Computer Graphics

Project Proposal

Spring2023-24

Section[I]

Outline:

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Title

"Liberation's Canvas: A Graphic Tale of Freedom's War"

Team Member List

Name	ID	Contribution
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Introduction

The dynamic realm of computer graphics, where pixels weave tales as vivid as reality itself, our project stands as a testament to the convergence of technology and narrative. Entitled " Liberation's Canvas: A Graphic Tale of Freedom's War," we embark on a journey to craft a compelling narrative that encapsulates the harrowing saga of a nation gripped by the tumult of war.

At its core, our project revolves around a gripping storyline that follows a group of individuals bound by duty, honour, and sacrifice as they navigate the treacherous landscape of warfare in defence of their nation. From the adrenaline-fueled chaos of the battlefield to the poignant moments of camaraderie and loss, every aspect of the narrative is meticulously crafted to evoke empathy and provoke introspection.

The motivation behind our project is twofold. Firstly, we seek to harness the power of computer graphics as a medium for storytelling, leveraging its immersive capabilities to shed light on the complexities of armed conflict in a way that transcends traditional forms of media. Secondly, we aim to foster a deeper understanding and appreciation for the human experience of war, encouraging viewers to contemplate the moral, ethical, and existential questions that arise in such tumultuous times.

The scope of our project is ambitious yet focused. Through a combination of cutting-edge rendering techniques, motion capture technology, and intricate world-building, we aim to create a visually stunning and emotionally resonant experience that transports viewers to the frontlines of battle. From the strategic decisions made by military commanders to the personal struggles faced by soldiers and civilians alike, every aspect of the narrative is designed to offer a multifaceted exploration of the human cost of war.

In the pages that follow, we will outline our methodology, technical approach, and timeline for bringing this vision to life. By harnessing the power of computer graphics to craft a narrative that is both immersive and thought-provoking, we hope to inspire a greater appreciation for the complexities of armed conflict and ignite dialogue on the enduring quest for peace in a world ravaged by war.

Description

Camera Control: Implement functions to control the camera's position and orientation to navigate the scene.

Lighting and Shading: Add lighting effects such as ambient, diffuse, and specular lighting to enha nce the realism of the scene.

Textures: Apply textures to objects to add detail and realism.

Interaction: Implement user interaction methods such as mouse and keyboard input for controlling objects or triggering events.

Collision Detection: Implement collision detection algorithms to handle interactions between obje cts in the scene.

Animation: Implement animations for moving objects like vehicles, characters, and projectiles.

Rendering Loop: Continuously update and render the scene within the main rendering loop.

Methods:

```
// Function to initialize OpenGL
void initOpenGL();

// Function to render the scene
```

```
void renderScene();

// Function to handle keyboard input
void handleKeyboardInput(unsigned char key, int x, int y);

// Function to handle mouse input
void handleMouseInput(int button, int state, int x, int y);

// Function to update the scene
void updateScene();

// Function to draw the sun
void drawSun();

// Function to draw a human
void drawHuman();

// Function to draw a tank
void drawTank();

// Function to draw a gun
void drawGun();

// Function to draw a river
void drawRiver();

// Function to draw a house
void drawHouse();

// Function to draw birds
void drawBirds();

// Function to draw a grenade
void drawGrenade();

// Function to draw trees
void drawTrees();

// Function to draw a field
void drawField();

// Function to draw a camp
void drawCamp();

// Function to draw a flag
void drawFlag();

// Function to update moving objects
void updateMovingObjects();
```

```
int main(int argc, char** argv) {
// Initialize OpenGL
initOpenGL();
```

6.Feature set

1.Freedom fighters
2.Enemy Military
3.Gun
4.Trees
5.Sky
6.Field
7.Grenade
8.Sun
9.Blood
10.Deadbody
11.Camp
12.Flag
13.Tunnel
14.Moving object
15.Birds
17.Stone
18.Tank
19.Fire
20.Road
21.House
22.River

Conclusion

Our motivation is twofold: to harness the power of computer graphics as a medium for storytelling, and to foster a deeper understanding of the human experience of war. Through cutting-edge rendering techniques and motion capture technology, we aim to create a visually stunning and emotionally resonant experience that transports viewers to the frontlines of battle.

As we outline our methodology, technical approach, and timeline for bringing this vision to life, we do so with a sense of purpose and determination.

Our motivation is twofold: to harness the power of computer graphics as a medium for storytelling, and to foster a deeper understanding of the human experience of war.

Citation