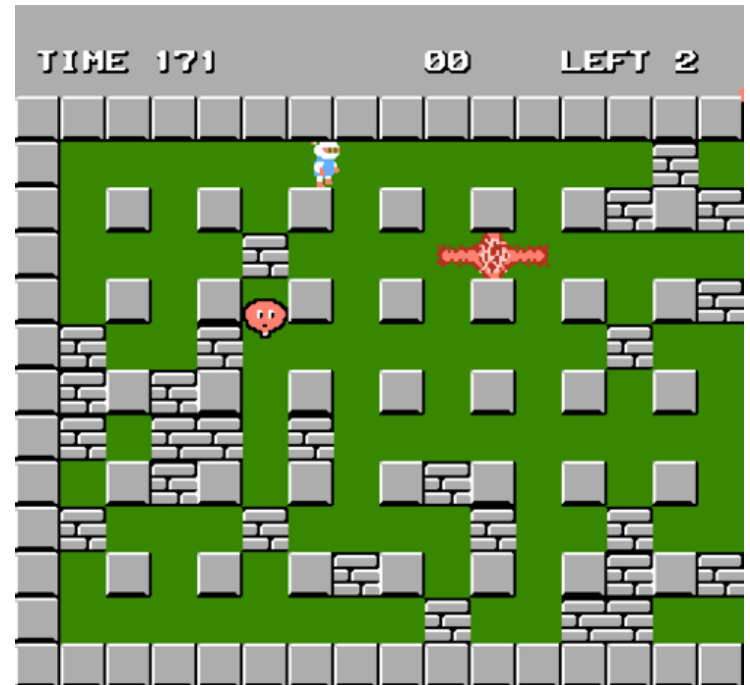


BombGameSE



Create a bomberman clone featuring:

- Standard bomberman game functions
- AI
- Random maze generation
- Scalable
- TUI/GUI



Architecture goals

- MVC-structure
- Code coverage 100% (except GUI/TUI)
- Run GUI/TUI simultaneously
- provide 0% code duplication
- provide 0% tangle index
- use interfaces and components

Project environment

- Hosted on Github (documentation in markdown)
- Jenkins for CI
- Sonar for quality management
- Code coverage: EcEmma

master Last updated 24 minutes ago by fameyer			Base branch
particle Last updated 44 minutes ago by fameyer	4 behind 0 ahead	 Delete branch	 Compare
GUISlick Last updated 4 days ago by Rookfighter	45 behind 0 ahead	 Delete branch	 Compare
Field Last updated 6 days ago by Rookfighter	52 behind 0 ahead	 Delete branch	 Compare
EntityImplementation Last updated 3 months ago by fameyer	216 behind 0 ahead	 Delete branch	 Compare

```

Players:
-> Player: [5] [3] Direction: 2
AI:
Bombs:
Explosions:
->Explosion: { [2] [1], [3] [1], [1] [1], [2] [2], [4] [1], [0] [1], [2] [3], [5] [1], [2] [4] }

```

```

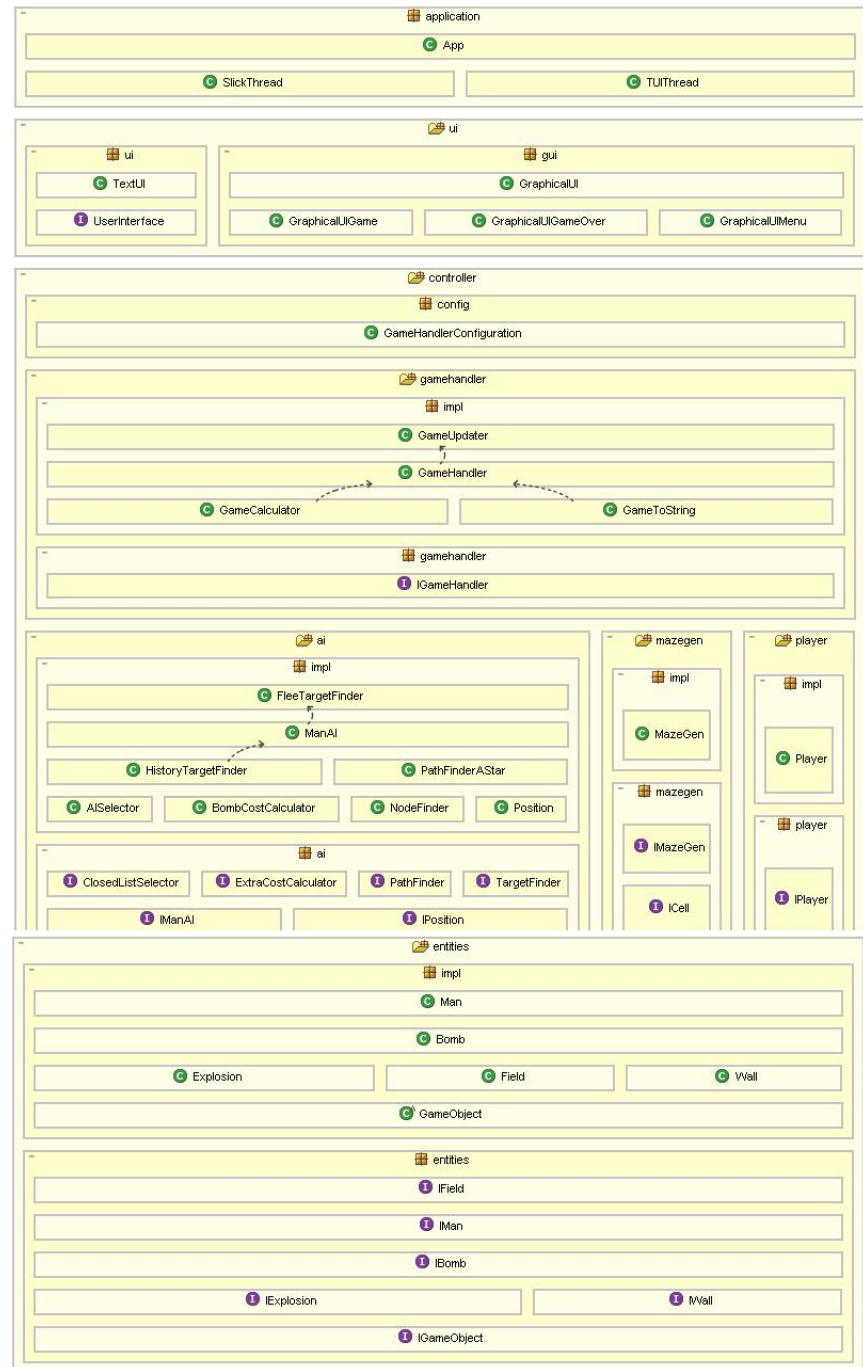
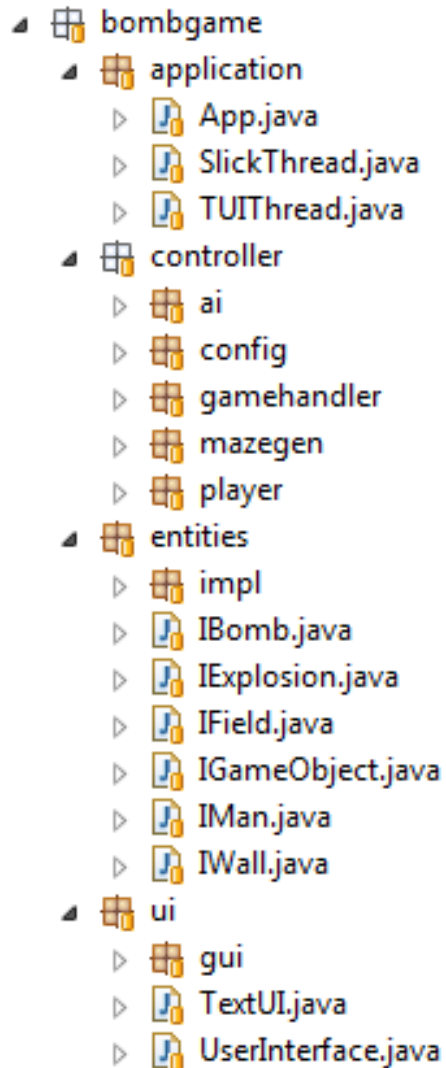
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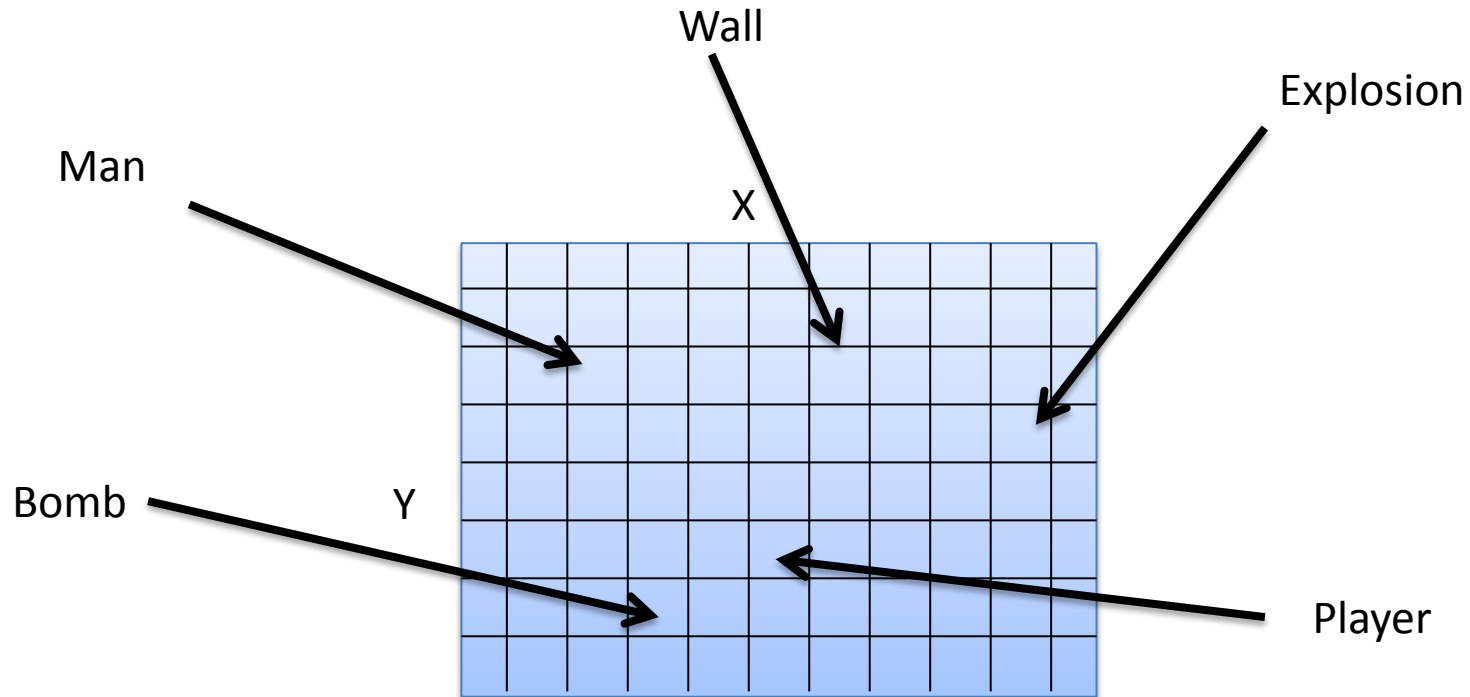
TUI/GUI



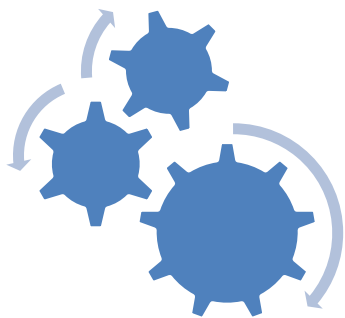
MVC Structure



GameField[][] (2D Array)

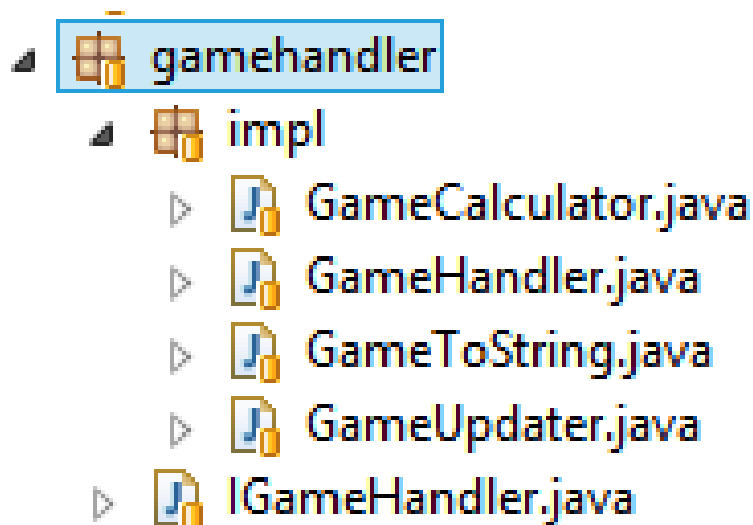


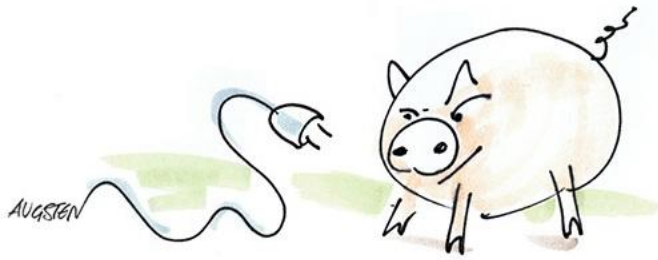
Holds status



GameHandler

- Central logics component
 - > Moves objects
 - > Correct object spawn
 - > Calculates explosion
 - > Update Field





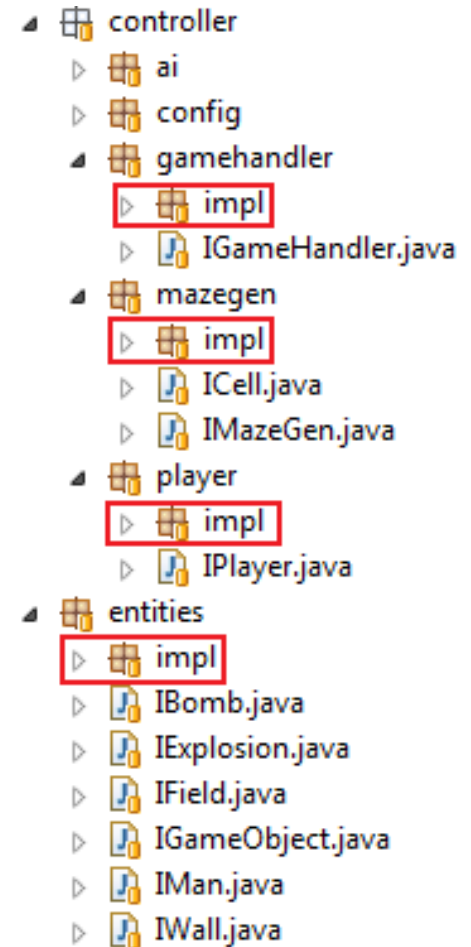
Interfaces

- Only interfaces are used
- Concrete creation -> Factory:

GameHandlerConfiguration

Holds the game config

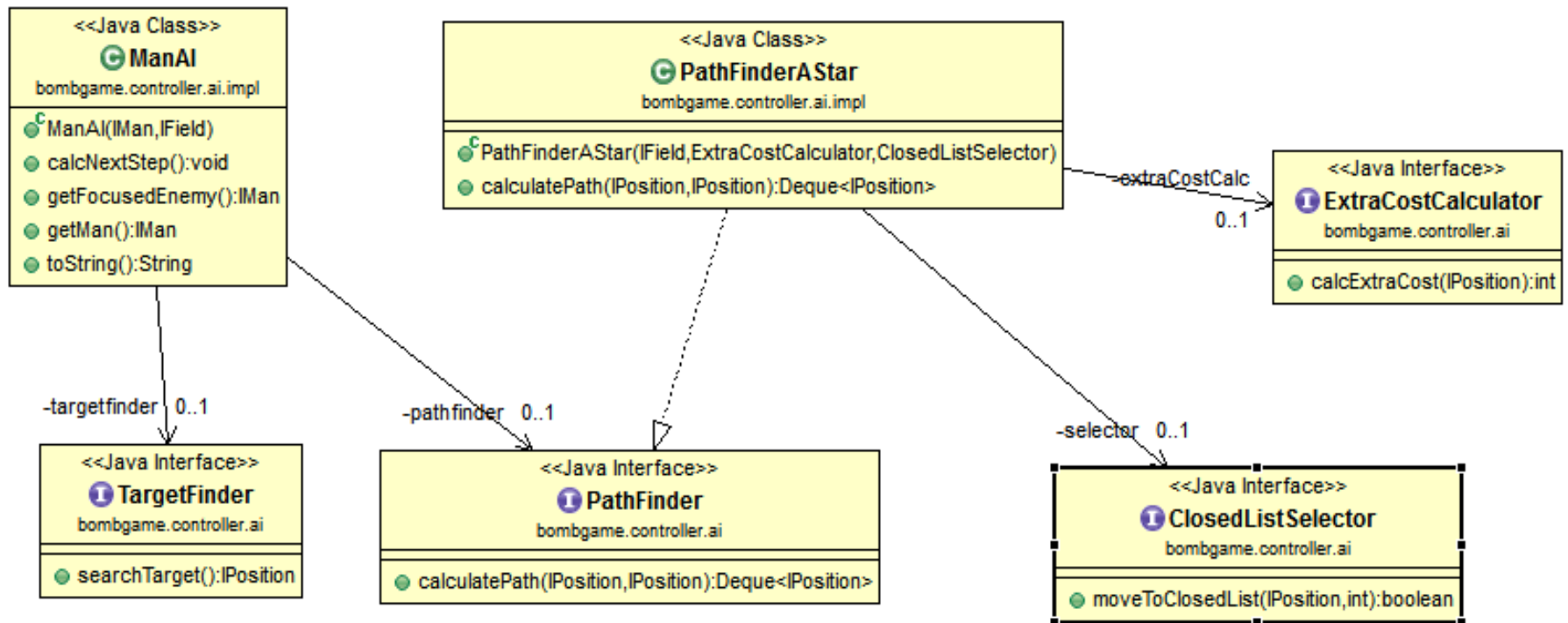
- Nr. of Ais, width, height, ...





Patterns

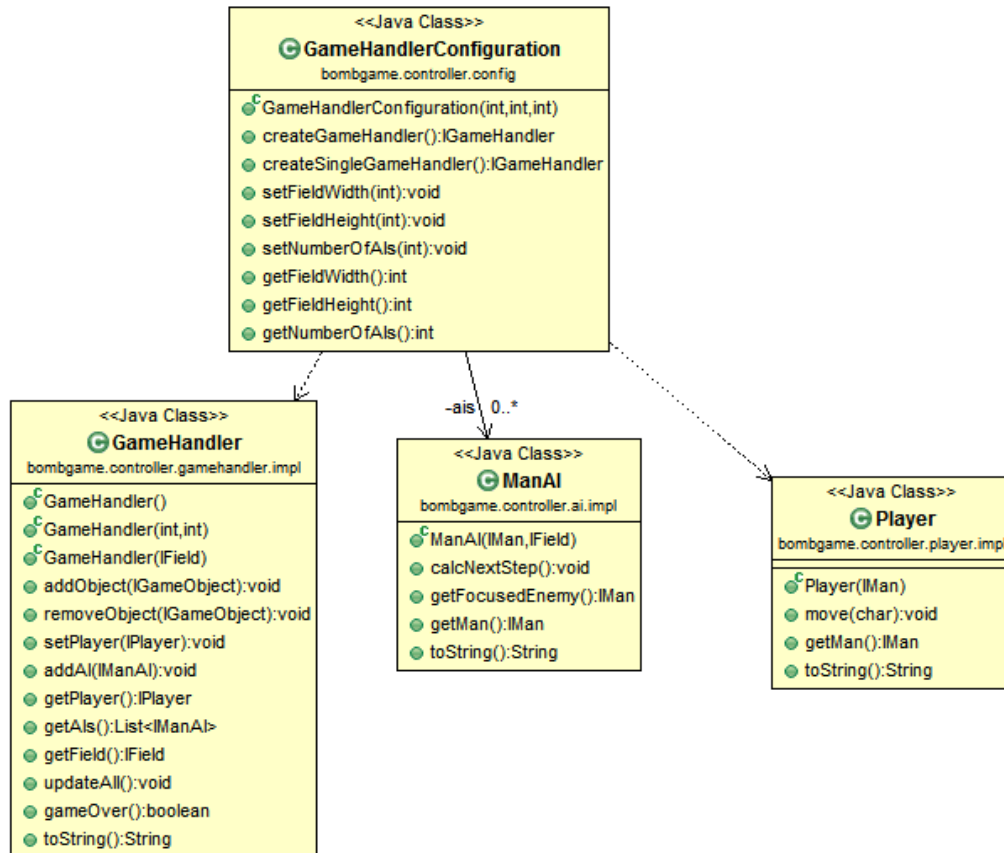
- Strategies in AI





Patterns

- Factory GameHandlerConfiguration



Sonar Metrics

Lines of code

2.193 ▲

4.493 lines ▲

958 statements ▲

46 files ▲

Classes

49 ▲

14 packages

211 methods ▲

33 accessors ▲

Comments

25,3% ▼

743 lines ▲

62,7% docu. API ▲

56 undocu. API ▲

Duplications

0,0%

0 lines

0 blocks

0 files

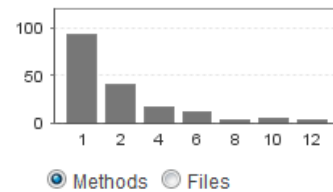
Complexity

2,2 /method

9,6 /class

10,3 /file

Total: 472 ▲



Violations

12

Rules compliance

98,4% ▲

⬆ [Blocker](#)

0

⬆ [Critical](#)

2

⬆ [Major](#)

7

⬆ [Minor](#)

3

⬆ [Info](#)

0

Package tangle index

0,0%

> 0 cycles

Dependencies to cut

0 between packages

0 between files

Unit tests coverage

86,5% ▼

85,6% line coverage ▼

88,2% branch coverage ▼

Unit test success

100,0%

0 failures

0 errors

100 tests ▲

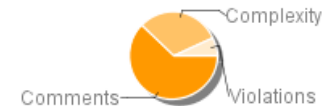
295 ms ▼

Technical Debt ⓘ

2,0%

\$ 1.119 ▼

2 man days ▼



Events All ▼

Hotspots

Most violated rules

Any severity ▼

[More](#)

▲ Member name	4	<div></div>
▲ Cyclomatic Complexity	3	<div></div>
▲ Security - Array is stored directly	2	<div></div>
▼ Collapsible If Statements	2	<div></div>
▼ Singular Field	1	<div></div>

Most violated resources

[More](#)

GraphicalUIGame	▲ 0	▲ 0	▲ 5	▼ 1	▼ 0
GameHandler	▲ 0	▲ 1	▲ 1	▼ 0	▼ 0
NodeFinder	▲ 0	▲ 1	▲ 0	▼ 0	▼ 0
GameCalculator	▲ 0	▲ 0	▲ 1	▼ 0	▼ 0
MazeGen	▲ 0	▲ 0	▲ 0	▼ 2	▼ 0

Hotspots by Unit tests duration

[More](#)

TUIThreadTest	172 ms	<div></div>
FleeTargetFinderTest	31 ms	<div></div>
GameHandlerConfigurationTest	31 ms	<div></div>
GameHandlerTest	31 ms	<div></div>
AISelectorTest	16 ms	<div></div>

Hotspots by Uncovered lines

[More](#)

GraphicalUIGame	85	<div></div>
GraphicalUIMenu	24	<div></div>
GraphicalUIGameOver	17	<div></div>
App	14	<div></div>
SlickThread	11	<div></div>

Hotspots by Complexity

[More](#)

ManAI	56	<div></div>
PathFinderAStar	45	<div></div>
NodeFinder	44	<div></div>
GameHandler	44	<div></div>
GameCalculator	40	<div></div>

Hotspots by Complexity /method

[More](#)

GameCalculator	8,0	<div></div>
GraphicalUIGame	4,7	<div></div>
NodeFinder	4,0	<div></div>
MazeGen	3,6	<div></div>
AISelector	3,5	<div></div>

Hotspots by Duplicated lines

No results

Hotspots by Public undocumented API

[More](#)

IGameHandler	7	<div></div>
IField	7	<div></div>
IMan	6	<div></div>
IPlayer	4	<div></div>
IGameObject	4	<div></div>