**Issues:**

|  |  |  |
| --- | --- | --- |
| Issue | Code | Issue Type |
| The financial situation caused by COVID-19 to Australia’s population which is having a huge impact to businesses and families. | COVID-19 Financial | Economic |
| The ongoing debate of whether tomato sauce belongs in the fridge or cupboard which has the nation divided. | Sauce debate | Social |
| The national toilet paper shortage causing unrest with the nation. | Toilet Paper Shortage | Logistics |
| The ongoing issue of Global warming and how to best handle ongoing affairs for it. | Global Warming | Environmental |
| COVID-19 mandatory vaccines. | Mandatory Vaccines | Health |

**Parties:**

1. Labor Party: The Labor party wants to provide equal opportunities for everyone in the nation, and attempt to make decisions on what’s best for the people.
   1. Stances:
      1. Economic:
         1. Significance range: 6 - 9
         2. Approach range: 75 - 100
      2. Social:
         1. Significance range: 1 - 4
         2. Approach range: 10 - 80
      3. Logistics:
         1. Significance range: 3 - 7
         2. Approach range: 20 - 80
      4. Environmental:
         1. Significance range: 7 - 9
         2. Approach range: 80 - 100
      5. Health:
         1. Significance range: 5 - 8
         2. Approach range: 50 – 80
2. Liberal party: The Liberal party make decisions on what they think is best for the nation, even if this may effect the people of that nation.
   1. Stances:
      1. Economic:
         1. Significance range: 5 - 8
         2. Approach range: 50 - 100
      2. Social:
         1. Significance range: 1 - 5
         2. Approach range: 0 - 50
      3. Logistics:
         1. Significance range: 1 - 4
         2. Approach range: 0 - 25
      4. Environmental:
         1. Significance range: 5 - 7
         2. Approach range: 40 - 80
      5. Health:
         1. Significance range: 4 - 7
         2. Approach range: 40 - 80
3. Foam Party: The Foam Party just wants everyone to have a good time, they also struggle with making choices on much bigger issues.
   1. Stances:
      1. Economic:
         1. Significance range: 1 - 9
         2. Approach range: 0 - 100
      2. Social:
         1. Significance range: 4 - 7
         2. Approach range: 50 - 80
      3. Logistics:
         1. Significance range: 5 - 8
         2. Approach range: 60 - 90
      4. Environmental:
         1. Significance range: 1 – 9
         2. Approach range: 0 - 100
      5. Health:
         1. Significance range: 6 - 8
         2. Approach range: 50 - 100

The Significant range and Approach range for each party will be used in the program upon generating the parties to randomly generate the significance and approach of each stance using the range. This stance range is used to generate the individual stances of each candidate of the party.

**Stances:**

Stances will be modelled by 2 variables, approach, and significance:

* The significance of a stance will range from 1 – 9 which will act as another modifier when calculating votes.
* Approach of a stance will range from 0 – 100:
  + The approach will ultimately impact the likelihood of an electorate/electorate cluster to vote for that candidate. If a candidates approach is close to an electorate clusters approach for a stance, then they in agreement for that particular stance on an issue.

**Party Example:**

**Text

Description automatically generated**

**Electorates:**

The electorates are located in their own file Electorates.txt and each electorate in the file is described with a name followed by the max population (e.g Wollongong,100000). Each electorate is split into 4 separate clusters. Each cluster has their own individual stances on each issue. Stances for issues are completely randomised, similar to real life, your neighbours could have completely different political views as you. When clusters are generated, the program ensures that the population for each cluster cannot be higher than one quarter of the total population, and not lower than one eighth of the total population. This creates very dynamic clusters for each electorate which will change the outcome every time the program is run.

**Example**:

Text

Description automatically generated

**Voting System:**

When calculating votes, each candidates Stance approach and significance will be compared to the respective stance of each cluster in the electorate. The range between the approach will be calculated, as well as the significance and both will be added together. Once added together ¼ of the candidates popularity will be subtracted from the range. The ranges of all 3 candidates will be compared and the candidate with the lowest range will win the Stance. After all stances have been compared, the votes for that cluster will equal “Stances Won multiplied by 1/5 of the clusters population”.

Once all candidates stances have been compared with each clusters stance and the votes for that electorate have been calculated the candidate with the most votes will win the electorate. The party for the candidate who one will then have their “Electorate Won” variable incremented by one.

After all electorates have elected a winner, the system will then check every Parties “Electorates Won” and compare them with each other, the party with the most electorates won will win the election, 2 parties have the same amount of electorates won then it results in a hung parliament.

**Example:**

Text

Description automatically generated

Graphical user interface, text

Description automatically generated

**Candidates:**

Candidates have been created with individual characteristic values and stances. The Characteristics have a default range for all candidates to allow for a fairer emulation. The stances of each candidate is generated within the range of the stance ranges of their Party. The Characteristics are described as POPULARITY, CHARISMA, and DEBATING. Each characteristic has it’s own value which will directly impact how events are handled as well as how electorates vote. Candidates are all included in their respective party candidate .txt file and loaded into the program on start up.

**Managerial team:**

The managerial team will have a characteristic for Event Handling, which will impact the outcome of specific events. The managerial teams event handling will impact leader events, as well as candidate events that have any negative impacts.

**Events:**

|  |  |  |  |
| --- | --- | --- | --- |
| **Event type** | **Event** | **Type of impact** | **Impact range** |
| Debate | Two candidates have decided to have a debate | Neutral/Positive | +6 to debating/popularity.  +change in stances for electorate |
| Candidate related | Oh no! One of the candidate’s has been involved in a scandal. | Negative/Somewhat positive | -10 to popularity.  Possible +5 to charisma |
| Candidate related | A candidate has played a prank on the other candidate | Positive/Negative | + or – 5 to popularity |
| Leader related | Two party leaders have decided to have a friendly boxing match | Positive | +5-10 to popularity |
| Leader related | Two party leaders have decided to have a debate! | Neutral/Positive | +10 to popularity  +change in stances for electorates |
| Issue related | The electorate has observed how other countries have handled a similar issue | Neutral/Positive | +change in stances for electorate |
| Issue related | A candidate has released some new information on an Issue | Positive/Negative | + or – 5 to popularity  + or – to electorate stance alignment |

The events stated above will all have a specific event statement and type depending on the event. These events depending on the event type will use characteristics from the candidates, leaders and managerial teams to either calculate if an event was handled successfully or unsuccessfully or, in cases where there isn’t a successful/unsuccessful event the characteristics will determine how much of an impact has on the characteristics/stances of candidates or electorates.

Debates will use candidates debating and charisma characteristic to calculate the winner. If one candidate has a higher debating characteristic, this does not guarantee a win however, provides a better chance of winning as charisma also impacts their odds. After the debate, the winner will get a bonus to popularity/charisma accordingly. The winner of the debate will “influence” the electorate and the electorates stances will be updated to be more in line with the debate winners stances.

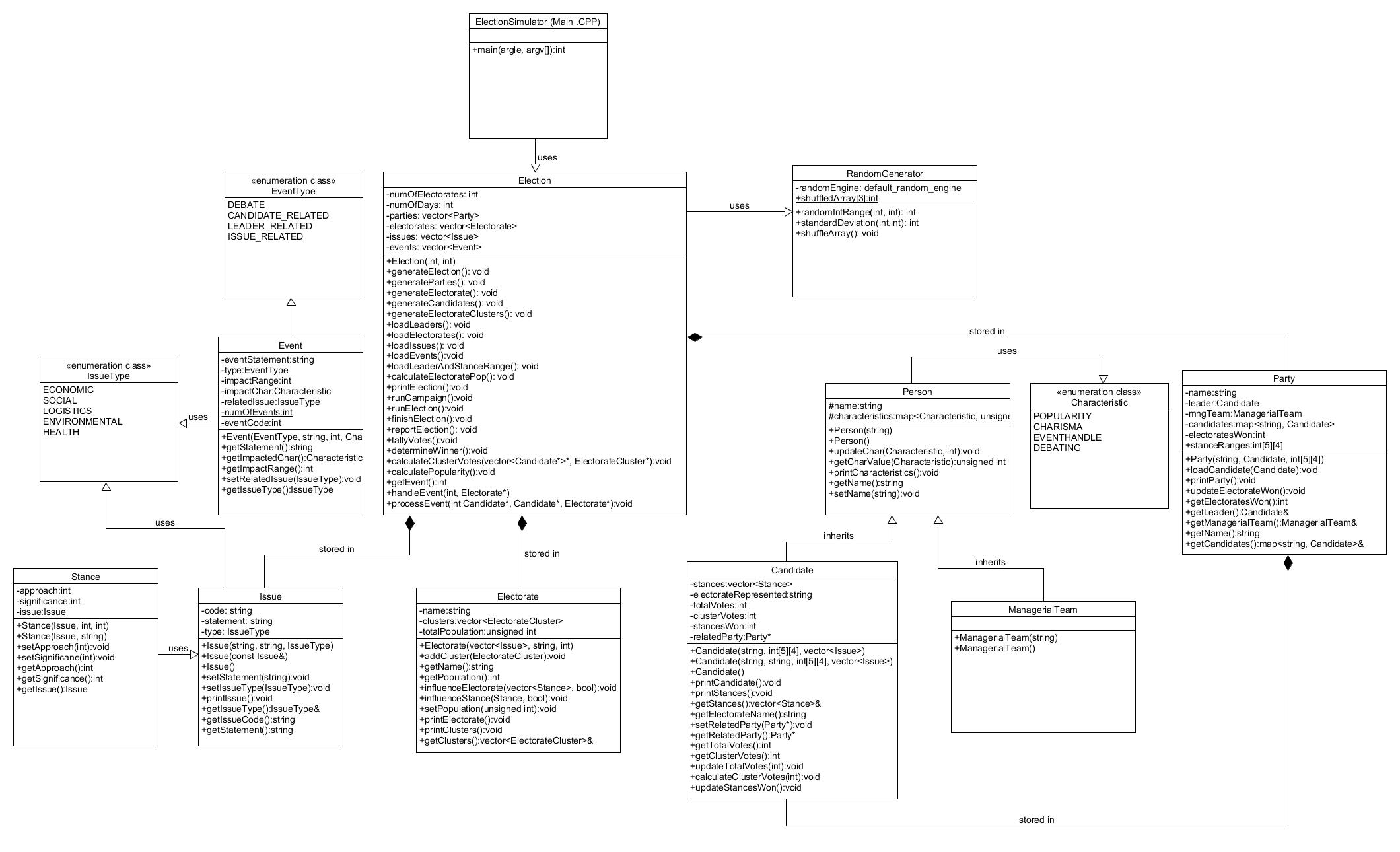
Events that involve leaders have an impact on stances of all electorates, any event that includes a leader will also include the managerial team of that party whose “event handling” characteristic will impact the outcome of the event. The winner of the debate will “influence” the nation and the EVERY electorates stances will be updated to be more in line with the debate winners stances.

Also, majority of events that have a negative impact will also include the managerial team which will reduce the impact that the negative event has on the candidate/leader.

Events that are negative although they may have a negative impact to popularity there is an opportunity for other characteristics (such as charisma) to get increased if the event is handled correctly.

Issue events do not have a set impacted issue, this is randomly generated every time this event is triggered and based on the outcome of the vent it will influence the electorate based on whether the event was successful or not.

**=============================UML DIAGRAM ON NEXT PAGE===========================**

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