To whom it may concern,

My name is Christopher Neugebauer, I am a professional software developer with more than five years of industry experience, and more than three years of experience as a graduate. I hold a Bachelor of Science with First Class Honours in Computer Science, and a University Medal from the University of Tasmania.

I have been asked to comment on the complexity of implementing, in a program module, the Single Transferrable Vote counting method used in Australian Senate Elections.

Such a module may contain units of code known – more-or-less interchangeably – as subroutines, functions, or methods.

Assuming that the contents of each vote were available in a format suitable for reading by the vote counting module, I estimate that the counting method would take two working days to implement accurately.

In a program where multiple counting methods were implemented for different types of election, each counting method would necessarily exist in its own set of isolated functions, if not its own module. Each such function would require knowledge of the specification of how the contents of each vote is stored in the system's memory, but not necessarily the code used to input the votes. Each such function would exist in isolation from the other functions, and could be distributed in isolation, along with any modules that specify the data formats used in the program.

In such a system, where the specification for how votes are stored are common to multiple counting methods, I expect that First-Past-The-Post voting could be implemented in 30 minutes, and that Instant Runoff Voting, as used in elections for the Australian House of Representatives could be implemented in two hours.

Thank you for your consideration,

Christopher Neugebauer