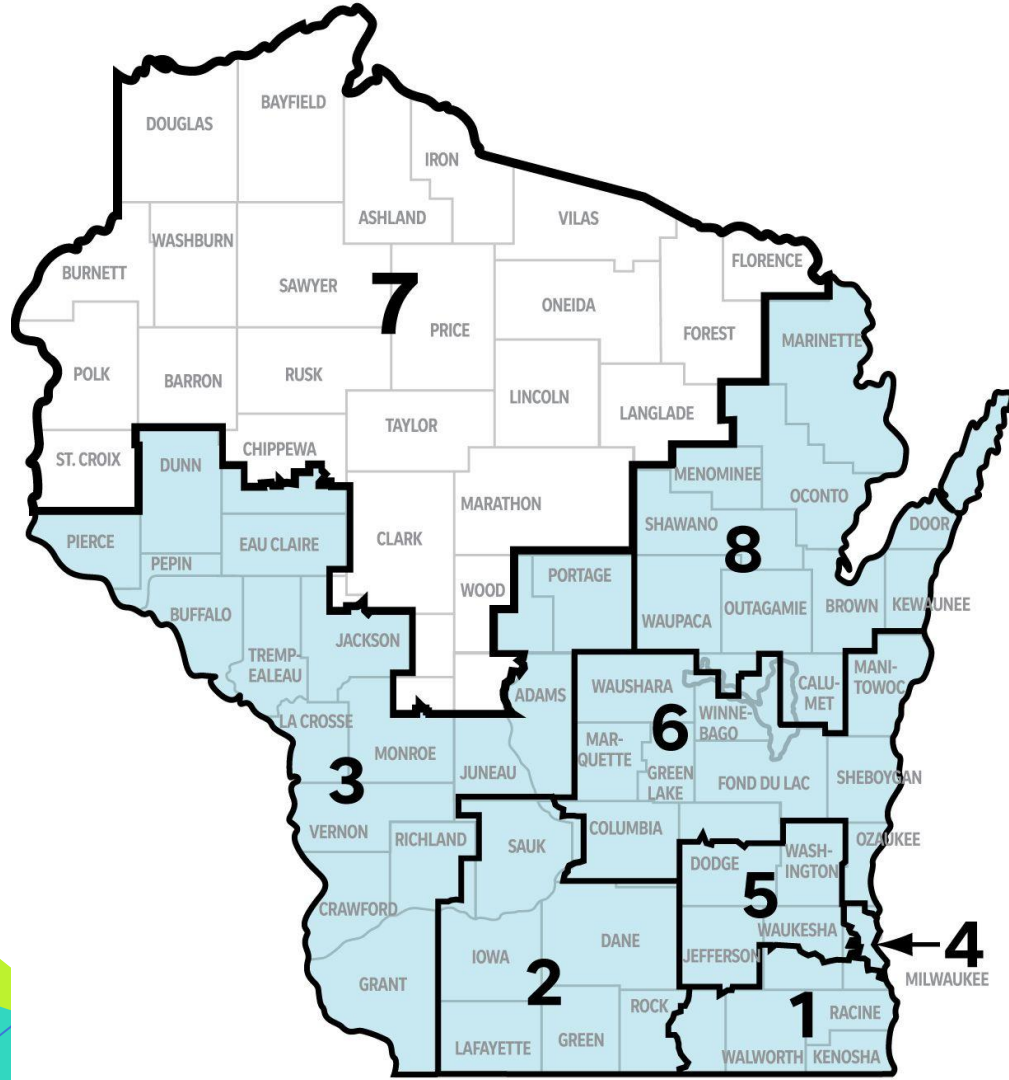


Wisconsin Gerrymandering

Christopher Maxel - Matthew Hapner

Wisconsin Overview

- 72 Counties
- 8 congressional districts
- Accessible records



- Fam
- Spec
- Go P



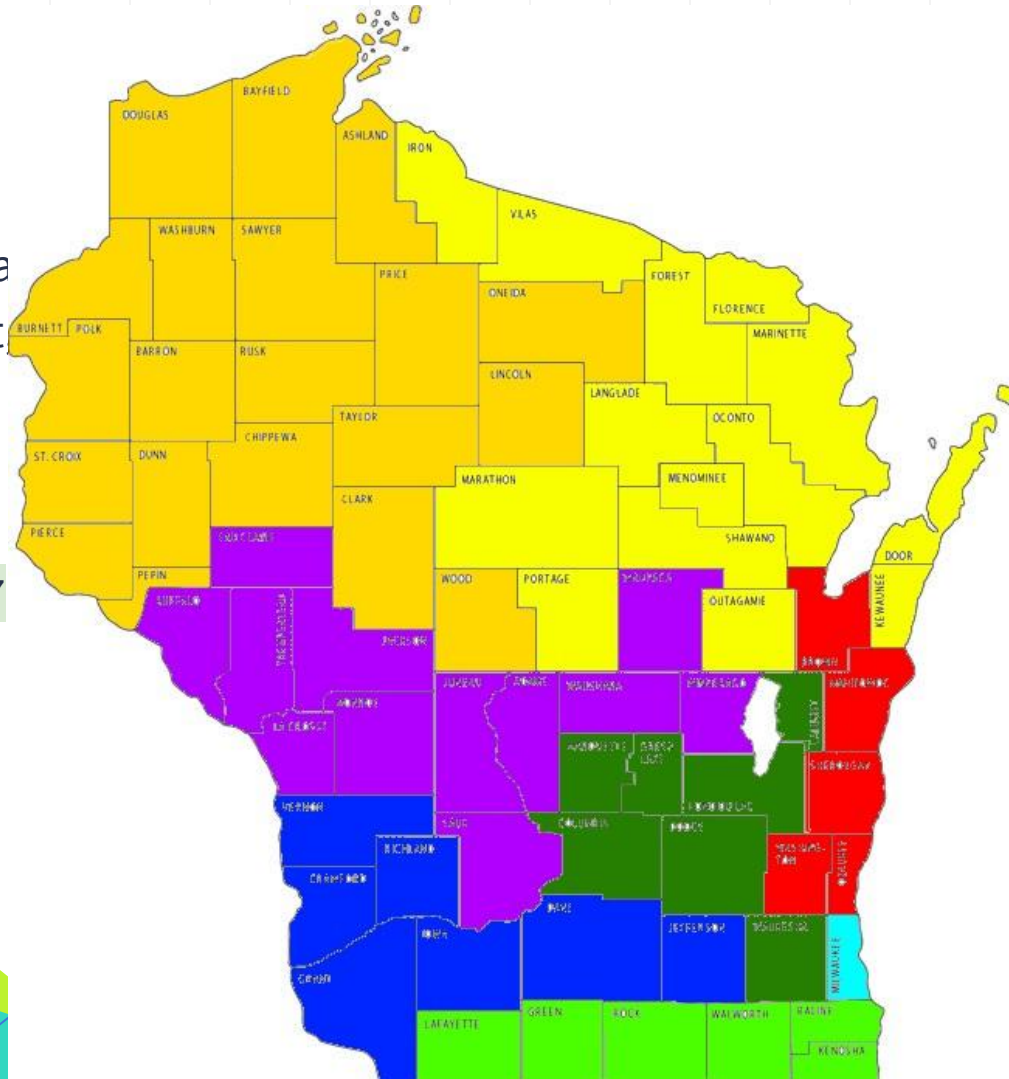


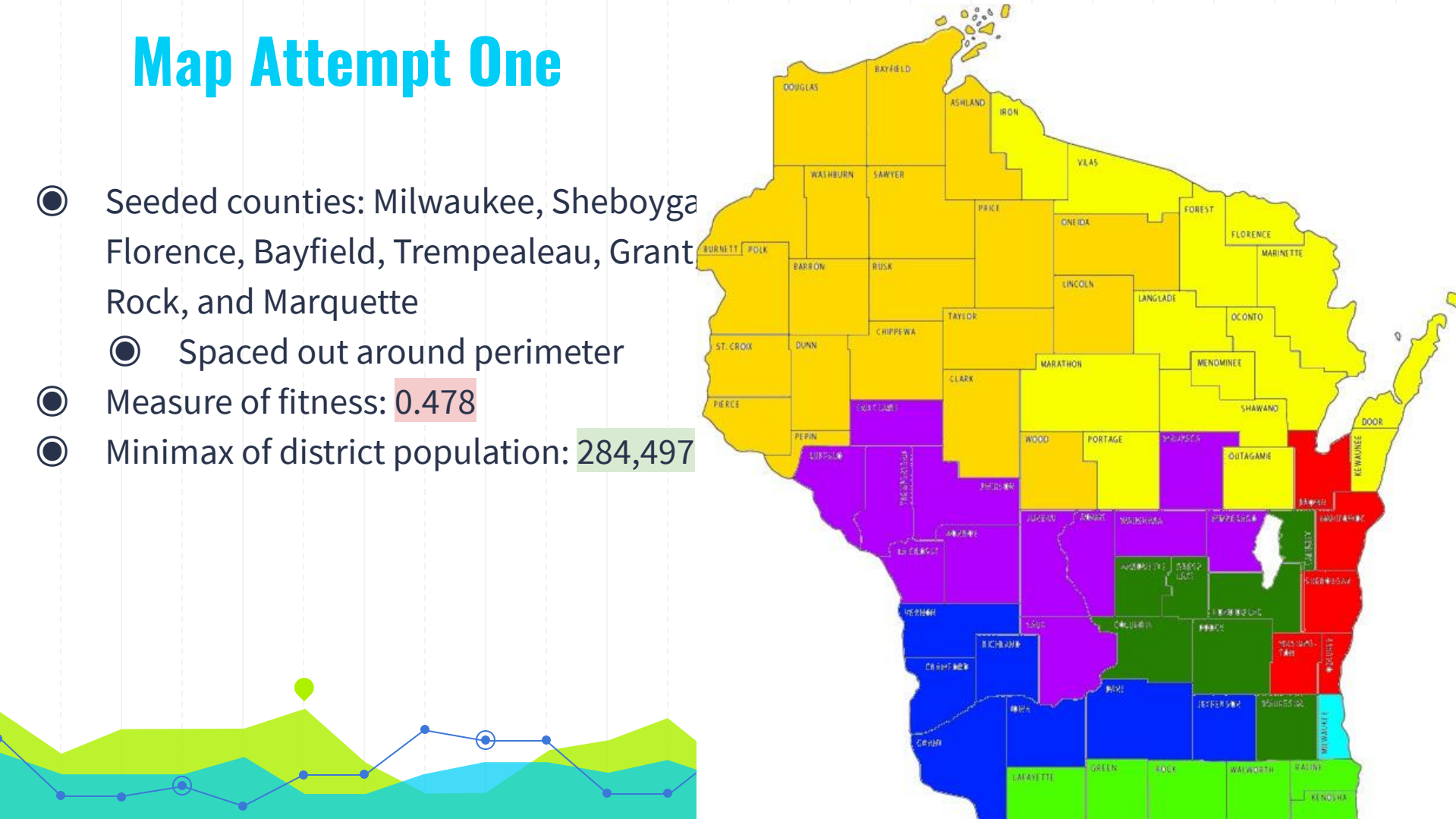


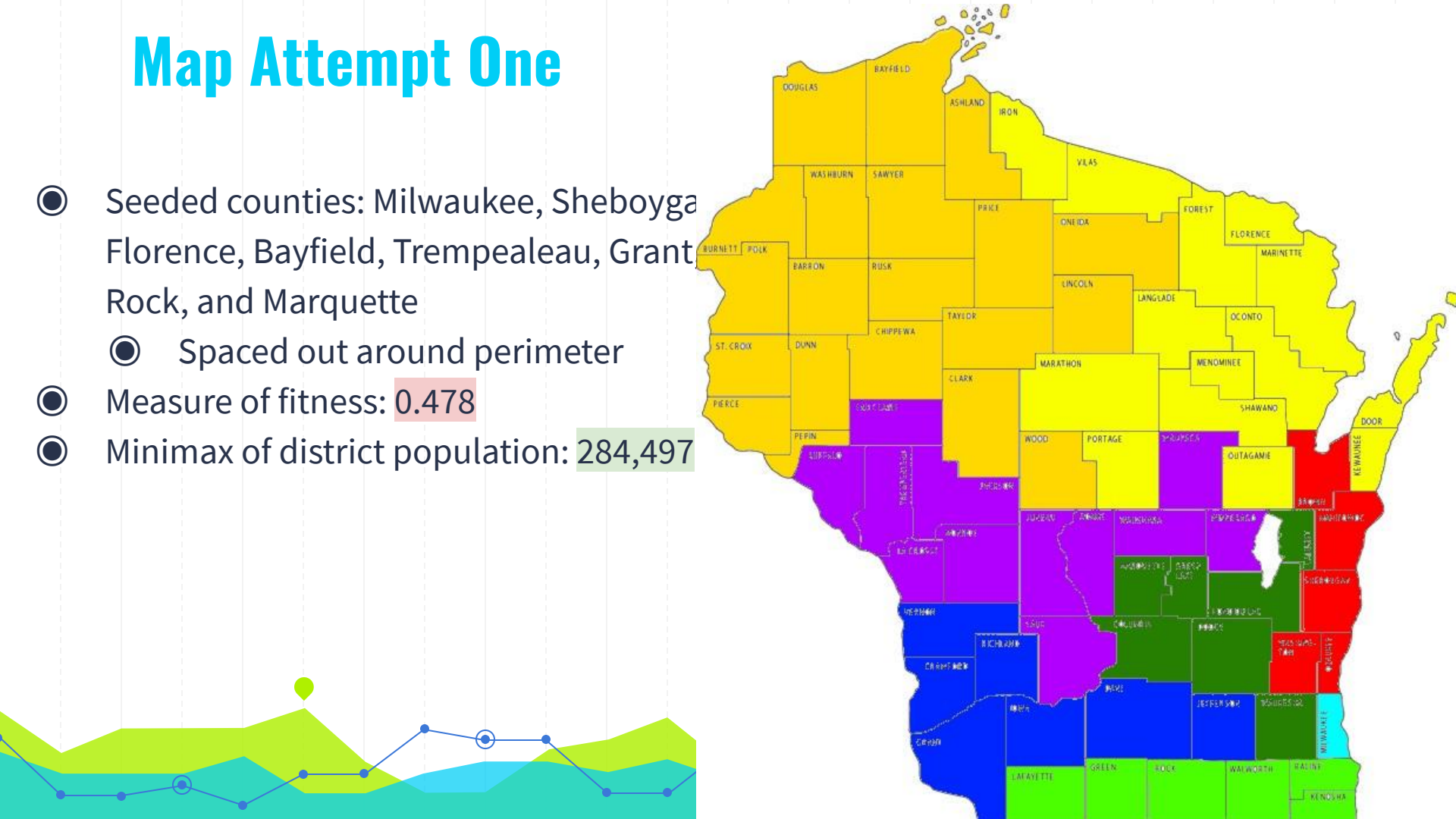
Attempt One

Map Attempt One

- Seeded counties: Milwaukee, Sheboyga, Florence, Bayfield, Trempealeau, Grant, Rock, and Marquette
- Spaced out around perimeter
- Measure of fitness: 0.478
- Minimax of district population: 284,497



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- 

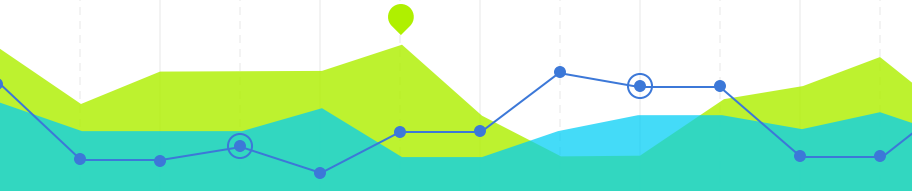
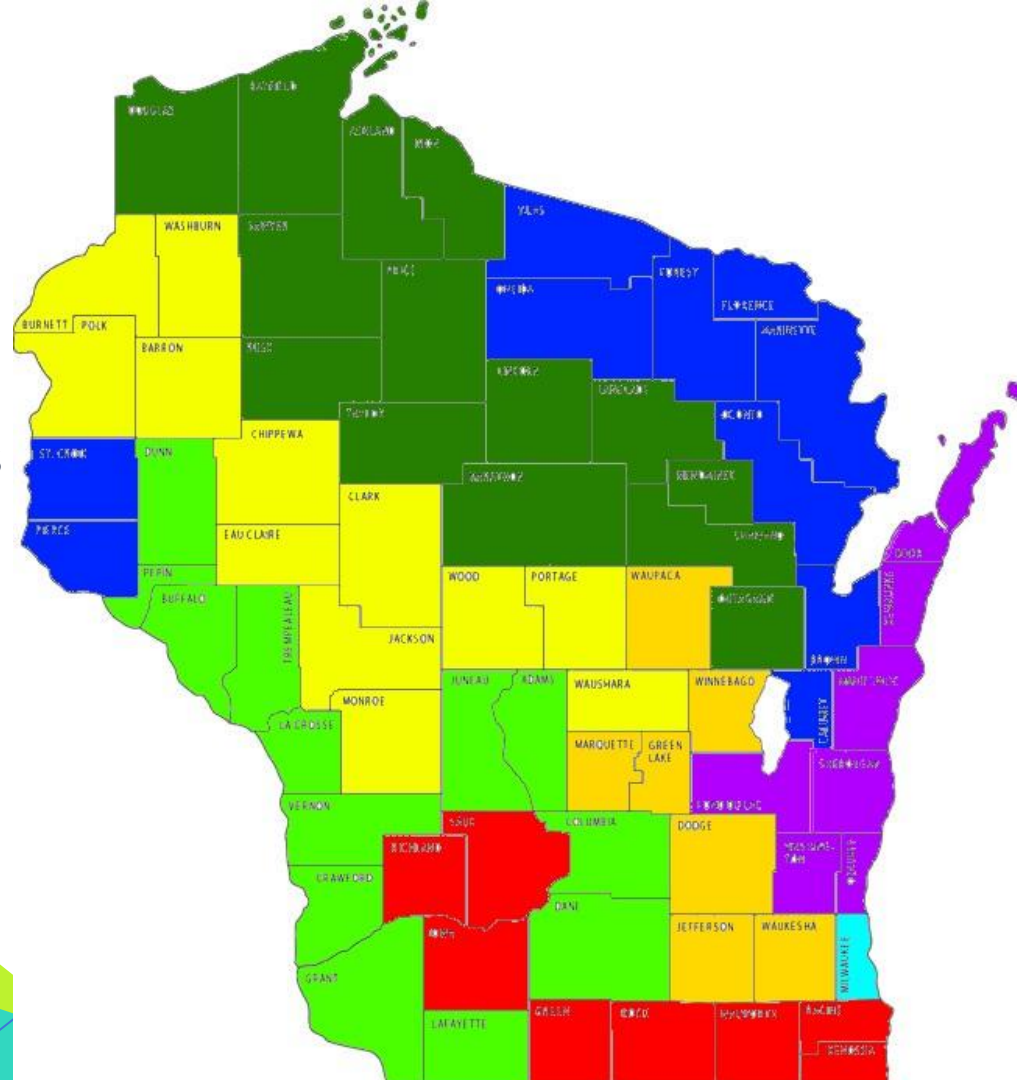




Attempt Two

Map Attempt Two

- Seeded counties: Milwaukee, Sauk, Jackson, Waupaca, Door, Forest, Dunn, Douglas
- Spaced out; some central counties
- Measure of fitness: 0.382
- Minimax of district population: 396,065

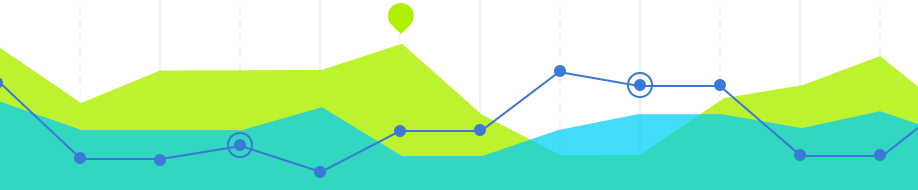
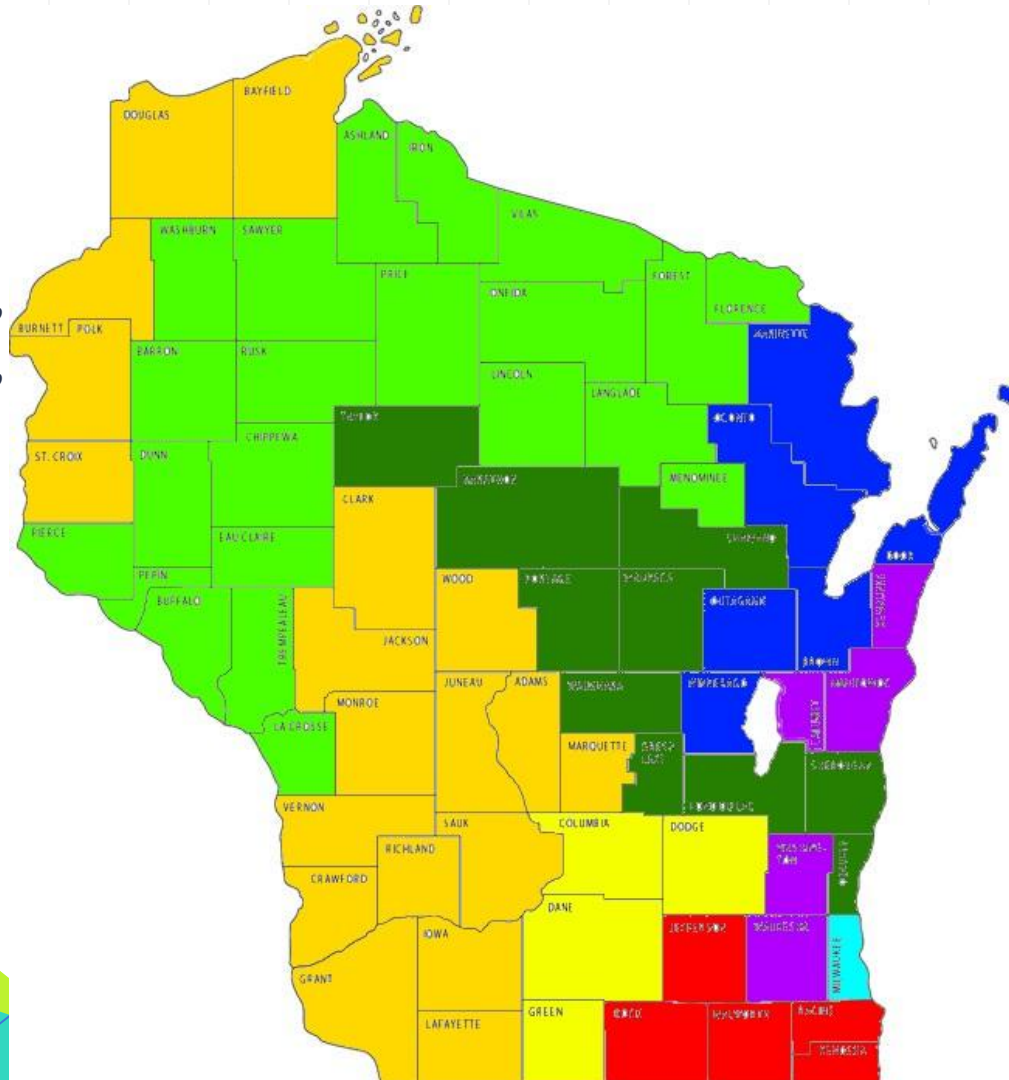




Attempt Three

Map Attempt Three

- Seeded counties: Milwaukee, Walworth, Green, Crawford, Manitowoc, Marinette, La Crosse, Taylor
- More randomly chosen
- Measure of fitness: 0.448
- Minimax of district population: 288,906

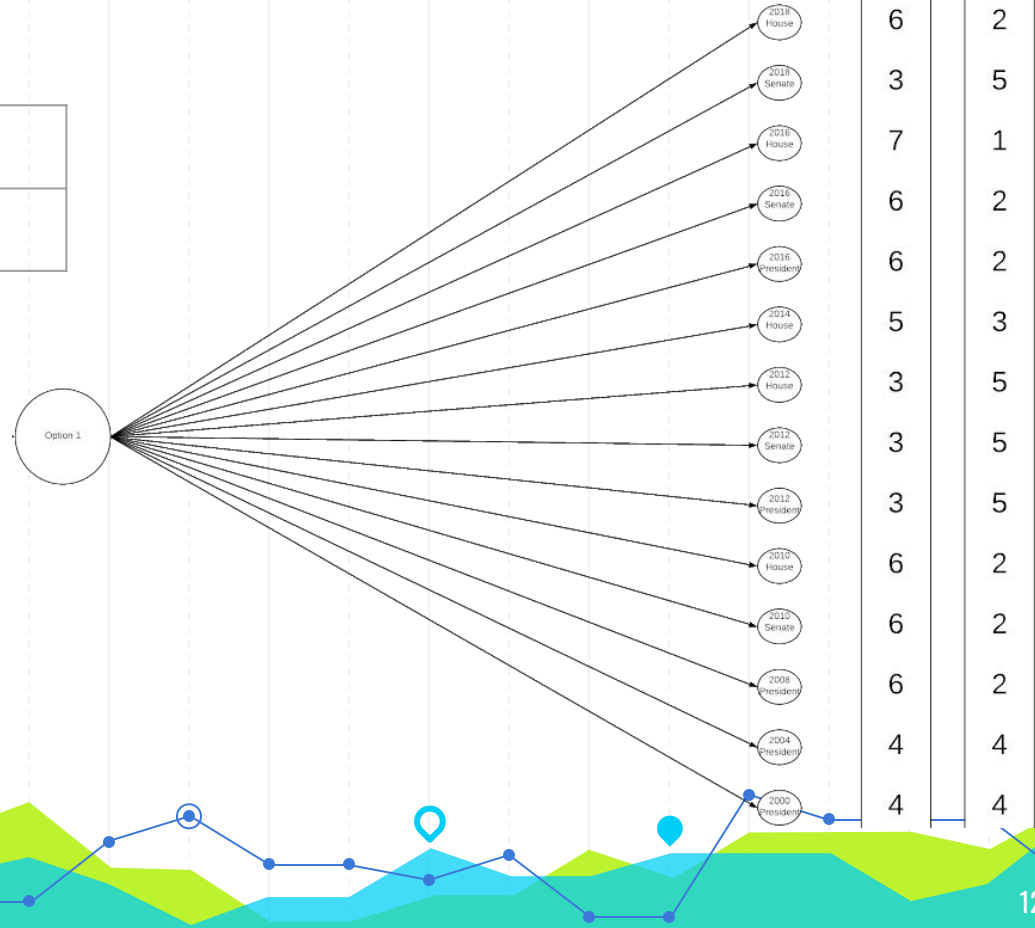




Decision Tree

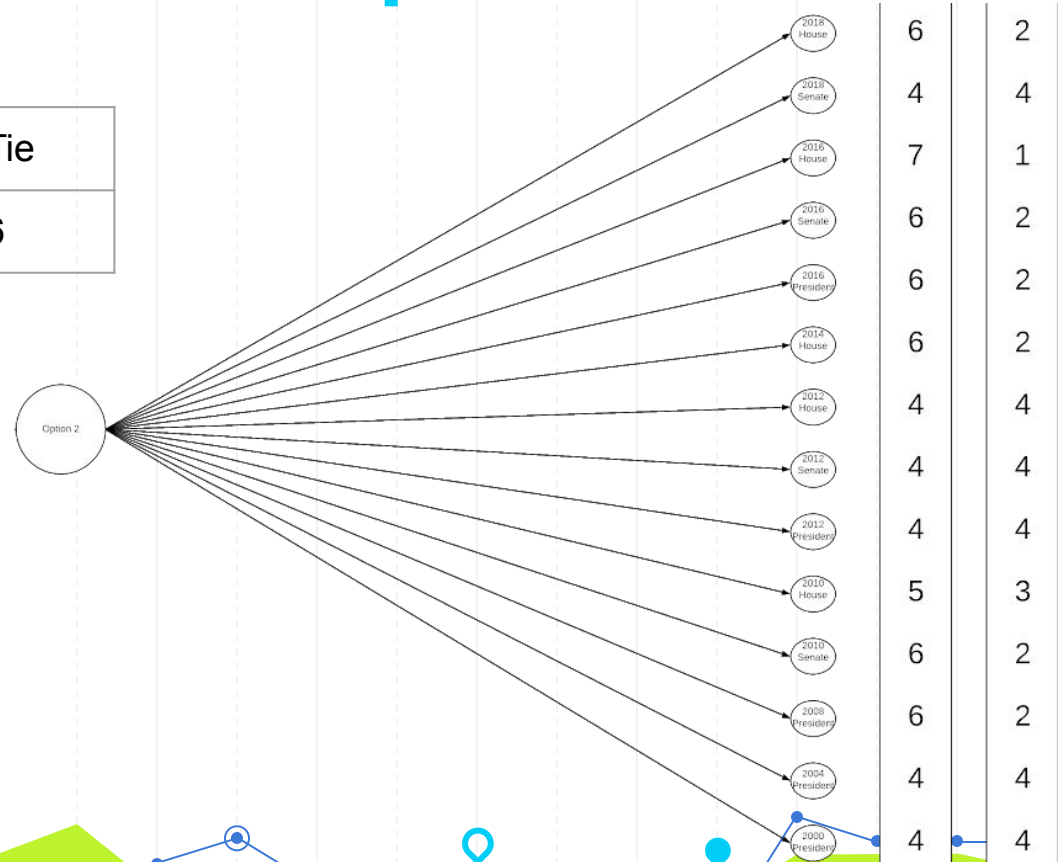
Decision Tree Attempt One

	Republican	Democrat	Tie
Attempt 1	8	4	2



Decision Tree Attempt Two

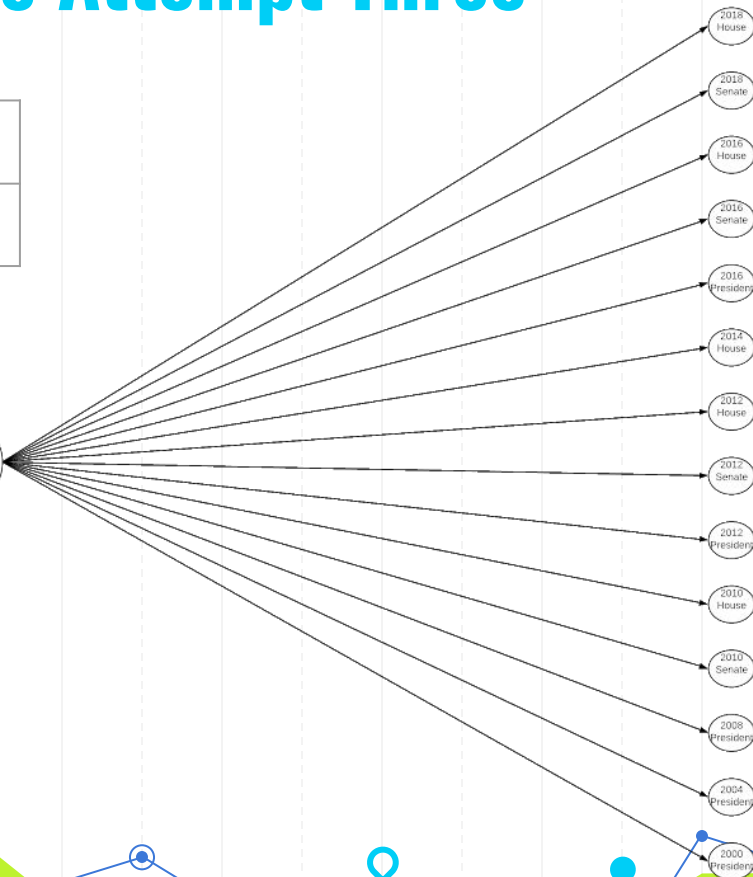
	Republican	Democrat	Tie
Attempt 2	8	0	6



Decision Tree Attempt Three

	Republican	Democrat	Tie
Attempt 3	8	4	2

Option 3



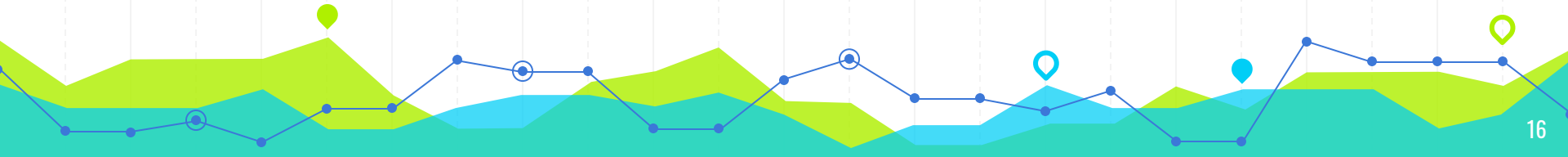
6	2
2	6
7	1
6	2
6	2
5	3
4	4
3	5
3	5
6	2
6	2
6	2
4	4
3	5



Analysis of Attempts

Best Choice by Political Party

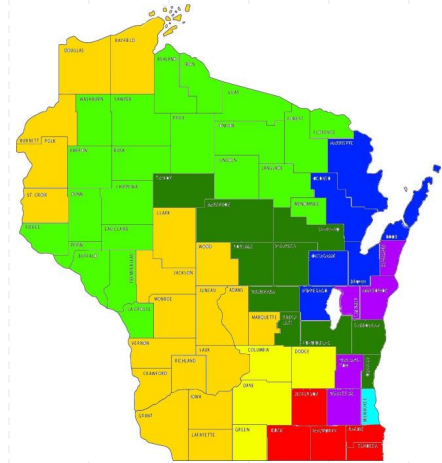
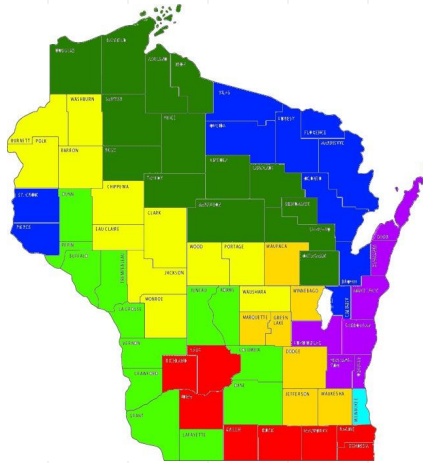
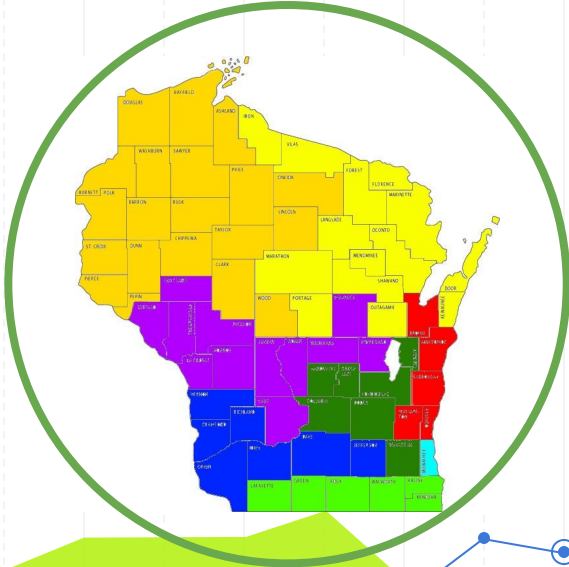
- Republicans
 - Option #2
 - Low regret
 - Best election results
 - Optimistic approach
- Democrats
 - Option #3
 - Low regret
 - Optimistic and conservative approaches



Our Choice

Option #1

- Minimizes regret for both parties
- Visually contains the fewest “salamander” shaped districts
- Smallest difference in district populations

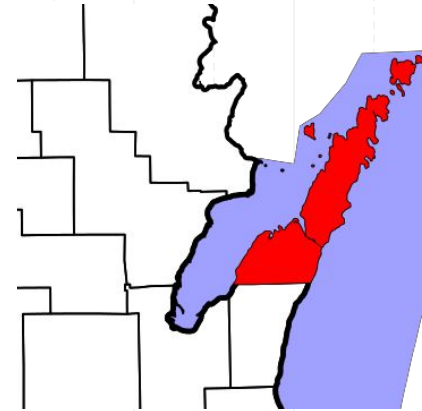




Challenges and Successes

Challenges

- Door county is a peninsula causing connection issues
- Milwaukee county has ~950,000 people
 - Average district size is ~ 670,000 people
 - Had to make this a hardcoded seed



Successes

- Data collection was quick and simple
- We chose the best seeds in our first attempt
- Most of the districts are contiguous (few exceptions)

