| Name | Run Instant Runoff Voting |
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| ID | UseCase\_Team9\_L1 |
| Description | Instant runoff voting will be conducted with the file of votes provided. |
| Actor(s) | Election Official |
| Preconditions | The election official possesses the voting results in CSV format with 1st Line: specifying “IR.” 2nd line: Number of Candidates. 3rd Line: The candidates separated by commas. 4th Line: Number of ballots in the file. We can assume there are no errors in the ballots. Each ballot will have at least 1 ranking. The ranking numbers will not have issues. |
| Basic flow | 1). System will parse the CSV and create identifiable Voters complete with choice(s) of candidates  2). System will count and distribute ballots for each candidate starting with the primary choice.  3). All results are logged for an audit report.  4). The least popular candidate will be marked as eliminated and their ballots are distributed among the other candidates based on the next highest vote level.  5). The system logs final results and then finishes if there is only one candidate left. Otherwise, return to step 4.  6). System will display to the screen the results of the election and output an audit log. |
| Alternate flow | Case 1: Tie  1). At step 5 of the basic flow, there may be a tie. Ties will be resolved using a tiebreaker (see UseCase\_Team9\_L2). The eliminated candidate’s ballots will be distributed among valid candidates  2). If no tie breaker can be found, the winning candidate is decided by random draw. The alternate flow now rejoins the basic flow at step 4  Case 2: Tester or Developer wants to Shuffle or Manual Test  1). At step 3 of the basic flow, the parsed voter profiles will be shuffled (see UseCase\_Team9\_L3) |
| Exception flows | Invalid information is entered  1). System cancels vote process  2). System alerts user to the to the field that needs attention  3). User is given the option of re-entering information |
| Postconditions | Results are generated for viewing and data is kept for auditing purposes. Produce an audit file with the election information at the time (e.g. Type of Voting, Number of Candidates, Candidates, Number of Ballots, calculations, how many votes a candidate had, etc), you should list the winner(s), and show how the election progressed so that the audit could replicate the election itself. You ballot information and its order of being received if applicable. |