Variable	Description
N, N_i	Behavior Tree Nodes
T, T_i	Behavior Trees
C, C_i	Components
$C\#$	A Component Instance
s	A State of a Component
e	An Event
a	An Attribute of a Component
b	A Branching Condition of a Component

Table 1: Variable Naming Conventions

1 Naming Conventions

1.1 Variable Naming Conventions

- Component names should be capitalised e.g OVEN
- The first letter of a behavior should be captialised e.g Open
- The first letter of an attribute should be lowercase e.g. timer

Label	Name	Description
A	Component Name	Specifies a component
B	Behavior	Specifies the behavior associated with the component
C	Operator	Describes threaded behavior that is linked to the matching node in the tree
D	Label	An optional label for disambiguation (in case a node appears elsewhere with the same component and behavior)
E	Behavior Type	Delimiters on the behavior indicating the type of behavior involved
F	Traceability Link	A reference to the requirements document
G	Traceability Status	Indicates how the node relates to the traceability link
H	Tag	The box on the left-hand side of the node (may be omitted in different contexts)
I	Behavior Tree Node	A node consisting of all or some of the information above

Table 2: Elements of a Behavior Tree Node

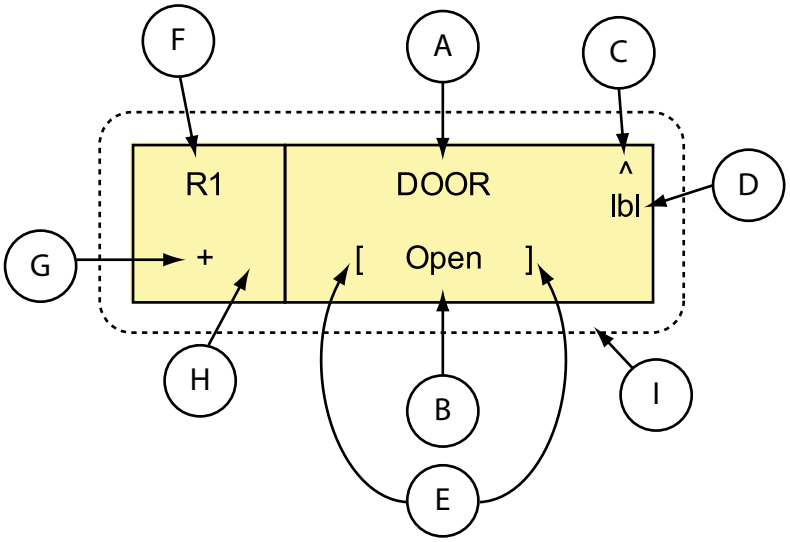


Figure 1: Behavior Tree Node Naming Conventions

Label	Name	Description
A	Primary Component	The component and behavior that form the relation
	& Behavior	
B	Related Component	Component (and optional behavior) related to the primary component and behavior
C	Qualifier	Specifies the type of the relation. Must be one of What, Where, When, Why, Who or How
D	Preposition	Further qualifies the relation to remove potential ambiguity
E	Secondary Relation	The related component is linked to the primary component using a forward slash (/). Multi-level relations can be formed by using multiple forward slashes

Table 3: Elements of a Behavior Tree Relation

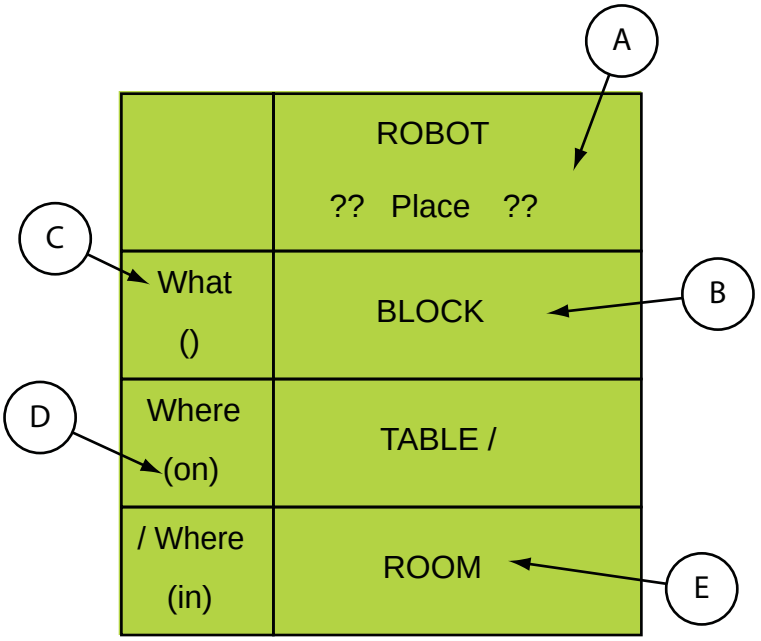


Figure 2: Behavior Tree Relation Naming Conventions

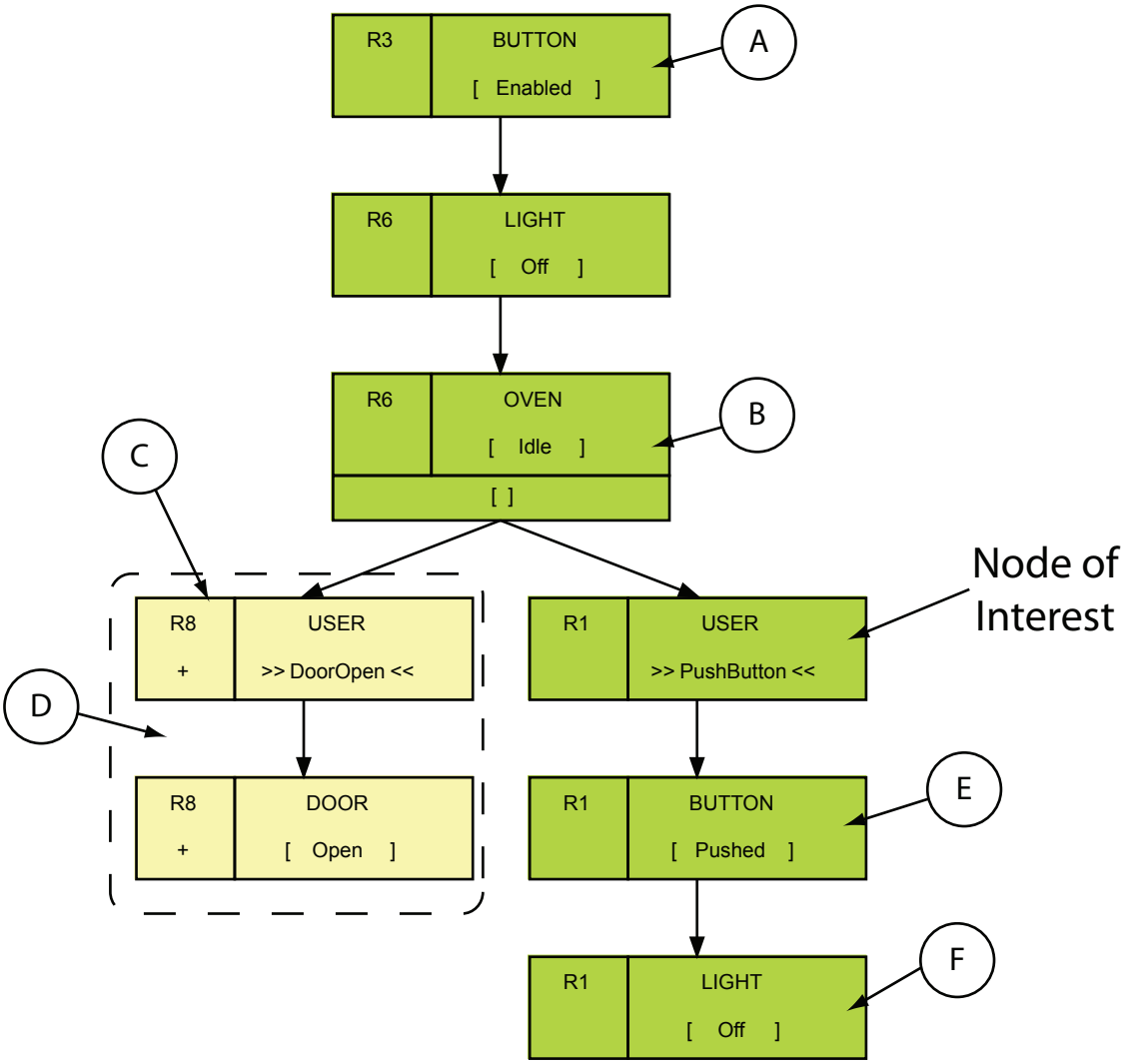


Figure 3: Behavior Tree Tree Naming Conventions

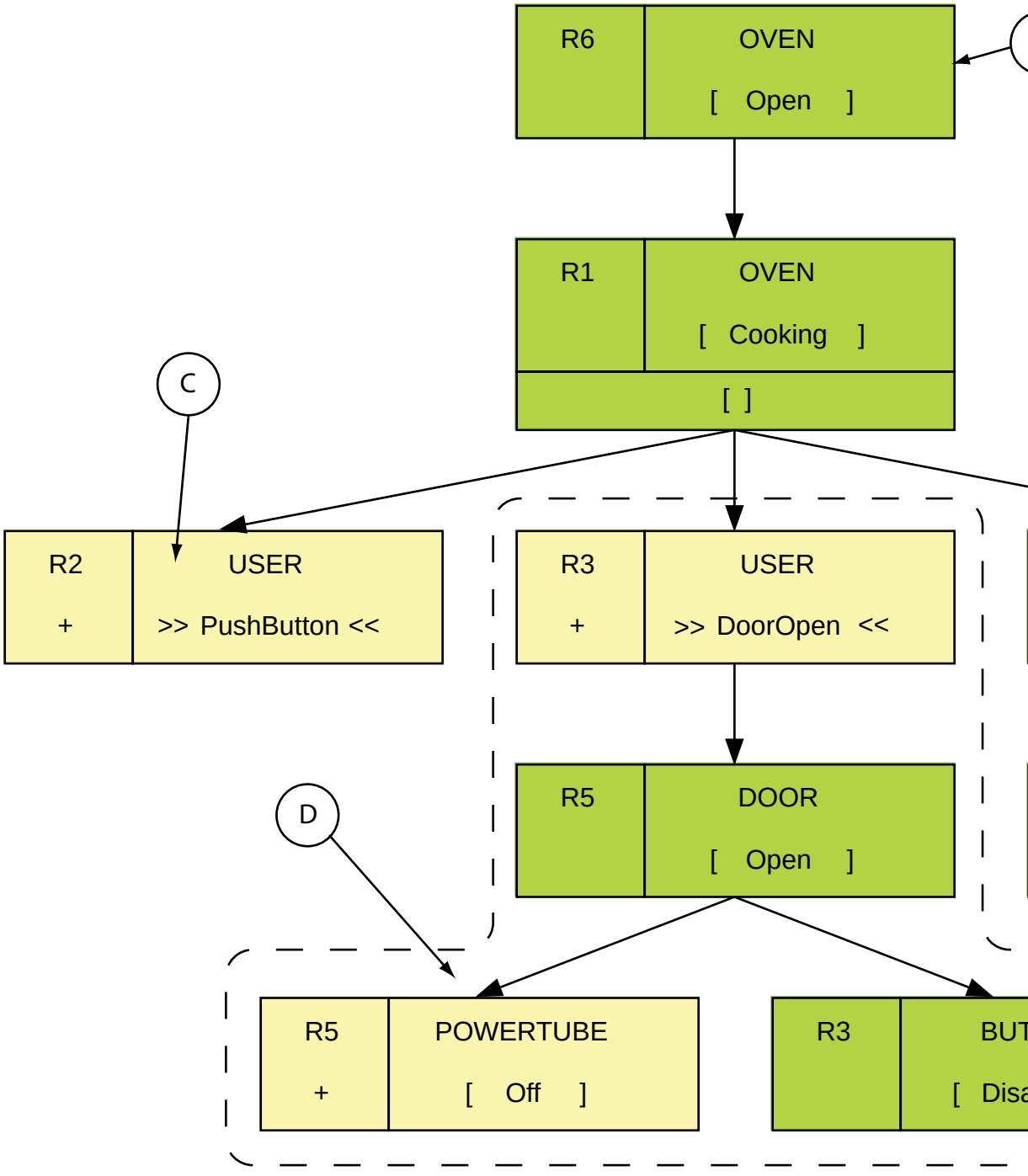


Figure 4: Tree Branch Naming Convention

Label	Name	Description
A	Ancestor Node	Any node which appears in a direct line between the node of interest and the root node of the tree
B	Parent Node	An immediate ancestor
C	Sibling Node	A node which shares the same parent
D	Sibling Branch	A subtree with a sibling node as its root
E	Child Node	A node immediately below the node of interest
F	Descendant	Any node appearing below the node of interest

Table 4: Nodes of a Behavior Tree

Label	Name	Description
A	Root Node	The first node in a tree (does not have a parent)
B	Edge	A connection between two nodes
C	Leaf Node	A node with no children
D	Branch	A subtree of the node of interest

Table 5: Branches of a Behavior Tree

1.2 Node Naming Conventions

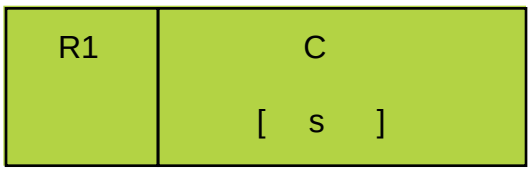
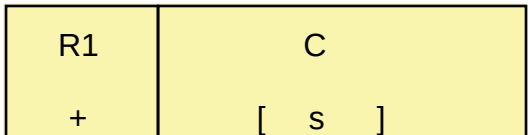
1.3 Relation Naming Conventions

1.4 Tree Naming Conventions

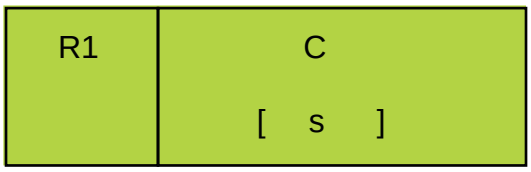
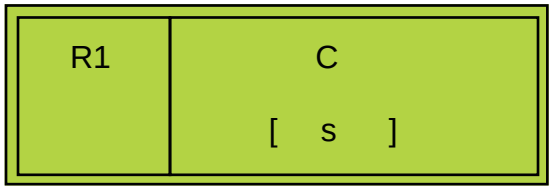
1.5 Tree Branch Naming Convention

2 Behavior Tree Notation & Syntax

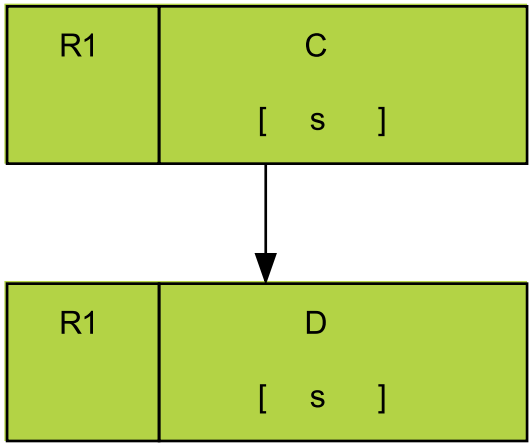
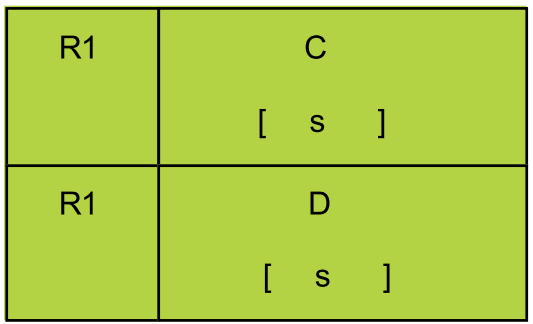
2.1 Node Tags

Type	Graphical Notation	Description
Original		No traceability status indicates that the behavior is stated in the original requirements. The color "green" is used for original requirements.
		

2.2 Basic Nodes

Type	Graphical Notation	Description
State Realisation		Component C realises state s.
System State Realisation		This is a state realisation decorated with a double box to indicate the component is a system component in the cur-

2.3 Behavior Tree Composition

Type	Graphical Notation
Sequential Composition	
	

2.4 Node Operators

- Operators on source nodes match against the Component, Behavior, Behavior Type and Label (if present) of the destination node.
- An operator may be prefixed by a label and a fullstop to refer to a destination node with a label e.g. *lbl*.^ indicates to revert to destination node with label *lbl*.

Type	Graphical Notation	Description
Reference		Behave as the destination node. The destination node must appear in an alternative branch to the origin.
Reversion		Behave as the destination node. The destination node must