[Battle: Prototype: 03.04.17]

[Things to do]

1. fix bugs

[Problems & Solutions]

1. Null references -> the game worked before but stopped working (Unity-side bug?)
 => Rebuilt the whole battle scene with player manager class and battle manager class
2. Bad game balance -> increased enemyHP to 150
3. AI cures dead ppl -> dead character's behavior -> bools dead[]
4. text goes on without click -> turn fases -> using int instead of bool

[Next to do]

1. Narrative scene & Start scene

[Codes]

```
public class Battle : MonoBehaviour {
        public int battleID;
        public int enemiesNo;
        public float craftTimeSetting;
        public string startText;

        public bool jasperJoined;
        public bool ioliteJoined;

        private bool[] dead;

        public int amberHP;
        public int jasperHP;
        public int ioliteHP;
        public int enemy1HP;
        public int enemy2HP;
        public int enemy3HP;

        private string amberAttack;
        private string amberMissed;
        private string jasperAttack;
        private string jasperMissed;

        private int amberInput;
        private int a;
        private int b;
        private int c;
        private float amberSpeed;
        private float craftTime;
        private int turnID;
        private int enemyHPTotal;
        private int playerHPTotal;
        private int jasperPW;
        private int enemyPW;
        private int damage;
        private int accuracy;

        private bool rainning;
        private bool damaging;

        private int turn;
        private int rainEnd;
        private int damEnd;
        private int damWho;

        private int phase; //0>1 calcuration, 1>2 turn start, 2>0
turn end (auto)
        private bool craft;
        private GameObject book;
        private GameObject bui;
        private Text bt;

        void Start () {
                phase = 0;
                craft = false;
                turnID = 0;
                craftTime = craftTimeSetting;
                jasperPW = 1;
                enemyPW = 1;
                amberSpeed = 1;
                turn = 0;
                rainEnd = 0;
                rainning = false;
                damaging = false;
                book = GameObject.Find ("Book");
                bui = GameObject.Find ("BattleUI");
                bt = GameObject.Find ("BT").GetComponent<Text>();
                bt.text = startText;
                book.SetActive (false);

                amberAttack = "Amber attacked an enemy!";
                amberMissed = "Amber missed her attack.";
                jasperAttack = "Jasper attacked an enemy!";
                jasperMissed = "Jasper missed his attack.";

                dead = new bool[]
{false,false,false,false,false,false}; //
amber,jasper,iolite,enemy1,enemy2,enemy3
        }

        void Text (string txt) {
                book.SetActive (false);
                bui.SetActive (true);
                bt.text = txt;
        }
        void Total () {
                enemyHPTotal = enemy1HP + enemy2HP + enemy3HP;
                playerHPTotal = amberHP + jasperHP + ioliteHP;
        }

        void Rain() {
                Text ("Amber's magical rain damages everyone!");
                if (enemy3HP > 0) {
                        enemy3HP = enemy3HP - 10;
                }
                if (enemy2HP > 0) {
                        enemy2HP = enemy2HP - 10;
                }
                if (enemy1HP > 0) {
                        enemy1HP = enemy1HP - 10;
                }
                if (ioliteHP > 0) {
                        ioliteHP = ioliteHP - 10;
                }
                if (jasperHP > 0) {
                        jasperHP = jasperHP - 10;
                }
                if (amberHP > 0) {
                        amberHP = amberHP - 10;
                }

                if (turn == rainEnd) {
                        rainning = false;
                }
        }

        void Damage () {
                Text ("Amber's curse damages enemies!");
                if (damWho == 3 && enemy3HP > 0) {
                        enemy3HP = enemy3HP - 10;
                } else if (damWho == 2 && enemy2HP > 0) {
                        enemy2HP = enemy2HP - 10;
                } else if (damWho == 1 && enemy1HP > 0) {
                        enemy1HP = enemy1HP - 10;
                } else {
                        damaging = false;
                }

                if (damEnd == turn) {
                        damaging = false;
                }
        }

        void Turn () {
                turn = 2;
                Debug.Log ("Turn ID = " + turnID.ToString () + ", 
Turn no. = " + turn.ToString());
```

```
                     //Amber's turn
                if (turnID == 0) {
                        bui.SetActive (false);
                        book.SetActive (true);
                        turnID = turnID + 1;
                        craft = true;

                        //Jasper's turn
                } else if (turnID == 1) {
                        accuracy = Random.Range (0, 99);
                        if (accuracy > 9)
                        {
                                Text (jasperAttack);
                                if (enemy3HP > 0) {
                                        enemy3HP = enemy3HP - 50
* jasperPW;
                                } else if (enemy2HP > 0) {
                                        enemy2HP = enemy2HP - 50
* jasperPW;
                                } else {
                                        enemy1HP = enemy1HP - 50
* jasperPW;
                                }
                        } else
                        {
                                Text (jasperMissed);
                        }

                        jasperPW = 1;
                        turnID = turnID + 1;
                        phase = 0;

                } else if (turnID == 2) {
                        if (playerHPTotal <= 210) {
                                Text ("Iolite healed everyone!");
                                amberHP = (150 - amberHP) / 2 +
amberHP;
                                jasperHP = (150 - jasperHP) / 2 +
jasperHP;
                                ioliteHP = (150 - ioliteHP) / 2 +
ioliteHP;
                        } else if (amberHP <= 30) {
                                amberHP = 150;
                        } else if (jasperHP <= 30) {
                                jasperHP = 150;
                        } else if (ioliteHP <= 30) {
                                ioliteHP = 150;
                        } else {
                                Text ("Iolite doubled Jasper's
attack.");
                                jasperPW = jasperPW * 2;
                        }

                        turnID = turnID + 1;
                        phase = 0;
                } else if (turnID >= 3) {
                        accuracy = Random.Range (0, 99);

                        if (ioliteHP > 0 && accuracy > 19) {
                                Text ("An enemy attacked
Iolite!");
                                ioliteHP = ioliteHP - 30 /
enemyPW;
                        } else if (jasperHP > 0 && accuracy > 19)
{
                                Text ("An enemy attacked
Jasper!");
                                jasperHP = jasperHP - 30 /
enemyPW;
                        } else if (accuracy > 19) {
                                Text ("An enemy attacked Amber!");
                                amberHP = amberHP - 30 / enemyPW;
                        } else {
                                Text ("The enemy missed his
attack.");
                        }

                        enemyPW = 1;
                        turnID = turnID + 1;
                        phase = 0;
                }

        }

        void Update () {
                if (craft == true){
                        craftTime = craftTime - 1 *
Time.deltaTime;
                        if (craftTime <= 0) {
                                Text (amberMissed);
                                craftTime = craftTimeSetting;
                                book.SetActive (false);
                                phase = 0;
                        } else if (GameControl.casting == true) {

                                a = GameControl.circle [0];
                                b = GameControl.circle [1];
                                c = GameControl.circle [2];
                                Debug.Log (a.ToString() +
b.ToString() + c.ToString());

                                amberInput = a * 100 + b * 10 + c;

                                if (amberInput == 13 || amberInput
== 125) {
                                        Text ("Amber halfed
enemies' attack powers!");
                                        enemyPW = 2;
```

```
                                  } else if (amberInput == 15) {
                                           if (enemy3HP > 0) {
                                                   Text
(amberAttack);
                                                   //audio, effect
                                                   enemy3HP =
enemy3HP - 50;
                                           } else if (enemy2HP > 0)
{
                                                   Text
(amberAttack);

                                                   enemy2HP =
enemy2HP - 50;
                                           } else {
                                                   Text
(amberAttack);

                                                   enemy1HP =
enemy1HP - 50;
                                           }
                                  } else if (amberInput == 35) {
                                           Text ("Amber's curse
dameged everyone!");

                                           if (enemy3HP > 0) {
                                                   enemy3HP =
enemy3HP - 50;
                                           }
                                           if (enemy2HP > 0) {
                                                   enemy2HP =
enemy2HP - 50;
                                           }
                                           if (enemy1HP > 0) {
                                                   enemy1HP =
enemy1HP - 50;
                                           }
                                           if (ioliteHP > 0) {
                                                   ioliteHP =
ioliteHP - 50;
                                           }
                                           if (jasperHP > 0) {
                                                   jasperHP =
jasperHP - 50;
                                           }
                                           if (amberHP > 0) {
                                                   amberHP = amberHP
- 50;
                                           }
                                  } else if (amberInput == 34 ||
amberInput == 45) {
                                           Text ("Amber's curse
dameges enemies!");
```

```
                                          damage = Random.Range
(-75, 1);
                                          Debug.Log
(damage.ToString ());


                                          if (enemy3HP > 0) {
                                                  enemy3HP =
enemy3HP + damage;
                                          }
                                          if (enemy2HP > 0) {
                                                  enemy2HP =
enemy2HP + damage;
                                          }
                                          if (enemy1HP > 0) {
                                                  enemy1HP =
enemy1HP + damage;
                                          }
                                  } else if (amberInput == 124) {
                                          Text ("Amber doubled her
speed!");
                                          amberSpeed = 2;
                                  } else if (amberInput == 135) {
                                          if (enemy3HP > 0) {
                                                  enemy3HP =
enemy3HP - 50;
                                          } else if (enemy2HP > 0)
{
                                                  enemy2HP =
enemy2HP - 50;
                                          } else {
                                                  enemy1HP =
enemy1HP - 50;
                                          }
                                          Text ("Amber attacked and
weakened enemies!");
                                          enemyPW = 2;
                                  } else if (amberInput == 235) {
                                          Text ("Amber cursed an
enemy.");

                                          amberHP = amberHP - 25;

                                          if (enemy3HP > 0) {
                                                  enemy3HP = 0;
                                          } else if (enemy2HP > 0)
{
                                                  enemy2HP = 0;
                                          } else {
                                                  enemy1HP = 0;
                                          }
                                  } else if (amberInput == 245) {
                                          Text ("Amber weakened
Jasper and enemies!");

                                          jasperPW = 0;
                                          enemyPW = 3;
                                  } else if (amberInput == 456) {
                                          if (ioliteHP > 0 &&
ioliteHP < jasperHP) {
                                                  Text ("Amber
cured Iolite!");

                                                  ioliteHP = 150;
                                          } else if (jasperHP > 0
&& jasperHP < amberHP) {
                                                  Text ("Amber
cured Jasper!");

                                                  jasperHP = 150;
                                          } else if (amberHP < 150)
{
                                                  Text ("Amber
cured herself!");

                                                  amberHP = 150;
                                          } else {
                                                  Text ("Nothing
happened...");
                                          }
                                  } else if (amberInput == 356) {
                                          Text ("Amber called a
rain cloud.");
                                          rainning = true;
                                          Debug.Log ("rainning
enabled " + rainning);
                                          rainEnd = turn + 3;
                                          Debug.Log (rainEnd);
                                  } else if (amberInput == 256) {
                                          Text ("Amber made a curse
on enemies!");
                                          damaging = true;
                                          Debug.Log ("damaging
enabled " + damaging);
                                          damEnd = turn + 5;
                                          Debug.Log (damEnd);
                                          if (enemy3HP > 0) {
                                                  damWho = 3;
                                          } else if (enemy2HP > 0)
{
                                                  damWho = 2;
                                          } else {
                                                  damWho = 1;
                                          }
                                  } else if (amberInput == 26) {
                                          Text ("Amber strengthened
Jasper!");
```

```
                                        jasperPW = jasperPW * 2;
                                } else {
                                        Text (amberMissed);
                                }

                                GameControl.circle = new int[]
{ 7, 7, 7 };
                                GameControl.casting = false;
                                craftTime = craftTimeSetting *
amberSpeed;
                                phase = 0;
                        }
                }

                //dead behavior
                if (amberHP <= 0 && dead[0] == false) {
                        amberHP = 0;
                        GameObject.Find ("Amber").SetActive
(false);
                        dead [0] = true;
                }
                if (jasperHP <= 0 && jasperJoined == true &&
dead[1] == false) {
                        jasperHP = 0;
                        GameObject.Find ("Jasper").SetActive
(false);
                        dead [1] = true;
                }
                if (ioliteHP <= 0 && ioliteJoined == true &&
dead[2] == false) {
                        ioliteHP = 0;
                        GameObject.Find ("Iolite").SetActive
(false);
                        dead [2] = true;
                }
                if (enemy3HP <= 0 && enemiesNo > 2 && dead[5] ==
false) {
                        enemy3HP = 0;
                        GameObject.Find ("Enemy3").SetActive
(false);
                        dead [5] = true;
                }
                if (enemy2HP <= 0 && enemiesNo > 1 && dead[4] ==
false) {
                        enemy2HP = 0;
                        GameObject.Find ("Enemy2").SetActive
(false);
                        dead [4] = true;
                }
                if (enemy1HP <= 0 && dead[3] == false) {
                        enemy1HP = 0;
                        GameObject.Find ("Enemy1").SetActive
(false);
```

```
                        dead [3] = true;
                }
        }


        void OnMouseDown () {
                if (phase == 0) {
                        Total ();

                        //skipping dead or non-existing characters
                        if (turnID == 1 && jasperHP <= 0) {
                                turnID = turnID + 1;
                        }

                        if (turnID == 2 && ioliteHP <= 0) {
                                turnID = turnID + 1;
                        }

                        if (turnID == 4 && enemy2HP <= 0) {
                                turnID = turnID + 1;
                        }

                        if (enemyHPTotal == 0) {
                                Text ("Amber won the battle!");
                                //
Application.LoadLevel("narrativeX");
                        } else if (playerHPTotal == 0) {
                                Text ("Amber lost the battle.");
                                //Application.LoadLevel("start");
                        } else if (enemiesNo < turnID - 2) {
                                turnID = 0;
                                turn = turn + 1;
                                if (rainning == false && damaging
== false) {
                                        Turn ();
                                } else if (rainning == true) {
                                        Debug.Log ("rainning " +
rainning);
                                        Rain ();
                                        phase = 1;
                                } else {
                                        Debug.Log ("damaging " +
damaging);
                                        Damage ();
                                        phase = 2;
                                }
                        } else {
                                Turn ();
                        }
                } else if (phase == 1) {
                        Debug.Log ("damaging " + damaging);
                        Damage ();
                        phase = 2;
                } else if (phase == 2) {
                        Turn ();
                } else {
                }
        }
}
```