Changes:

Tiles have a max 50% recruitable population

Fascists can access all of this, down to:

Communists: 80%

Monarchists: 60%

Democracies: 40%

App Logic:

* Get tiles from TileGenerator class, these tiles will not have owners at first
* Get nations, from NationGenerator class. This will distribute the tiles and set the tiles and nations appropriately
* Call the game form with the tile list and nation list for display
* Game loop (while not wincheck):
  + For nation in nationslist
    - If nation is alive:
    - If nation is ai:
      * Ai turn
    - Else:
      * Player turn
    - Update map

REDUCE PER TILE POPULATION

Its currently way too high

ADD A MAP MODES OPTION

* Development
* Population

It’s definitely time to design a UI

NationList code:

* Create 48 capital tiles, store their indexes in a list CapitalIndices
* For I in range 48:
  + Generate a random short name
  + Generate a random ideology
  + Generate a random long name
  + Generate a random colour
  + Assign capital as CapitalIndices[i]
* While UnownedTiles.Count > 0:
  + For each nation, get a list of all possible expansion options and pick a random one to set current ownership of said nation

UI Design:

* First, make map interactive. That is, the clicked on nation is highlighted
* This will then bring allow you to select the diplomatic actions (unless its yourself) such as ally, attack
* If you click attack, it will prompt you to click the tile you wish to attack and you do this all through the map
* Additionally, there is a table in the top right which allows you to click on a nation and it will be highlighted on the map

Corners of information panel of UI:

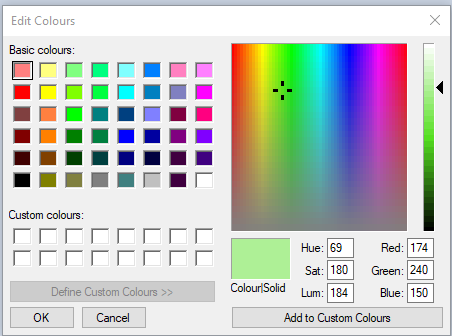
* Top left -> (720, 0)
* Bottom right -> (1280, 760)

Inputs needed:

* Attack
* Ally/Break Alliance
* Skip

(40 PIXEL GAP ON EITHER SIDE OF MAP/END OF FORM)

Less Green:



THINGS TO ADD AFTER ACTION CODE IS IMPLEMENTED:  
- Allied nations highlight on the map and table when a nation is clicked (maybe blue?)

THOUGHTS ON THE ATTACK MECHANIC:

* Alliances might have to work differently for different ideologies.
  + For democracies, allies come in both attack and defense contributing a portion of their manpower for each
  + For monarchies and communists allies come in for defense only
  + Obviously Fascists cant have allies

‘ARMY SPIRIT’ SYSTEM:

* I thought about having a big debuff for nations that lose their capital and it think Army Spirit will be the way. This would be a resource maxed at 100 and min at 0:
  + A couple factors can lead to a loss of Nation.Spirit:
    - If you lose a battle as part of an alliance (-5)
    - If you lose a battle to an aggressor (-10)
    - If an attack you started is lost (-15)
    - If lose capital (-50)
  + Factors might lead to an increase in spirit:
    - Skipping a turn (+1)
    - Winning an attack (+5 if as an ally, +10 if battle leader)
    - Defending successfully +15
    - Capturing an enemy capital (+20?)
* Different Ideologies start with different base spirits:
  + Fascist: 50%
  + Communist: 40%
  + Monarchist: 30%
  + Democracies: 20%
* This spirit would be a multiplier for how well your nation is going to perform in the battle outcome
* Army Spirit could also be a factor in a ‘Diplomatic Power’ attribute which is to be a multiple of:
  + Army Spirit
  + Manpower
  + Number of allies
* Diplomatic Power will be on a scale of 0-10 and will help decide whether an AI wants to ally / accept your alliance offers

ADD A CURRENT ACTION TEXT LABEL TO BOTTOM OF PAGE

THE TEXT FOR THIS LABEL IS GREEN IF LIKELY TO BE A POSITIVE OUTCOME OR RED IF LIKELY TO BE A NEGATIVE OUTCOME

THIS TOOLTIP CAN BE TURNED ON/OFF

IMMEDIATE NEXT:

* Fix code for diplomatic power eventually
* Implement code for allying and use it to test the previous code pieces
* Think about adding a ‘Turn’ label and variable to the game and having the world events shown as “turn – x”, ie “110 – Blah allied blah”
* Spend lots of time properly coding and balancing the attack method

AI Decision Loop (bold statements will have to be mathed out):

* Can I ally anyone?
  + If so, ally the one with the highest diplomatic power
* If not, **should** I attack anyone?
  + If so, attack the most **beneficial** one to attack
* If not, skip the turn and regenerate shit.

Thought: Maybe make different ideology AI’s have different priorities? For example, a random 0->1 float:

* Fascists: >0.2 = attack
* Democracies >0.2 = ally

You get the idea.

Additional Thoughts:

* Democracies are kind of a boring playthrough as it is guaranteed that every democracy will just form a super alliance instantly
  + Instead, maybe have a max alliances attribute to nations that depends on diplomatic power. This forces democracies to go on the offensive in order to open up more diplomatic slots
  + This also means that the ally mechanic won’t need to be hardcoded for ideologies as Fascists can just always have an AllySlots of 0.
* This would change AI as now each AI is trying to maximise the sum of their diplomatic power of alliance. This is like the weighted interval scheduling algorithm.
* Base Ally slots by ideology:
  + Fascist -> 0 (Theoretical Max = 0)
  + Communist -> 1 + DP/2 (Theoretical Max = 6)
  + Monarchist -> DP (Theoretical Max = 10)
  + Democratic -> 3 (Theoretical Max = 13)
* All are + integer of diplomatic power
* Terrain Modifiers:
  + Land
    - Attacker = 1.5
    - Defender = 0.5
  + Forest
    - Attacker = 1.3
    - Defender = 0.7
  + Hills
    - Attacker = 1.0
    - Defender = 1.0
  + Mountains
    - Attacker = 0.7
    - Defender = 1.3
  + Capital
    - Attacker = 0.5
    - Defender = 1.5

New:

* I think the selected nations ally region is not being revalidated
* You can attack anyone with higher manpower than you and just win.
  + Actually that might have been because of alliance
* You cannot attack an ally notification appears in the world history box while the rest appear on current selection? Make them all on current selection.
* Allied manpower is really low – its not the sum of actual manpower
* You can attack any tile, not just a bordering tile
* Fix ally highlighting
* Alliance map mode not done
* Change diplo power calculation?

Testing attack function:

My nation manpower:

Calculation

AttackManpower = you + all your allies’ manpowers

AttackPower = (attacker.manpower / 10) \* (attacker.armySpirit / 10) FOR you and all your allies

Defender = them + all their allies’ manpowers

DefensePower = (defender.manpower / 10) \* (defender.armySpirit / 10) For them and their allies

Terrain Modifiers (big = good)

* Land:
  + Attack = 1.5x
  + Defense = 0.5x
* Forest
  + Attack = 1.3x
  + Defense = 0.7x
* Hills:
  + Attack = 1x
  + Defense = 1x
* Mountains
  + Attack = 0.7x
  + Defense = 1.3x
* Capital
  + Attack = 0.5x
  + Defense= 1.5x

Then your attackpower gets attackpower \* terrain modifier

Defensepower \* terrain modifier

PowerRatio = Attack / Defense

Attack loss percentage = 1 / (1+PowerRatio)

Defense loss perc = 1 – (1 / (1+ PowerRatio)

AttackLosses = Attack loss percentage \* AttackManpower

* Move the calculation of the losses to a separate function
  + This could be what the AI calls when it is deciding what to attack?
  + Alternative is to pick the highest pop tile
* Change the terrain modifiers such that attacking never gives an advantage, there are just ranges of disadvantage
* Change the loss percentage formula. Everyone should get losses based on the

**NEW!**

* **Make it so** the information box also shows the details of what ever nation you are clicked on
* **BUT** make it so the LEFT-MOST FutureContent button is “**Back to me”**:
  + This button will reselect the player nation on the map, scrollpanel and display the information again in the box
* Additionally: Remove ally highlighting – its too bugged and needs to be re-coded?