



## **6SENG001W - Reasoning About Programs**

### **Coursework**

**Lecturer:** Dr. Tharindu Wickramaarachchi

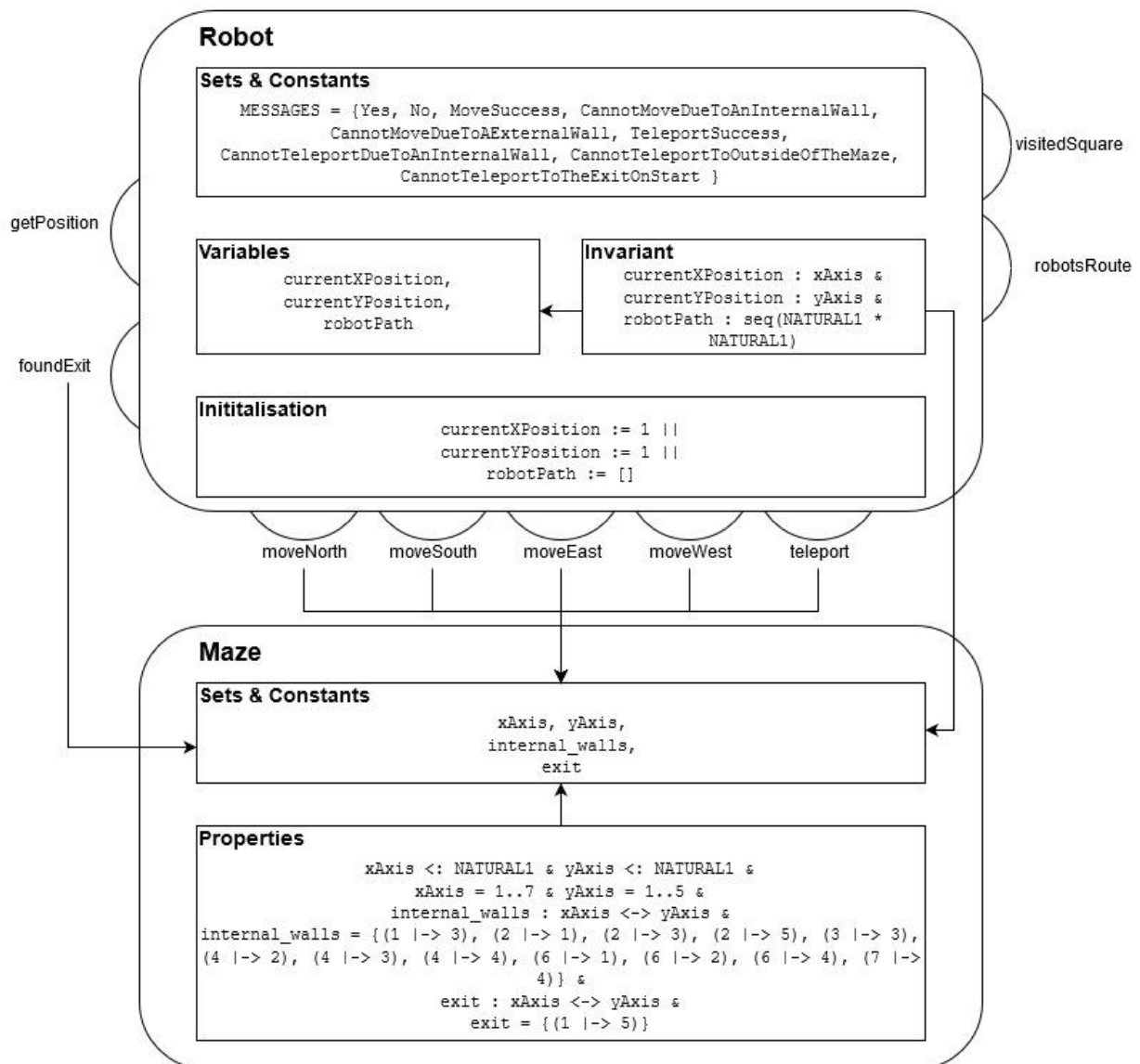
**Name** : M. M. Aadhil

**Student ID** : 2017549

**UOW ID** : w1673791

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## Structure Diagram



## Explanation of State Invariants

### 1. **currentXPosition – xAxis**

xAxis is a natural number range from 1 to 7 that is a constant getting from the maze. Current X position could be any value from xAxis. I represent current x position on the maze of the robot.

### 2. **currentYPosition – yAxis**

yAxis is a natural number range from 1 to 5 that is a constant getting from the maze. Current Y position could be any value from yAxis. I represent current y position on the maze of the robot.

### 3. **robotPath – seq(NATURAL1 \* NATURAL1)**

sequence of combination of 2 natural numbers of the Constants xAxis and yAxis. It contains the each x and y values of maze that has been visited by robot in order.