Name	Prompting for file
ID	UC_001
Description	The user will input a file through some interface and then prompt them the name of the file.
Actors	The users that organizes the ballot
Organizational Benefits	An organized and user visible ballot
Frequency of use	All the time, every file has to be opened to count it
Triggers	User selects the file
Pre-conditions	User has a file to input/find File is formatted correctly
Post-conditions	User is able to visibly see file contents File meets user requirements
Main course	1. Terminal prompts user to type in the file name 2. If file is found, let the user know 3. If file not found, let the user know, prompt the question and allow user to input again
Alternate courses	FILE NOT FOUND, Re-prompted to enter the file again and prints the message: Please ensure the file exists.
Exceptions	unsupported file type, FILE NOT FOUND

Name	Audit production
ID	UC_002
Description	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)
Actors	User(most likely ballot officials)
Organizational Benefits	Saves time as opposed to writing them down manually.
Frequency of use	Once, after the program has run
Triggers	User runs the program
Pre-conditions	Program is running
Post-conditions	Audit file is created in the directory
Main course	1. Once the program has run, we create a new audit file (.txt file) and this will overwrite the existing file of the same name. 2. File will exist in the same directory, but will be empty.
Alternate courses	Existing file gets overwritten
Exceptions	Can't create file

Name	Winners
ID	UC_003
Description	List the winner(s) of the election
Actors	User (Ballot officials)
Organizational Benefits	Displays the winner automatically
Frequency of use	Once
Triggers	Votes have been tallied completely
Pre-conditions	Calculation for votes completed
Post-conditions	Print out winner(s)
Main course	1. Receive winner 2. Print out the winner in the terminal
Alternate courses	N/A
Exceptions	Unable to print out winner

Name	Instant Runoff Voting
ID	UC_004
Description	Voting system that is used to elect a single winner, whereby only two candidates from the first round continue to the second round, where one candidate will win. Instant-runoff voting, an electoral system whereby voters rank the candidates in order of preference.
Actors	User (Ballot officials)
Organizational Benefits	Automatically tallies IR votes
Frequency of use	Once
Triggers	Mode is set to IR Voting based on the metadata
Pre-conditions	Mode is set, and file is read
Post-conditions	Result is stored somewhere
Main course	Eliminate the candidate appearing as the first preference on the fewest ballots. If only one candidate remains, elect this candidate and stop. Otherwise repeat
Alternate courses	A tie has to be settled -> different cases
Exceptions	Mode is not read

Name	Coin flip for tie
ID	UC_005
Description	If there is ever a tie, flip a coin via the computer. System must randomly select the winner in a fair coin toss. If there is a super majority then the remaining seats, if any, become a lottery.
Actors	The system, engineer, Ballot/Gov't officials
Organizational Benefits	An unbiased way to determine the winner that supports the integrity of the election
Frequency of use	Whenever there is a tie
Triggers	Tie for votes occurs
Pre-conditions	There has been a tie between two candidates The system has access to a random coin flip
Post-conditions	The winner of the tie is determined randomly and fairly
Main course	1. The system detects a tie in the election 2. The system prompts the users to initiate a coin flip to determine the winner 3. The system generates a coin to determine the result of the coin flip 4. The system displays the result of the coin flip and declares the winner
Alternate courses	A different way to solve for the tie, an example can be rock paper scissors or guessing the number closest to a chosen number.
Exceptions	There is no tie to the votes Error in generating the flipped coin, the system displays an error message.

Name	Popularity
ID	UC_006
Description	If there is not a clear majority in IR, then popularity wins after all votes have been handed out.
Actors	Ballot officials
Organizational Benefits	Detects lack of majority and switches to popularity automatically
Frequency of use	Once, when a no majority in the IR
Triggers	The system detects a lack of majority in the IR
Pre-conditions	Votes have been tallied and there is no majority
Post-conditions	The winner of the election or vote is determined based on popularity
Main course	1. The system calculates the results of the election or vote and determines a tie 2. The system calculates the popularity of each candidate 3. The system declares the candidate with the highest popularity as the winner
Alternate courses	Winner is based on past experience or performance Flip a coin for the winner
Exceptions	Error calculating popularity, the system displays an error message and prompts the user to try again Multiple candidates or options have the same popularity, the system prompts the users to resolve the tie using a secondary method

Name	Closed Party List Grouping
ID	UC_007
Description	The order of the candidates has a particular order. System will calculate the winner(s) based on the number of seats and the order of the candidates.
Actors	Ballot officials
Organizational Benefits	A fair and transparent method for determining the winner in a closed party list election
Frequency of use	Once
Triggers	The election results are entered into the system
Pre-conditions	The election has taken place and the results have been recorded The order of the candidates has been established
Post-conditions	The winner(s) of the election are determined based on the number of seats and the order of the candidates
Main course	1. The system receives the election results and the order of the candidates 2. The system calculates the number of seats won by each candidate based on the election results 3. The system determines the winner(s) based on the order of the candidates and the number of seats won
Alternate courses	Error calculating the number of seats won, the system displays an error message and prompts the user to try again Tie in the order of the candidates, the system prompts the users to resolve the tie using a secondary method
Exceptions	Incorrect or inconsistent election results, the system prompts the user to verify the election results and resolve any inconsistencies.

Name	Display winner
ID	UC_008
Description	The winner of the election is displayed
Actors	Everyone
Organizational Benefits	A transparent and accessible method for displaying election results to users
Frequency of use	Once
Triggers	The election results have been calculated
Pre-conditions	The election results have been recorded and processed The election rules and criteria for determining the winner have been established
Post-conditions	The election results are displayed to the users in a clear and accessible format
Main course	1. The system receives the election results 2. The system processes the election results and calculates the number of ballots cast and the number of votes received by each candidate 3. The system displays the election results, the winner of the election.
Alternate courses	Error processing the election results, the system displays an error message and prompts the user to try again Incomplete or inconsistent election results, the system prompts the user to verify the election results and resolve any inconsistencies
Exceptions	Unsupported data format, the system displays an error message indicating that the data format is not supported and cannot be processed.

Name	Reading the file
ID	UC_009
Description	The file will be exported from Excel into the CSV format. All preprocessing of the file will be done before you receive it. The first line of the file will list the type of voting
Actors	Ballot officials
Organizational Benefits	A efficient process for importing election data into the system
Frequency of use	All the time, every file has to be read
Triggers	The ballot officials selects the file to import
Pre-conditions	The file has been exported from Excel to a CSV format The file has been pre-processed and is ready for import The first line of the file lists the type of voting
Post-conditions	The election data is successfully imported into the system
Main course	1. The system prompts the user to select the file to import 2. The system reads the first line of the file to determine the type of voting 3. The system processes the election data and imports it into the system 4. The system confirms that the file has been successfully imported
Alternate courses	Error reading the file, the system displays an error message and prompts the user to try again or to select a different file Unsupported file format, the system displays an error message indicating that the file format is not supported and cannot be imported
Exceptions	Corrupted or incomplete file, the system displays an error message indicating that the file is corrupt or incomplete and cannot be processed.

Name	Closed Party List Order
ID	UC_010
Description	The order of the candidates has a particular order. You will calculate the winner(s) based on the number of seats and the order of the candidates.
Actors	Ballot officials
Organizational Benefits	A fair and transparent calculation of the winner(s) based on the number of seats and the order of the candidates
Frequency of use	Once
Triggers	The ballot officials initiates the calculation of the winner(s)
Pre-conditions	The order of the candidates has been established and is known The number of seats available for election is known The election results have been collected and are ready for calculation
Post-conditions	The winner(s) of the election have been determined and displayed
Main course	1. The system prompts the user to initiate the calculation of the winner(s) 2. The system calculates the number of votes received by each candidate based on the election results 3. The system determines the winner(s) based on the number of seats and the order of the candidates 4. The system displays the winner(s) along with any relevant statistics, such as the number of votes received and the percentage of votes received
Alternate courses	Error calculating the winner(s), the system displays an error message and prompts the user to try again or to check the election results Incomplete or incorrect election results, the system displays an error message indicating that the election results are incomplete or incorrect and cannot be processed
Exceptions	Invalid order of candidates, the system displays an error message indicating that the order of the candidates is invalid and cannot be used for the calculation of the winner(s).

Name	Close Party List Ballot
ID	UC_011
Description	Voters express a preference for a particular party. Each ballot will only have one candidate indicated as a choice for the vote.
Actors	Ballot officials, voters
Organizational Benefits	A voting process that allows voters to express their preference for a particular party
Frequency of use	Once
Triggers	The start of the election or voting process
Pre-conditions	The parties and their candidates have been established and are known The ballot format has been established and is ready for use
Post-conditions	The ballots have been collected and counted The results of the election have been determined
Main course	1. The system prompts the voter to indicate their preference for a particular party by marking their ballot 2. The voter marks their ballot by indicating their preferred party 3. The ballot officials collects and counts the ballots 4. The system calculates the number of votes received by each party 5. The system determines the winner(s) of the election
Alternate courses	Error collecting or counting the ballots, the system displays an error message and prompts the ballot officials to try again or to check the ballots Invalid ballot, the system identifies the ballot as invalid and does not count it in the calculation of the election results
Exceptions	Invalid party preference indicated on the ballot, the system identifies the ballot as invalid and does not count it in the calculation of the election results.

Name	Audit File Order
ID	UC_012
Description	Your audit file is a strict requirement and an auditing should be able to follow the order of the ballots being assigned to the candidates. You should show the order of removal of candidates in IR and what ballots were redistributed. The file should show all of the steps.
Actors	Ballot officials
Organizational Benefits	A record of the election process, including the order of removal of candidates and the redistribution of ballots The ability to identify any irregularities or errors in the election process
Frequency of use	Once
Triggers	The completion of the election or voting process
Pre-conditions	The election results have been determined The audit file has been created and is ready for use
Post-conditions	The audit file has been reviewed and approved Any irregularities or errors in the election process have been identified and addressed
Main course	1. Prompts the ballot officials to create the audit file 2. Exports the election results and order of removal of candidates in IR 3. The system shows the redistributed ballots 4. The system records all of the steps taken during the election process 5. Review the audit file 6. The audit file is approved and the election results are considered final
Alternate courses	Error creating the audit file, the system displays an error message and prompts the ballot officials to try again Invalid audit file, there is an issue with the audit file and request that it be revised
Exceptions	Incomplete audit file, there is an issue with the audit file and request that it be revised to include all necessary information.

Name	Audit file naming
ID	UC_013
Description	The system will prompt the ballot officials to name the audit file according to a set naming convention, to ensure that it can be easily identified and located in the future.
Actors	Ballot officials
Organizational Benefits	Consistent naming conventions for audit files, making it easier to locate and identify them in the future Improved organization and record-keeping for the election process
Frequency of use	Once
Triggers	The completion of the election or voting process
Pre-conditions	The election results have been determined The audit file is ready to be named
Post-conditions	The audit file has been named according to the naming convention The audit file is ready for review and approved
Main course	1. The system prompts the ballot officials to name the audit file 2. The ballot officials enters the name of the audit file 3. The system confirms that the audit file has been named
Alternate courses	Incorrect naming convention, the system displays an error message and prompts the ballot officials to enter a name that meets the naming convention
Exceptions	Unable to name the audit file, the system displays an error message and prompts the ballot officials to try again if the naming process is unsuccessful.

Name	SHARE TO MEDIA : Export Media
ID	UC_014
Description	The user will have the option to share the election results to the media. The system will provide an option for the user to export the results in a format suitable for media.
Actors	Ballot officials, media people
Organizational Benefits	Sharing the results with the media ensures transparency and accountability of the election process. It helps to build public trust and confidence in the election outcome.
Frequency of use	To the number of medias that request to share results
Triggers	The user selects the option to share the results with the media.
Pre-conditions	The election has been conducted and the results are available in the system. The user has access to the system to share the results.
Post-conditions	The election results have been successfully exported in a format suitable for the media. The user has the necessary information to share the results with the media.
Main course	1. The system provides the option to export the results for media. 2. The user selects the option to export the results. 3. The system prompts the user to select the format for the exported file. 4. The user selects the format and the system exports the file. 5. The user shares the exported file with media as per their requirements.
Alternate courses	Export failure, there is an error during the export process, the system should display an error message and allow the user to try again. Unsupported format, if the user tries to export to a file format that is not supported, the system should inform the user and provide a list of supported formats.
Exceptions	The user does not have access to the system. The results are not yet available or have not been entered into the system. The user decides not to share the results with the media.