

INFO 5100/INFO 5001

Design and Implement An online Voting App



Who are the players?

- Election slot –positions-roles
- Election officials
 - Managing the election
- Locations, areas, communities, divisions, and subdivisions
- Candidates who want to run for positions
- People in the community
- People who are qualified to vote
- People who actually vote



Steps

- Election officials are selected to run the election
- Election is configured for district coverage for different areas, and electable positions created
- Candidates sign up and declare their candidacy for the positions they want to run for
- Eligible citizens are given vote ballots to vote for the candidates

District

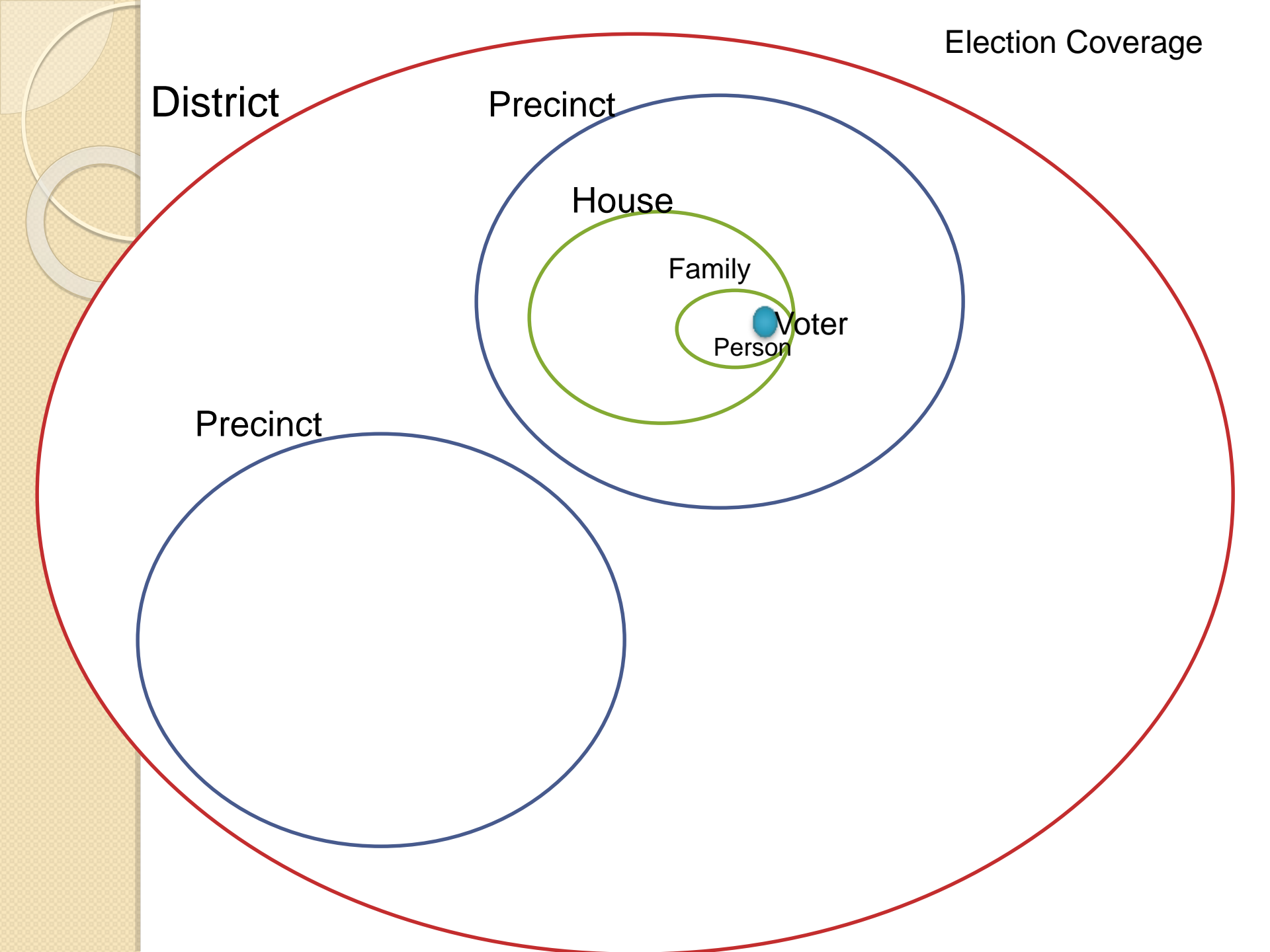
Precinct

House

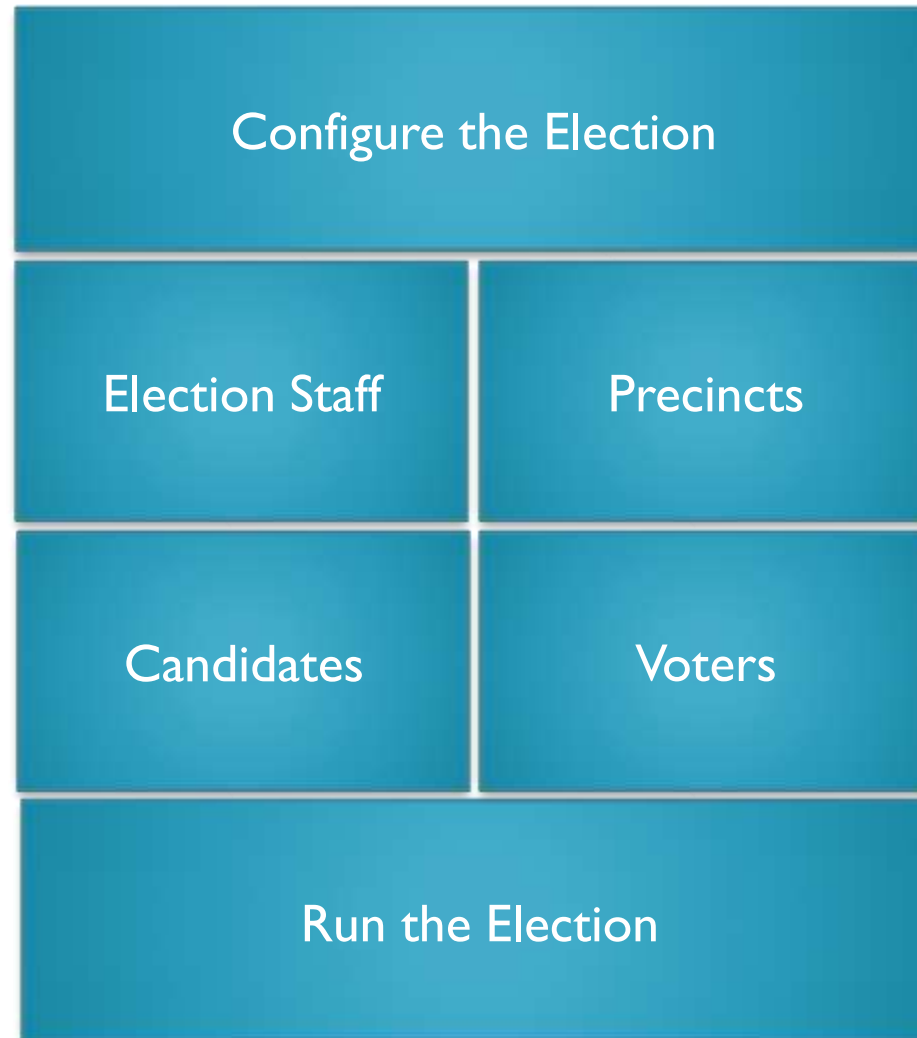
Family

Voter
Person

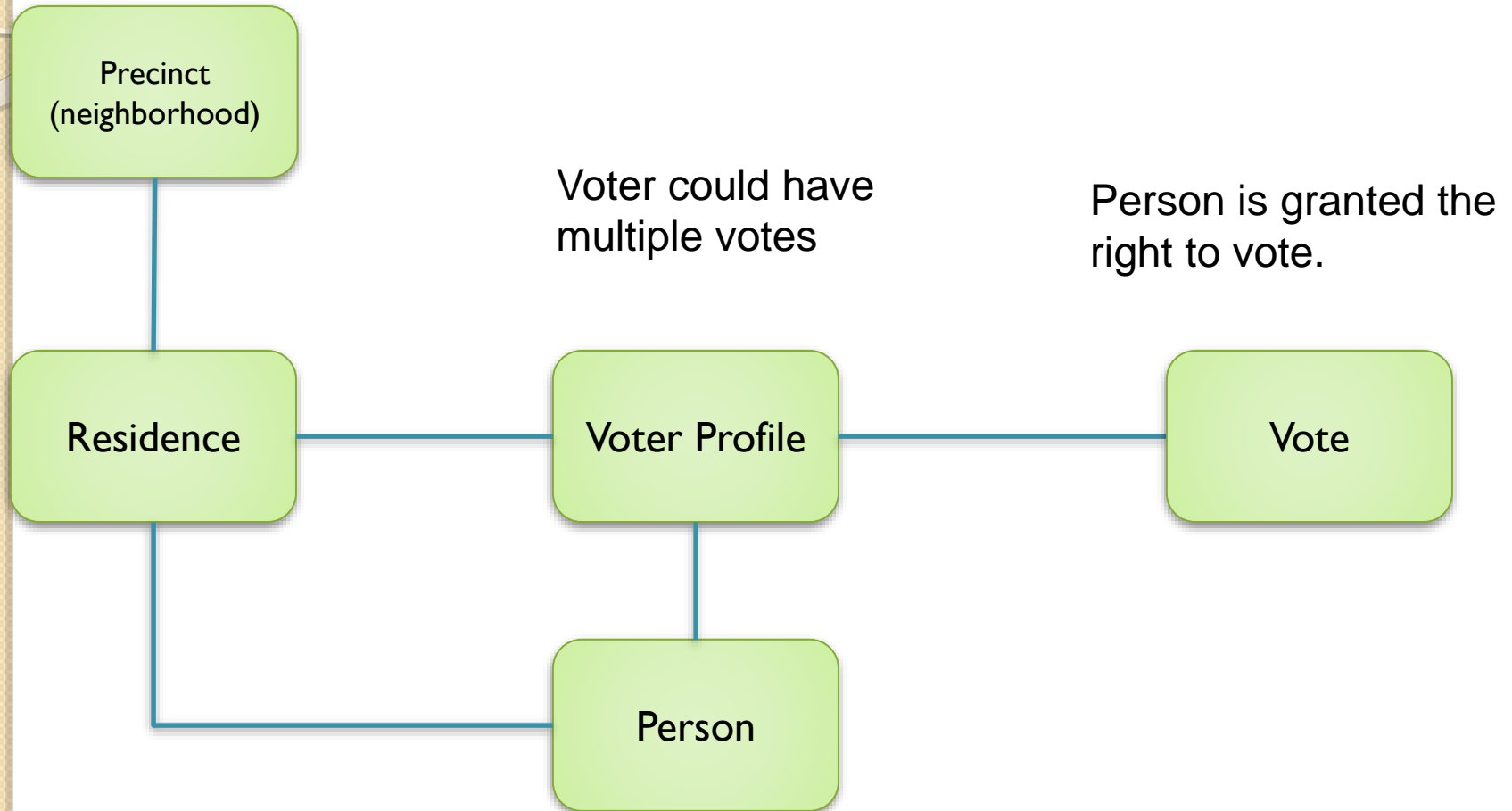
Precinct



Election Process Steps



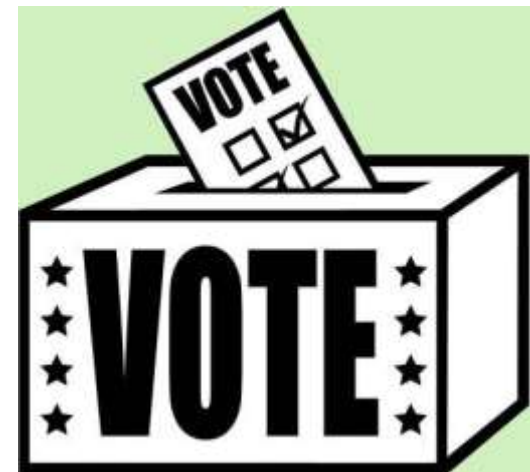
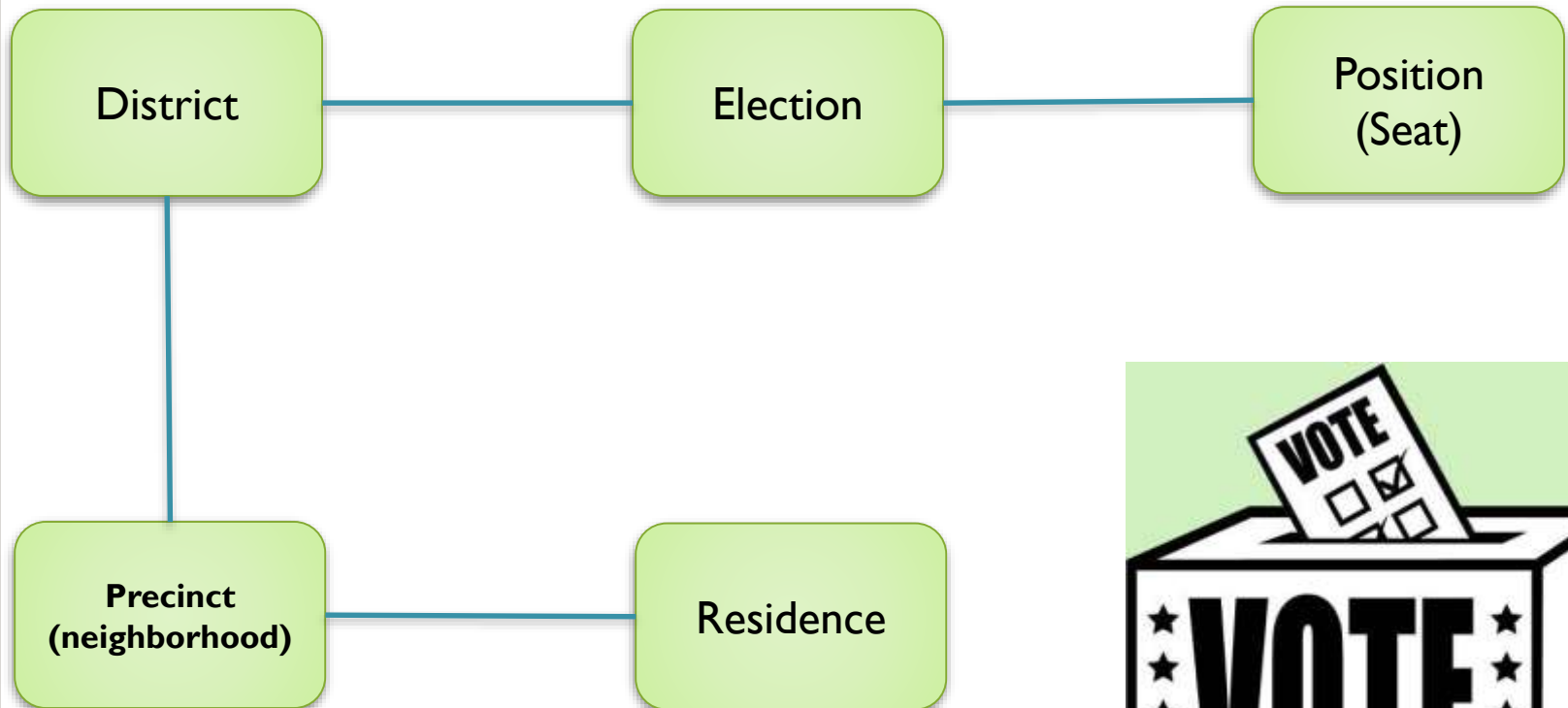
Persons who have a right to vote



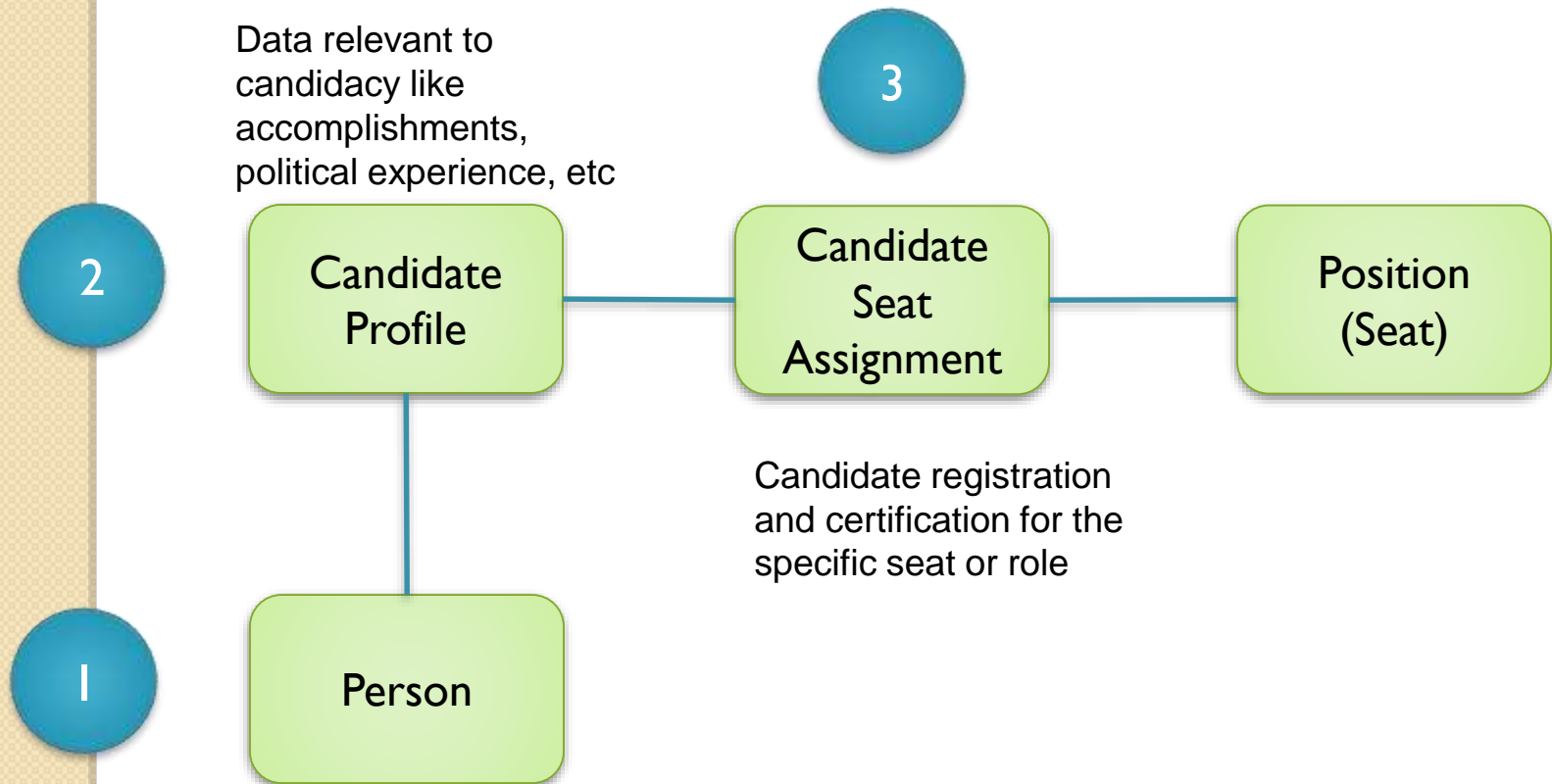
geographical area for
the citizens who live
there

Election involving
multiple positions that is
scheduled in a

An electable seat like the
mayor seat or president

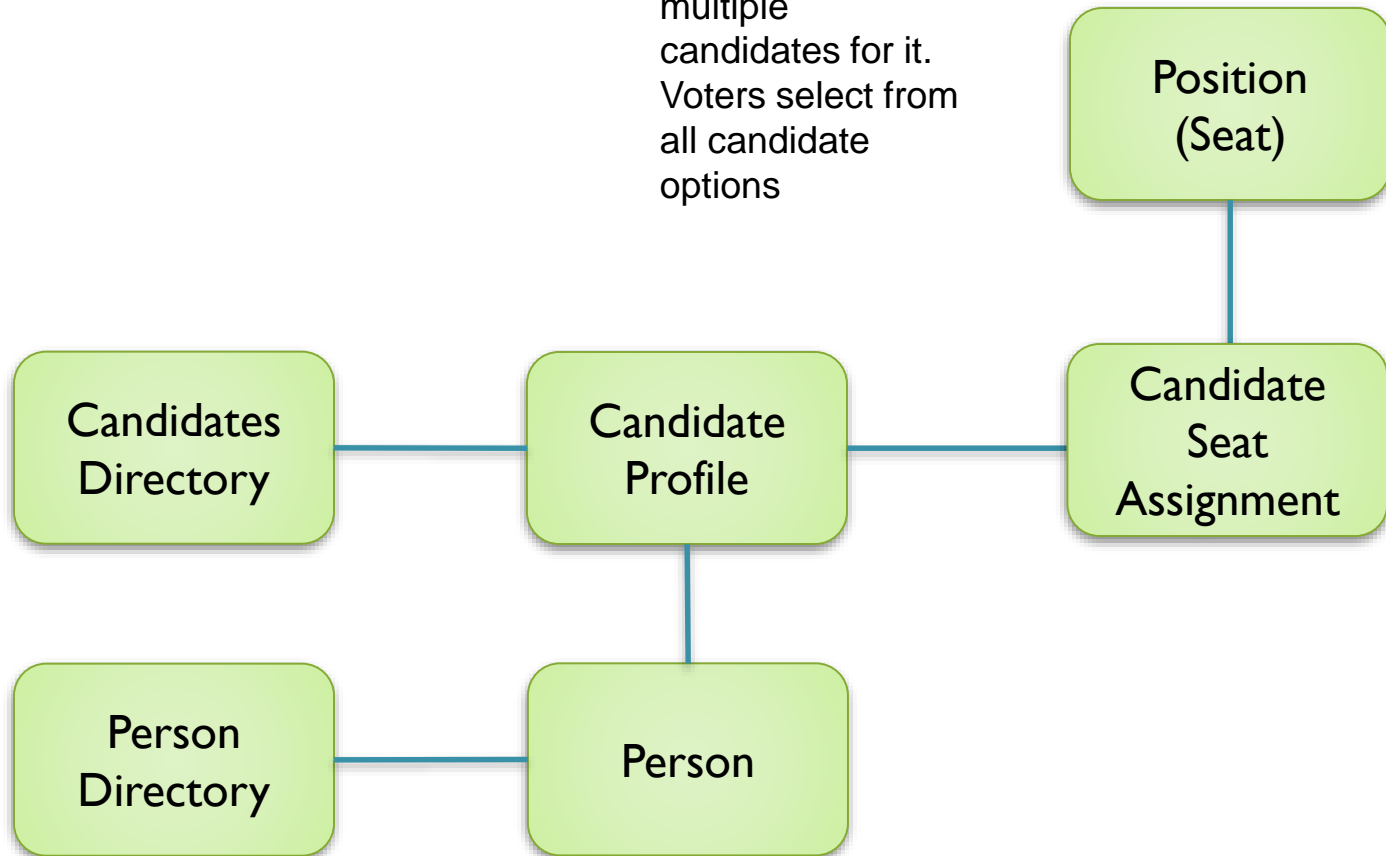


1. Person as citizen
2. Prepares to be a candidate
3. Certified to be a candidate
4. Voters cast their vote

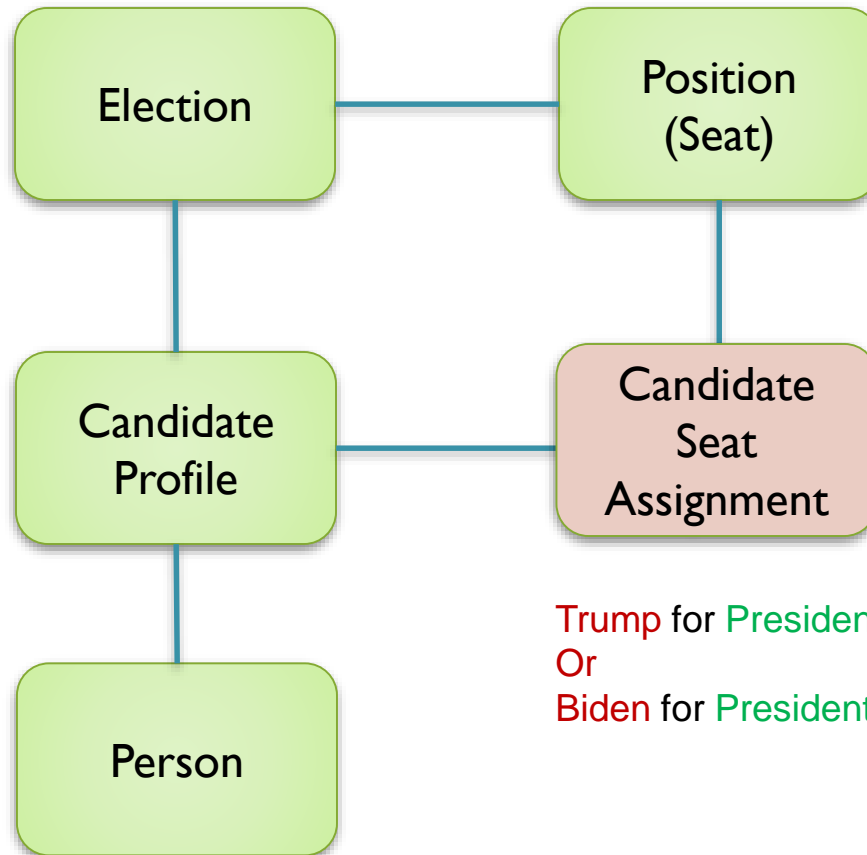


Example:
President
Mayor
Senator
Congress

Each Seat has
multiple
candidates for it.
Voters select from
all candidate
options



Joe Biden
Donald Trump



Voter selects a
candidate for
each means
vote for the
candidate

Election Class

Definition

```
PersonDirectory persondirectory;  
CandidateDirectory candidedirectory;  
ArrayList<Seat> seatlist;  
District district;
```

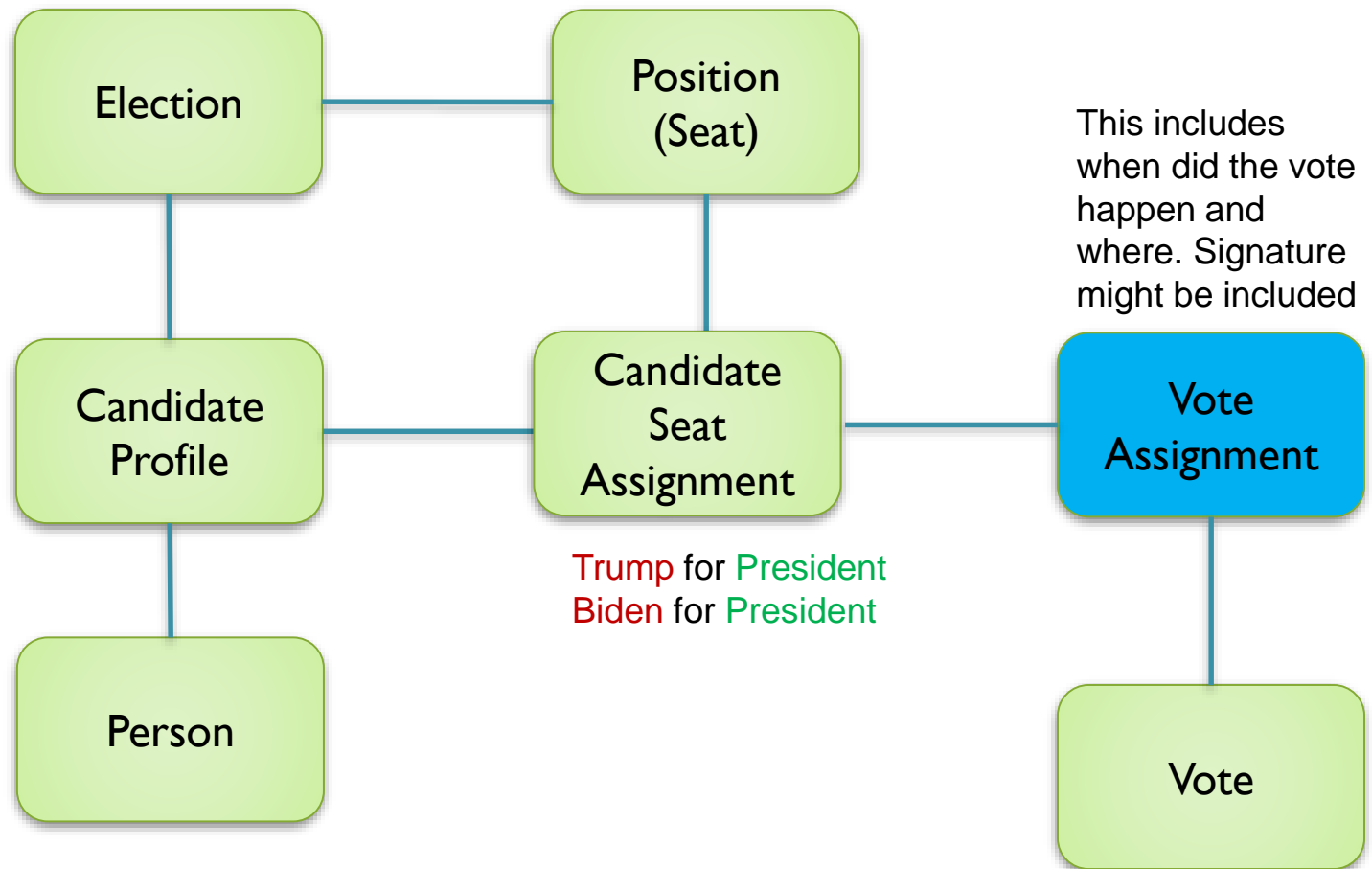
Constructor

```
public Election(District d){  
    candidedirectory = new CandidateDirectory(this);  
    seatlist = new ArrayList();  
    district = d;
```

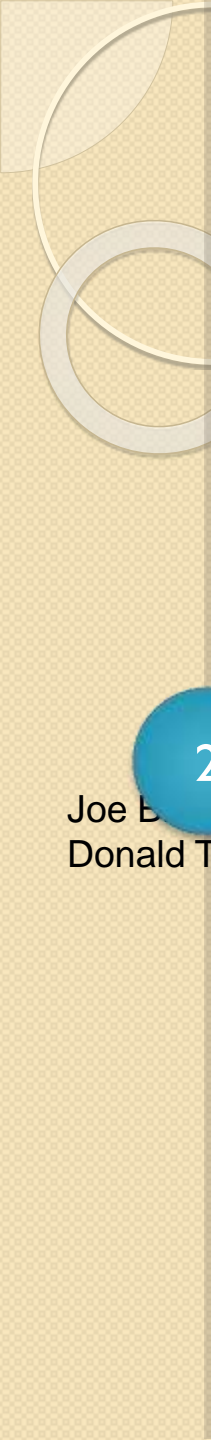
Key Functions

1. **newSeat(int code, String name)**
2. **RegisterPerson(String ssn)**
3. **registerCandidateProfile(String ssn)**
4. **assignCandidateToASeat(String name, int code, CandidateProfile cp)**
5. **getRunningCandidatesForSeat(String n, int c)**

Example:
President
Mayor
Senator
Congress



Joe Biden
Donald Trump



0

1

Example:
President
Mayor
Senator
Congress

Election

Position
(Seat)

2

Joe B
Donald Trump

Candidate
Profile

3

Candidate
Seat
Assignment

This includes
when did the vote
happen and
where. Signature
might be included

5

Vote
Assignment

0

Person

4

Vote

Trump for President
Biden for President

CandidateSeatAssignment

Definition

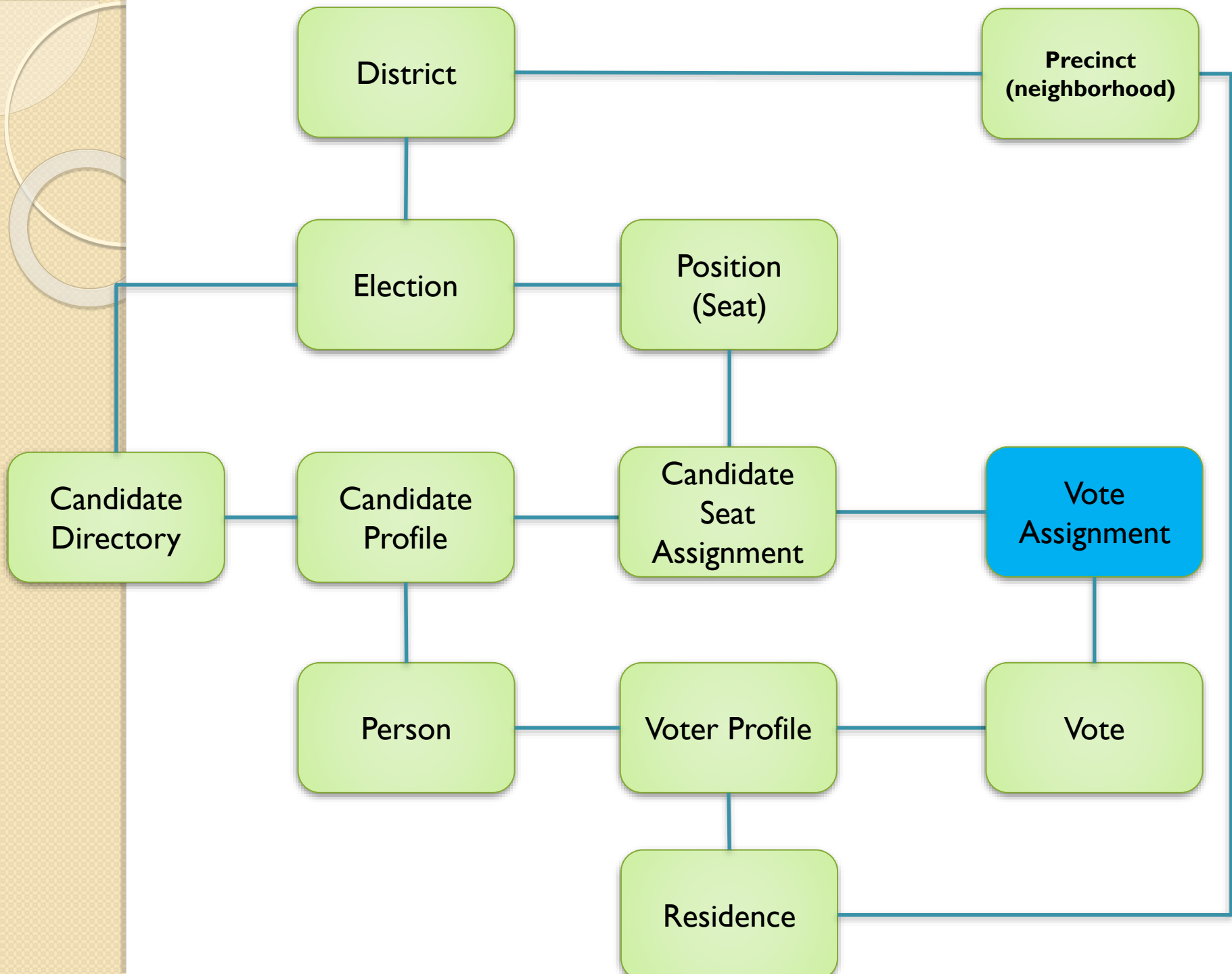
CandidateProfile candidateprofile;
Seat seat;
ArrayList<VoteSeatAssignment> receivedvotes;

Constructor

CandidateSeatAssignment(CandidateProfile cf, Seat s)

Methods

castVoteForCandidate(Vote v)





Configure the Election

Election Staff

Precincts

Candidates

Voters

Run the Election

VoterProfile

```
*/  
public class VoterProfile {  
  
    Person person;  
    String party;  
    HashMap<Seat, Vote> votes;  
  
    public VoterProfile(Person p){  
        person = p;  
        votes = new HashMap<Seat, Vote>();  
    }  
  
    public void newVoteForSeat(Seat s){  
  
        Vote v = new Vote(this, s);  
        votes.put(s, v);  
  
    }  
  
}
```

Vote for a candidate

```
public class Vote {
```

```
    VoterProfile voterprofile;
```

```
    Seat seat;
```

```
    CandidateSeatAssignment selectedcandidate;
```

```
    public Vote(VoterProfile vp, Seat s){
```

```
        voterprofile = vp;
```

```
        seat = s;
```

```
    }
```

```
    public void assignCandidateToVote( CandidateSeatAssignment c){
```

```
        selectedcandidate = c;
```

```
    }
```

```
}
```

This version links the vote directly to candidateSeatAssignment.
In a future update we will add the VoteAssignment component