

Voting System Product Backlog

Ranked PBIs: (Highest to Lowest Priority):

Majority Calculation IRV PBI

As the Election Official

I want the program to produce correct results for IRV when I run the program for an IRV election

So that the election is fair and correct.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

The program prints that the candidate with the majority of the votes is the winner (more than 50% of the initial first place votes). This will be determined after however many rounds is necessary to come to this conclusion.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The program uses the correct logic to calculate the majority (calculates majority from the total number of cast first place votes, not just from the total number of votes given to non-eliminated candidates). Keeps running rounds until a winner or tiebreaker results in the final outcome. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Small.

PBI Author(s)

Caleb

File Wrong Name PBI

As the Election Official

I want a user friendly interface when I start the program for inputting information

So that I can process files/bring in files to the system in a convenient way.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

The program prompts the user again if the file name had a mistake.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The program doesn't quit when an incorrect file name is input and instead re-prompts the user for a new name. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Small.

PBI Author(s)

Caleb

Seat Lottery CPL Audit Bug

As the Election Official

I want the program to output a correct and easy to read audit file on the conclusion of the CPL election

So that it can be easily reviewed.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

The program correctly gives seats to other parties randomly when a party earns more seats than they have candidates, and this is accurately reported in the audit file.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The audit file data reflects the actual election properly for any seat lotteries. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium

PBI Author(s)

Daniel

Validate date File Parser Bug

As the Election Official

I want a user-friendly interface for entering in the date of the election

So that I can input the election date quickly and accurately.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

The program asks the election official to enter the date again if the day given isn't actually in that month (ie February 31st).

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The program will prompt the user if the user enters a date that is nonexistent (incompatible combination of day and month). Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Small.

PBI Author(s)

Caleb

User Input Multiple Election Files

As the Election Official

I want the program ask me if I have multiple files and if so it should keep asking me for more file names until I'm done

So that I can process elections that have ballot data in several different files.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program will continue to ask the user for additional file names until the user specifies that they are finished entering file names. Program prints a message to inform the user if they gave a nonexistent file name. The program prompts for further files until it is indicated that there are no more to be added.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The program is able to prompt for more files. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Small.

PBI Author(s)

Jacob

Process Multiple Election Files IRV

As the Election Official

I want the program to be able to still calculate the IRV election results even when the data is in multiple files

So that I don't have to worry about combining data from multiple sources.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

If multiple files are required, the program correctly combines and processes all the given files for an IRV election.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The program doesn't run much slower with multiple files. The program is able to prompt for more files and handle up until a certain amount of different files. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium.

PBI Author(s)

Daniel

Process Multiple Election Files CPL

As the Election Official

I want the program to be able to still calculate the CPL election results even when the data is in multiple files

So that I don't have to worry about combining data from multiple sources.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

If multiple files are required, the program correctly combines and processes all the given files for an CPL election.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The program doesn't run much slower with multiple files. The program is able to prompt for more files and handle up until a certain amount of different files. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium.

PBI Author(s)

Daniel

GUI Table of IRV Results

<p>As the Election Official</p> <p>I want the program to have a pleasing to look at GUI for displaying the results of the election</p> <p>So that it is easy to read and examine for accuracy.</p>
<p>Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)</p> <p>Program shows the accurate results of an election using a clean GUI along with all relevant information about the election. It should also have options to get to the more specific data.</p>
<p>Definition of Done (what is required by the team before sending out for review)</p> <p>Functionality is documented, tested (unit and system testing), and commented. The GUI shows the correct results in a clean manner as well as including summarized information about the election. There should also be options to output data to media or open the audit file. Can run on CSE lab machines.</p>
<p>Effort: Small, Medium, Large, Extra Large (estimate of effort and time)</p> <p>Medium.</p>
<p>PBI Author(s)</p> <p>Ruolei</p>

Popularity Only Processing

As the Election Official

I want the program to be able to run a popularity only election that is fair and accurate

So that we can expand this program to be usable on more election types which makes elections faster.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program runs an election and correctly calculates the winner based on the pure popularity vote. Ties are handled fairly using a "fair coin toss".

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The popularity election is optimized and can run on CSE lab machines. Ties of arbitrary numbers of candidates are handled fairly.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium

PBI Author(s)

Jacob

Unranked PBIs:

Popularity Only Display

As the Election Official

I want the program to display the results to the screen in a user friendly manner

So that I can easily report results to the media.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program displays the calculated results after the program has finished running in a visually pleasing manner.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The popularity election is optimized and can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Small

PBI Author(s)

Jacob

Popularity Only Audit

As the Election Official

I want an audit to be made for popularity-only voting

So that we can ensure a fair voting process.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program creates an audit file that shows how the election proceeded after the results are calculated.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. The popularity election is optimized and can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium

PBI Author(s)

Daniel

User File Input GUI

As the Election Official

I want the program to have an intuitive GUI I can use for selecting the election files

So that I don't have to type it all manually or find files myself.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program opens a GUI on start that shows all the available files and allows you to search for files (by typing in their names). It should also be pleasing to look at it and responsive. The user should be able to click on files and use their arrow keys and mouse to navigate the directory structure.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. User inputs are checked for validity and is able to handle all possible responses in a secure manner. It also needs to be ensured that it is responsive and has a clean cut GUI. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Large.

PBI Author(s)

Jacob

Date Input GUI

As the Election Official

I want the program to have an intuitive and responsive GUI I can use for entering the date of the election

So I can conveniently and accurately enter in the date of the election.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program opens a GUI on start. After the user selects the election type and files, the GUI will ask the user to input the date of the election. There will be proper error checking on this date and the user will be re-prompted until a valid date is given.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. User inputs are checked for validity and is able to handle all possible responses in a secure manner. It also needs to be ensured that it is responsive and has a clean cut GUI. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium.

PBI Author(s)

Jacob

Handle Invalidated IRV Ballots

As the Election Official

I want the program to ignore and get rid of invalid ballots throughout the election

So that I get more accurate results to the election in a quicker manner.

Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete)

Program gets rid of ballots with less than half the candidates ranked and are stored in a separate audit file.

Definition of Done (what is required by the team before sending out for review)

Functionality is documented, tested (unit and system testing), and commented. Program prints invalidated ballots to a file for logging it as well as no longer considering them in the election. It is able to calculate final results correctly after these deletions. Can run on CSE lab machines.

Effort: Small, Medium, Large, Extra Large (estimate of effort and time)

Medium.

PBI Author(s)

Ruolei