Tizen-Course: project report  
《Pop The Lock》

**2.The project profile**

Pop The Lock is a leisure game for Tizen mobile phones and Samsung Gear S2. Through a circular slide rail, there is a small dot on the slide, at the same time there is a bottom line generally small vertical lines, as a symbol of the end of the game, if the player control dots that crosses the vertical bar the game failed. Through stimulation of the hand of the spirit of fast activities and highly concentrated to alleviate the pressure of the people in daily life. This app not only runs well in Tizen mobile phones, but also runs well in Gear S2.

**2.Demand analysis**

The dot and line will offset

Offset points,otherwise the end game

**3.The profile design**

Pop The Lock based on TIZEN web project development, mainly USES The technology of Html and Javascript. By ontouchstart, ontouchmove and ontouchend method in computing the fingers touch to determine whether the origin and horizontal line contact, thus into the offset, the end points or operations.

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| --- | --- |
| interface | Interface functions |
| Init | Initialize the game interface |
| NewTile | 窗体顶端  Initialize the origin and the horizontal line |
| RandomTile | Randomly generated new dash |
| move | 窗体顶端  Move the origin |
| Merge | To offset the origin and the horizontal line |

**4.Core algorithm**

*The core algorithm of code as shown below*

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| var WINDOWS\_WIDTH=window.screen.width;  var WINDOWS\_HEIGHT=window.screen.height;  var RADIUS1=WINDOWS\_WIDTH<WINDOWS\_HEIGHT?WINDOWS\_WIDTH/4:WINDOWS\_HEIGHT/4;  var RADIUS2=1.3\*RADIUS1;  var RADIUS3=(RADIUS2-RADIUS1)/2;  var LINEWIDTH=0.8\*RADIUS3;  var i;  var m\_p;  var sign;  var start;  var number;  function drawball(cxt,deg){  deg=deg\*2\*Math.PI/360;  cxt.beginPath();  cxt.fillStyle="#ffff00";  cxt.arc((RADIUS1+RADIUS2)/2\*Math.sin(deg)+WINDOWS\_WIDTH/2,-(RADIUS1+RADIUS2)/2\*Math.cos(deg)+WINDOWS\_HEIGHT/2,RADIUS3,0,2\*Math.PI);  cxt.fill();  }  function drawnumber(cxt,num){  cxt.font=0.8\*RADIUS1+"px 华文琥珀";  cxt.textAlign="center";  cxt.textBaseline="middle";  cxt.fillStyle="white";  cxt.fillText(num,WINDOWS\_WIDTH/2,WINDOWS\_HEIGHT/2);  }  function drawLine(cxt,deg,RADIUS1,RADIUS2){  deg=deg\*2\*Math.PI/360;  cxt.beginPath();  cxt.lineWidth=23;  cxt.lineWidth=LINEWIDTH;  cxt.lineCap="round";  cxt.strokeStyle="#f73d64";  cxt.moveTo(RADIUS1\*Math.sin(deg)+WINDOWS\_WIDTH/2,-RADIUS1\*Math.cos(deg)+WINDOWS\_HEIGHT/2);  cxt.lineTo(RADIUS2\*Math.sin(deg)+WINDOWS\_WIDTH/2,-RADIUS2\*Math.cos(deg)+WINDOWS\_HEIGHT/2);  cxt.stroke();  }  function init(cxt1,cxt2){  i=0;  start=0;  number=0;  sign=Math.random()>0.5?1:-1;  if(sign===1){  m\_p=i+35+Math.random()\*120;  }else{  m\_p=i-35-Math.random()\*120;  }  document.getElementById("bgCanvas").style.background="#30df87";  drawnumber(cxt1,number);  drawball(cxt1,m\_p);  drawLine(cxt2,0,RADIUS1,RADIUS2);  }  function newgame(canvas,cxt1,cxt2){  init(cxt1,cxt2);  var h;  document.addEventListener('touchstart',function(e){  if(start===1){  if(Math.abs(i-m\_p)>12){  clearInterval(h);  document.getElementById("bgCanvas").style.background="#f07752";  start=-1;  }  else{  if(sign===1){sign=-1;}  else {sign=1;}  number++;  if(sign===1){  m\_p=i+35+Math.random()\*120;  }  else{  m\_p=i-35-Math.random()\*120;  }  cxt1.clearRect(0,0,WINDOWS\_WIDTH,WINDOWS\_HEIGHT);  drawnumber(cxt1,number);  drawball(cxt1,m\_p);  }  }  else if(start===0){  h=setInterval(  function(){  cxt2.clearRect(0,0,WINDOWS\_WIDTH,WINDOWS\_HEIGHT);  drawLine(cxt2,i,RADIUS1,RADIUS2);    if(sign===1&&i>m\_p+12||sign===-1&&i<m\_p-12){  clearInterval(h);  document.getElementById("bgCanvas").style.background="#f07752";  start=-2;  }  if(sign===1){i+=1;}  else {i-=1 ;}  },  50  );  start=1;  }  else if(start===-1){  cxt1.clearRect(0,0,WINDOWS\_WIDTH,WINDOWS\_HEIGHT);  cxt2.clearRect(0,0,WINDOWS\_WIDTH,WINDOWS\_HEIGHT);  init(cxt1,cxt2);  start=0;  }  else{  start=-1;  }  });  }  function drawBound(cxt,RADIUS,color){  cxt.beginPath();  cxt.lineWidth=1;  cxt.fillStyle=color;  cxt.arc(WINDOWS\_WIDTH/2,WINDOWS\_HEIGHT/2,RADIUS,0,2\*Math.PI);  cxt.fill();  }  window.onload=function(){    var bcanvas=document.getElementById("bgCanvas");  bcanvas.width=WINDOWS\_WIDTH;  bcanvas.height=WINDOWS\_HEIGHT;  var bcontext=bcanvas.getContext("2d");    var canvas1=document.getElementById("myCanvas1");  canvas1.width=WINDOWS\_WIDTH;  canvas1.height=WINDOWS\_HEIGHT;  var context1=canvas1.getContext("2d");    var canvas2=document.getElementById("myCanvas2");  canvas2.width=WINDOWS\_WIDTH;  canvas2.height=WINDOWS\_HEIGHT;  var context2=canvas2.getContext("2d");    drawBound(bcontext,RADIUS2+LINEWIDTH/2,"#204f7c");  drawBound(bcontext,RADIUS1-LINEWIDTH/2,"#7dd1e6");    document.addEventListener('tizenhwkey', function(e) {  if(e.keyName == "back") {  try {  tizen.application.getCurrentApplication().exit();  } catch (error) {  console.error("getCurrentApplication(): " + error.message);  }  }  });    newgame(canvas2,context1,context2);  } |

## 5.The software function interface



