Football Player Animation

Report on Assignment No. 2

CSI 422: Computer Graphics Lab

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Animation Description

This report discusses the implementation and mechanics of a 3D Football Player Animation using OpenGL library in C++ to create a football player passing a ball into the goalpost. It represented a football player who passes the ball into the goal. The report will cover the player's description, playing mechanics, and an explanation of the provided code.

1 | Components

Our experiment components are here.

Objective 1: A Player

2 | A Football

3d sphere representing the football. Football was created by using a sphere.

3 | The Player

The animation is developed in C++ language using OpenGL and GLUT libraries. A 3D model of the football player was created by using a cylinder as the body, a cone as the throat, a sphere as the head, cylinder as the legs. Goalpost created by cylinder.

4 | Passing The Ball

The player in the animation is passing a football into the goalpost. It displays the player with a football and goalpost.

5 | Camera Control

The keyboard action function empowers users to control the camera’s position, offering an interactive element to explore the 3D environment.

Users can seamlessly navigate the scene by using number keys (1-6) to modify the camera’s position
in different directions.

6 | Animation

The animation is created by a dynamic and interactive scene.

7 | Initialization

The ”init” function sets up the initial configurations for OpenGL, including the background color
and perspective.

Operation Instruction

To interact with the animation, users can follow the below instructions.

1 | Camera Control

Utilize the number keys (1-6) to adjust the camera's position:

Key '1': Move the camera right.
Key '2': Move the camera left.
Key '3': Move the camera up.
Key '4': Move the camera down.
Key '5': Move the camera forward.
Key '6': Move the camera backward.

2 | Passing the Ball

Press the spacebar to initiate the ball pass.

Observe the pass ball's realistic trajectory, showcasing the physics integration into the animation.

3 | Discussion

Close the application window to exit the program gracefully.
This combination of user-friendly controls, immersive player and ball animations, and dynamic camera
perspectives collectively contribute to a visually stimulating and interactive 3D experience. Users can
enjoy exploring the intricacies of the football scene and appreciate the realism infused into the animation.

Animation Screenshots:

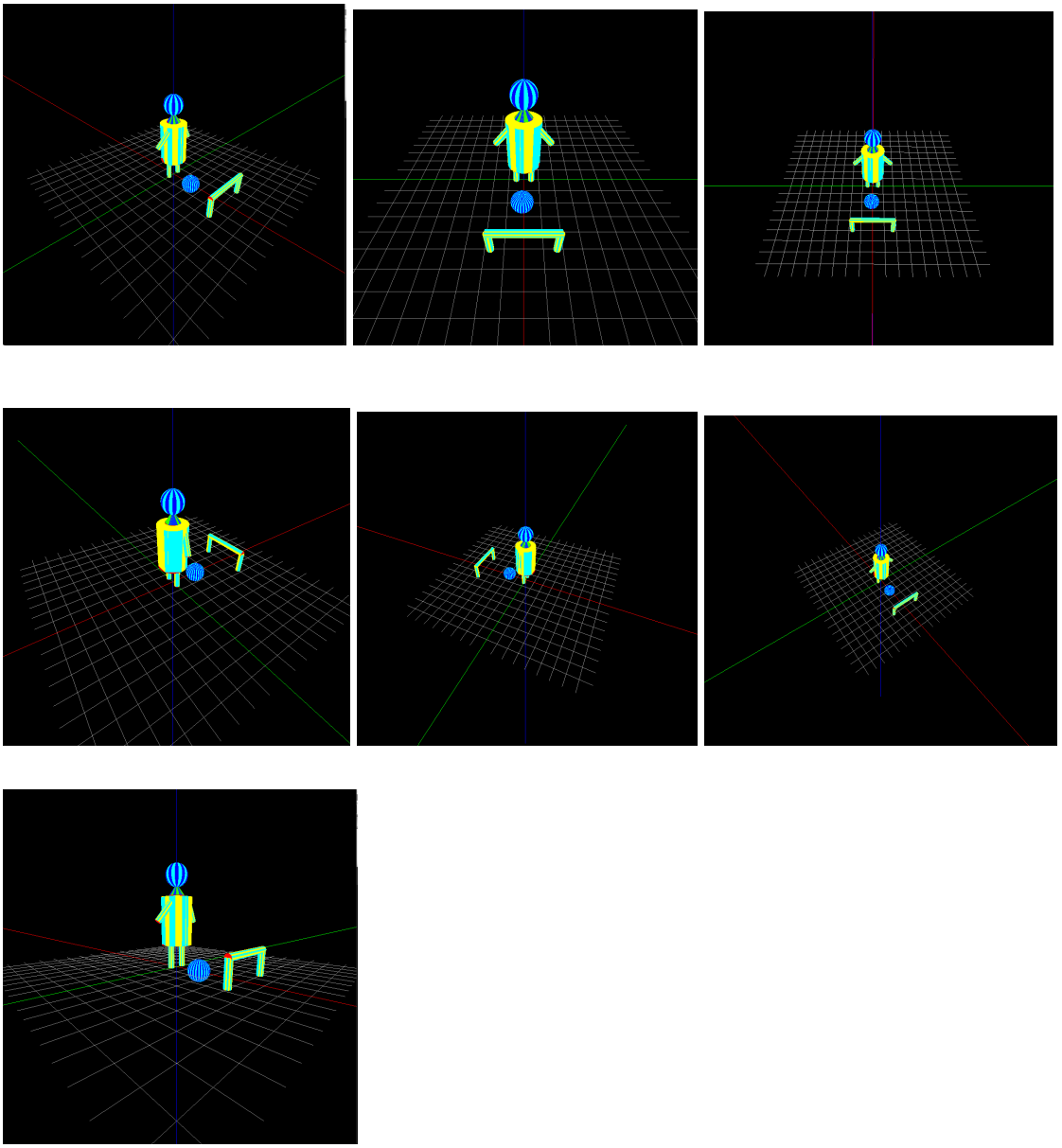

Fig: Football Player Animation

References:

https://github.com/Kazi-Farid-Shuvo/Football_Player/blob/main/Football_Player.cpp
https://github.com/airubel/3D-Football-Player-CG-Lab/blob/main/README.md