*Florida International University*

*School of Computing and Information Sciences*

Software Engineering Focus

Feature Document

User Story ID #742 Create Module Transition

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**Project:** AR-VR-VE for Computer Science

**Product Owner(s)**: Francisco Ortega

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**Instructor**: Masoud Sadjadi

**User Story Name: Create Module Transitions**

* Description: As a user, I’d like to be able to create transitions between modules to have the robot run a sequence of actions.

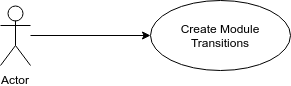
Acceptance Criteria

1. User can create transitions between modules.
2. Robot is able to transition from state to state with no issue.
3. Visual cues to aid users interactions with this utility.

**Use Case**

* Name: Create Module Transitions
* Actor: Player
* Preconditions: The player has 2 types of modules placed on the board of the robot.
* Description:
  + The player pushes up on the Vive trackpad while that controller is inside one of the modules on the board.
  + The system will highlight that block a different color to provide visual feedback to the player that their action is causing something to happen.
  + The player moves their controller to another module while still holding up on the trackpad and releases the trackpad once inside the desired module connector.
  + The system will draw a beam between the two modules to show that the 2 commands have been connected.
  + The player closes the board and runs the robot.
  + The system compiles the modules in sequence and has the robot follow the commands dictated by the modules in the sequence they were connected.

**Use Case Diagram**

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**Sequence Diagram**

**Class Diagram**

**Unit Test**

* Test case ID: 009
* Description/Summary of Test: User connects 2 modules together on the board.
* Pre-condition: User has placed the forward and leftward modules on the board.
* Expected Results: The modules will be connected by a cylindrical beam.
* Actual Result: The two modules were connected by a cylindrical beam.
* Status (Fail/Pass): Pass
* Test case ID: 010
* Description/Summary of Test: Forward and Left modules connected to create forward and leftward motion.
* Pre-condition: User has placed the forward and leftward modules on the board.
* Expected Results: Robot will move forward until hitting a wall and then turn left until hitting another wall and then stopping execution.
* Actual Result: The robot moved forward until it a wall and then moved left until it hit another wall and halted execution.
* Status (Fail/Pass): Pass
* Test case ID: 011
* Description/Summary of Test: Visual cues activate when holding a controller while within modules.
* Pre-condition: User has placed the forward and leftward modules on the board.
* Expected Results: Modules will change color while user holds up on track pad while the controller is inside of the module.
* Actual Result: Modules changed color while the user held up on the trackpad while the controller was placed inside of the module.
* Status (Fail/Pass): Pass

**Visual User Guide**