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| Product Backlog: |
| PBI 01- Bug1 |
| As a user, I want to compute a fair OPL election during the course of computing the results so that bias is removed when selecting new candidates. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete): <ul style="list-style-type: none">• Computes fairly when fewer candidates voted for compared to the number of seats that need to be distributed• Randomly resolve winner of tie when parties tie• Randomly resolve winner of tie when candidates tie• Compute fair OPL election• Tie's are handled fairly |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Passes unit tests• Compiles and computes OPL election• Can determine the election winners for corresponding seats fairly• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Medium |
| PBI Author(s)- Ryan Mower, Hoai Bui, Emma Spindler |

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| PBI 02- Popularity Only Election |
| As an election official, I need to be able to run a popularity only (PO) election algorithm so that we can determine the winner if there are PO elections being held. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete): <ul style="list-style-type: none">• Election must be fair (ties are handled fairly)• Take in at least 10 candidates• Account for ballots correctly• Prove ballots were handled correctly |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Passes unit tests• Passes system testing• Compiles and computes PO election• Can determine the winner for a PO election fairly• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Extra Large |
| PBI Author(s)- Ryan Mower, Hoai Bui, Emma Spindler |

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| PBI 04 - PO Results Displayed |
| As an election official, I would like the popularity only results displayed to the screen so that they know who won and who lost the election. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete): <ul style="list-style-type: none">• The results outputted to screen are percentages of votes each candidate received so that constituents who voted know how well their candidate did in the election• Winner is clearly displayed |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Losing candidates voting percentages clearly displayed on the screen• Winner is displayed with percentage of votes• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Small |
| PBI Author(s): Ryan Mower, Hoai Bui, Emma Spindler |

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| PBI 06 - GUI interface |
| As a user, I want a GUI (Graphical User Interface) to appear instead of a text prompt when loading in the file name so that I can identify the file name to the computer in a much simpler manner. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete): <ul style="list-style-type: none">• The GUI should allow the user to type out the file name• The GUI should allow the user to traverse the files on the computer with mouse or arrow keys to select the file for processing.• The GUI allows for multiple file selections or filename insertions |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Approved GUI visual inspection by development team• Approved GUI functionality inspection by development team• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Extra Large |
| PBI Author(s): Ryan Mower, Hoai Bui, Emma Spindler |

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| PBI 07.1 - Invalidated Ballot File |
| As an Election Official, I want the IRV invalidated ballots to be stored in a file for auditing purposes. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete) <ul style="list-style-type: none">• A file needs to be created that stores the invalidated ballots for audit purposes.• The name of the file should be invalidated_dateofelection.xxx |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Passes system tests• Invalidated_dateofelection.xxx file created with invalidated ballots• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Medium |
| PBI Author(s): Ryan Mower, Hoai Bui, Emma Spindler |

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| PBI 08 - Election Summary Table |
| As an official, I want there to be a table at the end of the election showing each round of the IRV and the number of votes that the candidate added/subtracted for that round so that we can review how the winner was determined. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete): <ul style="list-style-type: none">• A table is produced which shows the change of votes for each candidate in each round• The table is printed to the terminal• The table is saved in a file called election_table(\$DATE_AND_TIME).xxx |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Passes unit tests• Format looks good on visual inspection• Table contains all voting information about each round• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Large |
| PBI Author(s): Eric Palmer |

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| PBI 09 - Additional Short Report |
| As Election Official, I want a summary report so that it can be given to election officials in the case of election contesting. |
| Acceptance Criteria (conditions that have to be fulfilled to ensure the story is complete): <ul style="list-style-type: none">• Report is produced that can be printed• The report should have the<ul style="list-style-type: none">◦ Date◦ Type of election◦ Candidates◦ Number of seats◦ Winner(s) of the election |
| Definition of Done (what is required by the team before sending out for review): <ul style="list-style-type: none">• Report contains all of the needed information• Report is generated correctly regardless of election outcome• Report passes visual inspection of correctness• Passes system test• Code is refactored• Code is peer reviewed• Documentation completed• Consistent coding style throughout code• Meets all acceptance criteria conditions |
| Effort: Large |
| PBI Author(s): Eric Palmer |