

Software-Ontwerp

Iteratie 3

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Inhoud

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- Force Fields
 - Force Field Generators
 - Force Field Manager
- MovableEffect
- 4 Aanpassingen
 - Activatable
 - Commands
- 5 Slot

Rolverdeling

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Rolverdeling

Afgelopen iteratie:

- Lead Designer: Vincent Reniers
- Lead Tester: Jonas Devlieghere
- Domain Modeler: Dieter Castel

Komende iteratie:

- Lead Designer: Stefan Pante
- Lead Tester: Dieter Castel
- Domain Modeler: Jonas Devlieghere

Werkverdeling

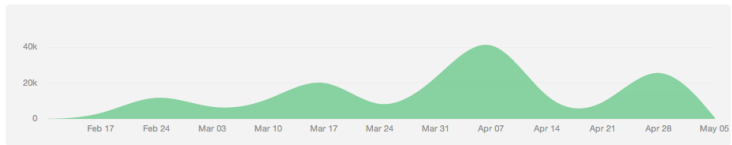


Figure : Commit history doorheen de iteraties



Testen

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Test Coverage

Figure : EclEmma test coverage

Grid Builder

```

AbstractGridBuilder
+Property<> vSize : int
+Property<> vSize : int
+Property<> constraintTeleport : GridConstraint
+Property<> constraintLightGrenade : GridConstraint
+Property<> constraintIdentityDisk : GridConstraint
+Property<> constraintWall : GridConstraint
+Property<> constraintForceFieldGenerator : GridConstraint
+Property<> grid : Grid
+walls : ArrayList<Wall>
+AbstractGridBuilder()
+placeRandomSquare (Square item : item) : void
+getWalls() : ArrayList<Wall>
+randomLocationsConstraint (GridConstraint) : ArrayList<Coordinate>
+placeWalls(walls : ArrayList<ArrayList<Coordinate>>) : void
+placeTeleports(coordinates : ArrayList<Coordinate>) : void
+setTeleportsTeleports (ArrayList<Teleport>, destinations : ArrayList<Square>, linkRandomly : boolean) : void
+getChargedIdentityDiskLocation() : Coordinate
+setSquares() : void
+build() : void
+getPlayerOneCoordinate() : Coordinate
+getPlayerTwoCoordinate() : Coordinate
+placeLightGrenade(coordinates : ArrayList<Coordinate>) : void
+placeIdentityDisk(coordinates : ArrayList<Coordinate>) : void
+placeChargedIdentityDisk(coordinates : ArrayList<Coordinate>) : void
+placeForceFieldGenerator(coordinates : ArrayList<Coordinate>) : void
  
```

```

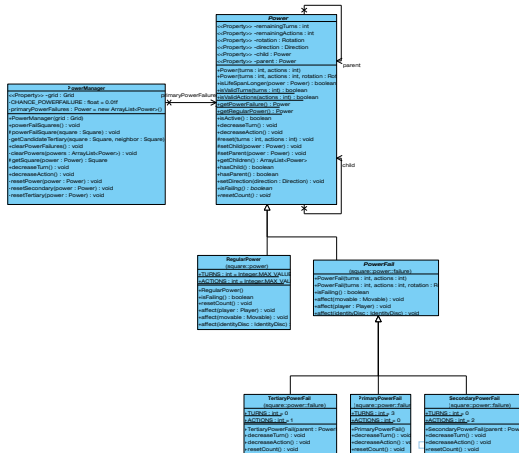
FileGridBuilder
+File : File
+for : BufferedReader
+new_squares : ArrayList<Coordinate>
+not_squares : ArrayList<Coordinate>
+wall_squares : ArrayList<Coordinate>
+player1 : Coordinate
+player2 : Coordinate
+filePath : String
+FileGridBuilder(filePath : String)
+newConstraint() : void
+build() : void
+readInput() : void
+openFileStream() : void
+closeFileStream() : void
+parseFile() : void
+getPlayerOneCoordinate(coordinates : Coordinate) : void
+getPlayerTwoCoordinate(coordinates : Coordinate) : void
+setSquares() : void
+getWallsLocation() : ArrayList<ArrayList<Coordinate>>
+getWallSequence(coordinates : Coordinate, direction : Direction) : ArrayList
+checkConstraint() : void
+getPlayerOneCoordinate() : Coordinate
+getPlayerTwoCoordinate() : Coordinate
  
```

```

RandomGridBuilder
+MIN_SIZE : int = 10
+MAX_SIZE : int = 10
+RandomGridBuilder()
+RandomGridBuilder(size : int, vSize : int)
+isValidSize(size : int) : boolean
+isValidSize(vSize : int) : boolean
+build() : void
+setConstraints() : void
+getWallCandidate : ArrayList<Coordinate>, maxWallLength : int : ArrayList<Coordinate>
+removePenetration(coordinates : ArrayList<Coordinate>, candidates : ArrayList<Coordinate>)
+getCoordinatesOfWalls(walls : ArrayList<Wall>) : ArrayList<Coordinate>
+getSquareLocation(start : Coordinate, direction : Direction, size : int) : ArrayList<Coordinate>
+getPlayerOneCoordinate() : Coordinate
+getPlayerTwoCoordinate() : Coordinate
+randomWallLocation(constraint : GridConstraint) : ArrayList<ArrayList<Coordinate>>
+setSquares() : void
  
```


Power Failures

Power Failures



Force Fields

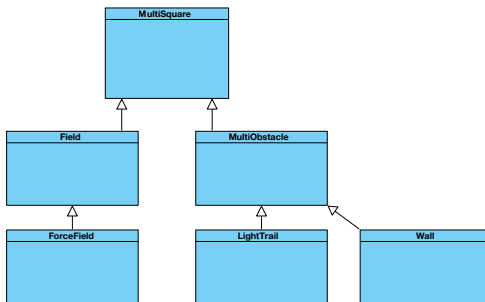


Figure : Fields en Force Fields

Force Field Generators

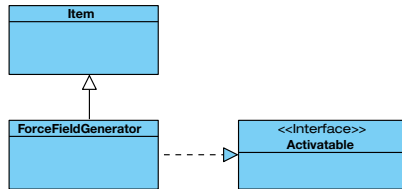


Figure : Force Field Generators

- Force Field Generators zijn *items*
- Force Field Generators zijn *activatable*

```

classDiagram
    class Game {
        -ForceFieldManager
    }
    class Observer {
        <<interface>>
    }
    class ForceFieldManager {
        -Grid
        -ForceFields
    }
    class ForceField
    class Grid

    Game -- ForceFieldManager
    Observer <|.. ForceFieldManager
    ForceFieldManager -- ForceField
    ForceFieldManager -- Grid
  
```

- Herkent aan de hand van het Grid welke Force Fields geactiveerd kunnen worden
- Gekoppeld met elk force field
- Generatoren zijn niet gekoppeld met velden zelf
- Observeert acties en schakelt velden aan en uit

Figure : Force Field Generators

Effecten

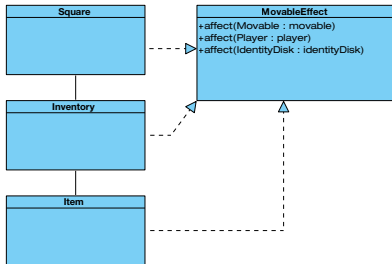
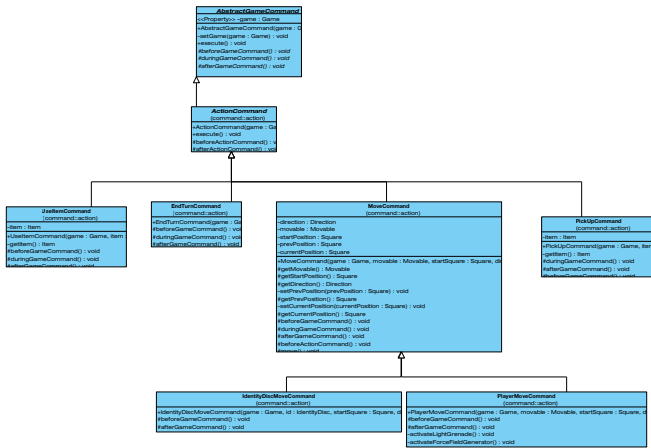


Figure : Geinspireerd door Composite Pattern

- Zelfde interface voor complex object (*square/inventory*) als voor primitief object (*item*)
- Gecombineerd met *double dispatch* voor onderscheid van effect op *item* en op *player*

Command Pattern



Besluit

Bedankt voor uw aandacht.