Team Members:

Mark De Paula

Winston Peng

Project Title:

Call to Shells: Turtles at War 3TM

Team Name:

Prog-Reptile Shellware

Project Idea:

We want to create a “game” similar to “Epic Battle Simulator”. The original game allows you to simulate a battle between two different armies, red and blue, where you are given a select amount of money, and you need to use the money to take down pre-made formations that the programmers designed. Ours will be more free range, giving the user the ability to create both sides of the battle. The user will be able to place down their own troops on two different sides, and then watch an animation of the troops as they fight each other. There are a variety of different troop types, and various different pieces of terrain that the troops must be able to navigate.

There will be 2 sides where troops can be placed. Buttons will be used to choose the troop and placed with the mouse. The buttons will allow customization of:

- Troop types

- Troop amounts

- Environment

Critical Features:

1. Behavior

Turtles must be able to move towards the enemy as a group, and stop when they see an enemy in their vision.

2. Attacking

The turtles will automatically face and head towards the closest unit. Once the turtle is in range, it will stop and begin attacking

3. Damage

There must be a hit percent so that every time the turtle fires there is a set chance that the receiving turtle will actually get injured.

4. Environment

The environment will be customisable by the user to affect the turtle behavior. The user will be able to place down different types of terrain that will be used as obstacles or tools by the turtles (expanded upon below)

5. Setup turtle interaction with the world

Turtles should seek to take cover in certain patches that decrease hit percent.

6. Placing troops

User must be able to place down troops using the mouse. Red troops on right side, blue troops on left side. User should also be able to delete the troops.

7. Health Level

There should be a label for each turtle showing their health percentage. It should go down every single time they take damage.

Add ons:

1. Turtles have different roles

The turtles could have different movement speeds, possible AoE attacks, different fields of vision, different firing speeds, different hit percents and possibly melee and healing units

Each troop has a bio kind of thing that shows up either when they select the troops or when they select an option to show the bios

2. Turtles could have their own design

Go create separate turtle shapes for the turtles

3. Turtles could account for distance

Make it so that hit chance increases the closer you get to opposing turtles

4. Have several already created formations of troops that the user could select

# Schedule

Mark will be doing the work on the Even numbered Days

Winston will be doing the tasks on the odd numbered Days

Day 2 should be done by the end of Week 1

Day 5 should be done by the end of Week 2

|  |  |  |
| --- | --- | --- |
| Day # | Thing we do | Done? |
| 1 | Making the pawn turtle breed  Basic turtle breed to make sure that we have all of the basic aspects needed for the game |  |
| 1 | Turtle Movement  Make sure that the turtle will target the closest turtle in range, and move at the appropriate speed |  |
| 1 | Range  Establish a range for which the turtle will be able to attack |  |
| 1 | Attacking (Range)  Make it so that the turtles in that range will be killed in order of their proximity to the attacker |  |
| 2 | Attacking (Melee)  Make it so that the turtles will kill other turtles when they are within melee distance |  |
| 2 | Health health values and specific damage values  Make a health variable, and assign a specific damage variable for the amount of damage that the turtle is supposed to do. Make sure that the turtle only dies when health falls to zero |  |
| 2 | Drawing troops  Create the code so that the turtles will be able to be placed based on the user input |  |
| 2 | Different turtle breeds part 1  Create the different turtle breeds and assign them their unique health values and their unique damage values |  |
| 3 | Environment Turtle Interaction  Create the different environments that the turtles need to interact with |  |
| 3 | Preset Environments  Make the environment formations that the turtles will need to interact with that the user will be able to choose from instead of needing to create their own |  |
| 3 | Custom Environment  Allow the user to place down the various environments tiles that the troops will need to interact with |  |
| 4 | Preset Turtle Formations  Make turtle formations that the users will be able to choose from instead of needing to choose their own (turtle formations choices shown in diagram) |  |
| 4 | Different Turtle breeds part 2  Make the special ability for the medic troops and camicazi troops, and assign the movement speeds to each troop |  |
| 4 | Make the remove troops option |  |
| 4 | Add hit chance  Make it so that each shot has a chance to miss and a chance to hit |  |
| 5 | Different turtle breeds part 3  Make the special ability for the berserker troops and ninja troops, and assign the attack speeds to each troop |  |
| 6 | Different turtle breeds part 4  Make the special ability for the sniper troops and mage troops, and assign the attack damage to each troop, as well as the ranges |  |
| 7 | Team up and give specific turtle designs |  |

# Turtle Breeds

### Pawns

Health: Medium

Attack Damage: Medium

Attack Speed: Medium

Movement Speed: Medium

Range: 10 patches

Special: None

### Ninjas

Health: Medium Low

Attack Damage: Medium

Attack Speed: Fast

Movement Speed: Extremely Fast

Range: Melee (turtles need to be on the same patch)

Special: Is unaffected by all terrain, and is also unaffected by accuracy

### Camicazi

Health: Extremely Low

Attack Damage: One-hit KO to all enemies

Attack Speed: N/A

Movement Speed: Low

Range: N/A

Special: Will kill all enemies in a 10 patch radius upon death. Will also kill any enemy it comes in contact with at the cost of its life

### Archer Knights

Health: Extremely High

Attack Damage: Medium

Attack Speed: Slow

Movement Speed: Low

Range: 8 patches

Special: None

### Mages

Health: Medium

Attack Damage: High

Attack Speed: Slow

Movement Speed: Slow

Range: 10 patches

Special: Damages troops close to target as well

### Snipers

Health: Low

Attack Damage: High

Attack Speed: Really slow

Movement Speed: N/A (doesn’t move)

Range: ¼ of the screen

Special: unaffected by accuracy and hit chance

### Berserkers (initial form)

Health: High

Attack Damage: Low

Attack Speed: Low

Movement Speed: Slow

Range: Melee

Special: You wouldn’t like him when he/she’s angry, also unaffected by accuracy

### Berserkers (angry form)

Health: 10% original health

Attack Damage: High

Attack Speed: Medium

Movement Speed: Fast

Range: Melee

Special: He/she’s angry

### Medics

Health: Low

Attack Damage: N/A

Attack Speed: N/A

Movement Speed: Medium

Range: 10 patches

Special: Will heal all troops within 10 patch radius, and has AI that will target closest troops

# Terrain







# Automatically Given Army Formations

## V-Formation



## Shield Formation (There will be an entire line of this)



## Total Mayhem Formation

Ask all patches on one side to sprout a camicazi troop



# Changes

* Kamikaze is now changed to actually spell the right thing
* Kamikaze troops will also explode when they come into contact with an opposing patch, the explosion range has also been reduced to 3 patches
* Grass will now slow units down to 50% of their original movement instead of 75%
* Typo in the prototype: the berserker troop in angry form will keep the same health that it had in original form, it will not be automatically reduced to 10% health. Angry form is also unaffected by accuracy
* Ranged turtles will now spawn bullets. White bullets to denote regular bullets and yellow ones to denote area attack ones
* Melee turtles will deal knockback