Designing Interactive Systems I

Week 10 Discussion, Introduction to Week 11, and Low-Fidelity Prototype Evaluation (Milestone #5)

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http://hci.ac/dis

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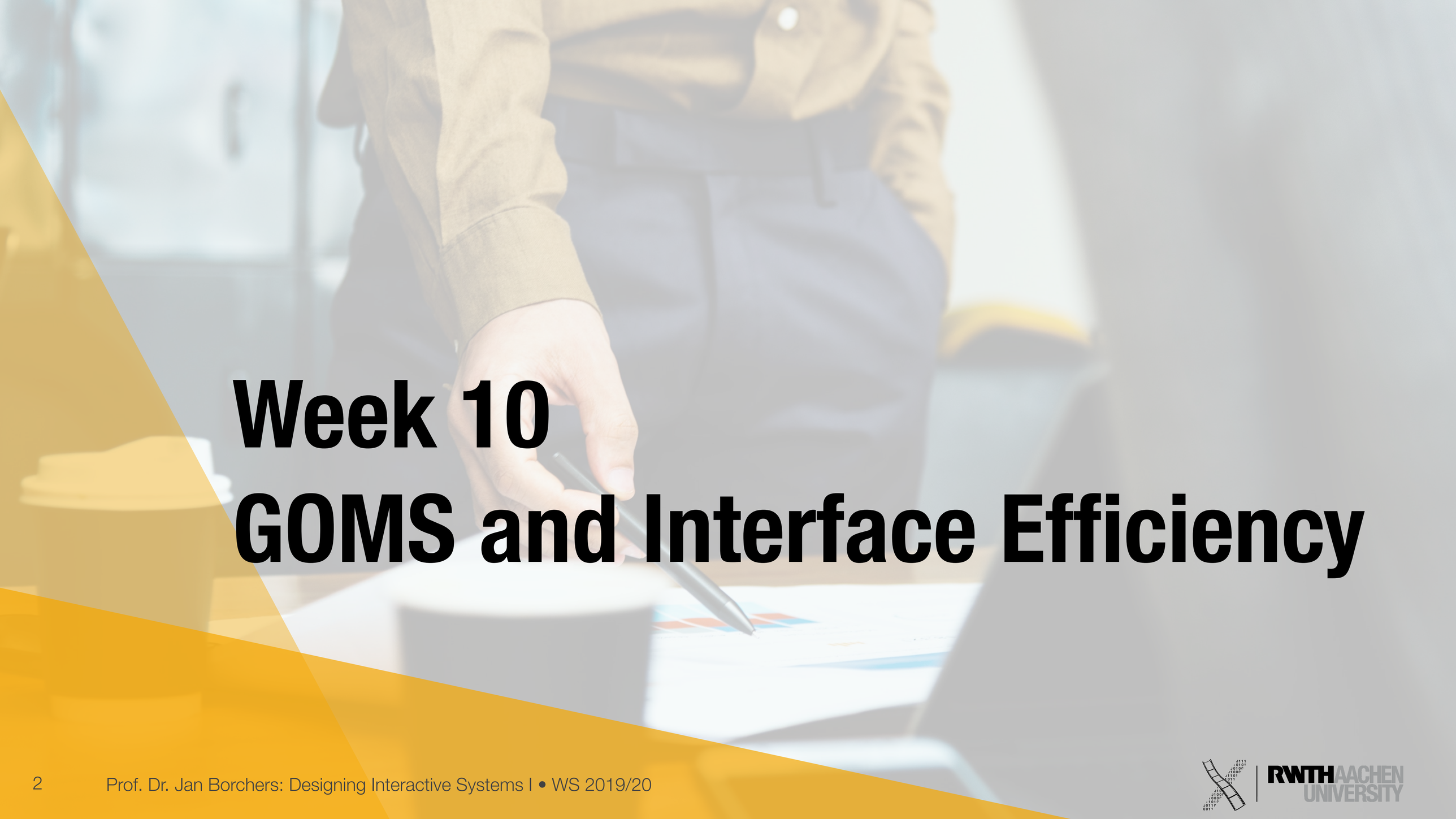


Week 10
GOMS and Interface Efficiency

In-Class Exercise #1: KLM-GOMS Model

- Krishna wants to go by train from Aachen to Bonn. He tries to find the route using the Google Maps interface.
- Use the keystroke-level GOMS model to predict the time this task takes
- Do just subdivision a. now (write down the initial operator sequence)

Rules for Placing Ms

- Rule 0, initial insertion for candidate Ms
  - Insert Ms in front of all Ks
  - Place Ms in front of Ps that select commands, but not Ps that select arguments for the commands
- Rule 1, deletion of anticipated Ms
  - Delete M between two operators if the second operator is fully anticipated in the previous one
    - E.g., PMK ⇒ PK
- Rule 2, deletion of Ms within cognitive units (contiguous sequence of typed characters that form a name)
  - In a string of MKs that form a cognitive unit, delete all Ms except the first
    - E.g., “ls↵” ⇒ MK MK MK ⇒ MK K MK

Rules for Placing Ms

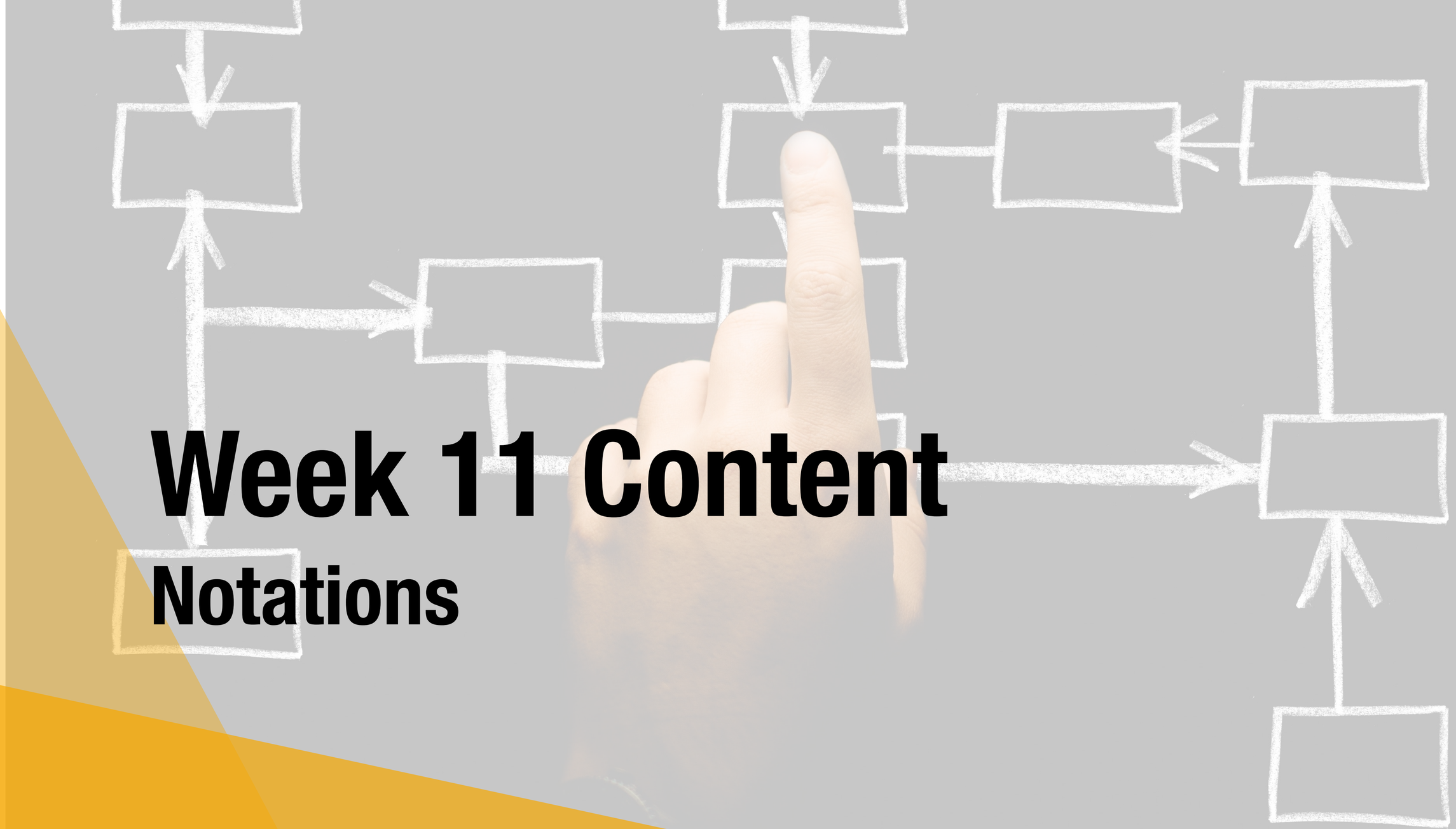
- Rule 3, deletion of Ms before consecutive terminators
  - If K is redundant delimiter at end of a cognitive unit, delete the M in front of it
    - E.g., “bla↵↵” ⇒ M 3K MK MK ⇒ M 3K MK K

- Rule 4, deletion of Ms that are terminators of commands
  - If K is a delimiter that follows a constant string then delete the M in front of it (not for arguments or varying strings)
    - E.g., “clear↵” ⇒ M K K K K K MK ⇒ M K K K K K K

      Note that the ‘clear’ command does not take any arguments, and is therefore a constant string. ‘ls’ on the other hand, can take arguments and Rule 4 cannot be applied there.

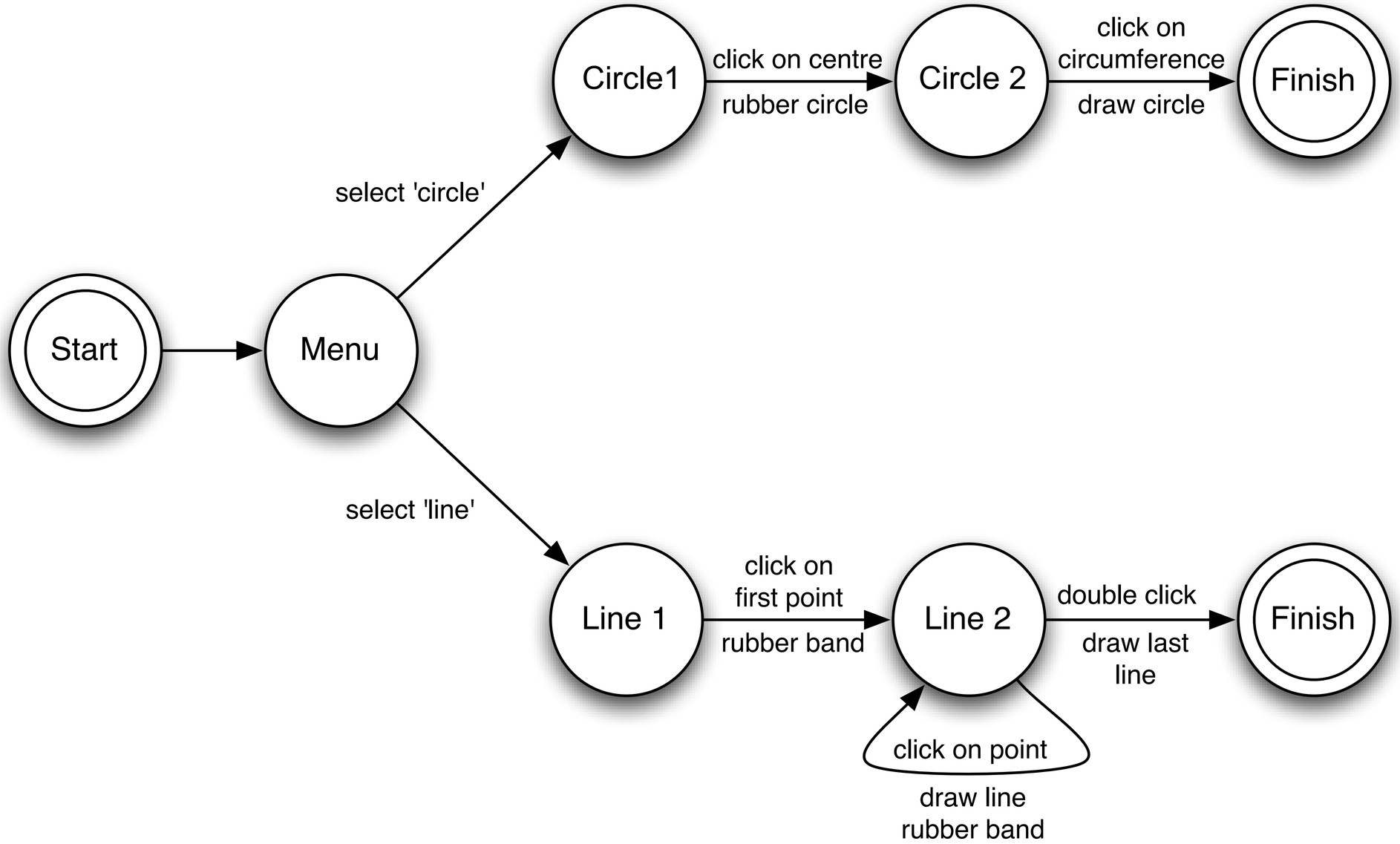
In-Class Exercise #2: Information Efficiency

- Consider a vending machine with the following assumptions
  - There are 16 products in the machine, all of which are equally likely to be purchased.
  - The user first swipes her credit card (assume that the credit card always works) and then selects the product by entering its product number, which can take values in the range 1–16 (including 1 and 16), as a 5-digit binary code. E.g., for product 1, “00001” (just “1” is not valid).
  - The user enters the binary code using a binary keyboard that has just two buttons (“0” and “1”).
  - When a valid 5-digit binary code has been entered, the machine dispenses the product.
    (The user does not have to press an additional button for confirmation.)
  - The user always provides a valid input.

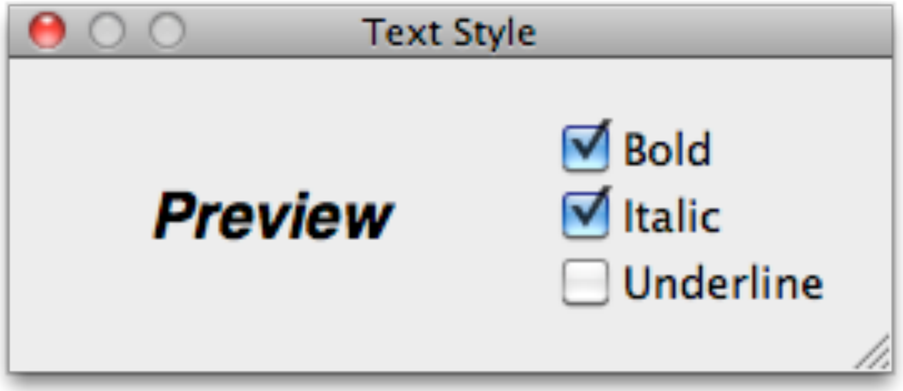


Week 11 Content

Notations


Start
Menu
select 'circle'
Circle1
click on centre
rubber circle
Circle 2
click on
circumference
draw circle
Finish
select 'line'
Line 1
click on
first point
rubber band
Line 2
double click
draw last
line
Finish
click on point
draw line
rubber band

In-Class Exercise #3: STN

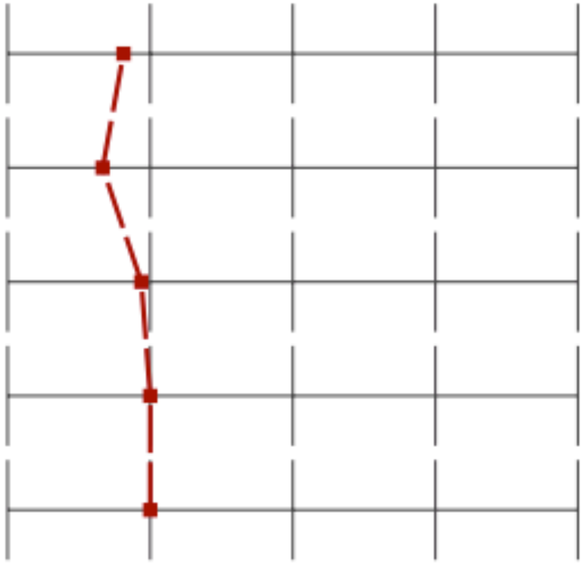


- Dialog to select bold, italics, and/or underline
- Draw the state diagram for:
  - Only Bold checkbox
  - Bold and italics checkboxes
  - All three checkboxes

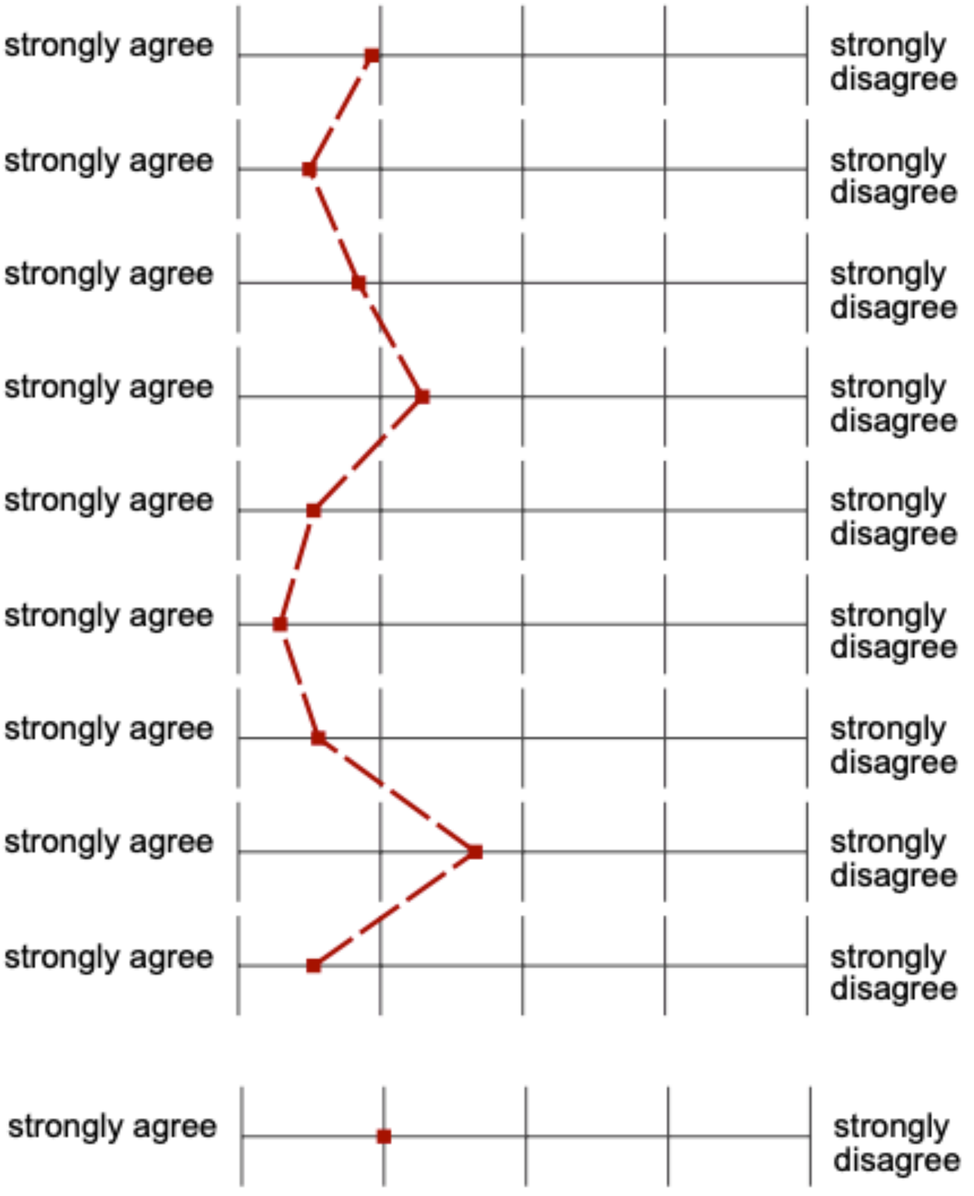
General Information

I find the course interesting.	strongly agree		strongly disagree	n=14	mw=2,1	md=2,0	s=1,2

Lecture Concept

The learning goals of the lecture are defined.	strongly agree		strongly disagree	n=16	mw=1,8	md=2,0	s=0,8
The lecture is well structured.	strongly agree		strongly disagree	n=15	mw=1,7	md=2,0	s=0,6
The materials provided are helpful.	strongly agree		strongly disagree	n=16	mw=1,9	md=2,0	s=0,9
The lecture content is clear.	strongly agree		strongly disagree	n=15	mw=2,0	md=2,0	s=1,0
Lecture material is summarized at appropriate intervals.	strongly agree		strongly disagree	n=15	mw=2,0	md=2,0	s=0,8

Instruction and Behavior



... explains the subject matter clearly.	n=16	mw=1,9	md=2,0	s=1,1
... is willing to answer questions.	n=10	mw=1,5	md=1,0	s=1,0
... considers students' different levels of knowledge.	n=13	mw=1,8	md=2,0	s=1,1
... engages my interest in the topic.	n=17	mw=2,3	md=2,0	s=1,4
... speaks audibly and clearly.	n=17	mw=1,5	md=2,0	s=0,5
... speaks proper, comprehensible English.	n=17	mw=1,3	md=1,0	s=0,5
... is well prepared.	n=16	mw=1,6	md=1,0	s=0,9
... is available outside of the lecture.	n=6	mw=2,7	md=2,5	s=1,6
... uses media that contribute to students' understanding.	n=17	mw=1,5	md=2,0	s=0,5
The lecture begins an ends on time.	n=9	mw=2,0	md=1,0	s=1,4

What you liked about the course

THE EXAM WAS FUN TO ATTEND. THE EXERCISE CLASSES ARE USUALLY FUN AND PRODUCTIVE TOO.

Examples of concepts in real life things and situations.

About the lectures we have interacted with:
→ Could be more relatable
→ Could be more encouraging to answer all questions.
→ Could be more lenient with assignment marking.

Professor [illegible] explains concepts well.

What you disliked about the course

THE CLASSES ARE MOSTLY NOT PRODUCTIVE. WE PROBABLY, EFFECTIVELY USE ONLY 2 HRS OR LESS OF 4-5 HRS. WE LEARN AT HOME WHERE WE CANNOT ASK QUESTIONS WHICH REDUCES EFFICIENCY. WE DO THE PROJECTS AT HOME TOO! THEN WHAT'S THE POINT? AND THE COURSE WORK IS WAY TOO MUCH THAN THE CREDITS!

Videos of the lectures include conversations with audience that sometimes are inaudiable. Some concepts are vaguely defined. The structure of the presentation is sometimes not clear. The pace is not uniform.

ONLY IN CLASS EXERCISE AND STUDIOS ARE COVERED IN THE CLASS. THE COURSE CAN BE MADE AN ONLINE LEARNING COURSE.

I wish I ~~met~~ saw Professor Borchers in real life.

Regarding exams: I prefer more relaxed regulations on taking points off for "wrong" responses, as this is too subjective.

What Next?

- Before **Friday (Jan. 17),** submit the solution for milestone 5 to RWTHmoodle.
- Before **next Tuesday (Jan. 21),** watch Week 11 Content: Notations I