

SMART HOMES CYBER THREATS. SCENARIO GENERATION CONTEXT

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Sofia, IICT-BAS

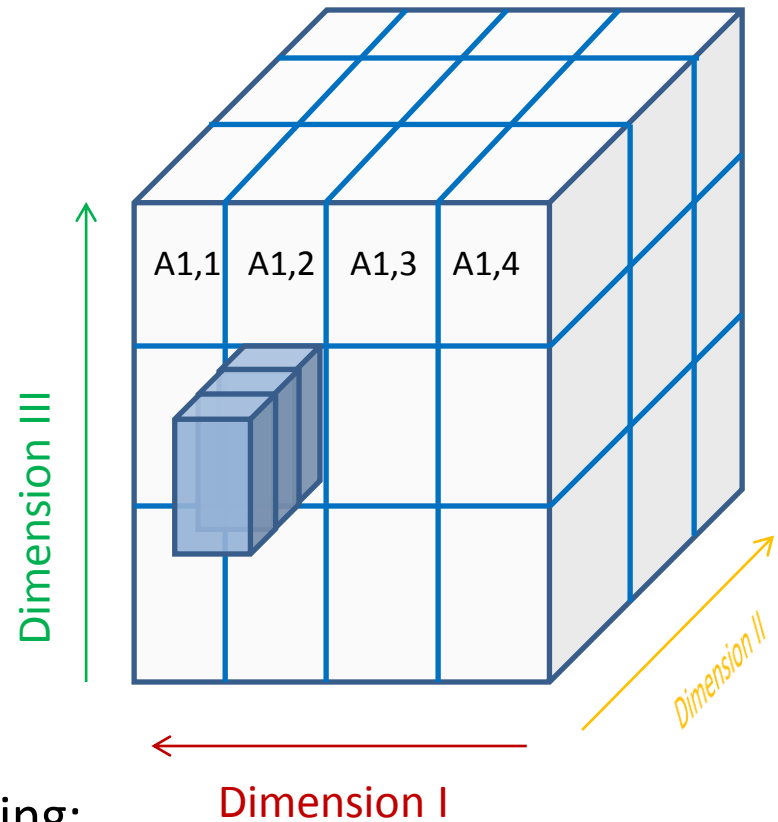
PROBLEM SPACE DEFINITION

Dimensions		
Dimension I	Dimension II	Dimension III
A1,1	A2,1	A3,1
A1,2	A2,2	A3,2
A1,3	A2,3	A3,3
A1,4		

Alternatives



Morphological Analysis

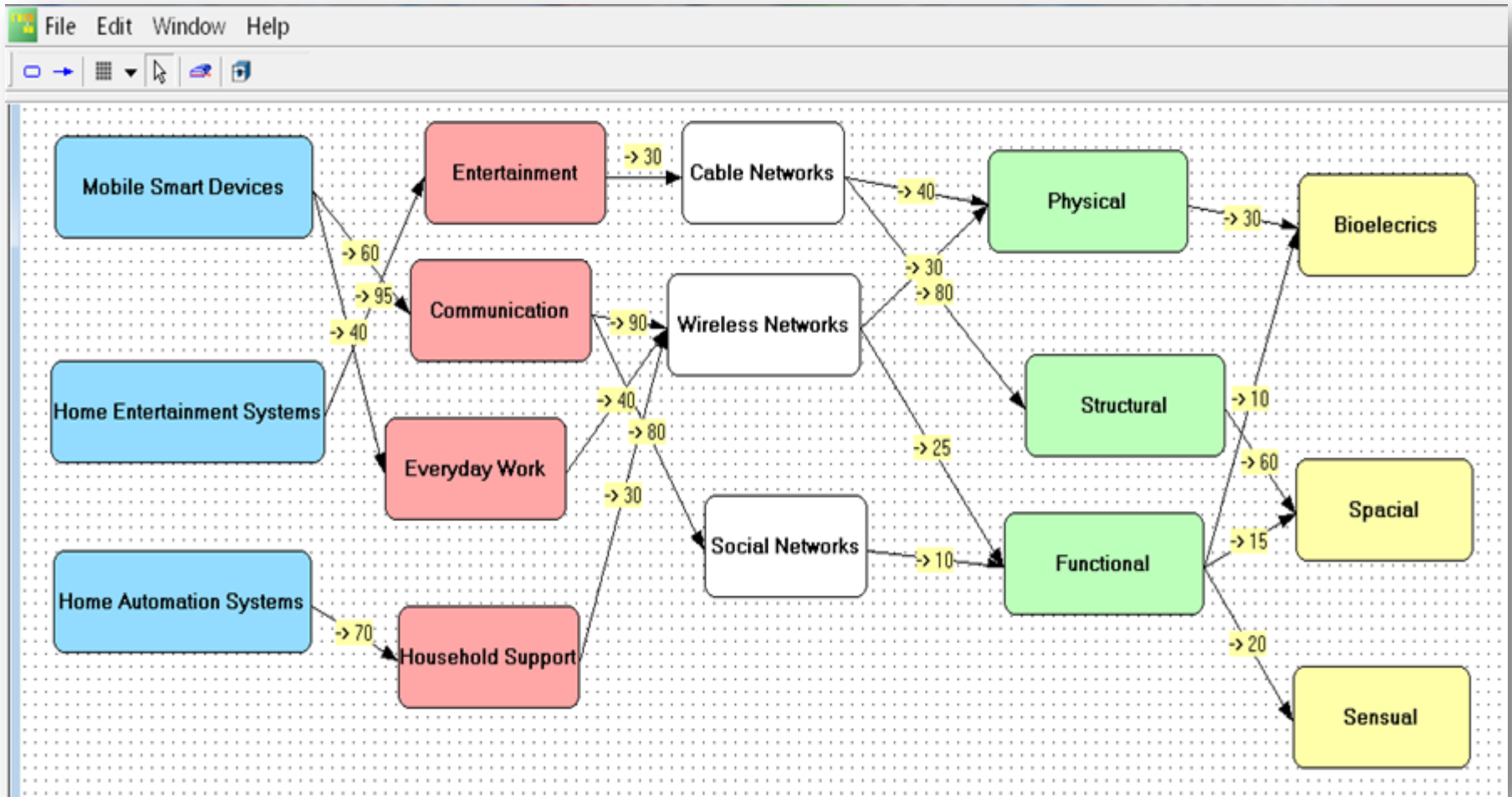


Brainstorming & Q-based Delphi info gathering:

Some [smart devices example results](#) available from: [zm_talk_dfni_t01_4_meeting_april_29_2013.pdf](#)

SOFTWARE IMPLEMENTATION WITH EXAMPLES

MAXIMUM SCENARIO COMBINATIONS: $5 \times 3 \times 4 \times 3 \times 3 \times 3 = 1620$





RESULTING SCENARIOS

Selected Scenarios Set

Morphological Analysis

Devices	Activities	Communication Medium	Environment Characteristics	Human Factor Characteristics
Mobile Smart Devices	Entertainment	Cable Networks	Physical	Bioelecrics
Home Entertainment Systems	Communication	Wireless Networks	Structural	Spacial
Home Automation Systems	Everyday Work	Social Networks	Functional	Sensual
	Household Support			

Index	Length	Weight	Name
1	5	170	Scenario1
2	5	125	Scenario2
3	5	265	Scenario3
4	5	145	Scenario3
5	5	195	Scenario4
6	5	195	Scenario5
7	5	140	Scenario6
8	5	160	Scenario7
9	5	210	Scenario8
10	5	165	Scenario9
11	5	120	Scenario10
12	5	140	Scenario11

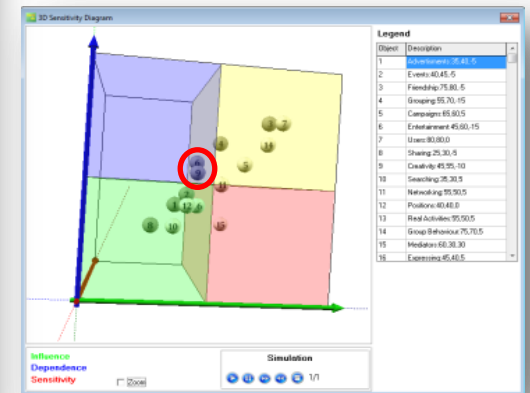
Active scenarios +



Passive scenarios -



SYSTEM ANALYSIS FOR SELECTED SCENARIOS FROM THE MORPHOLOGICAL ANALYSIS



Social networks cyber threats identification example after [Minchev, 2012](#)

DISCUSSION

Defining of a general context for studying smart homes environments cyber threats requires a complex mixture of experts' opinions, combined with literature data and real sensors systems availability for rich environment and human factor monitoring.

This complex mixture is further processed via morphological and systems analysis for general and concrete cyber threats scenarios selection based on experts knowledge and software support tools.

THANK YOU FOR THE ATTENTION!

QUESTIONS?