**Traceability between analysis and design**

**Functional requirements:**

1. Generate a list with the mini rooms available
2. Rent a mini room
3. Show a map of the data center
4. Simulate the turning ON of all the mini rooms
5. Simulate turning OFF system
6. Cancel a rental

**Requirement 1:**

|  |  |  |
| --- | --- | --- |
| **Request name** | **Methods** | **Class name** |
| R1: Generate a list with the mini rooms available | ShowMenu | DataCenterSystem |
| executeOperation | DataCenterSystem |
| checkAvailableRooms | DataCenterSystem |
| lookForAvailableMiniRooms | ServerBuilding |
| getAvailable | MiniRoom |
| toStringCheck | MiniRoom |

**Requirement 2:**

|  |  |  |
| --- | --- | --- |
| **Request name** | **Methods** | **Class name** |
| R2: Rent a mini room | showMenu | StreamingSystem |
| executeOperation | StreamingSystem |
| rentAMiniRoom | StreamingSystem |
| verifyHallAndColumnCorrectly | ServerBuilding |
| veryfyIfTheMiniRoomIsRented | ServerBuilding |
| addTheRentalOfAMiniRoomInvestigation  addTheRentalOfAMiniRoomCompany | ServerBuilding |
| AddServerToAMiniRoom | ServerBuilding |
| addRack | MiniRoom |
| addAServer | Rack |
| findAnEmptyPosition | Rack |
| Server | Server |

**Requirement 3:**

|  |  |  |
| --- | --- | --- |
| **Request name** | **Methods** | **Class name** |
| R3: Show a map of the data center | showMenu | StreamingSystem |
| executeOperation | StreamingSystem |
| showMapOfTheDataCenter | StreamingSystem |
| mapOfTheDataCenterSystem | ServerBuilding |
| getState | ServerBuilding |

**Requirement 4:**

|  |  |  |
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| **Request name** | **Methods** | **Class name** |
| R4: Simulate the turning ON of all the mini rooms | turnOnAllMiniRooms | ServerBuilding |
| turnOn | MiniRoom |
| getState | MiniRoom |

**Requirement 5:**

|  |  |  |
| --- | --- | --- |
| **Request name** | **Methods** | **Class name** |
| R5: Simulate turning OFF system. | showMenu | StreamingSystem |
| executeOperation | StreamingSystem |
| showMenuTurnOnAndOff | StreamingSystem |
| turnOnAllMiniRooms | ServerBuilding |
| turnOn | MiniRoom |
| getState | ServerBuilding |
| turnOffAllMiniRooms  turnOffFirsLastAndReverseCorridor  turnOffOddCorridors  turnOffMiniRoomsNextToAWindow  turnOffColumn  turnOffCorridor | StreamingSystem |
| turnOff | MiniRoom |
| showSimulatingChanges | ServerBuilding |
| fixSimulatingChanges | ServerBuilding |

**Requirement 6:**

|  |  |  |
| --- | --- | --- |
| **Request name** | **Methods** | **Class name** |
| R6: Cancel a rental | showMenu | StreamingSystem |
| executeOperation | StreamingSystem |
| showMenuCancelARental | StreamingSystem |
| cancelRentalOfAMiniRoom  cancelRentalOfCompany | StreamingSystem |
| thereIsAtLeastOneMiniRoomOfACompany | ServerBuilding |
| getCompany | MiniRoom |
| showTheRentalOfACompany | ServerBuilding |
| calculateServerAmount | MiniRoom |
| calculateDiskCapacityOfServers | MiniRoom |
| calculateRamCapacityOfServers | MiniRoom |
| calculateAmountOfServers | Rack |
| calculateRamCapacity | Rack |
| calculateDiskCapacity | Rack |