

Panel on  
CJK Collaboration for Future Internet:  
Building Trust in Future Internet

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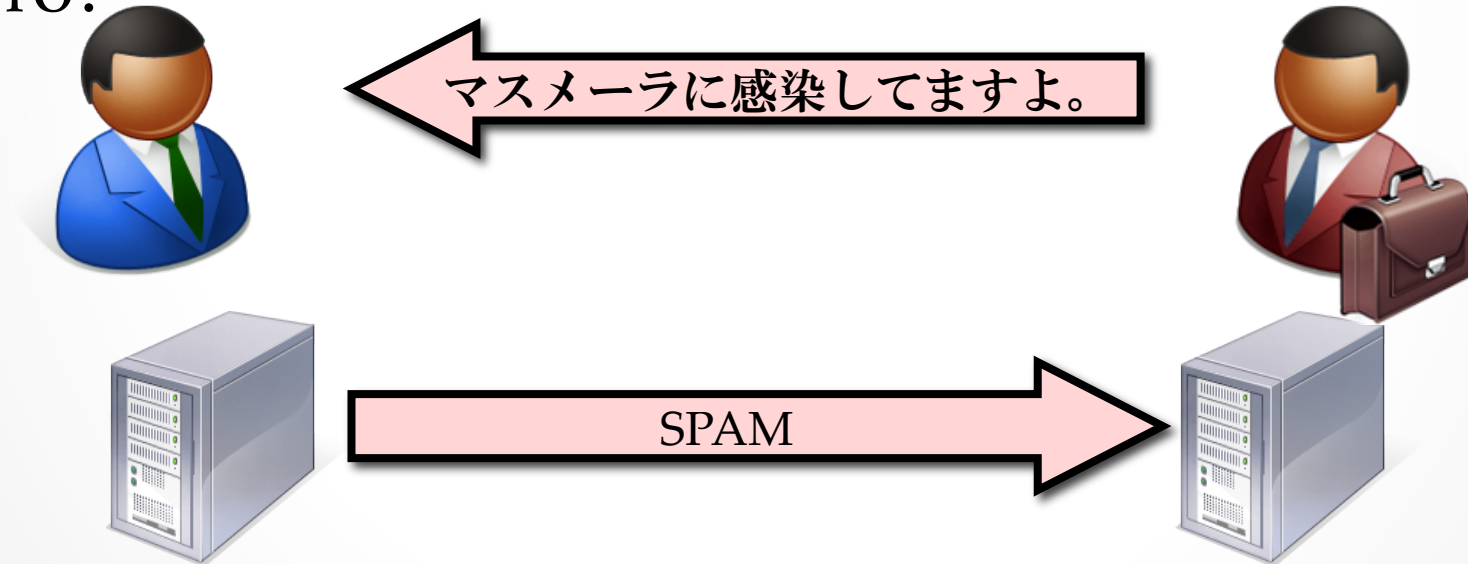
# My take on Future Internet

- Diversity
  - Our people don't share common languages
- People
  - Human-centric design
- Trust
  - Leveraging real-world interactions

# Diversity: shared nothing

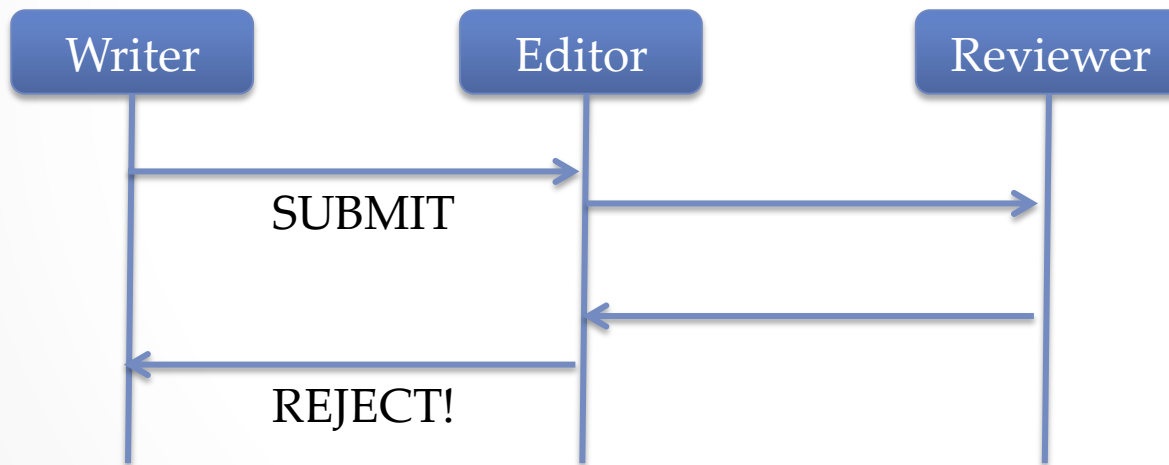
- Our machines communicate with each other, but our people can't communicate with each other.

что?



# Inventing protocols for people

- If the mode of interaction is well understood, it is reasonable to enumerate them and communicate through patterns.



In fact we have been doing this for limited cases.

# Exercise: CJK collaboration protocol

- What is the mode of interaction among Future Internet academics?
  - Self introduction
  - Colleague introduction
  - Paper request
  - Informational
  - Joint discussion
  - Joint lecture proposal
  - Joint paper
  - Other joint operations
- **Don't stop at "Friend invitation" on SNS**

# People: human-centric design

- We have been working on networking protocols, but largely ignorant of cognitive aspects of networking software.

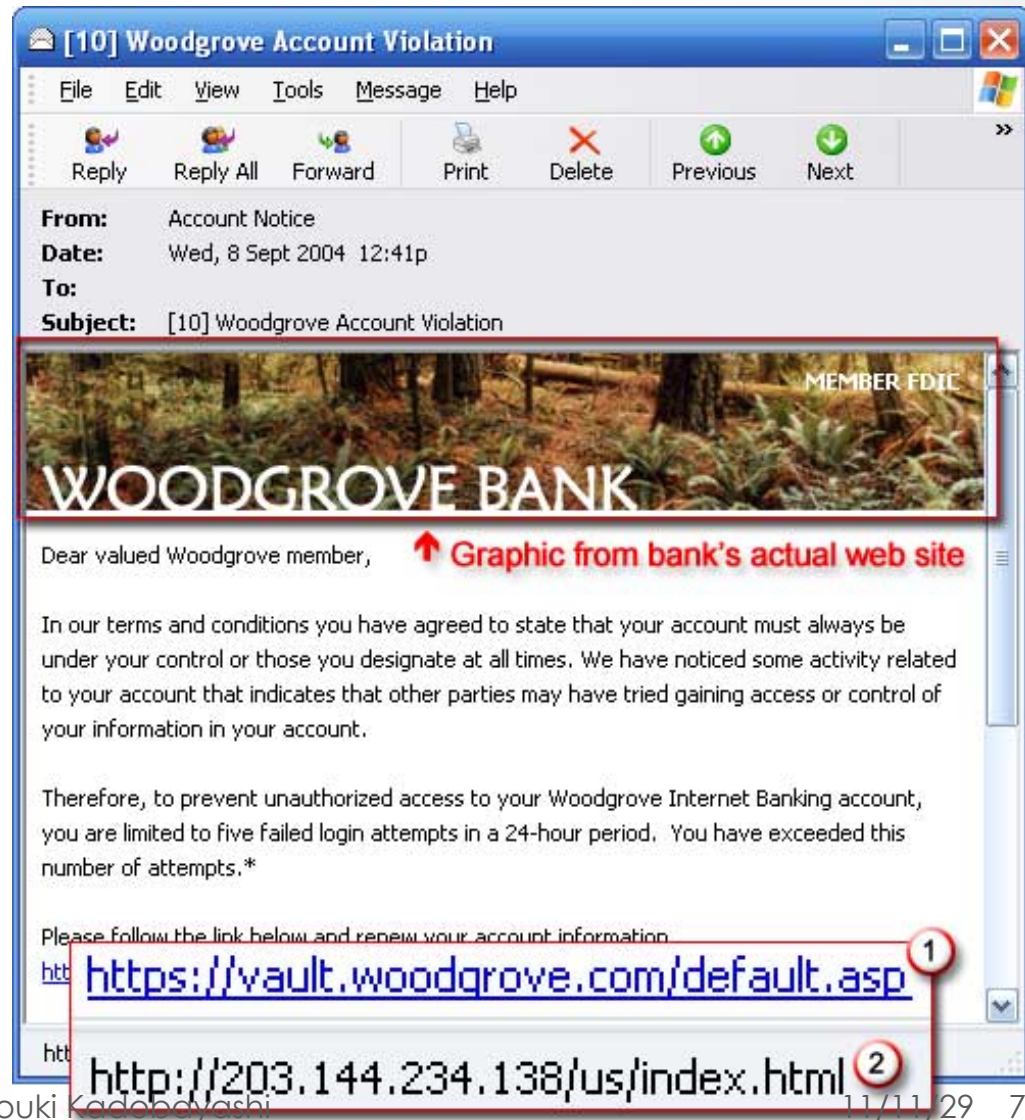


HTTP  
TLS  
SMTP  
S/MIME  
PKIX  
OCSP



# Human-centric design: an example

What's wrong with this e-mail software?



# Exercise: E-mail in Future Internet

- How the E-mail software of Future Internet should look like?





# Trust

- Reputation (of identity)
- Track record (of behavior)
- Real-world interactions
- N-factor authentication, authorization
  
- ... Build them into the design

# Exercise: Trustworthy e-mail in FI

- How should the trustworthy e-mail client look like?

From: Youki Kadobayashi Green

To: Prof. DY Kim You

Dear Prof. Kim,

With enough randomness shared offline, I would like to introduce group key for JD-181, which will be valid for forthcoming 6 months.

Envelope Signature

About Youki

Green

You met him 2 times  
He has been trusted by your colleagues:

Jun M.   
Hiroshi E.

He is member of:  
WIDE, ACM

Mail sent from:  
Trusted zone

# Top-down approach to Future Internet

- Identify key Internet-based tasks
  - File sharing
  - Messaging
  - Group collaboration
- Consider Diversity, People, and Trust
  - Invent protocols for people
  - Address cognitive aspects of networking software
  - Build and leverage trust through interactions
- Combine/modify tools, protocols, algorithms
  - Invent one if necessary