

Presentations (or: How to give a talk without boring the audience)

Holger Karl

Credits: W. Reisig, M. Werner,
S. Peyton-Jones, N. Vaidya,
A. Legout, and many others



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Why bother?

- Computer scientists
 - Socially challenged, uncommunicative nerds
 - Hides behinds his (rarely: her) PC
 - Unable to communicate
- MBAs
 - Incompetent dazzler
 - Specializes on empty phrases
 - Is the boss of the computer scientist



Do onto others as you would
have them do onto you



Structure

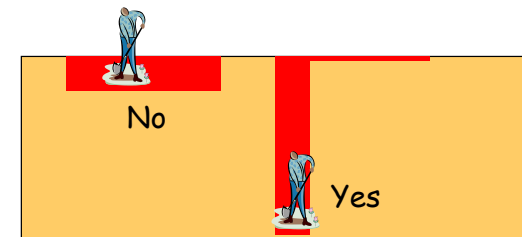
- Content
- Preparation
- Actual talk
- After-talk discussions
- Odds and ends

- Material



Goals of a talk

- Keep your audience awake
- Explain yourself
 - Your problem
 - Your idea
 - Your details
 - Better deep than shallow
 - Beware of rule of thumbs
- Create interest, desire for more



Non-goals of a talk

- Dazzle the audience with your brilliance, your intelligence, your superiority
- Explain everything about your topic, all details



Your tools to reach these goals

- Your material
- Your preparation
- Yourself!
 - Your interaction with the audience



Your material

- Define the take-home message for your talk
 - Most people remember **one** statement from a presentation
- Select!
 - Always more material at hand than can be told
 - Better explain fewer things than gloss over many
 - Complexity in talk only makes you look unable to communicate



Know your audience

- What is their technical/experience level?
 - Everybody in audience should understand (almost all) of your talk
 - Do not overestimate your audience
- Expectations of event?
- Likely talk situation?
 - Tired audience?
 - After lunch, ... ?



Know your time budget

- Check rules of the event
- Select material accordingly
- Prepare presentation accordingly
- Trial run!



Structure

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Structure – typical student/researcher talks

- Structure your presentation
- Presentations about your own work (main type)
 - Get audience on same page: background
 - Why interesting: motivation
 - Focus of your work, your insights
 - Which problem **exactly** did you solve?
 - What was your **exact** contribution?
 - Explain differences to related work
 - No need to go into details, unless a survey talk
 - Which methods, tools did you use?
 - Show results
 - Conclusions, not summary (!)
 - Impact, what follows from this, ...



Structure – more general talks

- Example: AIDA

	Goal	Tool (e.g.)
A ttention	Attract audience's attention	Unexpected image, example
I nterest	Raise interest	Explain current situation, possible shortcomings
D esire	Create desire for change	Tell how things could be better
A ction	Inform about options to fulfill desire	Explain individual steps necessary



Structure and outlines

- Inform your audience about the talk structure
 - This is not murder mystery!
- Main tool: outline slides
- For short talks: Exaggerated
- For long talks: Yes!
 - Show them early, but not too early
 - Make them interesting, avoid meaningless templates
 - Don't just read out the outline
- Be creative!

NEVER, EVER:

- Motivation
- Problem definition
- Solution approach
- Evaluation & comparison
- Conclusion



Repeat structure

- Repeat structure during the talk – e.g., outline slides
 - Make it clear where you are in the talk
 - E.g., colours/boldface current position in outline slides
- Give audience a chance to catch up
 - Intermittent conclusions: *So far, ... We now will talk about ...*
- Really drive it home!
 - Tell them what you are going to tell them
 - Tell them
 - Tell them what you told them



Stick to your structure

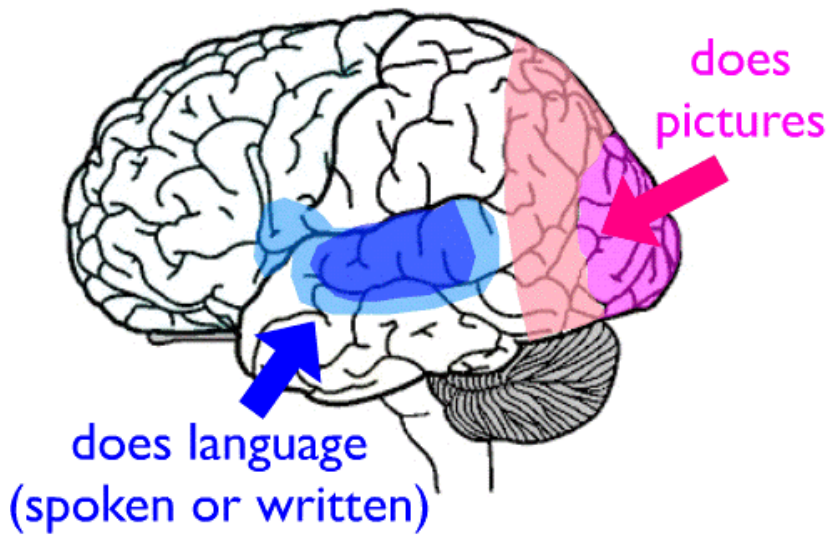
- Structure of talk is main line of argument
 - “Roter Faden”
- Avoid
 - Jumping back and forth
 - No foreshadowing
 - No going back
 - No “oh, I forgot to tell you,”
 - ... will loose your audience
- Give intermediate summaries, with clear visual marks



Material – your main choices

- Nothing
 - Just you, and your voice
- Nothing, plus real-time writing
 - On blackboard, whiteboard, overhead projector, ...
- Slides
 - Handwritten
 - Powerpoint, OpenOffice, LaTeX, ...
 - Cool stuff, e.g., Prezi

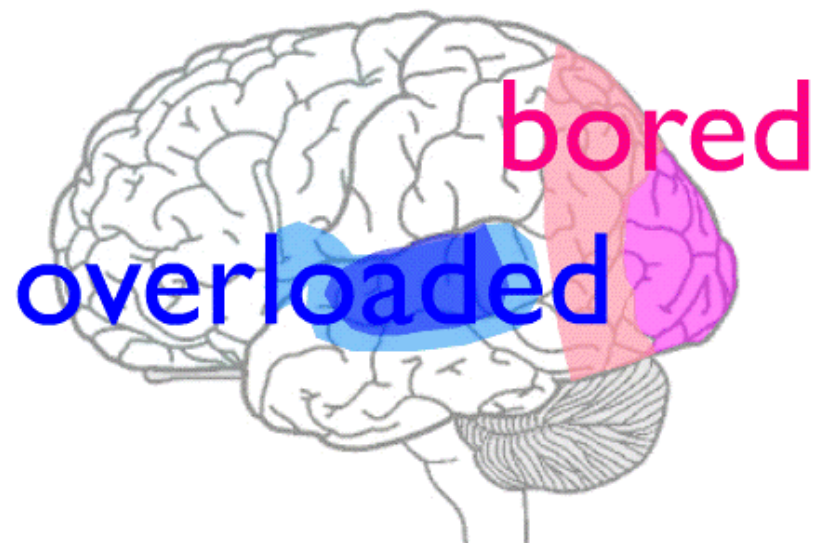




Nearly all men can stand adversity, but if you want to test a man's character, give him power.

point

Death by PowerPoint:



What goes on slides?

- Slides only accompany your talk
 - They are not the talk
- Only put supplements on slides, visual clues, ...
- Never full sentences, only keywords
 - Audience should listen, not read
 - Short, concise phrasing
 - Need not be grammatical
- Be neat
 - No typos, ...

NEVER, EVER:
Read out text from slides!



Consistency on slides

- Pay a **lot** of attention to consistency
- Consistency
 - Capitalization after bullets
 - Use of fonts, font sizes, colours, indentation, ...
 - No punctuation at line end (except ?, !)
- Inconsistency indicates meaning where there is none
 - Reader will try to find it, irritated
- Many rules are flexible on slides, but be consistent!



Fit material to slides

- Slide can take only limited content
 - Rule of thumb: 7 lines, 7 words each
- Avoid splitting material over multiple slides
 - One heading, one slide
 - Don't: Slide title (1), Slide title (2)
- Typically: one slide = 2 minutes
 - Varies between speakers, slide types
- Think about shortcuts if time should run out



Slide layout

- Fonts: sans serif
- Font sizes: at least 18pt

16 pt 18pt 20 pt 24 pt 28pt 32pt 36 pt 48 pt

16 pt 18pt 20 pt 24 pt 28pt 32pt 36 pt 48 pt

- Keep it clean, simple



Colour

- Beware of fancy colour schemes
 - High contrast, saturated colours
- Few colours in one talk
 - Three, four at most
- Have mercy

Lorem ipsum dolorosa

Lorem ipsum dolorosa

Lorem ipsum dolorosa

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Lorem ipsum dolorosa



Illustrations

- To show structures, procedures
 - System layout, setup, architecture components, ...
 - Protocol operations, algorithmic ideas, ...
- Avoid useless illustrations



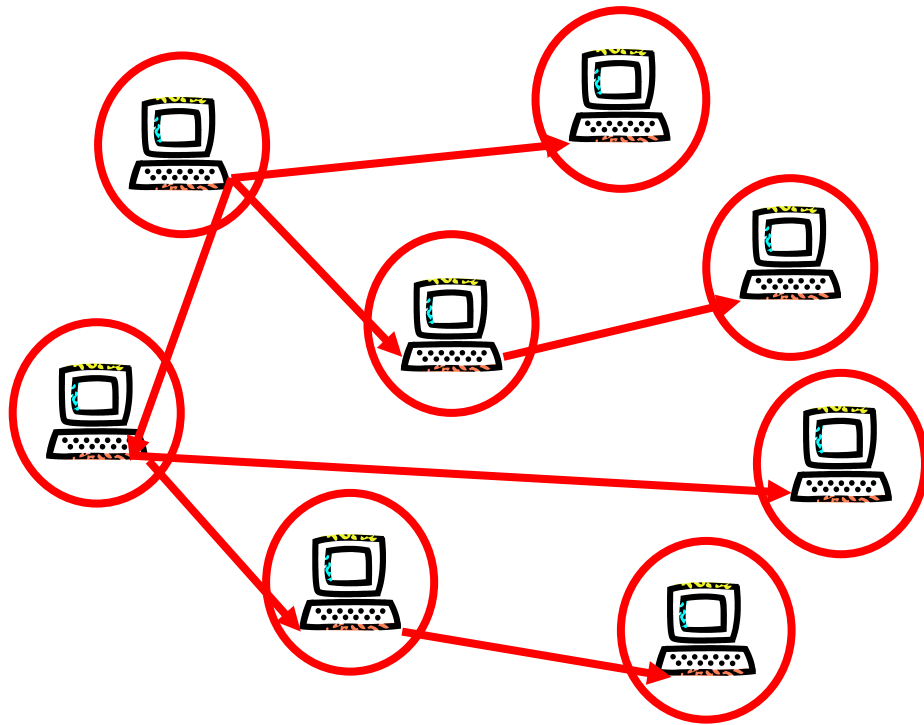
Animations

- Use sparingly, with a clear purpose
 - Text you do not want your audience to see before you explained something
 - Animations in a graph, chart, ...
- Keep it simple
 - No text flying in, no squeezing tire sounds, ...
- Have mercy

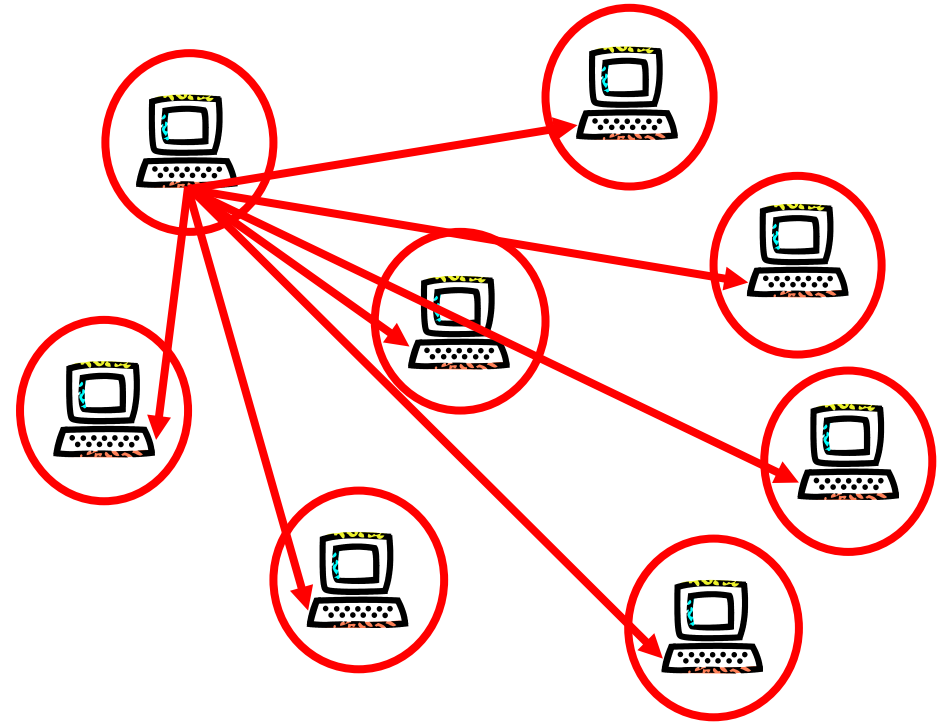


Use Enlightening Animations: P2P case

■ P2P



■ Client-server



2019-01-17

Use Enlightening Animations: Sieve of Eratosthenes

A number is prime if it can only be divided by 1 or by itself

2	3	4	5	6	7	8	9	10	11
12	13	14	15	16	17	18	19	20	21
22	23	24	25	26	27	28	29	30	31
32	33	34	35	36	37	38	39	40	41
42	43	44	45	46	47	48	49	50	51
52	53	54	55	56	57	58	59	60	61
62	63	64	65	66	67	68	69	70	71

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Charts

- Charts convey numerical results, illustrations
 - 2D usually better than 3D
 - Large fonts, large symbols, thick lines, bold colors
 - Usually, camera-ready charts not suitable for slides
- Provide crucial information
 - Label all axes
 - Provide legend
 - Explain symbols



Chart examples

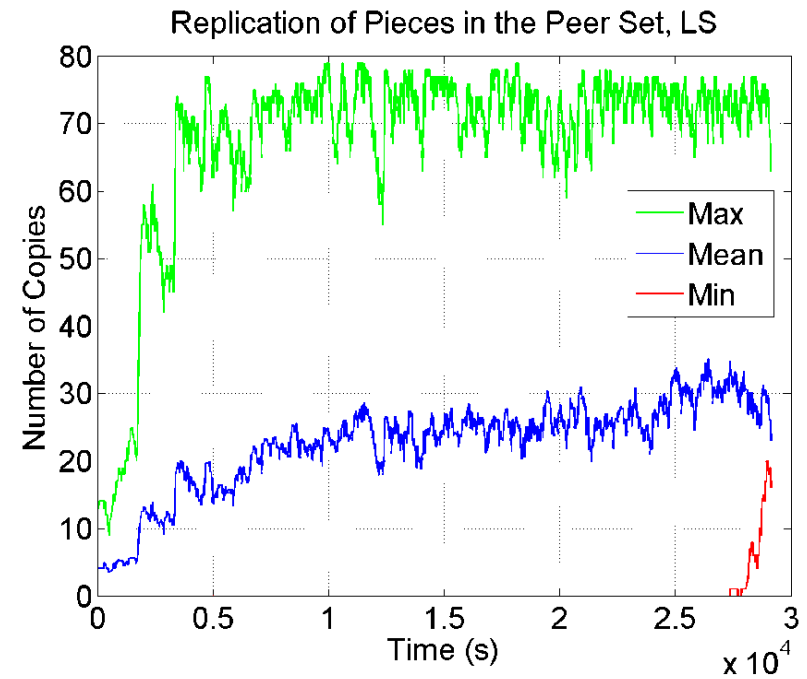
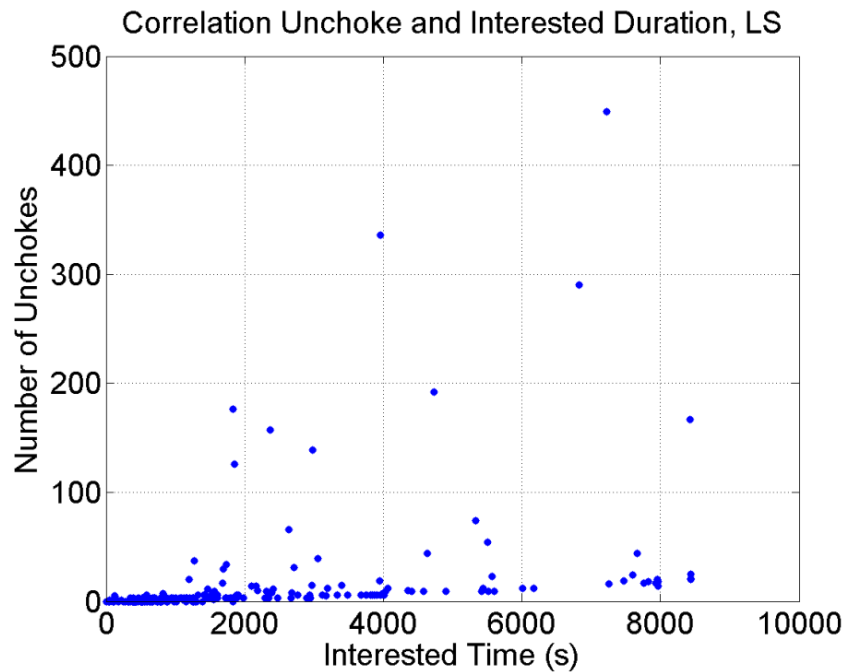
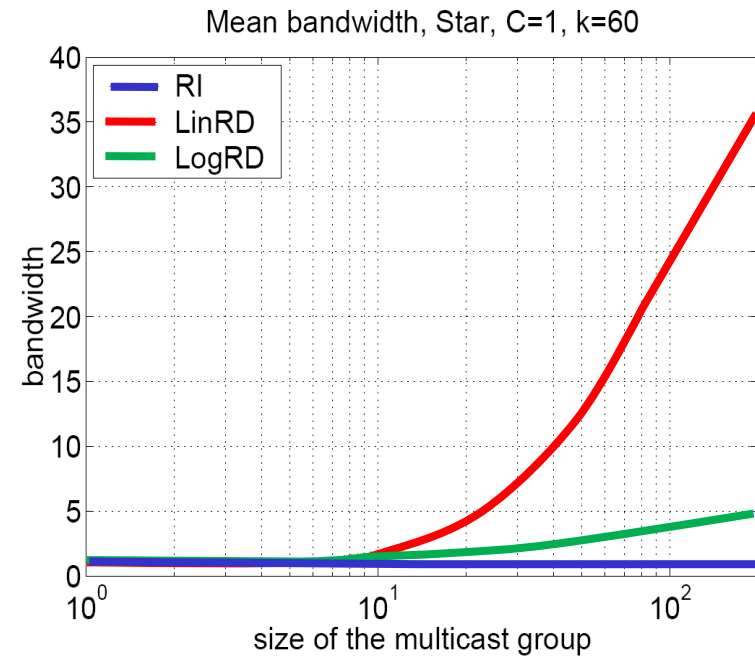
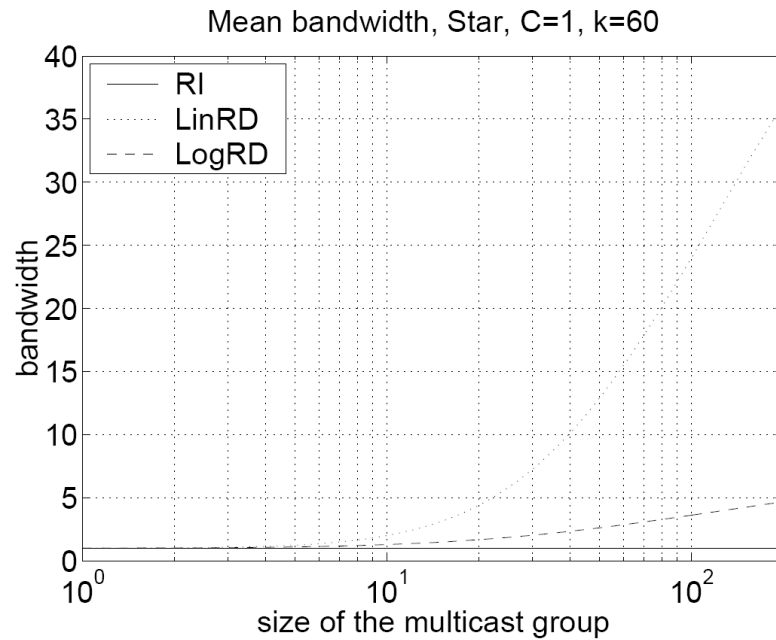


Chart examples: Camera-ready vs. slide style



Equations

- Use sparingly
- Use good mathematical typesetter
 - Not Office equation editor – abysmal
 - TeXPoint to integrate LaTeX into Powerpoint
 - Obey typesetting rules

$$s = \sum_{i=0}^n \sin i$$

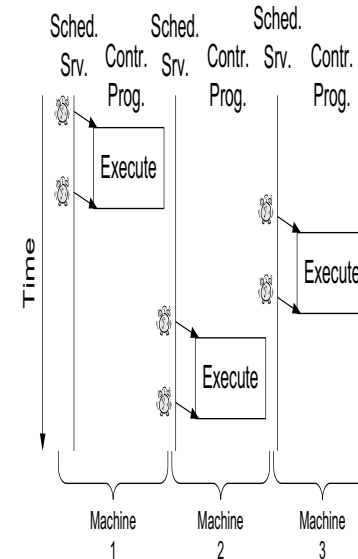


Bad slide

- Lange, verschachtelte Sätze, besonders solche, die, wie es hier der Fall ist, das Verb, vom Subjekt getrennt, ganz hinten haben, sind für Formulierungen auf der Folie ungeeignet.

> das hier ist ein Computer-Ausdruck, den Sie wahrscheinlich nicht lesen können.

- „Ich hätte hier noch viele Folien, aber die Zeit ist zu kurz“
- viele **verschiedenen Farben**, **Schriftarten** und **Formatierungen** verringern die Übersicht
- Die Folie bis auf den letzten Rand füllen
 - Abstände weglassen, damit auch alles drauf geht
 - Bleiwüsten erzeugen
 - usw.
 - und überhaupt alles viel zu klein schreiben, damit auch ja alles auf eine Folie geht
 - (es haben ja schließlich alle eine Brille!)



*Ein ganz wichtiges Bild!
(leider verzerrt)*

Trial runs!

- Do trial runs
 - Alone, in front of your screen
 - Loud voice, full length
 - With colleagues, fellow students, ...
 - If feasible: in actual venue, with projector
 - If all else fails, give the talk to your grandmother, your cat, your cactus

- The shorter the talk, the more need to practice



Things to help the speaker

- Additional material can help speaker
 - “Speaker notes” view of presenter tools – dual-screen option!
 - Learn first, last sentences of each slide by heart
- Dual-screen almost a must-have for slide presentations!
 - Allows to look at slides and audience
 - NEVER turn your back to audience



Structure

- Content
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- ***Actual talk***
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Preparations right before the talk

- Dress appropriately
- Check out the venue
 - Layout of speaker position, audience, screen, blackboards, microphone, ...
- Arrive early
 - Test projector, remote controls, ...
- Avoid bad surprises
 - Have backup copies of your talk (e.g., USB stick), multiple formats (PDF, various PPT, ...) – all up-to-date
 - Own laptop: reboot, turn off WiFi, stop screensaver, stop chat tools, avoid popups

Keep calm!



You!

- Every talk takes place on a stage
- Create the right atmosphere
 - A talk is a conversation, not a recording
- Enthusiasm
 - If you do not like your topic, why should the audience?
- Intimacy
 - Make every person feel you are talking to them



• **Speak freely!**

- Slow, but not glacial
- Use slides for cues, do not read them out loud
- Give visual clues to slides, but sparingly
 - Pointer
 - Laser pointer (highly debatable, can usually be replaced by well-planned animations)
- Foreign language: Beware the accent!

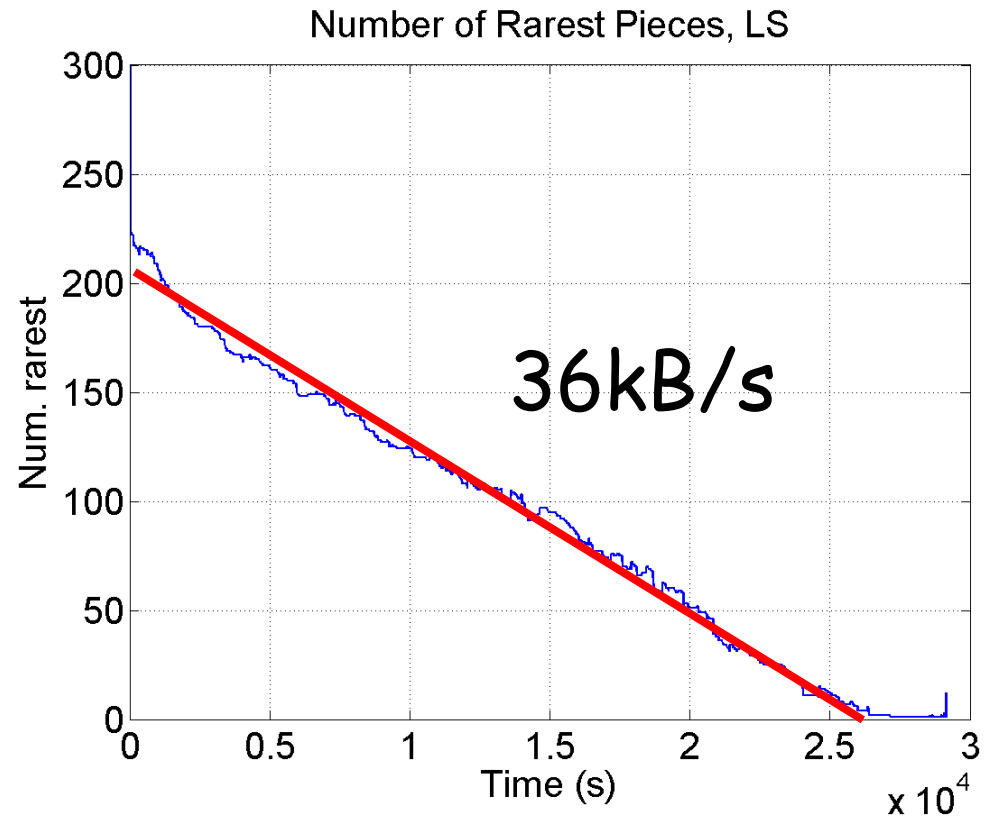
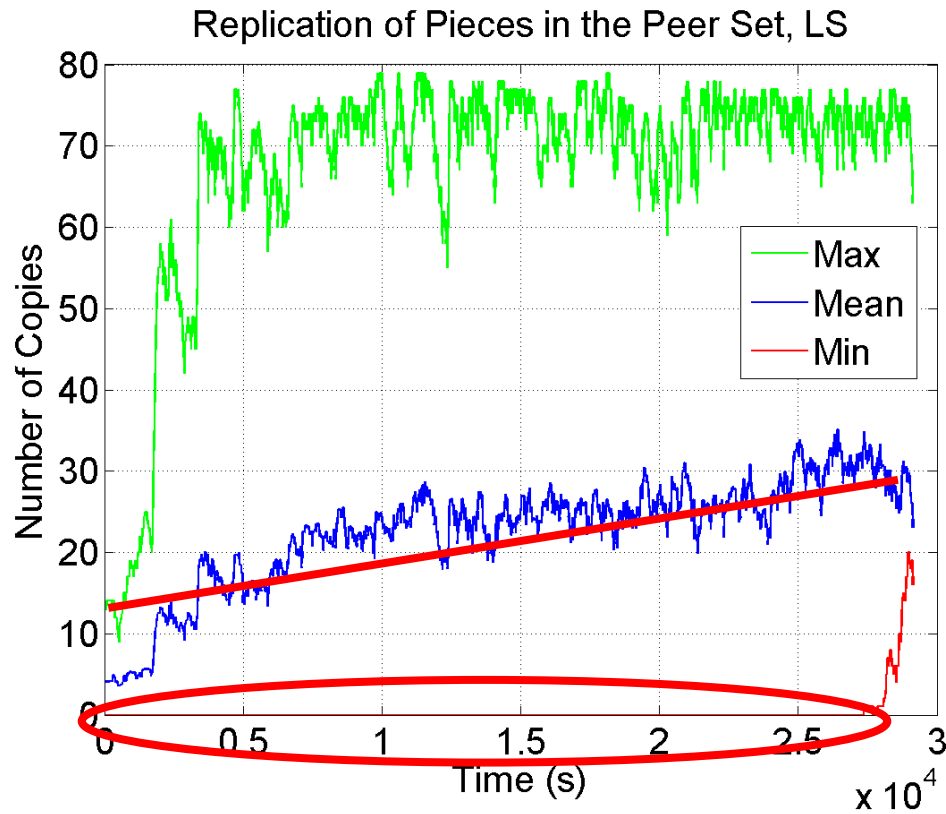


Body language

- Openness
- Eye contact!
 - Do not stare, do not avert eye contact or switch quickly
 - Pick out few people from audience, if necessary
- What to do with your hands?
 - Make gestures!
 - Never in pockets
 - Laser pointer?
 - Make sure you don't shake
 - Cardboard notes?
- Walk around



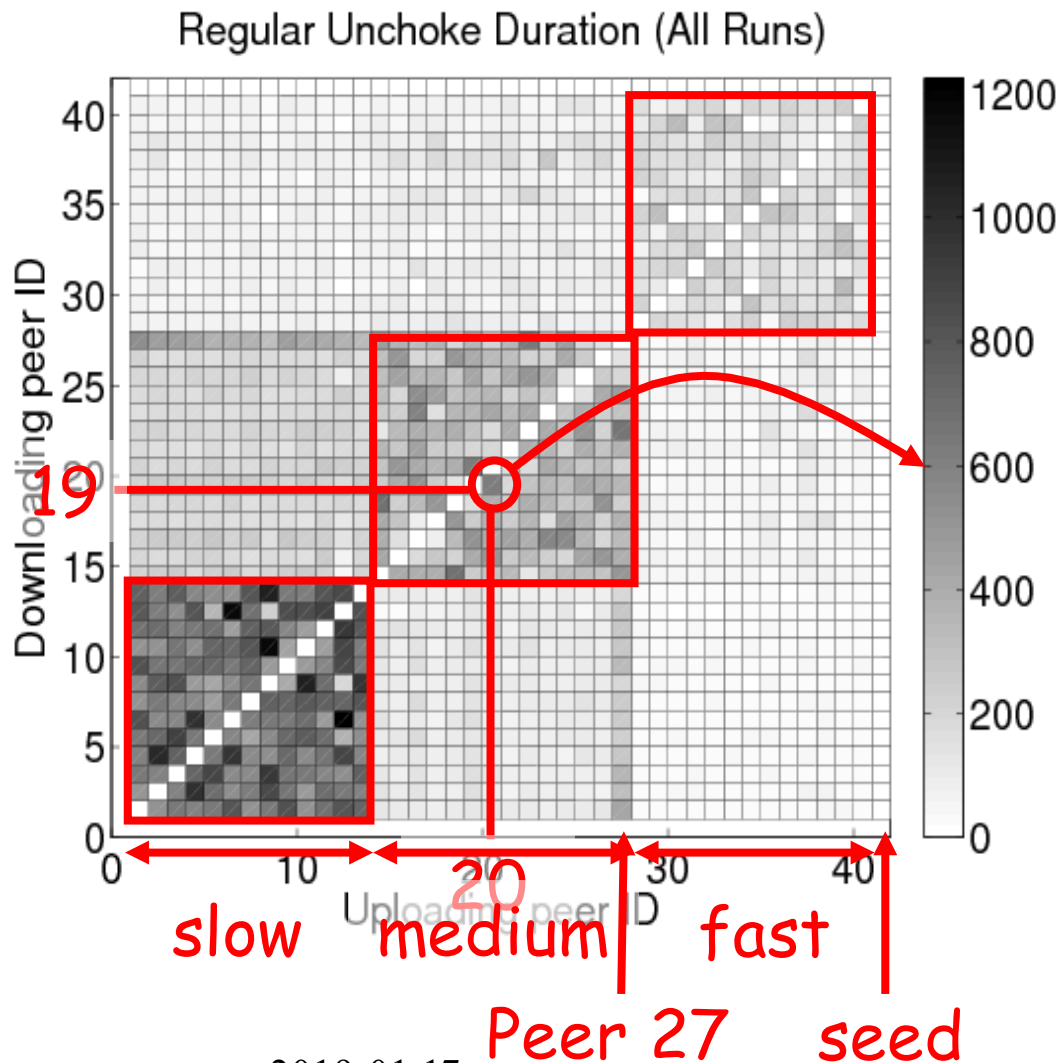
Never Use Laser Pointer



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How to give a talk - Matiker

Never Use Laser Pointer



- Three-class scenario, averaged over all 13 runs
- Seed max upload speed: 200kB/s
- We see clusters per class
- Two artifacts
 - Slow class squares are darker since peers take longer to complete
 - Peer 27 slower than other peers in its class (problem with a PlanetLab node): Reciprocates mainly with the slow leechers

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Progress through your talk

- Progress linearly, do not go back and forth
 - Give intermediate checkpoints, summaries, point to talk structure
- Have a clock at hand
 - Ideally, presentation modes in dual-screen setup
 - Vibrating laser pointers
- Be on time!
 - Do trial runs
- If time runs out, skip over material
 - Do not just go faster



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Discussions, Q&A

- Questions are a compliment
- But be prepared for rough, even nasty comments
- Have backup slides ready with additional material
- Answering
 - Reformulate question
 - Be concise in your answers – other people might have questions
 - Do not start discussions – take offline
 - Keep calm, keep polite – but know your material
- Beware of logical fallacies!



Odds and ends

- Give credit where credit is due
 - Name co-authors, if any
- Related work discussion
 - Usually not necessary to go into detail
 - Putting short references on slides is good style, but do not talk about it much
 - Ideally, same references as in your paper
- Survey talk: different story



Conclusions

- Use common sense
- Do not be afraid
- Be creative and enthusiastic

Es trägt Verstand und rechter Sinn
mit wenig Kunst sich selber vor



Material

- How to give a good research talk
 - Simon Peyton Jones, Microsoft Research, Cambridge
- Let there be stoning
 - J. H. Lehr
- Examples
 - TED talks (<http://www.ted.com>)
 - Randy Pausch Last Lecture

