

Carnegie Mellon University

67262 Database Design and Development

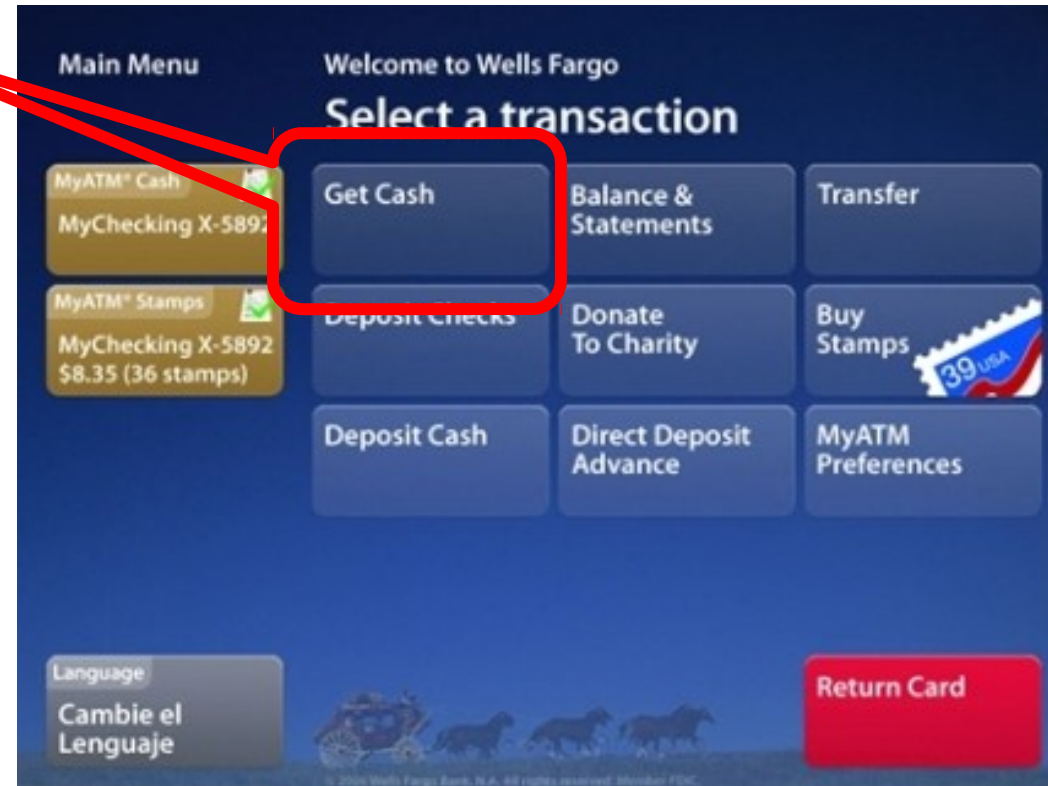
Assessing User Stories

INVEST

The “Button View” of Use Stories

Sample
User Story

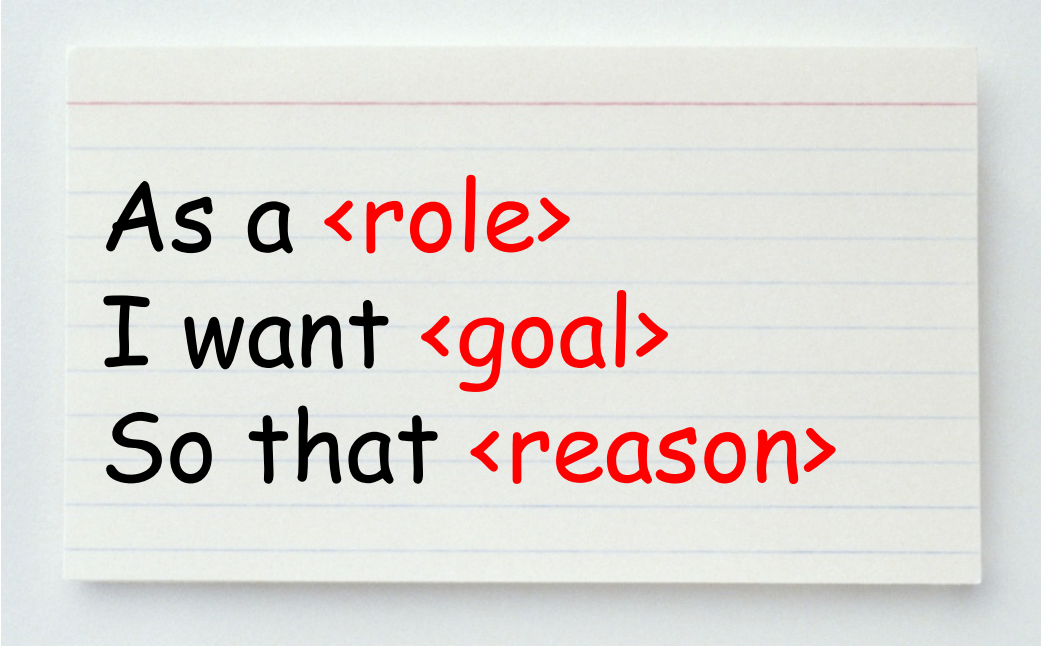
A desired
functionality to
achieve the user's
goal



Interface of a next generation ATM

- As a < type of user >
- I want < goal >
- So that < business value >

Anatomy of a User Story



As a <role>
I want <goal>
So that <reason>

Card

- Stories are traditionally written on note cards
- Cards may be annotated with estimates notes, etc.

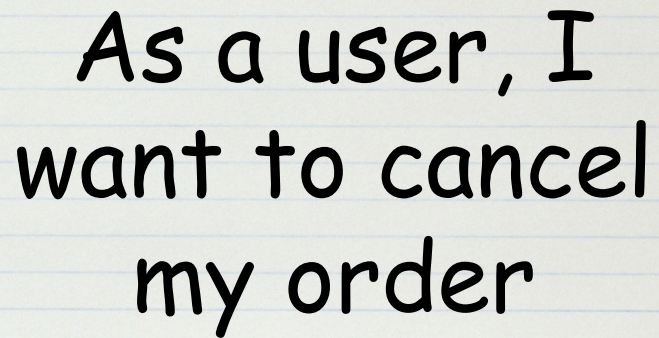
Conversation

- Details behind the story come out during conversations with the product owner

Confirmation

- Acceptance tests confirm whether the story was coded correctly

Details are obtained via a conversation with the customer



As a user, I
want to cancel
my order

- Does the user get a full or partial refund?
 - Is the refund to user's credit card or is it site credit?
- How far ahead must the order be cancelled?
 - Is that the same for all orders?
 - For all customers? Different requirements by market?
- Is a confirmation provided to the user?
 - On-screen? Email? Letter?

The Details become *Acceptance Tests*

As a user, I
want to cancel
my order

- ☐ Verify that a VIP member can cancel the same day without a fee
- ☐ Verify that a non-VIP member is charged 10% for a same-day cancellation
- ☐ Verify that any refunds are in site credits only
- ☐ Verify that an email confirmation is sent
- ☐ Verify that the factory is notified of any cancellation

Construction Junction User Stories



- We'd like customers to be able to view and search our inventory online.
- Online users should be able to 'drill down' to a particular category using the hierarchical categorization, as well as search by keyword, price, featured item/staff selection, date listed/length of time on website, and/or discount level.
- Not all items will be available for purchase online but online users should still be able to search and see them online.
- Additional features such as 'forward to a friend' and/or post on Facebook would help promote sales.
- We would also like online users to be able to add specific categories to a wish list and receive notifications whenever those types of items are received at Construction Junction.
- We'd like online purchases to be held in a queue so that CJ staff can confirm that the item is available before the customer credit card gets debited.
- Items purchased online need to be removed from Erply and vice versa – bidirectional decrementing.
- We'd like a place to sell CJ gift cards on the site and have that options to always be present no matter what item folks are looking at.
- We'd like to be able to have multiple images per item, show the original price as well as the current discounted price (if applicable), data added to the site, currently available discount, stocking location, categorization, item name, item description, and if featured and/or staff pick.
- If possible we might even like to attach audio and/or video to an item.
- We'd like online users to be able to submit questions about an item.

spreadsheet

How can these be improved?

User Stories:

1. As a GrubHub customer I want to order food that is available within 60 minutes so that I will save time. (analytical)
2. As a GrubHub customer I want to order and pay online so that I will save time. (complex)
3. As a restaurant I want to be able to reach out and track loyal customers and provide targeted offers and reward points so that I can build a loyal customer base. (complex)
4. As a restaurant I want to serve more customers by using online orders so that I don't rely on how many tables are open. (analytical)
5. As a restaurant I want to have a good rating so that customers will order my food. (analytical)
5. As a GrubHub driver I want to work flexible hours so that I can work when I want and deliver when I want. (analytical)
6. As a GrubHub driver I want to work as an independent contractor so that I can earn competitive pay and keep the tips that I make. (complex)
7. As a GrubHub customer I want to be able to see the reviews of restaurants so that I can try new restaurants and be able to write reviews to provide feedback to restaurants as well. (analytical)
8. As a GrubHub customer I want to avoid paying extra fees of using the GrubHub service so that I have incentive to use their service. (analytical)
9. As a GrubHub customer I want to be able to track my food delivery process so that I know when it will be delivered and can save time. (analytical)
10. As GrubHub I want to service numerous restaurants and drivers so that I can make a profit. (analytical).

Writing good stories: INVEST

I ndependent

N egotiable

V aluable

E stimable

S mall / appropriately sized

T estable

Exercise

- Assessing user stories using INVEST
- See handout

Which of the following are good user stories?

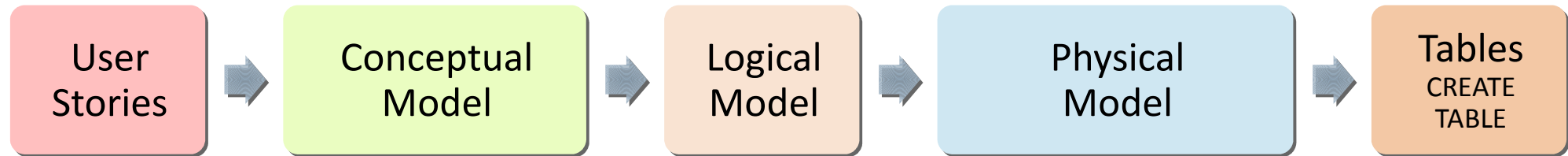
- a. I want to run the system on Windows 10 and Linux.
- b. I want all graphing and charting to be done using a third-party library.
- c. I want to be able to undo up to fifty commands.
- d. I want the software to be delivered by June 30.
- e. The software will be written in Java
- f. I want to select a country from a drop-down list.
- g. The system will use Log4J to log all error messages to a file.
- h. The user will be prompted to save her work if she hasn't saved it for 15 minutes.
- i. The user can select an "Export to XML" feature.
- j. The user can export data to XML.

- a. I want to run the system on Windows 10 and Linux.
~~More of a high level architectural specification. But still something the users wants when interacting with the system.~~
- b. I want all graphing and charting to be done using a third-party library.
Not good. A user story should focus on 'what' and not 'how'. Requiring graphing and charting is fine. Requiring it be a third party library is part of the 'how'.
- c. I want to be able to undo up to fifty commands.
Good. Achieves a goal for the user.
- d. I want the software to be delivered by June 30.
Not good. Has nothing to do with the functionality of the system.
- e. The software will be written in Java
Not good. Should the user care if the software is in Java?
- f. I want to select a country from a drop-down list.
Most likely Not good. Sounds more like a step (part of) a user story
- g. The system will use Log4J to log all error messages to a file.
Not good. First a particular technology is specified. But more significantly, why does the user need to log error messages?
If there is a genuine reason, it needs to be captured as part of the user story "... So that ..."
- h. The user will be prompted to save her work if she hasn't saved it for 15 minutes.
Good. Better recast as "I want the system to automatically save my work every 15 minutes"
- i. The user can select an "Export to XML" feature.
Perhaps. But could be worded better as below. As given, sounds like a step of a user story.
- j. The user can export data to XML.
Good. Achieves a well defined goal. But again will be good to clarify why an XML export is needed.

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Conceptual Models



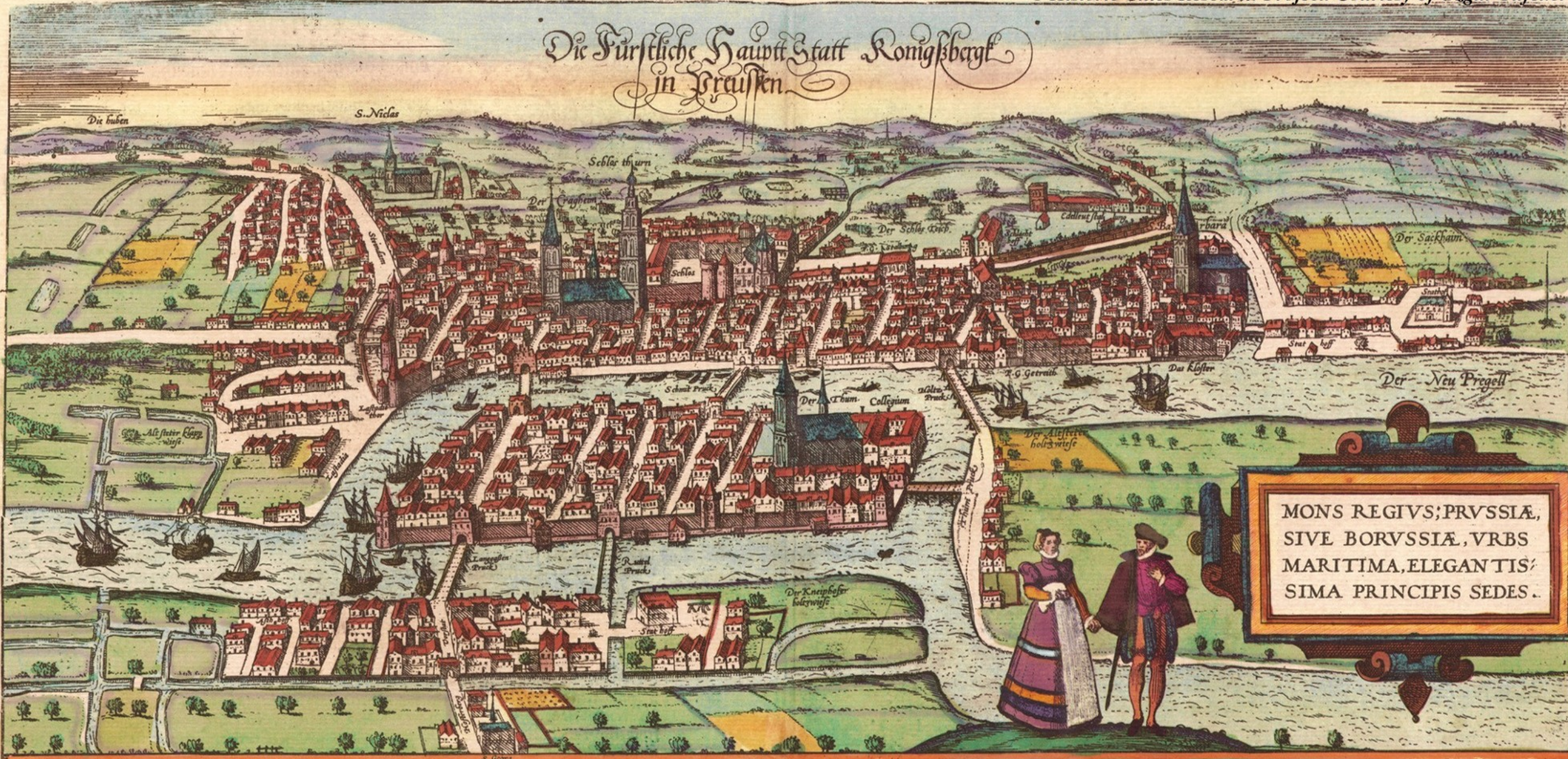
*You can use an eraser on the drafting table or
a sledge hammer on the construction site.
... Frank Lloyd Wright*

Today's Learning Objectives

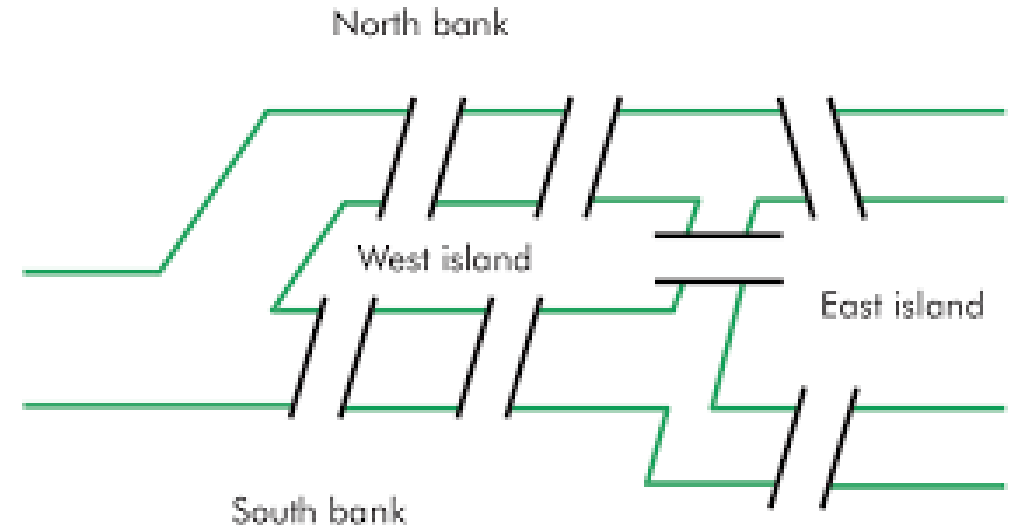
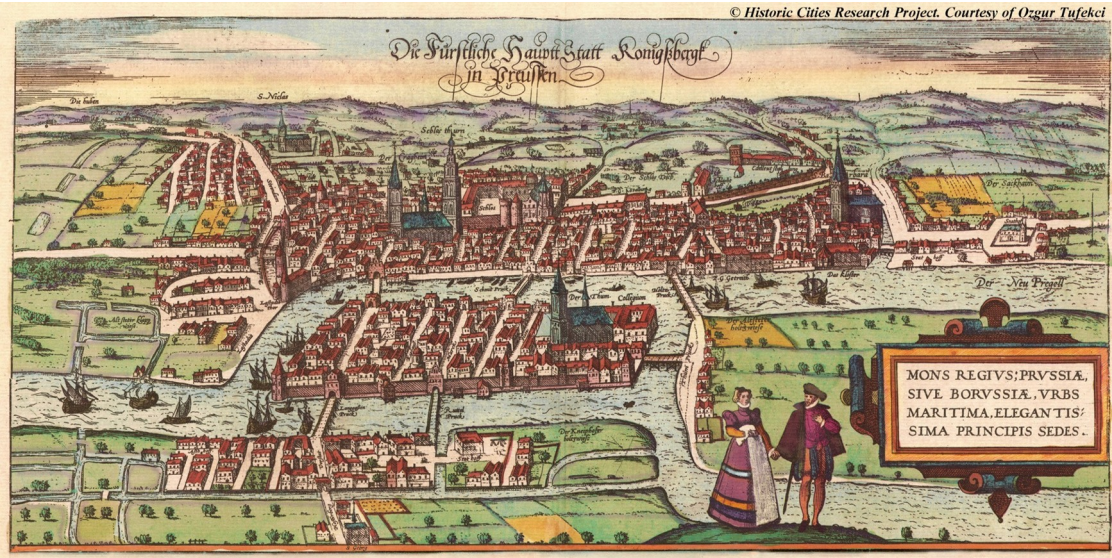
- Conceptual Models (aka Domain model aka Entity-Relationship Model)
 - Domain concepts
 - Attributes
 - Associations
 - Multiplicities

Why model?

© Historic Cities Research Project. Courtesy of Ozgur Tufekci

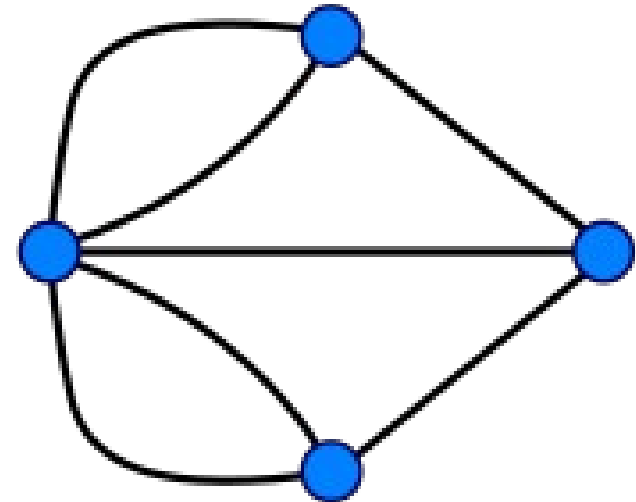


The Seven Bridges of Königsberg: Different Models ...



A necessary condition to walk across all seven bridges without crossing a bridge more than once is that the graph be connected and have exactly zero or two nodes of odd degree.

... Leonhard Euler (1741)



Summary of User Stories

As a <role>
I want <goal>
So that <reason>

As a user, I
want to cancel
my order

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- ☐ Verify that the factory is notified of any cancellation

Exercise

Thought Works specializes in IT training. The Company has 30 instructors and can handle up to 100 trainees per training session. The Company offers five advanced technology courses, each of which is taught by a teaching team of two or more instructors. Each instructor is assigned to a maximum of two teaching teams or may be assigned to do research. Each trainee undertakes one advanced technology course per training session

Step 1: Identify User Stories

	As a <role>	I want <goal>	So that <reason>
1			
2			
3			
4			
5			

Goal: <verb> <object>

Identify 5 user stories: Operational (Line of Business)

	As a <role>	I want <goal>	So that <reason>
1	Manager	Assign instructor to Teaching team	
2	Manager	Create training session	
3	Advisor	Enroll trainee in training session	
4	Manager	Assign teaching team to course	
5	Manger	Assign instructor to teaching team	

C reate
R ead
U pdate
D elete

Goal: <verb> <object>

What are the ambiguities in these user-stories?

Potential Ambiguities

	As a <role>	I want <goal>	So that <reason>
1	Manager	Assign instructor to teaching team	
2	Manager	Create training session	
3	Advisor	Enroll trainee in training session	
4	Manager	Assign teaching team to course	
5	Manger	Assign instructor to research	

To how many teaching teams can an instructor be assigned?
How many courses are offered in a training session?
Can a trainee retake a course?

Identify 5 user stories: Analytical

	As a <role>	I want <goal>	So that <reason>
1			
2			
3			
4			
5			

Goal: <verb> <object>

Identify 5 user stories: **Analytical**

	As a <role>	I want <goal>	So that <reason>
1		What are the most popular courses?	
2		How many trainees have we had in a given period?	
3		How often does an instructor teach vs. research?	
4		Has any instructor not been involved in research at all?	
5		How often has each instructor taught each course?	

Goal: <verb> <object>

CONCEPTUAL MODELS

Exercise 1: What are the domain / conceptual entities?

Thought Works specializes in IT training. The Company has 30 instructors and can handle up to 100 trainees per training session. The Company offers five advanced technology courses, each of which is taught by a teaching team of two or more instructors. Each instructor is assigned to a maximum of two teaching teams or may be assigned to do research. Each trainee undertakes one advanced technology course per training session

1. Domain concepts
 - Attributes
2. Associations
 - Multiplicities

Domain Entities

Thought Works specializes in IT training. The Company has 30 **instructors** and can handle up to 100 **trainees** per **training session**. The Company offers five advanced technology **courses**, each of which is taught by a **teaching team** of two or more instructors. Each instructor is assigned to a maximum of two teaching teams or may be assigned to do **research**. Each trainee undertakes one advanced technology course per training session

Sample Conceptual Modal (sans attributes)

