Lab 2: Domain Storytelling (DST)

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Context

Domain Storytelling (DST) is introduced in the book of that name (Hofer and Schwentner 2021) and the website supporting the book: https://domainstorytelling.org/. A tool called Egon is available: https://egon.io/. DST has roots in the Werkzeug-Automat-Material (WAM) approach from von Reinhard Budde und Heinz Züllighoven, GMD and Hamburg University.

> *Note:* This is an exception to the CoMo LL content principle of valuing “motivation and content over roots and history”. Werkzeug-Automat-Material (WAM) originally by Heinz Züllighofen (was taught by Peter Sommerlad, former head of IFS at HSR, in his APF module). The impact of WAM (or “Tool and Material Approach) on DDD and domain storytelling is acknowledged in an Appendix called”The History of Domain Storytelling” in (Hofer and Schwentner 2021).

Motivation

See Lab 1 for an introduction to the case and the current situation.

DST is a pragmatic, interactive format to learn more about the domain and the product requirements. This is a ChatGPT summary of DST:

> "The Quick-Start Guide to Domain Storytelling introduces a collaborative modeling technique that uses visual narratives to capture domain knowledge. It employs a pictographic language comprising icons for actors (individuals, groups, or systems), work objects (items or information being handled), and activities (actions performed), connected by arrows and sequenced numerically to depict processes. Annotations provide additional context, while grouping elements can represent repeated activities, optional steps, or organizational boundaries. The guide emphasizes constructing stories from the actor's perspective, focusing on real-world scenarios to foster shared understanding among stakeholders. This method facilitates the transition from domain knowledge to software requirements by making complex processes tangible and understandable."

Dear students, it is ok to use generative AI; we do too as you can see here. Make sure to adhere to the OST and "Studiengang" regulations ("Reglement") when you do, for instance when performing tasks and answering questions here in the CoMo LL. You are accountable for the content that you present! And you learn more when trying without AI first — how can the required content reviews be performed without the skills and know how you learn the hard way?

Learning Objectives

Having completed this lab, participants are able to:

- Explain the elements of the pictographic language for DST.
- Apply scenario-based story modeling.
- Customize the DST workshop format and language elements to fit into own toolbox and development culture.

Steps Overview

This lab has the following steps:

1. Warm up and quick start (DST website or lecture recap).
2. Identify actors and other key elements (data) in product vision (from Lab 1).

3. Tell/develop story: who does what in which order? “Activities”-
4. Refine story and switch over to event storming (covered by Lab 3).

As all CoMo LLs, this lab is designed to be self-contained. Let’s begin with the Starting Position.

Starting Position (Baseline, Initial Position; dt. “Ausgangslage”)

The sample solution to Step 1 in Lab 1 serves as our starting point. It delivered a product vision, formatted according to the seven-part Moore template:

> **For** computer gamers and independent game developers,
> **who** want to find each other (gamers, developers and their games), pay fair prices (gamers) and receive fair compensation (developers)
> **the** “Fair Game 3002” platform
> **is a** sharing portal/platform for digital products that specialize on computer games
> **that** is fair and transparent about payments as well as easy to join, to use and to leave.
> **Different from** the market leader and its runner-up,
> **our product** has dynamic pricing that leverages multiple sources; it is free of dark UI/design patterns that force players to stay online for irresponsibly long times or to spend more money than budgeted to be competitive.

Note: You do not need a product vision to get going with Domain Storytelling. At a minimum, the following input and resources have to be available:

- Information about the prospective users of the system under construction.
- Information on what these users intend to do (concerns, features).
- Information about the resources the users need to be able to do what they want to do (data).

Step 0: Warm Up and Quick Start

Task: Read through the “Quick-Start Guide” on the Domain Storytelling website to recapitulate or learn about the domain storytelling concepts and their motivation.

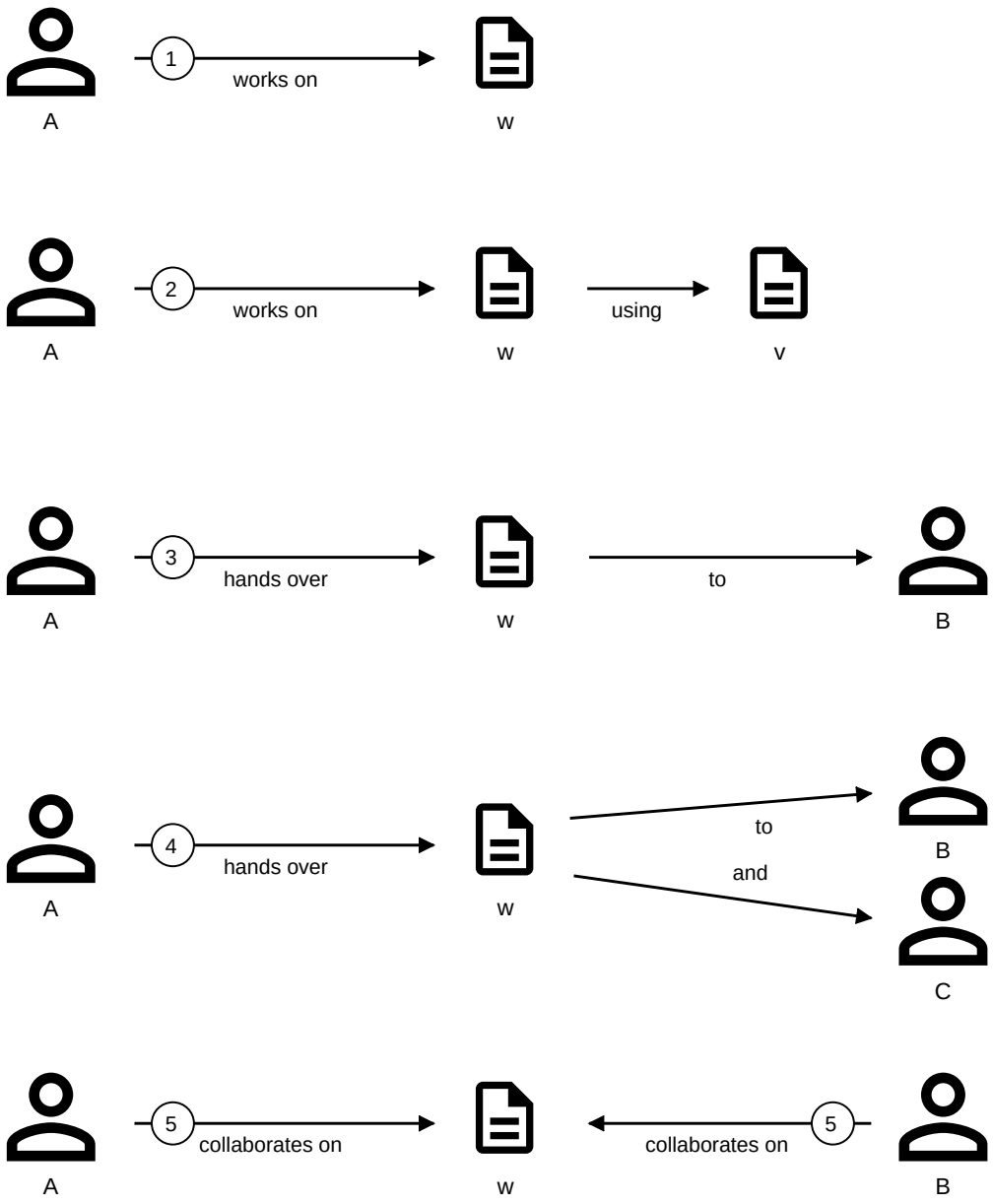

Figure 1: Concepts in DST and their relations (source: DST website, CC-BY-SA-4.0 license)

Hints: Take a look at the resources and FAQs at the end of this lab instruction document. When running an exercise group, ask the questions that the DST website suggests:

- "What happens next?"
- "Where do you get this information?"
- "How do you determine what to do next?"
- "How do you do that?"

Questions: Take some time to reflect this initial orientation step:

- When and why is Domain Storytelling (DST) eligible?
- What makes a DST workshop successful?
- What happens to its output?

Step 1: Identify actors and other key elements in product vision (25 mins)

Task: Revisit the "for" and "who" parts of the product vision from Lab 1, repeated in the Starting Position section further up. Who will work with the software realization of the story epic that shines through? What do these people need to get their job done (or responsibility fulfilled, e.g. shopping)?

Hints: Feel free to work in teams. Do not hesitate to ask questions (assuming a supervised group exercise setup). Make assumptions about requirements and constraints in the case if case you are missing information; the provided product vision is terse by intent (in practice, you might encounter even fuzzier ones). Make these assumptions explicit so that they can be challenged and/or confirmed later on.

Questions:

- Which actors did you find?
- Which work objects are required?
- Which activities are performed? Does an order shine through?

Step 2: Tell/develop domain story (45 mins)

Task: Turn the output from Step 1 into a full-fledged domain story that uses the pictographic language of DST with correct syntax and semantics.

Hint: This can be done on paper (or virtual paper), copy-pasting element from the pictographic language. You may also try out the Egon tool to perform this task: https://egon.io/.

Hint: The section "Good Language Style" in Chapter 2 of the "Domain Storytelling" book (Hofer and Schwentner 2021) gives the following tips:

- "Give Every Sentence Its Own Work Objects",
- "Make Work Object Explicit", "Provide a Label for Every Building Block",
- "Use Different Icons for Actors and Work Objects",
- "Avoid Loopbacks",
- "Avoid the 'Request and Response' Pattern".

Hint: Chapter 3 in "Domain Storytelling", called "Scenario-Based Modeling", recommends to:

- "start with modeling the default case — the 80% case — and the happy path first",
- "establish a sound understanding of typical cases — tell stories. Only then discuss 'what' else could happen — collect rules",
- "aim for a representative sample not for completeness!".

Questions:

- Which level of detail do/did you find appropriate? Was it hard to stop?
- How did you deal with uncertainty?
- Did you see the need to involve stakeholders of different kinds?

Step 3: Refine story and switch over to event storming (20 mins)

Tasks: Take a step back now and reflect on the lab tasks and their context:

- Review your output of Step 1 and improve it based on feedback and your own impressions. Revisit the product vision from Lab 1 to ensure it is captured properly; you might want to update the vision with what you learned during the domain storytelling.
- Prepare for the next step: identify events and review the activity order in the domain story.

Hints: You can also skip the EventStorming entirely. Chapter 11 "Working with Requirements" in the Domain Storytelling book has a section on "Writing Down Requirements as User Stories".

Questions:

1. Are you able to derive user stories or use cases (brief) from the domain story?
2. Next up is event storming, featured in Lab 3. How do Domain Storytelling and EventStorming compare?

Tools

Domain storytelling is a rather light practice; the symbols of its pictographic language may deserve some tool support.

- "Often a whiteboard and some sticky notes are all you need." according to the Quick-Start Guide. A whiteboard kit is available for download.
- Egon, available as an online tool at https://egon.io/ and downloadable for local installation at https://github.com/WPS/egon.io. See WPS news post "Domain Story Modeler" (in German).
- A Miro template is available too.

Stefan Hofer, one of the authors of the Domain Storytelling book, provides a tool comparison in "What's the Best Tool?".

Summary and Reflection

This lab featured Domain Storytelling, a pragmatic and light business modeling and requirements engineering technique (or practice) with roots in older methods.

Concepts Revisited

Figure 2 shows how ChatGPT summarized the DST concepts.

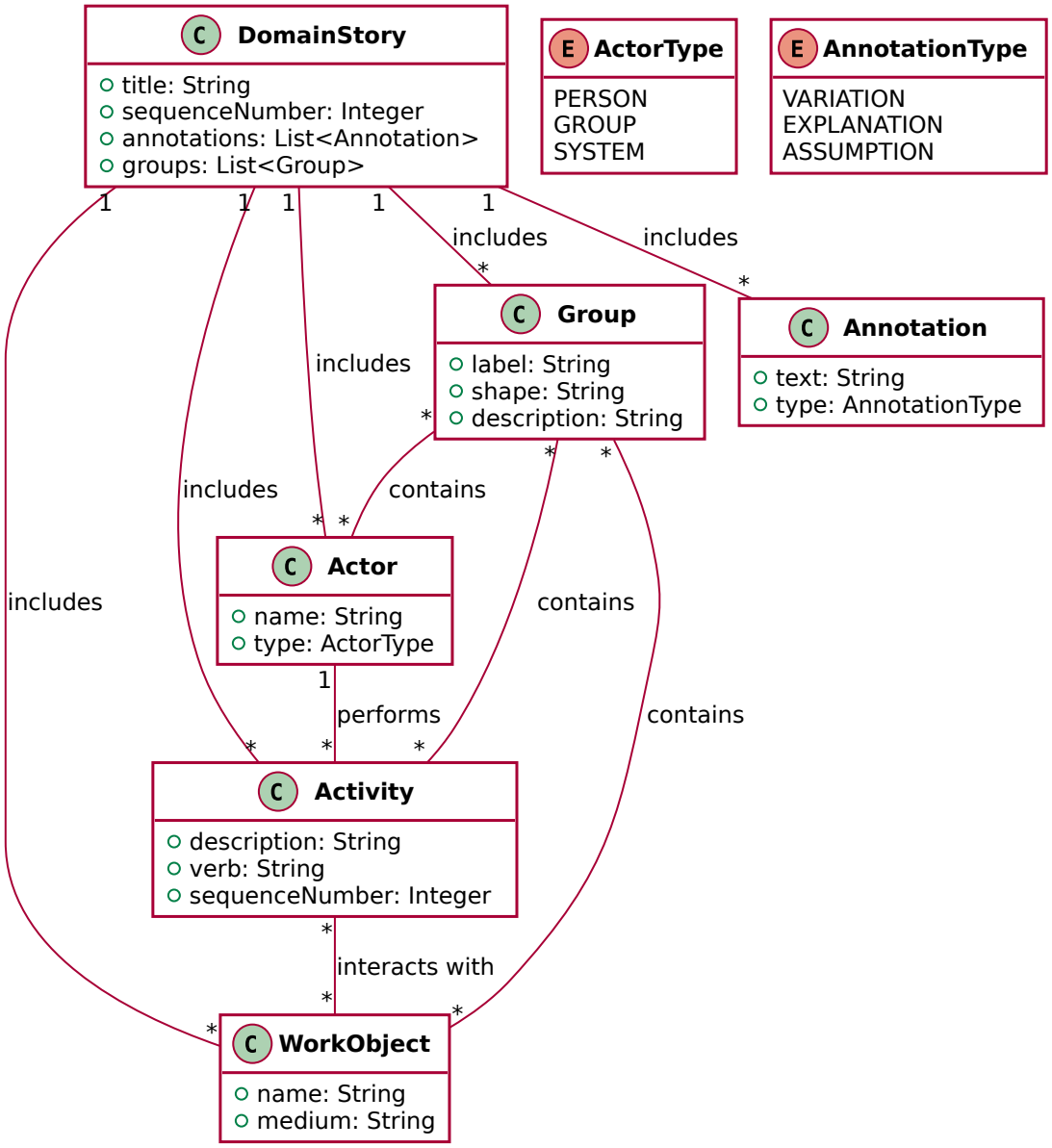

Figure 2: DST concepts.

Reflection and Call to Action

Please review and recapitulate what you take away from this lab. Where and when can you apply the taught concepts?

Repetition Questions

1. What are the elements of the pictographic language of Domain Storytelling (DST), both primary and secondary ones?
2. When and why does it make sense to invest in telling domain stories?
3. Can an actor touch multiple work objects in *one* activity?

More Information

"Building Better Software: The Role of Domain Storytelling in DDD" is popular story on Medium. Please refer to the list of resources (of various kinds) on domainstorytelling.org for more pointers.

Frequently Asked Questions (FAQ)

- *What is Collaborative Modeling (CoMo) and how does Domain Storytelling fit in?*
  Answer: See text and figure in https://www.wps.de/en/news/collaborative-modelling and https://comocamp.org/#como: "The essence of Collaborative Modeling lies in cooperation and knowledge sharing. All participants bring in their different perspectives, expertise, and experiences. This leads to a shared understanding of the problem, which helps to develop a shared software-related solution. The goal is to achieve better and more innovative solutions through collaboration." DST is one of the CoMo practices (or "methods and mashups").
- *What is the CoMo Camp?*
  Answer: A conference, or un-conference, on CoMo practices: "ComoCamp is the annual gathering of modeling practitioners and visionaries. We teach the status quo, and we explore the next innovations. Our mission is to provide a home for the global Collaborative Modelling community."
- *How to model loops?*
  Answer: See "How to Model Repeating Activities: 3 ways to model loops in domain stories".
- *How does Domain Storytelling relate to other modeling methods?*
  Answer: Chapter 7 of "Domain Storytelling" has an elaborate and profound comparison to eight other techniques/practices and notations, including UML and BPMN.

References

Hofer, Stefan., and Henning Schwentner. 2021. *Domain Storytelling: A Collaborative, Visual, and Agile Way to Build Domain-Driven Software*. Addison-Wesley Signature Series (Vernon). Pearson Education. https://books.google.ch/books?id=vNnPEAAAQBAJ.