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 46/50.

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 ->
```

```elm
150                    [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
151                    ,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
152                    ,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
153                    ,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(
154                    ,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
          ↪    ]
155            3 ->
156                    [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,
157                    ,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
158                    ,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),setBloc
159                    ,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
160                    ,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
          ↪    ]
161            4 ->
162                    [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
163                    ,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
164                    ,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
165                    ,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
166                    ,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
          ↪    ]
167            _ ->
168                    initialBlocks
```

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

```elm
11    update msg model =
```

```elm
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
```

…

```elm
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    """
```

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

2 point(s) bonus, some documentations found.

3 Readme

Not included in this report.

4 Personal work

Not included in this report.