

CSE 308: Software Engineering

ELECTION REDISTRICTING APPLICATION

Use Cases: Final Version

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Use-case:	Display the map of the United States - Home Page.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the home map with US map with state boundaries.
Preconditions:	Server is online.
Trigger:	On load.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the US map boundaries and state boundaries. 2. Display all the states in the US map with loaded tooltips on hover. 3. Display the dropdown with states and population to select the state.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	Hawaii and Alaska will be displayed on the bottom left instead of their actual geographical location.
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides main functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	Decision on the map API has to be made carefully.
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Use-case:	Hover over the State
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Hover over a State to display the information in a tooltip.
Preconditions:	Currently on the home page..
Trigger:	On hover
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user hovers over the State. 2. The following data is extracted: <ol style="list-style-type: none"> a. State Name, b. State Flag, and c. State's population is shown. 3. The data is displayed on a tooltip.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI Via Mouse Hover.
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Select the State from a dropdown
Primary actor:	General User
Goal in context: <i>one sentence description</i>	To zoom into the state, show the district view and display a control panel to give the user options to choose options for redistricting.
Preconditions:	Currently on the home page.
Trigger:	User selects a state by clicking on the State on the dropdown menu
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Redirects to the State Dashboard. 2. Retrieves the GeoJson data for the selected state and sets up the data structure for the state. 3. State outline is displayed, along with radio buttons for district selection.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	User selects a State which is not handled by the application. This application handles only Ohio, Pennsylvania and West Virginia.
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides main functionality of the application..
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Select the State by clicking on the map
Primary actor:	General User
Goal in context: <i>one sentence description</i>	To zoom into the state, show the district view and display a control panel to give the user options to choose options for redistricting.
Preconditions:	Currently on the home page.
Trigger:	User selects a state either by clicking on the State on the map
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Redirects to the State Dashboard. 2. Retrieves the GeoJson data for the selected state and sets up the data structure for the state. 3. State outline is displayed, along with radio buttons for district selection.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	User selects a State which is not handled by the application. This application handles only Ohio, Pennsylvania and West Virginia.
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides main functionality of the application..
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Select home icon to go to Home Page/US map view
Primary actor:	General User
Goal in context: <i>one sentence description</i>	To redirect to the Home Page.
Preconditions:	Currently on any page other than the home page.
Trigger:	On click of button.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user clicks on a button. 2. The application redirects to the Home Page.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	

Use-case:	Select state view type - Congressional Districts
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Select to display Congressional Districts.
Preconditions:	Currently on state page.
Trigger:	Radio button select.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user selects the Congressional Districts option, from a set of four radio buttons. 2. The application retrieves the necessary GeoJson information. 3. The application shows the Congressional Districts on the map API.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Necessary for basic functionality.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Select state view type - State Senate Districts
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Select to display State Senate Districts.
Preconditions:	Currently on the State Page.
Trigger:	Radio button select.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user selects the State Senate Districts option, from a set of four radio buttons. 2. The application retrieves the necessary GeoJson information. 3. The application shows the State Senate Districts on the map API.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Necessary for basic functionality.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Select state view type - State Assembly Districts
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Select to display State Assembly Districts.
Preconditions:	Currently on state page.
Trigger:	Radio button select.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user selects the State Assembly Districts option, from a set of four radio buttons. 2. The application retrieves the necessary GeoJson information. 3. The application shows the State Assembly Districts on the map API.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Necessary for basic functionality.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Select state view type – State Boundaries
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Select to display state boundary.
Preconditions:	Currently on state page.
Trigger:	Radio button select.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user selects the State option, from a set of four radio buttons. 2. The application retrieves the necessary GeoJson information. 3. The application shows the State boundaries on the map API.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Necessary for basic functionality.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Color pre-existing districts based on most recent election
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Color each district in a gradient from blue to red based on the election results.
Preconditions:	Currently on a State page.
Trigger:	On load
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Determine party composition of each district. 2. Color each district on a gradient from blue to red, representing Democrat to Republican leaning.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	

Use-case:	Hover over District
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Hover over a District (type selected in the previous menu) to display the information in a tooltip.
Preconditions:	Currently on State page.
Trigger:	On hover
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user hovers over the District. 2. The following data is extracted: <ol style="list-style-type: none"> a. District Name/Number, b. Representative name 3. The data is displayed on a tooltip.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	For the selected state, Display the senators.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Select tab from a Vertical/Horizontal Box to display about the two senators.
Preconditions:	Currently on state page.
Trigger:	Click on general information tab
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. The user selects the "Senators" tab in the Vertical/Horizontal Box. 2. The application then retrieves the information about the two senators representing the selected State. 3. It displays the extracted data in the information box of the Vertical/Horizontal Box. <p>Note: A Horizontal/Vertical Box has two parts:</p> <ol style="list-style-type: none"> 1. The tabs, and 2. The information box. <p>The tabs contain the headings as mentioned in the use case, while the information box contains the data that is to be displayed when the user clicks on a particular tab.</p>
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.

Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.

Use-case:	For the selected state, display the congresspersons.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the congresspersons information for the selected state
Preconditions:	Currently on state page.
Trigger:	Click on congresspersons tab
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the information about congresspersons for the selected state from the database. 3. Display the information on the display pane. 4. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.
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Use-case:	For the selected state, display the information regarding that State's Government.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the information regarding the state's government.
Preconditions:	Currently on state page.
Trigger:	Click on Government information tab.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the following information for the selected state. <ol style="list-style-type: none"> a. The Governor, b. Lieutenant Governor, c. Speaker of the State Assembly, d. State Senate Majority and Minority Leaders, e. State Assembly Majority and Minority Leaders. 3. Display the information on the display pane. 4. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	

Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.

Use-case:	For the state, display the trends of past presidential elections
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the past presidential information for the selected state.
Preconditions:	Currently on state page.
Trigger:	Click on past presidential elections tab.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the information about past presidential election data (ideally 1994 - 2016) for the selected state from the database. 3. This includes information like the candidates, the number of electoral votes and popular votes. 4. Display the information on the display pane. 5. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator

Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.

Use-case:	For the state, display the trends of House of Representatives elections
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the past Congress members for the selected state.
Preconditions:	Currently on state page.
Trigger:	Click on past House of Representatives tab.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the information about past House election data (ideally 1994 - 2016) for the selected state from the database. 3. This includes information like the candidates, the number of electoral votes and popular votes. 4. Display the information on the display pane. 5. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator

Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.

Use-case:	For the state, display the trends of Senate elections
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the past Senate information for the selected state.
Preconditions:	Currently on state page.
Trigger:	Click on past Senate elections tab.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the information about past Senate election data (ideally 1994 - 2016) for the selected state from the database. 3. This includes information like the candidates, the number of electoral votes and popular votes. 4. Display the information on the display pane. 5. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.
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Use-case:	For the state, display the trends of State Assembly elections
Primary actor:	General User
Goal in context: <i>one sentence description</i>	This action will load the past State Assembly information for the selected state.
Preconditions:	Currently on state page.
Trigger:	Click on past State Assembly elections tab.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the information about past presidential election data (ideally 1994 - 2016) for the selected state from the database. 3. This includes information like the candidates, the number of electoral votes and popular votes. 4. Display the information on the display pane. 5. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.
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Use-case:	Register as a user.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Create an account for the user.
Preconditions:	Currently on register form.
Trigger:	Click on register button.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Take the information filled in the form which includes: <ol style="list-style-type: none"> a. Last Name, b. First Name, c. User Name, d. Email, e. Password, f. Data of Birth, g. Address (House Number and Street information), h. City, i. State, j. Zip Code. 2. Validate it with various constraints for password and check if username already exists. 3. If validation failed, display the error. 4. If validation is successful, then create a user with the information filled and redirect to home page. 5. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	If username already exists.
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides main functionality of the application.

Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	Session management should be handled carefully.

Use-case:	Get voting district data by address.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	To get the voting district for a particular address.
Preconditions:	Currently in voting district page.
Trigger:	Click on voting district button on the navbar.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Take the address filled in the field. 2. Contact the API and display the resulting voting district name on the screen. 3. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	If the address is wrong.
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	View blog posts on gerrymandering.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	To get the blog posts on gerrymandering.
Preconditions:	The system is loaded.
Trigger:	Click on the blog button on the navigation bar.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the blog posts from the server. 2. Display the blog posts with the links to open them. 3. Post this request to the log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides main functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	View detailed blog post.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	To view a specific blog post on gerrymandering.
Preconditions:	User is on the blog post feed.
Trigger:	Click on the link to a specific blog post.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the blog post from the server. 2. Display the blog post.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides main functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	

Use-case:	Set the bar to finalise the population deviation property for redistricting.
Primary actor:	General User
Goal in context: one sentence description	This will allow the user to set the limits of the extent to which the new districts can deviate from the desired population representation.
Preconditions:	Currently on state page.
Trigger:	Set deviation number input is not null.
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Enter a deviation number. 3. Use parameter for constraint during algorithm. 4. Display the information on the display pane.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Start Algorithm
Primary actor:	General User
Goal in context: one sentence description	This action will start the algorithm to redistrict the state congressional districts by the chosen constraints.
Preconditions:	Currently on state page.
Trigger:	Click on start redistricting button
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the constraints set by the user. 3. Start the algorithm, moving to next use case.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: List of open interface questions or unresolved issues	

Use-case:	Represent Congressional Districts as binary arrays
Primary actor:	General User
Goal in context: one sentence description	This action will represent congressional districts as binary arrays to be usable in the algorithm.
Preconditions:	Algorithm is running, potential solutions are being generated.
Trigger:	Start Algorithm
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Get the polling districts in each congressional district by id 2. Represent each congressional district as a binary array, a 1 in a given index representing the polling district whose id equals said index being in the congressional district
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Pre-evaluation step
Primary actor:	General User
Goal in context: one sentence description	This action will examine potential solutions, determining whether they are viable to be considered candidates in the genetic algorithm.
Preconditions:	Algorithm is running, potential solutions are being generated.
Trigger:	Start Algorithm
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Get binary arrays representing candidate solutions 2. Check the array for the following: <ol style="list-style-type: none"> a. Non-contiguous congressional districts, b. Congressional districts exceeding the population deviation limit. 3. Pass on candidates that do not contain issues in step 2.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Check Fitness
Primary actor:	General User
Goal in context: one sentence description	This action will examine potential solutions, determining their fitness to potentially eliminate them from the pool used by the genetic algorithm.
Preconditions:	Algorithm is running, potential solutions are being generated.
Trigger:	Algorithm is running
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Get a binary array representing a candidate solution 2. Evaluate the candidate based on user constraints and measures of gerrymandering to determine a fitness score 3. Fitness score will be used by the genetic algorithm to select the best candidates.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Convert our data structures into valid GeoJSON
Primary actor:	General User
Goal in context: one sentence description	After the algorithm runs we will need convert our data structures into a geojson determining only the borders of larger districts rather than all the voting district borders
Preconditions:	When a user runs a specific algorithm this will be automatically ran on the back end of the system.
Trigger:	Click on specific algorithm button
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Use specifies what algorithm they would like to run. 2. Backend runs algorithm. 3. We convert java objects to geoJSON. 4. Display the information on the display pane.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Critical. Build 1. Provides necessary functionality of the application.
Channel to actor: GUI or external interface	External Interface
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Run the API on the redistricted State to check for Gerrymandering.
Primary actor:	General User
Goal in context: one sentence description	We will hit the given 308 API on the redistricted State to check for Gerrymandering.
Preconditions:	Currently on home page.
Trigger:	On hover we will perform specified HTTP request to see if a given state is gerrymandered.
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Get the current selected state. 2. Get the information about gerrymandering. 3. Display the information on the display pane.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: List of open interface questions or unresolved issues	The data is yet to be gathered into the database.

Use-case:	Login as a user.
Primary actor:	General User
Goal in context: one sentence description	Login user to web application.
Preconditions:	All pages in navbar component.
Trigger:	Click login on navbar component.
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Take the information filled in the form which includes: <ol style="list-style-type: none"> a. User Name b. Password 2. Validate it with various constraints for password and check if username already exists. 3. If validation failed, display the error. 4. If validation is successful, then login user and display username in top right corner.
Exceptions: Special cases that involve deviations from scenario above	If username doesn't exist.
Priority: Build number (with reasons)	High. Build 1. Provides main functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator

Channels to secondary actors:	GUI
Open issues: List of open interface questions or unresolved issues	Session management should be handled carefully.

Use-case:	Logout
Primary actor:	General User
Goal in context: one sentence description	Log out current user.
Preconditions:	The user is logged in.
Trigger:	Click on the logout button on the navigation bar.
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Logout user. 2. Display “Login” in upper right hand corner.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	High. Build 1. Provides main functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: List of open interface questions or unresolved issues	

Use-case:	Edit Profile.
Primary actor:	General User
Goal in context: one sentence description	To change information associated with a user account.
Preconditions:	The user exists and is logged in.
Trigger:	Click on the about button on the navigation bar.
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Click edit user information on navbar dropdown. 2. Display current user info in editable inputs. 3. Click save to save information.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	High. Build 1. Provides main functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Delete Account.
Primary actor:	Admin and registered user
Goal in context: one sentence description	The user can permanently delete their account.
Preconditions:	Currently on all forms and user is logged in.
Trigger:	Click Deactivate Account on nav bar drop down.
Scenario: step by step actions taken by the system to achieve goal in context	<ol style="list-style-type: none"> 1. Click Deactivate Account on nav bar drop down. 2. Alert box appears asking user if they are sure. 3. Deviate account and logs user out. 4. Re routed to home screen.
Exceptions: Special cases that involve deviations from scenario above	
Priority: Build number (with reasons)	High. Build 1. Provides main functionality of the application.
Channel to actor: GUI or external interface	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: List of open interface questions or unresolved issues	
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Use-case:	Get user voting district data.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Get the voting district for the current user's stored address.
Preconditions:	Currently on voting district page and user is logged in.
Trigger:	Click on get voting district button(separate from use case 17)
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the current user's address from DB. 2. Contact the API and display the resulting voting district name on the screen. 3. Add time, user name, "getid" to log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	Invalid address should not return a district
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	The data is yet to be gathered into the database.
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Use-case:	Comment on blog post.
Primary actor:	General User
Goal in context: <i>one sentence description</i>	Post a comment to a blog post on its respective page.
Preconditions:	Registered user currently viewing a blog post.
Trigger:	Click on the post comment button.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. User enters comment into comment field. 2. Upon clicking the post button, comment is appended to the page containing the post 3. Add time, user name, post name, “comment” to log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	Nothing is entered into comment field → no comment is added.
Priority: <i>Build number (with reasons)</i>	Low. Build 3.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Add a blog post
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Add a post to the blog on the site.
Preconditions:	Admin is logged in and is on the blog page.
Trigger:	Click on the Add Post button.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Fill in fields for post title, author and contents. 2. Click the submit button to add the post to the blog. 3. Add time, admin name, “blog”, blog post name to log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	Administrator
Channels to secondary actors:	GUI
Open issues: <i>List of open interface questions or unresolved issues</i>	

Use-case:	View app logs
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Display usage logs of the system detailing user activity. (timestamp, user, action)
Preconditions:	System is loaded.
Trigger:	Click the logs button on the navigation bar.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the app logs from the server. 2. Display the logs, newest first.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	High. Build 1. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	
Channels to secondary actors:	

Open issues: <i>List of open interface questions or unresolved issues</i>	Could add searching method, perhaps by user or just simple separation by user class or type of action.
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Use-case:	Summarize Log Data
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Summarize usage logs of the system detailing user activity.
Preconditions:	System is loaded.
Trigger:	Click the usage summary button on the navigation bar.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Get the app log statistics from the server. 2. Display the statistics.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	
Channels to secondary actors:	
Open issues: <i>List of open interface questions or unresolved issues</i>	What to show: Count of each type of log, maybe searchable by user to identify misuse?

Use-case:	Update Database
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Functionality to manually update the database.
Preconditions:	System is loaded.
Trigger:	Admin uploads sql file to update database
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. File is uploaded. 2. Query is executed on the DB, updating it. 3. Display success message.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	SQL errors
Priority: <i>Build number (with reasons)</i>	Medium. Build 2. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	
Channels to secondary actors:	

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Show all Users
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Display a page that shows all registered users of the site
Preconditions:	System is loaded.
Trigger:	Click the Users button to navigate to the page.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Navigate to the Users page. 2. Show a list of all users on the site.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	
Channels to secondary actors:	
Open issues: <i>List of open interface questions or unresolved issues</i>	

Use-case:	Search for a User
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Search for a specific user on the users page
Preconditions:	Admin is on users page.
Trigger:	Type in the search bat.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Type username in the search bar. 2. User list is narrowed down based on the searched phrase.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	
Channels to secondary actors:	

Open issues: <i>List of open interface questions or unresolved issues</i>	
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Use-case:	Remove user
Primary actor:	Admin
Goal in context: <i>one sentence description</i>	Deactivate a specific user's account.
Preconditions:	Currently viewing user list.
Trigger:	Click the remove button next to a specific user's name.
Scenario: <i>step by step actions taken by the system to achieve goal in context</i>	<ol style="list-style-type: none"> 1. Admin clicks remove user button. 2. User account is deleted. 3. Add time, admin name, "remove", user removed to log.
Exceptions: <i>Special cases that involve deviations from scenario above</i>	
Priority: <i>Build number (with reasons)</i>	Low. Build 3. Provides additional functionality of the application.
Channel to actor: <i>GUI or external interface</i>	GUI
Secondary actors:	
Channels to secondary actors:	

Open issues: <i>List of open interface questions or unresolved issues</i>	Reactivation could be an option, but then it would have to be a flag instead of deletion
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