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| Name | Collect Ballots |
| ID | VS\_001 |
| Description | User is prompted for the name of ballot files |
| Actors | Voting Official |
| Organizational Benefits | By manually collecting ballots from files the voting official has a tabulated way of organizing ballots |
| Frequency of Use | One time |
| Triggers | User is prompted by system |
| Preconditions | Ballots are available in the system |
| Postconditions | Ballots have been collected and are in the system ready to be counted |
| Main Course | 1. User is prompted for ballots file names  2. User inputs ballot file names  3. User is brought to next input selection |
| Alternate Courses | AC1: Files not found in system  1. Bring user back to Main course 1 |
| Exception | EX1: System fails to find ballots  1. Notify User  2. Return to Main Course 1 |

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| Name | Input Election Information |
| ID | VS\_002 |
| Description | Prompt the user to input the information for how many seats are available and the algorithm to use. |
| Actors | Voting Official |
| Organizational Benefits | Allows the election official a way to give election parameters |
| Frequency of Use | Once |
| Triggers | Voting official is prompted by system |
| Preconditions | Voting official knows what election information needs to be tabulated |
| Postconditions | The number of seats and type of election are known |
| Main Course | 1. System prompts user for number of election seats  2. User inputs number of election seats  3. System prompts user for type of election  4. User inputs number election type |
| Alternate Courses | AC1: User inputs a non number  1. Notify user of incorrect input  2. Return user to input selection  AC2: User incorrects wrong input for election  1. Notify user of incorrect input  2. Return user to input selection |
| Exception | EX1: User decides to exit the selection  Exit system |

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| Name | Calculate Droop Quota |
| ID | VS\_003 |
| Description | Calculate the droop quota for stv elections |
| Actors | Voting Official |
| Organizational Benefits | Allows an automatic way to calculate the droop quota |
| Frequency of Use | Once |
| Triggers | Voting official inputs they want to perform an STV election |
| Preconditions | Number of votes in the system |
| Postconditions | The Droop Quota is known |
| Main Course | 1. User selects STV election  2. User Calculate Droop quota |
| Alternate Courses | AC1 Ballots not in system  1. Bring user back to user ballot names VS\_001 |
| Exception | EX1 System fails to calculate droop quota  1. Notify User  2. Return user to ballot input |

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| Name | Determine Number of candidates and number of ballots |
| ID | VS\_004 |
| Description | Read the ballots files to determine the number of candidates and number of ballots |
| Actors | Voting Official |
| Organizational Benefits | Allows the user an automated way of counting ballots and determining amount of candidates |
| Frequency of Use | Once |
| Triggers | User inputs ballot names |
| Preconditions | Ballot Files |
| Postconditions | Number of candidates and number of ballots are known |
| Main Course | 1. File is found and read  2. The program counts how many comma separated values are on the first line  3. Iterate through every line and store ballot in a data structure and keep count of how many lines are read through  4. Repeat for every file. |
| Alternate Courses | AC1 File is unreadable  1. Skip reading file  2. Notify user |
| Exception | EX1 Unable to find files in system  1. Notify user  2. Return them to VS\_001 |

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| Name | Shuffle Ballots |
| ID | VS\_005 |
| Description | Shuffle ballots in system |
| Actors | Voting official |
| Organizational Benefits | Allows for a fair election by not giving advantage to early voters |
| Frequency of Use | Once |
| Triggers | User initiates shuffle from system |
| Preconditions | Ballots are in the system |
| Postconditions | Ballots are shuffled in the system |
| Main Course | 1. Run shuffling algorithm |
| Alternate Courses | N/A |
| Exceptions | EX1 Shuffle Fails to finish  1. Notify User  2. Prompt them if they want to attempt shuffle again |

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| Name | Run voting algorithm |
| ID | VS\_006 |
| Description | Count the ballots and determine winner |
| Actors | Voting official |
| Organizational Benefits | Allows an automated way of counting the ballots |
| Frequency of Use | Once |
| Triggers | User is prompted to count the ballots |
| Preconditions | Ballots are in the system  Election type and number of candidates are known  If running STV droop quota has been calculated. |
| Postconditions | All candidate seats have been filled.  Election audit file has been filed |
| Main Course | 1. System starts counting ballots  2. At relevant steps write to election audit file  3. At end of election display an election results snapshot |
| Alternate Courses | AC1 User runs plurality election  AC2 User runs STV election |
| Exceptions | EX1 System fails to decide winner  1. Notify User  2. Prompt user if they want to rerun the counting process. |

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| Name | Display Help Information |
| ID | VS\_007 |
| Description | Display system help information to the user |
| Actors | Voting official |
| Organizational Benefits | Allows the user to access a help screen to answer relevant questions |
| Frequency of Use | As many times as needed |
| Triggers | User inputs help |
| Preconditions | User is a prompt screen |
| Postconditions | Help Screen is displayed |
| Main Course | 1. User inputs help  2. Display Help |
| Alternate Courses | N/A |
| Exceptions | N/A |