## **Tanks’ World**

This game design document describes the details for a warfare 3D third-person shooting game where the tank that is the player navigates the map with the goal of killing tank NPCs.

**Group Members:**

* Mohamad Salman
* Mira Mansour
* Mohamad ElBaba

A screenshot of a video game

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**Group Contributions:**

**Mohamad Salman:**

1. Audio Added to the game

<https://youtu.be/6OT43pvUyfY>

**Terrain**

1. Added the Galaxy Fire asset to the environment:

<https://assetstore.unity.com/packages/2d/textures-materials/galaxy-fire-skybox-10976>

1. Added Industrial props

<https://assetstore.unity.com/packages/3d/props/industrial/industrial-props-kit-84745>

1. Added Oil tanks and containers to the terrain

<https://assetstore.unity.com/packages/3d/environments/industrial/pbr-rpg-fps-game-assets-industrial-set-v1-0-146519>

1. Added the industrial tanks

<https://assetstore.unity.com/packages/3d/props/industrial/industrial-tanks-package-122228>

1. Barrels to the terrain

<https://assetstore.unity.com/packages/3d/props/4-industrial-barrels-76538>

1. Low poly Barriers added to the terrain:

<https://assetstore.unity.com/packages/3d/props/exterior/low-poly-barriers-pack-free-201810>

1. Big tanks for the enemies

<https://assetstore.unity.com/packages/essentials/tutorial-projects/tanks-tutorial-46209>

1. Fire SkyBox:

<https://assetstore.unity.com/packages/2d/textures-materials/galaxy-fire-skybox-10976>

1. Stylize Metal Texture:

<https://assetstore.unity.com/packages/2d/textures-materials/metals/stylize-metal-texture-153572>

**Mohamad ElBaba**

1. Added the Scene Management code whenever the player wins or dies.
2. Added the load game and Save game scripts
3. Added the UI of the game
4. Worked on the Particle System of Shell and Tank Explosions
5. Health Bar

<https://assetstore.unity.com/packages/tools/gui/simple-heart-health-system-120676>

1. Added the scenes to save and load the data of the game:

<https://www.youtube.com/watch?v=XOjd_qU2Ido>

1. Implemented the AI of the tank enemies that can help the tanks keep their movements realistic and therefore make the game real
2. Implemented the health bar and the damage of the shell that is shown in the UI of each tank
3. Added the Pause and Menu Shows up:

<https://www.youtube.com/watch?v=JivuXdrIHK0>

**Mira Mansour:**

1. Worked on the implementation of the movement and rotation of the first-person character controller.
2. Third Person Character Controller

<https://assetstore.unity.com/packages/essentials/starter-assets-third-person-character-controller-196526>

1. Tank Player

<https://assetstore.unity.com/packages/3d/vehicles/land/m4a3e2-84358>

1. Explosion for particle systems

<https://assetstore.unity.com/packages/vfx/particles/fire-explosions/fx-explosion-pack-30102>

1. Implemented the Tank perfab that is shooting bullets and the shooting scripts that can help in modifying the bullet’s speed from the inspector

<https://www.youtube.com/watch?v=AveDY_qQ1rk>

1. Added the Bullet Sphere and implemented the Object Pooling

Object pooling of bullet prefabs where the bullets are initialized when the game starts running and then are set as active in the shooting script and in active when the bullet hits the ground or an enemy

<https://www.youtube.com/watch?v=YCHJwnmUGDk>

1. Implemented random animations for the enemy’s tank in order to let them keep moving until they are destroyed by the player

**Genre:**

* Third Person Shooter (TPS)

**Thematic Setting or Theme:**

* Space
* Modern Warfare
* Tanks war

**Camera/Game Perspective:**

* Third Person: You can see the player moving and control its movements

**Single Player Mode Only**

**Target Audience:** 6 yrs+ fans of shooting games like war thunder. People who are into action and war games.

**Controls:** Keyboard + mouse

**Tech Stack:** Unity version 2021.2.8f1, Unity Asset stores & Dev assets for 3D models and weapons.

**Platform(s):**. MS Windows, MacOs.

**MVP (Minimal Viable Product) Game Moment:**  Gameplay is about 5-10 minutes for each level of shooting enemies, and it consists of 3 levels (Easy, Medium and Hard), in which the health and ammo varies. A picture containing text, outdoor

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**Game Summary:**

“Tanks’ World” is a warfare action style single player Third-Person shooter that resembles a new type of war games. The game is set in the 22tht century during the war in space. You must battle the forge your way through the map from your base to infiltrate the enemies’ base while fearlessly shooting and destroying tanks that are defending and protecting their base.

**Core Player Experience:**

1. Focused
2. Chaotic
3. Excited

**Central Story Theme:** The main player is an assassin who was left alone on a foreign country on a mission to take over the enemies’ base located on the Atlantic boarders to get rid of enemy soldiers and make it easier for his country’s troops to infiltrate the land.

**Key Features:**

* Player scores points by destroying enemies’ tanks
* Player takes damage from being shot by enemies’ tanks
* Both Player and npcs die after running out of health
* Player has the shell weapon
* Player can pick up ammo scattered on the map to increase ammo count
* NPCs can only shoot the player at a specific distance

**Game Play:** A picture containing text

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An Example:

The aim of this game is to destroy enemies’ tanks and collect score points by shooting shell on them.

The aim of the shell can be controlled using the mouse and shooting is done by left clicking.

WASD keys are used to move the player

Mouse is used to rotate the player

When an enemy’s tank gets hit by the shell its health will decrease according to the damage of the shell they were shot by.

The player can monitor his health using the health bar on the player itself. This bar changes in real time showing the updated health of the player. The player can also monitor his score using the score placed on the top right of the screen.

Player can also monitor the number of bullets remaining using the Number stated at the top left of the screen.

**Reference Games:**

Tanks in space, Space Tanks, Star Conflict