

# **System Development International Project**

**Day 1**

**2019/2/12**

**Xavier Défago**

(credits: Chikako Morimoto)

# Lecture Outline

- Focus on the **social value of computing system and software**
- Aim is to **learn business dynamics and software life-cycle** through **lecture and project-based learning (PBL)**
- **What is a “Project” ?**
- **Output**
  - Team presentations: 2/21 @ 13:20-16:00
  - Mini report <Personal> : deadline 3/1 @ 23:50

# Schedule

	Wed 2/12	Thu 2/13	Fri 2/14	Wed 2/19	Fri 2/21
room:	W936	W936	W936	W936	GSIC, 3F
10:45 - 12:15	Orientation <b>PBL</b> team building	<b>Lecture:</b> software quality and development process	<b>Lecture:</b> software quality and development process	<b>Lecture:</b> software quality and development process	
13:20 - 14:50	<b>Lecture:</b> software quality and development process	<b>PBL</b> business idea lean canvas	<b>PBL</b> business model	teamwork	<b>presentations:</b> - product - fund raising ( <i>demos</i> ) - technical - process
15:05 - 16:35	teamwork	teamwork	teamwork	teamwork	

# Evaluation

- **Project**
  - Team evaluation
- **Presentation**
  - Individual evaluation
- **Report**
  - Individual evaluation

# **Team Building & Communication**

# Team building

- **Exercise**

- Let's make your key item with....

~~aluminum foil!~~

- Illustration



# Team building

- **Self-Introduction in each group**

- 3 mins/person
- Why do you take this class?
- Experience of programming
- Hobbies
- What is your **key item**? **Why**?
- ...and more!

- **Important exercise to get soft landing in this "place"**

- Relax
- Open own mind

# Team building

- **Introduce the next person to the class**
  - 1 min/person
- **Discuss these questions**
  - A) Did your partner introduce you correctly?
  - B) Are you satisfied with how you introduced him/her?



# Team building

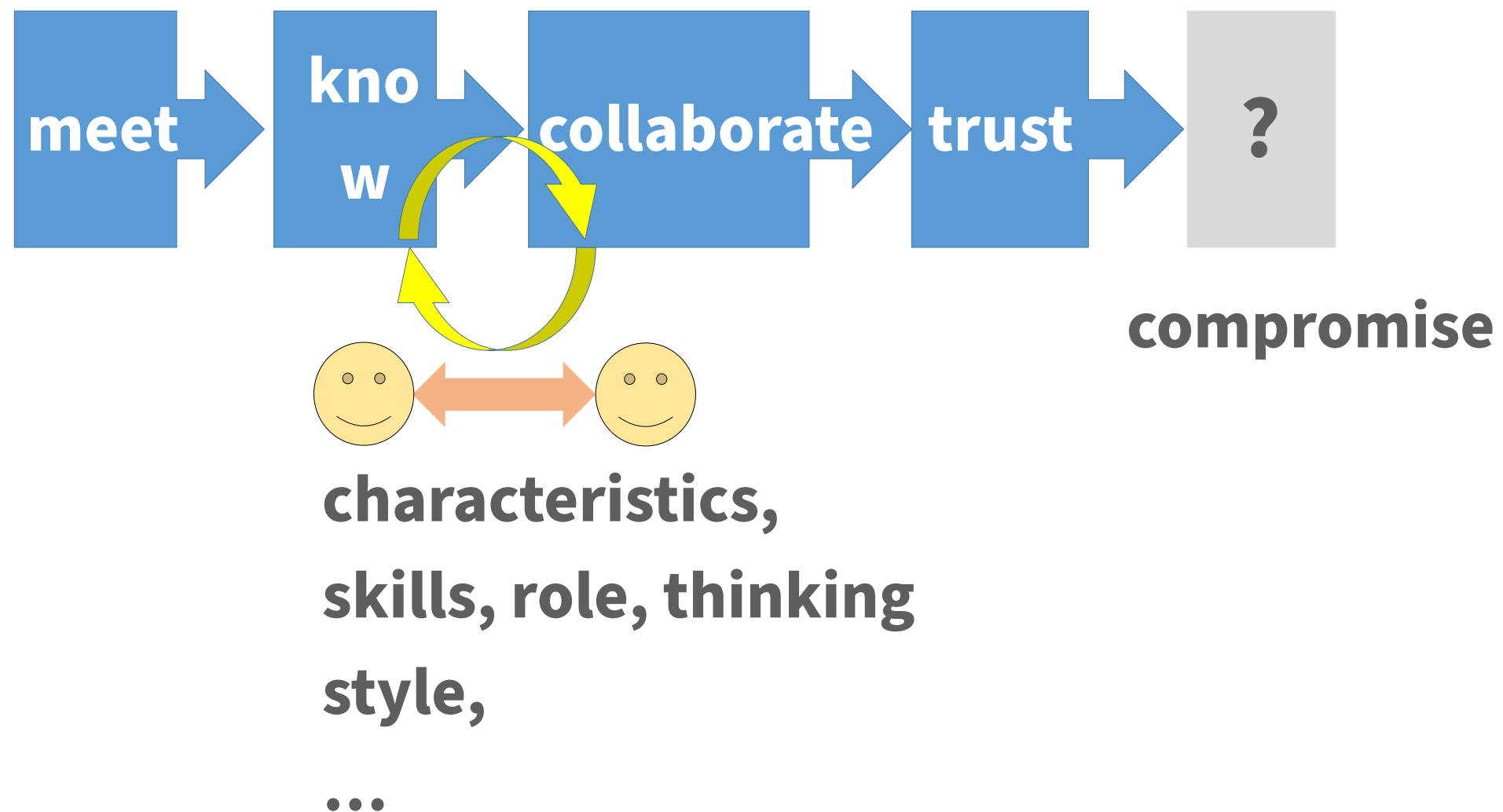
- **Name your team** (10 mins)

# Team building

- **Name your team (10 mins)**
- **How did you come up with this name?**

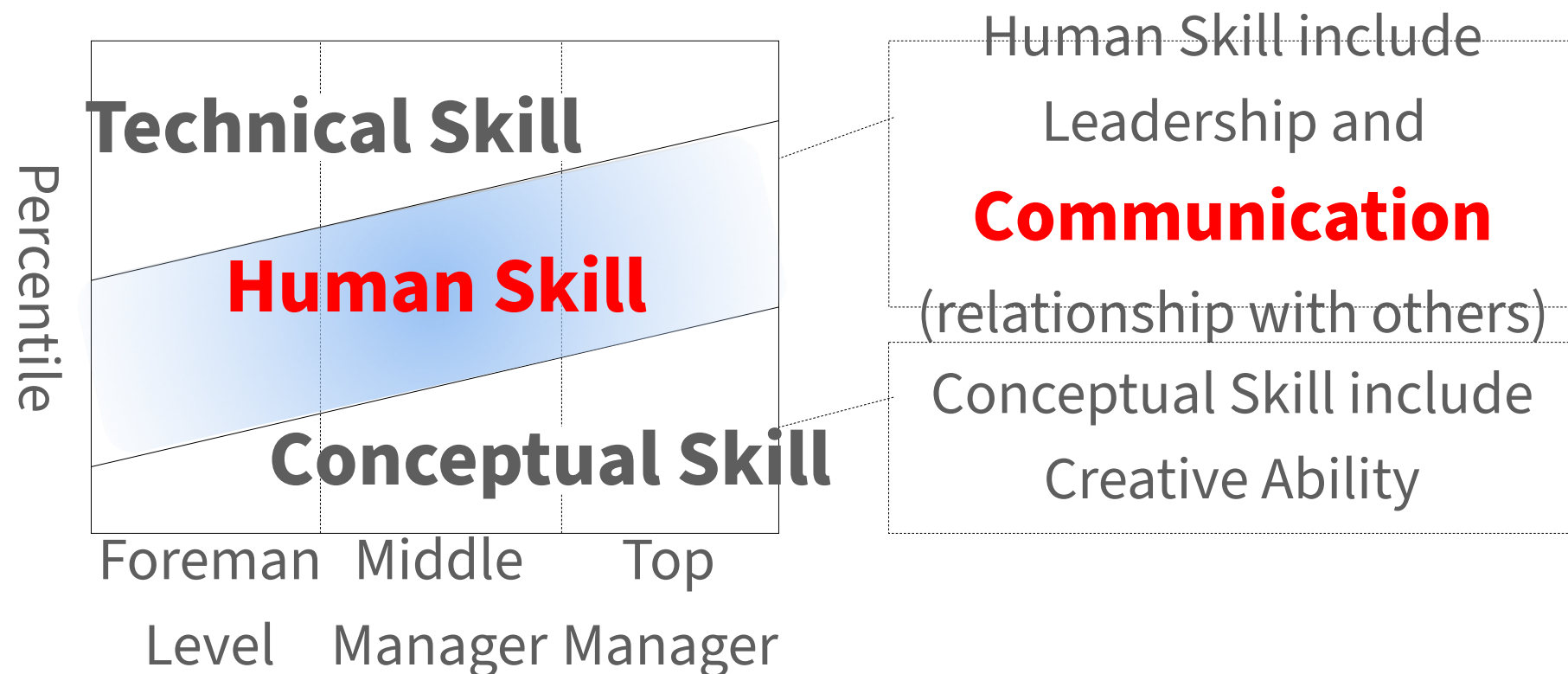
# Team building

- **Team building!**
- **How to build a trust relationship?**



# Communication

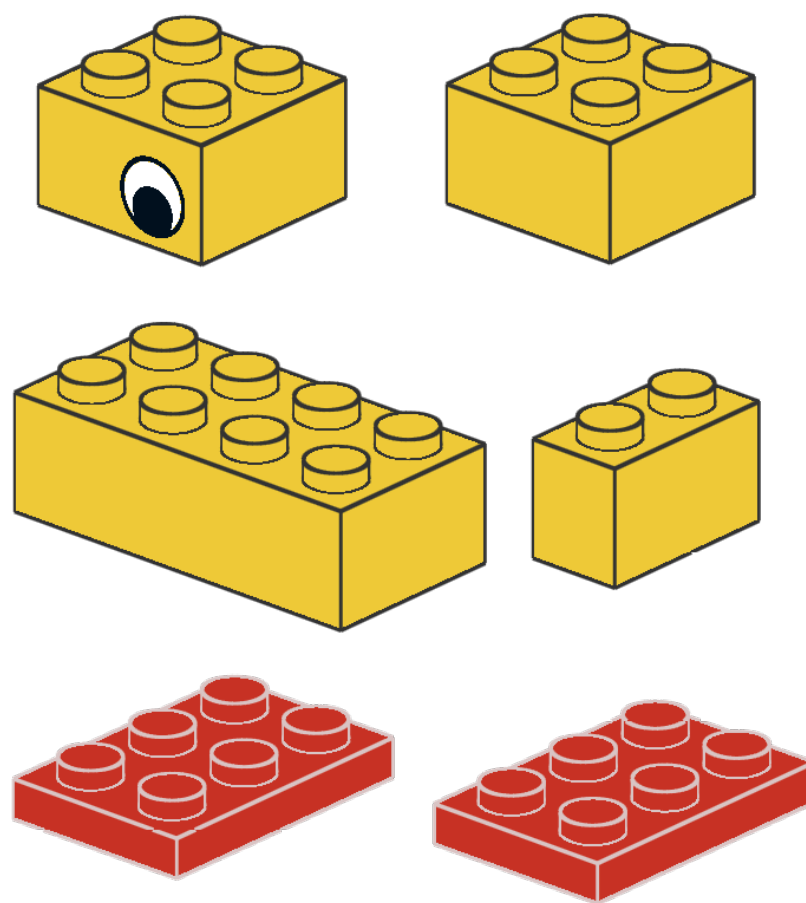
- **Why is communication important?**



**Kats, 1982**

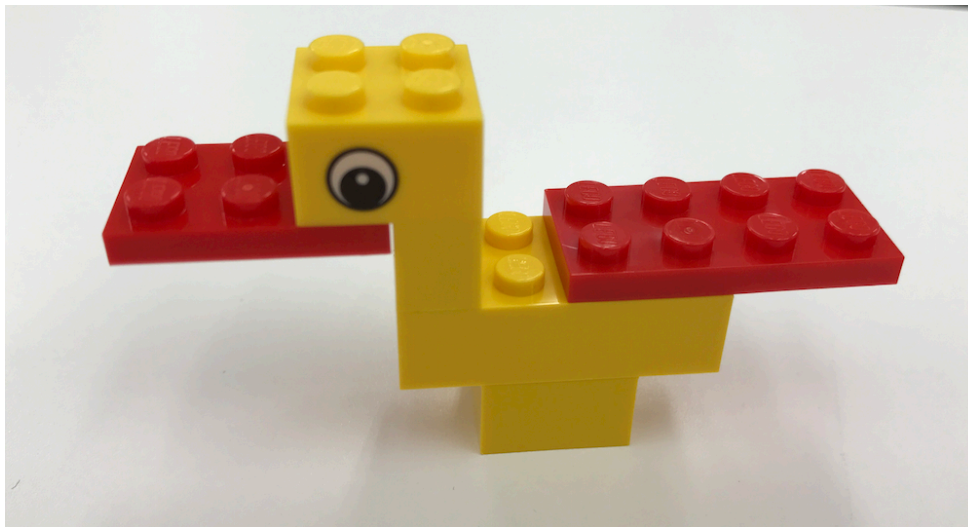
# Communication

- **Make a Duck with LEGOs !**



# Communication

- **Make a Duck with LEGOs !**



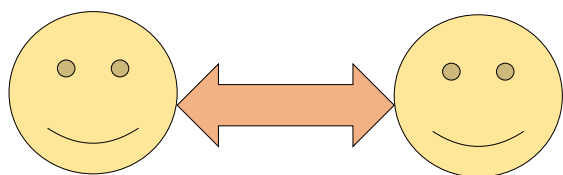
# Communication

- **What communication style to persuade?**
- **What is your image of Ramen-Jiro?**
- **How about McDonald's?**

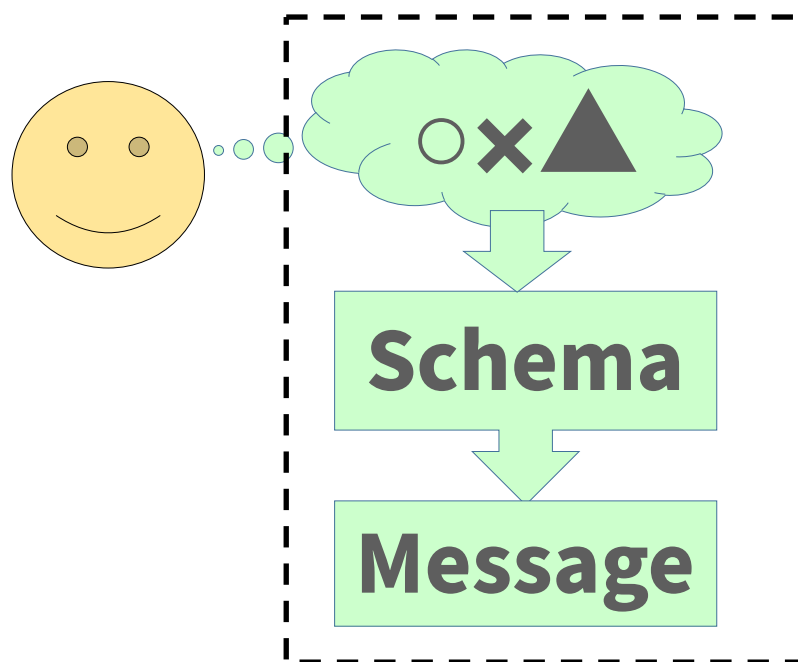


# Communication

- Communication is **two-ways**



- But, we each have **our own protocol**



We each have a  
schema

**(knowledge chunk)**

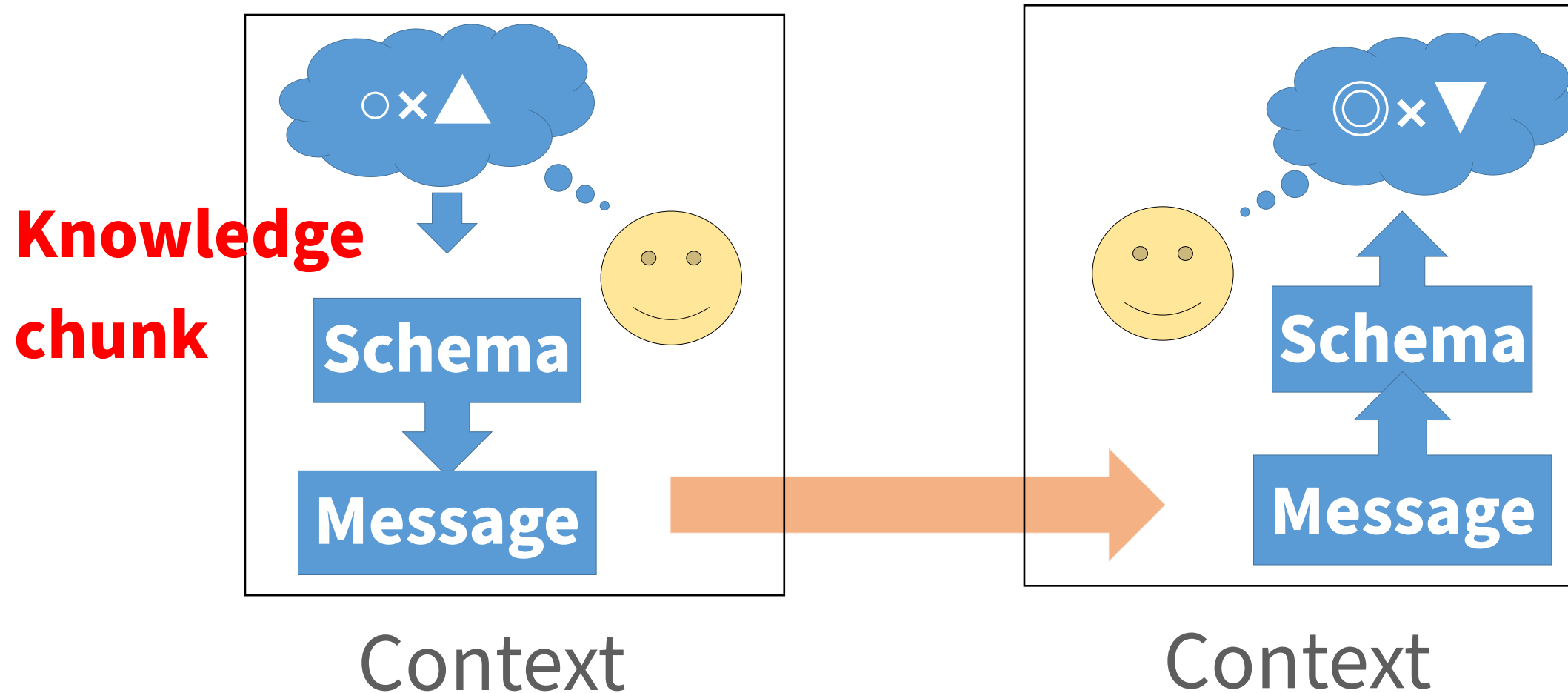
built from our  
own experience



# Team building

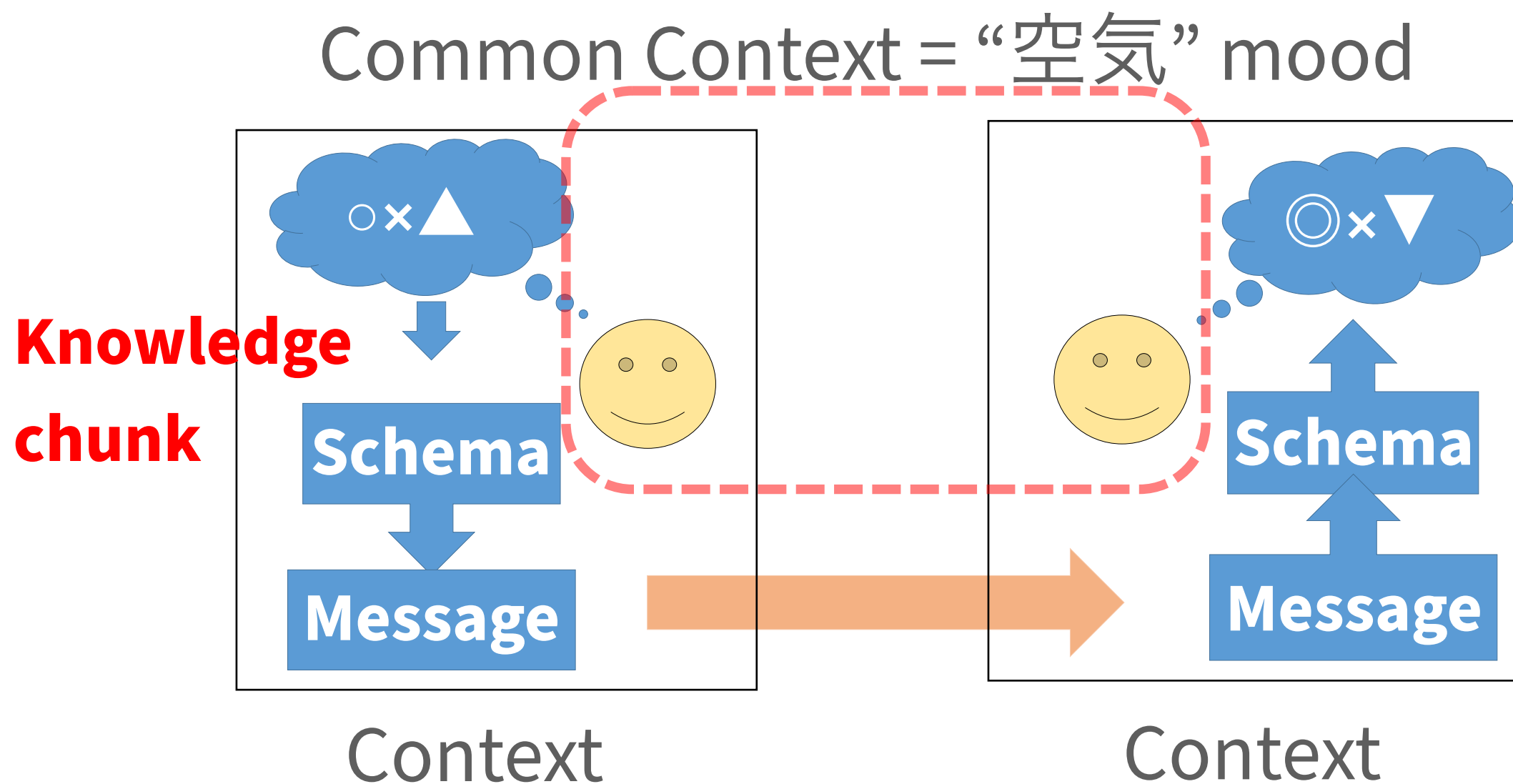
- **Communication**

- Schema + Context



# Team building

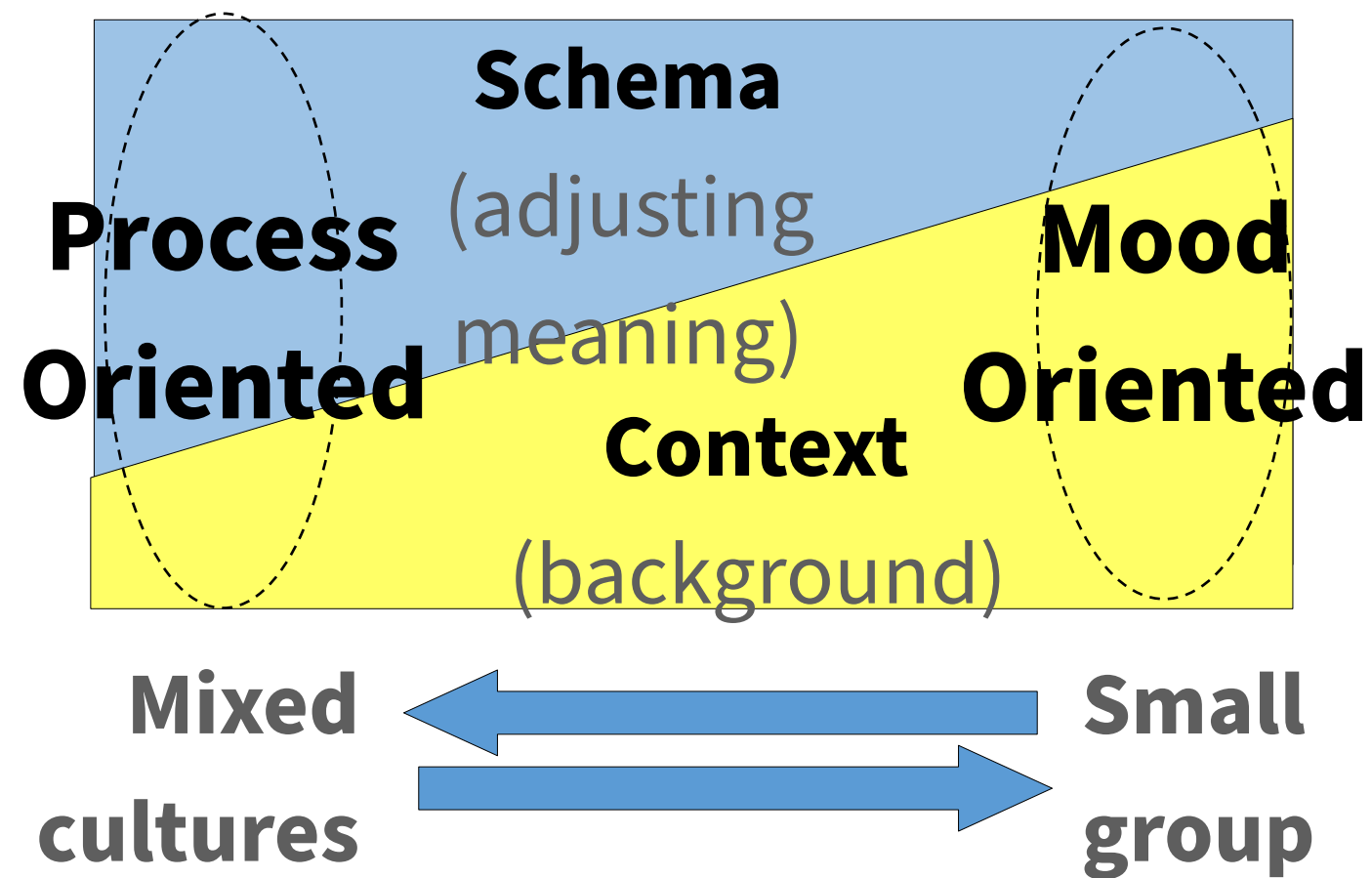
- **Communication**



# Team building

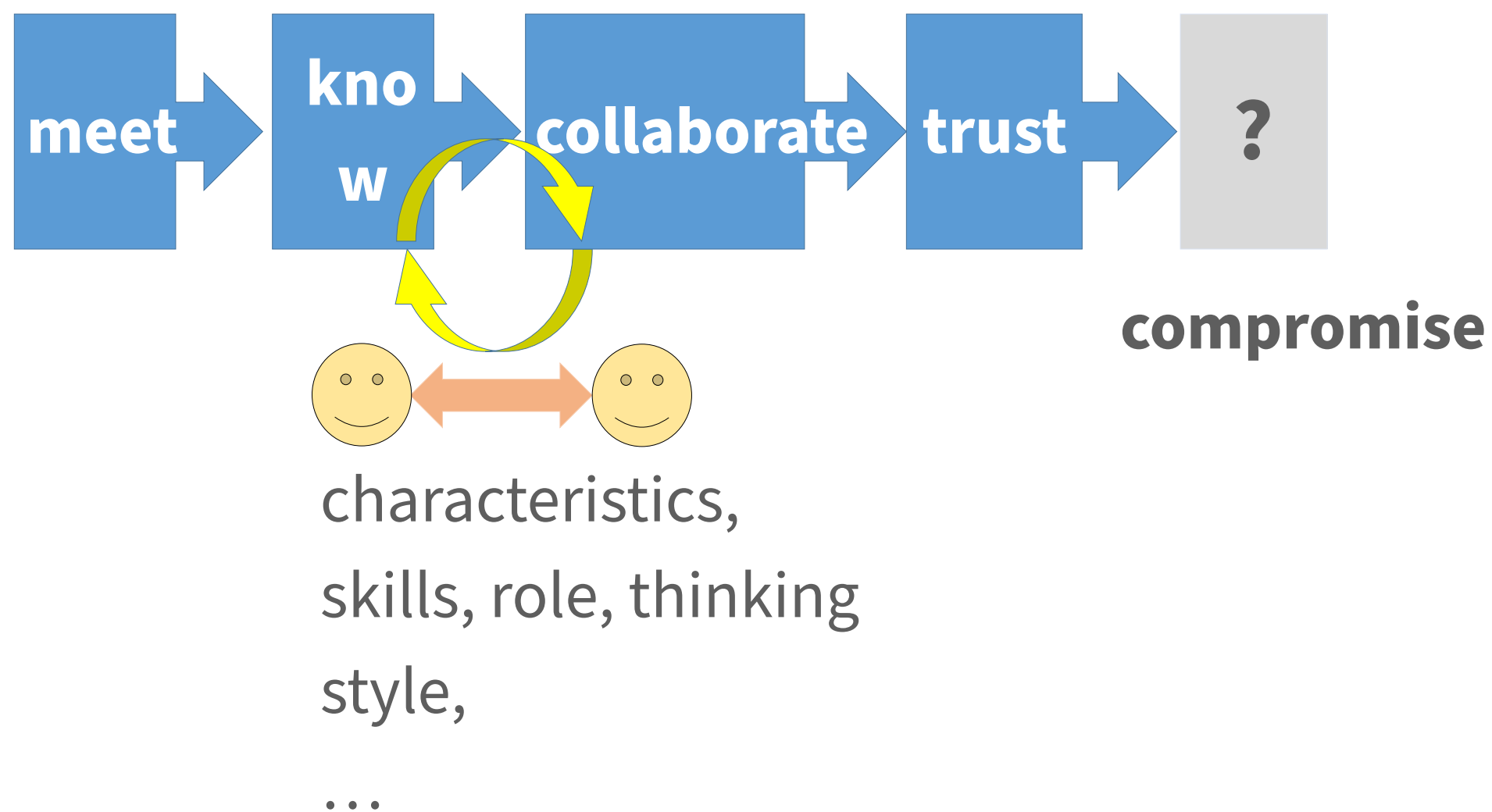
- **Agreement Process**

- Fair process
- Mood
- Role



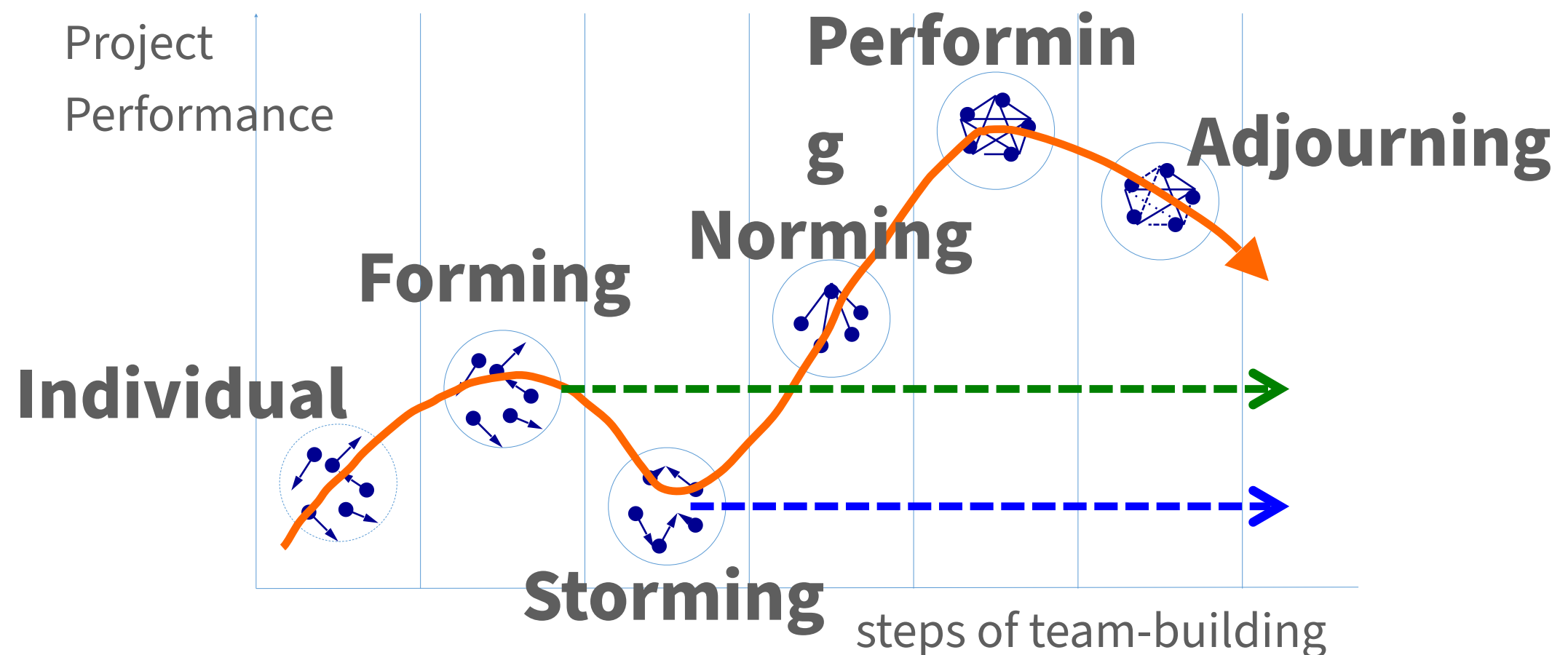
# Team building

- **Team building!**
- **How to build a trust relationship?**



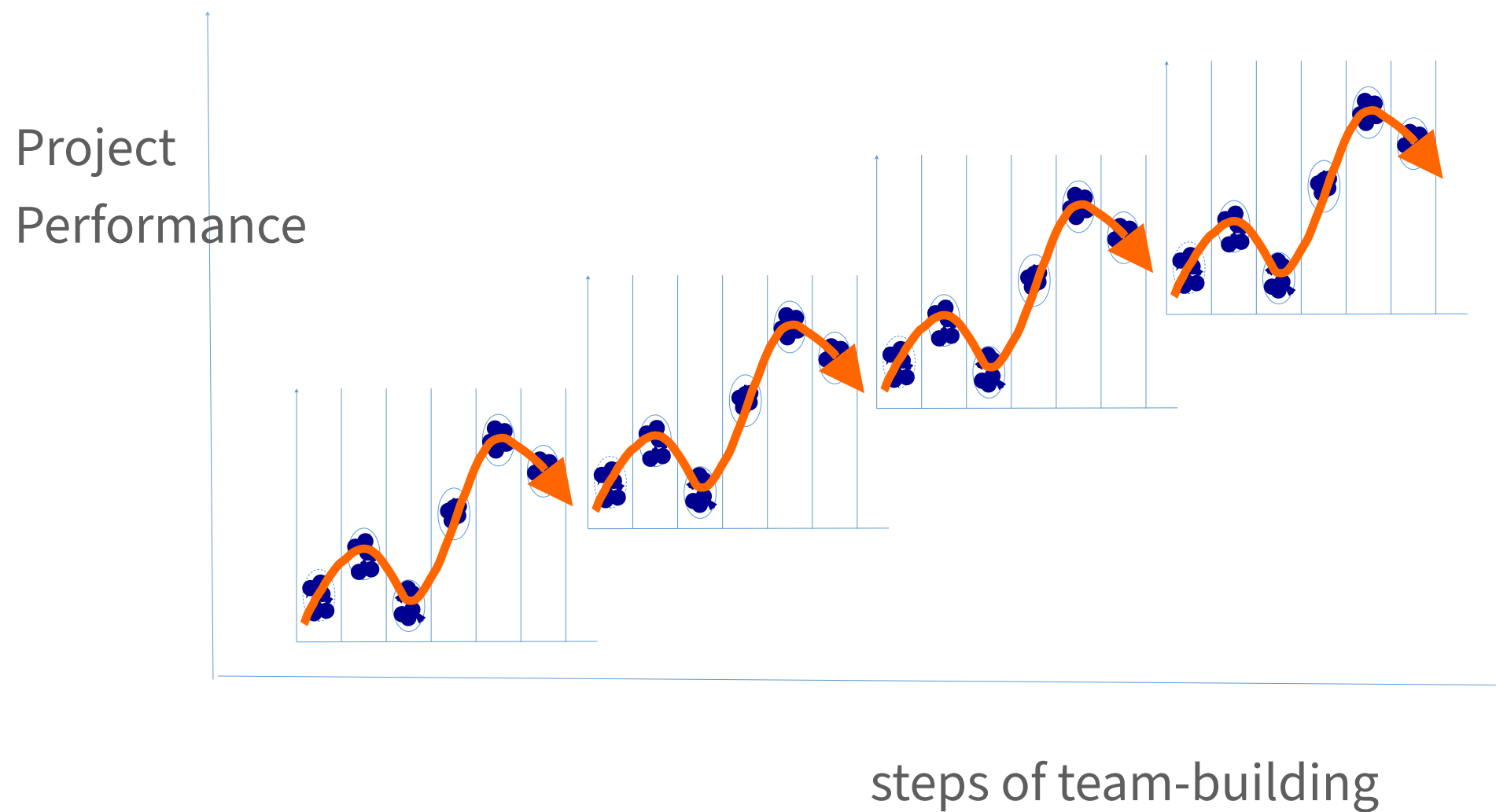
# Team building

- **How to build a trust relationship?**
  - Team doesn't occur by itself, so we need to make team
  - Tuckman's team-building model



# Team building

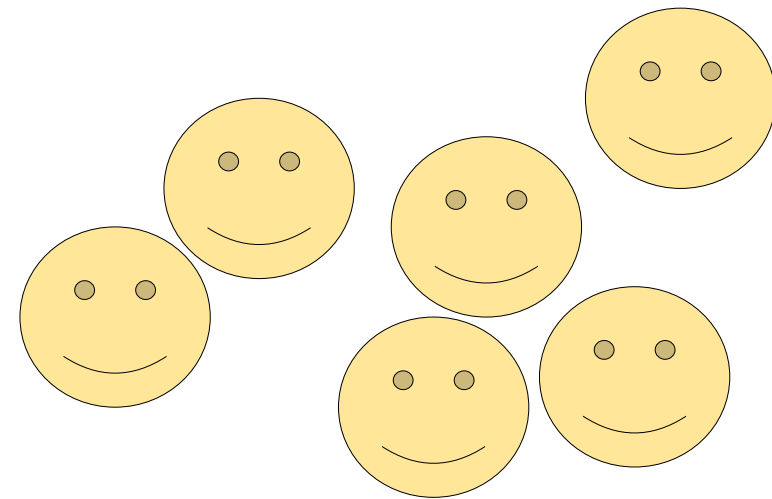
- **Project life**



# Team building

- **System Development Project**

- Consensus-building process
- A lot of stakeholders



- **Software – Hardware**

- Flexibility
- Simplicity

- **Team management (people management)**

- **Product management (value management)**

# Team building

- **Introduce yourself again (2 min/person)**
- **How will you contribute to your team?**
  - Who am I? – personality, attitude, ...
  - What do I know / have? – knowledge, skills, ...
  - Who do I know? – connection
- **Open your background!**
- **Diversity is important**

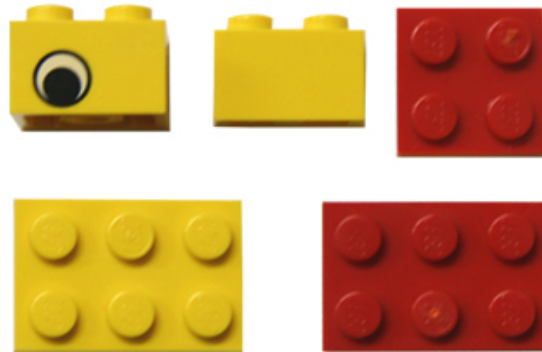
**NURTURE CURIOSITY**

好奇心



# Team building

- **Choose 1 piece of LEGO**
- **Label your LEGO with your name**
- **Create your team symbol with the LEGOs**



# **Social Value & Lean Canvas**

# What is a “Software System” ?

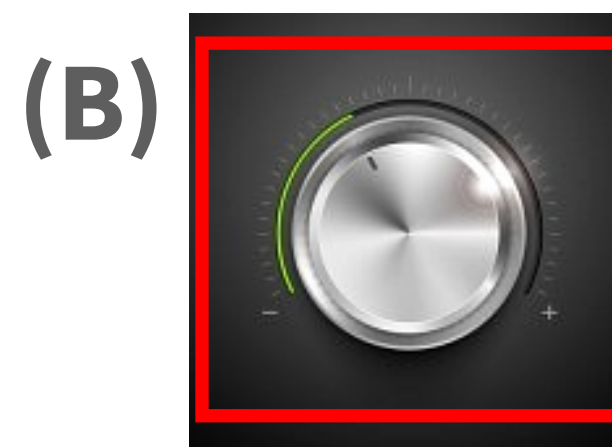
- **Programs, Computer systems...**
- **What is a system?**
  - A system is a set of **interacting** or **interdependent components** forming an integrated whole.  
Every system is delineated by its spatial and temporal **boundaries**, surrounded and **influenced by its environment**, described by its **structure and purpose** and expressed in its **functioning**.
  - A system also **influences** its environment
- **What is the purpose of a system?**

# Social value

- **Convenience**
- **Increasing something**
- **Reducing something**
- **Faster**
- **Cheaper**
- ...and ?

# Social value

- Who is the user?
- Who is the customer?



# Social value

- **Who is the user?**
- **Who is the customer?**



# Social value

- **Built a thing right**

- Computer Science
- Software Engineering
- Project Management

- **Built the right thing**

- Business Model Analysis
- Requirement Engineering

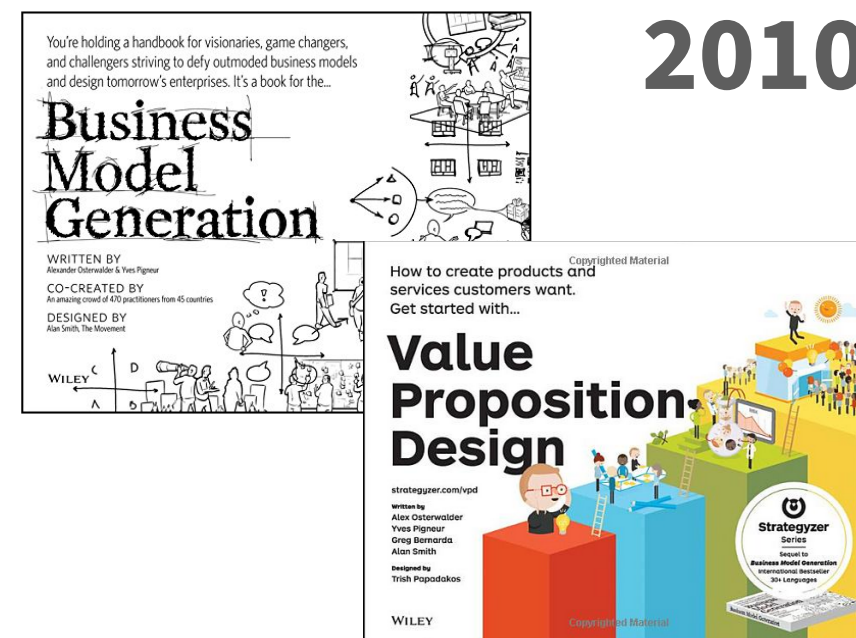
- Lean startup (from business)
- Agile development model (from development)

# Lean Canvas

- **Business model canvas**

- Business modeling tool
- “Value Proposition Design: How to Create Products and Services Customers Want”

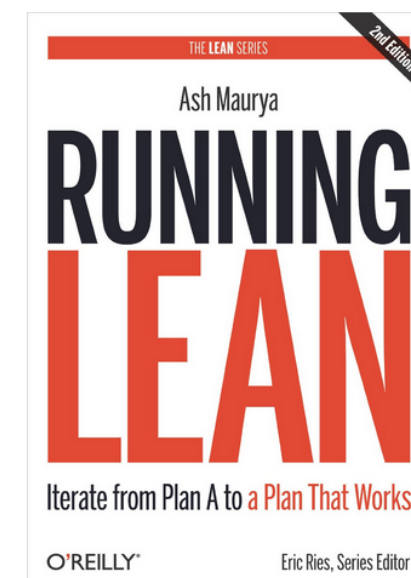
Alexander Osterwalder, Yves Pigneur, 2014



- **Lean canvas**

- For startup business
- Checking uncertainly ideas
- “Running Lean: Iterate from Plan A to a Plan That Works”

Ash Maurya, 2012





# Lean Canvas

1. Customer Segments
2. Unique Value Proposition
3. Channels
4. Unfair Advantage
5. Revenue Streams
6. Key Metrics
7. Solution
8. Problem
9. Cost Structure

<b>Problem</b> Business Models need to be more portable Measuring Progress is hard work. Communicating learning is critical. Existing Alternatives: Intuition, business plans, spreadsheets, business model canvas.	<b>Solution</b> 1-page Lean Canvas Progress Dashboard Sharing features <b>7</b>	<b>Unique Value Proposition</b> Helps startups raise their odds of success. High-level concept: Startup Report Card. <b>2</b>	<b>Unfair Advantage</b> "Expert" Endorsements Personal Authority <b>4</b>	<b>Customer Segments</b> Startup Founders (Creators) Advisors/Investors (Collaborators) Early Adopter: Book reader or workshop participant. <b>1</b>
	<b>Key Metrics</b> Create Lean Canvas Invite Collaborator Track Experiments <b>6</b>		<b>Channels</b> 1. Blog, Book, Workshops 2. Startup Accelerators, Investors <b>3</b>	
<b>Cost Structure</b> Hosting Costs: heroku (currently \$0) People Costs: \$5K/mo <b>9</b>			<b>Revenue Streams</b> Bundled with book and workshops 30-day free trial @ \$14/mo <b>5</b>	

# References

- **Lean Canvas**

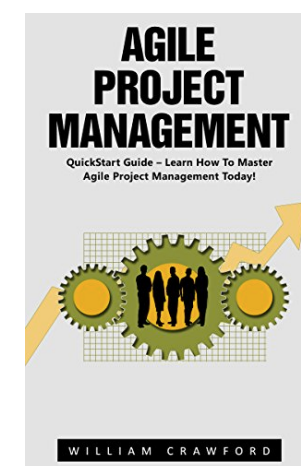
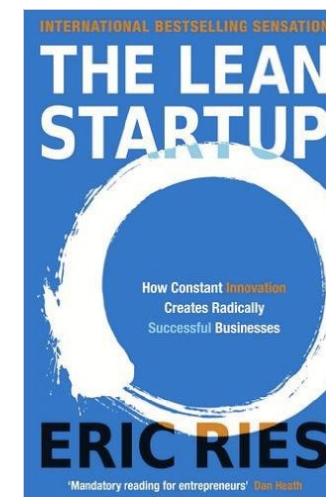
- <http://www.slideshare.net/lfittl/lean-startup-essentials-startup-live-graz>
- The Lean Startup: How Constant Innovation Creates Radically Successful Businesses

- **Agile Project Management**

- Agile Project Management: QuickStart Guide – Learn How To Master Agile Project Management Today! (Agile Software Development, Agile Development, Scrum) (English Edition)

- **<http://www.itpro.titech.ac.jp/>**

- Project Based Learning (PBL)  
Photos



# break

13:20~ Lecture

Software Quality and  
Development Process



# Social value

- **Built a thing right**

- Computer Science

- Software Engineering

- Project Management

Quality Management

- **Built the right thing**

- Business Model Analysis

- Requirement Engineering

- Lean startup (from business)

- Agile development model (from development)