

# *Human-oriented and Usable Security*

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# Different Kinds of Users



Listen  
&  
Adapt



# I am a Final User

Security is complex  
and confuse me



Security is  
scaring me

I would like a security that  
fulfill only my need

I don't want a very strong  
Security for a low security  
Requirement



I would like to pay only  
for the security level  
I need



## But not a security expert

# I am a Developer

Security is important  
in software engineering

Very smart people  
developed powerful  
mechanisms but ...

Lack of knowledge in  
security field

I have difficulties to reuse  
and integrate them in  
devel. process

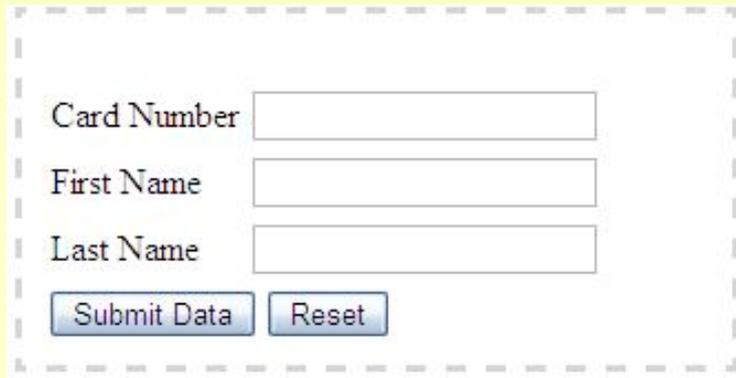
How can I integrate them  
easily ?

Allows me to be  
more efficient :-)

## But not a security expert

# Securing Data Starting from the UI

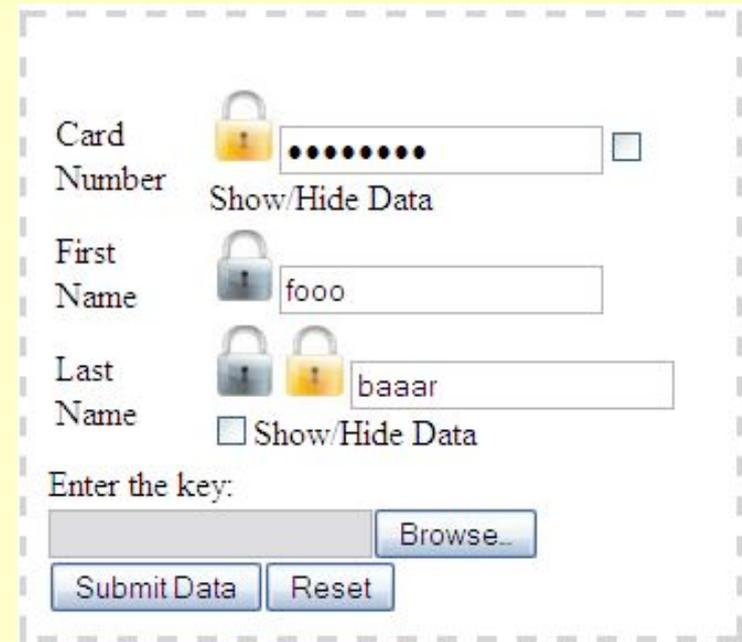
Change an “unsecured” UI to reflect users actions



Card Number

First Name

Last Name



Card Number 

Show/Hide Data

First Name 

Last Name  

Show/Hide Data

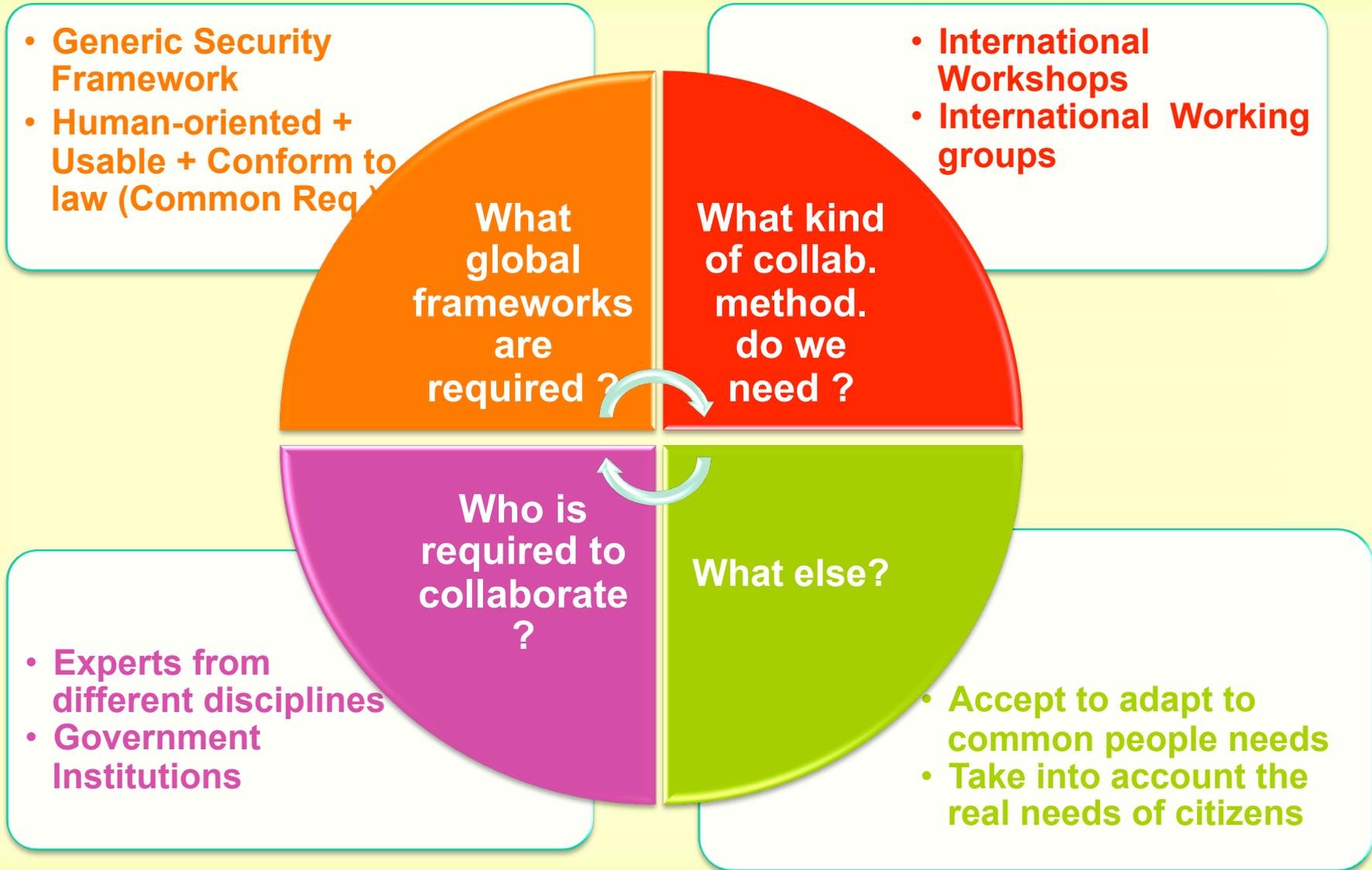
Enter the key:



- UI change when applying security
- Change ? Add of visual clues, extra controls
- Visual clues:
  - Feedback to the user actions
  - Effects of applying Security over the UI

What are the key elements  
to address to begin a  
comprehensive strategy for  
international cooperation  
for a Human-oriented and  
Usable security ?

# Key Elements to Address



What actions would we  
propose in building a  
strategy in international  
cooperation ?

# Actions required for INCO

**Create an International Working Group with Experts having a Human-oriented approach regarding Security & Privacy**  
(Canada, USA, France, etc.)

**Create Multidisciplinary Working Groups in each targeted country**  
(Right experts from each discipline)

**International  
Collaboration  
Actions**

**Organize International Multidisciplinary Workshops in targeted countries**  
(Wide public, Developers, etc.)

**Collaborate with Standardization Organisations**

How the foreseen  
international activities  
will make research on  
Human-oriented and usable  
security more Effective?

# More effective Human-oriented and usable security thanks to INCO

## International WG

Collaboration with Experts who have already done excellent work to efficiently integrate their work (Mary Ellen Zurko, Kostantin Besnosov, etc.)

## Multidisciplinary WGs

Identification of inter-relationships between the different disciplines regarding Security and Privacy

More effective Human-oriented and Usable Security

## International Multidisciplinary Workshops

Facilitate the design of usable secure software

## Collaboration with Standardization Organisations

Definition of Standards involving REAL user needs regarding Security & Privacy

How our research on Human-  
oriented and usable  
security map to the topics  
identified in BIC

# Mapping between BIC and our Research

Rethink the system from the users' point of view

Move from traditional technology-only oriented design towards user-centric security  
Human at the heart of the problem

Results should be able to combine privacy protection with personalisation

Securing Data Starting from the UI  
Security property-based component assemblies  
(Privacy-by-design approach)

Convergence between technical research &  
1) research into the social sciences  
2) research into the legal sciences

Design secure software applications  
1) Take into account evolution of user generations  
2) Conform to law

How would we see BIC help  
in building INCO strategy  
for research on Human-  
oriented and usable  
security ?

# BIC - Human-oriented & Usable security

**Collaboration between legal,  
psycho-socio, technology  
and security experts**

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graph TD; A[Collaboration between legal, psycho-socio, technology and security experts] --> B[Multidisciplinary Workshops]; B --> C[Multidisciplinary Working Groups];
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**Multidisciplinary  
Workshops**

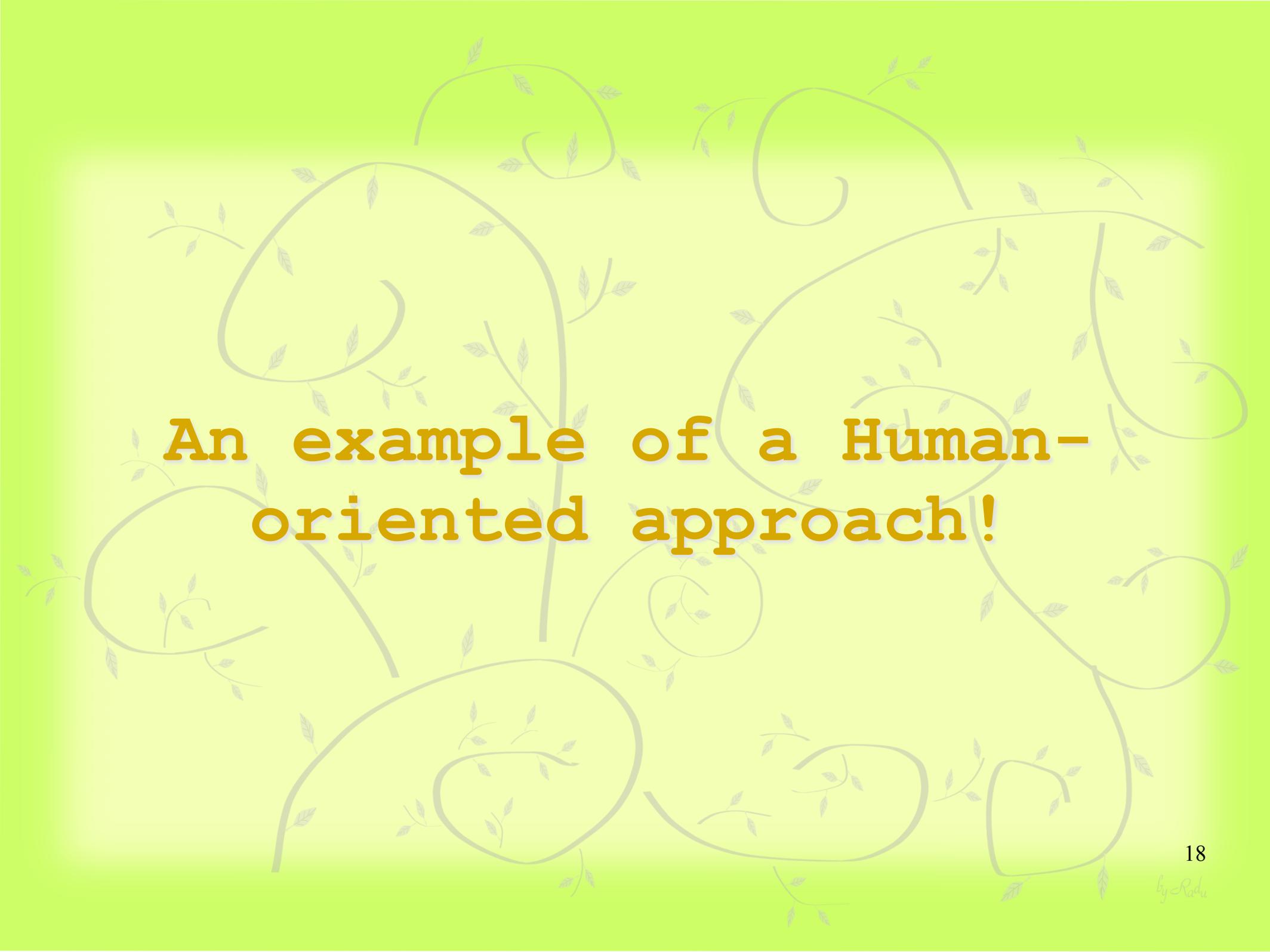
**Multidisciplinary  
Working Groups**

«When we dream alone it is only a dream but when many dream together it is the beginning of a new reality»

*Friedensreich Hundertwasser*

Thank you, Merci, Go raibh  
maith agat, σας ευχαριστώ,  
Grazie, Gracias, Obrigado,  
Danke, ありがとう ございました,  
谢谢, Terima kasih

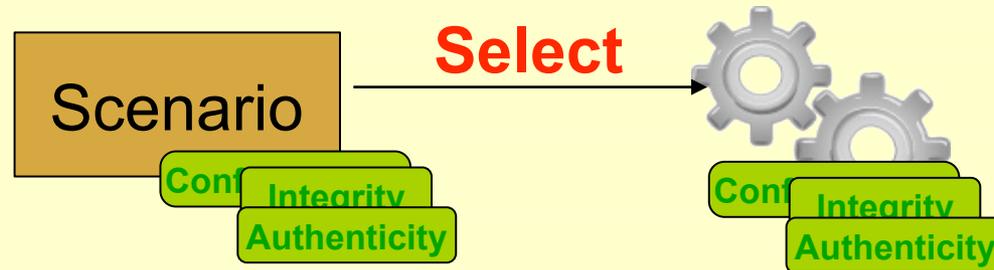




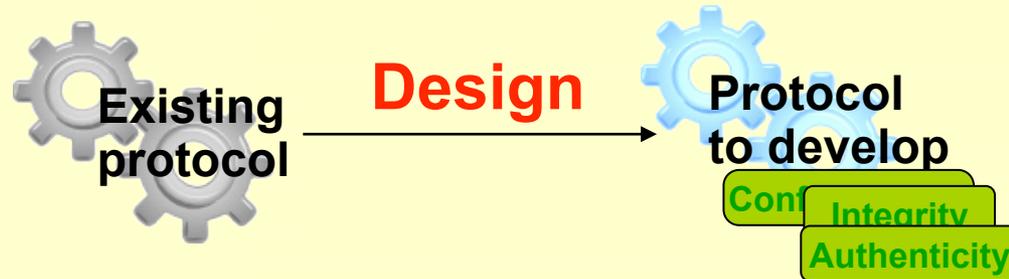
**An example of a Human-oriented approach!**

# Adaptation to Human Needs

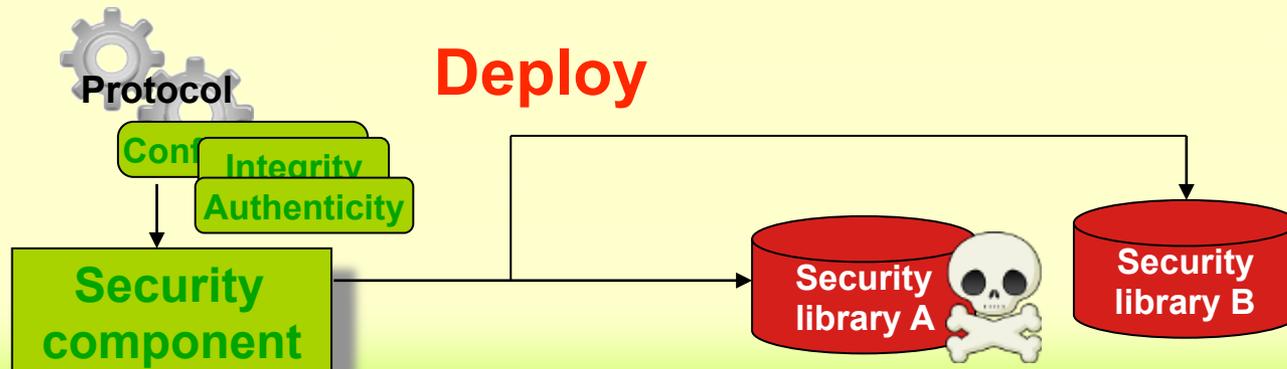
## Conformity



## Reusability

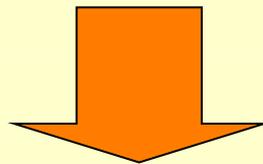


## Dynamicity



# Security Properties-based HTTPS

**Secure Communication Protocol**  
(Integrity, Confidentiality, Authenticity)



**Communication Protocol**

**Integrity**

**Confidentiality**

**Authenticity**