

## Criterion B - Record of Tasks

| Task Number | Planned Action                    | Planned Outcome   | Time Estimate | Target completion date | Criterion |
|-------------|-----------------------------------|---|---------------|------------------------|-----------|
| 1           | Consultation and brainstorming    | Determine project and rationale for solution                                | 45 min        | 10/2/24                | A         |
| 2           | Create mockups and class diagrams | Whole project has a skeleton to be built around                             | 2 hours       | 10/20/24               | B         |
| 3           | Design kinematics system          | Planned out all the forces that will act on the masspoints                  | 90 min        | 11/1/24                | C         |
| 4           | Design region system              | Planned out how the regions will put forces on masspoints                   | 1hr           | 11/6/24                | C         |
| 5           | Self-unintersection algorithm     | Planned out algorithm that will stop regions from colliding with themselves | 3 hours       | 11/20/24               | C         |
| 6           | Kinematics                        | Masspoints use forces to move   | 1 hour        | 12/1/24                | D         |
| 7           | Spring forces                     | Masspoints move from springs and damping                                    | 2 hours       | 12/19/24               | D         |
| 8           | Regions                           | Multiple masspoints together draw a region                                  | 1 hour        | 1/20/25                | D         |
| 9           | Region forces                     | Regions create pressure forces on their masspoints                          | 5 hours       | 2/10/25                | D         |
| 10          | IO                                | Program can read outside files for  | 2 hours       | 2/18/25                | D         |

\*k304\* -- Animated Cartogram

|    |                                   |   |         |         |   |
|----|-----------------------------------|---|---------|---------|---|
|    |                                   | positions and indices   |         |         |   |
| 11 | Gather points and population data | Masspoints and regions read from files to get positions and indices   | 2 hours | 3/1/25  | D |
| 12 | Countries                         | Countries control multiple regions and change population              | 1 hour  | 3/28/25 | D |
| 13 | GUI Elements                      | Add switches and a slider to control the year of the simulation       | 1 hour  | 3/31/25 | D |
| 14 | Graphics                          | Each masspoint and region will display with unique colors dynamically | 6 hours | 4/12/25 | D |
| 15 | Testing and debugging             | The simulation is stable and responsive to input                      | 8 hours | 4/17/25 | E |
| 16 | Create and export video           | Create a video to show off the fully-fledged cartogram                | 20 min  | 4/18/25 | D |