**Create BRS for smart building**

Define common controls required: start with the example required controls.

Define common rules: especially related to the example e.g., enter, exist, connect, disconnect

Define special rules that relate to some incident e.g., offender uses her laptop to connect to smart device

Define polices which correspond to the policies of the smart building (common or special)

**Match assets**

Check if some of the assets/resources/actors defined in an incident **are not used** in the pre-/post-conditions of the activities. If so, then to match assets from the system could be loosened for them i.e. the execution could be carried out without the need to have matches for them.

**Relocate Bigraph signature creation**

Move the creation of the Bigraph signature to the Bigrapher handler as it is related to bigrapher tool itself.

**Innernames should be associated with outernames when added to a Bigraph object**

This requires updating the way innernames are added to a bigraph object (provided by the LibBig library) by including outernames that are defined for a particular innername. For example:

Pseudo-code:

*bigraphBuilder.addInnerName(inner1, outer1);*

in this statement, innername *inner1* is associated with outername *outer1*.

This update should be done in the Predicate and SystemInstanceHandler classes, and wherever innernames are being added to a bigraph.

**Pre/Post in incident patterns**

update of the pre/post conditions of the activities defined in an incident pattern is required.

the update is to consider generating multi-predicates (i.e. multi conditions) out of the defined conditions for example, if control is ComputingDevices, then different variations of the same condition can be created when mapped to a certain environment i.e. to SmartLight, HVAC, etc. currently, I use direct mapping between the two i.e. i specify in the conditions the direct control that corresponds to the entity.

summary of updates required:

-control field: can be replaced by defined classes from the system meta-model

-out field (outer names): can be updated by the number of connections available from the system