

Architecture and Models of the DANAH Assistive System

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Outline

- 1 Overview of DANAH
- 2 Services
- 3 Environment
- 4 Integration
- 5 Conclusion

Context and Needs

- Growing aging population

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DANAH is an Assistive System

It combines Environmental Control and Environmental Navigation

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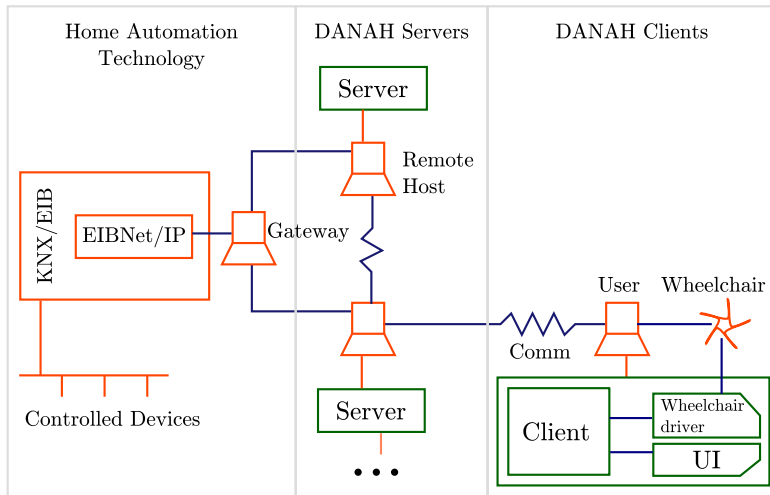
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 - Provide **tools** to facilitate deployment

System Architecture



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 - E.g. “**If** the door cannot open, **Call** **Emergency**”
 - Provided by **Abstract/High-level** devices, E.g. Rooms

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- It specifies its **behavior**

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 - a Service Expression for each operation in composite resources

Examples

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 - Execution order of operations
 - Execution continuation conditions
- E.g. **SEQAND**
 - Runs operations successively, returns TRUE if everything is OK
 - If an operation fails, stops execution, returns FALSE

Service Expressions : Example

- Scenario
 - Open the door **then** Switch on the lights
 - Make emergency call **if** opening the door fails and **stop** the scenario

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■ Scenario

- Open the door **then** Switch on the lights
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SEQAND(**EX**(Door.Open Addressbook.Emergency) Light.On)

Model

- Topological Map

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 - Because of **distribution**, it is **Clustered**

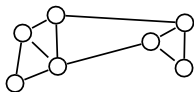
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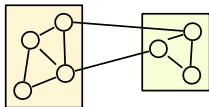
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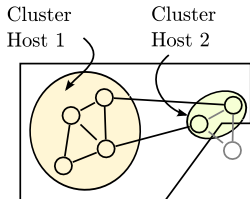


Global Map

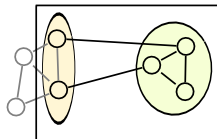


Coverage
Host 1

Coverage
Host 2



Map Host 1



Map Host 2

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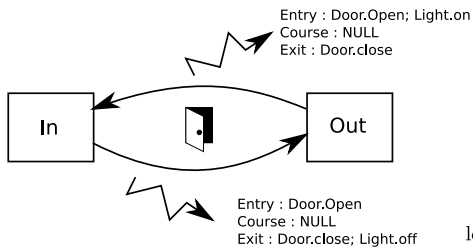
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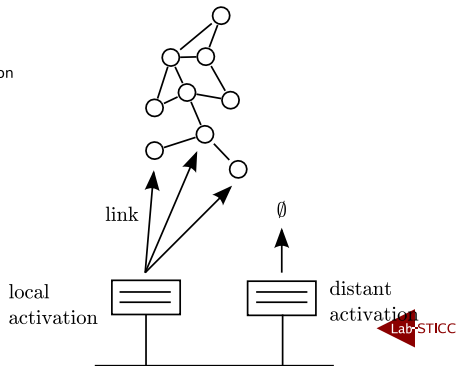
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Lifespace model



Purpose (2)

- Make the data **easily available**

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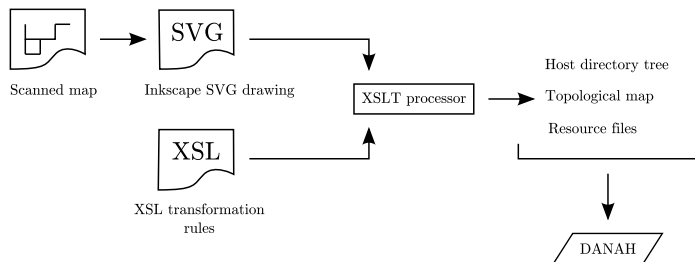
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 - Experimental platform available
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 - Built from user and specialist needs

Future Work

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Thank you