FPTP Teller

Datalogisk institut, Copenhagen University (DIKU)
LaTeX

Oleksandr Shturmov
oleks@diku.dk

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Chapter 1

FPTP

A First-Past-The-Post (FPTP) election is among the simplest types of elections. It is easy to understand, conduct and monitor on a small scale.

This is the common man's raising of hands election. The winner is the candidate with the highest number of raised hands. In an anonymous FPTP election, a voter may be asked to write their desired candidate on a sheet of paper, and cast it into a container. Once all the votes have been cast, the votes are tallied, and the candidate with the most sheets of paper with her name on it, wins the election.

The name "first-past-the-post" stems from horse racing, where the first horse past a particular post wins the race. Unlike in horse racing however, there is often a high chance of a tie in an FPTP election.

On a national scale, an FPTP ballot is typically a list of candidates written out on a sheet of paper, and the voter is asked to mark their desired candidate, and cast the ballot into a ballot box. The ballots in all the ballot boxes are then tallied, and the candidate with the most marks wins the election.

In an FPTP election, the voter is handed a ballot with a list of candidates, and is typically asked to mark

It is commonly employed at various small council elections, in the common man's raising of hands form.

commonly employed in household elections.

Chapter 2

Z

Votes are cast and tallied anonymously using a token system. Issuing tokens is beyond the scope of this specification. A voter may chose among a set of available of options to express her intent. We assume a set of voter and option tokens as basic types:

$$[VOTER, OPTION]$$

In an election, individuals are registered as voters and candidates are registered as options. The process of voter and candidate registration is beyond the scope of this specification. We assume that everyone eligible to vote is registered as a voter. We assume a nonempty finite set of registered voters and candidates:

$$\begin{array}{|l} voters : \mathbb{F}_1\, VOTER \\ candidates : \mathbb{F}_1\, OPTION \end{array}$$

Not all voter and option tokens are necessarily dealt. Token generation can happen offline, prior to registration, or online, during registration. It is beyond the scope of this specification to ensure that enough tokens are generated to accommodate all the registrations.

In an FPTP election, a voter chooses one among the available options on a ballot. An FPTP ballot is first and foremost a list of candidates. This list may be insufficient to express voter intent. For this purpose, a "none of the above" option is typically added to the ballot.

Aside from casting a valid vote, the voter may also:

1. not cast a vote;
2. cast a blank vote; or
3. cast an invalid vote.

We take these options into consideration and say that a voter always chooses one among her possible options, in particular, a voter may chose the option to not cast a vote. A voter cannot not choose one of the options.

Depending on the legislature, some, or all of the above may be equivalent to voting for "none of the above", or casting an invalid vote. Likewise, it depends on the legislature what effect such votes (or lack thereof) have on the tally. To provide for these options, we introduce the following global variables:

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The canonical Z reference manual. Seconded only by the Z ISO standard itself.