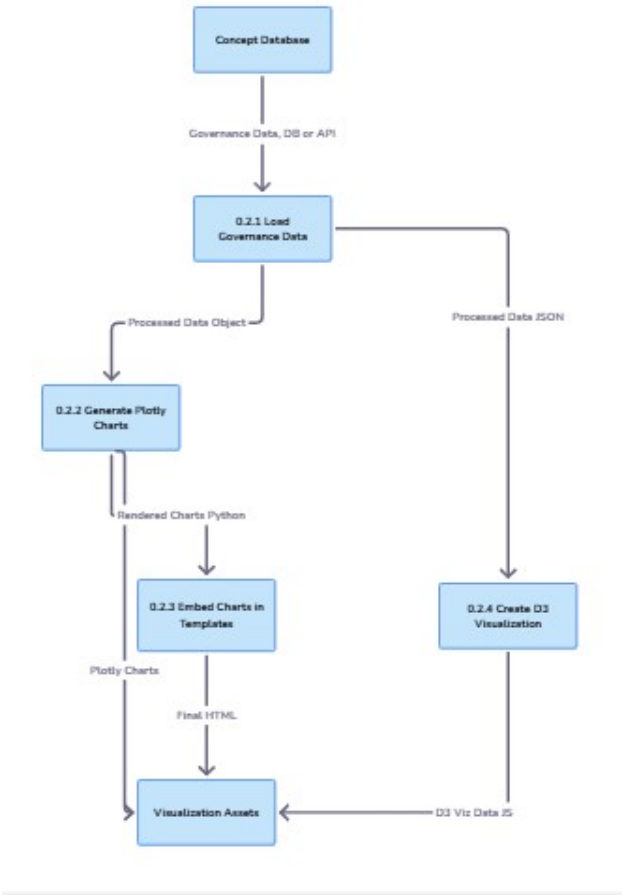


Process 0.1 — Content Management

- 0.1.1 Create Concept Entries – Staff write 500+ word concept explanations.
- 0.1.2 Review and Approve Content – Internal review before publishing.

- 0.1.3 Publish to Web App – Push Markdown to Flask templates.
- 0.1.4 Archive Revisions – Save old versions for audit.

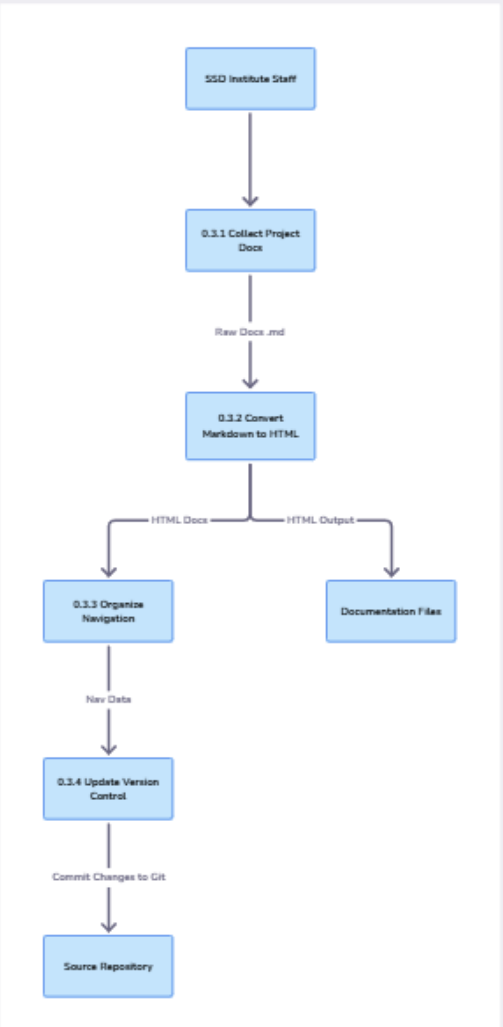
Visualizations



Process 0.2 — Visualization Generation

- 0.2.1 Load Governance Data – Prepare data for three core visualizations.
- 0.2.2 Generate Plotly Charts – Collaborative Veto, Multi-Choice Voting, Supreme Court Veto.
- 0.2.3 Embed Charts in Templates – Integrate plots within Flask routes.
- 0.2.4 (Stretch) Create D3 Visualization – Minimum Space treemap/cartogram.

Documentation



Process 0.3 — Documentation & Reference

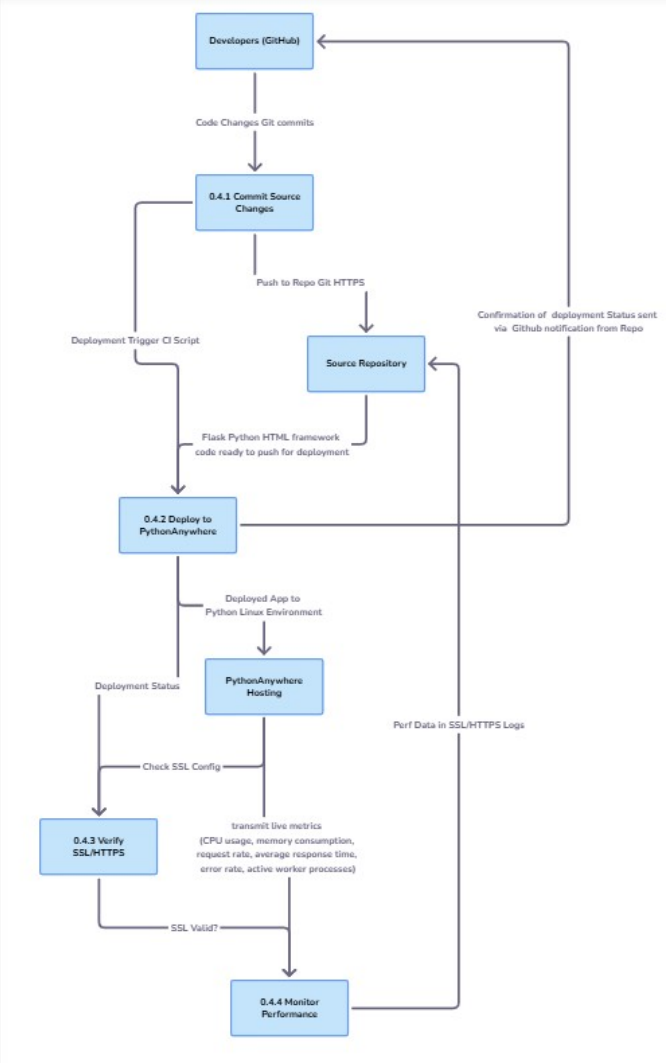
0.3.1 Collect Project Docs – Charter, Scope, FAQ, User Stories.

0.3.2 Convert Markdown to HTML – Static rendering via Flask.

0.3.3 Organize Navigation – Add links to main pages.

0.3.4 Update Version Control – Push updated docs to GitHub.

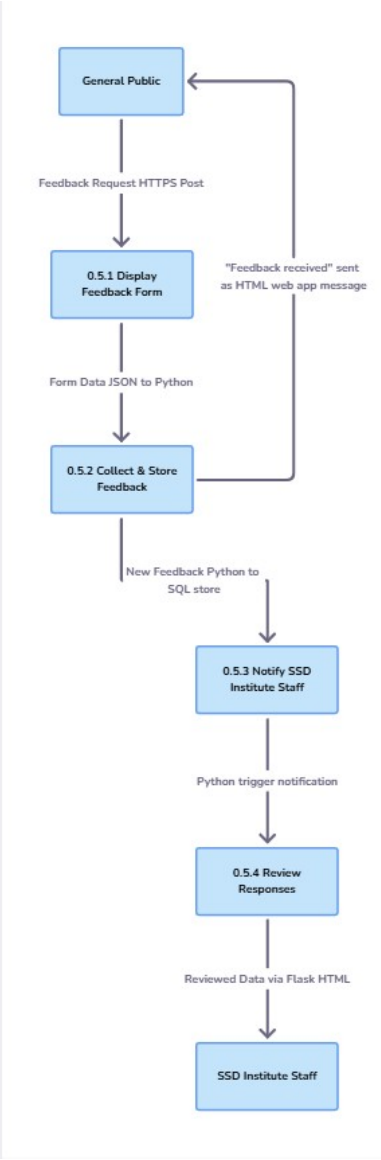
Hosting / Github



Process 0.4 — Hosting & Version Control

- 0.4.1 Commit Source Changes – Developers push updates to GitHub.
- 0.4.2 Deploy to PythonAnywhere – Pull and run Gunicorn instance.
- 0.4.3 Verify SSL and HTTPS Connections – Confirm secure deployment.
- 0.4.4 Monitor Performance – Check uptime and error logs.

User Interaction



Process 0.5 — User Interaction / Feedback

- 0.5.1 Display Feedback Form – Public contact page.
- 0.5.2 Collect and Store Feedback – Save to Feedback Database.
- 0.5.3 Notify SSD Institute Staff – Trigger email or dashboard alert.
- 0.5.4 Review Responses – Staff read and plan updates

Screen Sequence Prototypes

Page Sequence: Home / Landing Page

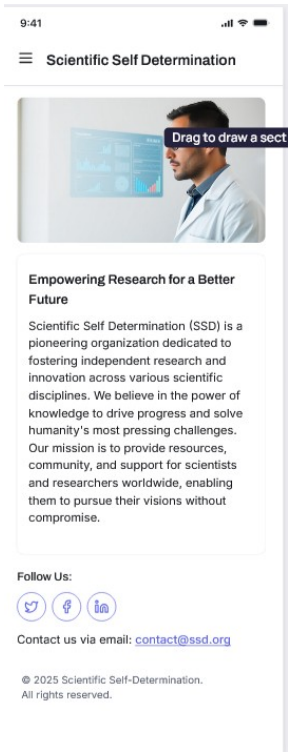
Mobile

Key Elements

- **Header:** Organization name and logo
- **Main Content:** Mission statement about empowering research and independent inquiry
- **Interactive Feature:** “Drag to draw a sect” tool (touch-enabled)
- **Footer/Call-to-Action:** Social media icons + contact@ssd.org
- **Mobile Layout:** Stacked layout with simplified navigation and icons at bottom

URL: /home
Home / Landing Page **User Story:** As a citizen, I want to visit the site and read clear, updated definitions of governance models so that I understand concepts like “collaborative veto,” “multiple choice voting,” and “supreme court veto.” The pages should be dated so that I can determine their recency, be reviewed for accuracy, and displayed in a legible and accessible format. (Priority: High)

Sprint: Sprint 1 – Jan 20–Feb 2



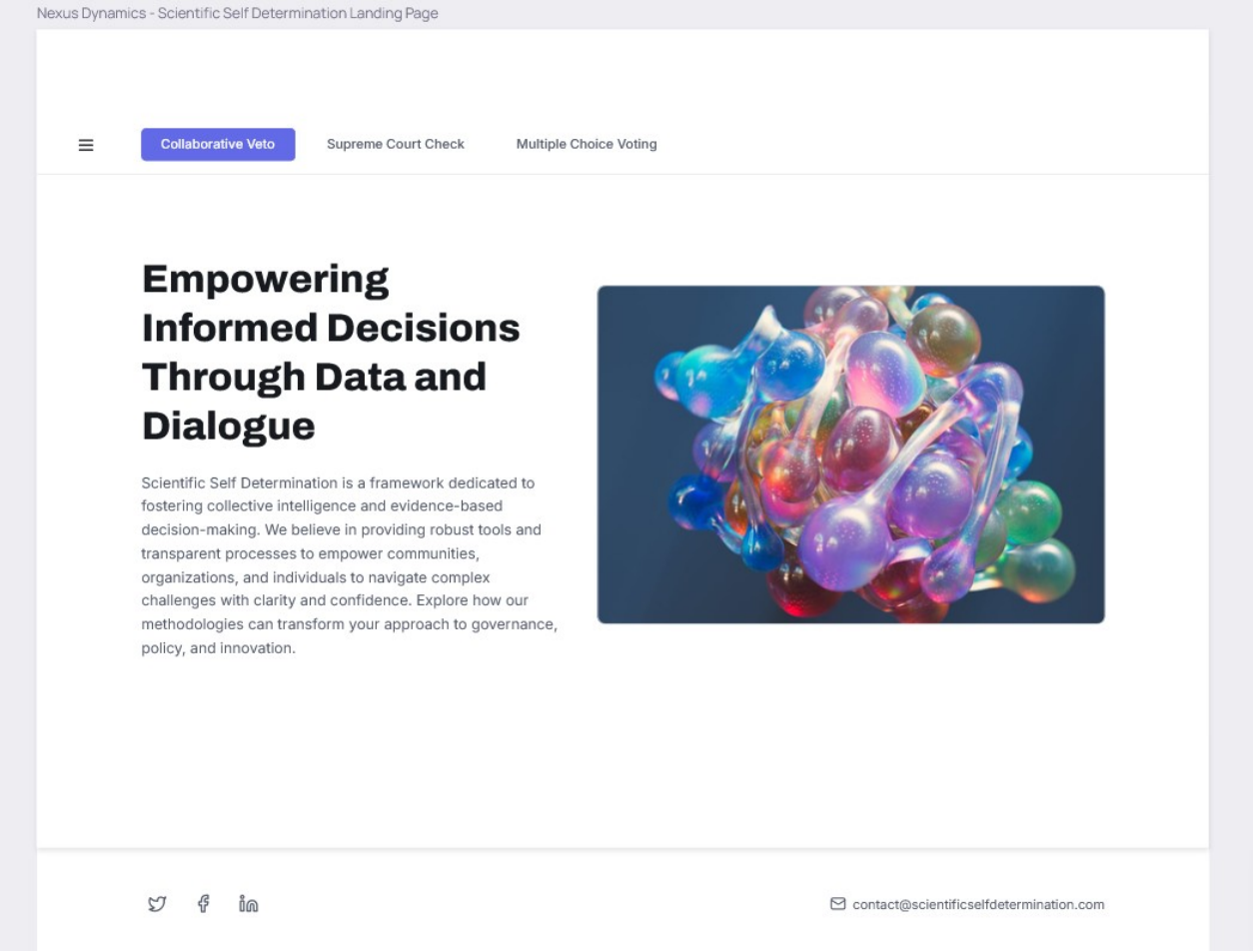
Desktop

Key Elements

- **Header:** “Empowering Informed Decisions Through Data and Dialogue”
- **Main Content:** Paragraph describing SSD’s framework for evidence-based decision-making
- **Visual:** Abstract 3D illustration of translucent spheres
- **Navigation Tabs:** Horizontal links (Collaborative Veto, Supreme Court Check, Multiple Choice Voting, etc.)
- **Footer:** © 2023 Scientific Self-Determination + contact@scientificselfdetermination.com

URL: /home
User Story: As a citizen, I want to visit the site and read clear, updated definitions of governance models so that I understand concepts like “collaborative veto,” “multiple choice voting,” and “supreme court veto.” The pages should be dated so that I can determine their recency, be reviewed for accuracy, and displayed in a legible and accessible format. (Priority: High)

Sprint: Sprint 1 – Jan 20–Feb 2



Page Sequence: Collaborative Veto

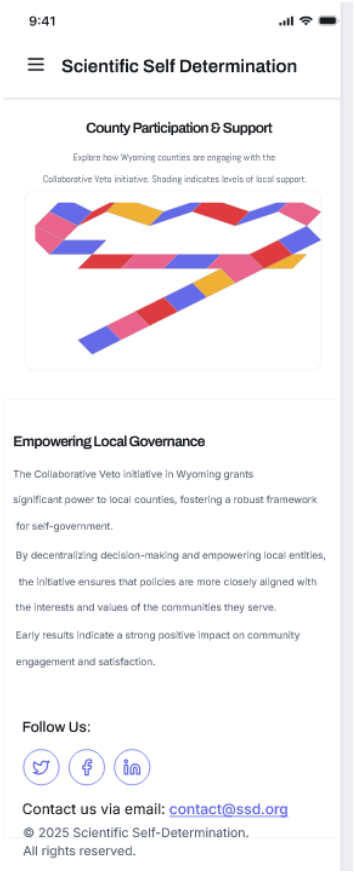
Mobile

Key Elements

- **Header:** “Scientific Self Determination”
- **Main Content:** “County Participation & Support” map with shading for local support
- **Text Block:** “Empowering Local Governance” explanation of the initiative
- **Footer/Call-to-Action:** Social media icons + contact@ssd.org
- **Mobile Layout:** Stacked content with simplified map and text

URL: /collaborative-veto
User Story: As a citizen, I want to see a county-level map for West Virginia showing which counties would veto a state law, so I can understand local regional variation. The map should support all of the expected features of a modern embedded map and comply with all applicable accessibility features. (Priority: High)

Sprint: Sprint 5 – Mar 23–Apr 5



Desktop

Key Elements

- **Title/Subhead:** “Collaborative Veto: Empowering Wyoming’s Local Governance”
- **Main Content:** Explanation of the initiative and its impact
- **Graphical Section:** Interactive map with hover support
- **Metrics Section:** Counties Participating, Approval Rate, Legislation Impacted
- **Footer:** Navigation links + contact@SignificantSelfDetermination.com

URL: /collaborative-veto
User Story: As a citizen, I want to see a county-level map for West Virginia showing which counties would veto a state law, so I can understand local regional variation. The map should support all of the expected features of a modern embedded map and comply with all applicable accessibility features. (Priority: High) **Sprint:** Sprint 5 – Mar 23–Apr 5

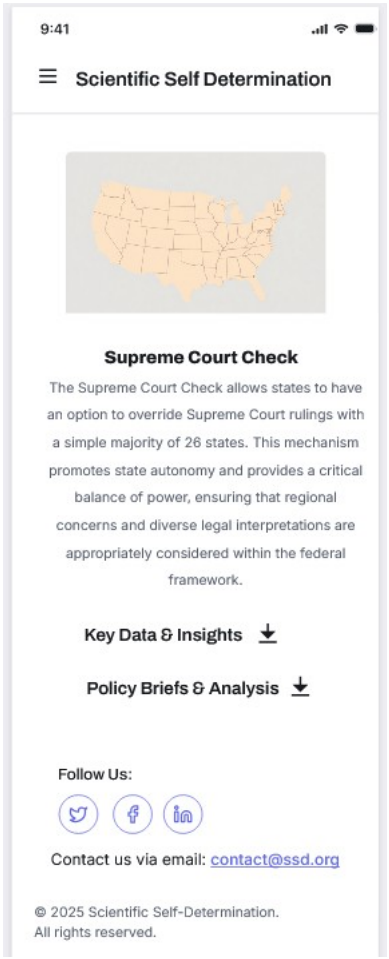
Page Sequence: Supreme Court Check

Mobile

Key Elements

- **Header:** “Supreme Court Check”
- **Main Content:** Description of the 26-state override mechanism
- **Interactive Sections:** “Key Data & Insights” and “Policy Briefs & Analysis” with download icons
- **Footer/Call-to-Action:** Social media icons + contact@ssd.org
- **Mobile Layout:** Stacked layout with simplified map and text

URL: /supreme-court-check
User Story: As a citizen, I want to see a US state-level choropleth map with states proportionally colored based on whether 26 or more object to a supreme court veto, so that I can visually see if the veto threshold is met. The map must have a legend that is visible and descriptive, the data sources used must be clearly cited; and hover text must include exact counts. (Priority: High)
Sprint: Sprint 4 – Mar 2–Mar 22



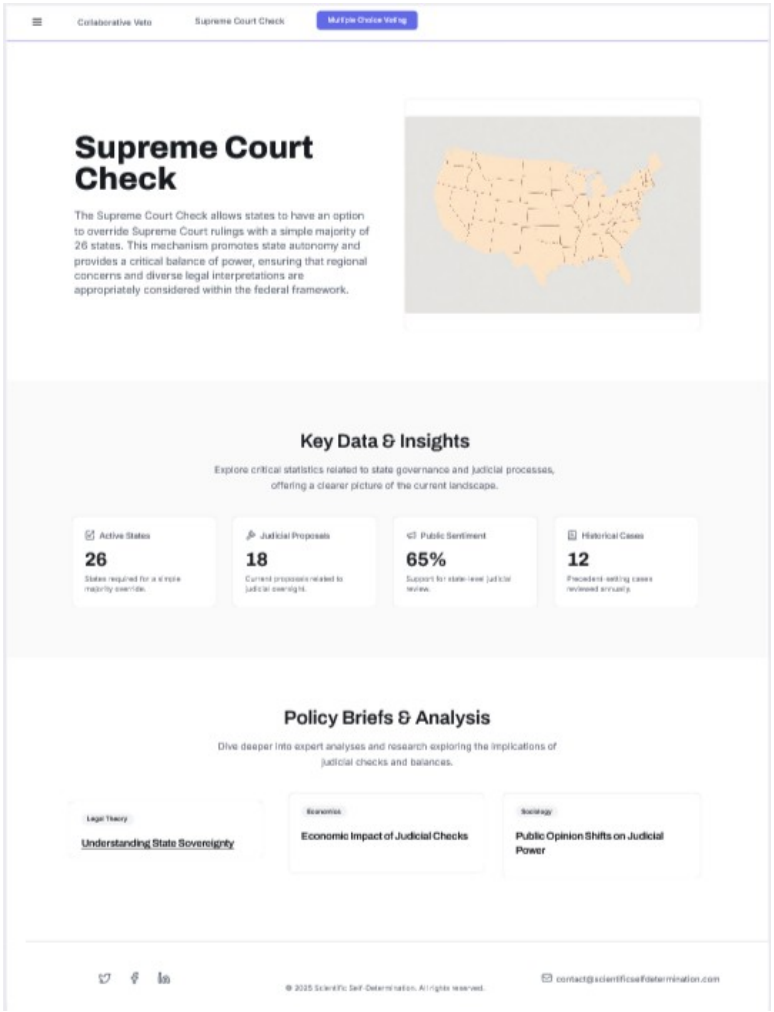
Desktop

Key Elements

- **Title:** “Supreme Court Check”
- **Main Content:** Description of state override mechanism
- **Visual:** Stylized US map with highlighted states
- **Data Section:** Active States, Judicial Proposals, Public Participation, Historical Cases
- **Policy Section:** Legal Theory, Economics, Public Opinion briefs
- **Footer:** Social media icons + contact@scientificselfdetermination.com

URL: /supreme-court-check
User Story: As a citizen, I want to see a US state-level choropleth map with states proportionally colored based on whether 26 or more object to a supreme court veto, so that I can visually see if the veto threshold is met. The map must have a legend that is visible and descriptive, the data sources used must be clearly cited; and hover text must include exact counts. (Priority: High)

Sprint: Sprint 4 – Mar 2–Mar 22



Page Sequence: Multiple Choice Voting

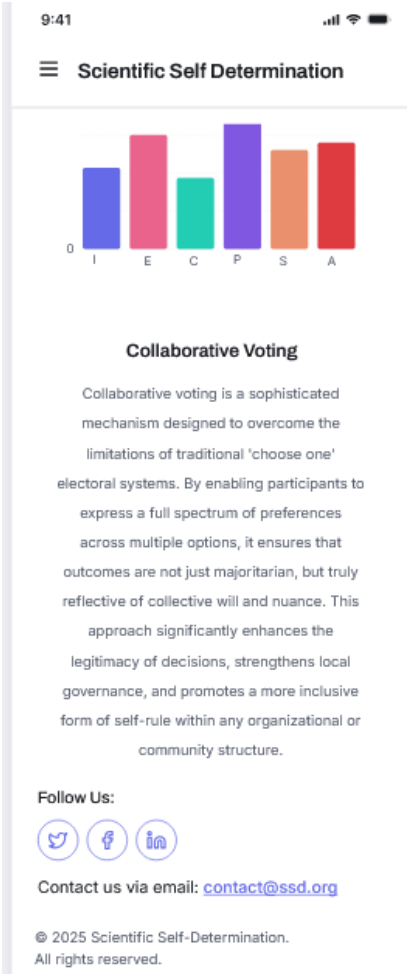
Mobile

Key Elements

- **Header:** “Scientific Self Determination”
- **Main Content:** Bar chart labeled “I”, “E”, “C”, “P”, “S”, “A”
- **Text Block:** Explanation of collaborative voting benefits
- **Footer/Call-to-Action:** Social media icons + contact@ssd.org
- **Mobile Layout:** Simplified chart and stacked text

URL: /multiple-choice-voting
User Story: As a citizen, I want to view a Plotly bar chart showing candidate approval totals under multiple choice voting so that I can compare how many citizens support each candidate. To be acceptable, the visualization should load quickly (> 3s) and be clearly labelled and legible. (Priority: High)

Sprint: Sprint 3 – Feb 17–Mar 1



Desktop

Key Elements

- **Title:** “Collaborative Voting”
- **Main Content:** Paragraph explaining collaborative voting
- **Visual:** Bar chart titled “Collaborative Voting Impact Metrics”
- **Benefits Section:** Enhanced Representation, Reduced Polarization, Improved Decision-Making
- **Footer:** contact@scientificselfdetermination.org

URL: /multiple-choice-voting
User Story: As a citizen, I want to view a Plotly bar chart showing candidate approval totals under multiple choice voting so that I can compare how many citizens support each candidate. To be acceptable, the visualization should load quickly (> 3s) and be clearly labelled and legible. (Priority: High) **Sprint:** Sprint 3 – Feb 17–Mar 1

Page Sequence: Minimum Space Visualization

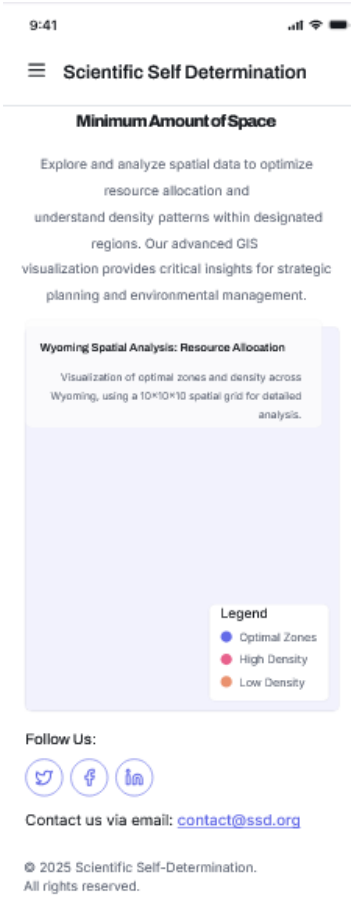
Mobile

Key Elements

- **Header:** “Scientific Self Determination”
- **Main Content:** Map of Wyoming with shaded zones
- **Metrics Section:** Optimal Zone Coverage, Average Density, Unallocated Space
- **Footer/Call-to-Action:** Social media icons + contact@ssd.org
- **Mobile Layout:** Stacked layout with simplified map and metrics

URL: /minimum-space
User Story: As a citizen, I want to view a Plotly bar chart showing candidate approval totals under multiple choice voting so that I can compare how many citizens support each candidate. To be acceptable, the visualization should load quickly (> 3s) and be clearly labelled and legible. (Priority: High)

Sprint: Sprint 7 – Apr 20–May 3



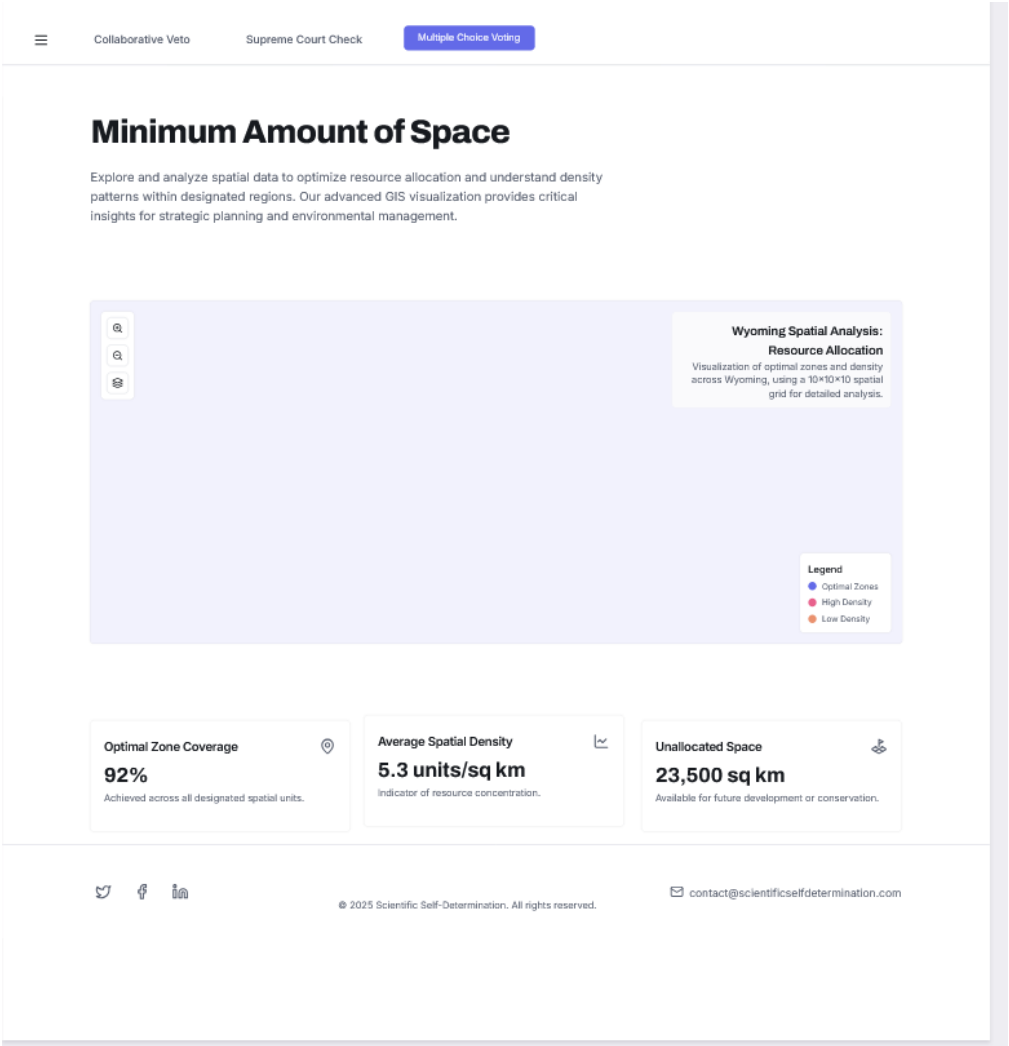
Desktop

Key Elements

- **Title:** “Minimum Amount of Space”
- **Main Content:** Explanation of spatial data and GIS visualization
- **Visual:** Wyoming map with legend (Optimal Zone, Average Density, Unallocated Space)
- **Metrics Section:** Coverage %, Density, Unallocated Area
- **Footer:** contact@scientificselfdetermination.com

URL: /minimum-space
User Story: As a citizen, I want to view a Plotly bar chart showing candidate approval totals under multiple choice voting so that I can compare how many citizens support each candidate. To be acceptable, the visualization should load quickly (> 3s) and be clearly labelled and legible. (Priority: High)

Sprint: Sprint 7 – Apr 20–May 3



Page Sequence: Contact & Resources

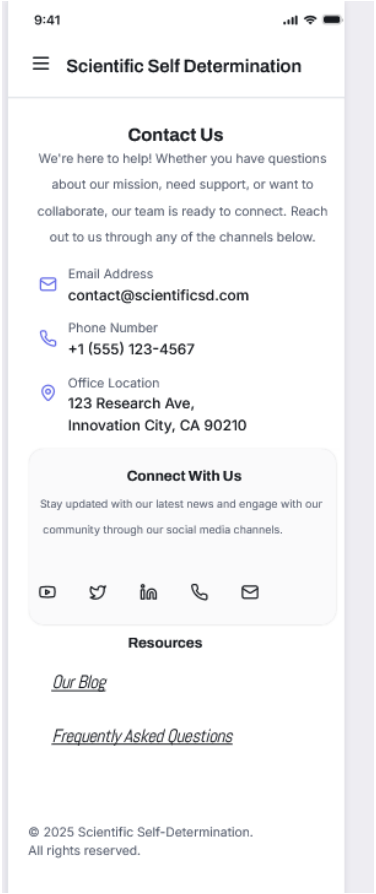
Mobile

Key Elements

- **Header:** “Scientific Self Determination”
- **Main Content:** Contact message and details (email, phone, location)
- **Resources Section:** FAQ, link for more information on project
- **Footer/Call-to-Action:** Social media icons + contact@scientificsd.com
- **Mobile Layout:** Stacked layout with icons and links

URL: /contact
User Stories: As a citizen accessing the site, I want to be sure that the site is secure, and uses the most up-to-date security features. It should implement HTTPS, for instance. (Priority: High)
And: As a non-profit admin, I want the documentation content to be organized and written with updated and timely examples so that educational materials are clearer and more engaging. Documentation should include visuals, clear headings, and be version-controlled. (Priority: High)

Sprint: Sprint 8 – May 4–May 8



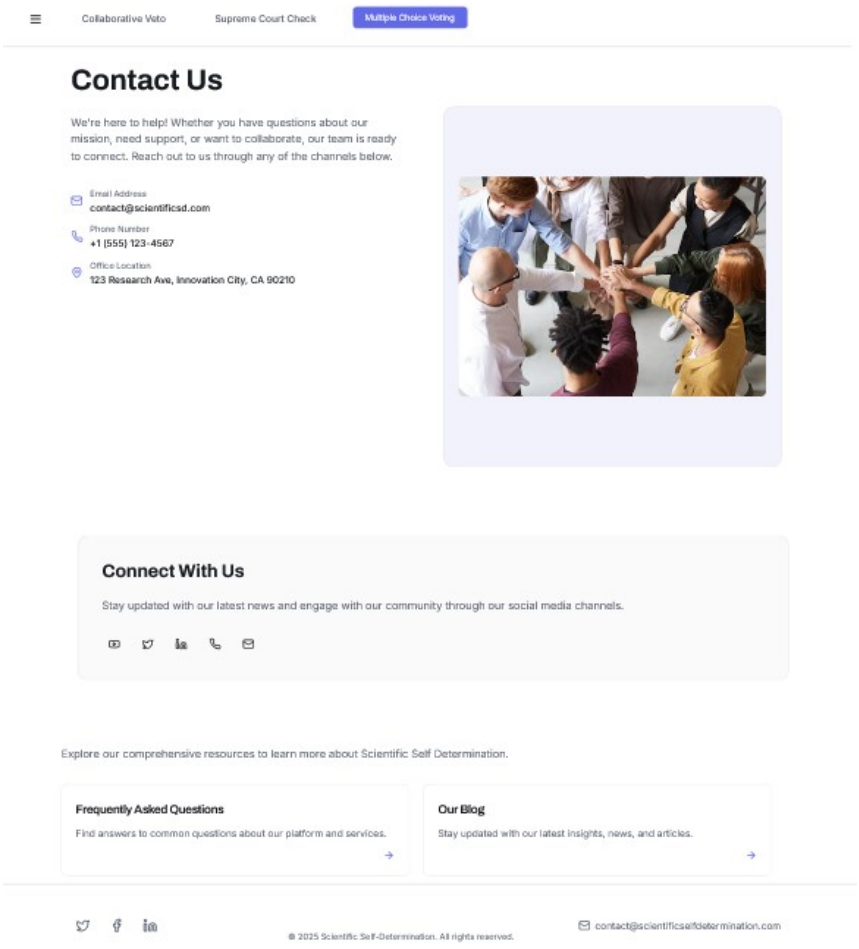
Desktop

Key Elements

- **Header:** “Contact Us”
- **Main Content:** Message inviting collaboration and support
- **Contact Info:** Email, phone, office location
- **Visual:** Inviting image
- **Resources Section:** FAQ, social media links, links related to project
- **Footer:** contact@scientificselfdetermination.com + © 2026 SSD

URL: /contact
User Stories: As a citizen accessing the site, I want to be sure that the site is secure, and uses the most up-to-date security features. It should implement HTTPS, for instance. (Priority: High) And: As a non-profit admin, I want the documentation content to be organized and written with updated and timely examples so that educational materials are clearer and more engaging. Documentation should include visuals, clear headings, and be version-controlled. (Priority: High)

Sprint: Sprint 8 – May 4–May 8



Page Sequence: Menu & Navigation

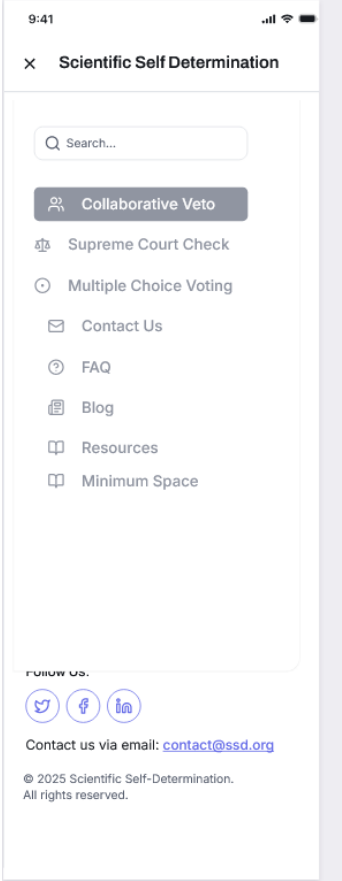
Mobile

Key Elements

- **Header:** “Scientific Self Determination”
- **Navigation Menu:** Vertical list with links to Collaborative Veto, Supreme Court Check, Multiple Choice Voting, Contact Us, FAQ, Blog, Resources, Minimum Space
- **Footer/Call-to-Action:** Social media icons (Facebook, Twitter, LinkedIn, Instagram) + contact@ssd.org
- **Mobile Layout:** Stacked navigation with icons at bottom

URL: N/A
User Story:
As a citizen, I want to visit the site and read clear, updated definitions of governance models so that I understand concepts like “collaborative veto,” “multiple choice voting,” and “supreme court veto.” The pages should be dated so that I can determine their recency, be reviewed for accuracy, and displayed in a legible and accessible format. (Priority: High)

Sprint: Sprint 2 – Feb 3–Feb 16



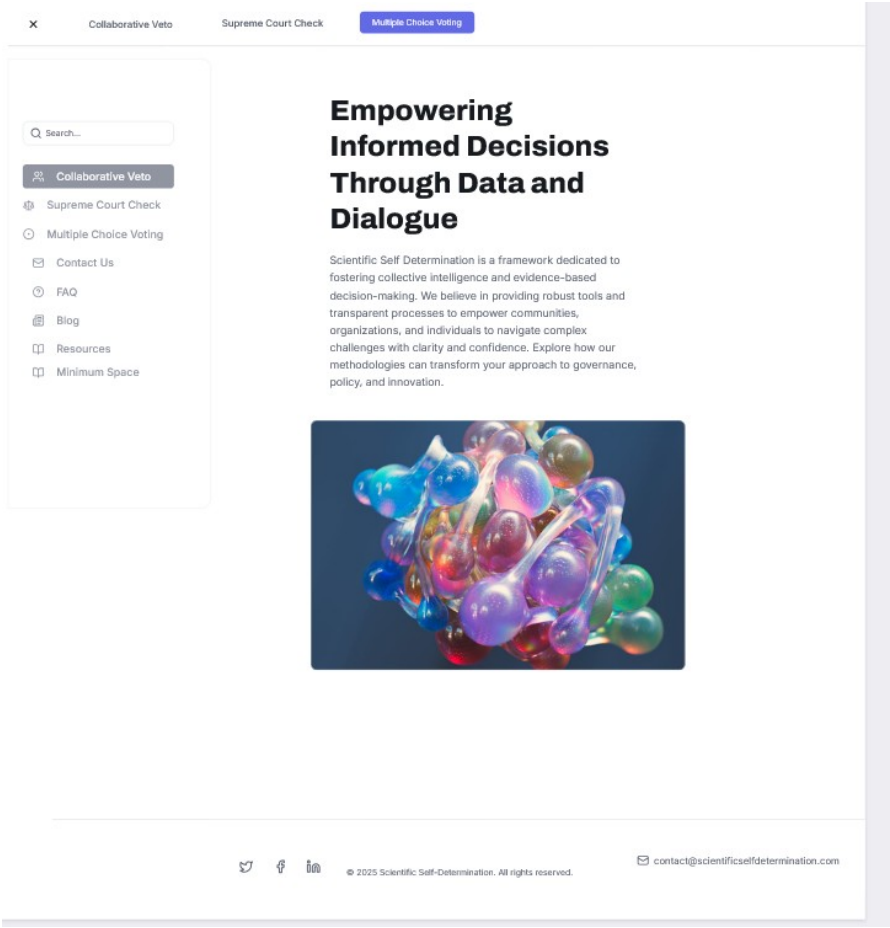
Desktop

Key Elements

- **Header:** “Empowering Informed Decisions Through Data and Dialogue”
- **Navigation Menu (Left):** Links to Collaborative Veto, Supreme Court Check, Multiple Choice Voting, Contact Us, FAQ, Resources, Minimum Space
- **Main Content:** Paragraph describing SSD’s mission and methodology
- **Visual:** Abstract 3D bubble-like illustration
- **Footer:** contact@scientificselfdetermination.org + © 2023 SSD

URL: N/A
User Story:
As a citizen, I want to visit the site and read clear, updated definitions of governance models so that I understand concepts like “collaborative veto,” “multiple choice voting,” and “supreme court veto.” The pages should be dated so that I can determine their recency, be reviewed for accuracy, and displayed in a legible and accessible format. (Priority: High)

Sprint: Sprint 2 – Feb 3–Feb 16



User Stories

User stories provide valuable feedback on how the intended users of the software will actually interact with it, as well as what features they need or expect to see. We have identified 3 core user groups that will be interacting with the finished project: the general public, the non-profit volunteers/staff that will have to administer the final software, and the core development team.

General Public

- As a citizen, I want to visit the site and read clear, updated definitions of governance models so that I understand concepts like “collaborative veto,” “multiple choice voting,” and “supreme court veto.” The pages should be dated so that I can determine their recency, be reviewed for accuracy, and displayed in a legible and accessible format. **(Priority: High)**
- As a citizen, I want to view a Plotly bar chart showing candidate approval totals under multiple choice voting so that I can compare how many citizens support each candidate. To be acceptable, the visualization should load quickly (> 3s) and be clearly labelled and legible **(Priority: High)**
- As a citizen, I want to see a US state-level choropleth map with states proportionally colored based on whether 26 or more object to a supreme court veto, so that I can visually see if the veto threshold is met. The map must have a legend that is visible and descriptive, the data sources used must be clearly cited; and hover text must include exact counts. **(Priority: High)**
- As a citizen, I want to see a county-level map for West Virginia showing which counties would veto a state law, so I can understand local regional variation. The map should support all of the expected features of a modern embedded map and comply with all applicable accessibility features. **(Priority: High)**
- As a citizen accessing the site, I want to be sure that the site is secure, and uses the most up-to-date security features. It should implement HTTPS, for instance. **(Priority: High)**
- As a citizen, I want to search by term so I can find relevant governance model definitions quickly. Search returns results within 2 seconds and highlights matched terms. **(Priority: Medium)**

Non-Profit / Admin

- As a non-profit admin, I want the documentation content to be organized and written with updated and timely examples so that educational materials are clearer and more engaging. Documentation should include visuals, clear headings, and be version-controlled. **(Priority: High)**
- As a non-profit admin, I want the site to load quickly and host these visualizations

statically so that users with moderate connections see them without slowdown. Pages should load in under 3 seconds, even for users on slower (eg 3G) connections. **(Priority: Low)**

- As a non-profit admin, I would like application deployment to be as seamless as possible. I would benefit from using a simple platform like PythonAnywhere. Deployment steps should be documented, with the PythonAnywhere configuration tested and reproducible. **(Priority: Medium)**
- As a non-profit admin, I want the website to be memorable and easily accessible, so we should have a domain name instead of using the PythonAnywhere default. **(Priority: Medium)**
- As a non-profit admin, I want to log into an admin dashboard to edit definitions and upload new datasets so that content can be managed without developer assistance. Admin interface includes add/edit/delete functions with confirmation dialogs. **(Priority: Low)**

Developers

- As a developer, I want the repository to include sample GeoJSON or shapefile data for states and counties so that I can build and test visualizations without hunting for data. Example data could be stored in `/data/sample/`, with the README specifying data ownership and provenance. **(Priority: High)**
- As a developer, I want new visualization code to be modular (e.g. each viz in its own file or module) so that it's easier to maintain and potentially reuse. To satisfy this, each visualization must run independently without relying on each other. If there is shared functionality, it is to be placed in a shared module. **(Priority: Medium)**
- As a developer, I want clear documentation in the docs folder that explains how to run the Flask app, add new visualizations, and update data so that future contributors can work confidently. README includes setup steps; internal documentation passes link checks. **(Priority: Low)**
- As a developer, I want to maintain a clean separation of concerns, with a modern frontend/backend architecture. No direct database logic in views; frontend uses our own internal API only. **(Priority: Medium)**
- As a developer, I want tests for each visualization so that future changes don't break functionality. Tests should cover 80% of visualization modules; and run automatically in GitHub CI. **(Priority: Low)**

Project Plan

This is the basic project plan and links to details for the project plan.

Work Breakdown Structure (WBS)

Level 1 — SSD Web App

1.0 Project Management

- 1.1 Meeting minutes, RACI, updates

2.0 Flask Framework

- 2.1 Setup
- 2.2 Routing
- 2.3 Templates

3.0 Visualizations

- 3.1 Multi-Choice Voting
- 3.2 Supreme Court Veto
- 3.3 Collaborative Veto
- 3.4 Minimum Space *(stretch goal)*

4.0 Documentation

- 4.1 Concept pages
- 4.2 Civic impact summaries
- 4.3 FAQs & help

5.0 Deployment

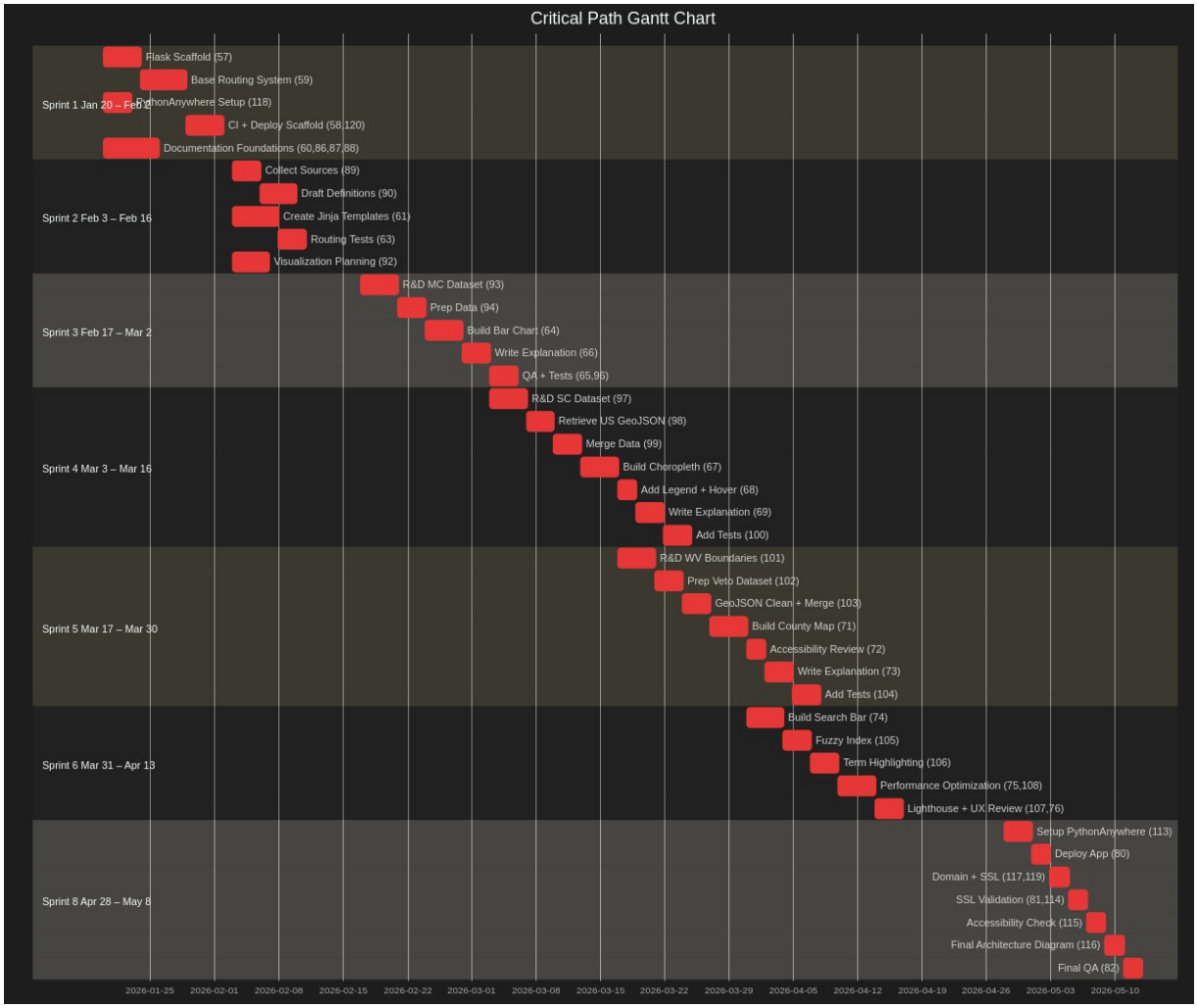
- 5.1 PythonAnywhere
- 5.2 SSL/HTTPS
- 5.3 Testing/QA

6.0 Maintenance

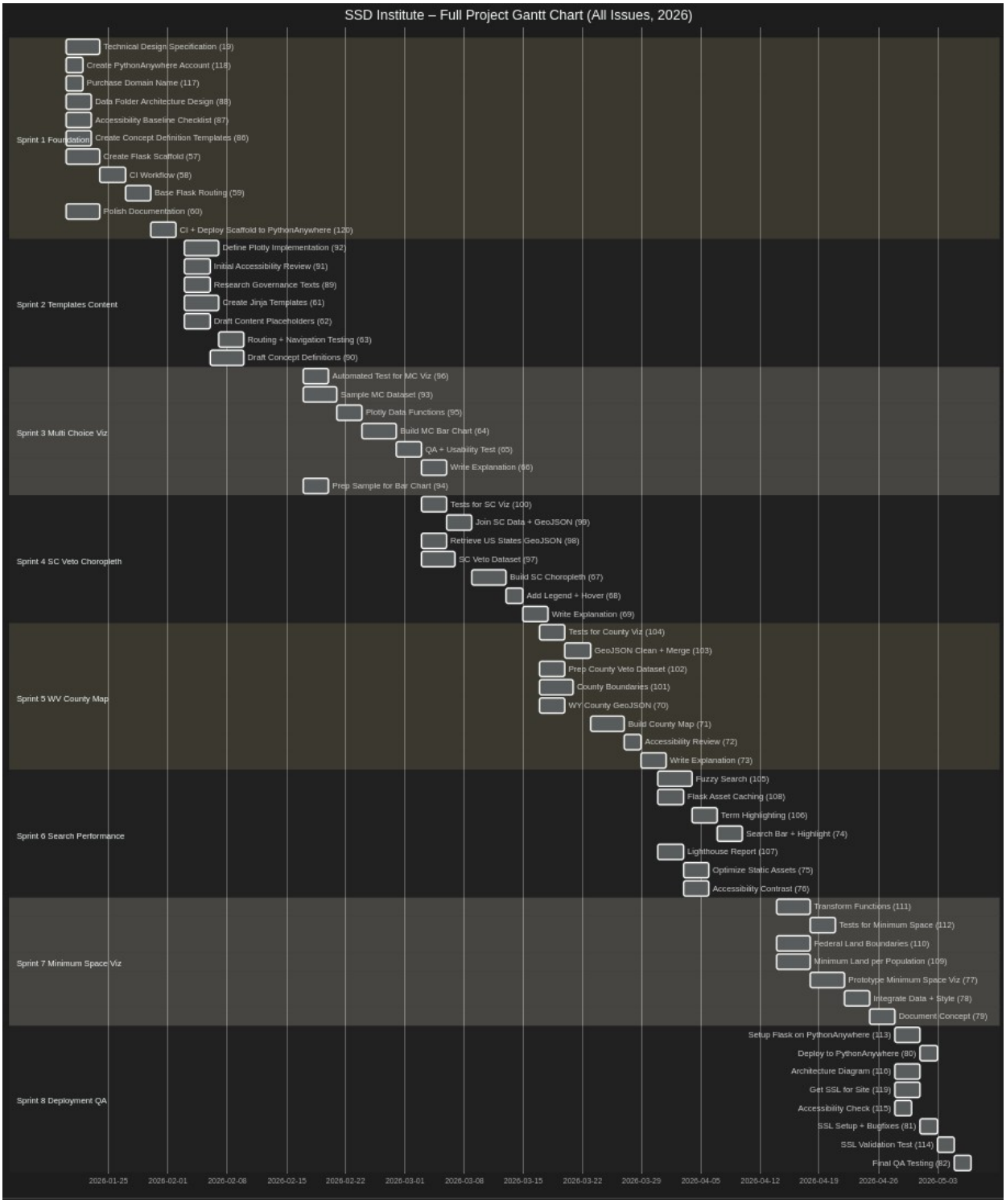
- 6.1 Version control
- 6.2 Future roadmap

Gantt Charts

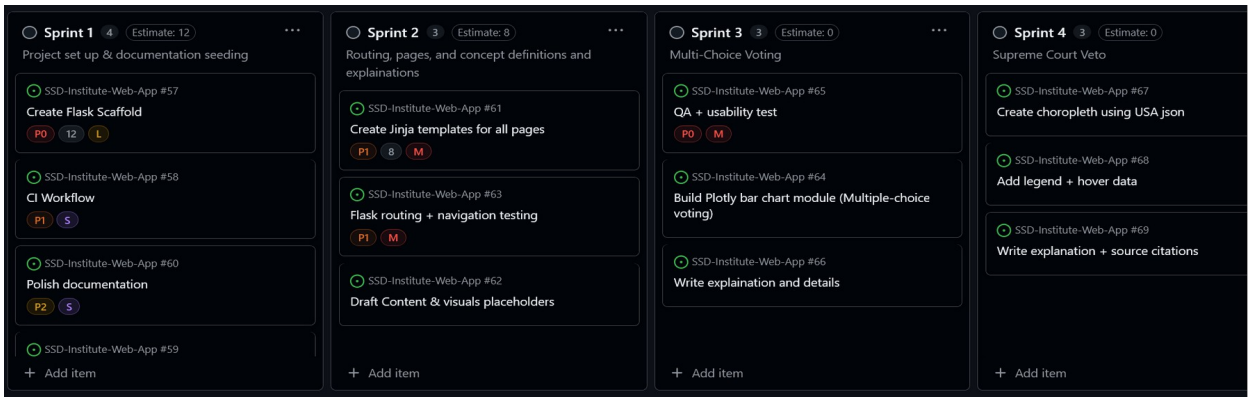
Gantt Chart: Critical Path

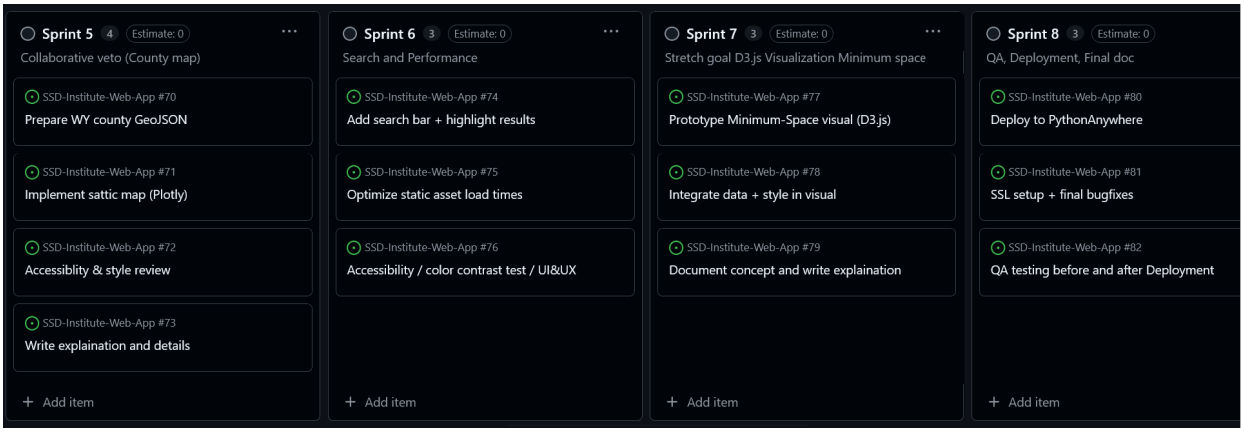


Gantt Chart: Full Project



Github Project at Start





PMP Table Information

Notes

- **User story mapping**
  - **US-1:** Definitions + navigation (Home, content pages)
  - **US-2:** Multiple-choice / approval bar chart (MC voting)
  - **US-3:** Supreme Court Check (SC veto choropleth)
  - **US-4:** Collaborative / County veto maps (WV / county maps)
  - **US-5:** HTTPS / site security
  - **US-6:** Search + highlighting + performance
  - **US-7:** Documentation clarity and publishing
  - **US-8:** Deployment, hosting, domain
  - **US-9:** Minimum Space visualization (stretch)
- **Wireframes** referenced the exact filenames `docs/Founding/ScreenSequenceIMG`.
- **Milestones** match sprints exactly (Sprint 1…Sprint 8) meaning M1-M8 matches sprints.

PMP Table

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
1	Jan 20–Feb 2, 2026	19	Technical Design Specification	Sprint 1	US-7	N/A	Design spec	Spec approved; no major gaps
1	Jan 20–Feb 2, 2026	118	Create PythonAnywhere Account	Sprint 1	US-8	N/A	Host account created	Account active; login verified
1	Jan 20–Feb 2, 2026	117	Purchase Domain Name	Sprint 1	US-8	N/A	Domain purchased	Domain resolves; ownership confirmed
1	Jan 20–Feb 2, 2026	88	Data Folder Architecture Design	Sprint 1	US-7	N/A	Data folder structure	Folders created; consistent naming
1	Jan 20–Feb 2, 2026	87	Accessibility Baseline Checklist	Sprint 1	US-5	MobileLandingPage.png	Baseline checklist	Checklist completed; issues logged

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
1	Jan 20–Feb 2, 2026	86	Concept Definition Templates	Sprint 1	US-7	DesktopLandingPage.png	Template files	Templates render without errors
1	Jan 20–Feb 2, 2026	57	Create Flask Scaffold	Sprint 1	US-8	N/A	Flask app scaffold	App runs locally
1	Jan 20–Feb 2, 2026	58	CI Workflow	Sprint 1	US-8	N/A	CI pipeline	CI passes on push
1	Jan 20–Feb 2, 2026	59	Base Flask Routing	Sprint 1	US-1	MobileLandingPage.png	Base routes	Routes return 200
1	Jan 20–Feb 2, 2026	60	Polish Documentation	Sprint 1	US-7	DesktopLandingPage.png	Project docs	Docs updated; links work
1	Jan 20–Feb 2, 2026	120	CI + Deploy Scaffold to PythonAnywhere	Sprint 1	US-8	N/A	Deployment job	App deploys to host
2	Feb 3–Feb 16, 2026	92	Define Plotly Implementation	Sprint 2	US-2	MultipleChoiceVotingDesktopPage.png	Plotly plan + prototype	Prototype renders a sample chart
2	Feb 3–Feb 16, 2026	91	Initial Accessibility Review	Sprint 2	US-1	MobileLandingPage.png	A11y review report	Key issues listed; basic fixes begun
2	Feb 3–Feb 16, 2026	89	Research Governance Texts	Sprint 2	US-1	DesktopLandingPage.png	Source list	Sources cited; accessible formats
2	Feb 3–Feb 16, 2026	61	Create Jinja Templates	Sprint 2	US-1	MobileMenuPage.png	Templates for pages	Pages render; layout stable
2	Feb 3–Feb 16,	62	Draft Content Placeholders	Sprint 2	US-1	DesktopMenuViewPag	Draft content +	Content visible;

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
	2026					e.png	placeholders	links present
2	Feb 3–Feb 16, 2026	63	Routing + Navigation Testing	Sprint 2	US-1	DesktopMenuViewPage.png	Navigation test suite	All nav paths work
2	Feb 3–Feb 16, 2026	90	Draft Concept Definitions	Sprint 2	US-1	DesktopLandingPage.png	Draft definitions	Word count met; clarity passes
3	Feb 17–Mar 2, 2026	96	Automated Test for MC Viz	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	Test suite for MC viz	Tests green for viz
3	Feb 17–Mar 2, 2026	93	Sample MC Dataset	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	Sample dataset	Dataset loads; basic stats OK
3	Feb 17–Mar 2, 2026	95	Plotly Data Functions	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	Data transform functions	Functions return expected output
3	Feb 17–Mar 2, 2026	64	Build MC Bar Chart	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	Bar chart	Chart renders; labels clear; loads < 3s
3	Feb 17–Mar 2, 2026	65	QA + Usability Test	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	QA checklist + findings	No blocking issues
3	Feb 17–Mar 2, 2026	66	Write Explanation	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	Explanation text	Text published; links valid
3	Feb 17–Mar 2, 2026	94	Prep Sample for Bar Chart	Sprint 3	US-2	MultipleChoiceVotingDesktopPage.png	Prepared sample data	Data formatted for chart

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
4	Mar 3–Mar 16, 2026	100	Tests for SC Viz	Sprint 4	US-3	SupremeCourtCheckDesktop.png	Test suite	Tests green
4	Mar 3–Mar 16, 2026	99	Join SC Data + GeoJSON	Sprint 4	US-3	SupremeCourtCheckDesktop.png	Merged dataset	Merge complete; spot check OK
4	Mar 3–Mar 16, 2026	98	Retrieve US States GeoJSON	Sprint 4	US-3	SupremeCourtCheckMobile.png	GeoJSON acquired	File loads; schema valid
4	Mar 3–Mar 16, 2026	97	SC Veto Dataset	Sprint 4	US-3	SupremeCourtCheckDesktop.png	Dataset R&D	Fields defined; sample ready
4	Mar 3–Mar 16, 2026	67	Build SC Choropleth	Sprint 4	US-3	SupremeCourtCheckDesktop.png	Choropleth map	Map renders; colors correct
4	Mar 3–Mar 16, 2026	68	Add Legend + Hover	Sprint 4	US-3	SupremeCourtCheckDesktop.png	Legend + hover interactivity	Legend readable; hover shows exact counts
4	Mar 3–Mar 16, 2026	69	Write Explanation + Citations	Sprint 4	US-3	SupremeCourtCheckDesktop.png	Explanation + citations	Text published; citations present
5	Mar 17–Mar 30, 2026	104	Tests for County Viz	Sprint 5	US-4	CollaborativeVetoDeskopPage.png	Test suite	Tests green
5	Mar 17–Mar 30, 2026	103	GeoJSON Clean + Merge	Sprint 5	US-4	CollaborativeVetoDeskopPage.png	Cleaned + merged GeoJSON	Valid GeoJSON; no errors
5	Mar 17–Mar	102	Prep County Veto Dataset	Sprint 5	US-4	CollaborativeVetoMob	Prepared dataset	Dataset fields

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
	30, 2026					ilePage.png		complete
5	Mar 17–Mar 30, 2026	101	County Boundaries	Sprint 5	US-4	CollaborativeVetoDeskopPage.png	Boundary research	Counties verified
5	Mar 17–Mar 30, 2026	70	WY County GeoJSON	Sprint 5	US-4	CollaborativeVetoMobilePage.png	WY County GeoJSON	File loads; counties match
5	Mar 17–Mar 30, 2026	71	Build County Map	Sprint 5	US-4	CollaborativeVetoDeskopPage.png	County map	Map renders without errors
5	Mar 17–Mar 30, 2026	72	Accessibility + Style Review	Sprint 5	US-4	CollaborativeVetoMobilePage.png	Review checklist	Issues logged; critical fixed
5	Mar 17–Mar 30, 2026	73	Write Explanation + Details	Sprint 5	US-4	CollaborativeVetoDeskopPage.png	Explanation	Text published
6	Mar 31–Apr 13, 2026	105	Implement Fuzzy Search	Sprint 6	US-6	SearchDesktop.png	Fuzzy search	Finds close matches
6	Mar 31–Apr 13, 2026	108	Flask Asset Caching	Sprint 6	US-6	SearchDesktop.png	Caching approach	Assets cached; load faster
6	Mar 31–Apr 13, 2026	106	Implement Term Highlighting	Sprint 6	US-6	SearchDesktop.png	Term highlighting	Highlights correct terms
6	Mar 31–Apr 13,	74	Search Bar + Highlight	Sprint 6	US-6	SearchDesktop.png	Search UI	Search executes; no errors

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
	2026							
6	Mar 31–Apr 13, 2026	107	Lighthouse Report	Sprint 6	US-6	SearchDesktop.png	Lighthouse results	Performance meets or exceeds target threshold
6	Mar 31–Apr 13, 2026	75	Optimize Static Assets	Sprint 6	US-6	SearchDesktop.png	Optimized assets	Reduced bundle size
6	Mar 31–Apr 13, 2026	76	Accessibility + Color Contrast	Sprint 6	US-6	SearchDesktop.png	Contrast adjustments	Passes contrast checks
7	Apr 14–Apr 27, 2026	111	Transform Functions	Sprint 7	US-9	MinimumAmountOfSpacePage.png	Transform utilities	Functions run; sample output OK
7	Apr 14–Apr 27, 2026	112	Tests for Minimum Space	Sprint 7	US-9	MinimumAmountOfSpacePage.png	Test suite	Tests green
7	Apr 14–Apr 27, 2026	110	Federal Land Boundaries	Sprint 7	US-9	MinimumAmountOfSpaceDesktop.png	Boundary dataset	Dataset loads; fields defined
7	Apr 14–Apr 27, 2026	109	Minimum Land per Population	Sprint 7	US-9	MinimumAmountOfSpaceDesktop.png	Metric approach	Formula agreed; sample calc OK
7	Apr 14–Apr 27, 2026	77	Prototype Minimum Space Viz	Sprint 7	US-9	MinimumAmountOfSpaceDesktop.png	Prototype visualization	Renders; basic interactivity works
7	Apr 14–Apr 27,	78	Integrate Data + Style	Sprint 7	US-9	MinimumAmountOfSpaceDesktop	Integrated viz	Styles consistent; data linked

Sprint	Dates	PMP Task ID	Task	Milestone	User Story	Screen/ Wireframe	Deliverables	Acceptance criteria
	2026					.png		
7	Apr 14–Apr 27, 2026	79	Document Concept	Sprint 7	US-9	MinimumAmountOfSpaceDesktop.png	Concept doc	Published; readable
8	Apr 28–May 8, 2026	113	Setup Flask on PythonAnywhere	Sprint 8	US-8	ContactUsDesktopPage.png	Hosted Flask app	App reachable on domain
8	Apr 28–May 8, 2026	80	Deploy to PythonAnywhere	Sprint 8	US-8	ContactUsDesktopPage.png	Deployment script	Deploy runs cleanly
8	Apr 28–May 8, 2026	116	Architecture Diagram	Sprint 8	US-7	ContactUsDesktopPage.png	Architecture diagram	Diagram published; components clear
8	Apr 28–May 8, 2026	119	Get SSL for Site	Sprint 8	US-5	ContactUsMobilePage.png	SSL certificate	Issued; valid dates
8	Apr 28–May 8, 2026	115	Accessibility Check	Sprint 8	US-7	ContactUsMobilePage.png	Accessibility report	No critical issues
8	Apr 28–May 8, 2026	81	SSL Setup + Bugfixes	Sprint 8	US-5	ContactUsMobilePage.png	SSL configuration	HTTPS works; no mixed content
8	Apr 28–May 8, 2026	114	HTTPS/SSL Validation Test	Sprint 8	US-5	ContactUsMobilePage.png	Validation test suite	Tests green; cert chain valid
8	Apr 28–May 8, 2026	82	Final QA Testing	Sprint 8	US-7	ContactUsDesktopPage.png	QA sign-off	No P1 issues; sign-off recorded

Conclusion

With this document, we believe that we have fully described a workable and practical project plan to efficiently build this unique civic information system web application. We intend for this project to be a modern, efficient piece of software that helps to effectively inform the public about the concepts that the SSD Institute advocates for. We have outlined in great detail the functionality, user interface, practical uses, and the development timeline of this system and look forward to implementing it.