

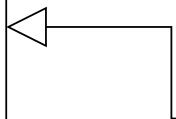
ABSTRACT: G

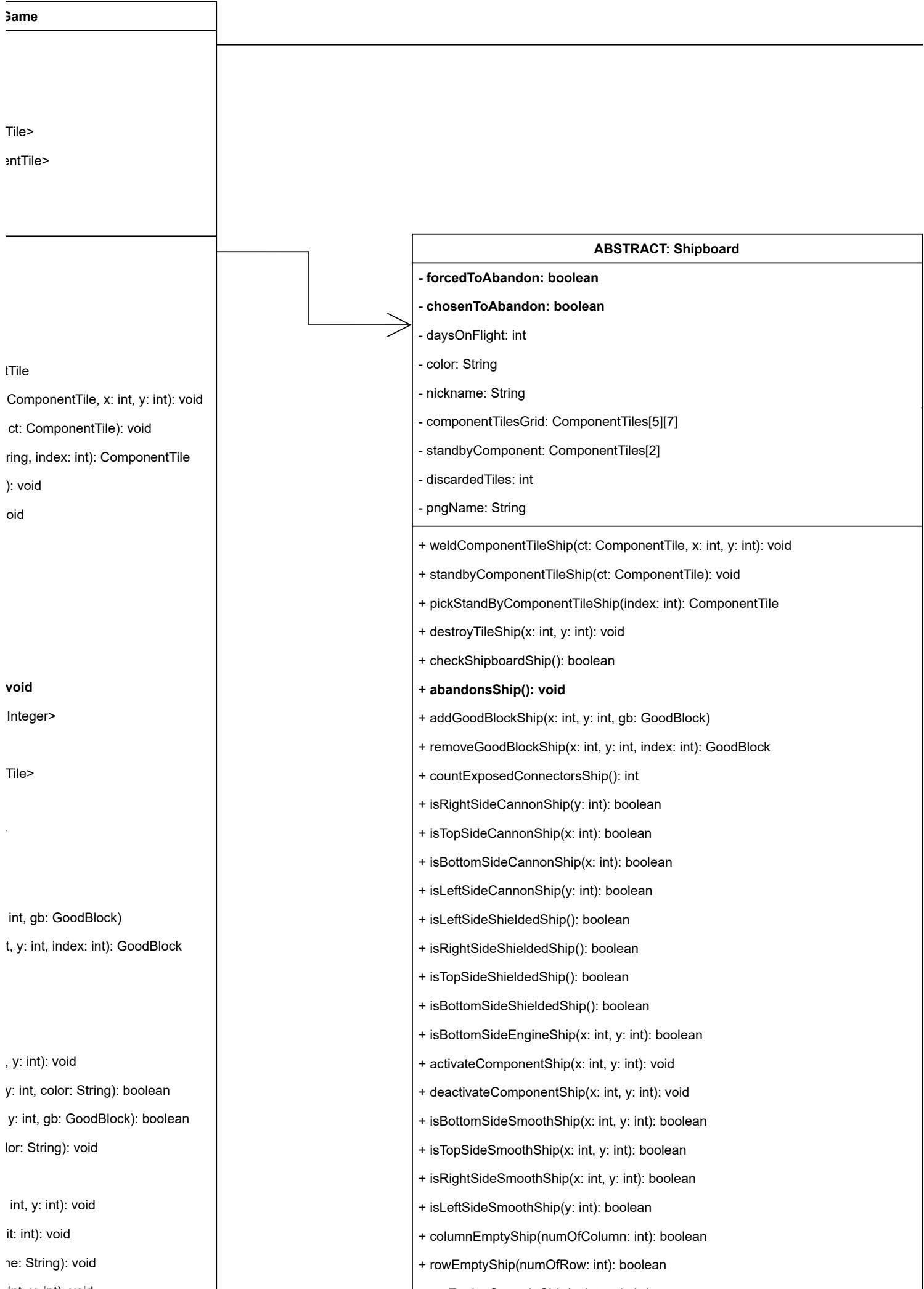
```
- playerList: List<String>
- bank: Bank
- cardArchive: Map<String, Integer>
- coveredComponentTiles: Set<ComponentTile>
- uncoveredComponentTiles: List<ComponentTile>
- shipboards: Map<String, ShipBoard>
- flightboard: Flightboard
```

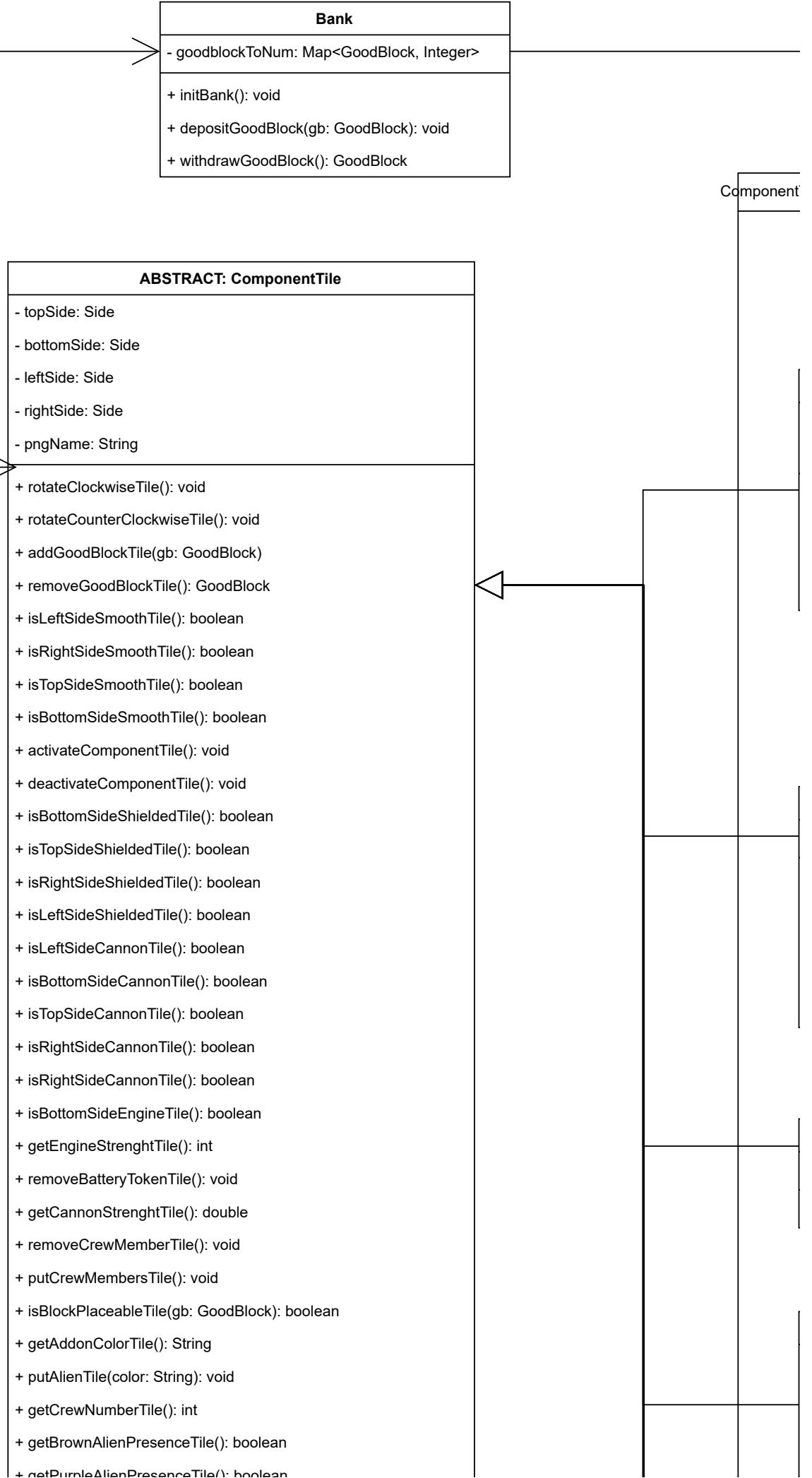
```
+ initGame(nicknames: List<String>): void
- initComponentTiles(): void
- initCardArchive(): void
+ pickCoveredTile(): ComponentTile
+ pickUncoveredTile(index: int): ComponentTile
+ weldComponentTile(nickname: String, ct: ComponentTile, x: int, y: int): void
+ standbyComponentTile(nickname: String, ct: ComponentTile): void
+ pickStandByComponentTile(nickname: String, index: int): ComponentTile
+ discardComponentTile(ct: ComponentTile): void
+ placeRocket(nickname: String, pos: int): void
+ checkShipboards(): boolean
+ createDeck(): void
+ isDeckEmpty(): void
+ pickCard(): AdventureCard
+ checkInvalidPlayers(): List<String>
+ chooseToAbandon(nickname: String): void
+ calculateFinalScores(): Hashmap<String, Integer>
+ flipHourglass(): void
+ getUncoveredTilesList(): List<ComponentTile>
+ getCardPile(index: int): CardPile
+ getShipboards(): Map<String, Shipboard>
+ getFlightboard(): Flightboard
+ getPlayerList(): List<String>
+ addGoodBlock(nickname: String, x: int, y: int, gb: GoodBlock)
+ removeGoodBlock(nickname: String, x: int, y: int, index: int): GoodBlock
+ withdrawGoodBlock(): GoodBlock
+ depositGoodBlock(gb: GoodBlock): void
+ shiftRocket(nickname: String, steps: int)
+ putCrewMembers(nickname: String, x: int, y: int): void
+ isAlienPlaceable(nickname: String, x: int, y: int, color: String): boolean
+ putAlien(nickname: String, x: int, y: int, color: String): void
+ isBlockPlaceable(nickname: String, x: int, y: int, gb: GoodBlock): boolean
+ getCrewNumber(nickname: String): int
+ removeCrewMember(nickname: String, x: int, y: int): void
+ addCosmicCredits(nickname: String, credit: int): void
+ removeMostValuableGoodBlocks(nickname: String): void
+ removeBatteryToken(nickname: String, x: int, y: int): void
+ getCannonStrength(nickname: String): double
+ getEngineStrength(nickname: String, x: int, y: int): int
```

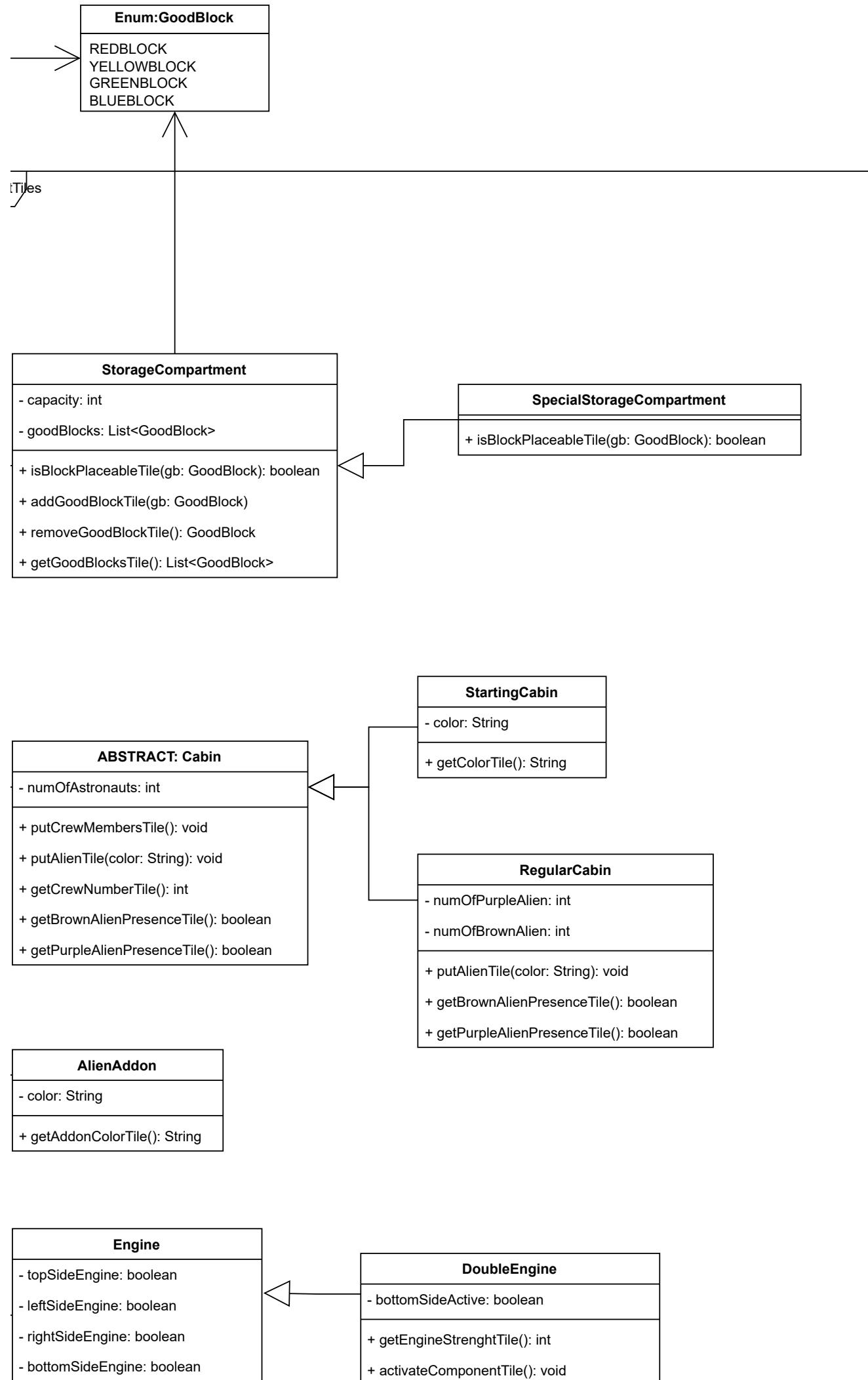
<<interface>> ModelInterface

```
+ initGame(nicknames: List<String>): void
+ pickCoveredTile(): ComponentTile
+ pickUncoveredTile(index: int): ComponentTile
+ weldComponentTile(nickname: String, ct: ComponentTile, x: int, y: int): void
+ standbyComponentTile(nickname: String, ct: ComponentTile): void
+ pickStandByComponentTile(nickname: String, index: int): ComponentTile
+ discardComponentTile(ct: ComponentTile): void
+ placeRocket(nickname: String, pos: int): void
+ checkShipboards(): boolean
+ createDeck(): void
+ isDeckEmpty(): void
+ pickCard(): AdventureCard
+ checkInvalidPlayers(): List<String>
+ chooseToAbandon(nickname: String): void
+ calculateFinalScores(): Hashmap<String, Integer>
+ flipHourglass(): void
+ getUncoveredTilesList(): List<ComponentTile>
+ getCardPile(index: int): CardPile
+ getShipboards(): Map<String, Shipboard>
+ getFlightboard(): Flightboard
+ getPlayerList(): List<String>
+ addGoodBlock(nickname: String, x: int, y: int, gb: GoodBlock)
+ removeGoodBlock(nickname: String, x: int, y: int, index: int): GoodBlock
+ withdrawGoodBlock(): GoodBlock
+ depositGoodBlock(gb: GoodBlock): void
+ shiftRocket(nickname: String, steps: int)
+ putCrewMembers(nickname: String, x: int, y: int): void
+ isAlienPlaceable(nickname: String, x: int, y: int, color: String): boolean
+ putAlien(nickname: String, x: int, y: int, color: String): void
+ isBlockPlaceable(nickname: String, x: int, y: int, gb: GoodBlock): boolean
+ getCrewNumber(nickname: String): int
+ removeCrewMember(nickname: String, x: int, y: int): void
+ addCosmicCredits(nickname: String, credit: int): void
+ removeMostValuableGoodBlocks(nickname: String): void
+ removeBatteryToken(nickname: String, x: int, y: int): void
+ getCannonStrength(nickname: String): double
+ getEngineStrength(nickname: String, x: int, y: int): int
```









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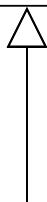
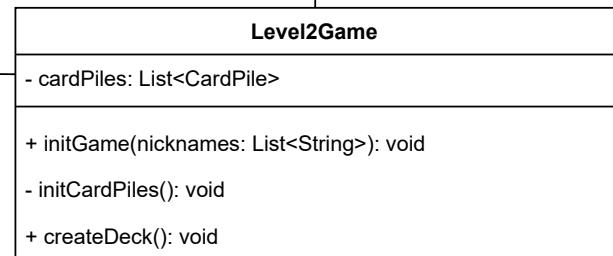
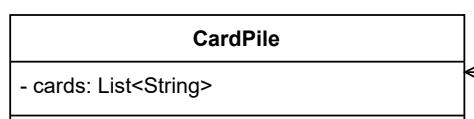
+ rowEmpty(nickname: String, numRow: int): boolean
+ columnEmpty(nickname: String, numColumn: int): boolean
+ isLeftSideSmooth(nickname: String, x: int, y: int): boolean
+ isRightSideSmooth(nickname: String, x: int, y: int): boolean
+ isTopSideSmooth(nickname: String, x: int, y: int): boolean
+ isBottomSideSmooth(nickname: String, x: int, y: int): boolean
+ activateComponent(nickname: String, x: int, y: int): void
+ deactivateComponent(nickname: String, x: int, y: int): void
+ destroyTile(nickname: String, x: int, y: int): void
+ findShipWreck(nickname: String): int[][]
+ isBottomSideEngine(nickname: String, x: int, y: int): boolean
+ isLeftSideShielded(nickname: String): boolean
+ isRightSideShielded(nickname: String): boolean
+ isTopSideShielded(nickname: String): boolean
+ isBottomSideShielded(nickname: String): boolean
+ isLeftSideCannon(nickname: String, y: int): boolean
+ isRightSideCannon(nickname: String, y: int): boolean
+ isTopSideCannon(nickname: String, x: int): boolean
+ isBottomSideCannon(nickname: String, x: int): boolean
+ countExposedConnectors(nickname: String): int

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+ removeBatteryToken(nickname: String, x: int, y: int): void
+ getBatteryStrength(nickname: String): double
+ getEngineStrength(nickname: String, x: int, y: int): double
+ rowEmpty(nickname: String, numRow: int): boolean
+ columnEmpty(nickname: String, numColumn: int): boolean
+ isLeftSideSmooth(nickname: String, x: int, y: int): boolean
+ isRightSideSmooth(nickname: String, x: int, y: int): boolean
+ isTopSideSmooth(nickname: String, x: int, y: int): boolean
+ isBottomSideSmooth(nickname: String, x: int, y: int): boolean
+ activateComponent(nickname: String, x: int, y: int): void
+ deactivateComponent(nickname: String, x: int, y: int): void
+ destroyTile(nickname: String, x: int, y: int): void
+ findShipWreck(nickname: String): int[][]
+ isBottomSideShielded(nickname: String): boolean
+ isTopSideShielded(nickname: String): boolean
+ isRightSideShielded(nickname: String): boolean
+ isLeftSideShielded(nickname: String): boolean
+ isBottomSideEngine(nickname: String, x: int, y: int): boolean
+ isLeftSideCannon(nickname: String, y: int): boolean
+ isBottomSideCannon(nickname: String, x: int): boolean
+ isTopSideCannon(nickname: String, x: int): boolean
+ isRightSideCannon(nickname: String, y: int): boolean
+ countExposedConnectors(nickname: String): int

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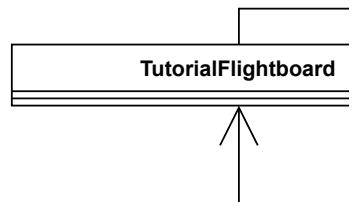
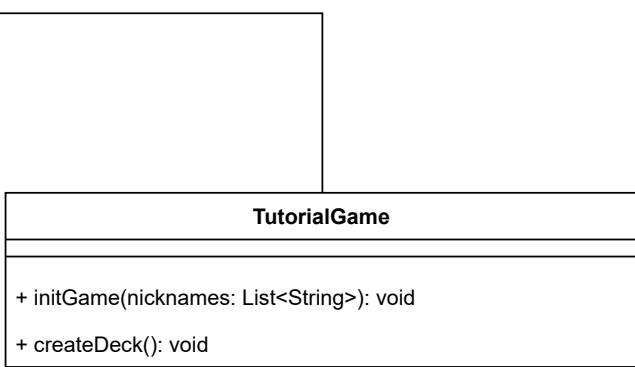
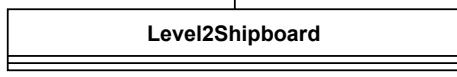
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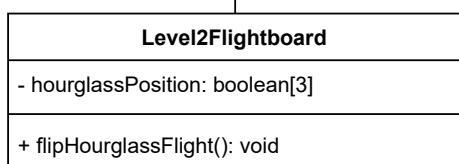
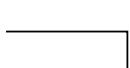
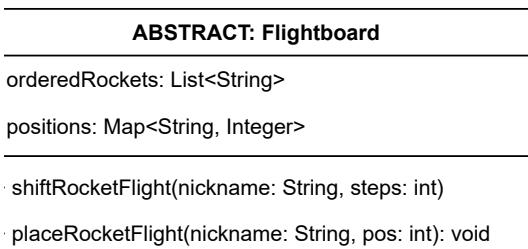
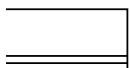
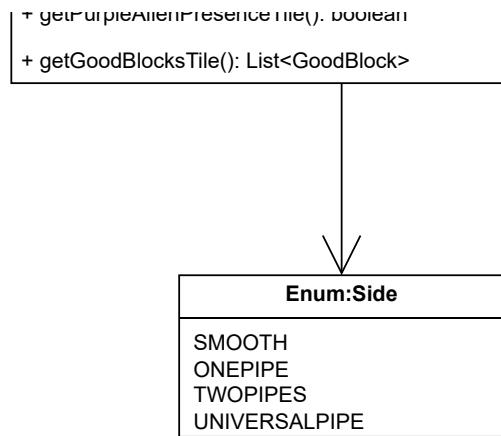
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+ getEngineStrengthShip(x: int, y: int): int
+ getBrownAlienPresenceShip(): boolean
+ getCannonStrengthShip(): double
+ getPurpleAlienPresenceShip(): boolean
+ removeBatteryTokenShip(x: int, y: int): void
+ removeMostValuableGoodBlocksShip(): void
+ addCosmicCreditsShip(credit: int): void
+ removeCrewMemberShip(x: int, y: int): void
+ putCrewMembersShip(x: int, y: int): void
+ isAlienPlaceableShip(x: int, y: int, color: String): boolean
+ isBlockPlaceableShip(x: int, y: int, gb: GoodBlock): boolean
+ putAlienShip(x: int, y: int, color: String): void
+ getcrewNumberShip(): int
+ shiftRocketShip(steps: int)
- getGoodBlocksShip(x: int, y: int): List<GoodBlock>
+ forcedToAbandonShip(): void

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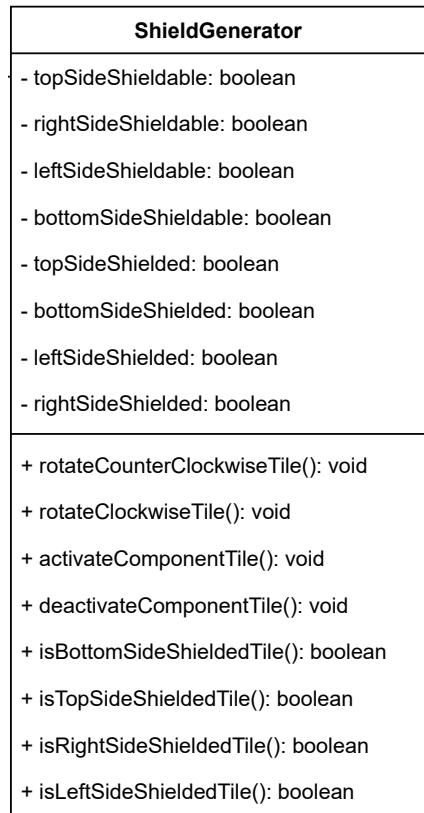
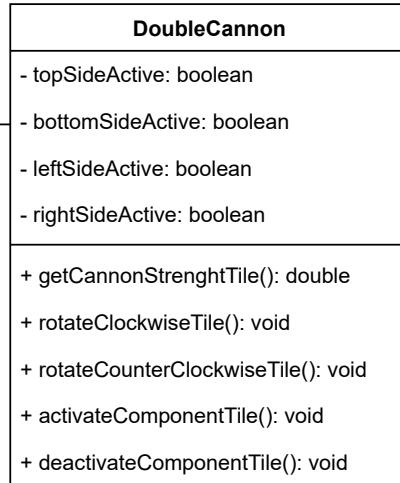
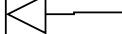
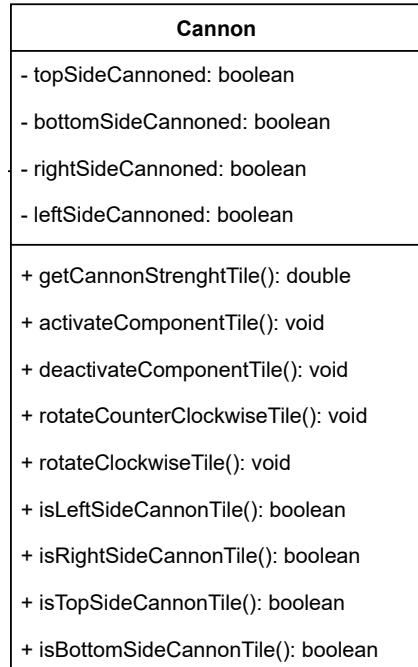


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+ getEngineStrengthTile(): int
+ rotateCounterClockwiseTile(): void
+ rotateClockwiseTile(): void
+ activateComponentTile(): void
+ deactivateComponentTile(): void
+ isBottomSideEngineTile(): boolean

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+ deactivateComponentTile(): void
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BatteryComponent

- numOfBatteries: int

+ removeBatteryTokenTile(): void