**SIDDAGANGA INSTITUTE OF TECHNOLOGY**

**INFORMATION SCIENCE AND ENGINEERING**

**of**

**Visvesvaraya Technological University, Belagavi**

**OPEN-ENDED EXPERIMENT-REPORT**

**ON**

“TRAFFIC LIGHT SIMULATION”

***By***

Ms. Kamakshi K R (1SI15IS021)

Ms. Nischitha S Katta (1SI15IS034)



**Department of Information Science and Engineering,**

**Siddaganga Institute of Technology,**

**Tumakuru-572103**

**2017-18**

**PROBLEM STATEMENT**: Traffic Light Simulation

**EXPLAINATION:**

Traffic light control is a challenging problem in modern societies. This is due to the huge number of vehicles and the high dynamics of the traffic system.

Poor traffic management causes a high rate of accidents, time losses, and negative impact on the economy as well as the environment. In this paper, we develop a multiagent traffic light control system based on a multi-objective sequential decision making framework.

In order to respond effectively to the changing environment and the non-stationarity of the road network, the proposed traffic light controller is based on the Bayesian interpretation of probability. We use the open source Green Light District (GLD) vehicle traffic simulator as a testbed framework. T

he change in road conditions is modeled by varying the vehicles generation probability distributions and adapting the Intelligent Driver Model (IDM) parameters to the adverse weather conditions. We have added a set of new performance indices in GLD based on collaborative learning to better evaluate the performance of the proposed multi-objective traffic light controller.

The results show that the proposed multi-objective controller outperforms the single-objective controller.

**PROGRAM:**

import java.awt.\*;  
import java.applet.\*;  
import java.awt.event.\*;  
/\*<applet code=”Traffic” width=700 height=600>  
</applet>\*/  
public class Traffic extends Applet implements Runnable  
{  
Thread t;  
int i=0,a=0,j=0;  
public void start()  
{  
t=new Thread(this);  
t.start();  
}  
public void run()  
{  
for(i=20;i>=0;i–)//countdown  
{  
try  
{  
Thread.sleep(1000);  
}  
catch(Exception e)  
{  
System.out.println(e);  
}  
if(i<=20 && i>3)//red  
{  
a=1;  
repaint();  
}  
else  
if(i<=3 && i>0)//yelloe  
{  
a=2;  
repaint();  
}  
else  
if(i==0)//green  
{  
for(j=0;j<20;j++)  
{  
a=3;  
try  
{  
Thread.sleep(1000);  
}  
catch(Exception e)  
{  
System.out.println(e);  
}  
repaint();  
}  
if(j==20)//end of green(return to red)  
{  
run();  
}  
}  
}  
repaint();  
}  
public void paint(Graphics g)  
{  
g.setColor(Color.black);//pole top  
g.fillRect(150,150,50,150);  
g.drawRect(150,150,50,150);  
g.setColor(Color.black);//POLE UP  
g.fillRect(150,150,50,150);  
g.drawRect(150,150,50,150);  
g.setColor(Color.black);//POLE DOWN  
g.fillRect(165,300,20,155);  
g.drawRect(165,300,20,155);  
g.drawOval(150,150,50,50);//RED  
g.drawOval(150,200,50,50);//YELLOW  
g.drawOval(150,250,50,50);//GREEN  
g.setColor(Color.red);//COUNTDOWN STOP  
g.drawString(“”+i,50,50);  
if(a==1)//REDSIGNAL  
{  
g.setColor(Color.red);  
g.fillOval(150,150,50,50);  
g.drawOval(150,150,50,50);  
g.drawString(“STOP”,50,150);  
}  
if(a==2)//YELLOWSIGNAL  
{  
g.setColor(Color.yellow);  
g.fillOval(150,200,50,50);  
g.drawOval(150,200,50,50);  
g.drawString(“READY”,50,200);  
}  
if(a==3)//GREENSIGNAL  
{  
g.setColor(Color.blue);//countdown  
g.drawString(“”+j,150,50);  
g.setColor(Color.green);  
g.fillOval(150,250,50,50);  
g.drawOval(150,250,50,50);  
g.drawString(“GO”,50,250);  
}  
}  
}

OUTPUT:





