High Concept Statement

This game is a simulation which runs whenever the player presses play. There are two teams who each have different units, namely ranged, melee and healers. Each team also has resource buildings and factory buildings. The units fight to kill each other. The game runs until the pause button is pressed.

Game Treatment

This game is played when they player presses the play button. The game is a combat game in which units battle each other. There are different buildings that generate certain units and resources. The units move closer to one another until they are within attack range and then they start attacking. There is a timer which ticks and for each tick of the timer the units move closer to the unit that is closest to them. The random number of units are assigned to each team and then spawned onto the map. The game can be paused by the user when they click the pause button.

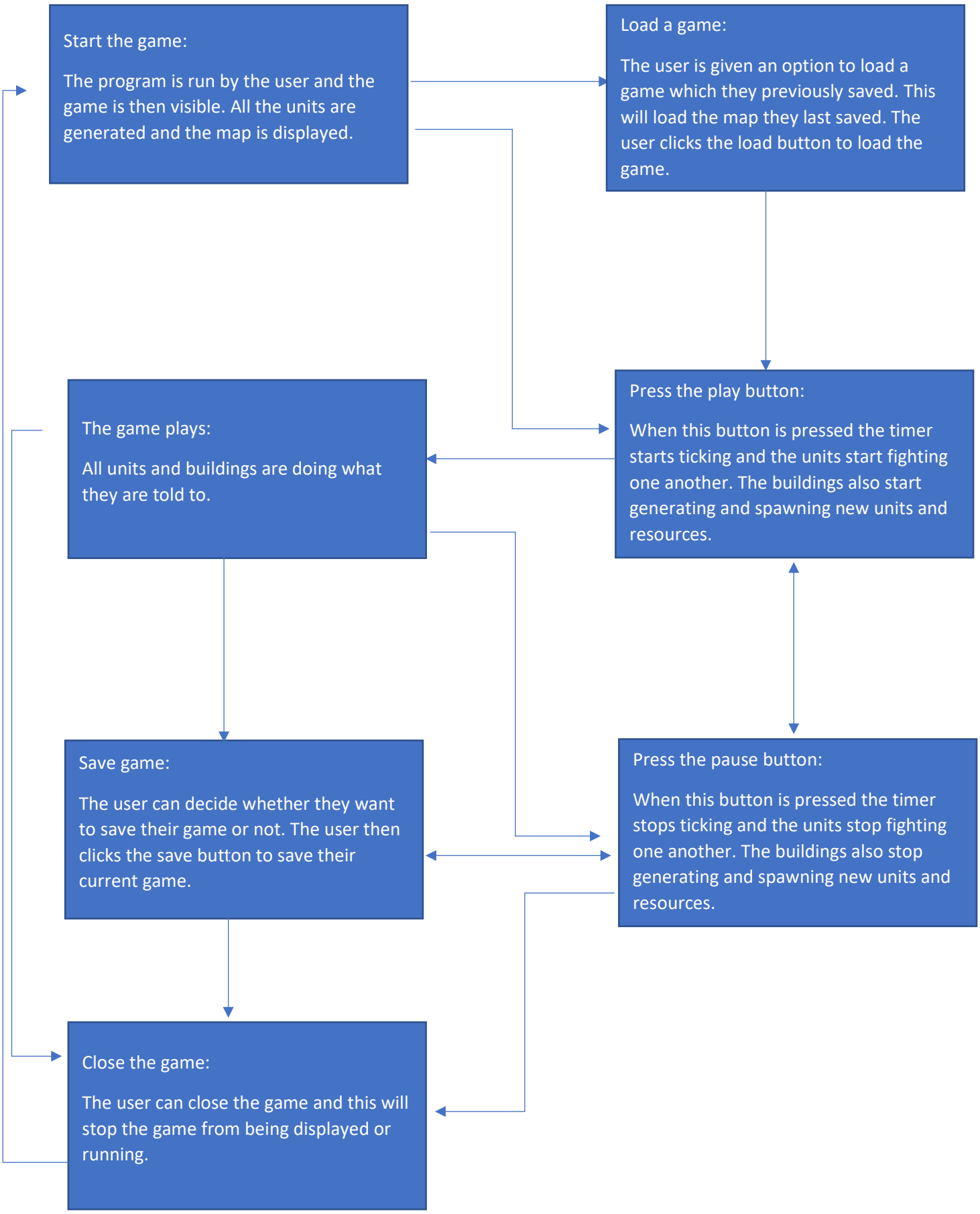
Character Design

The characters in my game are foot soldiers/melee units, archers/ranged unit, healers and mages. The foot soldiers only have a range of 1 and can attack units that are close to them by using their weapons. The archers have a range of 5 and can attack any unit in their range. They use a bow and arrow as their weapon to kill of enemies. The healers are characters that add 5 health to each unit that is within their range, they have a range of 3 and can only add health if the units' health is more than 0 and less than 75. The mage characters use magic to buff the damage of units within a range of 5 from them. There are two teams namely the blue and green team. Each team has a certain number of units designated to them.

World Design

The game world is a post nuclear war world in which the two factions fight to gain leadership over the world. Everything has been destroyed and people were divided into factions based on their skills and wits. The war is never ending due to the fact that after each attack the opponents learn a way to overcome each other, by other running away if they don't stand a chance or going in full force. The fact that there are healers in the game world also causes the units to live longer. The mages received their powers when the nuclear bomb exploded which caused a rare gas to be released by which only certain people were affected. The gas made a chemical reaction with some peoples cells that caused them to become magical. Only 2% of the worlds population were carriers of these cells. The mages use their powers to make their units stronger when they are within range causing the units to be able to fight harder and harder to kill.

Flowboard


Start the game:
The program is run by the user and the game is then visible. All the units are generated and the map is displayed.
Load a game:
The user is given an option to load a game which they previously saved. This will load the map they last saved. The user clicks the load button to load the game.
Press the play button:
When this button is pressed the timer starts ticking and the units start fighting one another. The buildings also start generating and spawning new units and resources.
The game plays:
All units and buildings are doing what they are told to.
Save game:
The user can decide whether they want to save their game or not. The user then clicks the save button to save their current game.
Press the pause button:
When this button is pressed the timer stops ticking and the units stop fighting one another. The buildings also stop generating and spawning new units and resources.
Close the game:
The user can close the game and this will stop the game from being displayed or running.

Story and level progression

The nuclear war caused the world to split into two factions. These factions were determined by people's skills and wits. Both factions fight to gain power over the world. The nuclear weapons used in the war caused certain people to gain special abilities. These people are now known as mages and healers. The mages consist of a rare 2% of the population who carry a certain cell which was affected by a gas released during the nuclear war. Their cells started to mutate and turn them into unsightly creatures who also had the ability to cast spells upon other characters, these spells would cause characters to become stronger or have an increased attack range.

The healers received their abilities to heal when a rare metal came into contact with them during the war. This metal gave them healing powers, these powers can be used by creating a energy ball in their palms and throwing it at a character, these energy balls contained substances that resulted in instant increasing of health by 5.

The fighting units becomes stronger throughout the game and more difficult to kill. As the timer ticks more units get generated and some are killed. This goes on until the user decides to manually end the game by closing it or pressing the pause button.

User Interface Document

The interface consists of the map where they units and buildings are displayed. This allows the user to see what happens in the game and how it progresses. They can see in which team each unit is by the letter G or B in front of their identifier. There is also a timer which indicates how long the game has been running for. There is a play button which starts the timer and also starts the battle. The pause button is located next to the play button and this button allows the user to pause the game at any specific time. All units on the map then stop attacking each other.

There is also a save button which the user can press at any given time. This button saves the game to a file and allows the user to save their progress in the current game. It remembers all the units positions, health and factions. The load button allows the user to load the previously saved game. This button loads the map that the user last saved. This allows for the user to continue playing their previously saved game.

There is also a label in which all the units and buildings information is displayed.

Game Script

We make use of C# to code this game a short snippet of code follows as an example and the full code can be found in the link attached under Repository Link:

//shows the map and redraws it

```
public string initialiseMap()
        {
            string showMap = "";


            for (int i = 0; i < 20; i++)
            {
                for (int j = 0; j < 20; j++)
                {
                    map[i, j] = ".";

                }
            }

            for (int i = 0; i < 20; i++)
            {
                for (int j = 0; j < 20; j++)
                {
                    showMap += map[i, j];
                }
                showMap += "\n";
            }

            FactoryBuilding f = new FactoryBuilding(4, 16, 100, "Green", "#");
            factoryList.Add(f);
            map[4, 16] = factoryList[0].Symbol;
            ResourceBuilding rb = new ResourceBuilding(15, 9, 100, "Blue", "$",
       "Food", 2, 100);
            resourceList.Add(rb);
            map[15, 9] = resourceList[0].Symbol;

            return showMap;


        }

        public string redraw()
        {

            string display = "";
            for (int i = 0; i < 20; i++)
            {
                for (int j = 0; j < 20; j++)
                {
                    display += map[i, j] + " ";
                }
                display += Environment.NewLine;
            }
            return display;


        }
```

Repository Link