VG100 — Introduction to Engineering *Project 1 Report (Team 15)*	**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 35/50.

All related information is listed below:

1 point(s) deduction, too many ++ in string, in file Animation.elm, lines 213-215.

```
213         transstring = "translate("++ (String.fromFloat (Tuple.first ltp)) ++ ","++(String.fromFloat (Tuple.second ltp)) ++") "
214              ++ "scale("++ (String.fromFloat (Tuple.first nowtrans.scale)) ++ ","++(String.fromFloat (Tuple.second
            ↪   nowtrans.scale)) ++") rotate("
215              ++(String.fromFloat nowtrans.rotate)++ ","++ (String.fromFloat (Tuple.first newrotatecenter))++
            ↪   ","++(String.fromFloat (Tuple.second newrotatecenter))++")"
```

1 point(s) deduction, too many ++ in string, in file Collide.elm, lines 41-45.

```
41       "p= "++ String.fromInt (floor (Tuple.first c.point)) ++ "," ++ String.fromInt (floor  (Tuple.second c.point) )++ " d="++
        ↪   String.fromInt (floor  c.distance) ++" t="
42       ++ String.fromInt (floor  (c.theta*10000)) ++ " ID="++ temp ++ "   p1="++ String.fromInt (floor (Tuple.first c.p1))
        ↪   ++ "," ++ String.fromInt (floor  (Tuple.second c.p1) )++
43       " p2="++ String.fromInt (floor (Tuple.first c.p2)) ++ "," ++ String.fromInt (floor  (Tuple.second c.p2) )++
44       " ori= "++ String.fromInt (floor (Tuple.first c.ori)) ++ "," ++ String.fromInt (floor  (Tuple.second c.ori) )++
45       " next= "++ String.fromInt (floor (Tuple.first c.next)) ++ "," ++ String.fromInt (floor  (Tuple.second c.next) )
```

1 point(s) deduction, should define Type instead of using int, in file CreateShape.elm, lines 30-39.

```
30       1 -> { red=238, green=130, blue=238 }
31       2 -> { red=34,  green=139, blue=34 }
32       3 -> { red=178, green=34,  blue=34 }
33       4 -> { red=65,  green=105, blue=255 }
34       5 -> { red=218, green=165, blue=32 }
35       6 -> { red=255, green=0,   blue=0 }
36       7 -> { red=255, green=200, blue=0 }
37       8 -> { red=0,   green=139, blue=139 }
38       0 -> { red=75,  green=100, blue=13 }
39       10 -> { red=255 , green=255, blue=255}
```

1 point(s) deduction, should define Type instead of using int, in file CreateShape.elm, lines 128-133.

```
128              6 -> 1
129              8 -> 2
130              4 -> 3
131              5 -> 4
132              0 -> 5
133              _ -> 0
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 9-31.

```
9    renderSingleButton: Model ->ShapeInfo
10   renderSingleButton model =
11       let
12           b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
13           b1next=Animation.transforminit (Animation.tupleScale model.size (0.125,0.644)) (0,0)
14           b1ani =Animation.AnimateInfo b1ori b1next model.currenttime (model.currenttime+1000) 0 False
15           size= Animation.tupleScale model.size (0.18,0.153)
16           b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =50, shapetype = -2,duration = 10000, special=0,size
             ↪   = Just size,angle = 0,id=PaddleID -1,opacity=0}
17           lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (SelectMode 1) ]  Global.ChooseMode
             ↪   (Animation.SelectSingleDoubel 1) 2
18       in
19           lb
20
21   renderDoubleButton: Model ->ShapeInfo
22   renderDoubleButton model =
23       let
24           b2ori=Animation.transforminit (Animation.tupleScale model.size (1.875,0.644)) (0,0)
25           b2next=Animation.transforminit (Animation.tupleScale model.size (0.875,0.644)) (0,0)
26           b2ani =  Animation.AnimateInfo b2ori b2next model.currenttime (model.currenttime+1000) 0 False
27           size2= Animation.tupleScale model.size (0.18,0.153)
28           b2shape={color = {red=0,green=0,blue=0},center= (500,500), radius =50, shapetype = -2,duration = 10000, special=0,size
             ↪   = Just size2,angle = 0,id=PaddleID -1,opacity=0}
29           lb2= Animation.ShapeInfo b2ani b2shape [Svg.Events.onClick (SelectMode 2) ]  Global.ChooseMode
             ↪   (Animation.SelectSingleDoubel 2) 2
30       in
31           lb2
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 88-109.

```
88   renderShopButton : Model -> ShapeInfo
89   renderShopButton  model =
90       let
91           b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
92           b1next=Animation.transforminit (Animation.tupleScale model.size (0.98,1)) (0,0)
93           b1ani =Animation.AnimateInfo b1ori b1next model.currenttime (model.currenttime+1000) 0 False
94           size= Animation.tupleScale model.size (0.14,0.48)
95           b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.second size)/2, shapetype = 0,duration =
             ↪   10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
96           lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (SelectLevel Messages.LeveltoShop)]  Global.ChooseLevel
             ↪   (Animation.LeveltoShop) 2
97       in
98           lb
99   renderShopBackButton : Model -> ShapeInfo
100  renderShopBackButton  model =
101      let
102          b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
```

2

```
103          b1next=Animation.transforminit (Animation.tupleScale model.size (0.95,0.95)) (0,0)
104          b1ani =Animation.AnimateInfo b1ori b1next model.currenttime (model.currenttime+1000) 0 False
105          size= Animation.tupleScale model.size (0.14,0.17)
106          b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =50, shapetype = -2,duration = 10000,
     ↪    special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
107          lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (Messages.Shop Messages.StoreBack) ]  Global.Shop
     ↪    (Animation.StoreBack) 2
108        in
109          lb
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 255-274.

```
255    renderLackBg : Model->ImageInfo
256    renderLackBg model =
257      let
258          ori= Animation.transforminit (Animation.tupleScale model.size (0.5,0.5)) (Animation.tupleScale model.size (0.03,0.03))
259          modif={ori|opacity=0}
260          next=Animation.transforminit (Animation.tupleScale model.size (0.5,0.5)) (Animation.tupleScale model.size (0.3,0.3))
261          ani=Animation.AnimateInfo modif next model.currenttime (model.currenttime+500) 0 False
262          sd= Animation.ImageInfo ani "assets/moneylack.png" [] Global.ResumeLackMoney (Animation.LackMoneyBanner) 0
263      in
264          sd
265    renderLackBgdelete : Model->ImageInfo
266    renderLackBgdelete model =
267      let
268          ori= Animation.transforminit (Animation.tupleScale model.size (0.5,0.5)) (Animation.tupleScale model.size (0.3,0.3))
269          modif={ori|opacity=0}
270          next=Animation.transforminit (Animation.tupleScale model.size (0.5,0.5)) (Animation.tupleScale model.size
     ↪    (0.03,0.03))
271          ani=Animation.AnimateInfo modif next model.currenttime (model.currenttime+200) (model.currenttime+200) False
272          sd= Animation.ImageInfo ani "assets/moneylack.png" [] Global.ResumeLackMoney (Animation.LackMoneyBanner) 0
273      in
274          sd
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 397-429.

```
397    renderWinRetry : Model -> ShapeInfo
398    renderWinRetry model =
399        let
400          b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
401          b1next=Animation.transforminit (Animation.tupleScale model.size (0.34,0.83)) (0,0)
402          b1ani =Animation.AnimateInfo b1ori b1next (model.currenttime+2000) (model.currenttime+3000) 0 False
403          size= Animation.tupleScale model.size (0.041,0.112)
404          b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.first size), shapetype = 0,duration =
     ↪    10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
405          lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (WinResult Messages.WinRetry) ]  Global.WinResult
     ↪    Animation.WinMenu  2
406        in
```

...

```
420    renderWinNext model =
421        let
422          b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
423          b1next=Animation.transforminit (Animation.tupleScale model.size (0.665,0.83)) (0,0)
424          b1ani =Animation.AnimateInfo b1ori b1next (model.currenttime+2000) (model.currenttime+3000) 0 False
```

```
425            size= Animation.tupleScale model.size (0.041,0.112)
426            b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.first size), shapetype = 0,duration =
      ↪   10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
427            lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (WinResult Messages.Next) ]  Global.WinResult
      ↪   Animation.WinMenu  2
428        in
429            lb
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 466-487.

```
466    renderLoseOK : Model -> ShapeInfo
467    renderLoseOK model =
468        let
469            b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
470            b1next=Animation.transforminit (Animation.tupleScale model.size (0.405,0.575)) (0,0)
471            b1ani =Animation.AnimateInfo b1ori b1next (model.currenttime+1000) (model.currenttime+1000) 0 False
472            size= Animation.tupleScale model.size (0.031,0.112)
473            b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.first size ), shapetype = 0,duration =
      ↪   10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
474            lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (Messages.LoseWindow Messages.LoseConfirm) ]
      ↪   Global.Lose Animation.LoseConfirm  1
475        in
476            lb
477    renderLoseResume : Model -> ShapeInfo
478    renderLoseResume model =
479        let
480            b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
481            b1next=Animation.transforminit (Animation.tupleScale model.size (0.585,0.575)) (0,0)
482            b1ani =Animation.AnimateInfo b1ori b1next (model.currenttime+1000) (model.currenttime+1000) 0 False
483            size= Animation.tupleScale model.size (0.031,0.112)
484            b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.first size ), shapetype = 0,duration =
      ↪   10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
485            lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (Messages.LoseWindow Messages.LoseResume) ]
      ↪   Global.Lose Animation.LoseResume  1
486        in
487            lb
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 516-548.

```
516    renderLoseRetry : Model -> ShapeInfo
517    renderLoseRetry model =
518        let
519            b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
520            b1next=Animation.transforminit (Animation.tupleScale model.size (0.34,0.83)) (0,0)
521            b1ani =Animation.AnimateInfo b1ori b1next (model.currenttime) (model.currenttime+1000) 0 False
522            size= Animation.tupleScale model.size (0.041,0.112)
523            b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.first size), shapetype = 0,duration =
      ↪   10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
524            lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (LoseResult Messages.LoseRetry) ]  Global.LoseResult
      ↪   Animation.LoseRetry  2
525        in
```

…

```
539    renderLoseNext model =
540        let
```

```
541        b1ori=Animation.transforminit (Animation.tupleScale model.size (1.125,0.644)) (0,0)
542        b1next=Animation.transforminit (Animation.tupleScale model.size (0.665,0.83)) (0,0)
543        b1ani =Animation.AnimateInfo b1ori b1next (model.currenttime) (model.currenttime+1000) 0 False
544        size= Animation.tupleScale model.size (0.041,0.112)
545        b1shape={color = {red=0,green=0,blue=0},center= (500,500), radius =(Tuple.first size), shapetype = 0,duration =
       ↪   10000, special=0,size = Just size,angle = 0,id=PaddleID -1,opacity=0}
546        lb= Animation.ShapeInfo b1ani b1shape [Svg.Events.onClick (LoseResult Messages.ResulttoShop) ]  Global.LoseResult
       ↪   Animation.LosetoShop  2
547     in
548        lb
```

1 point(s) deduction, duplicate code, in file PreRender.elm, lines 668-691.

```
668   renderbest : Model ->Int -> List TextInfo
669   renderbest model tp  =
670      let
671          ori=List.map (\x -> Animation.transforminit (Animation.tupleScale model.size x) (0,0))
             ↪   [(0.07,0.29),(0.18,0.585),(0.389,0.18),(0.435,0.76),(0.795,0.20),(0.755,0.675)]
672          modif=if tp==1 then List.map (\x->{x|opacity=0}) ori else ori
673          next=if tp==2 then List.map (\x->{x|opacity=0}) ori else ori
674          ani= if tp==1 then List.map3 (\x y z->Animation.AnimateInfo x y (model.currenttime+1000 + (toFloat z)*100)
             ↪   (model.currenttime+1000+(toFloat z)*100+200) 0 False) modif next (List.range 0 5)
675              else List.map3 (\x y z->Animation.AnimateInfo x y (model.currenttime) (model.currenttime)
                 ↪   (model.currenttime+300) False) modif next (List.range 0 2)
676          slist= List.map (\x->if x /= 1000000 then Global.timetostring x else "--:--") model.best
677          sd=List.map2(\x y-> Animation.TextInfo x y 40 (1500,750)  (Shapes.Color 255 255 255) Global.WinResult
             ↪   Animation.ResultTexts 2) ani slist
678      in
679          sd
680   renderMsg : Model ->Int-> List TextInfo
681   renderMsg model tp  =
682      let
683          ori=List.map (\x-> Animation.transforminit (Animation.tupleScale model.size (0.5,x)) (0,0)) [0.2,0.3,0.4]
684          modif=if tp==1 then List.map (\x->{x|opacity=0}) ori else List.map (\x->{x|opacity=0.5}) ori
685          next=if tp==2 then List.map (\x->{x|opacity=0}) ori else List.map (\x->{x|opacity=0.5}) ori
686          ani= if tp==1 then List.map3 (\x y z->Animation.AnimateInfo x y (model.currenttime+1000 + (toFloat z)*400)
             ↪   (model.currenttime+1000+(toFloat z)*400+400) 0 False) modif next (List.range 0 2)
687              else List.map3 (\x y z->Animation.AnimateInfo x y (model.currenttime) (model.currenttime)
                 ↪   (model.currenttime+300) False) modif next (List.range 0 2)
688          slist= ["Press Enter to Start","Press ESC to Quit"] ++ [(if model.gamemode == Model.Single then "Use ↑↓←
             ↪   → to move" else  "Player1 : WASD    Player2 :↑↓←→")]
689          sd=List.map2(\x y-> Animation.TextInfo x y 60 (1500,750)  (Shapes.Color 200 200 200) Global.WinResult
             ↪   Animation.ResultTexts 2) ani slist
690      in
691          sd
```

1 point(s) deduction, duplicate code, in file StoreOperation.elm, lines 26-93.

```
26       BuyPower ->
27          if model.shopstate.power==5 then
28              model
29          else if model.money < Global.coinsConsumption (model.shopstate.power+1) then
30                  PreRender.renderLackMoney {model|state=Global.ShopLackMoney}
31          else
32              let
```

```
33              model1= {model|money= model.money - Global.coinsConsumption (model.shopstate.power+1),shopstate=
      ↪    {shopstate| power= shopstate.power+1 }}
34              ptext= List.drop 0  (PreRender.renderShopLabel model1 2 )
35                  |> List.take 1
```

...

```
84                  ptext= List.drop 3  (PreRender.renderShopLabel model1 2 )
85                      |> List.take 1
86                  newtext = Animation.replacetext model.viewtext (PreRender.renderMoney model1 2)
87                  nexttext=Animation.replacetexts  newtext ptext
88              in
89              {model1|
90              viewimage= model.viewimage ++[PreRender.rendersingleShopBar model 4 (shopstate.duration+1)],
91              viewtext= nexttext}
92      else
93          model
```

2 point(s) deduction, elm-stuff in git repo.

1 point(s) deduction, part of code format is bad.

3   Readme

Not included in this report.

4   Personal work

Not included in this report.