

# VG100 — Introduction to Engineering

## Project 1 Report (Team 11)

### 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 36/50.

All related information is listed below:

1 point(s) **deduction**, duplicate code and hard-coded contents, in file [Model.elm](#), lines 597-677.

```
597  initialBlock0: List Block
598  initialBlock0 =
599      List.map (changeBlockType BrickVertex) [ initialOneBlock (466,184)]
600
601  initialBlock1: List Block
602  initialBlock1 =
603      List.map (changeBlockType BrickBrown)[ initialOneBlock (430,220), initialOneBlock (394,256), initialOneBlock (502,220),
604          ↪ initialOneBlock (538,256)]
605
606  initialBlock2: List Block
607  initialBlock2 =
608
609  ...
610
668  initialBlock16 =
669      List.map (changeBlockType BrickWhite)[ initialOneBlock (358,412),initialOneBlock (574,412)]
670
671  initialBlock17: List Block
672  initialBlock17 =
673      List.map (changeBlockType BrickBrown)[ initialOneBlock (394,448),initialOneBlock (430,484),initialOneBlock
674          ↪ (538,448),initialOneBlock (502,484)]
675
676  initialBlock18: List Block
677  initialBlock18 =
678      List.map (changeBlockType BrickVertex)[ initialOneBlock (466,520)]
```

1 point(s) **deduction**, duplicate code and hard-coded contents, in file [Storyboard.elm](#), lines 183-216.

```
183      step1 =
184          initialBlockType 17 Accelerate original
185
186      step2 =
```

```

187         initialBlockType 18 Decelerate step1
188
189     step3 =
190         initialBlockType 50 Accelerate step2
191     step4 =
192         initialBlockType 49 Decelerate step3
193
194     ...
195
207         initialBlockType 32 Accelerate step8
208
209     step10 =
210         initialBlockType 33 Accelerate step9
211
212     step11 =
213         initialBlockType 34 Accelerate step10
214
215     step12 =
216         initialBlockType 35 Accelerate step11

```

1 point(s) deduction, duplicate code, in file [Update.elm](#), lines 227-332.

```

227 accelerationAction : Ball -> Collision -> Ball
228 accelerationAction ball collision =
229     case collision of
230         TopLeftBlocks ->
231             if ball.vx * ball.vy < 0 then
232                 { ball | vx = 1.5*ball.vx / (abs ball.vx) * (abs ball.vy), vy = 1.5* ball.vy / (abs ball.vy) * (abs ball.vx)}
233             else
234                 { ball | vx = 1.5*(-ball.vx) / (abs ball.vx) * (abs ball.vy), vy = 1.5*(-ball.vy) / (abs ball.vy) * (abs ball.vx)}
235
236         BottomRightBlocks ->
237
238     ...
239
240         { ball | vx = -ball.vx, vy = -ball.vy}
241     else
242         { ball | vx = ball.vx / (abs ball.vx) * (abs ball.vy), vy = ball.vy / (abs ball.vy) * (abs ball.vx)}
243 TopRightBlocks ->
244     if ball.vx * ball.vy < 0 then
245         { ball | vx = -ball.vx / (abs ball.vx) * (abs ball.vy), vy = -ball.vy / (abs ball.vy) * (abs ball.vx)}
246     else
247         { ball | vx = ball.vx / (abs ball.vx) * (abs ball.vy), vy = ball.vy / (abs ball.vy) * (abs ball.vx)}
248 _ ->
249     ball

```

1 point(s) deduction, duplicate code, in file [Update.elm](#), lines 411-474.

```

411 TopLeftBlocks ->
412     let
413         ball =
414             model.ball
415
416         updatedball =
417             blockCollisionAction model.block ball TopLeftBlocks
418
419         updatedblock =
420             List.filter (\singleBlock -> not (checkBlockCollision1 ball singleBlock)) singleBlock.blocktype == Immortal1

```

...

```
465     let
466         ball =
467             model.ball
468
469         updatedball =
470             blockCollisionAction model.block ball TopRightBlocks
471
472         updatedblock =
473             List.filter (\singleBlock -> not (checkBlockCollision4 ball singleBlock)) singleBlock.blocktype == Immortal1
474             || singleBlock.blocktype == Immortal2) model.block
```

1 point(s) deduction, duplicate code, in file [Update.elm](#), lines 681-695.

```
681 checkBlocksCollision1 : Ball -> List Block -> Bool
682 checkBlocksCollision1 ball blocks =
683     List.any (checkBlockCollision1 ball) blocks
684
685 checkBlocksCollision2 : Ball -> List Block -> Bool
686 checkBlocksCollision2 ball blocks =
687     List.any (checkBlockCollision2 ball) blocks
688
689 checkBlocksCollision3 : Ball -> List Block -> Bool
690 checkBlocksCollision3 ball blocks =
691     List.any (checkBlockCollision3 ball) blocks
692
693 checkBlocksCollision4 : Ball -> List Block -> Bool
694 checkBlocksCollision4 ball blocks =
695     List.any (checkBlockCollision4 ball) blocks
```

1 point(s) deduction, duplicate code, in file [View.elm](#), lines 66-231.

```
66 renderGameMode : Html Msg
67 renderGameMode =
68     button
69     [ style "background" "#000000"
70     , style "border" "20"
71     , style "bottom" "300px"
72     , style "color" "#018fce"
73     , style "cursor" "pointer"
74     , style "display" "block"
75     , style "font-family" "Helvetica, Arial, sans-serif"
76
77     ...
78
222     , style "height" "60px"
223     , style "left" "8px"
224     , style "line-height" "60px"
225     , style "outline" "none"
226     , style "padding" "0"
227     , style "position" "absolute"
228     , style "width" "80px"
229     , onClick previousMsg
230     ]
231     [ text "Back" ]
```

1 point(s) deduction, duplicate code, in file [View.elm](#), lines 262-336.

```
262 viewBlock1 : Block -> Html msg
263 viewBlock1 block =
264     img
265     [ src
266       ↵ "http://r.photo.store.qq.com/psc?/V14EmBeb3D256g/Tiy10*PRF5enyWrLfdeKz0rAuc.FGosXHS4imSc1BsZEzCxnKrX*IWL.ONtIkqr
267       , style "left" <| String.fromFloat block.x ++ "px"
268       , style "top" <| String.fromFloat block.y ++ "px"
269       , style "position" "absolute"
270     ]
271
...
327
328 viewBlockStageClear : Block -> Html msg
329 viewBlockStageClear block =
330     img
331     [ src "https://ae01.alicdn.com/kf/H69a74a1a219345faaa88060ca88d9ad5f.jpg"
332       , style "left" <| String.fromFloat block.x ++ "px"
333       , style "top" <| String.fromFloat block.y ++ "px"
334       , style "position" "absolute"
335     ]
336
```

1 point(s) deduction, duplicate code, in file [View.elm](#), lines 339-392.

```
339 viewDescription : String -> Html msg
340 viewDescription txt =
341     div
342     [ style "color" "#34495f"
343       , style "font-size" "30px"
344       , style "line-height" "0px"
345       , style "margin" "30px 0 0"
346       , style "right" "570px"
347       , style "top" "400px"
348       , style "position" "absolute"
349
...
383 div
384     [ style "color" "#34495f"
385       , style "font-size" "30px"
386       , style "line-height" "0px"
387       , style "margin" "30px 0 0"
388       , style "right" "495px"
389       , style "top" "450px"
390       , style "position" "absolute"
391     ]
392     [ text txt ]
```

1 point(s) deduction, too long function and duplicate code, in file [View.elm](#), lines 645-913.

```

645 view model =
646   let
647     block =
648       List.map viewSingleBlock model.block
649
650     elements =
651       [ {- viewWindow model.window, -} viewPaddle model.paddle, viewBall model.ball ]
652   in
653   case model.mode of
654     Random ->
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656     ...
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658     ...
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```

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

2 point(s) **deduction**, assets mixed with source files.

1 point(s) **deduction**, too many undeleted code.

### **3   Readme**

Not included in this report.

### **4   Personal work**

Not included in this report.