

# How Design Thinking Works (@ SAP)

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25<sup>th</sup> IEEE Requirements Engineering Conference  
September 2017





# Agenda

- Introduction and Warm-up
- What is Design Thinking?
- Project Example from the Software World
- What's in it for you?
- Awareness and education of coaches and managers, scaling and barriers
- Links to additional material
- Questions / I like / I wish

# About SAP

World leader in enterprise software

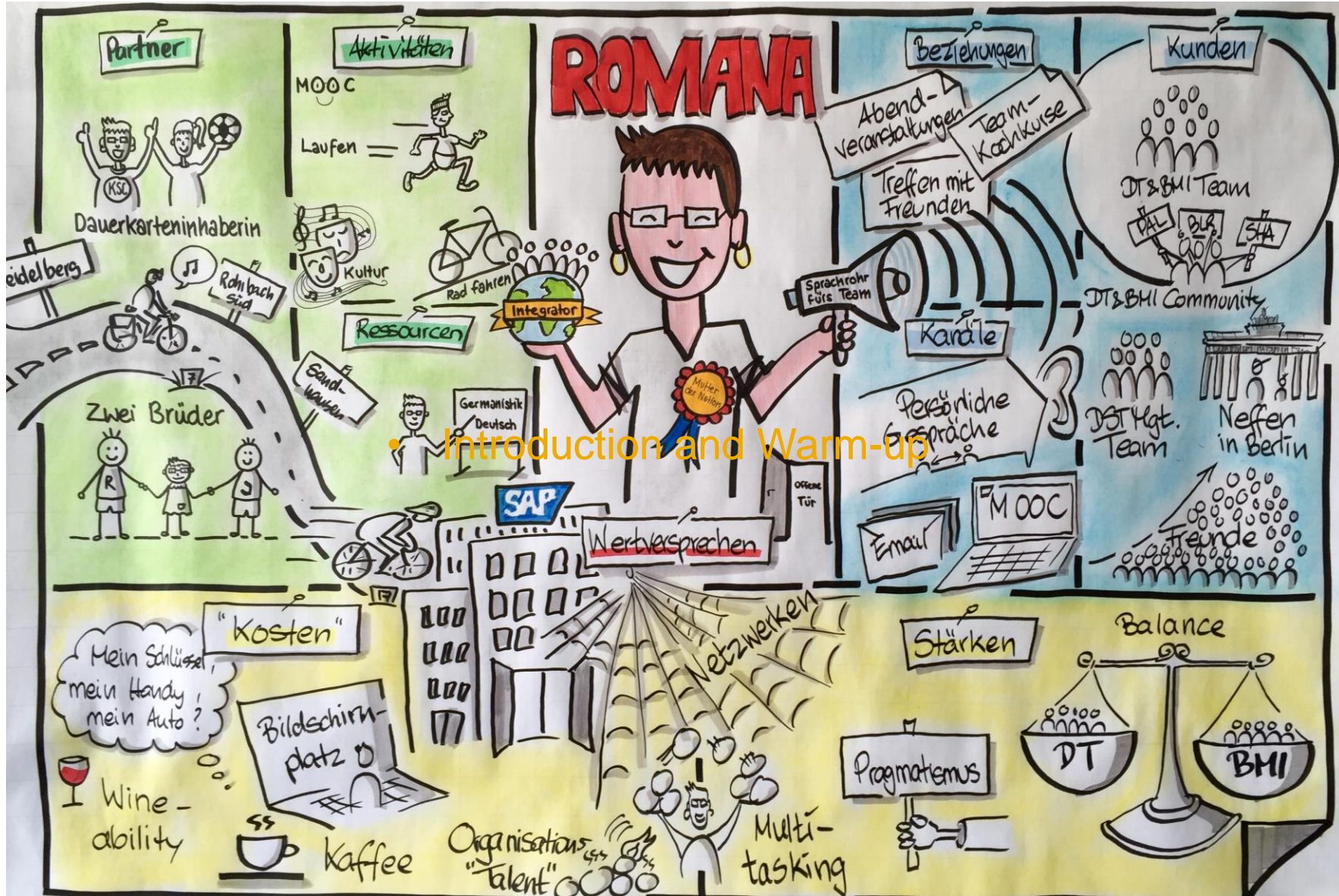
87,000 Employees in 130 countries worldwide

[SAP Facts & Information](#)





# About me



• Introduction and Warm-up



# Interaction: Listen and Exchange

## Your perception of Design Thinking

- Talk to the person next to you!
- Form teams of 2 – 3 people
- What have you heard / experienced about Design Thinking (2 x 2 minutes)
- Goal: everyone got a different perspective
- 5 statements on the wall

I talked to ... One Aspect of Design Thinking he / she mentioned is ... (1 word or statement)

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**WIRED**

IBM's Got a Plan to Bring Design Thinking to Big Business - Jan 22, 2014

**The New York Times**

IBM's Design-Centered Strategy to Set Free the Squares - Nov 14, 2013

**McKinsey&Company**

The Power of Design Thinking - March 2014

6 MINUTE READ | INNOVATION BY DESIGN

# Design Thinking Shakes Up The Beige World Of Enterprise Software

KPCB | Ventured

## Design in Tech Report 2016

For all of us who use a computer or mobile device, great design is changing how we live and work. John Maeda's report helps explain why.



**PROFITS 1ST QTR RESULTS FOR 900 COMPANIES**
**BOOK EXCERPT THE NEW RATIONAL EXUBERANCE**
**INVESTING FINDING THE BEST ONLINE BROKERS**

# THE POWER OF DESIGN

A tiny firm called **IDEO** redefined good design by creating experiences, not just products. Now it's changing the way companies innovate.

BY BRUCE MCKINLEY

CEO: Tim Brown, cofounder, IDEO





## The Academic World

“..a methodology for innovation that combines creative and analytical approaches, and requires collaboration across disciplines. This process - which has been called design thinking - draws on methods from engineering and design, and combines them with ideas from the arts, tools from the social sciences, and insights from the business world.”

- D-School Stanford

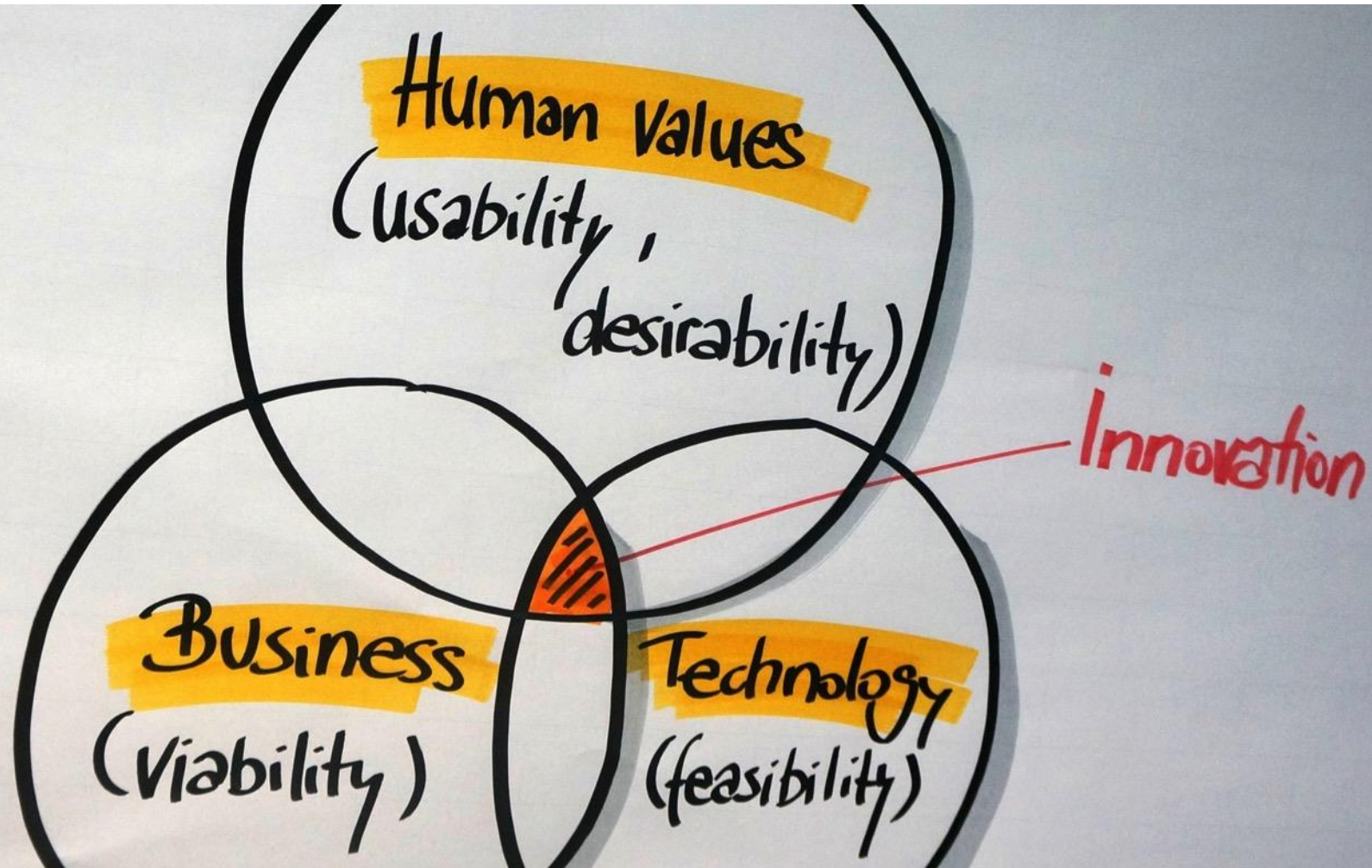


# The SAP World


“Approach and mindset centered on user needs to create delightful, useful and usable products or services and balance desirability , feasibility and viability”



# Design Thinking is Usability + Viability + Feasibility







## Core values of Design Thinking

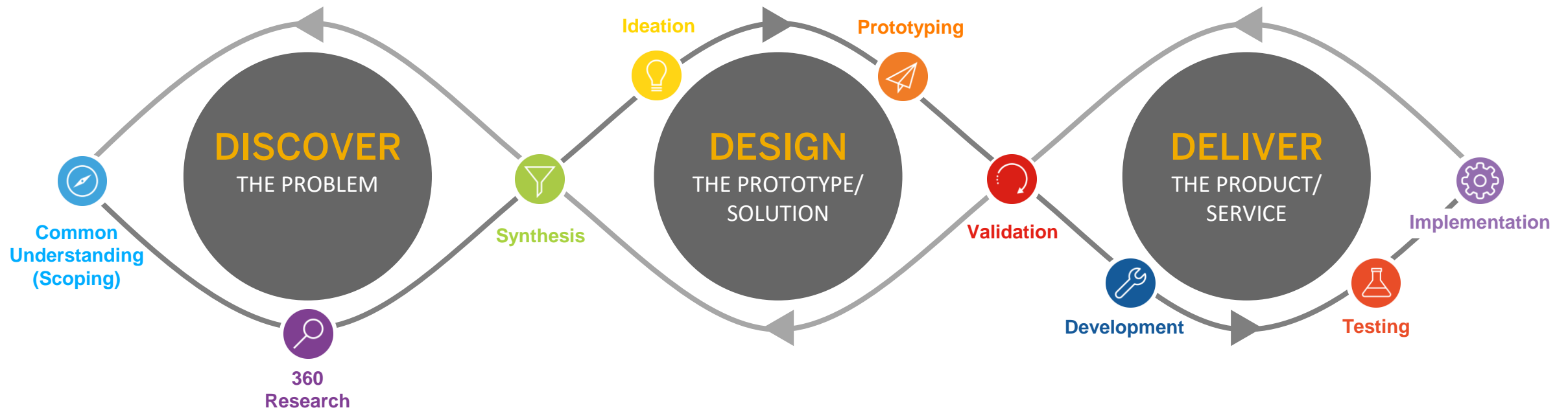
Start with the problem space

Use empathy for users and stakeholders

Utilize a flexible and creative workspace

Collaborate in multi-disciplinary teams

# Design Thinking Process





# Some tools we use

## Persona



**JANA JONES**  
EUROPEAN LEAD BUYER, RESPONSIBLE FOR PACKAGING, EURFOODS INC.

**MAIN GOALS**

- Achieve highest quality and on time delivery of goods and services at lowest risk and total cost
- Define and execute best possible strategy together with local strategic buyers for her purchasing category
- Ensure compliance with internal and external policies and sustainability guidelines

**NEEDS**

- Contract usage overview over time on: (a) Location, (b) factory, (c) material group, and (d) volume forecast
- Strategy and contract compliance overview
- Contract consumption & deadlines overview with corresponding alerts
- Overview on which suppliers are approved for each material/ factory
- Easy-to-use tool for dynamic forecasting (prices)
- Notification on newly added, or expiring materials
- Have up-to-date and high quality data
- Overview the history of specifications (negotiation points, specs. involved, changes) in case new ones are created
- Use specification attributes in the demand analysis and pricing (understand what to buy, what is critical)

**COMPETENCIES**

Casual User	Power User
Proactive	Reactive
Team Worker	Lone Fighter
Global Focus	Local Focus
Innovative	Conservative

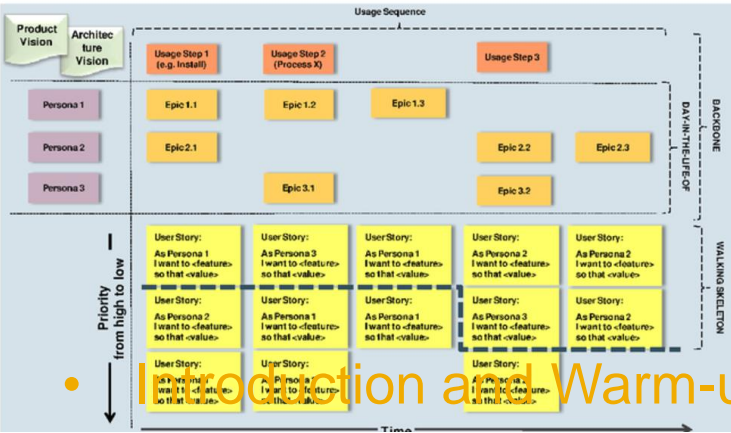
**JOB RESPONSIBILITIES**

- Support and implement, together with stakeholders, improvement programs & strategies to meet expectations and quality goals
- Understand and consolidate demand and requirements from local units to facilitate vendor selection and bidding process
- Collect data from internal/ external sources to develop a dynamic price forecast and report to be used by local units and finance
- Research and compare prices and conditions, and negotiate contract agreements with suppliers in alignment with local units
- Constantly manage suppliers portfolio with strong focus on performance, risk and sustainability, and jointly develop respective action plans

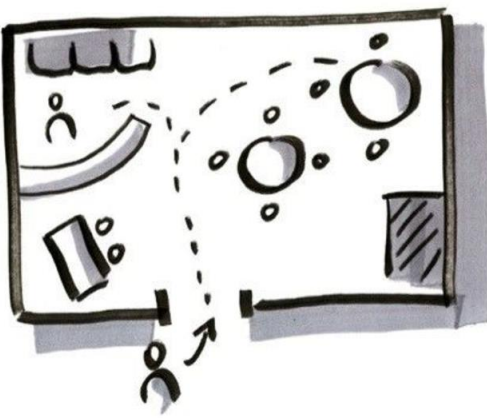
**PAINT POINTS**

- Data inconsistency
- No controllability on data quality
- Disparate systems, tools and master data. Too many xls files
- Interruptions: (a) Claims (time, quantity, quality), (b) delivery problems
- Category and supplier information is incomplete and scattered, no single source of truth available
- Suppliers sometimes do not understand the specifications
- Purchasers don't always use negotiated contracts / conditions to full extent

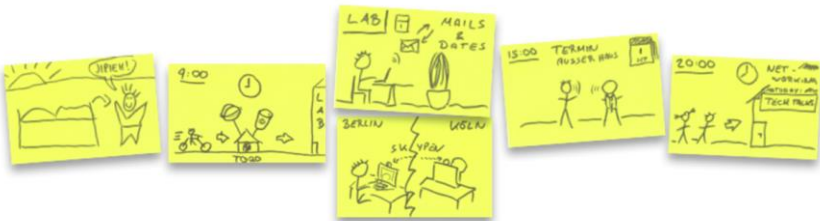
## User story map



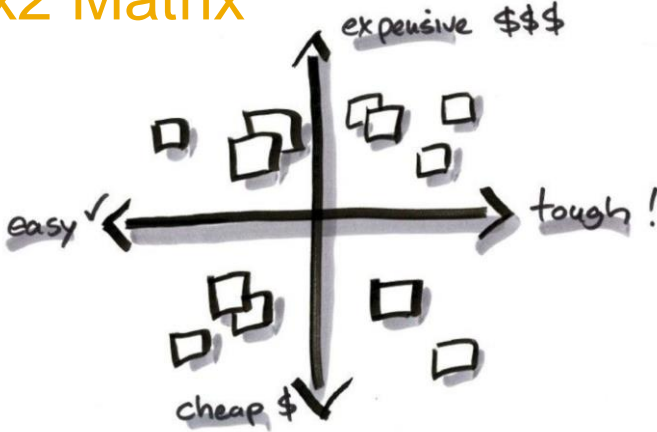
## Floor Plan



## Story Board



## 2x2 Matrix



## Customer Journey Map



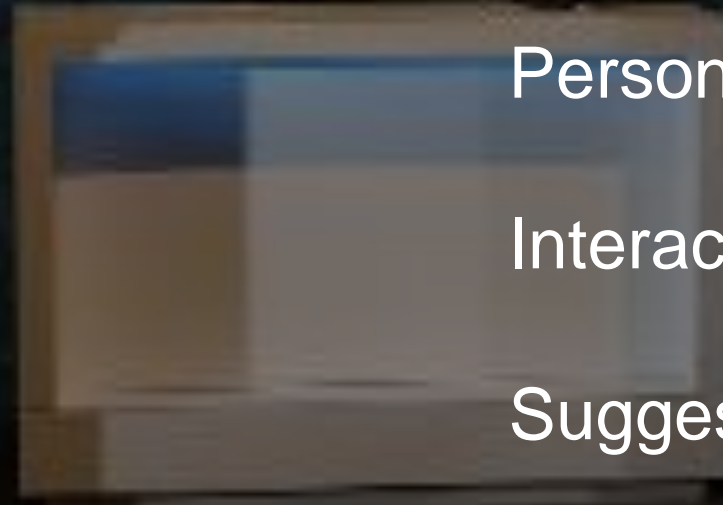
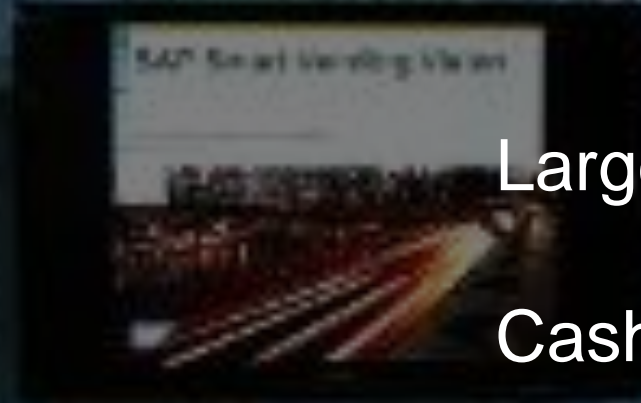
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# Project Example: Smart Vending Machine

## Some Features



Large display

Cashless pay

Personalization

Interacts with users

Suggests bundles

Real-time behavior capture

# Vending Use Cases



Bill Smith – “THE DISTRIBUTOR”



Sara Jones – “THE SALES MANAGER”



Jack Klein – “THE CONSUMER”



Tim Jones – “THE SERVICE OPERATOR”





## Bill Smith – “THE DISTRIBUTOR”

- Plan and manage inventory to avoid stock outs
- Optimize truck loading and reduce unnecessary product moves to avoid product damages

**Bill’s Goal: Wants to keep the kiosk replenished.**

1

Bill loads his truck based on an **auto-generated kiosk replenishment schedule** and loading plan.

2

Bill drives his route and **replenishes the kiosk**

3

While en route, Bill receives a **mobile alert** of a stock out at one of the kiosks along his route.

4

Bill uses extra inventory to **replenish the stock-out**



## Jack Klein – “THE CONSUMER”

### Psychographics/Needs

- Loyal to Brands
- Online shopper
- Explorer and willing to adopt new products

### Jack's Goal: Wants to make a quick purchase at the lowest price

1

Jack approaches a vending machine with the **desire to buy** a Coke

2

The vending machine remembers Jack, and **personalizes the system** with offers based on preferences

3

Jack selects his soda, and is informed about **discount options** and **bundles**

4

Jack explores bundles, and **considers new products** due to machine interaction

5

Jack pauses on a bundle, and receives a new **offer in real time**

6

Jack replaces his original order with the bundle, **increasing his basket size**

7

Jack pays using his **mobile wallet\***

8

The vending machine **processes his order** and sends a personalized Thank You to Jack



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# Possible take-aways and Inspiration

- Iterate the problem before searching solutions
- Work with multi-disciplinary teams
- Learn from failure and iterate
- Go out – be ready to get inspired
- Allow people to ask (stupid) questions
- Separate idea generation from idea evaluation
- Test assumptions



# Interaction 2: Reflect and Exchange

Is there anything, you could practice in your daily life?

- Talk to the person from the first interaction

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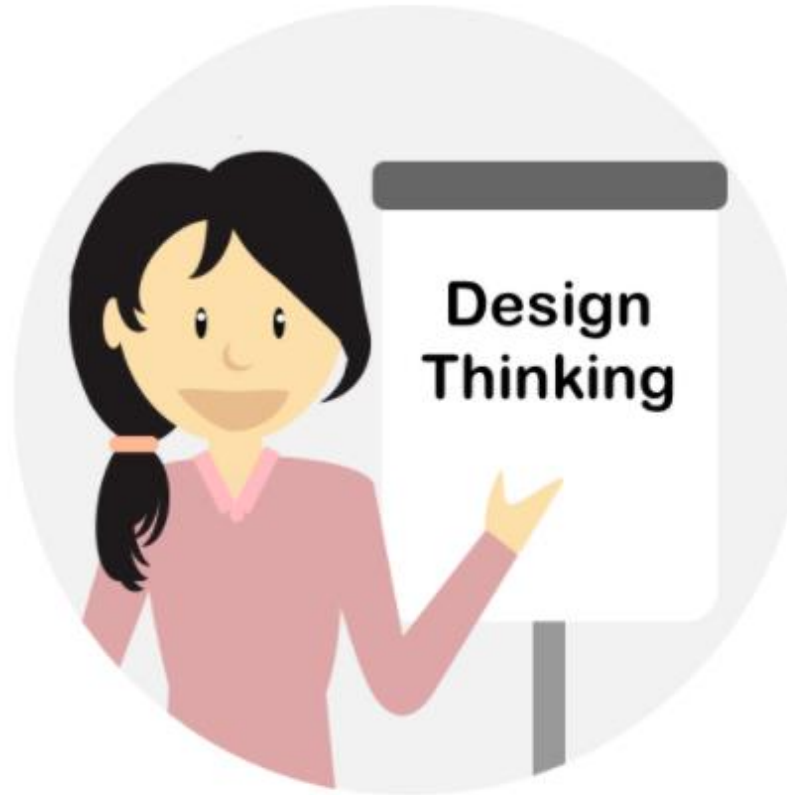


# Different target groups need different kind of education

**For Everyone**



**For DT Coaches**



**For Managers**



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# Developing Software Using Design Thinking (Edition Q4/2016)

Moritz Gekeler, Jochen Guertler and George Kembel

Kurs im Selbststudium



Lernmaterial



Diskussionen



Fortschritt



Lerngruppen



Kursdetails



Neigkeiten



SAP is embedding design thinking into its software innovation and development practice. You can benefit from SAP's experience in the application of design thinking by taking part in this course, *Developing Software Using Design Thinking*.



Dienstag, 18. Oktober 2016, 09:00 Uhr (UTC) bis Mittwoch, 14. Dezember 2016, 09:00 Uhr (UTC)



Kurssprache: English

Für den Kurs einschreiben



# Links

SAP User Experience Community / [experience.sap.com](https://experience.sap.com)

openSAP courses / [open.sap.com](https://open.sap.com)

openSAP Developing Software using Design Thinking

openSAP Design for Non-Designers

openSAP Designing Business Models for the Digital Economy

Teaching Cookbook (beta version) <http://54.153.57.8/#!/>

HPI School of Design Thinking - Hasso-Plattner-Institut / [hpi.de/school-of-design-thinking.html](https://hpi.de/school-of-design-thinking.html)

HPI School of Design Thinking - Hasso-Plattner-Institut / [Don't wait. Innovate - Hasso-Plattner-Institut](#)

d.School .Stanford.edu / [dschool.stanford.edu](https://dschool.stanford.edu)

d.School .Stanford.edu / [The Bootcamp Bootleg](#)



# Thank you!



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