**APS1050 Executive Summary of Team Programming Project**

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**What the DApp is:**

This DApp is extended from an Election DApp tutorial, please see: <https://www.dappuniversity.com/articles/the-ultimate-ethereum-dapp-tutorial>. The tutorial shows the process of building a simple decentralized voting application. The original DApp has one page that allows users to vote for a candidate. For the code, please see: <https://github.com/dappuniversity/election/tree/2019_update>.

**What it does:**

There are two tabs on the navigation bar: Admin and Election. The 'Admin' tab will lead users to a page where they can create a new election to the system. They will need to offer election information like title, description, end time and candidates. The 'Election' tab will take users to the page where they can view elections in the system. They can click the button ‘Participate’ to vote for a candidate. If users have already participated in an election, they are not able to vote again and they would be able to view the results. If an election is ended, users are not able to vote, but they can view the results.

**Why it is relevant:**

We made changes to the original solidity contract in the DApp and we used React to implement the front end instead of html. The original DApp only support one election, while in real life, we may want to have multiple elections in the system. Therefore, we used a nested struct in the contract, in which the struct Election has a mapping of struct Candidate. Some new functions were added, like create\_election(), getElection() and getCandidate(). In our extensions, we implemented a navigation bar which has two tabs on it, one for creating a new election and one for participating a vote. If real life, an election may come to an end, so, we asked users to give an end time to an election to be created. Once the election end time has passed, users won’t be able to participate in it, which makes sense. Also, users cannot participate in an election if they have already voted for a candidate in the election. Instead, they will able to view results of the election. The results will be shown in percent. Our extensions considered both users and administrators, which make the system more useful. The website is also user-friendly to operate.