VG100 — Introduction to Engineering

Project 1 Report (Team 3)

Rubric

- Game Design (10 pts)
- Code Quality (50 pts)
- Readme (15 pts)
- Personal work (20 pts)

1 Game Design

Not included in this report.

2 Code Quality

Your total score of this part is 42/50.

All related information is listed below:

2 point(s) deduction, hard coded, in file Block.elm, lines 156-305.

```
156     blockArray -5 3 7 14 1
157         -- 1
158         ++ blockArray -5 -5 4 2 1
159         --2
160         ++ blockArray 12 2 27 14 1
161         --3
162         ++ blockArray 14 -4 27 1 1
163         --4
164         ++ blockArray 17 -30 27 -5 1
165         --5
```

...

```
296 expList1 =
297     [ ( 6, -3 ), (14, -14), (4 , 2), (6, -3), (15, -2) ]
298
299
300 expList2 =
301     [ ( 4, 4 ), ( 16, 3 ), ( 7, -2 ), ( 13, -3 ), ( 4, -8 ), ( 9, -9 ), ( 18, -3 ) ]
302
303
304 expList3 =
305     [ ( 12, 3 ), ( 14, 0 ), ( 13, -10 ), ( 6, 0 ), ( 9, -11 ) ]
```

1 point(s) deduction, useless let in, in file Block.elm, lines 59-64.

```
59          rect =
60              { a = ( x, y )
61              , b = ( x, y + gameParams.xStep )
62              , c = ( x + gameParams.xStep, y + gameParams.yStep )
63              , d = ( x + gameParams.xStep, y )
64              }
```

1 point(s) deduction, hard coded, in file Bob2.elm, lines 23-125.

```
23              [ path [ d "M1893.65,118c0,24.29,34,35-6.5,35S1747,142.31,1747,118s40.41-17,80.91-17,65.74-7.3,65.74,17", transform
                ↪  "translate(-233 -11)", fill "#ebffff" ]
24                []
25              ]
26          , path [ d "M836.07,426.76c4.85-100,43.15-176.44,59.18-204.37a15.11,15.11,0,0,1,19-6.43A15.61,15.61,0,0,1,923,235.05l-
                ↪  67.81,166.3", transform "translate(-233 -11)", fill "#ffdbc0"
                ↪  ]
27              []
28          , path [ d "M873.23,321.17l1.22.66c7.86,4.3,10.57,14.33,6.69,24.67l-15.79,41.88c-5.5,14.59-21.65,23.79-33.64,19.16l-3.24-1.25c-
                ↪  9.65-3.72-13.13-15.25-8.11-26.88l17.81-41.3c6.43-14.92,23.6-23.21,35.06-16.94", transform "translate(-233 -11)", fill
                ↪  "#7d6450" ]
29              []
30          , path [ d "M828.06,339.38c17.53,29,26.88,41.14,11.17,50.63s-22.38-4.94-39.9-34-16.62-20.7-.91-30.19,12.12-15.5,29.64,13.52",
                ↪  transform "translate(-233 -11)", fill "#ffdbc0" ]
31              []
32          , path [ d "M863.32,696.49c-13.14,144.06,13.13,128.39,22.14,110,1.43-2.91,1.41-15.41,1.7-18.64L910,621.49c.67-7.41-10.95-
                ↪  31.53-18.47-32.21l-8.83-.81a13.56,13.56,0,0,0-14.86,12.74Z", transform "translate(-233 -11)", fill "#874209"
                ↪  ]
```

…

```
116             []
117         , path [ d "M742.4,259.88c-31.2,26.63-39.71,66.49-19,89l113-96.46C815.7,229.91,773.61,233.24,742.4,259.88Z", transform
                ↪  "translate(-233 -11)", fill "#ffc90e" ]
118             []
119         , polygon [ points "622.07 239.8 490.7 353.27 482.36 344.29 613.72 230.82 622.07 239.8", fill "#ff7f27", stroke "#000",
                ↪  strokeMiterlimit "10" ]
120             []
121         , ellipse [ cx "831.16", cy "235.4", rx "22.35", ry "23.28", transform "translate(139.37 956.35) rotate(-73.73)", fill "#00a284",
                ↪  stroke "#000", strokeMiterlimit "10", opacity "0.36" ]
122             []
123         , ellipse [ cx "830.65", cy "236.39", rx "12.97", ry "17.33", transform "translate(-180.25 600.52) rotate(-41.63)", fill "#fff",
                ↪  stroke "#000", strokeMiterlimit "10" ]
124             []
125         ]
```

1 point(s) deduction, too long function, in file GameView.elm, lines 52-188.

```
52  renderGame : Model -> Html Msg
53  renderGame model =
54      let
55          yStep =
56              gameParams.yStep
57
58          coverOpacity =
59              if model.currentLevel <= 3 && model.pad.y > negate 16 * yStep then
60                  0
61
```

…

```
179                 "Press Enter back to levels page"
180
181             else
182                 ""
```

```
183                 )
184                   |> Svg.text
185               ]
186           , listenMusic model
187           ]
188       ]
```

1 point(s) deduction, duplicate code, in file Geometry.elm, lines 198-227.

```
198           if nx_1 > 0 && ny_1 > 0 then
199               Intersect { quadrant = 1, lambda = lambda_1, axis = ( nx_1, ny_1 ) }
200
201           else if nx_1 < 0 && ny_1 > 0 then
202               Intersect { quadrant = 2, lambda = lambda_1, axis = ( nx_1, ny_1 ) }
203
204           else if nx_1 < 0 && ny_1 < 0 then
205               Intersect { quadrant = 3, lambda = lambda_1, axis = ( nx_1, ny_1 ) }
206
207           else if nx_1 > 0 && ny_1 < 0 then
```

...

```
218               Intersect { quadrant = 2, lambda = lambda_2, axis = ( nx_2, ny_2 ) }
219
220           else if nx_2 < 0 && ny_2 < 0 then
221               Intersect { quadrant = 3, lambda = lambda_2, axis = ( nx_2, ny_2 ) }
222
223           else if nx_2 > 0 && ny_2 < 0 then
224               Intersect { quadrant = 4, lambda = lambda_2, axis = ( nx_2, ny_2 ) }
225
226           else
227               NotIntersect
```

1 point(s) deduction, duplicate code, in file Geometry.elm, lines 392-414.

```
392       inter1 =
393           circleIntersectLine c1 line |> filterByQuarant 1
394
395       inter3 =
396           circleIntersectLine c3 line |> filterByQuarant 2
397
398       inter5 =
399           circleIntersectLine c5 line |> filterByQuarant 3
400
401       inter7 =
402           circleIntersectLine c7 line |> filterByQuarant 4
403
404       inter2 =
405           lineIntersectLine line l2
406
407       inter4 =
408           lineIntersectLine line l4
409
410       inter6 =
411           lineIntersectLine line l6
412
```

```
413         inter8 =
414             lineIntersectLine line l8
```

1 point(s) deduction, useless let in, in file Geometry.elm, lines 422-427.

```
422         prior =
423             if toLambda prior_ <= 1 then
424                 prior_
425
426             else
427                 NotIntersect
```

1 point(s) deduction, duplicate code, in file Store.elm, lines 111-134.

```
111 filledBlock : Html Msg
112 filledBlock =
113     div
114         [ style "background" "#AE01AB"
115         , style "border" "groove"
116         , style "width" "25px"
117         , style "height" "40px"
118         , style "margin" "auto"
119         , style "display" "inline-block"
120         ]
121         []
122
123
124 emptyBlock : Html Msg
125 emptyBlock =
126     div
127         [ style "border-color" "#AE01AB"
128         , style "border" "groove"
129         , style "width" "25px"
130         , style "height" "40px"
131         , style "margin" "auto"
132         , style "display" "inline-block"
133         ]
134         []
```

1 point(s) deduction, duplicate code and usage of continuous if instead of case, in file Update.elm, lines 17-48.

```
17     if n == 1 then
18         { model
19             | block = map1_
20             , currentLevel = 1
21             , ball = initBall1
22             , pad = initPad
23             , waterLevel = 0.0
24             , waterLevelRiseSpeed = initWater 1
25             , targetPos = initTargetpos1
26         }

...

39     else
40         { model
```

```
41              | block = map3_
42              , currentLevel = 3
43              , ball = initBall3
44              , pad = initPad
45              , waterLevel = 0.0
46              , waterLevelRiseSpeed = initWater 3
47              , targetPos = initTargetpos3
48          }
```

2 point(s) bonus, some documentations found.

3 Readme

Not included in this report.

4 Personal work

Not included in this report.