

# Shader source sample

Prismbeings

April 18, 2017

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static const char* fragment = \
"uniform int v;"
"float d=v*.001;"
"out vec4 i;"
"float f,y,M=1,P=0,e,m=1,x=.15;"
"vec3 H=vec3(2);struct Q{vec3 v;float d;float c;};struct W{vec3 v;vec3 d;};struct X{float d;vec3
"const X p=X(999,vec3(0),Q(vec3(-1),-1,-1));"
"float t(vec2 d)"
"{
    "vec3 v=fract(vec3(d.xyx)*.1031);"
    "v+=dot(v,v.yzx+19.19);"
    "return fract((v.x+v.y)*v.z);"
}"
"vec2 n(float d)"
"{
    "return fract(sin(vec2(d))*vec2(43758.5,22578.1));"
}"
"X n(L v,W d)"
"{
    "float P=dot(v.v,d.d);"
    "if(P>0)"
        "return p;"
    "return X(-(dot(d.v,v.v)+v.d)/P,v.v,v.m);"
}"
"X t(J v,W d)"
"{
    "vec3 P=v.v-d.v;"
    "float i=dot(P,d.d),f=i*i-dot(P,P)+v.d*v.d;"
    "if(f<0)"
        "return p;"
    "f=pow(f,.5);"
    "float y=i-f;"
    "if(y<0)"
        "y=i+f;"
    "if(y<0)"
        "return p;"
    "return X(y,(d.v+y*d.d-v.v)/v.d,v.m);"
}"
"X w(W v)"
"{
    "X P=p;"
    "if(M==0)"
        "{
            "X i=n(L(5,vec3(1,0,0),Q(vec3(.9,.4,1.),x,0)),v);"
            "if(i.m.d>0.\&\&i.d<P.d)"
                "P=i;"
            "X f=n(L(19,vec3(0,0,1),Q(vec3(.4,.9,1.),x,0)),v);"
            "if(f.m.d>0.\&\&f.d<P.d)"
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        "P=f;"
        "X c=n(L(5,vec3(0,-1,0),Q(vec3(1.,.9,.4),x,0)),v);"
        "if(c.m.d>=0.\&\&c.d<P.d)"
            "P=c;"
        "X s=n(L(5,vec3(-1,0,0),Q(vec3(.9,.4,1.),x,0)),v);"
        "if(s.m.d>=0.\&\&s.d<P.d)"
            "P=s;"
    "}"
"else"
"{
    "X i=n(L(5,vec3(0,1,0),Q(vec3(1),x,0)),v);"
    "if(i.m.d>=0.\&\&i.d<P.d)"
        "P=i;"
    "X f=n(L(11,vec3(1,0,0),Q(vec3(1),x,0)),v);"
    "if(f.m.d>=0.\&\&f.d<P.d)"
        "P=f;"
    "X c=n(L(5,vec3(0,0,1),Q(vec3(1),x,0)),v);"
    "if(c.m.d>=0.\&\&c.d<P.d)"
        "P=c;"
    "X s=t(J(m*2,vec3(-3),Q(H,.02,.5)),v);"
    "if(s.m.d>=0.\&\&s.d<P.d)"
        "{
            "P=s;"
            "float e=pow(min(1,mod(y+(P.d*v.d+v.v).y,2)),99);"
            "if(d>90)"
                "P.m.v.x+=2.*e,P.m.v.z-=1.5*e;"
            "else"
                " P.m.v*=.02+pow(.01+n(d).x,29);"
        }
    "}"
"return P;"
}"
"vec3 w(const vec3 v,float d)"
"{
    "vec2 P=n(d);"
    "vec3 i=normalize(cross(v,vec3(0,1,1)));
    "float y=pow(P.y,.5);
    "return normalize(vec3(y*cos(6.283*P.x)*i+y*sin(6.283*P.x)*normalize(cross(i,v))+pow(1-P.y,.5)*
}"
"vec3 l(vec3 v)"
"{
    "if(P==0)"
        "{
            "if(d<18.5)"
                "{
                    "if(v.x<-9||v.y<-4.999||v.z<-4.999)"
                        "return vec3(0);"
                }
            "else"
                "{
                    "if(!(v.x<-9||v.y<-4.999||v.z<-4.999)\&\&d<90)"
                        "return vec3(0);"
                    "if((v.x>9||v.x<-9)\&\&d>90)"
                        "return vec3(0);"
                    "float i=floor(y*8);
                    "v=mod(v.xyz*(.1+e)*vec3(.11,50,0),9);
                    "vec3 f=vec3(int(v.z-i*5),int(.001+v.y+i*1)|int(v.z*120),int(v.x*19)\&int(v.z*.1+i));
                    "return vec3(1.5)*pow(min(1,.1+mod(distance(vec3(0),f),1)),999);"
                }
        }
}

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    }"
    "return vec3(1);"
    }"
    "if(P==1)"
    "{"
        "if(v.x>9||v.x<-9)"
            "return vec3(0);"
        "float i=floor(y*8);"
        "vec3 f=vec3(int(v.x*.7)\&int(.4*v.y-i*91.),v.y*float(int(i)\&int(99-v.x*10.)),int(1.3*v.z+
        "return vec3(pow(min(1,.1+mod(distance(vec3(0),f),1)),999));"
    }"
    "else"
    "{"
        "vec3 i=vec3((int(.01+v.x*.2)\^int(.001+.4*v.z))\&int(.2+v.y+y),ceil(.2+v.y+y*5.),v.x);"
        "return vec3(1)*pow(min(1,.1+mod(distance(vec3(0),i),1)),999);"
    }"
    }"
    "vec3 s(W v)"
    "{"
        "vec3 i=vec3(0);"
        "for(int d=0;d<=2;d++)"
        "{"
            "X P=w(v);"
            "if(P!=p)"
            "{"
                "i+=P.m.v*vec3(25)*l(v.v+P.d*v.d);"
                "vec3 x=w(P.v,f),y=pow(1-clip(dot(P.v,-v.d),0,1),5)*(1-P.m.d)+P.m.d+P.m.c>f?reflect(v.
                "v=W(v.v+P.d*v.d+.001*y,y);"
            }"
        }"
        "return i;"
    }"
    "vec3 r(vec3 d)"
    "{"
        "float v=.15,P=.5,i=.1,y=.2,f=.02,x=.3,M=11.2;"
        "return pow(((d*(v*d+i*P)+y*f)/(d*(v*d+P)+y*x)-f/x)/((M*(v*M+i*P)+y*f)/(M*(v*M+P)+y*x)-f/x),vec3
    }"
    "mat3 l(vec3 v,vec3 d)"
    "{"
        "v=normalize(v);"
        "vec3 P=normalize(cross(v,normalize(d)));"
        "return mat3(P,cross(P,v),v);"
    }"
    "void main()"
    "{"
        "vec2 v=vec2(1280,720),c=2*gl\FragCoord.xy/v.xy-1;"
        "if(c.y<.75\&\&c.y>-.75)"
        "{"
            "vec3 p=vec3(0),R=vec3(0),S=vec3(-1);"
            "float z=9;"
            "vec3 w=vec3(0,1,0);"
            "if(d<12)"
                "R=vec3(0,-3-2/(.2*d+1),4+20/(d+3)),S=vec3(1,2-9/pow(.1*d+1,2),9),z=1.5;"
            "else"
                " if(d<18)"
                    "R=vec3(8,-1-.1*d,-5),S=vec3(22,-4+R.y,1),z=4,e=pow((d-12)*.2,19);"
                "else"
                    " if(d<37)"

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    "R=mix(vec3(7,-4,-4),vec3(-5,-4.5,6),(d-19)*.08),S=vec3(3-(d-19)*.25,2+(d-19)*.5,5),z
"else"
    " if(d>40.5\&\&d<42.5)"
        "S=vec3(99),z=1.5,d*=2,P=2;"
    "else"
        " if(d>44.2\&\&d<46)"
            "S=vec3(1,0,1),z=2.5,d*=9,P=2;"
        "else"
            " if(d>48\&\&d<49.8)"
                "R=vec3(4,-4,4),S=vec3(1,1,1),z=1.5,d*=9,P=2;"
            "else"
                " if(d>51.5\&\&d<53.5)"
                    "S=vec3(1),z=1.5,d*=9,P=2;"
                "else"
                    " if(d>55\&\&d<57.2)"
                        "R=vec3(9,0,4),S=vec3(0,-4,1),z=4,d*=9,P=2;"
                    "else"
                        " if(d>62.7\&\&d<92)"
                            "{"
                                "if(n(floor(d*.5)).x>.5)"
                                    "R=vec3(10*cos(d*.15),-4.5,3),S=10*vec3(0,.5-.3*sin(d*.5),1),P=1,m=0,"
                                "else"
                                    " R=vec3(0,3,4),S=vec3(0,-5,90),M=0,P=2,z=2.5,d=d*4-240,w=vec3(.4,.8,"
                            "}"
                        "else"
                            " if(d<151.3\&\&d>92)"
                                "{"
                                    "float g=1+pow(.05*max(0,d-122),2);"
                                    "R=vec3(10*cos(d*.3),-1*(g-1),24);"
                                    "S=vec3(0,-4-2*sin(d*.4),9);"
                                    "z=5/g;"
                                    "e=n(floor(d)).x/g-.1*g;"
                                    "H=vec3(.2,1,2)/g;"
                                "}"
                            "float g=mod(d,9);"
                            "for(int o=0;o<122;++o)"
                                "{"
                                    "f=t(122*c+g+o);"
                                    "y=(d+.02*f)*2;"
                                    "vec3 a=normalize(vec3(v.x/v.y*c.x,c.y,-z)+vec3(3.6*n(dot(c.x,c.y)+g+o)/v.y,0));"
                                    "a*=l(S+R,w);"
                                    "p+=s(W(R,a));"
                                "}"
                            "p*=pow(exp(-.5*dot(c,c)),2+9/d)/122;"
                            "i=vec4(r(p*p*.015),1);"
                        "}"
                    "};";

```