GameScene

+ «constructor» GameScene()

graphicPanel

DrawingPanel

+ g: GraphicsContext
+ boardd: int[][]
+ *st: Stage()*
- canvas: Canvas
- starImage: Image
- DotImage: Image
- spotImage: Image
- layout: int[][]
- userLevel: int

+ «constructor» DrawingPanel(userLevel: int)
+ Draw(): void
+ drawStar(row: int, col: int, g: GraphicsContext) : void
+ drawDot(row: int, col: int, g: GraphicsContext) : void
+ clearIm(row: int, col: int, g: GraphicsContext) : void
+ drawLayout(g: GraphicsContext) : void
- mouseClicked(e: MouseEvent): void
- loadImages(): void
- setupCanvas(): void
- drawGrid(): void
- drawLayout(): void

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client/Puzzle

- board: int[][]
- answer: int[][]
- region: int[][]

+ «constructor»Puzzle(Answer: int[][], Region: int[][])
+ placeStar(x: int, y: int): boolean
+ clearSpace(x: int, y: int): void
+ isCorrect(): boolean
+ reset(): void
+ placeEmpty(x: int, y: int): void
+ getBoard(): int[][]
+VaildStar(x:int, y:int): boolean
+numStarInRegion(x:int, y:int): int
+numStarInRow(x:int, y:int): int
+numStarInCol(x:int, y:int): int
+numStarInAdjacent(x:int, y:int): int

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server//Puzzle

- id: String
-level: int
- gridSize: int
numStars: int

+ «constructor»Puzzle(id: String, level: int, regions: List<List<Cell>>, solution: List<Cell>, gridSize: int, numStars: int)
+ getLayout(): int[][]
+ getAnswer(): int[][]
+getId(): String
+getGrid(): int
+ getLevel(): inr
+ getNumStars(): int
+ toString(): String

Cell

- row: int
- Col: int

+ «constructor» Cell(row: int, col: int)
+ getRow(): int
+ getCol(): int

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SidePanel

- primaryStage: Stage

+ «constructor» SidePanel(primaryStage: Stage)

ServerClient

- baseUrl: String
- restTemplet: RestTemplet

+ «constructor» ServerClient()
+ getAnswer(puzzleID: String): int[][]
+ getLayout(puzzleID: String): int[][]

UserController

+ «constructor»UserController(repo: UserRepository)
+ getAll(): List<User>
+get(userId: String): User
+addUser(body: User): User

User

+ userId: String

+ «constructor»Cell()
+ getUserId(): String

PuzzleController

+ «constructor»PuzzleController(repo: PuzzleRepository)
+ getAll(): List<Puzzle>
+getById(id: String): Puzzle
+getLayout(id: String): int[][]
+getAnswer(id: String): int[][]
+addPuzzle(body: Puzzle): Puzzle