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Taktuk Taktuk
CSE426
Lab01
Part 1 Test Plan

Account Address and their Roles

Account Addresses	Roles
0xCA35b7d915458EF540aDe6068dFe2F44E8fa733c	Official and Not Voter
0x14723A09ACff6D2A60DcdF7aA4AFf308FDDC160C	Voter
0x4B0897b0513fdC7C541B6d9D7E929C4e5364D2dB	Voter
0x583031D1113aD414F02576BD6afaBfb302140225	Voter
0xdD870fA1b7C4700F2BD7f44238821C26f7392148	Voter

We tested our Solidity smart contract with the following address above. Our Official who made the ballot are not allowed to participate in the election. The voter are only sport journalist and broadcaster from USA and Canada. There are only 5 candidate or player who the voter can vote for. The voter must pick their first to fifth place. The player with highest points wins the NBA MVP Award for the following season.

Our testing process includes two different type of testing:
- Positive tests make sure the smart contract performs correctly and as expected when given a valid set of inputs.
- Negative tests make sure that the smart contract catches errors during verification and validation and that functions revert when given invalid inputs.

Positive test: In the Remix IDE do the following

1. From the Chairman or Officials address add 5 candidate using registerCandidate() function. Enter {1, 2, 3, 4, 5} and register 5 candidates. This numbers in curly braces are also the candidate ID which we will need to remember. The candidate ID can be any positive integer but for the sake of simplicity we will just give them simple ID. You can see how many candidates you have added using the variable candidateNumber. The max number of candidate is 5 therefore you cannot add more than 5 candidates.

2. Add 4 voter from the table above using registerVoter() function. Remember the chairman or official is not allowed to vote. So, you cannot register him as a voter. You can check how many voters you have added using voterNumber. And you can add as many as voter you like there's no limitations.

3. Now before the chairman or Officials start the election you can click on state to see the state of the contract which should be state of {0} now. When the chairman or Official start the election using startVoting() the state changes to {1} which mean the voting started.

4. Now pick one of the voter and copy his address and paste it on votePlayer() function and pick your 1st place to 5th place like this {address, playerID1 , playerID2, playerID3 , playerID4, playerID5} and vote. The voter is also allowed to see state, voterNumber, candidateNumber, and totalVote. Do the same things for all the voter you have registered.

5. Then go back to chairman or officials address and end the vote by endVoting. At this point the election is ended. The state has changed to {2} or Ended. And no voter can't cast their vote.

6. The vote count is automatically done. And winner is declared by playerID. You can use tallyPoints to see which player received how many votes to make sure he is right winner.

This is End of positive test. Now let's move onto negative tests.

Negative Test:

1. Try adding the chairman or officials as a voter. And see voterNumber to make sure if he is added. voterNumber should be 0. Chairman cannot vote.
2. Try adding more than 5 candidates. And use candidateNumber to make sure there are only 5 candidates. And no more than 5.
3. Try casting vote before the chairman or official started the election. The vote will not be counted.
4. Try starting voting or end voting from any other address other than chairman or officials. It should show errors. And state will not change.
5. Try seeing the totalVote or use tallyPoints to find out player points before voting ended. It will not show any results.
6. And the last things try unregistered a candidate or a voter and try voting for unregistered candidate and vote using unregistered voter. The vote will not count. And the candidate will not receive any vote.

This smart contract has been demonstrated and confirmed by TA for submission. All the tests cases here have been demonstrated to the TA. Below is an image of user interface on Remix IDE.

endVoting	
registerCandidate	uint256 _playerId
registerVoter	address _voterAddress
startVoting	
unRegisterCandidate	uint256 _playerId
unRegisterVoter	address _voterAddress
votePlayer	address _voterAddress, uint256 pref1, uin
winningProposal	
ballotOfficialAddress	
candidateNumber	
state	
tallyPoints	uint256 _playerId
totalVote	
voterNumber	
winner	