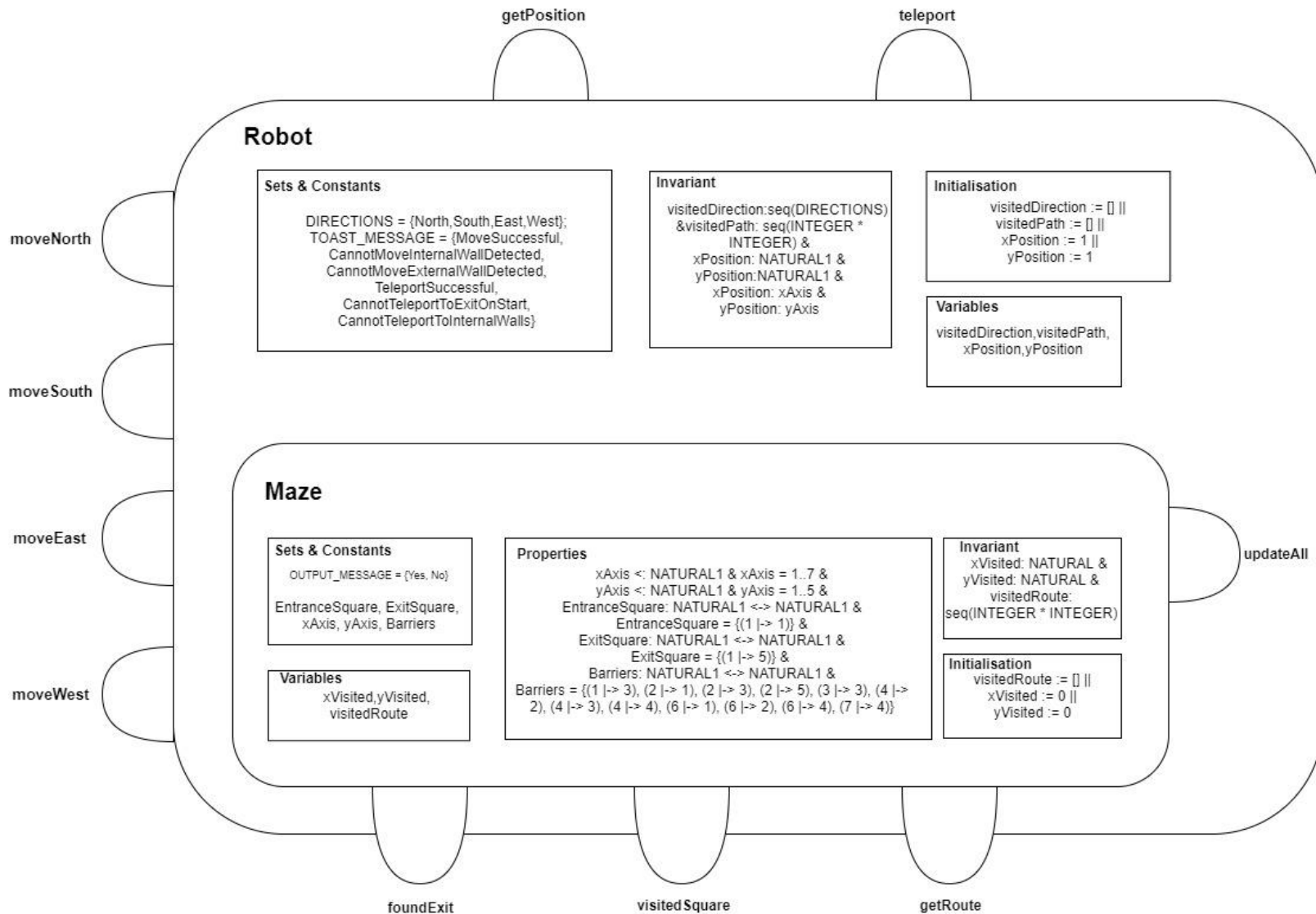


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### **Explanation of state invariants**

visitedDirection: seq(DIRECTIONS) – Sequence of directions of the SET DIRECTIONS. This will contain a sequence of visited directions which will get updated for every move that robot takes in the maze.

xPosition: NATURAL1 – X position of the robot in the maze, we use NATURAL1 because the value can be an element of non-null natural numbers.

xPosition: xAxis – xPosition is an element of xAxis which is of an element of NATURAL1 and will contain a value range from 1 to 5.

yPosition: NATURAL1 – Y position of the robot in the maze, we use NATURAL1 because the value can be an element of non-null natural numbers.

yPosition: yAxis – yPosition is an element of yAxis which is of an element of NATURAL1 and will contain a value range from 1 to 7.