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Team 17
 10/22/18
 CSCI 5801 - 001
 Project #1 Use Cases Document

Name	Users run the instant runoff voting program
ID	UC_001
Description	Users run the program by providing ballot files to the voting program to determine the election winner of an instant runoff voting election.
Actors	User(s)
Organizational Benefits	Allows the user to accurately and efficiently carry out instant runoff voting elections to elect a candidate according to the public's expressed interest. By doing so, an unbiased process is implemented to determine election winners and ensuring a democratic process in society.
Frequency of Use	Whenever an instant runoff voting election is being finalized
Triggers	The user types in a command-line arguments to run the voting program
Preconditions	<ul style="list-style-type: none"> - User is operating in a CSE lab machine or local machine that supports a system that has the program software integrated within it - User is examining the directory in which the program resides - User has permission to run the voting program - Election being run is instant runoff voting
Postconditions	<ul style="list-style-type: none"> - The election winner and the contents of the audit file are visible to the user
Main Course	<ol style="list-style-type: none"> 1. The user navigates to the directory in which the program resides in 2. The user attempts to compile and run the program through a command line argument "javac filename.java" or a GUI that hasn't been designed yet 3. The local machine confirms that the program files exist to compile and run them (see EX1) 4. The local machine compiles the program files (see EX2) 5. The local machine runs the program files (See AC1) 6. The program outputs the winner on the command line or GUI and generates an audit file in the same working directory that the program resides in

Alternate Courses	<p>AC1: The local machine can't run the program files or it doesn't terminate</p> <ol style="list-style-type: none"> 1. The user makes sure that the installed software is capable of running the program 2. Return to main course 1
Exceptions	<p>EX1: The local machine determines that the program files aren't in the same directory or don't exist</p> <ol style="list-style-type: none"> 1. The local machine notifies the user that the program files can't be found 2. The user verifies that the program files are downloaded and placed in the appropriate directory where they can be run 3. Return to main course 1 <p>EX2: The local machine can't compile the program files</p> <ol style="list-style-type: none"> 1. The user makes sure that the installed software is capable of running the program 2. Return to main course 1

Name	Users run the open party listing voting program
ID	UC_002
Description	Users run the program by providing ballot files to the voting program to determine the election winner of an open party listing voting election.
Actors	User(s)
Organizational Benefits	Allows the user to accurately and efficiently carry out open party listing voting elections to elect a candidate according to the public's expressed interest. By doing so, an unbiased process is implemented to determine election winners and ensuring a democratic process in society.
Frequency of Use	Whenever an open party listing voting election is being finalized
Triggers	The user types in a command-line arguments to run the voting program
Preconditions	<ul style="list-style-type: none"> - User is operating in a CSE lab machine or local machine that supports a system that has the program software integrated within it - User is examining the directory in which the program resides - User has permission to run the voting program - Election being run is open party listing voting
Postconditions	<ul style="list-style-type: none"> - The election winner and the contents of the audit file are visible to the user
Main Course	<ol style="list-style-type: none"> 1. The user navigates to the directory in which the program resides in 2. The user attempts to compile and run the program through a command line argument "javac filename.java" or a GUI that hasn't been designed yet 3. The local machine confirms that the program files exist to compile and run them (see EX1) 4. The local machine compiles the program files (see EX2) 5. The local machine runs the program files (See AC1) 6. The program outputs the winner on the command line or GUI and generates an audit file in the same working directory that the program resides in
Alternate Courses	<p>AC1 The local machine can't run the program files or it doesn't terminate</p> <ol style="list-style-type: none"> 1. The user makes sure that the installed software is capable of running the program 2. Return to main course 1
Exceptions	<p>EX1: The local machine determines that the program files aren't in the same directory or don't exist</p> <ol style="list-style-type: none"> 1. The local machine notifies the user that the program files can't be found 2. The user verifies that the program files are downloaded and placed in the appropriate directory where they can be run

	<ol style="list-style-type: none">3. Return to main course 1 <p>EX2: The local machine can't compile the program files</p> <ol style="list-style-type: none">1. The user makes sure that the installed software is capable of running the program2. Return to main course 1
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Name	Users specify input file
ID	UC_003
Description	Users specify the name of the file containing ballot records
Actors	Users
Organizational Benefits	Allows all ballots in a single election to be consolidated into one digital entity, eliminating the need to manage physical ballots.
Frequency of Use	Once per election
Triggers	The user runs the program via the CLI
Preconditions	<ul style="list-style-type: none"> - The specified file exists in the same directory as the program - The program has permission to read the specified file
Postconditions	<ul style="list-style-type: none"> - The program reads and parses input from the specified file
Main Course	<ol style="list-style-type: none"> 1. The user runs the program via the CLI. 2. The user specifies the name of a file that contains the desired ballot records. 3. The program confirms the specified file exists in the same directory as the program and it has permission to read the contents (see EX1). 4. The program reads and parses input from the specified file.
Alternate Courses	No alternate courses.
Exceptions	<p>EX1 The program determines that either the specified file does not exist in the same directory as the program or the program does not have permission to read the contents.</p> <ol style="list-style-type: none"> 1. The program notifies the user of the specific error 2. Return user to Main Course step 2.

Name	Users see results
ID	UC_004
Description	Users can see the information relating to the election as well as the winner(s) on the CLI.
Actors	Users
Organizational Benefits	Increases productivity of organization by allowing them to quickly see election results rather than having to derive the results manually.
Frequency of Use	Mandatory. Once every successful run of the program.
Triggers	The program finishes the ballot tallying phase.
Preconditions	- The ballot tallying phase encountered no fatal errors.
Postconditions	- The following information is visible on the CLI: type of election, the number of candidates, the list of candidates and parties, the number of seats (OPL only), the number of ballots, and the winner(s).
Main Course	<ol style="list-style-type: none"> 1. The program finishes the ballot tallying phase with no fatal errors (see EX1). 2. Election information and its winner(s) are displayed to the CLI.
Alternate Courses	No alternate courses.
Exceptions	EX1 The program encounters fatal errors during the ballot tallying phase. <ol style="list-style-type: none"> 1. The program notifies the user of the error. 2. Return to UC_003.

Name	Users view audit file
ID	UC_005
Description	Users can open and view the audit file generated by the program.
Actors	Users
Organizational Benefits	Allows the organization a method of validating the election results should there be a doubt on the integrity of the results.
Frequency of Use	Anytime the user wishes to view the audit file.
Triggers	The user opens the generated audit file.
Preconditions	<ul style="list-style-type: none"> - The user is examining the directory in which the program resides. - The audit file exists in the directory in which the program resides. - The user has permission to read the contents of the audit file.
Postconditions	<ul style="list-style-type: none"> - The contents of the audit file are visible to the user.
Main Course	<ol style="list-style-type: none"> 1. The user navigates to the directory in which the program resides 2. The user attempts to open the audit file generated (see AC1) 3. The local machine confirms that the user has permission to read the contents of the audit file (see EX2) 4. The contents of the audit file are visible to the user
Alternate Courses	AC1 The user determines that the audit file does not exist in the directory in which the program resides. <ol style="list-style-type: none"> 1. Return to UC_003
Exceptions	EX1 The local machine determines that the user does not have permission to read the contents of the audit file. <ol style="list-style-type: none"> 1. The local machine notifies the user of the permission restriction. 2. The user somehow obtains the necessary permissions. 3. Return to Main Course step 2.

Name	Testers run the voting program
ID	UC_006
Description	Tester types in command line arguments to run the program or to run a testing script to compile and run the voting program
Actors	Testers
Organizational Benefits	Allows the user to verify the correctness and efficiency of the program so that it's verified to be performing correctly according to the project standards
Frequency of Use	Whenever the user wants to test the program
Triggers	The user types in a command-line arguments to run the voting program or run a script that runs the program being tested
Preconditions	<ul style="list-style-type: none"> - User is operating in a CSE lab machine - User is examining the directory in which the program resides - User has permission to write in the directory - Election being run is instant runoff voting or open party listing
Postconditions	<ul style="list-style-type: none"> - The election winner and the contents of the audit file are visible to the user
Main Course	<ol style="list-style-type: none"> 1. The user navigates to the directory in which the program resides 2. The user attempts to compile and run the program through command line argument "javac filename.java" or runs a testing script that'll do this job 3. The local machine confirms that program files exist to compile and run them (see EX1) 4. The local machine compiles the program files (see EX2) 5. The local machine runs the program files so that user can verify the program's correctness (See AC1) 6. The program outputs the winner on the command line and generates an audit file in the same working directory
Alternate Courses	AC1 The local machine can't run the program or it doesn't terminate <ol style="list-style-type: none"> 1. Program is verified to be incorrect
Exceptions	EX1: The local machine determines that the program files aren't in the same directory <ol style="list-style-type: none"> 1. The local machine notifies the user that the program files can't be found 2. The user verifies that the program files are downloaded and placed in the same working directory 3. Return to main course 1 EX2: The local machine can't compile the program files <ol style="list-style-type: none"> 1. User verifies that the local machine is running the most updated version of Java <ol style="list-style-type: none"> a. If the correct version is being used, the program is deemed to be incorrect

	b. If not, update Java to its current versions and return to main course 1
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Name	Election officials run the voting program
ID	UC_007
Description	Election official(s) run the program by providing ballot files to the voting program to determine the election winner of an instant runoff voting or open party listing voting election.
Actors	Election official(s)
Organizational Benefits	Allows the user to accurately and efficiently carry out instant runoff voting and open party listing voting elections to elect a candidate according to the public's expressed interest. By doing so, an unbiased process is implemented to determine election winners and ensuring a democratic process in society.
Frequency of Use	Whenever an election is being finalized
Triggers	The user types in a command-line arguments to run the voting program
Preconditions	<ul style="list-style-type: none"> - User is operating in a CSE lab machine or local machine that supports a system that has the program software integrated within it - User is examining the directory in which the program resides - User has permission to run the voting program - Election being run is instant runoff voting or open party listing
Postconditions	<ul style="list-style-type: none"> - The election winner and the contents of the audit file are visible to the user
Main Course	<ol style="list-style-type: none"> 1. The user navigates to the directory in which the program resides in 2. The user attempts to compile and run the program through a command line argument "javac filename.java" or a GUI that hasn't been designed yet 3. The local machine confirms that the program files exist to compile and run them (see EX1) 4. The local machine compiles the program files (see EX2) 5. The local machine runs the program files (See AC1) 6. The program outputs the winner on the command line or GUI and generates an audit file in the same working directory that the program resides in
Alternate Courses	<p>AC1 The local machine can't run the program files or it doesn't terminate</p> <ol style="list-style-type: none"> 1. The user makes sure that the installed software is capable of running the program 2. Return to main course 1
Exceptions	<p>EX1: The local machine determines that the program files aren't in the same directory or don't exist</p> <ol style="list-style-type: none"> 1. The local machine notifies the user that the program files can't be found 2. The user verifies that the program files are downloaded and placed in the appropriate directory where they can be run

	<ol style="list-style-type: none">3. Return to main course 1 <p>EX2: The local machine can't compile the program files</p> <ol style="list-style-type: none">1. The user makes sure that the installed software is capable of running the program2. Return to main course 1
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