Electronic Voting Platform

(Systems Description for Assignment)

Disclaimer: *This system description and all links are only to enable you to understand how the voting process works in Australia. Please do not interact with any of the operational systems of the Australian Election Commission.*

Assume that your organisation has been selected to have a digital voting platform for Australian federal elections. This project aims to replace paper-based balloting with electronic balloting. Voters can cast a vote using the computer terminals set up at polling stations. Moreover, the new digital platform is aimed at providing support for online voting as well. Australian citizens within Australia can either go to polling stations to cast a vote or cast a vote at home using online voting system clients. Australian citizens outside Australia can cast their votes at Australian diplomatic missions only. Access to the system outside Australia is managed by strict security controls, and the system is available within specific geographic locations of Australian diplomatic missions only.

The system should provide support for all the functionality necessary to handle voting in Australia. Following is the list of key functionalities.

- The platform shall allow AEC employees to register citizens to vote.
- The platform shall allow every citizen eligible to vote to check their enrolment status and enrol themselves if they haven't been enrolled.
- An enrolled voter can update their address.
- The platform shall allow a state's AEC Commissioner's delegate(s) to enter details of the candidates, including their order within their party grouping.
- Before voting, the system should be able to validate whether an individual is eligible to vote or not.
- The voters can vote in the election to choose their representatives and senators.
- For the House of Representatives election, individual voters can specify the order of their preference for the candidates participating in the election.
- For senate elections, the platform shall allow individual voters to enter their votes either above the line, below the line or both. It will correctly calculate the order in which senators should be elected. It will also allow the state's AEC Commissioner's delegate(s) to manually exclude candidates if a recount should be ordered by the High Court sitting as the Court of Disputed Returns.
- The platform is aimed to be an alternative voting mechanism at each polling station, so approximately 7,000 web terminals may be in use. A full implementation would need to be able to handle up to 40,000 web terminals. All remaining voting,

including most pre-poll voting and all postal votes, will be handled by conventional paper ballots. Following the election, all paper ballots will be scanned and made available in electronic form before the final count.
- After the voting, the platform should be able to compute the results. Once the results are computed, these should be shareable with external systems.
- The system should incorporate the highest achievable cybersecurity supported by current technology paradigms. The system should also be easily upgradeable to new cybersecurity technologies and standards.

The following is a brief overview of how electoral voting works in Australia. Please visit the provided links to explore further.

The House of Representatives

Australia is divided into areas called electoral divisions. Voters in each electoral division cast a vote to elect one person (a Member of Parliament) to represent them in the House of Representatives.

- [Voting in the House of Representatives](#)
- [Practise voting for the House of Representatives](#)

The Senate

Voters in each state and territory elect Senators to represent them in the Senate. States have 12 Senators, and the Australian Capital Territory and the Northern Territory each have 2 Senators.

- [Voting in the Senate](#)
- [Practise voting for the Senate](#)