

Software-Ontwerp

Iteratie 3

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Inhoud

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 - Werkverdeling
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 - Grid Builder
 - Power Failures
- 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

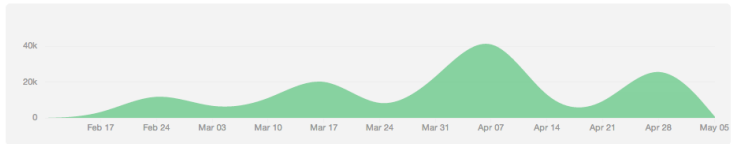


Figure : Commit history doorheen de iteraties

Testen

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Test Coverage

src	40,3 %	src	43,7 %
gui	0,0 %	gui	0,0 %
grid	62,3 %	controller	0,0 %
gui.button	0,0 %	gui.button	0,0 %
util	54,9 %	command.action	0,0 %
manager	42,2 %	game	58,7 %
controller	75,1 %	grid	88,9 %
game	70,8 %	item	59,8 %
item.inventory	68,3 %	util	77,7 %
square	67,2 %	item.inventory	73,0 %
item	68,5 %	square.power	69,2 %
square.power	35,6 %	gui.message	0,0 %
square.field	0,0 %	manager	90,3 %
gui.message	0,0 %	square	91,0 %
command.action	82,4 %	square.obstacle	79,4 %
square.obstacle	70,3 %	square.power.failure	75,0 %
square.power.failure	59,5 %	command	0,0 %
command	65,0 %	square.field	87,4 %

Figure : EclEmma test coverage

Grid Builder

```

AbstractGridBuilder
+Property<> <Size> : int
+Property<> <Size> : int
+Property<> <constraintTeleport> : GridConstraint
+Property<> <constraintLightGenerator> : GridConstraint
+Property<> <constraintIdentityDisk> : GridConstraint
+Property<> <constraintWall> : GridConstraint
+Property<> <constraintForceFieldGenerator> : GridConstraint
+Property<> <grid> : Grid
+walls : ArrayList<Wall>
+AbstractGridBuilder()
+placeRandomSquares : (Square, item : item) : void
+getWalls() : ArrayList<Wall>
+randomLocationsConstraint : (GridConstraint) : ArrayList<Coordinate>
+placeWalls(walls : ArrayList<ArrayList<Coordinate>>) : void
+placeTeleports(coordinates : ArrayList<Coordinate>) : void
+setTeleportsResources : ArrayList<Teleport>, destinations : ArrayList<Squares>, linkRandomly : boolean
+getChargedIdentityDiskLocation() : Coordinate
+setSquares() : void
+build() : void
+getPlayerOneCoordinate() : Coordinate
+getPlayerTwoCoordinate() : Coordinate
+placeLightGenerator(coordinates : ArrayList<Coordinate>) : void
+placeIdentityDisk(coordinates : ArrayList<Coordinate>) : void
+placeChargedIdentityDisk(coordinates : ArrayList<Coordinate>) : void
+placeForceFieldGenerator(coordinates : ArrayList<Coordinate>) : void
  
```

```

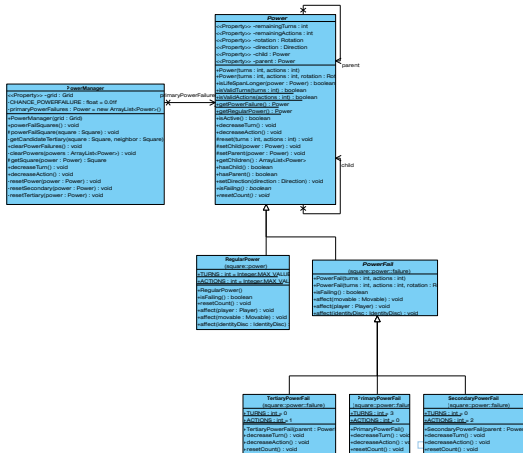
FileGridBuilder
+File : File
+for : BufferedReader
+new_squares : ArrayList<Coordinate>
+not_squares : ArrayList<Coordinate>
+wall_squares : ArrayList<Coordinate>
+player1 : Coordinate
+player2 : Coordinate
+FileGridBuilder(filepath : String)
+newConstraint() : void
+build() : void
+readInput() : void
+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
+randomWallLocationConstraint : GridConstraint : ArrayList<ArrayList<Coordinate>>
+setSquares() : void
  
```


Power Failures

Power Failures



Force Fields

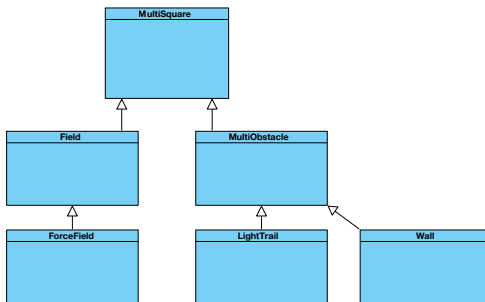


Figure : Fields en Force Fields

Force Field Generators

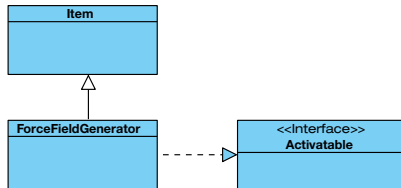


Figure : Force Field Generators

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

Force Fields

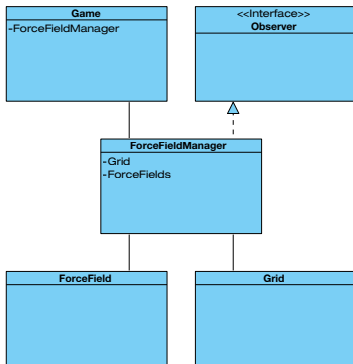


Figure : Force Field Generators

- 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

Effecten

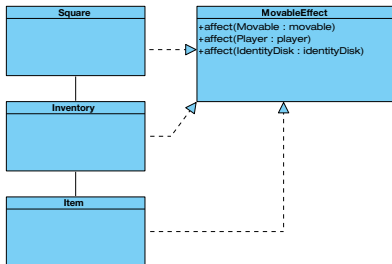
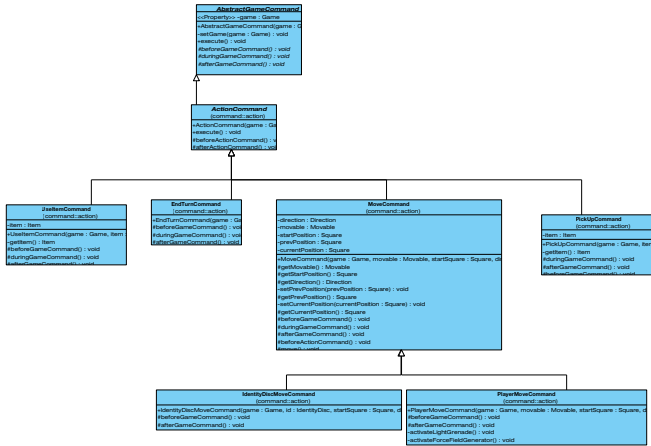


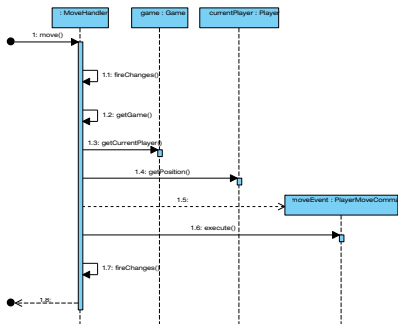
Figure : Geïnspireerd door Composite Pattern

- 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

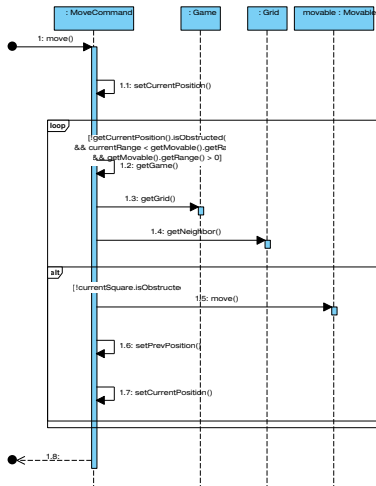


Commands



- de Handlers gebruiken Commands voor de eigenlijke uitvoering van de actie.
- Zorgt voor sterke encapsulatie binnen de Handlers.

Commands



Besluit

Bedankt voor uw aandacht.