Project Report

Ball Throwing Animation in Maya

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Introduction

In this graphics project, I created an animation of a character throwing a ball. The project includes the character and an environment. The environment consists of a house, trees and rocks. I have used different 3D modeling and rendering techniques like adding texture,colors, shading, lighting. The animation also includes different cameras to view the animation.

Project Scope

In this Maya project, the main goal was to make a cool 3D animated scene. I wanted to create a character, a ball, and a lively place with houses and trees. The focus was on using different tricks to make everything look awesome.

Major Techniques used:-

1. Polygon modeling
2. Nurbs and curve modeling
3. Digital 3D sculpting
4. Texturing
5. Shading and Lighting
6. Rendering

Design and Development

- Character designing and animation-

  The character was imported from maya itself and using auto-rigging tool in maya, I rigged the character. I rendered the character by the ‘assign new material’ option.

  To add the animation I set the keyframes to 140 and using translation and rotation tools I moved the character frame by frame to create an effect of ball picking up and throwing.

- Environment designing-

  The environment consists of house, trees and rocks, which were made using polygon primitives, increasing their divisions and reshaping them to give the desired shape. These polygon planes were then joined together to form the environment.

  Having so many planes in a single project, rendering was a tedious task. To do the rendering a bit quicker I selected all the planes which were to have the same color/texture using shift and right click. I combined all the selected planes using the Mesh->Combine option. Then I rendered the environment using the ‘Assign new material’ option and selecting lambert option.

To add a bit of a glowing effect to the street lights and the windows, I selected them, assign new material->surface shader-> then adjusted the color, transparency and glowing effects.

- After designing both the character and the environment on different files, I combined them by importing the character file into the environment.

- <u>Adding ball and animating-</u>
  I created a sphere which I used as a ball and put it in front of the character.

  I selected the keyframe where the ball just touched the character's hand and combined both using constrain->parent option in the animation window. Then I made the ball follow the path of the arm of character and then separated both when the ball should just leave the hand.

  Then I created another path for the ball which was bouncing to the other side and eventually stopping after colliding with a rock.

- Adding lights and camera-
  I added directional lights and camera to the animation. To make a path for the camera, I created a curve and constrained the camera to move along the path during the animation.

- <u>Downloading the animation-</u>
  I downloaded the animation in the render window, by changing the rendering settings and then render->render sequence option

  This downloaded the entire animation frame by frame in image form which I later combined to create an animation.