Non-intrusive Load Monitoring Framework for Residential Energy Disaggregation in Smart Grid

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Research Interest: WSAN,Smart Grids,ICT4D

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Patterns for SoS reconfiguration
Related Works
Conclusion

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SoSADL
Context

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Architecture desciption language : SoSADL

Constituent System (CS) : have their own managerial and operational independance while contributing to the global mission of the SoS

Mediator : controled by the SoS. They belong to the SoS. Mediateur are communicating element that specify, coordinate the interaction beetween CSs and SoS control over them.

Coalition : a set of contraints about the CSs and mediator required to accomplish a emergent behavior.

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Emergency service SoS

Mission : preserve human life and material

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Need of architectural reconfiguration

Cause :

- managerial and operational independance of the constituents
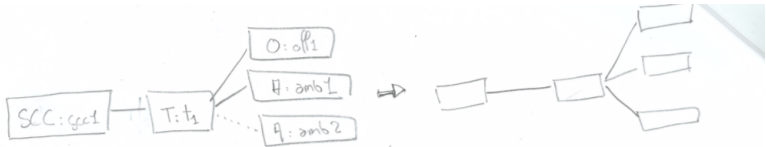
Consequence :

- architecture evolve continuesly

Problems :

- determine a set of reconfiguration' operations to maintain architectural pattern in the concrete architecture ?
- determine a set of reconfiguration' operations to make evolve the architectural pattern in a coherently way ?
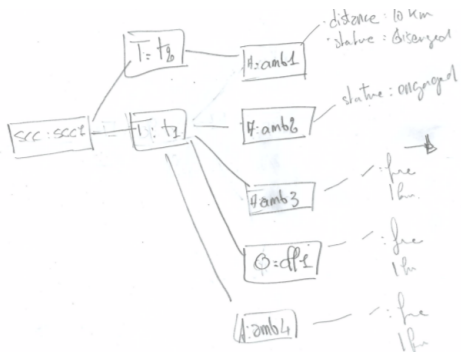
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Architectural pattern

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Maintain architectural patterns

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Architectural pattern evolutions

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Patterns for reconfiguration

Approach :

- use pattern approach to formalize a set of best practice to assist reconfiguration

- based on dedicaded language (SoSADL), describe SoS architecture pattern architectural taking into account SoS characteristics

- express a set of reconfiguration operations associate to this architectural pattern which can express for instance :when, how, for which to add a new CS.

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Challenges

- the choice of reconfiguration' operations in order to instanciate or reinstanciate the architectural pattern

Challenge and Futur Work

Challenge :

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Futur Work :

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