Project Assignment Checklist

Task	Status
Used JavaFx	X
Visually there is sky and earth	X
Drill machine has fuel, storage, and money bank	X
Machine attributes can be seen in screen	X
Fuel decreases with movement and with time	X
Money and haul increase with every collected valuable	X
Drill machine changes appearances depending on where it is facing	X
Machine is controlled with arrow keys	X
Machine cannot drill upwards	X
There is at least 3 types of valuable mineral and gems	X
Valuable mineral and gems each have different weights and values	X
Top of the earth has grass	X
There are boulders in the borders (except at the top)	X
Boulders cannot be drilled into	X
There are lava blocks	X
Lava destroys the drill and causes game over (red)	X
Running out of fuel causes game over with collected money (green)	X
There is gravity	X
There is more soil than other elements	X

UML CLASS DIAGRAM

LavaTile
- ImageView image

+ LavaTile()
+ drill() void
+ getValue() int
+ getWeight() int
+ drillStatus() DrillStatus
+ getImage() ImageView

ValuableTile
- ImageView image
- boolean drilled
- boolean drillable
- int value
- int weight

+ ValuableTile(String)
+ getValue() int
+ drill() void
+ getImage() ImageView
+ drillStatus() DrillStatus
+ getWeight() int
- loadImage(String) Image
- setProperties(String) void

<<enumeration>> DrillStatus
+ DRILLED
+ UNDRILLABLE
+ LAVA
+ DRILLABLE

<<Interface>> ITile
+ getImage() ImageView
+ drillStatus() DrillStatus
+ drill() void
+ getValue() int
+ getWeight() int

EarthTile
- boolean drilled
- ImageView image
- String subtype

+ EarthTile(String)
+ getWeight() int
+ drillStatus() DrillStatus
+ getValue() int
+ getImage() ImageView
+ drill() void

BoulderTile
- ImageView image

+ BoulderTile()
+ drillStatus() DrillStatus
+ getValue() int
+ getWeight() int
+ drill() void
+ getImage() ImageView

DrillMachine
- float INITIAL_FUEL
- float MOVE_CONSUMPTION
- float fuel
- int money
- int weight
- int x
- int y
- Direction facing
- ImageView imageView

+ DrillMachine(int, int)
+ move(Direction, boolean) void
+ collectValuable(ITile) void
+ consumeFuel(float) void
+ getImageView() ImageView
+ updateImage() void
+ handleLavaCollision() void
+ getMoney() int
+ getWeight() int
+ getFuel() float
+ getX() int
+ getY() int

GameBoard
- ITile[][] tiles
- Random random
- GRID_SIZE

+ GameBoard()
- initializeTiles() void
- randomValuableType() String
+ getTile(int, int) ITile
+ getTiles() ITile[][]

Main
- int CELL_SIZE
- int GRID_SIZE
- int FUEL_CONSUMPTION_INTERVAL
- int GRAVITY_INTERVAL
- int STATS_SPACING
- GameController gameController
- Scene scene
- Timeline fuelConsumptionTimeline
- Label gameOverLabel
- Label weightLabel
- Label fuelLabel
- Label moneyLabel

+ Main()
+ start(Stage) void
- updateGrid(GridPane) void
- setAllCellsBackground(Color, GridPane) void
- handleGameOver(Color, String, GridPane) void
- handleKeyPress(KeyCode, GridPane) void
- setCellBackground(int, StackPane) void
- updateStatsDisplay() void
- createLabel(int) Label
- setCellBackground(Color, StackPane) void
+ main(String[]) void

GameController
- GRID_SIZE
- DrillMachine drillMachine
- GameBoard gameBoard
~ GameState gameState

+ GameController()
+ getDrillMachine() DrillMachine
- checkGameEndConditions() void
+ updateGame() void
+ getGameBoard() GameBoard
+ handleKeyPress(KeyCode) void
- checkCollisions() void
+ getGameState() GameState
+ applyGravity() void
+ consumeFuel(float) void

<<enumeration>> GameState
+ PLAYING
+ GAME_OVER_LOSE
+ GAME_OVER_WIN

tiles *

gameBoard 1

drillMachine 1

gameController 1

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