Computer Graphics Project

Scenery Animation

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Preface

INTRODUCTION

The Project is based on Scenery in which static Portions like River, Mountain ,Grassland, Sky are present along with these are Dynamic portion like Sun , Birds , Man which add to the animation part.
The Scenery represents a Man moving from his home to the river during daytime and travelling back to his home at Night. Birds fly during daytime.

The project demonstrates the use of basic concepts of Computer Graphics like Line Drawing, Circle Drawing and 2D-Transformations like rotation, translation and synchronization between moving objects.

STATIC COMPONENTS

The static components are Sky, River, Mountain these will help us utilize basic polygon drawing. These will not be moving and will remain at constant position so once their positions are set no need in change of coordinates.

DYNAMIC COMPONENTS

MAN

The Man is implemented as a stick man and has a head point where head is drawn and a reference point at foot.

We define man's movement using rotating the man's head by -theta degrees wrt base (in odd iteration) or rotating the man's foot wrt head by +theta degrees(in even iteration) and translating the man in forward or backward direction, whichever way he is moving.

If any boundary is reached we reverse the direction of movement.
At Night we stop displaying the man.

SUN

Sun is moved using 2D-roations about a fixed reference point.

The sun is shaded using the current angle value of the sun, displaying the changing color of Sun through the day.

When the Sun reaches the boundary we start the night (Setting variable moon=1).

BIRDS

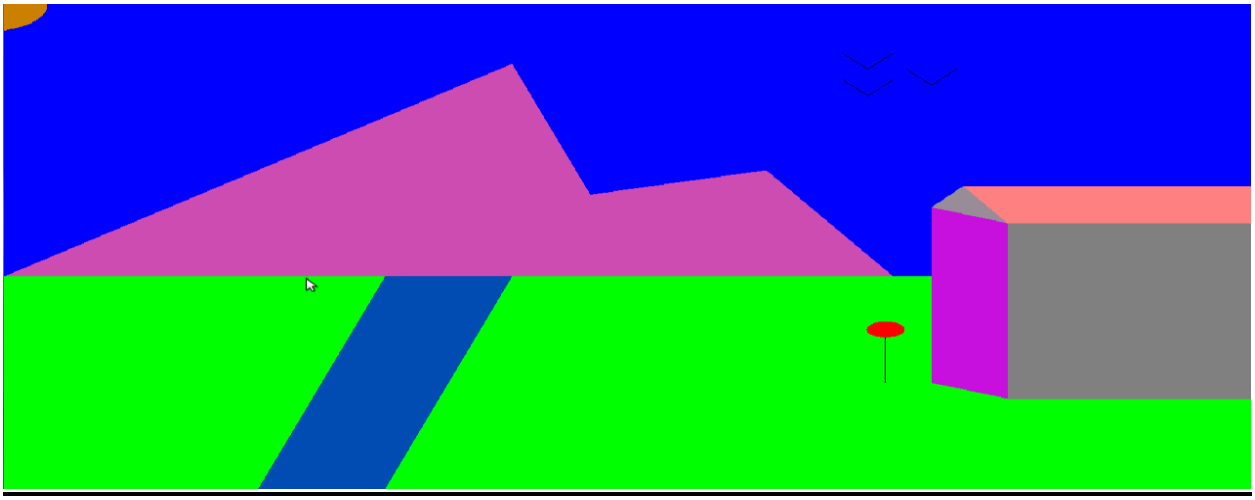
In odd iteration we rotate left wing of birds (-50 deg) rotate right wing of birds (+50 deg) whereas in even rotate left wing of birds (+50 deg) rotate right wing of birds (-50 deg).

SYNCHRONIZATION

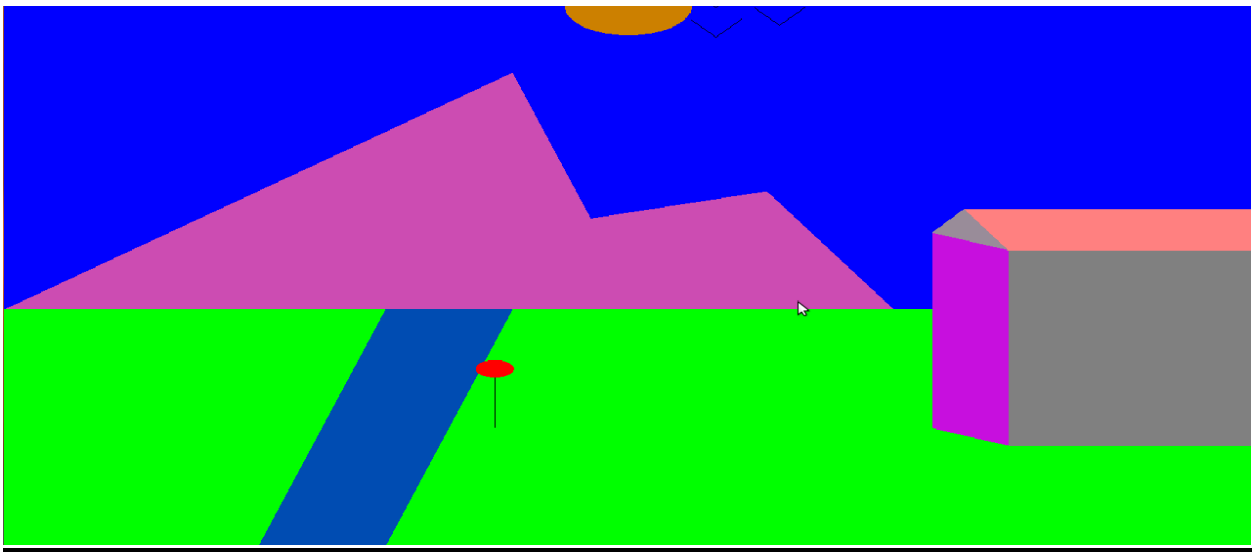
The synchronization is done so as the man's process of reaching hut and the Sun setting at night are done using iteration variable.

SNAPSHOTS

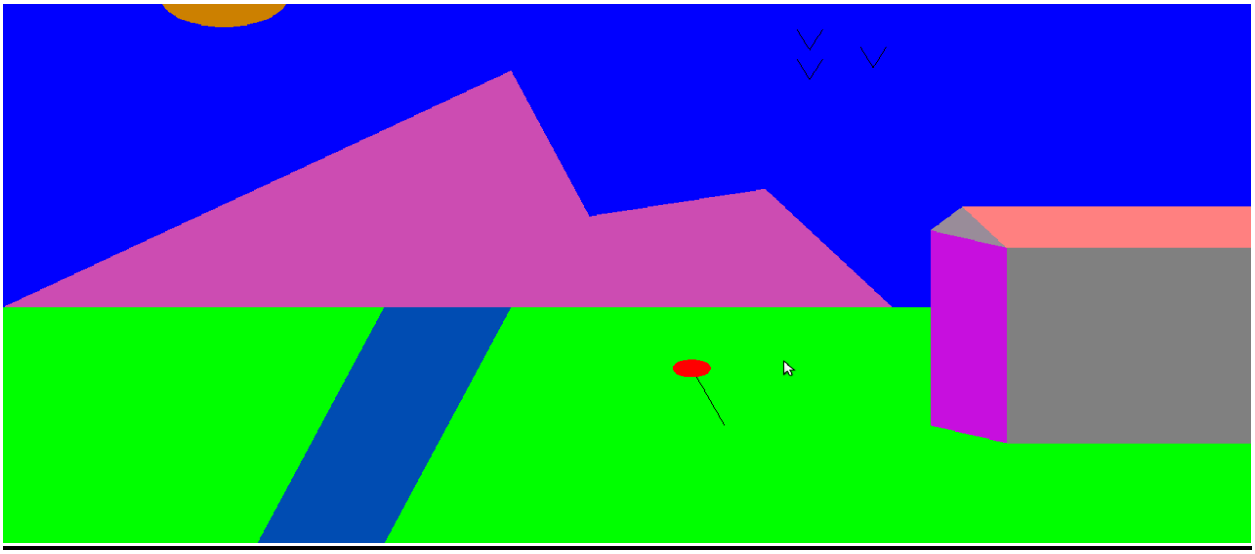
Scene1



Scene 2



Scene3



Scene4