CS5127/6027: Requirements Engineering

(Fall 2024)

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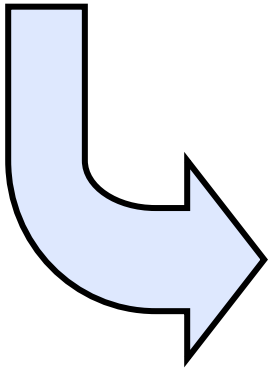
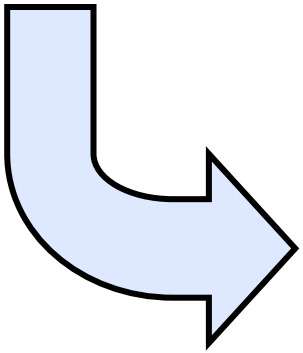
Office Hours: 10am-11am, Mondays, Rhodes 832

Today's Menu

Last Lecture (Monday 10/7):
Forms of Req.s



This Lecture (Friday 10/18):
Quality of Requirements



Next Lecture (Monday 10/21):
9:30am-10am: Grad students only (CS 6027 students only)

Last Lecture's Take-Aways

→ Most common form of requirements is: _____

→ A common req.s form in UML is: _____

→ Agile req.s are often expressed in: _____

Stay focused throughout today's lecture, because next week's quiz questions will be discussed today.

Today's lecture: orthogonal to form

- "Students can update their quiz grades."
- "Students can team up and complete their individual assignments."
- "Students who submit their work late will receive late penalty. The late penalty is TBD."
- "The students want coffee or hot tea during the break."
  "The students want coffee or hot chocolate during the break."

My answers

- "Students can update their quiz grades." *[incorrect]*

- "Students can team up and complete their individual assignments." *[ambiguous]*

- "Students who submit their work late will receive late penalty. The late penalty is TBD." *[incomplete]*

- "The students want coffee or hot tea during the break."
  "The students want coffee or hot chocolate during the break." *[inconsistent]*

Characteristics of a good SRS

An SRS should be

a) Correct;
b) Unambiguous;
c) Complete;
d) Consistent;
e) Ranked for importance and/or stability;
f) Verifiable;
g) Modifiable;
h) Traceable.

One of Today's Take-Aways

Source: IEEE STD 830

What'd you (Req.s Engineer) do here?

Bob: "The system shall report to the operator all faults that originate in critical functions or that occur during execution of a critical sequence and for which there is no fault recovery response."

Correct? Unambiguous? Verifiable? ...

Who do the companies hire to be their requirements engineers?

→ A decision table: *Report or Not?*

Originate in critical functions	F	T	F	T	F	T	F	T
Occur during critical seqeunce	F	F	T	T	F	F	T	T
No fault recovery response	F	F	F	F	T	T	T	T
Report to operator?								

- Somebody who knows truth table, logic, computability, data structures, algorithms, design, programming, databases …
- *(but most importantly)*

Source: *Adapted from Easterbrook & Callahan, 1997.*

What about user stories:
Can you spot the *low qualities* here?

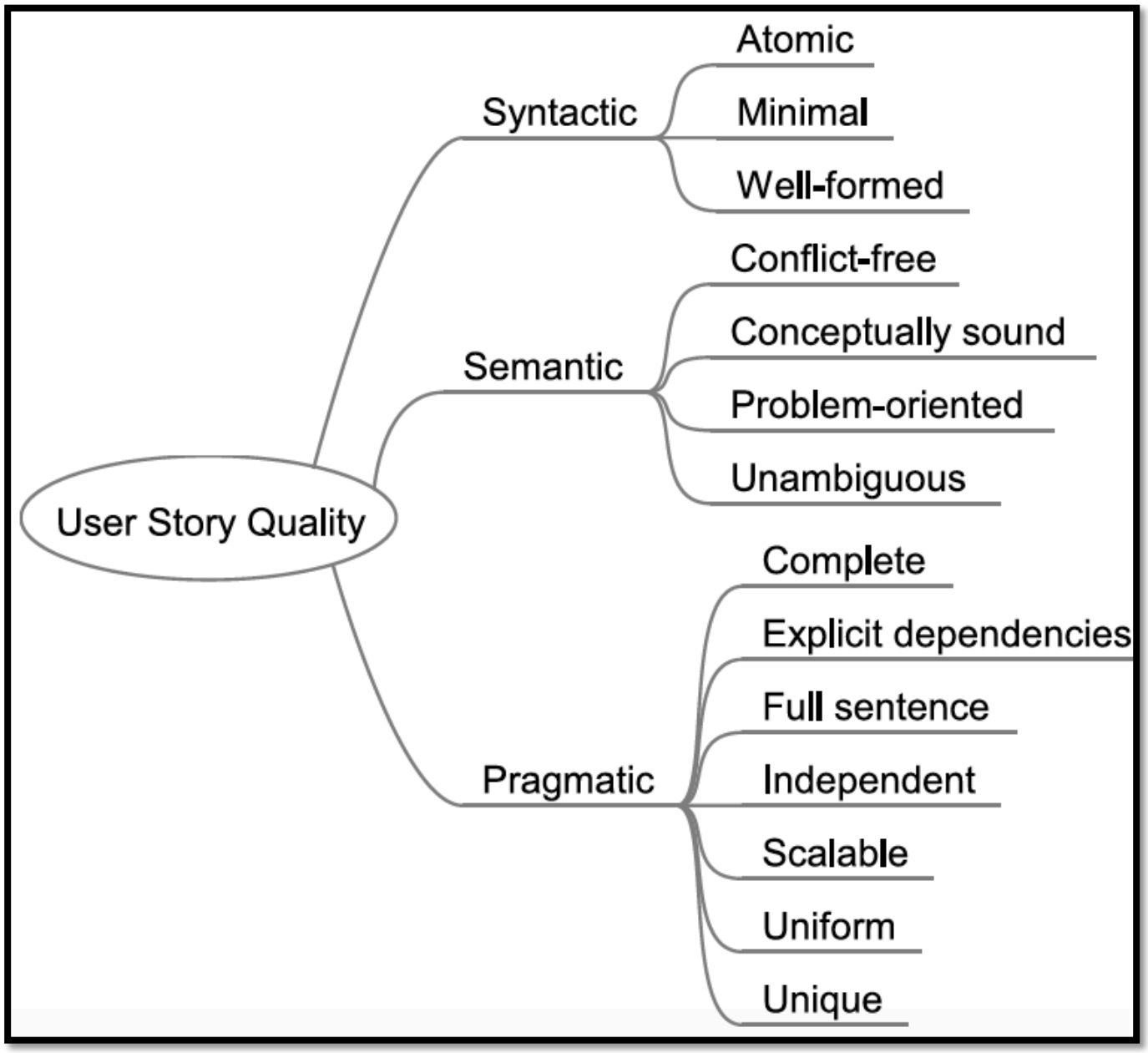
- US_1: As a user, I'm able to click a particular location from the map and thereby perform a search of landmarks associated with that latitude longitude combination

- US_2: Add static pages controller to application and define static pages

- US_3: As a care professional I want to save a reimbursement – Add save button on top right (never greyed out)

- US4_a: As a user, I'm able to edit any landmark

  US4_b: As a user, I'm able to delete a landmark which I added



Source: https://doi.org/10.1109/RE.2015.7320415

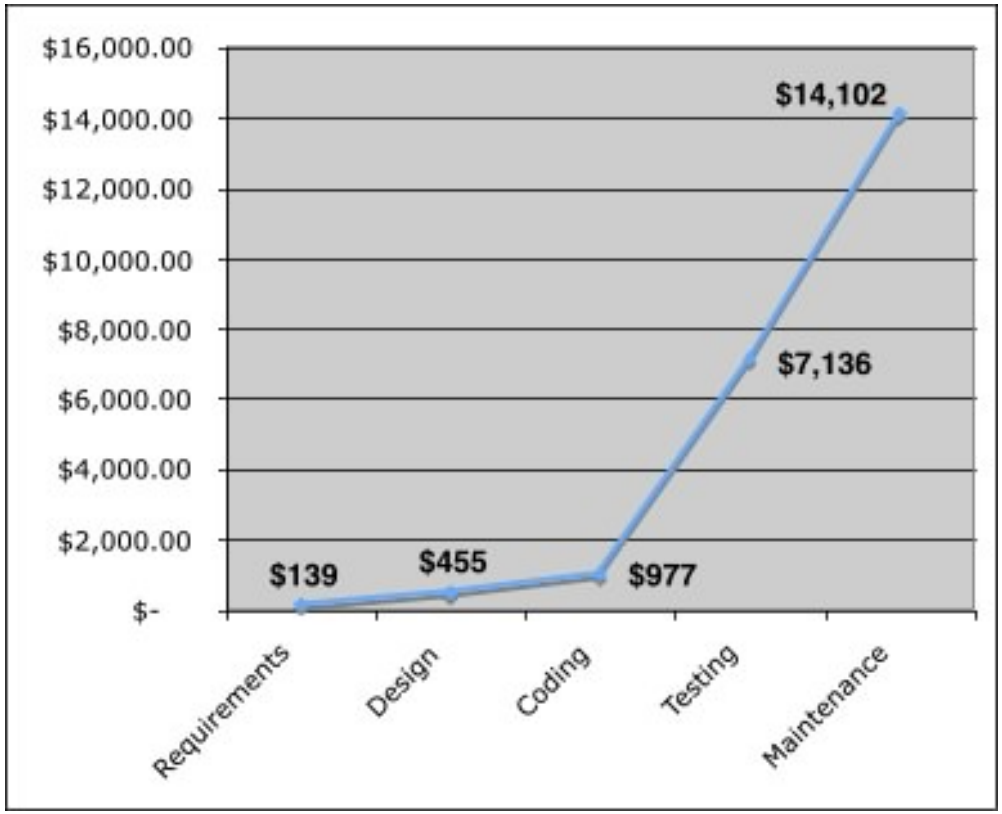
Forging High-Quality User Stories: Towards a Discipline for Agile Requirements

Universiteit Utrecht

Source: https://doi.org/10.1109/RE.2015.7320415

Quality of Req.s: Why bother?

because "doing RE right saves money"



Source: *R. Pressman, Software Engineering, 2010*

Today's Take-Aways

- SRS is good if 8 qualities are taken into account [IEEE-STD-830]
- Active research on qualities of user stories

- To-do
  - Review today's slides
  - Graduate students: Attend next Monday (Oct 21) class (*9:30am*-10am) on "graduate-level project"
  - All students: Attend next Friday's class on "req.s analysis" (Oct 25)