

Project 4.1

Modeling non-functional aspects of an information system

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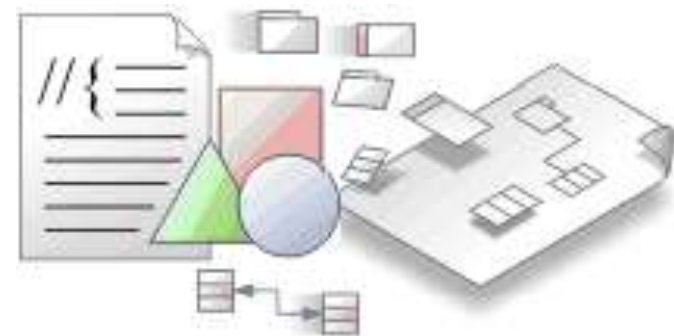
Tehila Nahmani



About the project

The OPM modeling language is rich in notation for modeling the functional aspects of a system but not the non-functional ones.

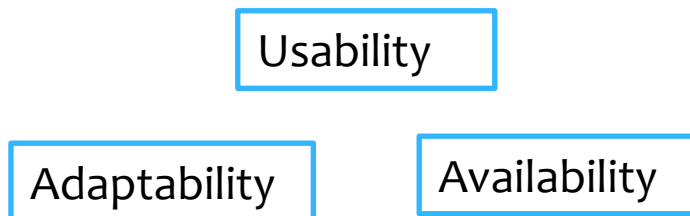
The goal of our project is to propose a notation for modeling non-functional aspects of a system.



Key Definitions

Non-functional requirements (NFR) are requirements that impose restrictions on the product being developed (product requirements), on the development process (process requirements), or they specify external constraints that the product/process must meet (external requirements).

Soft Goal is a strategic interest of the system having no clear definition or criteria for deciding whether they are **satisfied or not**.



The Methodology Of Modeling NFR

Every NFR can be represented by a tree diagram, consistent of 5 layers:

The first layer: The root of the tree

<<NFR>>

The second layer:

a. NFR dimension

<<NFR>>
NFR Dimension

b. NFR soft goal

<<NFR: Soft Goal>>
The Strategic Interest Of The System



Is not further modeled in our methodology



The Methodology Of Modeling NFR

The third layer: aspects of the NFR dimension

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<<NFR:NFR Dimension>>  
Aspect
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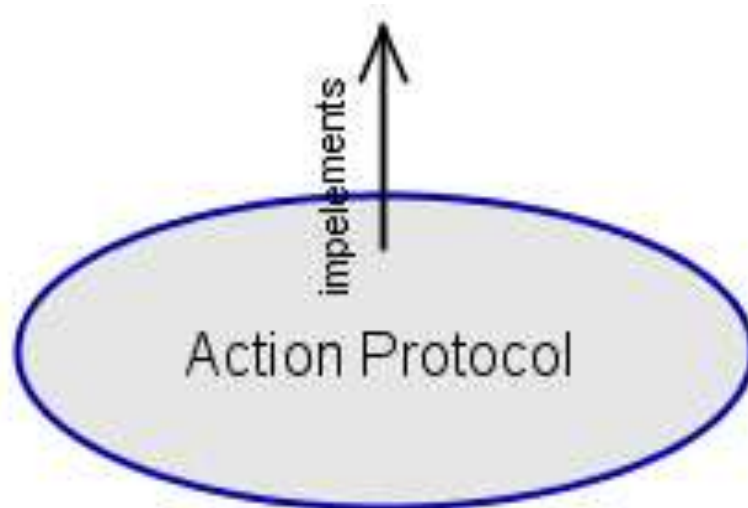
The fourth layer: implementable solution which we call Operationalization

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<<NFR:NFR Dimension: Aspect>>  
NFR Operationalizations
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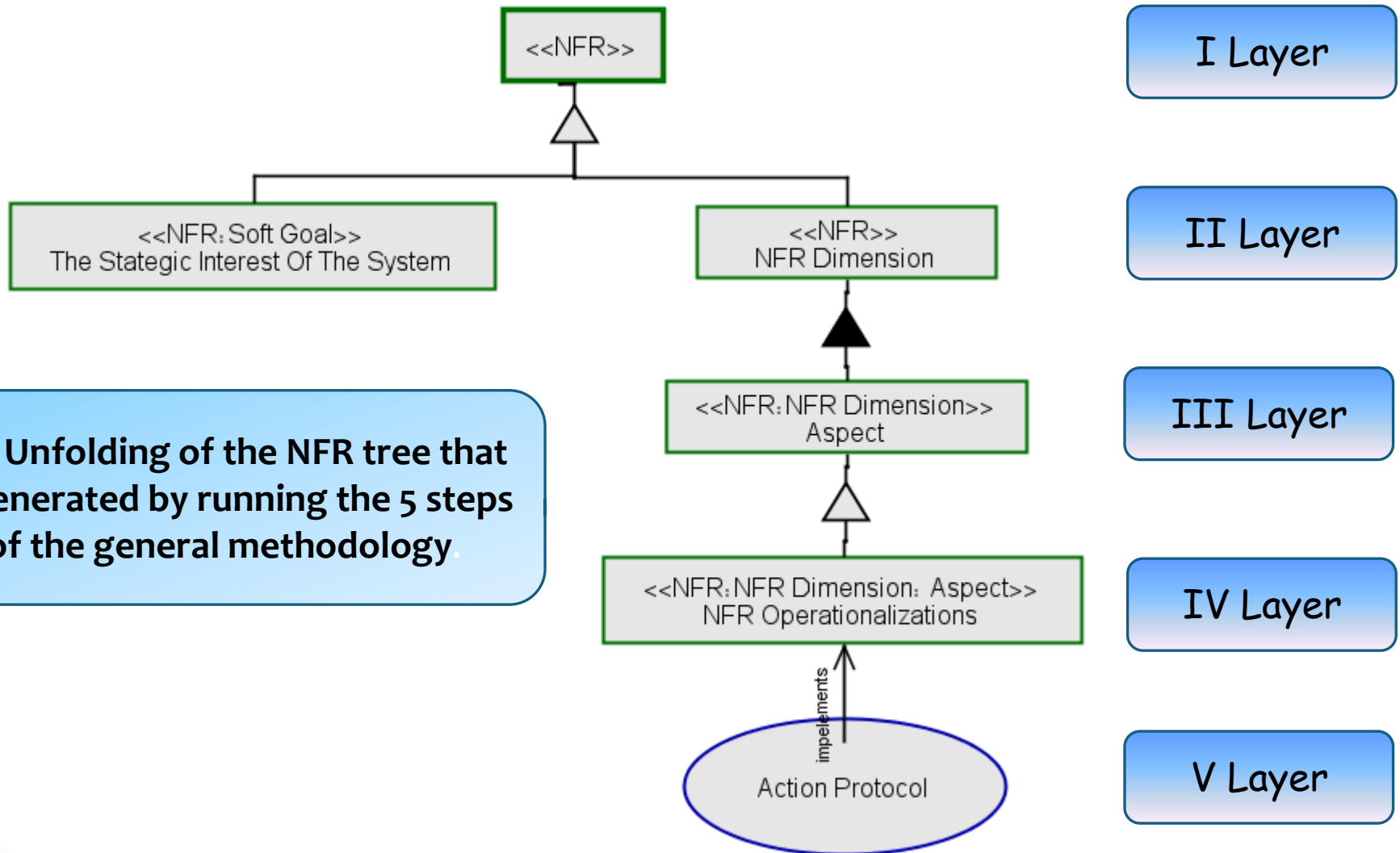


The Methodology Of Modeling NFR

The fifth layer: designated process which implements the Operationalization



The Methodology general NFR TREE



Case study:

Health and Social Care Information System



Case study:

health and Social Care Information System

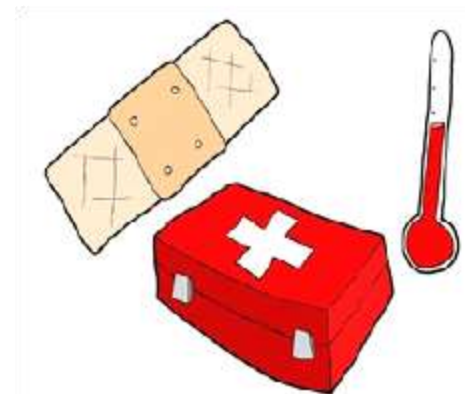
The first step of modeling the system is defining the NFR of the system.

Requirement that can be Implemented (Dimension):

- Security.

Requirement that can't be Implemented (soft goals):

- providing appropriate care.

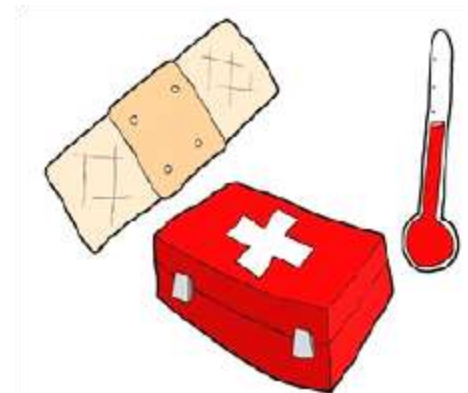


Case study:

health and Social Care Information System

Why security is so important?

Because when patients do not trust the security of the system, they will refuse to provide complete information about their health and social care needs, and this could lead to wrong assessment of needs and inappropriate care plans.



Case study:

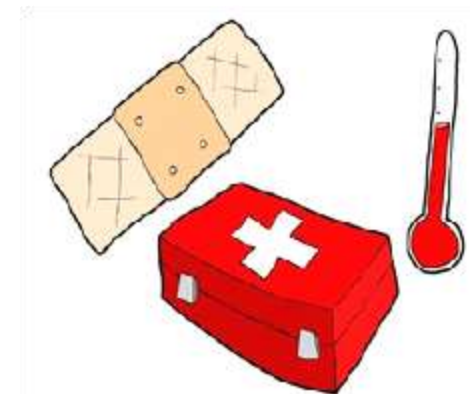
health and Social Care Information System

In the second step, we define the aspects of each requirement that can be implemented.

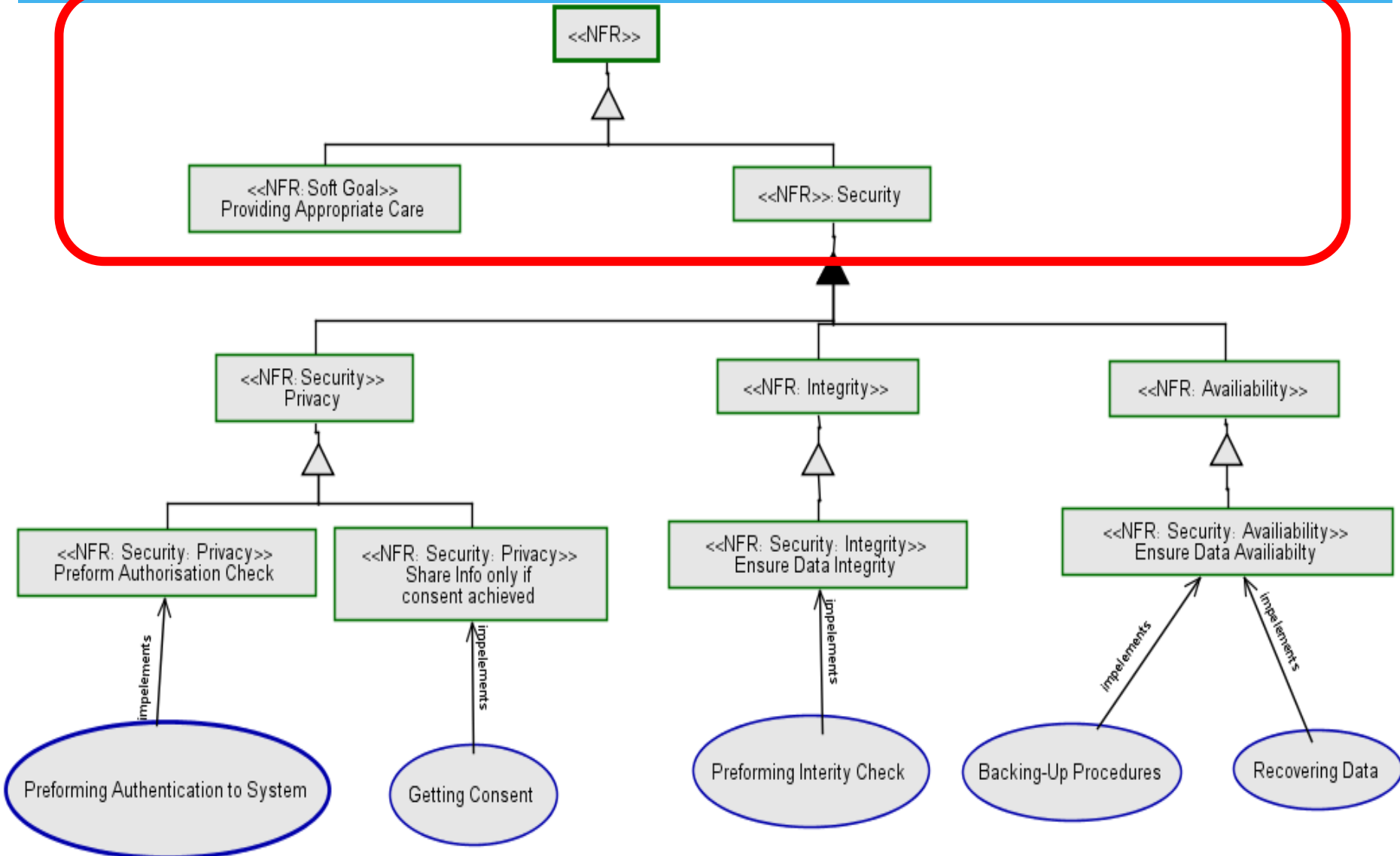
In this case study, it is the Security.

The aspects of that security requirement **are:**

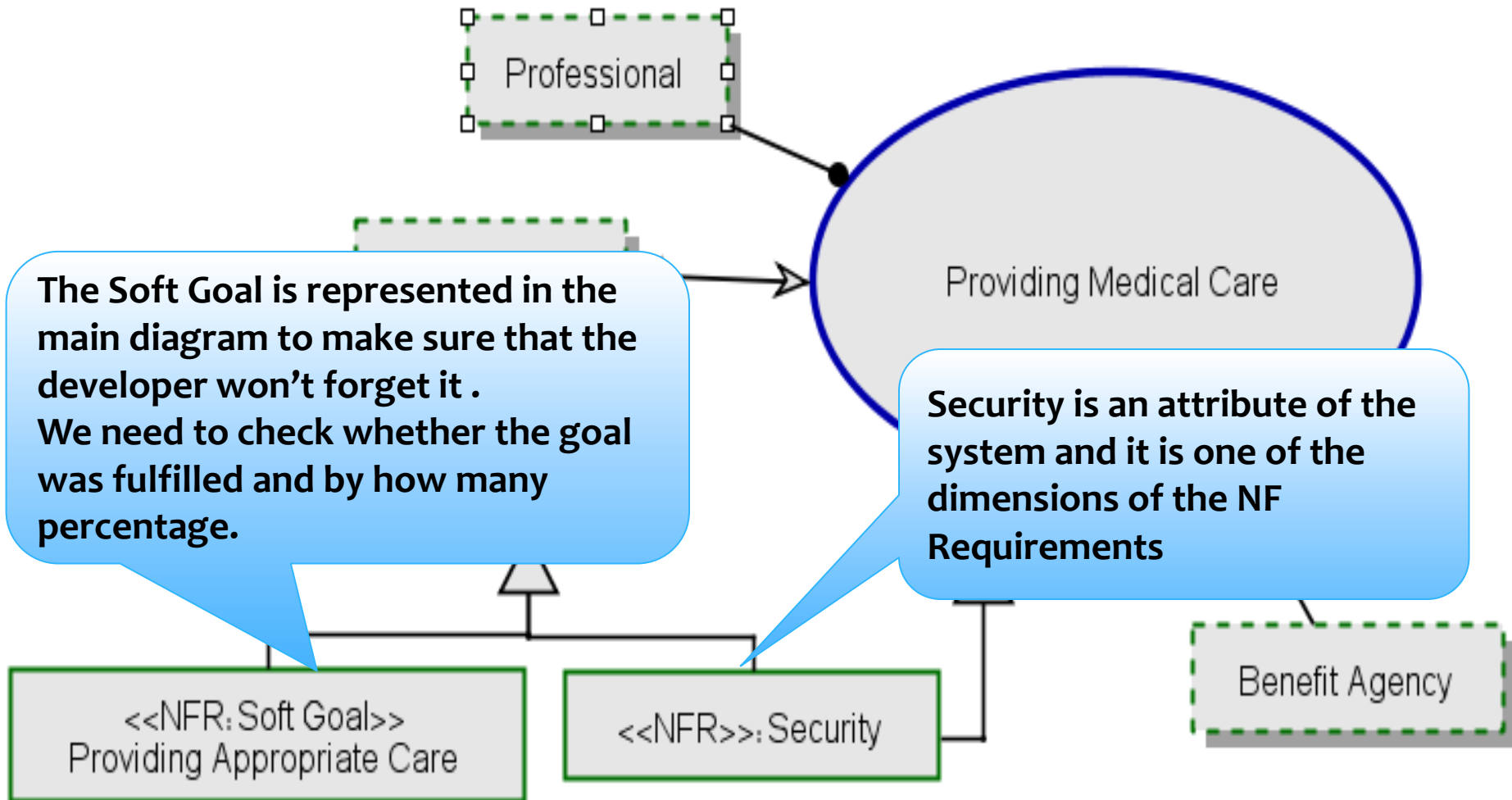
- Privacy
- Integrity
- Availability



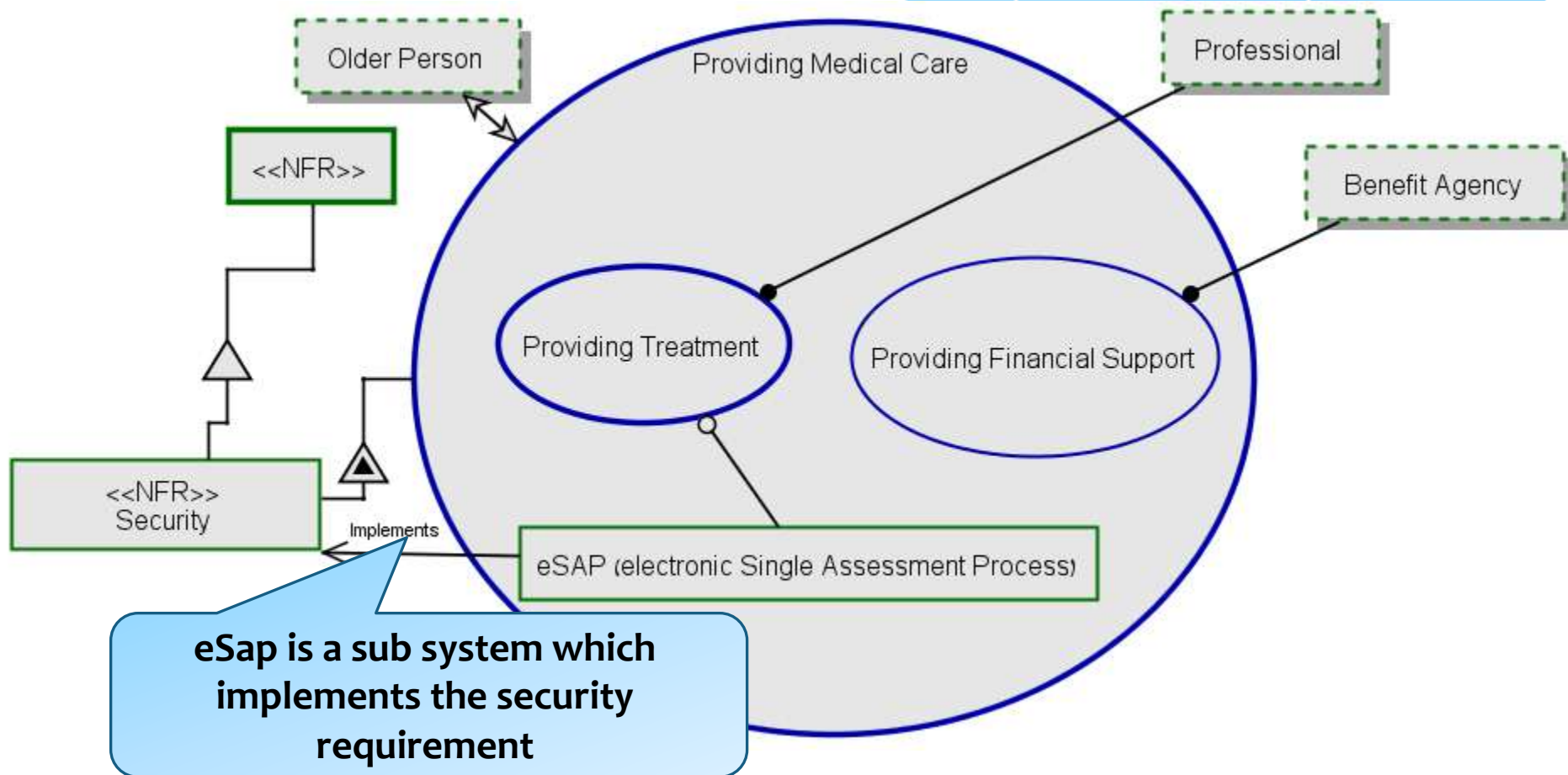
NFR Tree



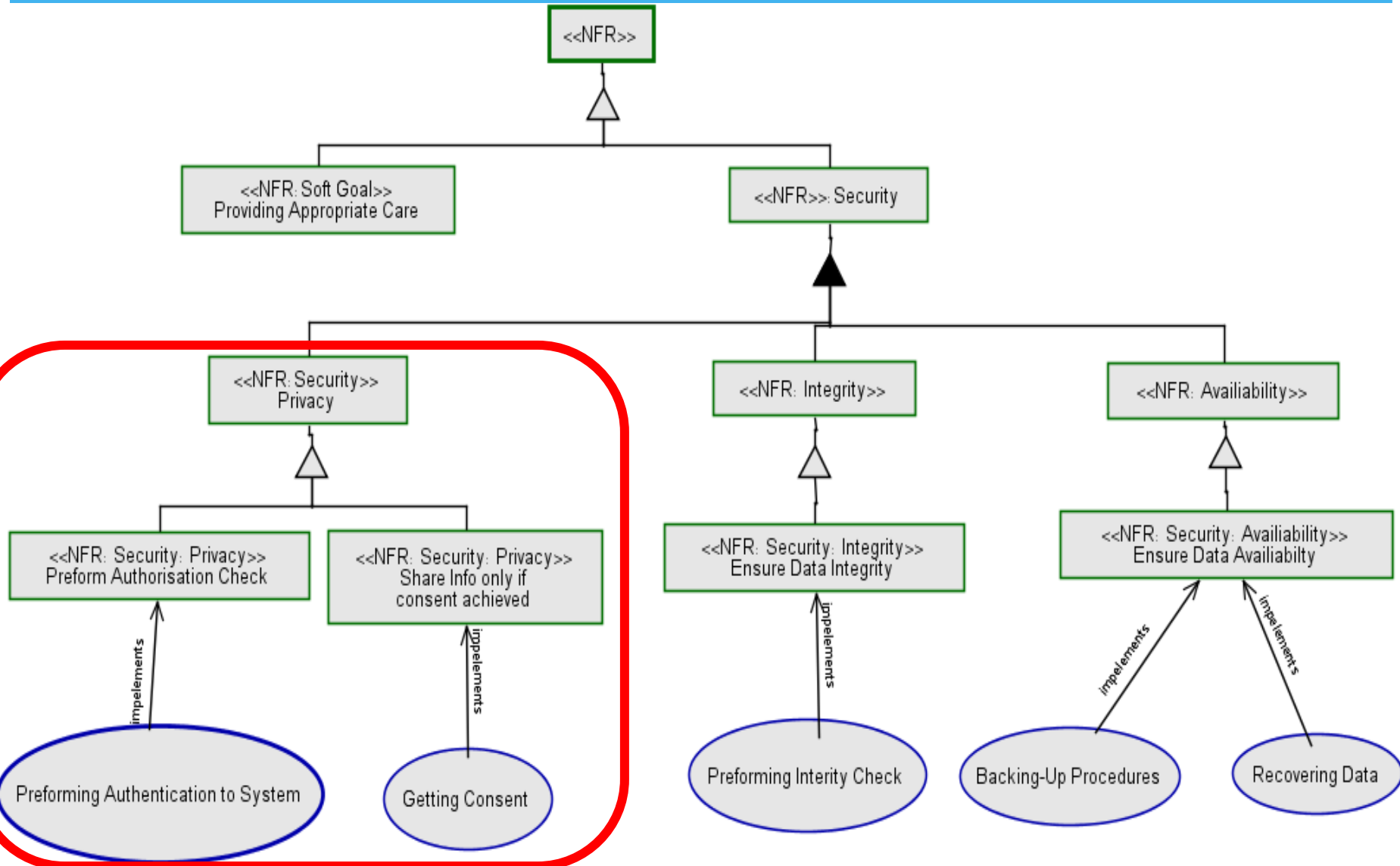
SD Diagram



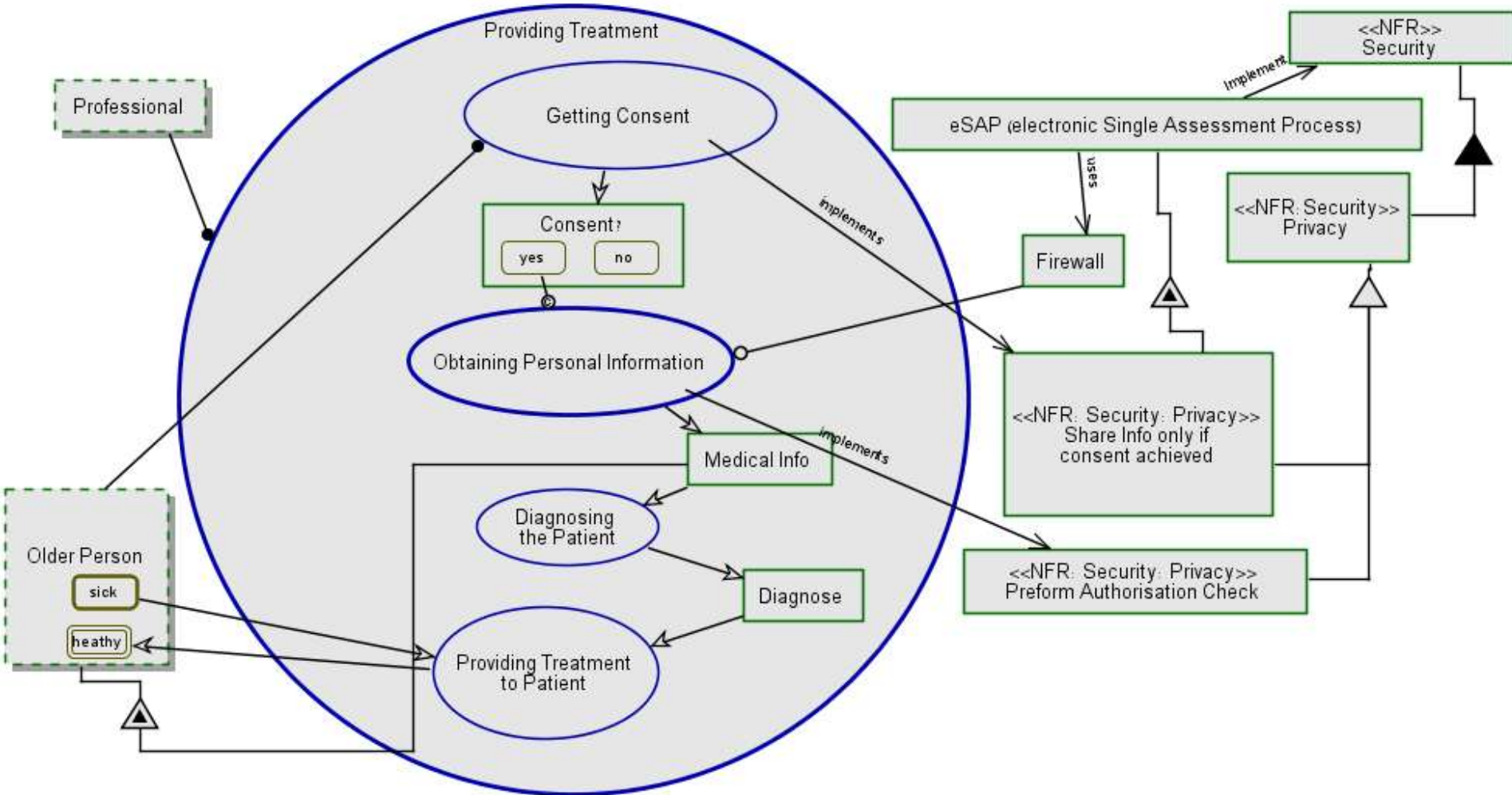
SD 1 Diagram



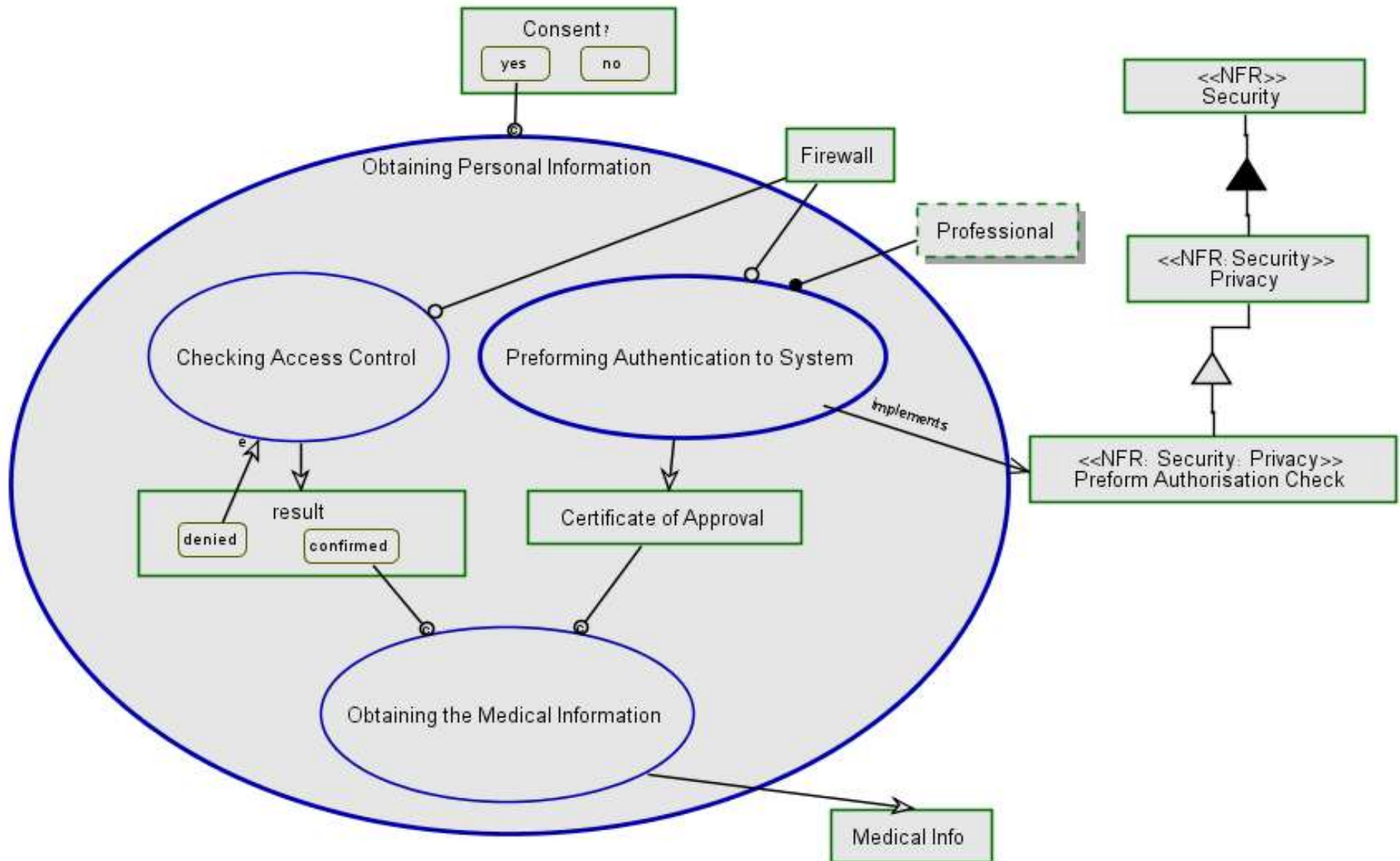
NFR Tree



SD 1.1 Diagram



SD 1.1.1 Diagram





Questions

