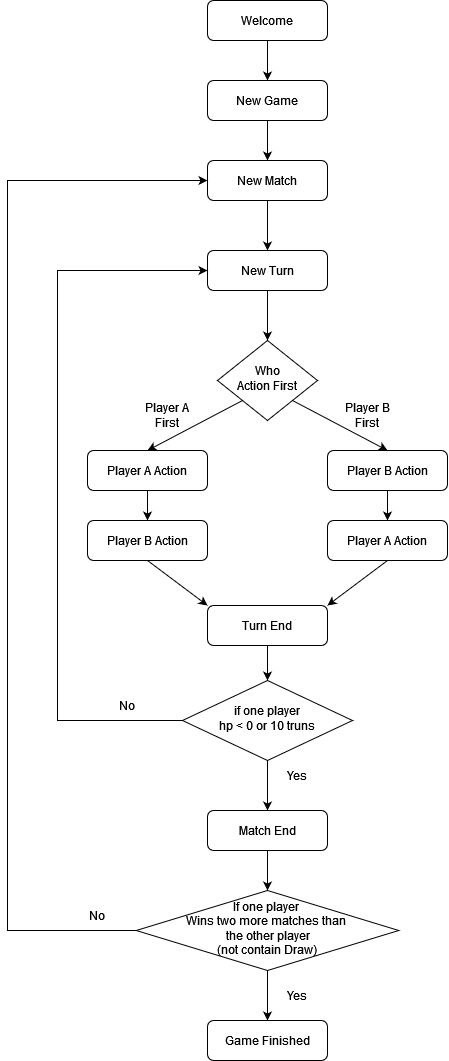
互動程式設計三 期中專案

資工四110590034楊榮鈞

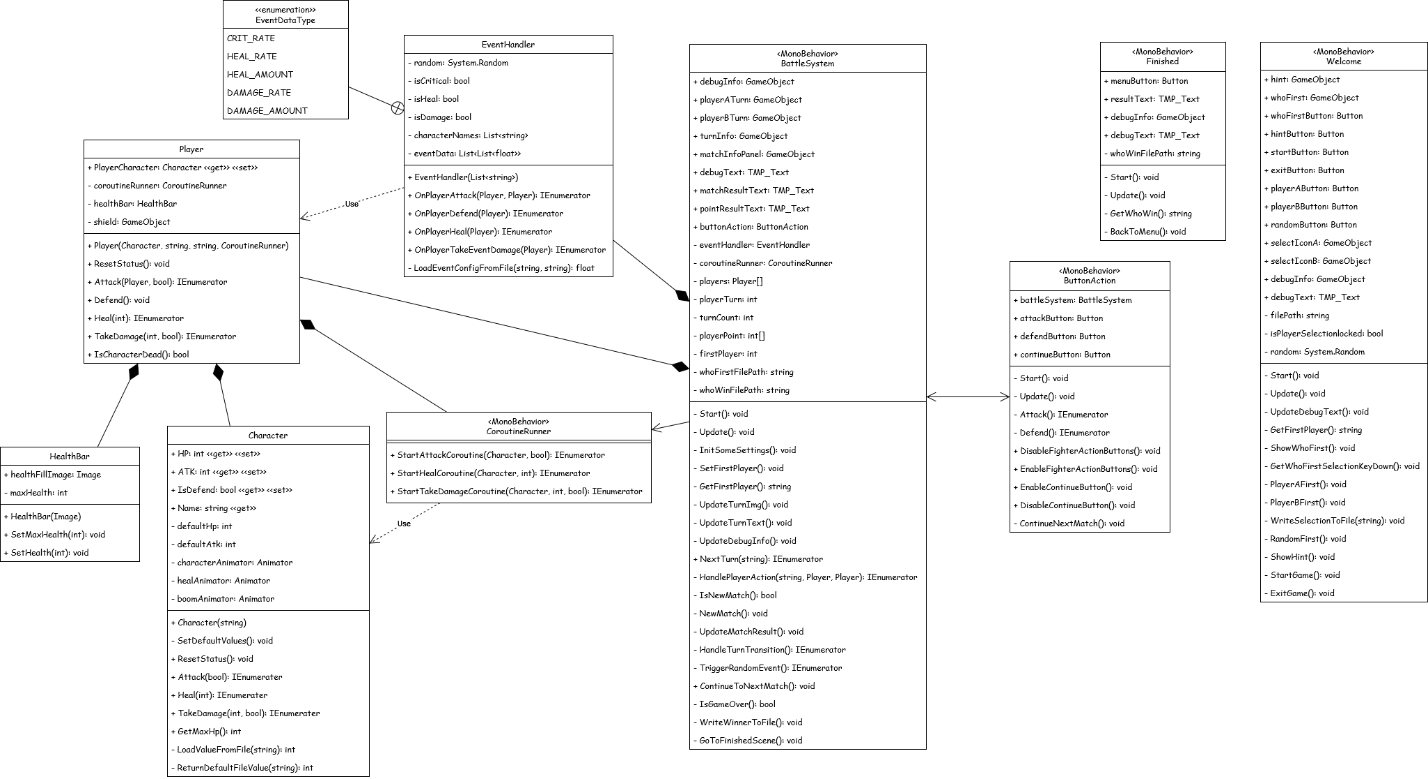
期中專案的Repo：<https://github.com/kyynk/RPG_mid>

Flowchart

Class Diagram

如想看放大圖片可至

<https://raw.githubusercontent.com/kyynk/RPG_mid/refs/heads/main/DocumentAndGraph/SomeGraph/class_diagram.png>



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| Welcome.cs |
| using TMPro;  using System.IO;  using UnityEngine;  using UnityEngine.UI;  using UnityEngine.SceneManagement;  namespace RPGBattle  {  public class Welcome : MonoBehaviour  {  public GameObject hint;  public GameObject whoFirst;  public Button whoFirstButton;  public Button hintButton;  public Button startButton;  public Button exitButton;  public Button playerAButton;  public Button playerBButton;  public Button randomButton;  public GameObject selectIconA;  public GameObject selectIconB;  public GameObject debugInfo;  public TMP\_Text debugText;  private string filePath;  private bool isPlayerSelectionlocked;  private System.Random random;  void Start()  {  filePath = Path.Combine(Application.streamingAssetsPath, "who\_first.txt"); // Set file path  random = new System.Random();  whoFirstButton.onClick.AddListener(ShowWhoFirst);  hintButton.onClick.AddListener(ShowHint);  startButton.onClick.AddListener(StartGame);  exitButton.onClick.AddListener(ExitGame);  playerAButton.onClick.AddListener(PlayerAFirst);  playerBButton.onClick.AddListener(PlayerBFirst);  randomButton.onClick.AddListener(RandomFirst);  PlayerAFirst();  isPlayerSelectionlocked = true;  hint.SetActive(false);  whoFirst.SetActive(false);  debugInfo.SetActive(false);  }  // Update is called once per frame  void Update()  {  if (Input.GetKeyDown("w"))  {  ShowWhoFirst();  }  else if (Input.GetKeyDown("h"))  {  ShowHint();  }  else if (Input.GetKeyDown("s"))  {  StartGame();  }  else if (Input.GetKeyDown("e"))  {  ExitGame();  }  else if (Input.GetKeyDown(KeyCode.Tab))  {  if (debugInfo.activeSelf)  {  debugInfo.SetActive(false);  }  else  {  debugInfo.SetActive(true);  }  }  else if (!isPlayerSelectionlocked)  {  GetWhoFirstSelectionKeyDown();  }  UpdateDebugText();  }  private void UpdateDebugText()  {  debugText.text = "State: Welcome\n" +  "Who First:\n" +  GetFirstPlayer();  }  private string GetFirstPlayer()  {  if (File.Exists(filePath))  {  return File.ReadAllText(filePath);  }  else  {  Debug.LogError("File not found!");  return "Player A";  }  }  private void ShowWhoFirst()  {  hint.SetActive(false);  whoFirst.SetActive(true);  isPlayerSelectionlocked = false;  }  private void GetWhoFirstSelectionKeyDown()  {  if (Input.GetKeyDown("a"))  {  PlayerAFirst();  }  else if (Input.GetKeyDown("b"))  {  PlayerBFirst();  }  else if (Input.GetKeyDown("r"))  {  RandomFirst();  }  }  private void PlayerAFirst()  {  selectIconA.SetActive(true);  selectIconB.SetActive(false);  WriteSelectionToFile("Player A");  }  private void PlayerBFirst()  {  selectIconA.SetActive(false);  selectIconB.SetActive(true);  WriteSelectionToFile("Player B");  }  private void WriteSelectionToFile(string selection)  {  try  {  File.WriteAllText(filePath, selection);  }  catch (IOException ex)  {  Debug.LogError($"Failed to write to file: {ex.Message}");  }  }  private void RandomFirst()  {  if (random.Next(0, 2) == 0)  {  PlayerAFirst();  }  else  {  PlayerBFirst();  }  }  private void ShowHint()  {  hint.SetActive(true);  whoFirst.SetActive(false);  isPlayerSelectionlocked = true;  }  private void StartGame()  {  SceneManager.LoadScene("BattleScene");  }  private void ExitGame()  {  Application.Quit();  }  }  } |

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| BattleSystem.cs |
| using TMPro;  using System;  using System.IO;  using System.Collections;  using System.Collections.Generic;  using UnityEngine;  using UnityEngine.SceneManagement;  namespace RPGBattle  {  public class BattleSystem : MonoBehaviour  {  // UI references  public GameObject debugInfo;  public GameObject playerATurn;  public GameObject playerBTurn;  public GameObject turnInfo;  public GameObject matchInfoPanel; // MatchInfo panel  public TMP\_Text debugText;  public TMP\_Text matchResultText; // Match result text  public TMP\_Text pointResultText; // Point result text  public ButtonAction buttonAction;  private EventHandler eventHandler;  private CoroutineRunner coroutineRunner;  private Player[] players;  private int playerTurn; // 0 or 1 (player 1 or player 2)  private int turnCount;  private int[] playerPoint;  private int firstPlayer;  private string whoFirstFilePath;  private string whoWinFilePath;  private void Start()  {  GameObject runnerObject = new GameObject("CoroutineRunner");  coroutineRunner = runnerObject.AddComponent<CoroutineRunner>();  eventHandler = new EventHandler(new List<string> { "Giant", "Paladin" });  players = new Player[2];  players[0] = new Player(new Character("Giant"), "L\_HP", "L\_Shield", coroutineRunner);  players[1] = new Player(new Character("Paladin"), "R\_HP", "R\_Shield", coroutineRunner);  playerPoint = new int[2] { 0, 0 };  whoFirstFilePath = Path.Combine(Application.streamingAssetsPath, "who\_first.txt");  whoWinFilePath = Path.Combine(Application.streamingAssetsPath, "who\_win.txt");  debugInfo.SetActive(false);  InitSomeSettings();  }  private void Update()  {  if (Input.GetKeyDown(KeyCode.Tab))  {  if (debugInfo.activeSelf)  {  debugInfo.SetActive(false);  }  else  {  debugInfo.SetActive(true);  UpdateDebugInfo();  }  }  }  private void InitSomeSettings()  {  turnCount = 1;  SetFirstPlayer();  matchInfoPanel.SetActive(false);  turnInfo.SetActive(true);  foreach (Player player in players)  {  player.ResetStatus();  }  UpdateTurnText();  UpdateDebugInfo();  }  private void SetFirstPlayer()  {  string firstPlayerName = GetFirstPlayer();  if (firstPlayerName == "Player A")  {  firstPlayer = 0;  playerTurn = 0;  }  else  {  firstPlayer = 1;  playerTurn = 1;  }  UpdateTurnImg();  }  private string GetFirstPlayer()  {  if (File.Exists(whoFirstFilePath))  {  return File.ReadAllText(whoFirstFilePath);  }  else  {  Debug.LogError("File not found!");  return "Player A";  }  }  private void UpdateTurnImg()  {  if (playerTurn == 0)  {  playerATurn.SetActive(true);  playerBTurn.SetActive(false);  }  else  {  playerATurn.SetActive(false);  playerBTurn.SetActive(true);  }  }  private void UpdateTurnText()  {  TMP\_Text turnInfoText = turnInfo.GetComponent<TMP\_Text>();  if (turnInfoText != null)  {  turnInfoText.text = "Round " + turnCount;  }  else  {  Debug.LogError("Text component is missing on TurnText GameObject!");  }  }  private void UpdateDebugInfo()  {  debugText.text = "State: " + (playerTurn == 0 ? "Player A" : "Player B") + "\n" +  "Player A: \nHP=" + players[0].PlayerCharacter.HP +  ", ATK=" + players[0].PlayerCharacter.ATK +  ", DEFEND=" + (players[0].PlayerCharacter.IsDefend ? "true" : "false") + "\n" +  "Player B: \nHP=" + players[1].PlayerCharacter.HP +  ", ATK=" + players[1].PlayerCharacter.ATK +  ", DEFEND=" + (players[1].PlayerCharacter.IsDefend ? "true" : "false");  }  public IEnumerator NextTurn(string action)  {  // every turn need two players to attack each other, so we need to get the current player and the opponent  Player currentPlayer = players[playerTurn];  Player opponent = players[(playerTurn + 1) % 2];  buttonAction.DisableFighterActionButtons();  yield return HandlePlayerAction(action, currentPlayer, opponent);  if (firstPlayer != playerTurn)  {  turnCount++;  }  UpdateDebugInfo(); // update debug info for player property  if (IsNewMatch())  {  NewMatch();  }  else  {  yield return HandleTurnTransition();  }  }  private IEnumerator HandlePlayerAction(string action, Player currentPlayer, Player opponent)  {  if (action == "attack")  {  yield return eventHandler.OnPlayerAttack(currentPlayer, opponent);  }  else if (action == "defend")  {  yield return eventHandler.OnPlayerDefend(currentPlayer);  }  else  {  Debug.LogError("Invalid action!");  }  }  private bool IsNewMatch()  {  // if 10 turn or one player hp <= 0, then the match is over  return turnCount > 10 || players[0].IsCharacterDead() || players[1].IsCharacterDead();  }  private void NewMatch()  {  UpdateMatchResult();  matchInfoPanel.SetActive(true);  turnInfo.SetActive(false);  buttonAction.DisableFighterActionButtons();  buttonAction.EnableContinueButton();  }  private void UpdateMatchResult()  {  // has results: p1 win, p2 win, draw  if (players[1].IsCharacterDead())  {  matchResultText.text = "Player A Win";  playerPoint[0]++;  }  else if (players[0].IsCharacterDead())  {  matchResultText.text = "Player B Win";  playerPoint[1]++;  }  else  {  matchResultText.text = "Draw";  }  pointResultText.text = playerPoint[0] + " - " + playerPoint[1];  }  private IEnumerator HandleTurnTransition()  {  UpdateTurnText();  playerTurn = (playerTurn + 1) % 2;  UpdateTurnImg();  UpdateDebugInfo(); // update debug info for state  yield return TriggerRandomEvent();  if (IsNewMatch()) // since maybe the random event cause the match over  {  NewMatch();  }  else  {  buttonAction.EnableFighterActionButtons();  }  }  private IEnumerator TriggerRandomEvent()  {  Player currentPlayer = players[playerTurn];  yield return eventHandler.OnPlayerHeal(currentPlayer);  UpdateDebugInfo(); // update debug info for player property (hp)  yield return eventHandler.OnPlayerTakeEventDamage(currentPlayer);  UpdateDebugInfo(); // update debug info for player property (hp)  }  public void ContinueToNextMatch()  {  buttonAction.EnableFighterActionButtons(); // Re-enable buttons  buttonAction.DisableContinueButton(); // Hide Continue button  if (IsGameOver())  {  WriteWinnerToFile();  GoToFinishedScene();  }  else  {  InitSomeSettings();  }  }  private bool IsGameOver()  {  return Math.Abs(playerPoint[0] - playerPoint[1]) == 2;  }  private void WriteWinnerToFile()  {  try  {  string winner = playerPoint[0] > playerPoint[1] ? "Player A" : "Player B";  File.WriteAllText(whoWinFilePath, winner);  }  catch (IOException ex)  {  Debug.LogError($"Failed to write to file: {ex.Message}");  }  }  private void GoToFinishedScene()  {  SceneManager.LoadScene("FinishedScene");  }  }  } |

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| Finished.cs |
| using TMPro;  using System.IO;  using UnityEngine;  using UnityEngine.UI;  using UnityEngine.SceneManagement;  public class Finished : MonoBehaviour  {  public Button menuButton;  public TMP\_Text resultText;  public GameObject debugInfo;  public TMP\_Text debugText;  private string whoWinFilePath;  // Start is called before the first frame update  void Start()  {  whoWinFilePath = Path.Combine(Application.streamingAssetsPath, "who\_win.txt");  menuButton.onClick.AddListener(BackToMenu);  debugInfo.SetActive(false);    resultText.text = GetWhoWin() + "!!!";  debugText.text = "State: Finished\n" +  "Winner:" + GetWhoWin();  }  // Update is called once per frame  void Update()  {  if (Input.GetKeyDown(KeyCode.Tab))  {  if (debugInfo.activeSelf)  {  debugInfo.SetActive(false);  }  else  {  debugInfo.SetActive(true);  }  }  else if (Input.GetKeyDown("m"))  {  BackToMenu();  }  }  private string GetWhoWin()  {  if (!File.Exists(whoWinFilePath))  {  return "File Not Found";  }  return File.ReadAllText(whoWinFilePath);  }  private void BackToMenu()  {  SceneManager.LoadScene("WelcomeScene");  }  } |

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| ButtonAction.cs |
| using System.Collections;  using UnityEngine;  using UnityEngine.UI;  namespace RPGBattle  {  public class ButtonAction : MonoBehaviour  {  public BattleSystem battleSystem;  public Button attackButton;  public Button defendButton;  public Button continueButton;  void Start()  {  // Add listener for mouse clicks  attackButton.onClick.AddListener(() => StartCoroutine(Attack()));  defendButton.onClick.AddListener(() => StartCoroutine(Defend()));  continueButton.onClick.AddListener(ContinueNextMatch);  // Initially disable ContinueButton  continueButton.gameObject.SetActive(false);  }  // Update is called once per frame  void Update()  {  if (attackButton.interactable && defendButton.interactable)  {  if (Input.GetKeyDown("a"))  {  StartCoroutine(Attack());  }  else if (Input.GetKeyDown("d"))  {  StartCoroutine(Defend());  }  }  else if (Input.GetKeyDown("c"))  {  ContinueNextMatch();  }  }  private IEnumerator Attack()  {  yield return battleSystem.NextTurn("attack");  }  private IEnumerator Defend()  {  yield return battleSystem.NextTurn("defend");  }  public void DisableFighterActionButtons()  {  attackButton.interactable = false;  defendButton.interactable = false;  }  public void EnableFighterActionButtons()  {  attackButton.interactable = true;  defendButton.interactable = true;  }  public void EnableContinueButton()  {  continueButton.gameObject.SetActive(true); // Show Continue button  }  public void DisableContinueButton()  {  continueButton.gameObject.SetActive(false); // Hide Continue button  }  private void ContinueNextMatch()  {  battleSystem.ContinueToNextMatch();  }  }  } |

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| Character.cs |
| using System;  using System.IO;  using System.Collections;  using UnityEngine;  namespace RPGBattle  {  public class Character  {  public int HP { get; set; }  public int ATK { get; set; }  public bool IsDefend { get; set; }  public string Name { get; }  private int defaultHp;  private int defaultAtk;  private Animator characterAnimator;  private Animator healAnimator;  private Animator boomAnimator;  public Character(string \_name)  {  Name = \_name;  GameObject gameObject = GameObject.FindGameObjectWithTag(Name);  if (gameObject == null)  {  Debug.LogError($"GameObject for {Name} not found!");  }  characterAnimator = gameObject.GetComponent<Animator>();  gameObject = GameObject.FindGameObjectWithTag(Name + "Heal");  if (gameObject == null)  {  Debug.LogError($"GameObject for {Name}Heal not found!");  }  healAnimator = gameObject.GetComponent<Animator>();  gameObject = GameObject.FindGameObjectWithTag(Name + "Boom");  if (gameObject == null)  {  Debug.LogError($"GameObject for {Name}Boom not found!");  }  boomAnimator = gameObject.GetComponent<Animator>();  SetDefaultValues();  ResetStatus();  }  private void SetDefaultValues()  {  defaultHp = LoadValueFromFile("hp");  defaultAtk = LoadValueFromFile("atk");  }  public void ResetStatus()  {  HP = defaultHp;  ATK = defaultAtk;  IsDefend = false;  characterAnimator.Play("idle");  healAnimator.Play("hidden");  boomAnimator.Play("hidden");  }  public IEnumerator Attack(bool isCritical)  {  if (isCritical)  {  characterAnimator.Play("crit\_attack");  }  else  {  characterAnimator.Play("attack");  }  yield return new WaitForSeconds(characterAnimator.GetCurrentAnimatorStateInfo(0).length);  }  public IEnumerator Heal(int amount)  {  healAnimator.Play("heal");  HP += amount;  yield return new WaitForSeconds(healAnimator.GetCurrentAnimatorStateInfo(0).length);  }  public IEnumerator TakeDamage(int amount, bool isEventDamage)  {  if (isEventDamage)  {  boomAnimator.Play("boom");  yield return new WaitForSeconds(boomAnimator.GetCurrentAnimatorStateInfo(0).length);  }  if (IsDefend)  {  HP -= amount / 2;  IsDefend = false;  }  else  {  HP -= amount;  }  characterAnimator.Play("injure");  yield return new WaitForSeconds(characterAnimator.GetCurrentAnimatorStateInfo(0).length);  }  public int GetMaxHp()  {  return defaultHp;  }  private int LoadValueFromFile(string fileName)  {  string filePath = Path.Combine(Application.streamingAssetsPath, "PlayerConfig", fileName + ".csv");  if (!File.Exists(filePath))  {  Debug.LogError($"File {fileName} not found!");  return ReturnDefaultFileValue(fileName);  }  try  {  string[] lines = File.ReadAllLines(filePath); // Reads all lines from the file  foreach (string line in lines)  {  string[] values = line.Split(',');  // Check if the name matches the first column  if (values.Length > 1 && values[0] == Name)  {  if (int.TryParse(values[1], out int targetValue))  {  return targetValue; // Return parsed value for HP or ATK  }  }  }  }  catch (Exception ex)  {  Debug.LogError($"Error reading {fileName}.csv: {ex.Message}");  }  Debug.LogWarning($"Value for {Name} not found in {fileName}.csv. Using default value.");  return ReturnDefaultFileValue(fileName);  }  private int ReturnDefaultFileValue(string type)  {  return type == "atk" ? 10 : 100;  }  }  } |

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| CoroutineRunner.cs |
| using System.Collections;  using UnityEngine;  namespace RPGBattle  {  public class CoroutineRunner : MonoBehaviour  {  public IEnumerator StartAttackCoroutine(Character character, bool isCritical)  {  yield return StartCoroutine(character.Attack(isCritical));  }  public IEnumerator StartHealCoroutine(Character character, int amount)  {  yield return StartCoroutine(character.Heal(amount));  }  public IEnumerator StartTakeDamageCoroutine(Character character, int amount, bool isEventDamage)  {  yield return StartCoroutine(character.TakeDamage(amount, isEventDamage));  }  }  } |

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| EventHandler.cs |
| using System;  using System.IO;  using System.Collections;  using System.Collections.Generic;  using UnityEngine;  namespace RPGBattle  {  public class EventHandler  {  private enum EventDataType  {  CRIT\_RATE,  HEAL\_RATE,  HEAL\_AMOUNT,  DAMAGE\_RATE,  DAMAGE\_AMOUNT  }  private System.Random random; // using System.Random, since Unity's Random not random enough  private bool isCritical;  private bool isHeal;  private bool isDamage;  private List<string> characterNames;  private List<List<float>> eventData;  public EventHandler(List<string> \_characterNames)  {  random = new System.Random();  isCritical = false;  isHeal = false;  isDamage = false;  eventData = new List<List<float>>();  characterNames = new List<string>(\_characterNames);  foreach (var name in characterNames)  {  eventData.Add(new List<float>  {  LoadEventConfigFromFile("crit\_rate", name),  LoadEventConfigFromFile("heal\_rate", name),  LoadEventConfigFromFile("heal\_amount", name),  LoadEventConfigFromFile("damage\_rate", name),  LoadEventConfigFromFile("damage\_amount", name)  });  }  }  public IEnumerator OnPlayerAttack(Player player, Player enemy)  {  int whichPlayer = characterNames.FindIndex(x => x == player.PlayerCharacter.Name);  isCritical = random.NextDouble() < eventData[whichPlayer][EventDataType.CRIT\_RATE.GetHashCode()];  yield return player.Attack(enemy, isCritical);  }  public IEnumerator OnPlayerDefend(Player player)  {  player.Defend();  yield return null;  }  /// <summary>  /// random event for player to heal  /// </summary>  /// <param name="player"></param>  public IEnumerator OnPlayerHeal(Player player)  {  int whichPlayer = characterNames.FindIndex(x => x == player.PlayerCharacter.Name);  isHeal = random.NextDouble() < eventData[whichPlayer][EventDataType.HEAL\_RATE.GetHashCode()];  if (isHeal)  {  yield return player.Heal((int)eventData[whichPlayer][EventDataType.HEAL\_AMOUNT.GetHashCode()]);  }  }  /// <summary>  /// random event for player to take damage  /// </summary>  /// <param name="player"></param>  public IEnumerator OnPlayerTakeEventDamage(Player player)  {  int whichPlayer = characterNames.FindIndex(x => x == player.PlayerCharacter.Name);  isDamage = random.NextDouble() < eventData[whichPlayer][EventDataType.DAMAGE\_RATE.GetHashCode()];  if (isDamage)  {  yield return player.TakeDamage((int)eventData[whichPlayer][EventDataType.DAMAGE\_AMOUNT.GetHashCode()], true);  }  }  private float LoadEventConfigFromFile(string fileName, string characterName)  {  string filePath = Path.Combine(Application.streamingAssetsPath, "EventConfig", fileName + ".csv");  if (!File.Exists(filePath))  {  Debug.LogError($"File {fileName} not found!");  return 0;  }  try  {  string[] lines = File.ReadAllLines(filePath); // Reads all lines from the file  foreach (string line in lines)  {  string[] values = line.Split(',');  // Check if the name matches the first column  if (values.Length > 1 && values[0] == characterName)  {  if (float.TryParse(values[1], out float targetValue))  {  return targetValue; // Return parsed value for HP or ATK  }  }  }  }  catch (Exception ex)  {  Debug.LogError($"Error reading {fileName}.csv: {ex.Message}");  }  Debug.LogWarning($"Value for {characterName} not found in {fileName}.csv");  return 0;  }  }  } |

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| HealthBar.cs |
| using UnityEngine.UI;  namespace RPGBattle  {  public class HealthBar  {  public Image healthFillImage; // Reference to the health bar Image  private int maxHealth;  public HealthBar(Image \_healthFillImage)  {  healthFillImage = \_healthFillImage;  }  public void SetMaxHealth(int maxHealth)  {  this.maxHealth = maxHealth;  healthFillImage.fillAmount = 1f; // Set to full at the start  }  public void SetHealth(int currentHealth)  {  healthFillImage.fillAmount = (float)currentHealth / maxHealth;  }  }  } |

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| Player.cs |
| using System.Collections;  using UnityEngine;  namespace RPGBattle  {  public class Player  {  public Character PlayerCharacter { get; set; }  private CoroutineRunner coroutineRunner;  private HealthBar healthBar;  private GameObject shield;  public Player(Character \_character, string \_healthBarTag, string \_shieldTag, CoroutineRunner \_coroutineRunner)  {  PlayerCharacter = \_character;  GameObject healthBarImg = GameObject.FindGameObjectWithTag(\_healthBarTag);  if (healthBarImg == null)  {  Debug.LogError($"Health bar image for {\_healthBarTag} not found!");  }  GameObject shieldObject = GameObject.FindGameObjectWithTag(\_shieldTag);  if (shieldObject == null)  {  Debug.LogError($"Defend image for {\_shieldTag} not found!");  }  shield = shieldObject;  shield.SetActive(PlayerCharacter.IsDefend);  healthBar = new HealthBar(healthBarImg.GetComponent<UnityEngine.UI.Image>());  healthBar.SetMaxHealth(PlayerCharacter.GetMaxHp());  coroutineRunner = \_coroutineRunner;  }  public void ResetStatus()  {  PlayerCharacter.ResetStatus();  healthBar.SetHealth(PlayerCharacter.HP);  shield.SetActive(PlayerCharacter.IsDefend);  }  public IEnumerator Attack(Player enemy, bool isCritical)  {  yield return coroutineRunner.StartAttackCoroutine(PlayerCharacter, isCritical);  int damage = isCritical ? PlayerCharacter.ATK \* 2 : PlayerCharacter.ATK;  yield return enemy.TakeDamage(damage, false);  }  public void Defend()  {  PlayerCharacter.IsDefend = true;  shield.SetActive(PlayerCharacter.IsDefend);  }  public IEnumerator Heal(int amount)  {  yield return coroutineRunner.StartHealCoroutine(PlayerCharacter, amount);  if (PlayerCharacter.HP > PlayerCharacter.GetMaxHp())  {  PlayerCharacter.HP = PlayerCharacter.GetMaxHp();  }  healthBar.SetHealth(PlayerCharacter.HP);  }  public IEnumerator TakeDamage(int amount, bool isEventDamage)  {  yield return coroutineRunner.StartTakeDamageCoroutine(PlayerCharacter, amount, isEventDamage);  shield.SetActive(PlayerCharacter.IsDefend);  if (PlayerCharacter.HP < 0)  {  PlayerCharacter.HP = 0;  }  healthBar.SetHealth(PlayerCharacter.HP);  }  public bool IsCharacterDead()  {  return PlayerCharacter.HP <= 0;  }  }  } |