

**Midterm Project :  
Don’t let it cross**

**13016235 C Programming**

**Software Engineering Program**

**Faculty of Engineering, KMITL**

By

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**13016235: C Programming**

**First Semester, 2019**

# Project Proposal

1. Project developer

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1. Project title

|  |
| --- |
| Don’t let it cross |

1. Project description and requirements

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| **Project description:**  Point and click 2D platformer game. Use a mouse to point and shoot the zombies.  Earn the money buy killing the zombies and purchase various weapons. The game over  When the zombies cross the screen and the health is zero.    (Note: figures, flowcharts, diagrams may be used to describe the project) |
| **Project requirements:**   * C language IDE (MS Visual Studio 2017) * Raylib library. * Tile ( for editing sprites )   (Describe the problem’s statements or a specific request of the program that will be achieved.) |

**SOURCE CODE**

**#define \_CRT\_SECURE\_NO\_WARNINGS**

**#include "raylib.h"**

**#include <stdio.h>**

**#define MAX\_FRAME\_SPEED 15**

**#define MIN\_FRAME\_SPEED 1**

**#define MAX\_ZOMBS 2000**

**#define SAND CLITERAL{255,208,122,255}**

**#define MAX\_MACHINEGUN 300**

**#define MAX\_SHOTGUN 20**

**#define MAX\_NYAN\_AMMO 10**

**#define MAX\_NYAN 30**

**typedef struct Animation {**

**Rectangle frameRec;**

**int currentFrame;**

**int framesCounter;**

**int framesSpeed;**

**Rectangle nyanRec;**

**int nyanCurrentFrame;**

**int nyanFramesCounter;**

**int nyanFrameSpeed;**

**}Animation;**

**typedef struct collisionBox{**

**bool active;**

**Rectangle colliderZombs;**

**}collisionBox;**

**typedef struct Zombie {**

**bool active;**

**Vector2 position;**

**int health;**

**int speed;**

**int zombieCount;**

**}Zombie;**

**typedef struct Zombie2 {**

**bool active;**

**Vector2 position;**

**int health;**

**int speed;**

**int zombieCount;**

**}Zombie2;**

**typedef struct Player {**

**int money;**

**int gun;**

**int damage;**

**int health;**

**int wave;**

**bool startWave;**

**}Player;**

**typedef struct Guns {**

**bool pistol;**

**bool machineGun;**

**bool shotGun;**

**bool nyanGun;**

**int machineGunAmmo;**

**int shotGunAmmo;**

**int nyanAmmo;**

**}Guns;**

**typedef struct Render {**

**Texture2D pist;**

**Texture2D ar;**

**Texture2D shotGun;**

**Texture2D bg\_s;**

**Texture2D crossHair;**

**Texture2D shotCross;**

**Texture2D startScreen;**

**Texture2D bg\_n;**

**Texture2D bg;**

**Texture2D ar\_b;**

**Texture2D shotGun\_b;**

**Texture2D nyanGun;**

**Texture2D go;**

**}Render;**

**typedef struct CrossHair {**

**Vector2 mousePos;**

**Rectangle shotGunCross;**

**}CrossHair;**

**typedef struct NyanNyan {**

**Vector2 mousePos;**

**Rectangle nyanCross;**

**}NyanNyan;**

**typedef struct NyanShot {**

**Rectangle rec;**

**Vector2 speed;**

**Vector2 position;**

**bool active;**

**}NyanShot;**

**typedef struct HitSound {**

**Sound gunfire;**

**Sound marker;**

**bool active;**

**bool gActive;**

**Sound oof;**

**}HitSound;**

**//Global variable declaration.**

**static HitSound hitSound[100] = { 0 };**

**static collisionBox collider[MAX\_ZOMBS] = { 0 };**

**static Zombie zombie[MAX\_ZOMBS] = { 0 };**

**static Player player[1] = { 0 };**

**static Guns gun[] = { 0 };**

**static Render render;**

**static Animation animation;**

**static CrossHair crosshair;**

**static NyanNyan nyannyan[MAX\_NYAN] = { 0 };**

**static NyanShot nyanShot[MAX\_NYAN] = { 0 };**

**static float zombieSpeed = 1.5;**

**static int zombieSpawn = 20;**

**const int screenWidth = 1600;**

**const int screenHeight = 900;**

**static int framesCounter = 0;**

**void tryRender(void) {**

**render.go = LoadTexture("sprite/gameOver.jpg");**

**render.bg\_s = LoadTexture("sprite/bg\_s.png");**

**render.pist = LoadTexture("sprite/pistol\_s.png");**

**render.ar = LoadTexture("sprite/ar\_s.png");**

**render.crossHair = LoadTexture("sprite/crossHair.png");**

**render.shotCross = LoadTexture("sprite/shotC.png");**

**render.shotGun = LoadTexture("sprite/shotgun.png");**

**render.startScreen = LoadTexture("sprite/Splash.png");**

**render.bg\_n = LoadTexture("sprite/bg\_n.png");**

**render.bg = render.bg\_s;**

**render.ar\_b = LoadTexture("sprite/ar\_b.png");**

**render.shotGun\_b = LoadTexture("sprite/shotgun\_b.png");**

**render.nyanGun = LoadTexture("sprite/nyan.png");**

**}**

**void draw(void) {**

**int ammo;**

**ammo = NULL;**

**DrawText(FormatText("MONEY : %i", player->money), 20, 30, 40, RED);**

**DrawText(FormatText("Health : %i", player->health), 20, 80, 40, RED);**

**DrawText(FormatText("Zombie Count : %i / %i", zombie->zombieCount,zombieSpawn), 20, 130, 40, RED);**

**switch (player->gun) {**

**case 0: DrawText(FormatText("Bullets : INFINITE"), 20, 180, 40, RED); break;**

**case 1: ammo = gun->machineGunAmmo; break;**

**case 2: ammo = gun->shotGunAmmo; break;**

**case 3: ammo = gun->nyanAmmo; break;**

**}**

**if(player->gun !=0)**

**DrawText(FormatText("Bullets : %i", ammo), 20, 180, 40, RED);**

**}**

**void initZombie(void) {**

**Texture2D zombie\_default = LoadTexture("sprite/zombie\_default.png");**

**for (int i = 0; i < MAX\_ZOMBS; i++)**

**{**

**if (zombie[i].position.x == zombie[i - 1].position.x)**

**zombie[i].position.x = GetRandomValue(screenWidth - 3000, screenWidth - 1500);**

**if (zombie[i].position.y == zombie[i - 1].position.y)**

**zombie[i].position.y = GetRandomValue(0, screenHeight - zombie\_default.height);**

**zombie[i].speed = zombieSpeed;**

**zombie[i].active = true;**

**zombie[i].health = 100;**

**zombie[i].position.x = GetRandomValue(screenWidth - 3000, screenWidth - 1500);**

**zombie[i].position.y = GetRandomValue(0, screenHeight - zombie\_default.height);**

**}**

**UnloadTexture(zombie\_default);**

**}**

**void colliderZombies(void) {**

**Texture2D zombie\_default = LoadTexture("sprite/zombie\_default.png");**

**for (int i = 0; i < zombieSpawn; i++)**

**{**

**if (zombie[i].active) {**

**collider[i].active = true;**

**collider[i].colliderZombs.x = zombie[i].position.x;**

**collider[i].colliderZombs.y = zombie[i].position.y;**

**collider[i].colliderZombs.width = zombie\_default.width / 5;**

**collider[i].colliderZombs.height = (float)zombie\_default.height;**

**}**

**}**

**UnloadTexture(zombie\_default);**

**}**

**void init(void)**

**{**

**zombieSpeed = 1.5;**

**zombieSpawn = 20;**

**player->startWave = true;**

**player->health = 10;**

**player->money = 8000;**

**player->gun = 0;**

**player->wave = 1;**

**zombie->zombieCount = 0;**

**//Render sprite**

**tryRender();**

**//Init zombies**

**initZombie();**

**//Init Collider for zombies**

**colliderZombies();**

**//Init Player**

**//Init guns**

**gun->machineGun = false;**

**gun->shotGun = false;**

**gun->nyanGun = false;**

**gun->machineGunAmmo = 0;**

**gun->nyanAmmo = 0;**

**gun->shotGunAmmo = 0;**

**//Init nyanShot**

**for (int i = 0; i < MAX\_NYAN; i++)**

**{**

**nyanShot[i].rec.x = GetMousePosition().x - ((render.nyanGun.width / 5)/2);**

**nyanShot[i].rec.y = GetMousePosition().y - (render.nyanGun.height)/2;**

**nyanShot[i].rec.width = render.nyanGun.width / 5;**

**nyanShot[i].rec.height = render.nyanGun.height;**

**nyanShot[i].speed.x = 5;**

**nyanShot[i].speed.y = 0;**

**nyanShot[i].active = false;**

**}**

**//loading sound**

**for (int i = 0; i < 10; i++) {**

**hitSound[i].marker = LoadSound("sprite/Hit.ogg");**

**hitSound[i].gunfire = LoadSound("sprite/pistol.ogg");**

**SetSoundVolume(hitSound[i].marker, 1);**

**SetSoundVolume(hitSound[i].gunfire, 0.1);**

**hitSound[i].active = false;**

**hitSound[i].gActive = false;**

**}**

**hitSound->oof = LoadSound("sprite/OOF.ogg");**

**}**

**void buyWeapons(void) {**

**//MachineGun**

**if (IsKeyPressed(KEY\_F1) && player->money>=2000 && gun->machineGun == false )**

**{**

**player->money -= 2000;**

**gun->machineGun = true;**

**gun->machineGunAmmo = MAX\_MACHINEGUN;**

**}**

**//shotGun**

**if (IsKeyPressed(KEY\_F2) && player->money >= 4000 && gun->shotGun == false)**

**{**

**player->money -= 4000;**

**gun->shotGun = true;**

**gun->shotGunAmmo = MAX\_SHOTGUN;**

**}**

**if (IsKeyPressed(KEY\_F3) && player->money >= 8000 && gun->nyanGun == false)**

**{**

**player->money -= 8000;**

**gun->nyanGun = true;**

**gun->nyanAmmo = MAX\_NYAN\_AMMO;**

**}**

**//Reload**

**if (IsKeyPressed(KEY\_A) && player->money >= 1000 && gun->machineGunAmmo < MAX\_MACHINEGUN &&gun->machineGun)**

**{**

**player->money -= 1000;**

**gun->machineGunAmmo = MAX\_MACHINEGUN;**

**}**

**if (IsKeyPressed(KEY\_S) && player->money >= 1000 && gun->shotGunAmmo < MAX\_SHOTGUN &&gun->shotGun)**

**{**

**player->money -= 1000;**

**gun->shotGunAmmo = MAX\_SHOTGUN;**

**}**

**if (IsKeyPressed(KEY\_D) && player->money >= 1000 && gun->nyanAmmo < MAX\_NYAN\_AMMO && gun->nyanGun)**

**{**

**player->money -= 1000;**

**gun->nyanAmmo = MAX\_NYAN\_AMMO;**

**}**

**}**

**void hitMarkerSound(void) {**

**Vector2 mousePoint = GetMousePosition();**

**//Hit marker Sound behaviour**

**for (int i = 0; i < 10; i++) {**

**if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && (player->gun == 0 || (player->gun == 2 && gun->shotGunAmmo>0))) {**

**hitSound[i].gActive = true;**

**}**

**else if (IsMouseButtonDown(MOUSE\_LEFT\_BUTTON) && player->gun == 1 && gun->machineGunAmmo > 0) {**

**hitSound[i].gActive = true;**

**}**

**for (int j = 0; j < zombieSpawn; j++)**

**{**

**if (!zombie[j].active)**

**if (zombie[j].active && collider[j].active) {**

**if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 0) {**

**if (CheckCollisionPointRec(mousePoint, collider[j].colliderZombs))**

**{**

**if (!hitSound->active)**

**hitSound->active = true;**

**}**

**}**

**if (CheckCollisionPointRec(mousePoint, collider[j].colliderZombs) && IsMouseButtonDown(MOUSE\_LEFT\_BUTTON) && gun->machineGunAmmo > 0 && player->gun == 1)**

**{**

**if (!hitSound->active)**

**hitSound->active = true;**

**}**

**if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 2 && gun->shotGunAmmo > 0)**

**{**

**if (CheckCollisionRecs(crosshair.shotGunCross, collider[j].colliderZombs)) {**

**if (!hitSound->active)**

**hitSound->active = true;**

**}**

**}**

**if (CheckCollisionRecs(nyanShot[j].rec, collider[j].colliderZombs))**

**{**

**if (!hitSound->active)**

**hitSound->active = true;**

**}**

**}**

**}**

**}**

**for (int i = 0; i < 100; i++) {**

**if (hitSound->active) {**

**PlaySound(hitSound->marker);**

**hitSound->active = false;**

**}**

**if (hitSound[i].gActive) {**

**PlaySound(hitSound[i].gunfire);**

**hitSound[i].gActive = false;**

**}**

**}**

**}**

**void Damage(void) {**

**SetSoundVolume(hitSound->oof, 1.0);**

**Vector2 mousePoint = GetMousePosition();**

**//setting damage for each gun**

**int damage;**

**switch (player->gun) {**

**case 0: damage = 20; break;**

**case 1: damage = 20; break;**

**case 2: damage = 50; break;**

**case 3: damage = 100; break;**

**}**

**//doing damage**

**for (int i = 0; i < zombieSpawn; i++) {**

**if (zombie[i].active) {**

**if (CheckCollisionPointRec(mousePoint, collider[i].colliderZombs) && IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 0)**

**{**

**zombie[i].health -= damage;**

**printf("%d", zombie[i].health);**

**if (zombie[i].health <= 0 && collider[i].active) {**

**PlaySound(hitSound->oof);**

**zombie->zombieCount += 1;**

**player->money += 50;**

**collider[i].active = false;**

**zombie[i].active = false;**

**printf("\n%d", player->money);**

**}**

**}**

**else if (player->gun == 1)**

**{**

**if (CheckCollisionPointRec(mousePoint, collider[i].colliderZombs) && IsMouseButtonDown(MOUSE\_LEFT\_BUTTON) && gun->machineGunAmmo > 0) {**

**zombie[i].health -= damage;**

**printf("%d", zombie[i].health);**

**if (zombie[i].health <= 0 && collider[i].active) {**

**PlaySound(hitSound->oof);**

**zombie->zombieCount += 1;**

**player->money += 50;**

**collider[i].active = false;**

**zombie[i].active = false;**

**printf("\n%d", player->money);**

**}**

**}**

**}**

**else if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 2 && gun->shotGunAmmo > 0)**

**{**

**if (CheckCollisionRecs(crosshair.shotGunCross, collider[i].colliderZombs)) {**

**zombie[i].health -= damage;**

**printf("%d", zombie[i].health);**

**if (zombie[i].health <= 0 && collider[i].active) {**

**PlaySound(hitSound->oof);**

**zombie->zombieCount += 1;**

**player->money += 50;**

**collider[i].active = false;**

**zombie[i].active = false;**

**printf("\n%d", player->money);**

**}**

**}**

**}**

**}**

**}**

**//NYAN GUN SPECIAL BEHAVIOUR**

**if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 3 && gun->nyanAmmo > 0) {**

**for (int i = 0; i < MAX\_NYAN; i++)**

**{**

**if (!nyanShot[i].active)**

**{**

**nyanShot[i].rec.x = GetMousePosition().x - (render.nyanGun.width / 5) / 2;**

**nyanShot[i].rec.y = GetMousePosition().y - (render.nyanGun.height / 2);**

**nyanShot[i].active = true;**

**break;**

**}**

**}**

**}**

**for (int i = 0; i < MAX\_NYAN; i++)**

**{**

**if (nyanShot[i].active)**

**{**

**nyanShot[i].rec.x -= nyanShot[i].speed.x + 3;**

**for (int j = 0; j < zombieSpawn; j++) {**

**if (CheckCollisionRecs(nyanShot[i].rec, collider[j].colliderZombs))**

**zombie[j].health -= damage; {**

**if (zombie[j].health <= 0 && collider[j].active) {**

**PlaySound(hitSound->oof);**

**zombie->zombieCount += 1;**

**player->money += 50;**

**collider[j].active = false;**

**zombie[j].active = false;**

**}**

**}**

**}**

**if (nyanShot[i].rec.x <= 0)**

**{**

**nyanShot[i].active = false;**

**}**

**}**

**}**

**}**

**void switchWeapon(void) {**

**if (IsKeyPressed(KEY\_Z))**

**player->gun = 0;**

**if (IsKeyPressed(KEY\_X) && gun->machineGun) {**

**player->gun = 1;**

**}**

**if (IsKeyPressed(KEY\_C) && gun->shotGun)**

**player->gun = 2;**

**if (IsKeyPressed(KEY\_V) && gun->nyanGun)**

**player->gun = 3;**

**}**

**void playerCrossHair(void) {**

**crosshair.mousePos = GetMousePosition();**

**crosshair.shotGunCross.x = crosshair.mousePos.x - 100;**

**crosshair.shotGunCross.y = crosshair.mousePos.y - 100;**

**crosshair.shotGunCross.height = 200;**

**crosshair.shotGunCross.width = 200;**

**}**

**void doNyan(void) {**

**Vector2 temp = GetMousePosition();**

**nyannyan->mousePos.x= temp.x-(750/5);**

**nyannyan->mousePos.y = temp.y - 69;**

**nyannyan->nyanCross.x = temp.x - (750/5);**

**nyannyan->nyanCross.y = temp.y - 69;**

**nyannyan->nyanCross.height = 138;**

**nyannyan->nyanCross.width = 750/5;**

**}**

**void GunSprites(void) {**

**Vector2 nyanPose;**

**switch (player->gun) {**

**case 0: DrawTexture(render.pist, 900, 0, WHITE);**

**DrawTexture(render.crossHair, crosshair.mousePos.x - 25, crosshair.mousePos.y - 25, RED);**

**break;**

**case 1: DrawTexture(render.ar, 900, -90, WHITE);**

**DrawTexture(render.crossHair, crosshair.mousePos.x - 25, crosshair.mousePos.y - 25, RED);**

**break;**

**case 2: DrawTexture(render.shotGun, 900, 0, WHITE);**

**DrawTexture(render.shotCross, crosshair.mousePos.x - 100, crosshair.mousePos.y - 100, WHITE);**

**break;**

**case 3:**

**animation.nyanFramesCounter += 1;**

**if (animation.nyanFramesCounter >= (60 / animation.nyanFrameSpeed))**

**{**

**animation.nyanFramesCounter = 0;**

**animation.nyanCurrentFrame++;**

**if (animation.nyanCurrentFrame > 5) animation.nyanCurrentFrame = 0;**

**animation.nyanRec.x = (float)animation.nyanCurrentFrame\*(float)render.nyanGun.width / 5;**

**}**

**DrawTextureRec(render.nyanGun, animation.nyanRec, nyannyan->mousePos, WHITE);**

**}**

**nyanPose.x = 1000;**

**nyanPose.y = 465;**

**if (player->startWave == false) {**

**if (gun->machineGun) {**

**DrawTexture(render.ar\_b, 25, 400, WHITE);**

**}**

**else {**

**DrawTexture(render.ar, 25, 400, WHITE);**

**}**

**DrawText(FormatText("F1 : Price 2000"), 25, 450, 30, RED);**

**if (gun->shotGun) {**

**DrawTexture(render.shotGun\_b, 500, 455, WHITE);**

**}**

**else {**

**DrawTexture(render.shotGun, 500, 455, WHITE);**

**}**

**if (gun->nyanGun) {**

**DrawTextureRec(render.nyanGun, animation.nyanRec, nyanPose, BLACK);**

**}**

**else {**

**DrawTextureRec(render.nyanGun, animation.nyanRec, nyanPose, WHITE);**

**}**

**DrawText(FormatText("A : %i/%i", gun->machineGunAmmo, MAX\_MACHINEGUN), 25, 600, 30, BLUE);**

**DrawText(FormatText("S : %i/%i", gun->shotGunAmmo, MAX\_SHOTGUN), 500, 600, 30, BLUE);**

**DrawText(FormatText("D : %i/%i", gun->nyanAmmo, MAX\_NYAN\_AMMO), 1000, 600, 30, BLUE);**

**DrawText(FormatText("F2 : Price 4000"), 500, 450, 30, RED);**

**DrawText(FormatText("F3 : Price 8000"), 1000, 450, 30, RED);**

**DrawText(FormatText("WAVE END"), 600, 300, 60, BLUE);**

**DrawText(FormatText("PRESS SPACE TO START NEW WAVE"), 200, 350, 60, BLUE);**

**}**

**}**

**void doPlayerDamage(void) {**

**for (int i = 0; i < zombieSpawn; i++)**

**{**

**if (zombie[i].position.x > screenWidth && zombie[i].active)**

**{**

**player->health -= 1;**

**zombie[i].active = false;**

**zombie->zombieCount += 1;**

**}**

**}**

**}**

**void doAnimation(void) {**

**Texture2D zombie\_default = LoadTexture("sprite/zombie\_default\_filt.png");**

**animation.frameRec.x = 0.0f;**

**animation.frameRec.y = 0.0f;**

**animation.frameRec.width = (float)zombie\_default.width / 5;**

**animation.frameRec.height = (float)zombie\_default.height;**

**animation.currentFrame = 0;**

**animation.framesCounter = 0;**

**animation.framesSpeed = 10;**

**animation.nyanRec.x = 0.0f;**

**animation.nyanRec.y = 0.0f;**

**animation.nyanRec.width = (float)render.nyanGun.width / 5;**

**animation.nyanRec.height = (float)render.nyanGun.height;**

**animation.nyanCurrentFrame = 0;**

**animation.nyanFramesCounter = 0;**

**animation.nyanFrameSpeed = 15;**

**UnloadTexture(zombie\_default);**

**}**

**void zombieMovement(void) {**

**for (int i = 0; i < zombieSpawn; i++)**

**{**

**zombie[i].position.x += zombie[i].speed;**

**}**

**}**

**void DecreaseAmmo(void) {**

**if (player->startWave) {**

**if (IsMouseButtonDown(MOUSE\_LEFT\_BUTTON) && player->gun == 1 && gun->machineGunAmmo > 0)**

**{**

**gun->machineGunAmmo -= 1;**

**}**

**if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 2 && gun->shotGunAmmo > 0)**

**{**

**gun->shotGunAmmo -= 1;**

**}**

**if (IsMouseButtonPressed(MOUSE\_LEFT\_BUTTON) && player->gun == 3 && gun->nyanAmmo > 0)**

**{**

**gun->nyanAmmo -= 1;**

**}**

**}**

**}**

**int main(void)**

**{**

**// Initialization**

**//--------------------------------------------------------------------------------------**

**bool start;**

**start = false;**

**InitWindow(screenWidth, screenHeight, "Don't let it cross");**

**init();**

**InitAudioDevice();**

**//Load sound.**

**Sound pistolShot = LoadSound("sprite/Pistol.wav");**

**Sound first\_screen = LoadSound("sprite/Start\_music.ogg");**

**Sound main\_music = LoadSound("sprite/main\_music.ogg");**

**Sound machineGun\_sound = LoadSound("sprite/MachineGun.ogg");**

**Sound shotGun = LoadSound("sprite/shotGun.ogg");**

**Sound nyanCat = LoadSound("sprite/Nyan.ogg");**

**Texture2D zombie\_default = LoadTexture("sprite/zombie\_default\_filt.png"); //Load a ref.texture**

**//Animating**

**doAnimation();**

**SetTargetFPS(60); // Set our game to run at 60 frames-per-second**

**//--------------------------------------------------------------------------------------**

**if(!start)**

**PlaySound(first\_screen);**

**// Main game loop**

**while (!WindowShouldClose()) // Detect window close button or ESC key**

**{**

**framesCounter++;**

**if (start) {**

**StopSound(first\_screen);**

**for (int i = 0; i < MAX\_NYAN; i++)**

**{**

**if (nyanShot[i].active)**

**{**

**nyanShot[i].rec.x -= nyanShot[i].speed.x+3;**

**nyanShot[i].position.x = nyanShot[i].rec.x;**

**nyanShot[i].position.y = nyanShot[i].rec.y;**

**if (nyanShot[i].rec.x + nyanShot[i].rec.width <= -screenWidth)**

**{**

**nyanShot[i].active = false;**

**}**

**}**

**}**

**//Playing BGM**

**if (!IsSoundPlaying(main\_music))**

**PlaySound(main\_music);**

**//Decreasing Player's Ammo**

**DecreaseAmmo();**

**//Drawing Player's Crosshair**

**playerCrossHair();**

**//Doing NyanGun special Behaviour**

**doNyan();**

**HideCursor();**

**if (player->health > 0) {**

**//Switching Gun Sound**

**if (IsKeyDown(KEY\_X)&&player->gun != 1 && gun->machineGun &&player->startWave)**

**{**

**PlaySound(machineGun\_sound);**

**}**

**if (IsKeyDown(KEY\_C) && player->gun != 2 && gun->shotGun&&player->startWave)**

**{**

**PlaySound(shotGun);**

**}**

**if (player->gun == 3)**

**{**

**if (IsSoundPlaying(main\_music))**

**StopSound(main\_music);**

**if(!IsSoundPlaying(nyanCat))**

**PlaySound(nyanCat);**

**}**

**else {**

**StopSound(nyanCat);**

**}**

**//NEW WAVE BEHAVIOUR**

**if (zombie->zombieCount == zombieSpawn)**

**{**

**player->startWave = false;**

**buyWeapons();**

**initZombie();**

**if (IsKeyPressed(KEY\_SPACE))**

**{**

**player->wave += 1;**

**zombieSpeed += 0.2;**

**zombieSpawn += 20;**

**zombie->zombieCount = 0;**

**player->startWave = true;**

**}**

**}**

**// Update**

**//----------------------------------------------------------------------------------**

**//Background changing**

**if (player->wave % 2 == 0) {**

**render.bg = render.bg\_n;**

**}**

**else**

**render.bg = render.bg\_s;**

**animation.framesCounter += 1;**

**//Drawing collision box**

**if (player->startWave) {**

**colliderZombies();**

**//updating animation frame**

**if (animation.framesCounter >= (60 / animation.framesSpeed))**

**{**

**animation.framesCounter = 0;**

**animation.currentFrame++;**

**if (animation.currentFrame > 5) animation.currentFrame = 0;**

**animation.frameRec.x = (float)animation.currentFrame\*(float)zombie\_default.width / 5;**

**}**

**//player buy weapon**

**//player switch weapon**

**switchWeapon();**

**//doDamage**

**Damage();**

**//doing Sound**

**hitMarkerSound();**

**//do player damage**

**doPlayerDamage();**

**//Zombie movement**

**zombieMovement();**

**if (animation.framesSpeed > MAX\_FRAME\_SPEED) animation.framesSpeed = MAX\_FRAME\_SPEED;**

**else if (animation.framesSpeed < MIN\_FRAME\_SPEED) animation.framesSpeed = MIN\_FRAME\_SPEED;**

**//----------------------------------------------------------------------------------**

**}**

**// Draw**

**//----------------------------------------------------------------------------------**

**BeginDrawing();**

**ClearBackground(WHITE);**

**DrawTexture(render.bg, 0, 0, WHITE);//Draw Background**

**if (player->startWave) {**

**for (int i = 0; i < zombieSpawn; i++) {**

**if (IsKeyDown(KEY\_F) && collider[i].active)**

**DrawRectangle(zombie[i].position.x, zombie[i].position.y, zombie\_default.width / 5, zombie\_default.height, RED);**

**if (zombie[i].active)**

**DrawTextureRec(zombie\_default, animation.frameRec, zombie[i].position, WHITE); // Draw part of the texture (Animation)**

**}**

**}**

**for (int i = 0; i <= MAX\_NYAN; i++) {**

**if (nyanShot[i].active) {**

**DrawTextureRec(render.nyanGun, animation.nyanRec, nyanShot[i].position, WHITE);**

**}**

**}**

**draw(); //Draw text**

**//switch gun sprites**

**GunSprites();**

**EndDrawing();**

**//----------------------------------------------------------------------------------**

**}**

**//Restarting the game**

**else {**

**BeginDrawing();**

**DrawTexture(render.go, 0, 0, WHITE);**

**if (IsKeyPressed(KEY\_R))**

**init();**

**EndDrawing();**

**}**

**}**

**//Starting game**

**else {**

**if (IsKeyPressed(KEY\_SPACE)) {**

**start = true;**

**}**

**BeginDrawing();**

**DrawTexture(render.startScreen, -155, 0, WHITE);**

**EndDrawing();**

**}**

**}**

**// De-Initialization**

**//--------------------------------------------------------------------------------------**

**UnloadTexture(zombie\_default);**

**UnloadTexture(render.pist);**

**UnloadTexture(render.ar); // Texture unloading**

**UnloadTexture(render.crossHair);**

**UnloadTexture(render.bg\_s);**

**UnloadTexture(render.bg\_n);**

**UnloadTexture(render.shotCross);**

**UnloadTexture(render.shotGun);**

**UnloadTexture(render.ar\_b);**

**UnloadTexture(render.shotGun\_b);**

**UnloadTexture(render.nyanGun);**

**UnloadTexture(render.go);**

**UnloadSound(pistolShot);**

**UnloadSound(first\_screen);**

**UnloadSound(main\_music);**

**UnloadSound(machineGun\_sound);**

**UnloadSound(shotGun);**

**UnloadSound(nyanCat);**

**UnloadSound(hitSound->oof);**

**//looping to unload all the marker sounds made**

**for(int i = 0 ; i < 10 ; i++)**

**UnloadSound(hitSound[i].marker);**

**CloseAudioDevice();**

**CloseWindow(); // Close window and OpenGL context**

**//--------------------------------------------------------------------------------------**

**return 0;**

**}**





