

# ***Ontology-based Enterprise Modeling -- Practice Session: Introduction --***

*Prof. Knut Hinkelmann – <http://knut.hinkelmann.ch/lectures/nemo2019>*

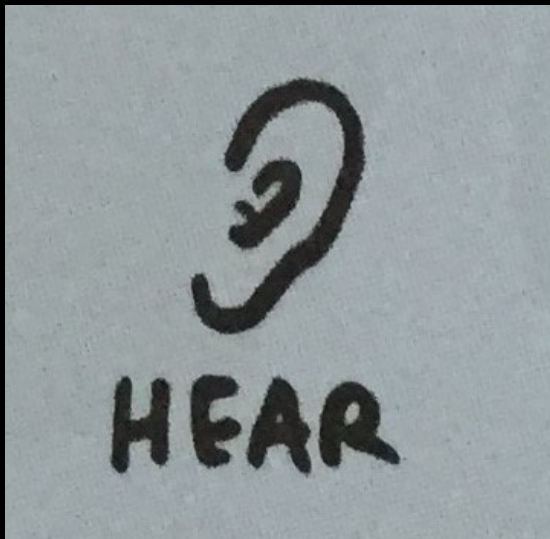
The background image shows the grand, classical facade of the University of Vienna, featuring a portico with tall columns and arched windows. Two blue banners with the university's name are visible on the left. A semi-transparent text box is overlaid on the center of the image.

## **NEXT GENERATION ENTERPRISE MODELLING IN THE DIGITAL TRANSFORMATION AGE**

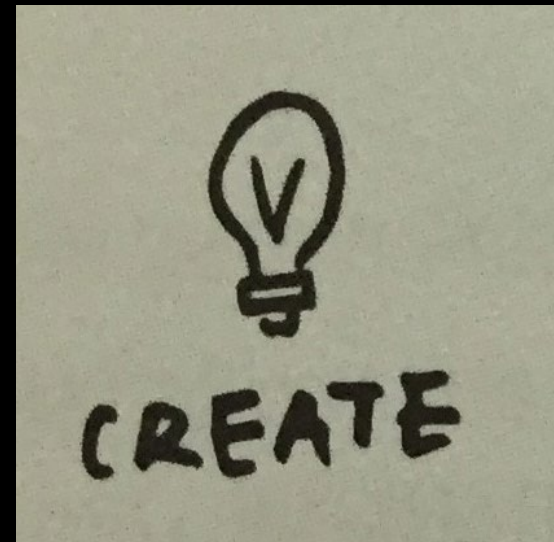
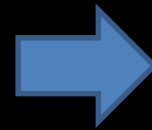
6th Edition in the NEMO Summer School Series July 15th - July 26th, 2019  
University of Vienna - Austria

# DESIGN

# Design

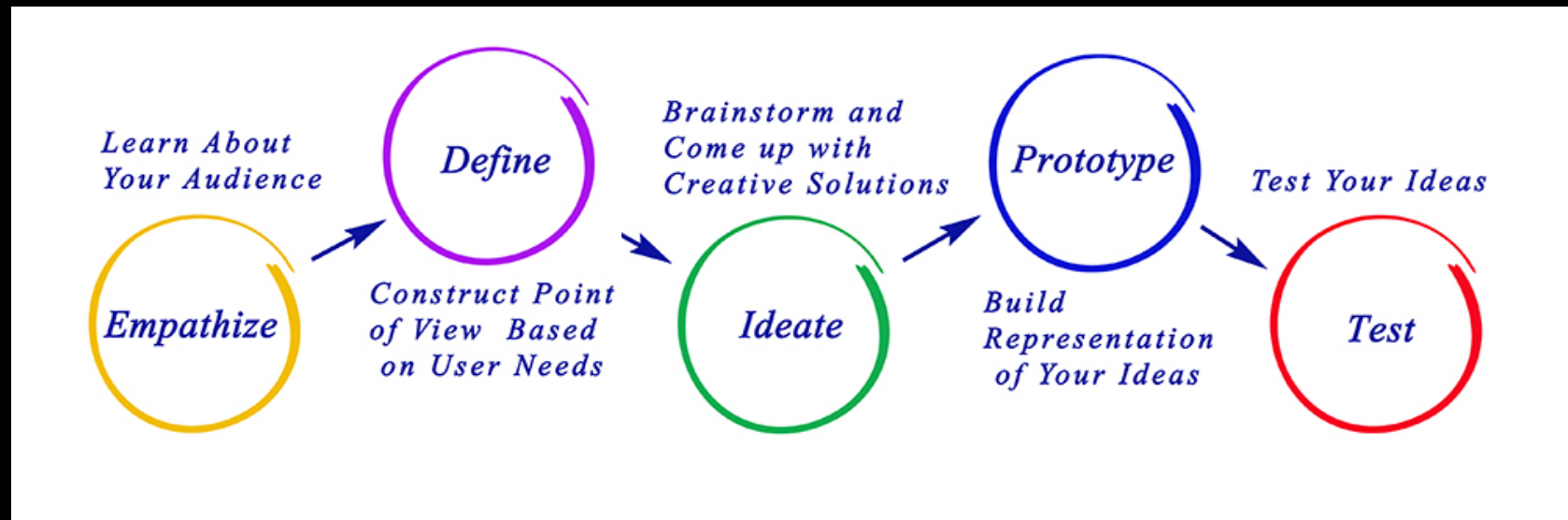


Deal with real  
user problem



Provide right  
solution for  
right people

# Design Thinking Process



Deal with real  
user problem

Provide right  
solution for  
right people



# 1. Empathize

- Thorough understanding of customer and user needs
- Seek to understand
  - ◆ **how** a customer acts
  - ◆ **how** a product or service is being used
  - ◆ **why** users act as they do.

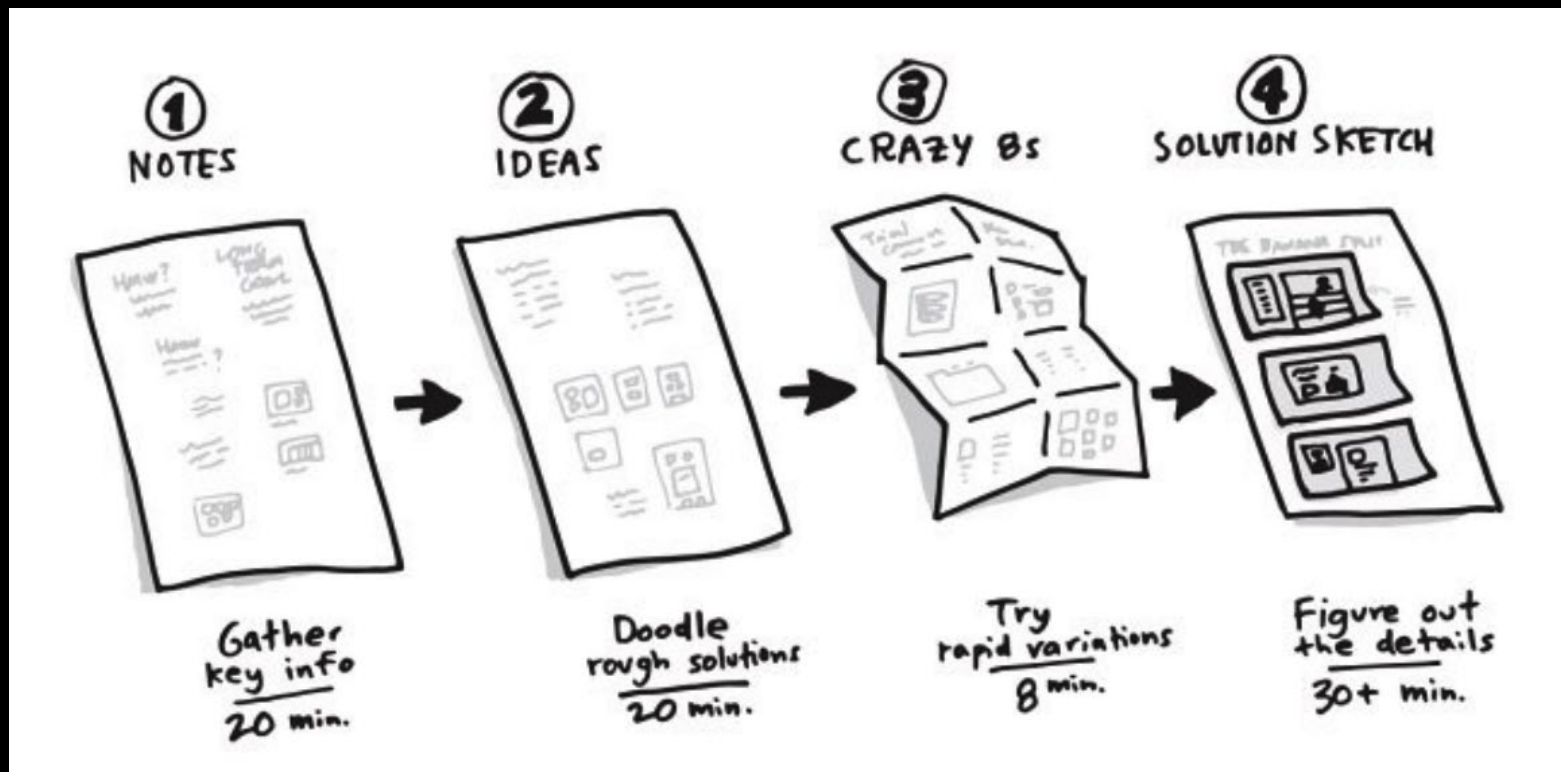
- **Direct: Look at customers' behaviour and problems**
  - ◆ **Observation**



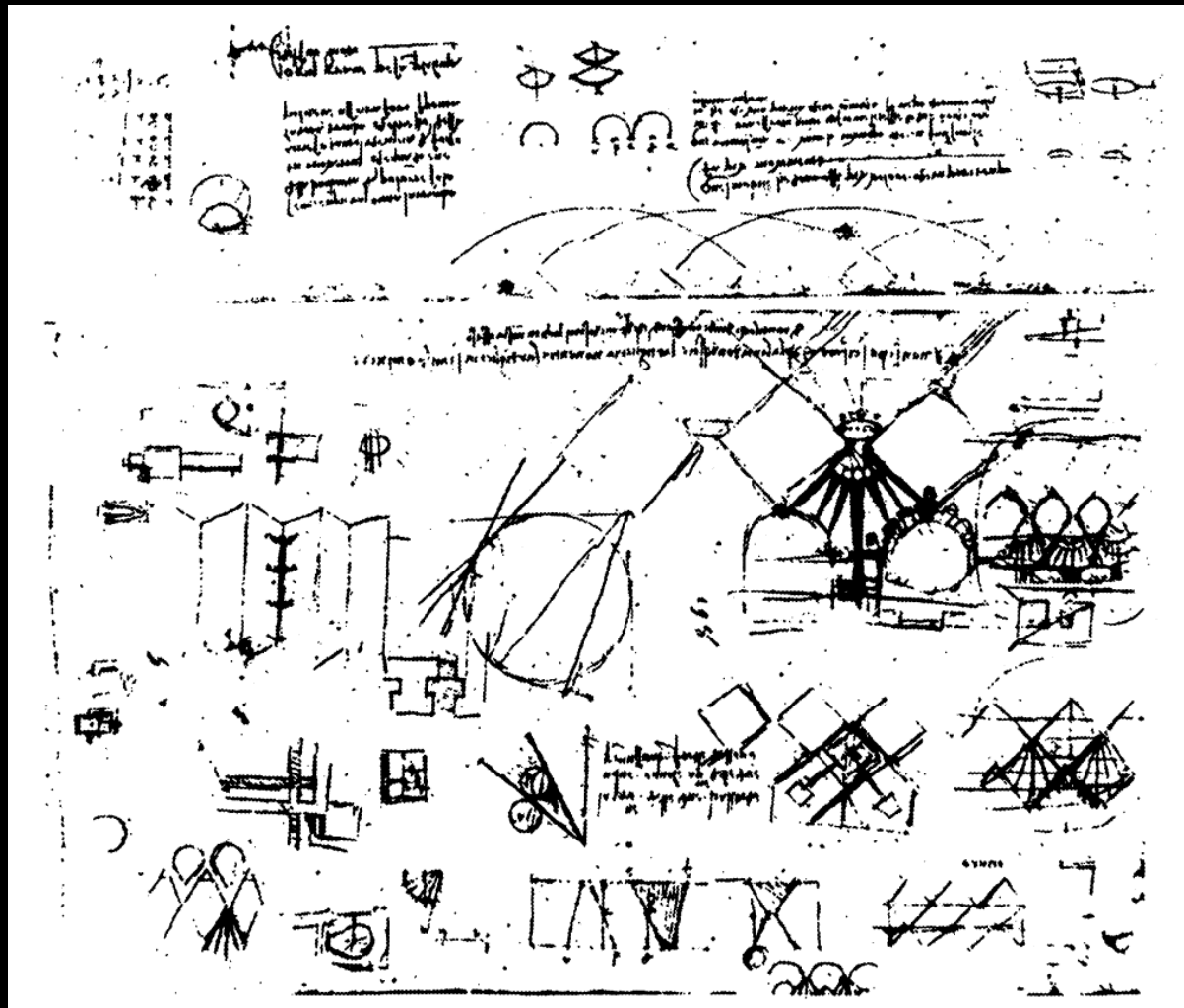
Beckman, S.L. & Barry, M., 2007. Innovation as a Learning Process: Embedding Design Thinking. *California Management Review*, 50(1), pp.25–56.

# Describing Observations and Ideas - Sketching

## Sketches in the Google Design Sprint



# Sketching



*Leonardo Da Vinci:  
design studies for  
fortifications*

# Modeling the Observations - SAP Scenes

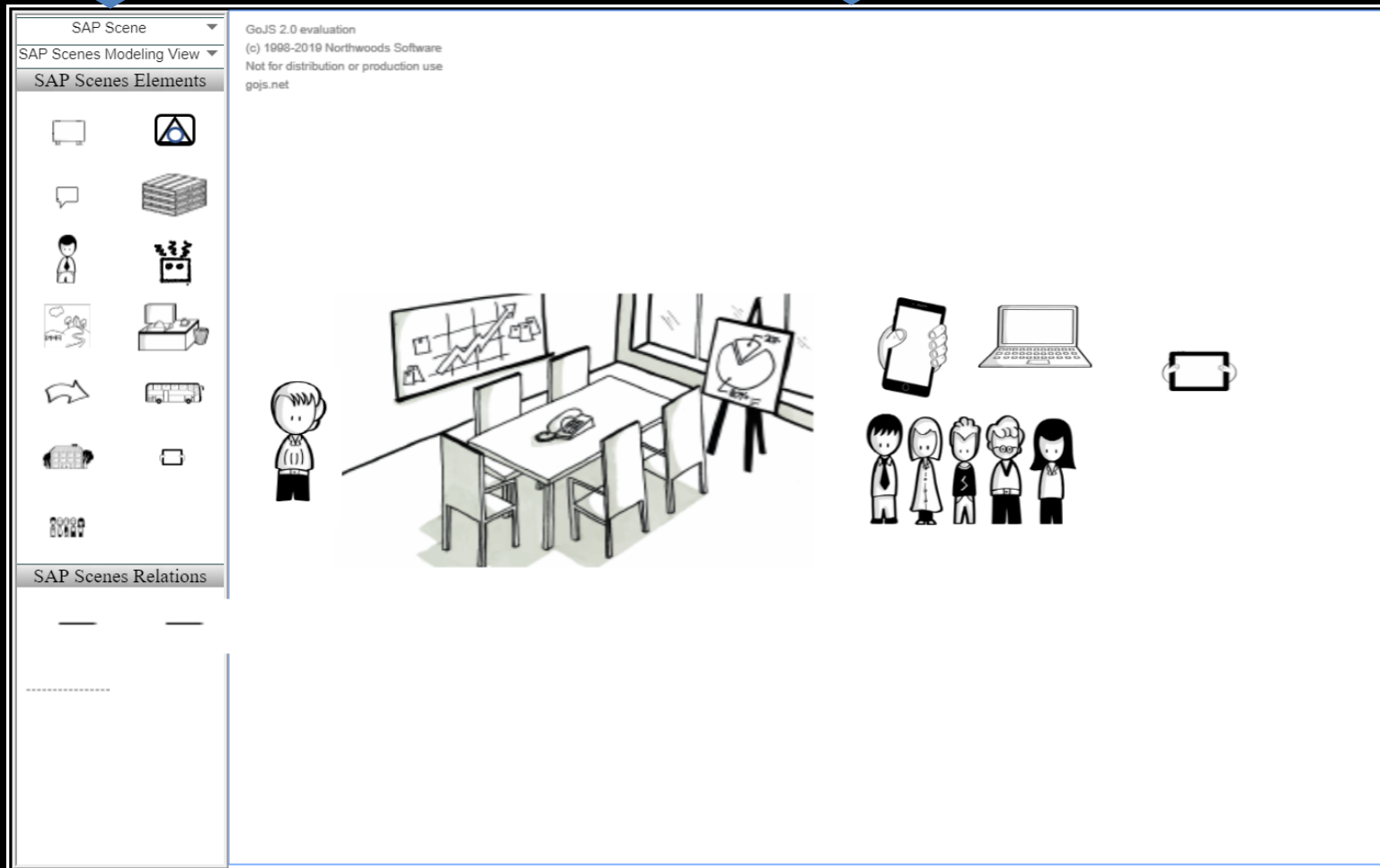




# AOAME4Scenes

Palette

Model Editor



# Exercise: Improve Payment



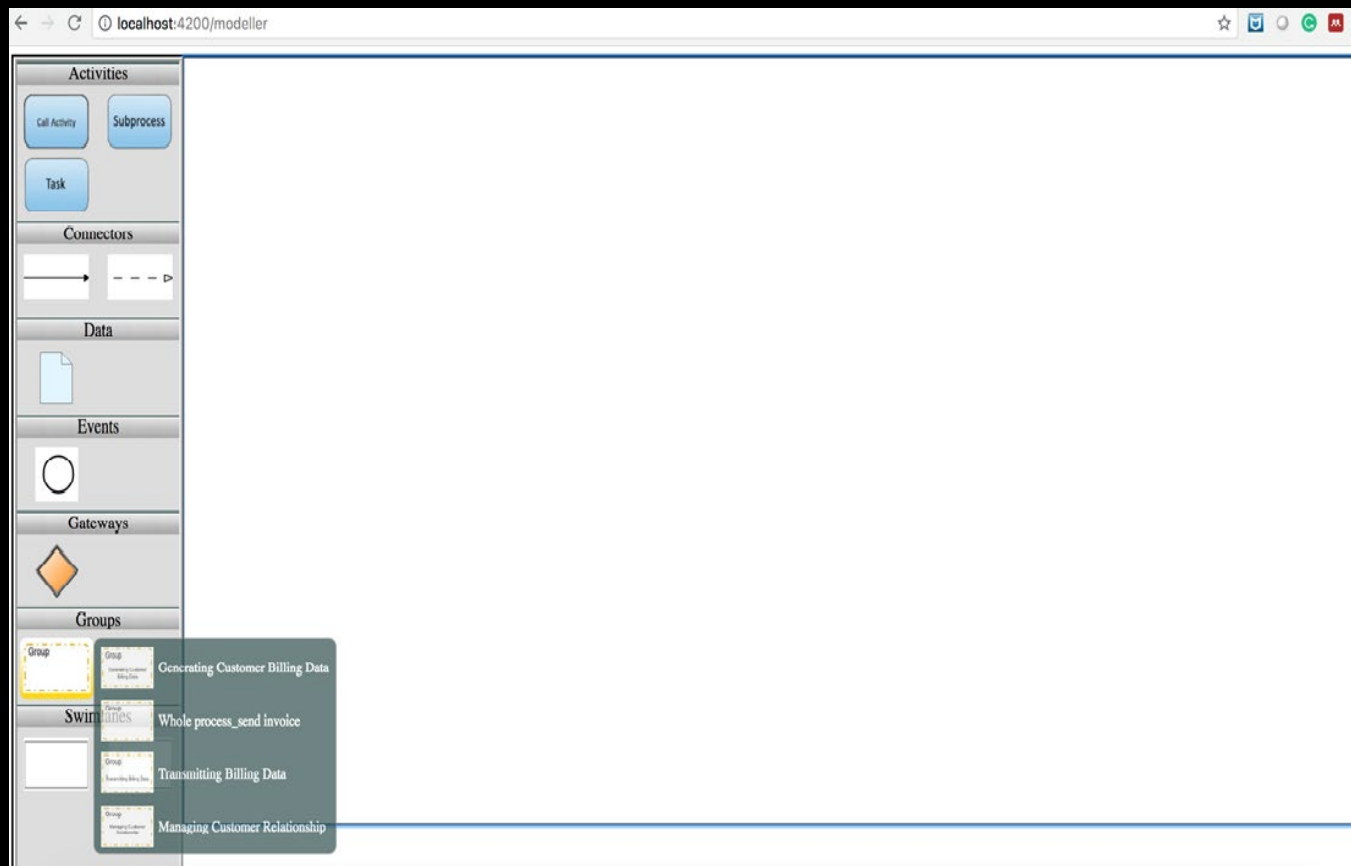
## *Exercise: Empathize (1)*

- Think of concrete payment situations
- Did you have to pay something today?
  - ◆ What did you buy/consume?
  - ◆ How did you pay?
- Let us model such a situation

# AOAME – Agile and Ontology-based Modeling Environment

<https://demo-angular-webapp.herokuapp.com/modeller>

<http://knut.hinkelmann.ch/lectures/nemo2019>



# AOAME4Scenes

Palette

Model Editor

The screenshot displays the AOAME4Scenes software interface. On the left is a 'Palette' containing 'SAP Scenes Elements' and 'SAP Scenes Relations'. The 'SAP Scenes Elements' section includes icons for a monitor, a 3D cube, a person, a server rack, a person at a computer, a printer, a person with a speech bubble, a bus, a person with a speech bubble, a person with a speech bubble, a person with a speech bubble, and a person with a speech bubble. The 'SAP Scenes Relations' section is currently empty. The main workspace, labeled 'Model Editor', shows a 3D scene with a person standing next to a table with chairs, a whiteboard with a graph, and a laptop. To the right of the 3D scene are icons for a smartphone, a laptop, and a tablet. The top of the interface shows 'SAP Scene' and 'SAP Scenes Modeling View'. Text in the top right corner reads: 'GoJS 2.0 evaluation (c) 1998-2019 Northwoods Software Not for distribution or production use gojs.net'.

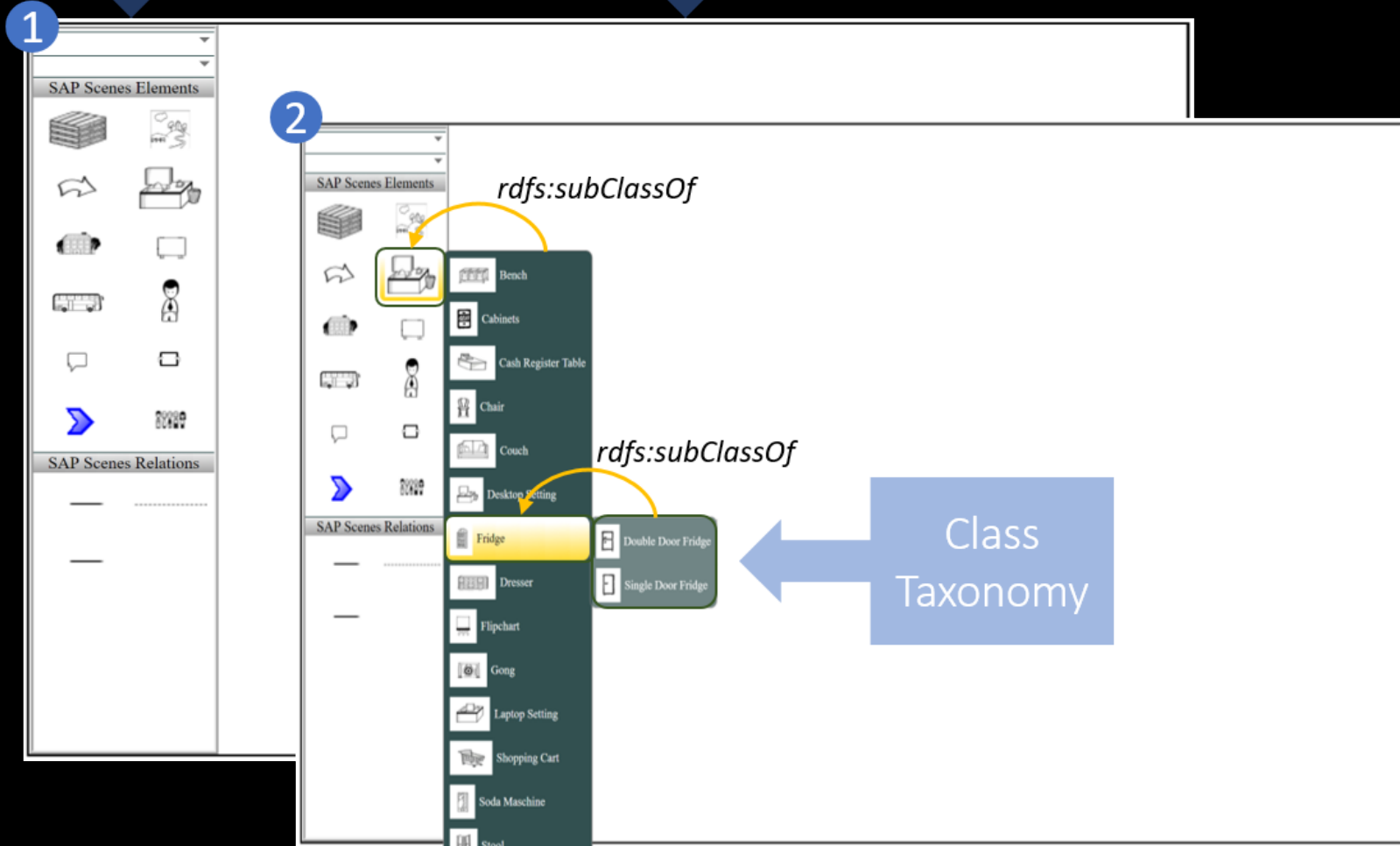
## *Need for Agile Extensions*

- Design Thinking / Sketching can be used for any application domain
- SAP Scenes has a huge number of elements, but ....
  - ... it is impossible to have a modeling language/tool that includes all relevant elements

# Extending AOAME4Scenes

Palette

Model Editor



# Thanks to ...



Emanuele Laurenzi



Charuta Pande



Maja Spahic



Devid Montecchiari



AAAI 2019 Spring Symposium on  
Combining Machine Learning with  
Knowledge Engineering

March 25–27, 2019 @ Stanford University, Palo Alto, California, USA

Follow-up planned in Spring 2020  
Watch: <https://www.aaai-make.info/>



# 1st MAKEathon@FHNW

2. - 3. NOV 2019

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