

DAFTAR PUSTAKA

- Abadi, R. G. (2016). Rancang Bangun Aplikasi Game Fun With Physic Berbasis Android. *Jurnal Fakultas Sains Dan Teknologi UIN Alauddin Makassar*.
- Berlian, A. B. (2018, Mei 17). *Bimbelbrilian.com*. Retrieved Januari 20, 2020, from Brilian: <https://bimbelbrilian.com/>
- Bungfei. (2019, Maret 21). *Cara Menyimpulkan Hasil Jawaban Angket Skripsi*. Retrieved from Bungfei.com: <https://www.bungfei.com/2019/03/cara-menyimpulkan-hasil-jawaban-angket.html>
- Chandra, I. (2009). *Desain Kreatif Dengan Corel Draw X4*. Elex Media Komputindo.
- DiMarzio, J. (2008). *Android a Programmer Guide*. McGraw Hill Professional .
- DuniaMatematika. (2016, Juni 15). *Daftar Materi Matematika SD Kelas V*. Retrieved November 27, 2019, from Dunia Matematika: <https://duniamatematika.com>
- Erico Darmawan H, L. R. (2014). *Pemrograman Berorientasi Objek C# yang susah jadi mudah*. Informatika.
- Firmansyah, A. (2008). *Istilah dalam Jaringan Manajemen Telekomunikasi*. Retrieved from LIFE: <https://firmansyah2308.wordpress.com/2008/09/02/jaringan-manajemen-telekomunikasi/>
- Henry, S. (2010). *Cerdas Dengan Game*. PT. Gramedia Pustaka Utama.
- Hikmatyar, M. (2015). Analisis Pengembangan Game Edukasi “Indonesiaku” Sebagai Pengenalan Warisan Budaya Indonesia Untuk Anak Usia 12-15 Tahun . *Skripsi UNY*.
- Mursyid Yunus, I. F. (2015). Game Edukasi Matematika Untuk Sekolah Dasar. *Jurnal Informatika Mulawarman*.
- Rachman, A. F. (2017). Pengembangan Permainan Edukasi Katelu (Klasifikasi Komponen Komputer) Berbasis Android Dengan Tools Unity 3D Game Engine. *Universitas Negeri Yogyakarta*.
- Rianingtias, O. (2019). Pengembangan Game Edukasi Berbasis Android Sebagai Media Pembelajaran Biologi Bernuansa Motivasi Siswa Kelas XI Di SMA/MA. *Universitas Islam Negeri Raden Intan*.

Rifai, W. A. (2015). *Pengembangan Game Edukasi Lingkungan Berbasis Android*. Universitas Negeri Yogyakarta.

Safaat, N. (2012). *Pemrograman Aplikasi Mobile Smartphone dan Tablet PC Berbasis Android*. Riau: Penerbit Informatika.

Suyanto, M. (2003). *Multimedia Alat Untuk Meningkatkan Keunggulan Bersaing*. Yogyakarta: Andi.

Zaelani, J. (n.d.). *Bongkar OS*. Retrieved from sites.google.com:
<https://sites.google.com/a/student.unsika.ac.id/bongkar-os-linux/struktur-sistem-operasi/struktur-sistem-operasi-android>

LAMPIRAN

Lampiran 1. anim_call

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
public class anim_call : MonoBehaviour {
    public string default_anim;
    private Animation anim;
    void Start(){
        anim = GetComponent<Animation>();
    }
    public void btn_cal_animation(string i){
        Music_Singleton.Instance.s_play(0);
        GetComponent<Animation>().Play(i);
    }
}

```

Lampiran 2. Animation_Control

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
public class Animation_Control : StateMachineBehaviour
{
    {
        animator.ResetTrigger("hurt");
        animator.ResetTrigger("hit");
        animator.ResetTrigger("dead");
    }
}

```

Lampiran 3. button_id

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.UI;
public class button_id : MonoBehaviour
{
    public int id ;
    public void Button(){
        // Music_Singleton.Instance.s_play(0);
        GetComponent<Animation>().Play("button");
        if(id == GameSystem.Instance.ID_JawabanBenar){
            Debug.Log("benar");
            GameSystem.Instance.Data_Score += 10;
            GameSystem.Instance.Data_SoalSekarang += 1 ;
            GameSystem.Instance.ID_Soal++;
            // GameSystem.Instance.SetSoal();
            GameSystem.Instance.Tanda_Object.GetComponent<Image>().sprite =
            GameSystem.Instance.Tanda_Gambar[0];
        }
    }
}

```

```

    GameSystem.Instance.Guinya[0].active = true ;
    Music_Singleton.Instance.s_play(1);
    GameSystem.Instance.Data_DarahMusuh -- ;
    StartCoroutine(GameSystem.Instance.Anim_Player_Attack());
}
else{
    Debug.Log("Salah");
    Music_Singleton.Instance.s_play(2);
    GameSystem.Instance.ID_Soal++;
    GameSystem.Instance.Data_HP--;
    GameSystem.Instance.Pernah_Kalah = true;
    GameSystem.Instance.Tanda_Object.GetComponent<Image>().sprite =
    GameSystem.Instance.Tanda_Gambar[1];
    GameSystem.Instance.Guinya[0].active = true ;
    StartCoroutine(GameSystem.Instance.Anim_Enemy_Attack());
}
}
}
}

```

Lampiran 4. char_anim

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
public class char_anim : MonoBehaviour
{
    // Start is called before the first frame update
    void Start()
    {
        GetComponent<Animator>().SetTrigger("dead");
    }
}

```

Lampiran 5. GameSelesai

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.UI;

public class GameSelesai : MonoBehaviour
{
    public static int Skor;
    public Text[] Teksnya;
    void Start()
    {
        StartCoroutine(Selesai());
    }
    void Update()
    {
    }
}

```

```

IEnumerator Selesai(){
    Teksnya[0].text = Skor.ToString();
    Teksnya[1].text = PlayerPrefs.GetInt("score").ToString();
    yield return new WaitForSeconds(5f);
    UIz.kk ="MainMenu";
    GameObject.Find("CanvasTransition").GetComponent<Animator>().Play("end");
}
}

```

Lampiran 6. GameSystem

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.UI;
using System;
using System.Collections;
public class GameSystem : MonoBehaviour
{
    private static GameSystem _instance = null;
    public static GameSystem Instance
    {
        get {return _instance ; }
    }
    public int
    ID_Level,ID_Soal,ID_JawabanBenar,Data_HP,Data_Score,Data_SoalSekarang,Data_DarahMusuh;
    public bool Pernah_Kalah ;
    [Header("Player & Enemnynya")]
    public GameObject p_Player ;
    public GameObject p_Enemy ;
    public GameObject[] p_Spawner;
    public RuntimeAnimatorController[] p_enemy_anim;
    [Header("Ui Textnya disini")]
    public Text[] teksnya ;
    public Sprite[] Tanda_Gambar ;
    public GameObject Tanda_Object ;
    public GameObject TandaDarah ;
    [Header("Data UI nya")]
    public GameObject[] Buttonnya ;
    public GameObject Tempat_Soal ;
    [Header("Data GUInya")]
    public GameObject[] Guinya ;
    [Header("Data Soalnya")]
    public List<int> RandomSoal = new List<int>() ;
    public GameObject[] DataSoal ;
    void Awake(){
        if(_instance == null){
            _instance = this;
        }
    }
}

```

```

    ID_Level = 0 ;
    ID_Soal = 0;
    Data_HP = 3;
    Data_Score = 0 ;
    Data_SoalSekarang = 0 ;
    Data_DarahMusuh = 3 ;
    Pernah_Kalah = false;
    }
void Start()
{
    AmbilSoal();
    SetText();
}
public void ResetData(){
    ID_Soal = 0 ;
    Data_SoalSekarang = 0 ;
    Pernah_Kalah = false ;
    Data_DarahMusuh = 3 ;
}
void AmbilSoal(){
    RandomSoal.Clear();
    RandomSoal = new List<int>(new
int[DataSoal[ID_Level].GetComponent<Soal>().KumpulanSoal.Count]);
    int Max = RandomSoal.Count + 1 ;
    Debug.Log(Max);
    int rand ;
    for (int i = 0; i < RandomSoal.Count; i++)
    {
        rand = UnityEngine.Random.Range(1,Max);
        while(RandomSoal.Contains(rand)){
            rand = UnityEngine.Random.Range(1,Max);
        }
        RandomSoal[i] =rand;
    }
    Invoke("SetSoal",0.1f);
}
public void SetSoal(){
    SetEnemyChar();

    ID_JawabanBenar =
DataSoal[ID_Level].GetComponent<Soal>().KumpulanSoal[RandomSoal[ID_Soal
]-1].Data_JawabanSoal ;

    Tempat_Soal.GetComponent<Text>().text =
DataSoal[ID_Level].GetComponent<Soal>().KumpulanSoal[RandomSoal[ID_Soal
]-1].Data_Soal ;

```

```

for (int i = 0; i < Buttonnya.Length; i++)
{
    Buttonnya[i].GetComponentInChildren<Text>().text =
DataSoal[ID_Level].GetComponent<Soal>().KumpulanSoal[RandomSoal[ID_Soal
]-1].Data_TextJawaban[i];
}
if(ID_JawabanBenar == 0 ){
    Debug.Log("Jawaban A");
}
else if(ID_JawabanBenar == 1 ){
    Debug.Log("Jawaban B");
}
else if(ID_JawabanBenar == 2 ){
    Debug.Log("Jawaban C");
}
else if(ID_JawabanBenar == 3 ){
    Debug.Log("Jawaban D");
}
}
}
public void SetText(){
    teksnya[0].text = "x "+Data_HP;
    teksnya[1].text = "SCORE : "+Data_Score;
    int idl = ID_Level+1 ;
    teksnya[2].text = "LEVEL - "+idl;
    teksnya[3].text = "LEVEL - "+idl;
    if(Data_SoalSekarang == 0){
        TandaDarah.GetComponent<Image>().rectTransform.sizeDelta =
        new Vector2 (182.2433f*3,162f);
    }
    else if(Data_SoalSekarang == 1){
        TandaDarah.GetComponent<Image>().rectTransform.sizeDelta =
        new Vector2 (182.2433f*2,162f);
    }
    else if(Data_SoalSekarang == 2){
        TandaDarah.GetComponent<Image>().rectTransform.sizeDelta =
        new Vector2 (182.2433f*1,162f);
    }
    else if(Data_SoalSekarang == 3){
        TandaDarah.GetComponent<Image>().rectTransform.sizeDelta =
        new Vector2 (182.2433f*0,162f);
    }
}
}
public void SetEnemyChar(){
    p_Enemy.GetComponent<Animator>().runtimeAnimatorController =
p_enemy_anim[ID_Level];
    if(ID_Level == 0 || ID_Level == 1){
        p_Enemy.transform.localPosition = new Vector3(249f , 327f);
    }
}
}

```

```

else if( ID_Level == 2 || ID_Level == 3){
    p_Enemy.transform.localPosition = new Vector3(249f , 351.5f);
}
else if( ID_Level == 4 || ID_Level == 5){
    p_Enemy.transform.localPosition = new Vector3(249f , 336f);
}
}
}
public IEnumerator Anim_Player_Attack(){
    yield return new WaitForSeconds(2.125f);
    p_Player.GetComponent<Animator>().SetTrigger("hit");
    yield return new WaitForSeconds(0.2f);
    if(Data_SoalSekarang < 3){
        p_Enemy.GetComponent<Animator>().SetTrigger("hurt");
        Music_Singleton.Instance.s_play(4);
        yield return new WaitForSeconds(0.1f);
        GameObject gg = Instantiate(p_Spawner[0]);
        gg.transform.position = new Vector2(1.89f,2.63f);
        yield return new WaitForSeconds(0.5f);
        Guinya[0].active = false;
        SetSoal()
    }
    else
        p_Enemy.GetComponent<Animator>().SetTrigger("dead");
        Music_Singleton.Instance.s_play(4);
        yield return new WaitForSeconds(0.1f);
        GameObject gg = Instantiate(p_Spawner[0]);
        gg.transform.position = new Vector2(1.89f,2.63f);
        yield return new WaitForSeconds(0.5f);
        Guinya[0].active = false;
        if(!Pernah_Kalah){
            Data_HP++;
        }
        if(ID_Level < 5){
            ID_Level++;
            SetText();
            Music_Singleton.Instance.s_play(8);
            Guinya[2].active = true ;
            yield return new WaitForSeconds(2.967f);
            Guinya[2].active = false ;
            Music_Singleton.Instance.s_play(7);
            GameObject ggs = Instantiate(p_Spawner[1]);
            ggs.transform.position = new Vector2(1.89f,2.63f);
        }
        else{
            GameSelesai.Skor = Data_Score ;
            Music_Singleton.Instance.s_play(3);
            UIz.kk ="GameWin";
        }
    GameObject.Find("CanvasTransition").GetComponent<Animator>().Play("end");
}

```



```

        if(Data_Score >= PlayerPrefs.GetInt("score")){
            PlayerPrefs.SetInt("score",Data_Score);
        }
    }
    ResetData();
    AmbilSoal();
    Debug.Log("char Menang");
}
SetText();
}
public IEnumerator Anim_Enemy_Attack(){
    yield return new WaitForSeconds(2.125f);
    p_Enemy.GetComponent<Animator>().SetTrigger("hit");
    yield return new WaitForSeconds(0.2f);
    if(Data_HP > 0 ){
        p_Player.GetComponent<Animator>().SetTrigger("hurt");
        Music_Singleton.Instance.s_play(6);
        yield return new WaitForSeconds(0.1f);
        GameObject gg = Instantiate(p_Spawner[0]);
        gg.transform.position = new Vector2(-2.05f,2.63f);
        yield return new WaitForSeconds(0.5f);
        Guinya[0].active = false;
        SetSoal();
    }
    else{
        p_Player.GetComponent<Animator>().SetTrigger("dead");
        Music_Singleton.Instance.s_play(6);
        yield return new WaitForSeconds(0.1f);
        GameObject gg = Instantiate(p_Spawner[0]);
        gg.transform.position = new Vector2(-2.05f,2.63f);
        yield return new WaitForSeconds(0.5f);
        Guinya[0].active = false;
        Music_Singleton.Instance.s_play(5);
        Debug.Log("Karakter kalah ");
        UIz.kk ="GameLose";
        GameObject.Find("CanvasTransition").GetComponent<Animator>().Play("end");
        GameSelesai.Skor = Data_Score ;
        if(Data_Score >= PlayerPrefs.GetInt("score")){
            PlayerPrefs.SetInt("score",Data_Score);
        }
    }
    SetText();
}
public void btn_hide_gui(int i){
    Guinya[i].active = false;
    Music_Singleton.Instance.s_play(0);
}
public void btn_show_gui(int i){

```

```

        Guinya[i].active = true;
        Music_Singleton.Instance.s_play(0);
    }
}

```

Lampiran 7. MainMenuSystem

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.UI;
public class MainMenuSystem : MonoBehaviour
{
    public GameObject[] Guinya ;
    public Text teksscore ;
    void Start(){
        for (int i = 0; i < Guinya.Length; i++)
        {
            Guinya[i].active = false;
        }
        if(PlayerPrefs.GetInt("score") == null){
            PlayerPrefs.SetInt("score",0);
        }
        teksscore.text = PlayerPrefs.GetInt("score").ToString();
    }
    public void btn_show_ui(int i){
        Guinya[i].active = true ;
    }
    public void btn_exit_game(){
        Application.Quit();
    }
}

```

Lampiran 8. Music_Singleton

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.UI;
public class Music_Singleton : MonoBehaviour {
    private static Music_Singleton _instance = null;
    public static Music_Singleton Instance
    {
        get {return _instance ; }
    }
    public AudioClip[] suara ;
    [HideInInspector]public List<AudioSource> source;
    void Awake(){
        if(_instance == null){
            _instance = this;
            DontDestroyOnLoad(this);
        }
    }
}

```

```

        else{
            Destroy(this.gameObject);
        }
    }
    void Start(){
        for (int i = 0; i < suara.Length; i++)
        {
            source.Add(new AudioSource());
            source[i] = gameObject.AddComponent<AudioSource>();
            source[i].clip = suara[i];
        }
    }
    public void s_play(int i){
        source[i].Play();
    }
}

```

Lampiran 9. Soal

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using System;
public class Soal : MonoBehaviour
{
    public TextAsset DataSoalText;
    [Serializable]
    public class DataSoal{
        [TextArea]
        public string Data_Soal;
        [TextArea]
        public List<string> Data_TextJawaban;
        public int Data_JawabanSoal ;
    }
    public List<DataSoal> KumpulanSoal ;
    public List<String> SaveSoalSementara
    void Start()

    {
    }
    void SimpanSoal(){
        KumpulanSoal.Clear();
        SaveSoalSementara.Clear();
        SaveSoalSementara = new List<string>(DataSoalText.text.Split('\n'));
        int DataInt = SaveSoalSementara.Count ;
        int banyak = DataInt / 6 ;
        Debug.Log(banyak);
        KumpulanSoal = new List<DataSoal>(new DataSoal[banyak]);
        StartCoroutine(LoadData());
    }
}

```

```

IEnumerator LoadData(){
    yield return new WaitForSeconds(0.4f);
    for (int i = 0; i < KumpulanSoal.Count; i++)
    {
        KumpulanSoal[i].Data_Soal = SaveSoalSementara[i * 6].ToString();
        KumpulanSoal[i].Data_TextJawaban = new List<string>(new string[4]);
        KumpulanSoal[i].Data_TextJawaban[0] = SaveSoalSementara[(i * 6) + 1];
        KumpulanSoal[i].Data_TextJawaban[1] = SaveSoalSementara[(i * 6) + 2];
        KumpulanSoal[i].Data_TextJawaban[2] = SaveSoalSementara[(i * 6) + 3];
        KumpulanSoal[i].Data_TextJawaban[3] = SaveSoalSementara[(i * 6) + 4];
        KumpulanSoal[i].Data_JawabanSoal = int.Parse(SaveSoalSementara[(i * 6)
+ 5]);
    }
}

```

Lampiran 10. Trailer1

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.UI;
public class Trailer1 : MonoBehaviour
{
    public bool P_Cowok_Gerak,P_kamera,P_Enemy;
    public GameObject Char_Cowok,Char_Cewek,Char_Enemy;
    public int ID_Gerak_Cowok,id_camera ;
    public Vector2[] TargetCowok ;
    [TextArea]
    public string[] Percakapan ;
    public GameObject[] Uinya ;
    public string message = "" ;
    public float letterPause = 0.0125f;
    public Text gtz ;
    public Vector3[] PosisiKamera ;
    void Start()
    {
        StartCoroutine(animasi());
    }
IEnumerator animasi(){
    gtz.text = "";
    P_kamera = true;
    yield return new WaitForSeconds(0);
    Char_Cowok.GetComponent<SpriteRenderer>().flipX = false;
    P_Cowok_Gerak = true ;
    Char_Cowok.GetComponent<Animator>().Play("walk");
    yield return new WaitForSeconds(2.5f);
    P_Cowok_Gerak = false ;
    gtz.text = "";
    message = Percakapan[0];
}

```

```

StartCoroutine(TypeText ());
Char_Cowok.GetComponent<Animator>().Play("idle");
yield return new WaitForSeconds(6.5f);
gtz.text = "";
message = Percakapan[1];
StartCoroutine(TypeText ());
yield return new WaitForSeconds(2.5f);
gtz.text = "";
ID_Gerak_Cowok = 1 ;
message = Percakapan[2];
Char_Cowok.GetComponent<SpriteRenderer>().flipX = true;
P_Cowok_Gerak = true ;
Char_Cowok.GetComponent<Animator>().Play("walk");
yield return new WaitForSeconds(2.5f);
Uinya[0].active = true ;
yield return new WaitForSeconds(1f);
Char_Cewek.active = false;
yield return new WaitForSeconds(1.63f);
id_camera = 1;
Char_Cowok.GetComponent<SpriteRenderer>().flipX = false;
P_Cowok_Gerak = true ;
P_Enemy = true;
ID_Gerak_Cowok = 0 ;
Char_Cowok.GetComponent<Animator>().Play("walk");
gtz.text = "";
message = Percakapan[3];
StartCoroutine(TypeText ());
yield return new WaitForSeconds(5f);
gtz.text = "";
id_camera = 0 ;
P_Cowok_Gerak = false;
Char_Cowok.GetComponent<Animator>().Play("idle");
message = Percakapan[4];
StartCoroutine(TypeText ());
yield return new WaitForSeconds(3f);
gtz.text = "";
message = Percakapan[5];
StartCoroutine(TypeText ());
yield return new WaitForSeconds(4f);
UIz.kk = "Game";
GameObject.Find("CanvasTransition").GetComponent<Animator>().Play("end");
}
void Update(){
float step = 1 * Time.deltaTime
if(P_Cowok_Gerak){
Char_Cowok.transform.position =
Vector2.MoveTowards(Char_Cowok.transform.position,TargetCowok[ID_Gerak_
Cowok],step);

```

```

    }
    if(P_Enemy)
        Char_Enemy.transform.position =
Vector2.MoveTowards(Char_Enemy.transform.position,new Vector2(15.15f,-
2.14f),step);
    }
    if(P_kamera){
        Camera cam = Camera.main;
        cam.transform.position =
Vector3.Lerp(cam.transform.position,PosisiKamera[id_camera],0.0125f);
    }
}
IEnumerator TypeText () {
    foreach (char letter in message.ToCharArray()) {
        gtz.text += letter;
        yield return new WaitForSeconds (letterPause);
    }
}
}

```

Lampiran 11. UIz

```

using System.Collections;
using System.Collections.Generic;
using UnityEngine;
using UnityEngine.SceneManagement;
public class UIz : MonoBehaviour {
    public static string kk;
    public void close(){
        Music_Singleton.Instance.s_play(0);
        this.gameObject.active = false;
    }
    public void kemana(){
        SceneManager.LoadScene(kk);
    }
    public void Suara(int i){
        Music_Singleton.Instance.s_play(i);
    }
    public void btn_pindah(string kemana){
        Music_Singleton.Instance.s_play(0);
        kk = kemana ;
        GetComponent<Animator>().Play("end");
    }
    public void btn_continue(string kemana){
        Music_Singleton.Instance.s_play(0);
        kk = kemana ;
        GetComponent<Animator>().Play("end2");
    }
    public void suara_trampoline(){
        Music_Singleton.Instance.s_play(1);
    }
}

```

```
}  
public void animation(){  
    GetComponent<Animator>().Play("end");  
}  
public void pindahnext(){  
    if(PlayerPrefs.GetInt("level_unlocked") >= 36){  
        kk = "Challange_Level_1";  
    }  
    else{  
        kk = "Main_Challange";  
    }  
    Music_Singleton.Instance.s_play(0);  
    GetComponent<Animator>().Play("end");  
}  
public void b_exit(){  
    if (Application.platform == RuntimePlatform.Android)  
    {  
        Application.Quit();  
    }  
    else if(Application.platform == RuntimePlatform.WebGLPlayer){  
        Application.OpenURL("about:blank");}  
}
```