

# VG100 — Introduction to Engineering

## Project 1 Report (Team 1)

### 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 48/50.

All related information is listed below:

1 point(s) **deduction**, duplicate code , in file [Model.elm](#), lines [60-118](#).

```
60  setBlockPos : (Float, Float) -> Block
61  setBlockPos (x,y) =
62      { category = SimpleBlock
63      , color = Color.fromName "red"
64      , rect =
65          { width = 90
66          , height = 45
67          , centerPos = ( x , y )
68          }
69      , isDestroyed = False
```

...

```
109 setBallBlockPos (x,y) =
110     { category = BallBlock
111     , color = Color.fromName "red"
112     , rect =
113         { width = 90
114         , height = 45
115         , centerPos = ( x , y )
116         }
117     , isDestroyed = False
118     }
```

1 point(s) **deduction**, hard-coded contents, in file [Model.elm](#), lines [144-168](#).

```
144 loadStage : Int -> Model -> Model
145 loadStage stage model =
146     let
147         x =
148             case stage of
149                 2 ->
```

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```
[setBlockPos (45,22.5), setStrongBlock-
  → Pos (136,22.5), setBlockPos (227, 22.5), setSolidBlockPos (318, 22.5), setBlockPos (409, 22.5), setBlockPos (500,
  → 22.5),setBlockPos(591,22.5),setStrongBlockPos(682,22.5),setBlockPos(773,22.5),setBlockPos(864,22.5),setTreasureBlockPos(95
,setBlockPos (45,71.5), setBlockPos (136,71.5), setBlockPos (227, 71.5), setBlockPos (318, 71.5),
  → setTreasureBlockPos (409, 71.5), setBlockPos (500,
  → 71.5),setTreasureBlockPos(591,71.5),setBlockPos(682,71.5),setBlockPos(773,71.5),setBlockPos(864,71.5),setStrongBlockPos(95
,setBlockPos (45,120.5), setTreasureBlockPos (136,120.5), setBlockPos (227, 120.5), setStrongBlockPos (318, 120.5),
  → setBlockPos (409, 120.5), setBlockPos (500,
  → 120.5),setBlockPos(591,120.5),setBlockPos(682,120.5),setTreasureBlockPos(773,120.5),setBlockPos(864,120.5),setStrongBlockP
,setTreasureBlockPos (45,169.5), setStrongBlockPos (136,169.5), setBallBlockPos (227, 169.5), setBlockPos (318,
  → 169.5), setTreasureBlockPos (409, 169.5), setBlockPos (500,
  → 169.5),setBlockPos(591,169.5),setSolidBlockPos(682,169.5),setStrongBlockPos(773,169.5),setBlockPos(864,169.5),setBlockPos(
,setStrongBlockPos (45,218.5), setTreasureBlockPos (136,218.5), setBlockPos (227, 218.5), setSolidBlockPos (318,
  → 218.5), setBlockPos (409, 218.5), setStrongBlockPos (500,
  → 218.5),setBlockPos(591,218.5),setStrongBlockPos(682,218.5),setTreasureBlockPos(773,218.5),setBlockPos(864,218.5),setBlockP
  → ]

3 ->
[setSolidBlockPos (45,22.5), setTreasureBlock-
  → Pos (136,22.5), setBlockPos (227, 22.5), setBlockPos (318, 22.5), setBlockPos (409, 22.5), setSolidBlockPos (500,
  → 22.5),setBlockPos(591,22.5),setStrongBlockPos(682,22.5),setBlockPos(773,22.5),setBlockPos(864,22.5),setStrongBlockPos(955,
,setBlockPos (45,71.5), setBlockPos (136,71.5), setStrongBlockPos (227, 71.5), setBlockPos (318, 71.5), setBlockPos
  → (409, 71.5), setBlockPos (500,
  → 71.5),setStrongBlockPos(591,71.5),setTreasureBlockPos(682,71.5),setBlockPos(773,71.5),setStrongBlockPos(864,71.5),setBlock
,setBlockPos (45,120.5), setTreasureBlockPos (136,120.5), setBlockPos (227, 120.5), setBlockPos (318, 120.5),
  → setTreasureBlockPos (409, 120.5), setBlockPos (500,
  → 120.5),setBallBlockPos(591,120.5),setBlockPos(682,120.5),setSolidBlockPos(773,120.5),setTreasureBlockPos(864,120.5),setBlock
,setBlockPos (45,169.5), setStrongBlockPos (136,169.5), setTreasureBlockPos (227, 169.5), setBlockPos (318, 169.5),
  → setBlockPos (409, 169.5), setStrongBlockPos (500,
  → 169.5),setTreasureBlockPos(591,169.5),setBlockPos(682,169.5),setBlockPos(773,169.5),setBlockPos(864,169.5),setBlockPos(955,2
,setSolidBlockPos (45,218.5), setBlockPos (136,218.5), set-
  → StrongBlockPos (227, 218.5), setBlockPos (318, 218.5), setTreasureBlockPos (409, 218.5), setSolidBlockPos (500,
  → 218.5),setBlockPos(591,218.5),setBlockPos(682,218.5),setStrongBlockPos(773,218.5),setBlockPos(864,218.5),setBlockPos(955,2
  → ]

4 ->
[setTreasureBlockPos (45,22.5), setStrongBlockPos (136,22.5), setBlockPos (227, 22.5), setBlockPos (318, 22.5),
  → setTreasureBlockPos (409, 22.5), setBlockPos (500,
  → 22.5),setSolidBlockPos(591,22.5),setBlockPos(682,22.5),setBlockPos(773,22.5),setTreasureBlockPos(864,22.5),setTreasureBlock
,setStrongBlockPos (45,71.5), setBlockPos (136,71.5), setStrongBlockPos (227, 71.5), setBallBlockPos (318, 71.5),
  → setBlockPos (409, 71.5), setBlockPos (500,
  → 71.5),setBlockPos(591,71.5),setBlockPos(682,71.5),setBlockPos(773,71.5),setBlockPos(864,71.5),setBlockPos(955,71.5),setBlock
,setBlockPos (45,120.5), setTreasureBlockPos (136,120.5), setBlockPos (227, 120.5), setSolidBlockPos (318, 120.5),
  → setBlockPos (409, 120.5), setTreasureBlockPos (500,
  → 120.5),setBlockPos(591,120.5),setBlockPos(682,120.5),setBlockPos(773,120.5),setTreasureBlockPos(864,120.5),setBlockPos(955
,setTreasureBlockPos (45,169.5), setStrongBlockPos (136,169.5), setBlockPos (227, 169.5), setSolidBlockPos (318,
  → 169.5), setBlockPos (409, 169.5), setStrongBlockPos (500,
  → 169.5),setSolidBlockPos(591,169.5),setBlockPos(682,169.5),setStrongBlockPos(773,169.5),setStrongBlockPos(864,169.5),setBlo
,setStrongBlockPos (45,218.5), setBlockPos (136,218.5), setSolidBlockPos (227, 218.5), setBlockPos (318, 218.5),
  → setStrongBlockPos (409, 218.5), setBlockPos (500,
  → 218.5),setBlockPos(591,218.5),setStrongBlockPos(682,218.5),setTreasureBlockPos(773,218.5),setBlockPos(864,218.5),setBlockP
  → ]

-- ->
initialBlocks
```

1 point(s) deduction, too long function, in file [Update.elm](#), lines 11-160.

11 update msg model =

```

12     case msg of
13       Resize width height ->
14         ( { model | size = ( toFloat width, toFloat height ) }
15           , Cmd.none
16         )
17       GetViewport { viewport } ->
18         ( { model
19           | size =
20             ( viewport.width

```

...

```

151         ({model|moreScore=True, score = model.score - 150, shopping=Buy buff},Cmd.none)
152       else
153         ({model|shopping=Poor},Cmd.none)
154     MoreLife ->
155       if model.score > 150 then
156         ({model|life = model.life + 1, score = model.score - 150, shopping=Buy buff},Cmd.none)
157       else
158         ({model|shopping=Poor},Cmd.none)
159     NoOp ->
160       (model, Cmd.none)

```

1 point(s) **deduction**, hard-coded contents, in file [View.elm](#), lines 420-447.

```

420 ##### 1. Brief Introduction & Victory Requirement
421 Treasure hunter is a game in which player breaks bricks with a bouncy ball to gain magic power, and pass the stage upon your
    ↳ magic level reaching the required amount of magic. Each stage will have a specified requirement. Magic can be used to
    ↳ strengthen the paddle and ball.
422 The amount of balls you control is limited. If you have lost all of your balls, the game loses and you have to restart.
423 ##### 2. Enhancement
424 You can go to the "witch's hut" enhance your power using magic. A certain amount of magic is needed for each enhancement, but
    ↳ will consume the magic you have. Consider before each purchase!
425 ##### 3. Keyboard Control
426 Use "WASD" to move the paddle. "W" for moving up, "S" for moving down, "A" for moving left, "D" for moving right.
427 ##### 4. Bricks
428 ![resources/s_simple.png] Normal brick: no special effects
429 ![resources/s_strong.png] Thick brick: need two hits to be broken

```

...

```

438 ### References:
439 1. Cover picture - https://unsplash.com/photos/5DIFvVwe6wk
440 2. Background music in the game - https://www.bensound.com/royalty-free-music/track/adventure
441 3. Magical theme background picture - https://unsplash.com/photos/_l4yffWjgt4
442 4. Background of magic ball - https://www.google.com/imgres?imgurl=http%3A%2F%2Fpic.vjshi.com%2F2019-02-
    ↳ 22%2Fc6a8212cd6a00b4d3620682b12744501%2F00003.jpg%3Fx-oss-
    ↳ process%3Dstyle%2Fwatermark&imgrefurl=http%3A%2F%2Fwww.kaimalo.com%2Fimg%2F4c2b8dbc2f7c7aebeabc8a7b7a4c.html&tbnid=nr
    ↳ X1h43qAhUXhJQKHdbmCh8QMygRegUIARC0AQ..i&docid=KSt2BmBBE9gttM&w=1082&h=1080&q=%E9%AD%94%E6%B3%95%E6%
    ↳ X1h43qAhUXhJQKHdbmCh8QMygRegUIARC0AQ
443 """
444     _ ->
445     Markdown.toHtml [] """
446 **This should never appear** is reference a game written by pgroup1 of class VG100 in UMJI of SJTU in 2020 summer.
447 """

```

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2 point(s) **bonus**, some documentations found.

### **3 Readme**

Not included in this report.

### **4 Personal work**

Not included in this report.