How to Give a Good Talk

Be Active!

- Make your own opinion
  - Attend presentations
  - Mimic presentations you understand/like
- Never ever consider simplicity and clarity as a proof of weakness
- Never forget that you can violate the rules if you have any good reasons to do so

Outline

- ❑ Why should you bother doing talks?
- ❑ How to structure your talk?
- ❑ How to make your slides?
- ❑ How to give your talk?
- ❑ Great talks examples

Presentations are a fundamental part of research excellence

Research and Marketing

- The best researchers in the world learned how to sell their work
  - To the community
    - Visibility, impact
  - To students
    - Attract graduate students
  - To commissions
    - Funding, promotion
  - To the public
    - Increase attraction of your field, fame

Goals of a Presentation

- ❑ Give the audience the intuition of your idea
- ❑ Make the audience eager
  - To read your paper
  - To ask you questions
  - To discuss with you
- ❑ Build relationship
- ❑ Create a reputation
- ❑ Get feedback

Goals of a Presentation

- Show you can make great presentations
  - Big plus in a career
  - Conversely, a poor presentation can kill an application to a new position

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Adapt to the Audience

- The entire audience must understand your talk
  - It is better to explain notions a part of the audience already knows than to lose another part of the audience during the talk
- Do not overestimate the knowledge of the audience in your field

Do Not Present Too Much

- Common pitfall
  - "I did a lot and I will present every single bit of my work. They will be impressed!"
    - That shows you are unable to deliver a message
- Do not hesitate to cut your results
- It is better to present 10% of your work that the audience understands than 90% that nobody understands

Do Not Present Too Much

- The audience will remember at most one single message
  - Don’t sell more, but sell it well
- Yes, it is marketing
  - Useless to do great research if nobody knows about it

Give a Structure to Your Talk

- Give a background
  - Adapt to the audience
  - Adapt the technical granularity of your presentation
- Motivate your work
  - Why is the subject important and interesting?
- Focus of your work
  - What is this presentation/work about in a single sentence? What is the problem?

Give a Structure to Your Talk

- ❑ Show methodology and tools
- ❑ Show results
  - Clearly show your contributions
- ❑ Conclude with a summary of contributions
  - Impact of this work
  - Future work rarely makes sense unless you are really planning future work

Give a Structure to Your Talk

- Give an outline
  - You can give it first before or after (better) the background
  - Repeat the outline before each new part
  - Use color to show where you are
- Make clear the structure of your talk to the audience
  - No suspense

Give a Structure to Your Talk

- No need to go deep into related work (unless it is a survey)
  - Your contributions must be the core
  - But, be prepared to discuss related work

Alternate Structures

- You need to know what you are doing
  - More original means more risks
- Alternate questions and answers
  - Appropriate for tutorials and general talks
  - Less appropriate for technical talks

Alternate Structures

- No slides
  - Need to be a very strong speaker
  - Need a very well structured presentation
  - Need a very high effort from the audience
    - You must transmit energy
  - Some (lazy) people don’t like such presentation

Make Summaries

- For each important result
- At the end of each part of your talk

Clearly show the take home messages

Anticipate Q&A

- Prepare backup slides
  - Very impressive when it works
  - You can put technical details or results you did not have time to address in them
- Be prepared to answer questions
  - Rehearse with colleagues
  - Be prepared to hard questions

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Slide Template

- Avoid overloaded templates
  - Frequent with some companies that like to justify a costly graphical identity
- Unless you have a graphical talent, keep it simple
  - Make a clear distinction between the title and the rest
  - Do not use complex headers or footers
    - No need to give the presentation title, affiliation, authors list, company logo, etc. on each slide

Use Slide Numbers

- How do you know which slide it is over 22?
  - "The slide whose title is 'Use Slide Numbers'"
  - "The slide after 'Slide Template'"
  - "I don't remember, go back, again, again, again, again, stop… yes this one!"
- Used to ask questions and to answer
- Used during audio or video conferences
- At least 20 pt
  - Even at the back someone may ask a question

Use non-serif fonts (times)

- Serif fonts are hard to read
  - Line width is not uniform
  - Thin lines may not render well with all projector types
  - Hard to read from the back
- Use
  - Comics: might look childish
  - Arial: looks formal, very (may be too) popular
  - Calibri: good alternative to arial

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The Ban Comic Sans Campaign

- Some people hate the comic sans font
  - http://bancomicsans.com
- Reasons
  - Ubiquitous
  - Childish, immature, naïve, etc.
    - Inappropriately used (e.g., military)
  - May be, because it comes from Microsoft

The Ban Comic Sans Campaign

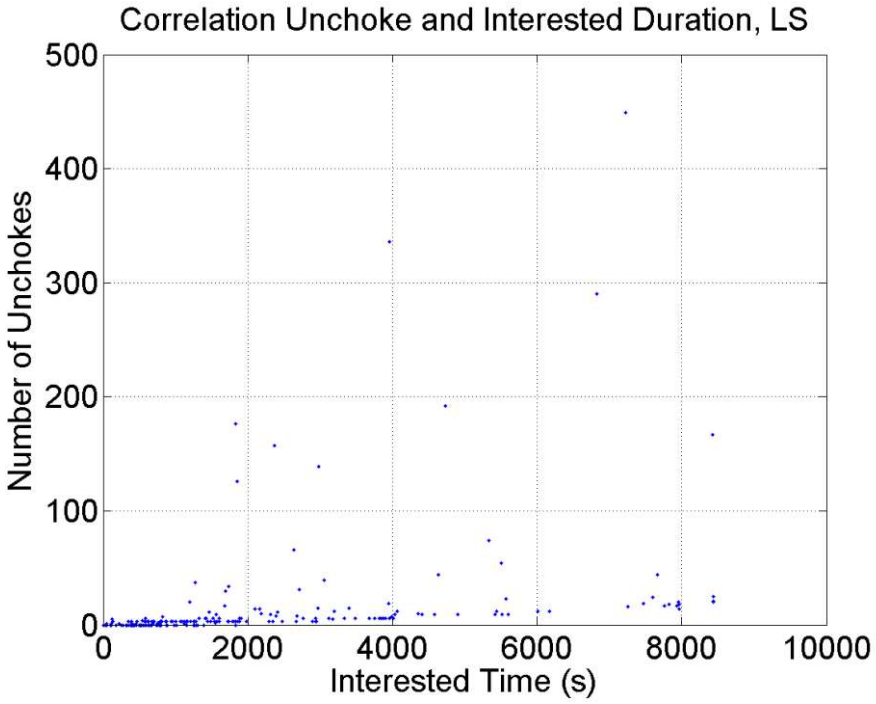
- What to do
  - Be aware you might upset the audience
    - Is it worth taking the risk?
  - Don’t use it for a job application
- Your teachers used it in his/her lectures?
  - Looks less scary than Arial for students
    - It is subjective
  - Calibri Preferred!
- It is very rare today in academic presentations

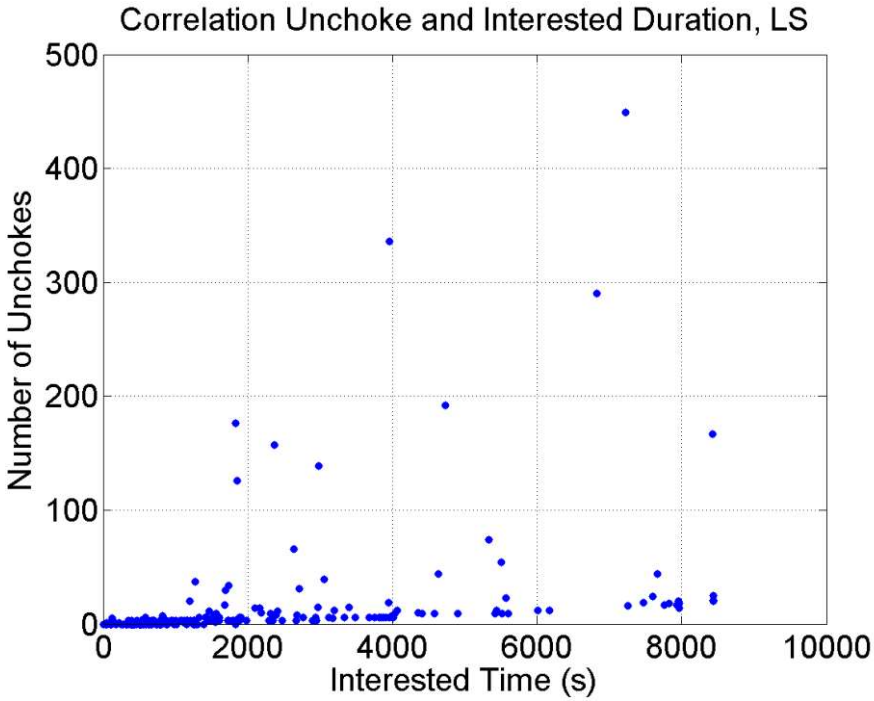
Use Large Fonts

- Font must be larger than 20pt (here it is 32pt)
- Font must be larger than 20pt (here it is 24pt)
- Font must be larger than 20pt (here it is 20pt)
- Font must be larger than 20pt (here it is 18pt)
- Font must be larger than 20pt (here it is 16pt)
- Font must be larger than 20pt (here it is 14pt)
- Where do you stop to read it from the back?
  - Consider poor projectors, poor screens, poor eyes

Show Readable Figures

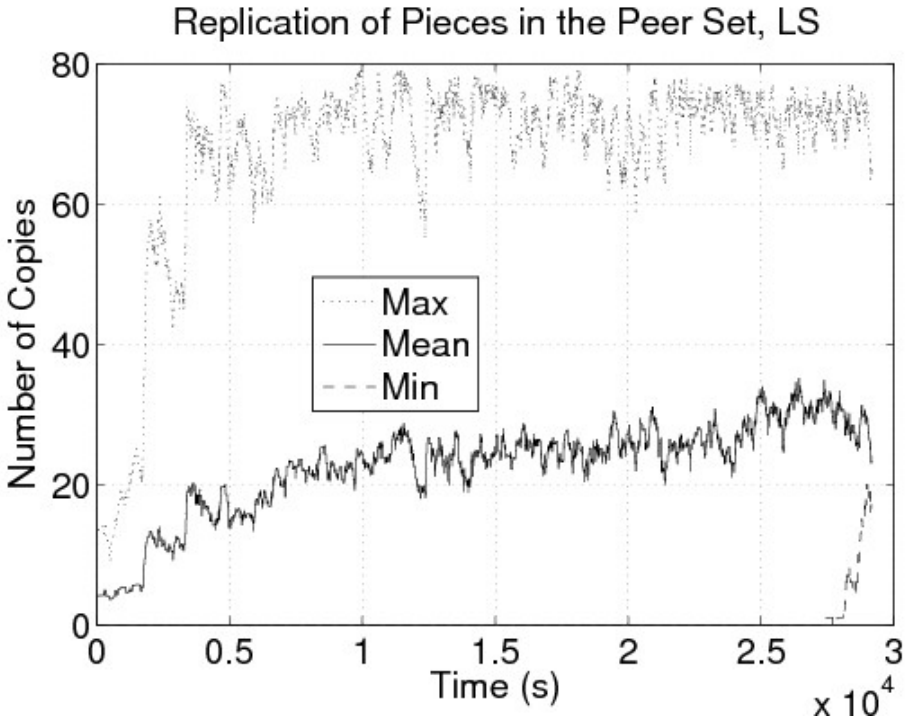
- Use large symbols

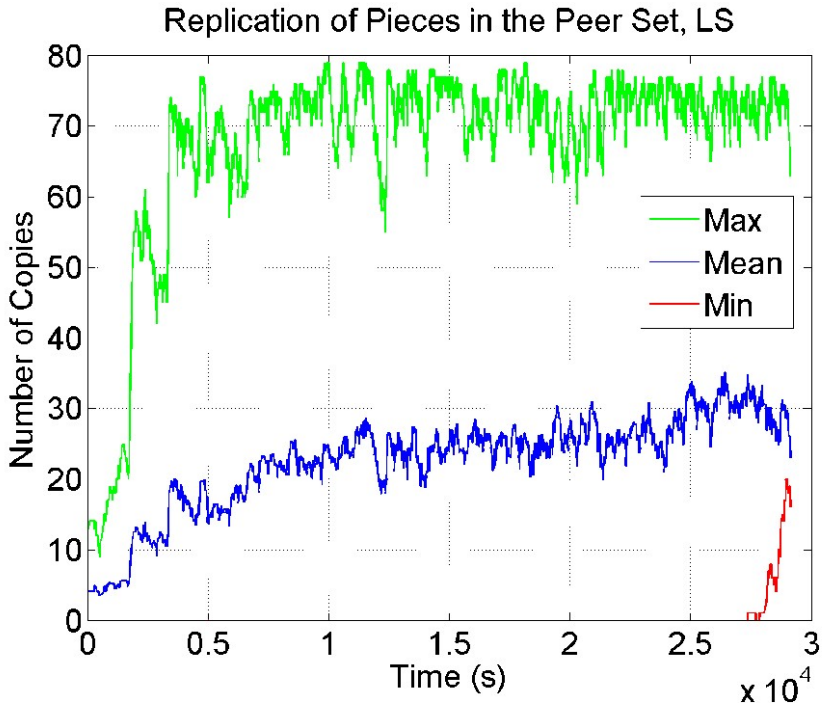




Show Readable Figures

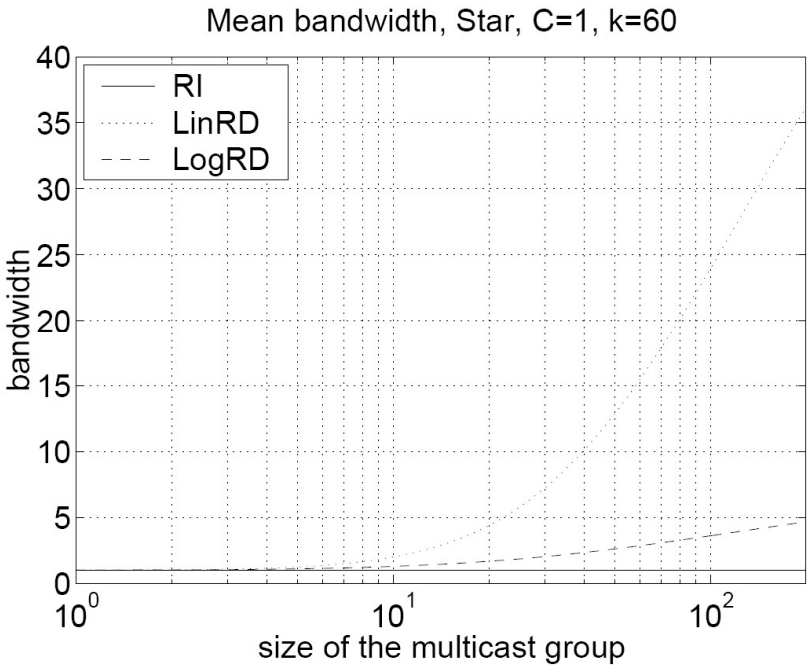
- Use thick solid lines and colors

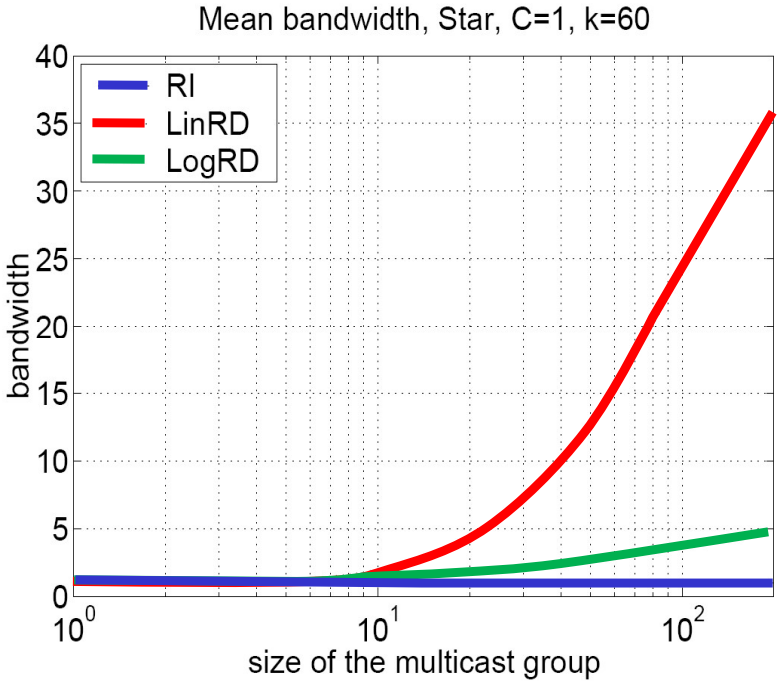




Show Readable Figures

- Do not use the camera ready figures
  - Often unreadable on slides





Be Concise

- Do not write complete sentences as they make your message obfuscated in long lines of text
- Never forget that nobody can read your slides and listen to you at the same time unless you are reading what is in your slides. But, you must not read your slides, this is boring
- Omit technical details, there is no chance to explain everything in a single presentation. Instead, you should make the audience eager to read your work
- Do not believe complexity will impress your audience, it will simply make you look unable to express your idea

Be Concise

- Write small sentences
- Do not compete with your slides
  - You give the message, the slides support it
- Do not dig into details
  - Just deliver a message
  - Give a preview of your work/paper
- Be simple in your explanations

Use Illustrations

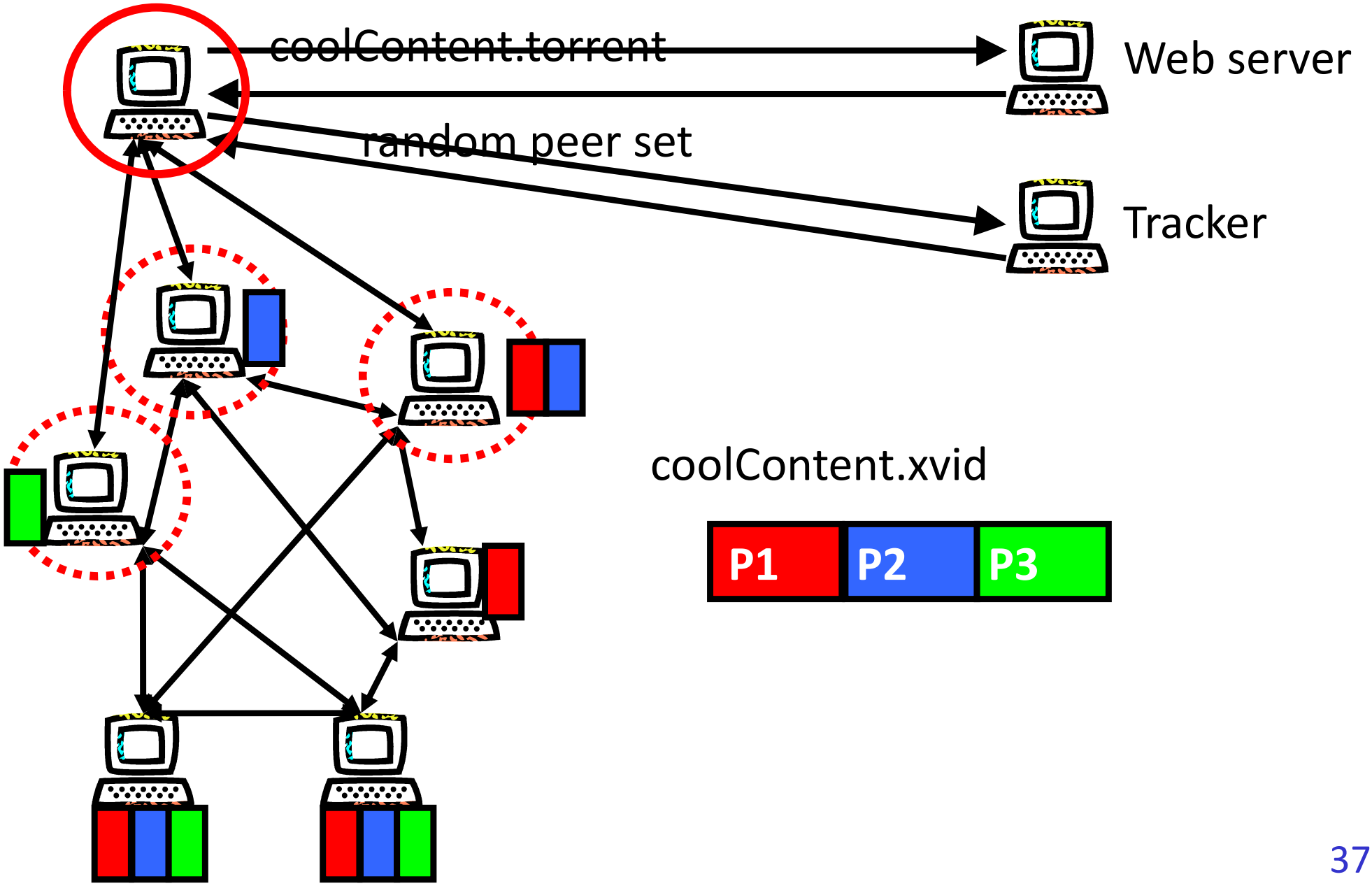
- Make your point clear and simple
- Give a mental image people are more likely to remember

- Always use a figure instead of a table

Without Illustrations (Poor)

- Prior to distribution
  - Content split multiple pieces
  - Metainfo file created by the content provider
- To join a torrent
  - Peer P retrieves metainfo file from a well-known website
  - P contacts the tracker
  - The tracker responds back with a peer set of randomly selected peers
  - P contacts peers in this set and start requesting different pieces of the content

With Illustrations (Better)



How Many Colors?

- No more than three colors on a slide
  - Here I have four
- Use easy to distinguish colors like dark
  - Blue, Red, and Green
- Use colors to emphasize an important word
  - May be used to remind you to develop keypoints

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Background Colors

Never use light colors or low contrast
They may not render well

No

Never use light colors or low contrast
They may not render well

No

Never use light colors or low contrast
They may not render well

Yes

Never use light colors or low contrast
They may not render well

Yes

Background Colors

- I like this one
  - Quite relaxing to look at such slides
  - Looks clean and simple
- Seems to work well with colors too
  - Red, Blue, Green (favor light colors)
  - Be careful with contrast
    - When there is light in the room, contrast is lower
    - You don’t have control on it, consider the worst case

Background Colors

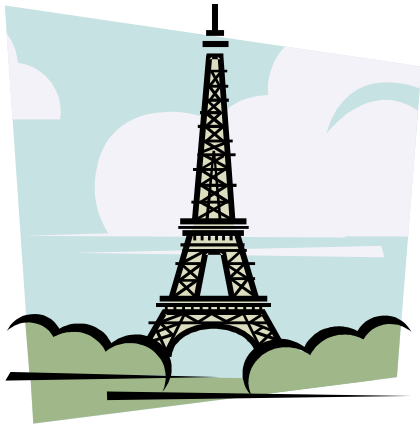
- Don't use thin fonts
  - They may not render well
- I don't have much experience with this background
  - Seems to become more popular
  - Try it and make your own opinion

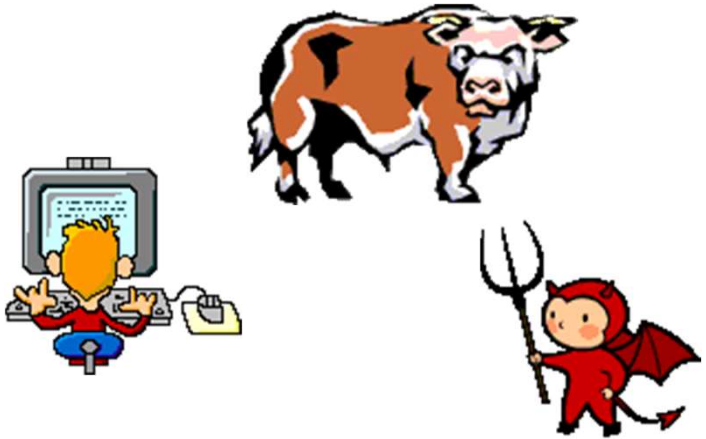
Colors and Projectors

- The universal rule
  - Projectors never render colors as you expect
- Be prepared to
  - Red that looks pink or orange
  - Blue that looks purple
  - Yellow that is invisible (never use yellow)
- Never use colors that are too close
  - Dark green, red, and blue is the safe side

Do Not Over Illustrate

- Do not use
  - Irrelevant illustrations
  - Weak metaphors
  - Animated images





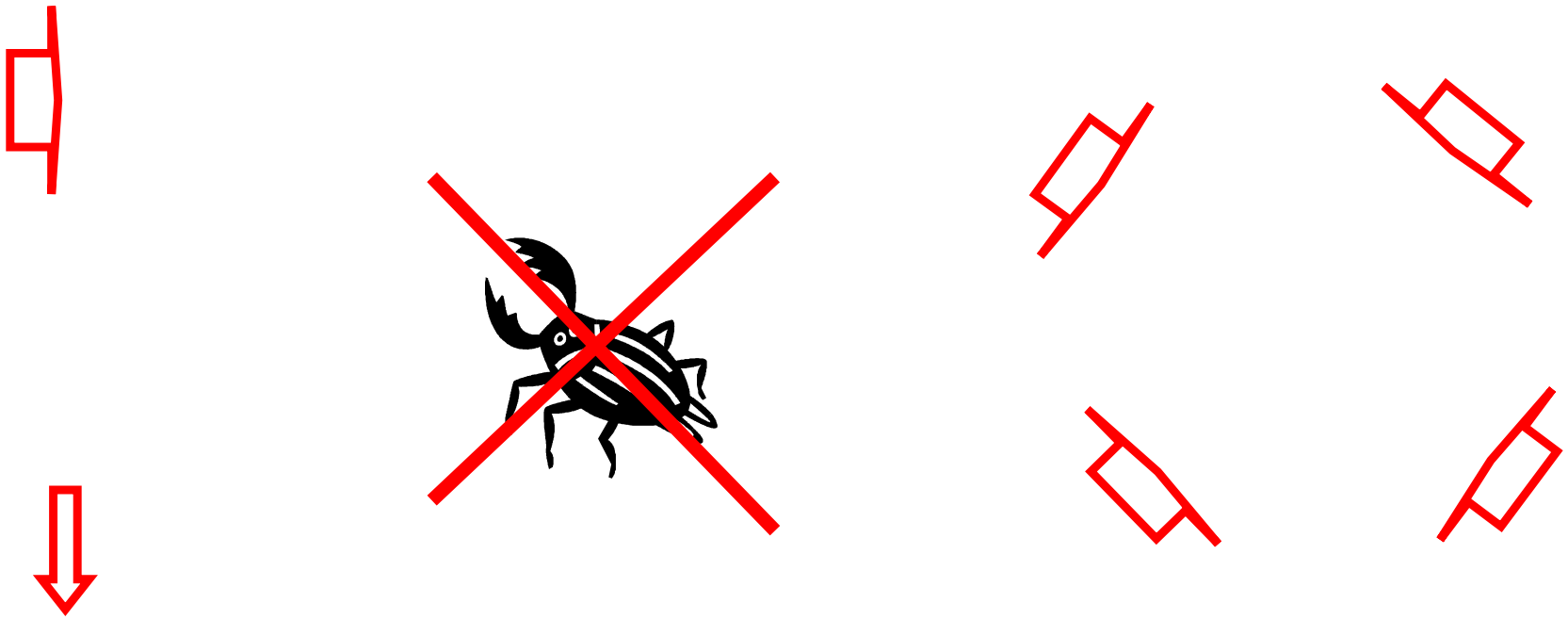
Do Not Over Animate

- It is disturbing
- Annoying

- Useless

You cannot keep the audience focused

Use Semantic Animations



Use with caution

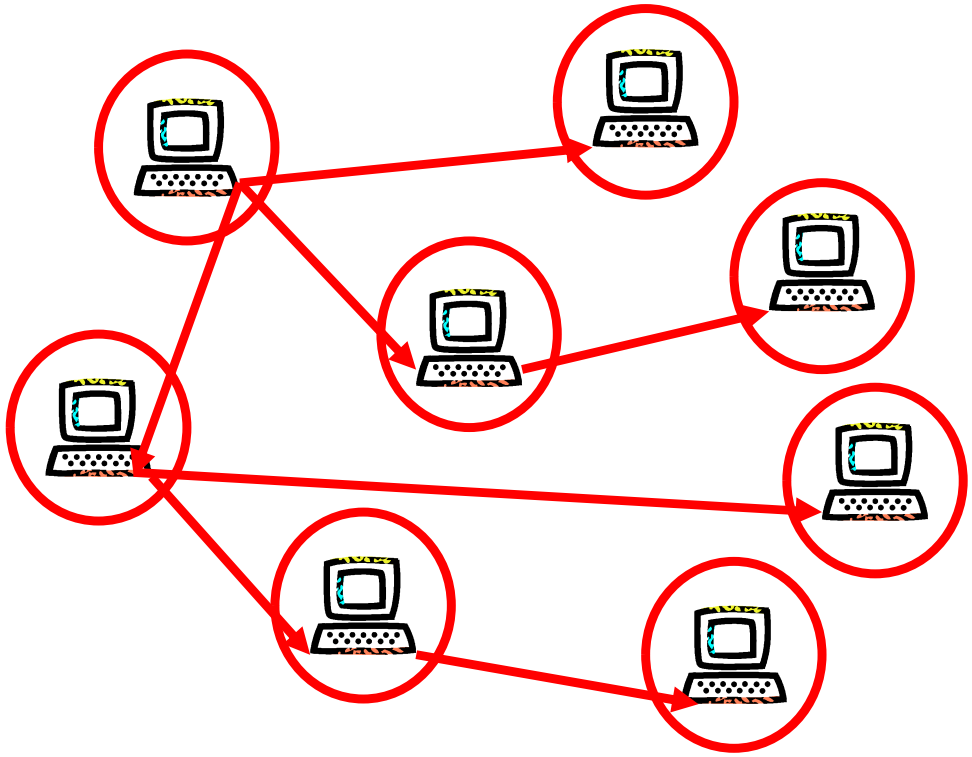
Use Enlightening Animations

- Animations must make complex idea simple to grasp
- No magic, it is a lot of work to make

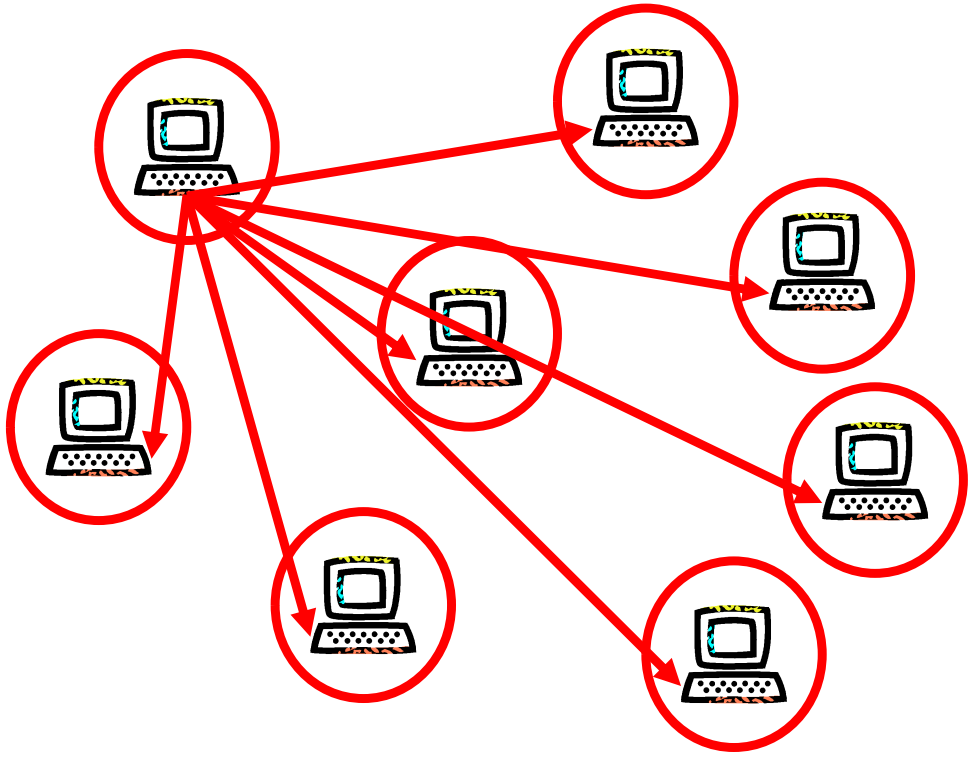
- Here are two examples

Use Enlightening Animations: P2P case

- P2P



- Client-server



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

Use Enlightening Animations: Sieve of Eratosthenes

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Be neaT

- Do YOU like
  - slides with sppell **check** erors
  - Inconsistant:
    - *Capitalisation*
    - Bullet.
    - Struture,
    - **font**;
  - Ugly slides
  - poor use of symbol !!!
- Poor layout

Be Neat

- Do you like
  - Slides with spell check errors
  - Inconsistent
    - Capitalization
    - Bullets
    - Structure
    - Font
  - Ugly slides
  - Poor use of symbols
  - Poor layout

No Punctuation Mark.

- No punctuation mark:
  - At the end of sentences:
    - Period (.) ,
    - Colon (:),
    - Semi-colon (;),
    - Comma (,).
  - Apart from:
    - Question marks (?),
    - Exclamation marks (!).

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    - Period (.)
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  - Apart from
    - Question marks (?)
    - Exclamation marks (!)

Use Meaningful Titles

- The title should summarize the slide content
- Do not use a same title with an increasing number
  - Introduction 1/5
  - Introduction 2/5
  - Etc.
- Poor variant “cont.”

Outline

- ❑Why should you bother doing talks?
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- ❑How to give your talk?
- ❑Great talks examples

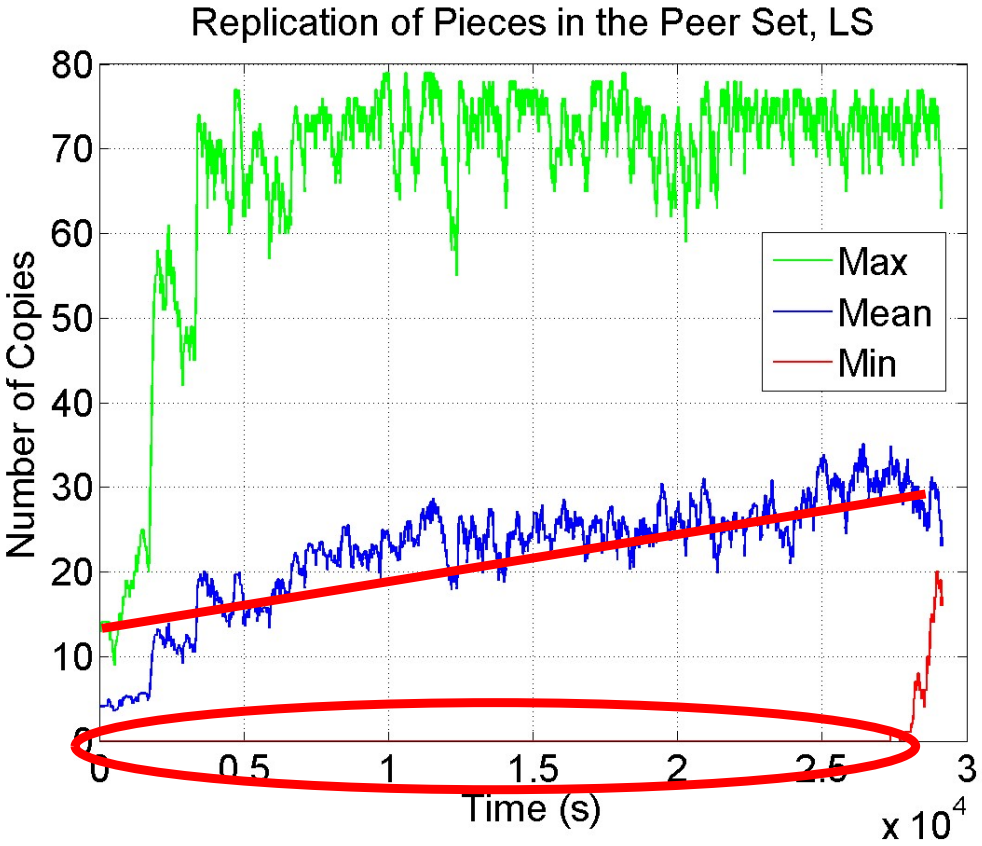
How to Show Something on a Slide?

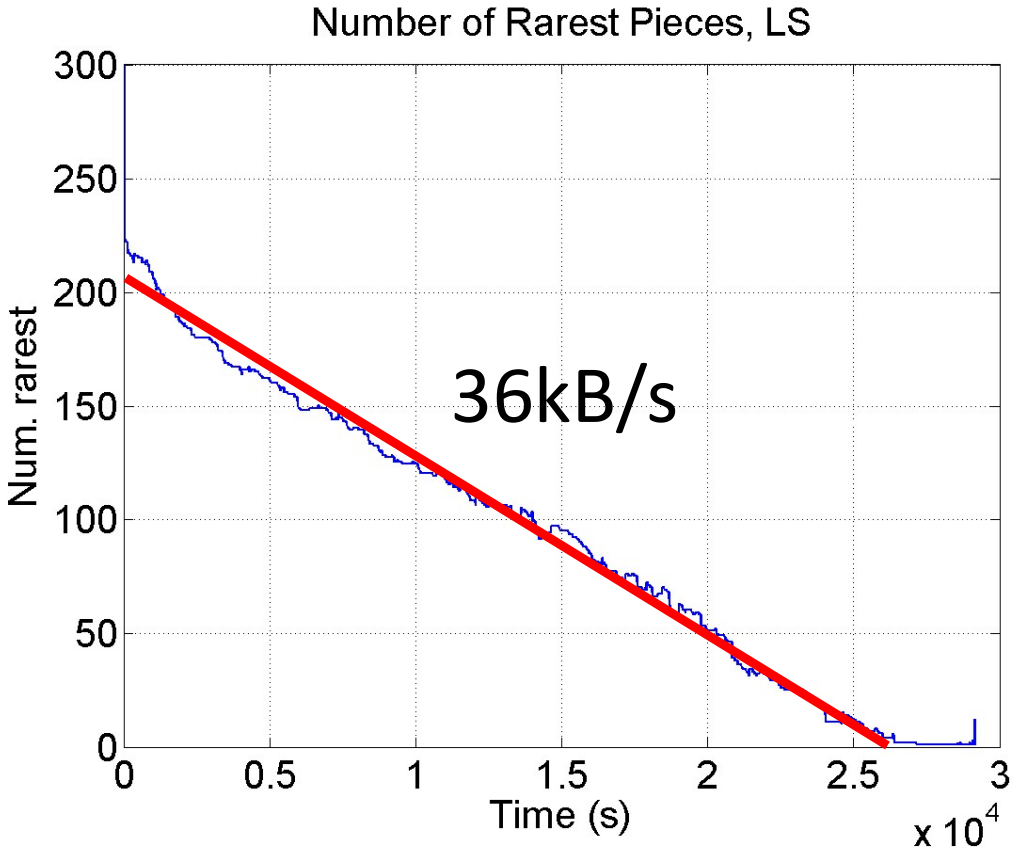
- You can touch the screen
  - Really touch the screen
    - Don’t shake the hand 5 meters in front of the screen
  - Not always possible
    - Screen might be too high or too far
  - Not the most professional solution

How to Show Something on a Slide?

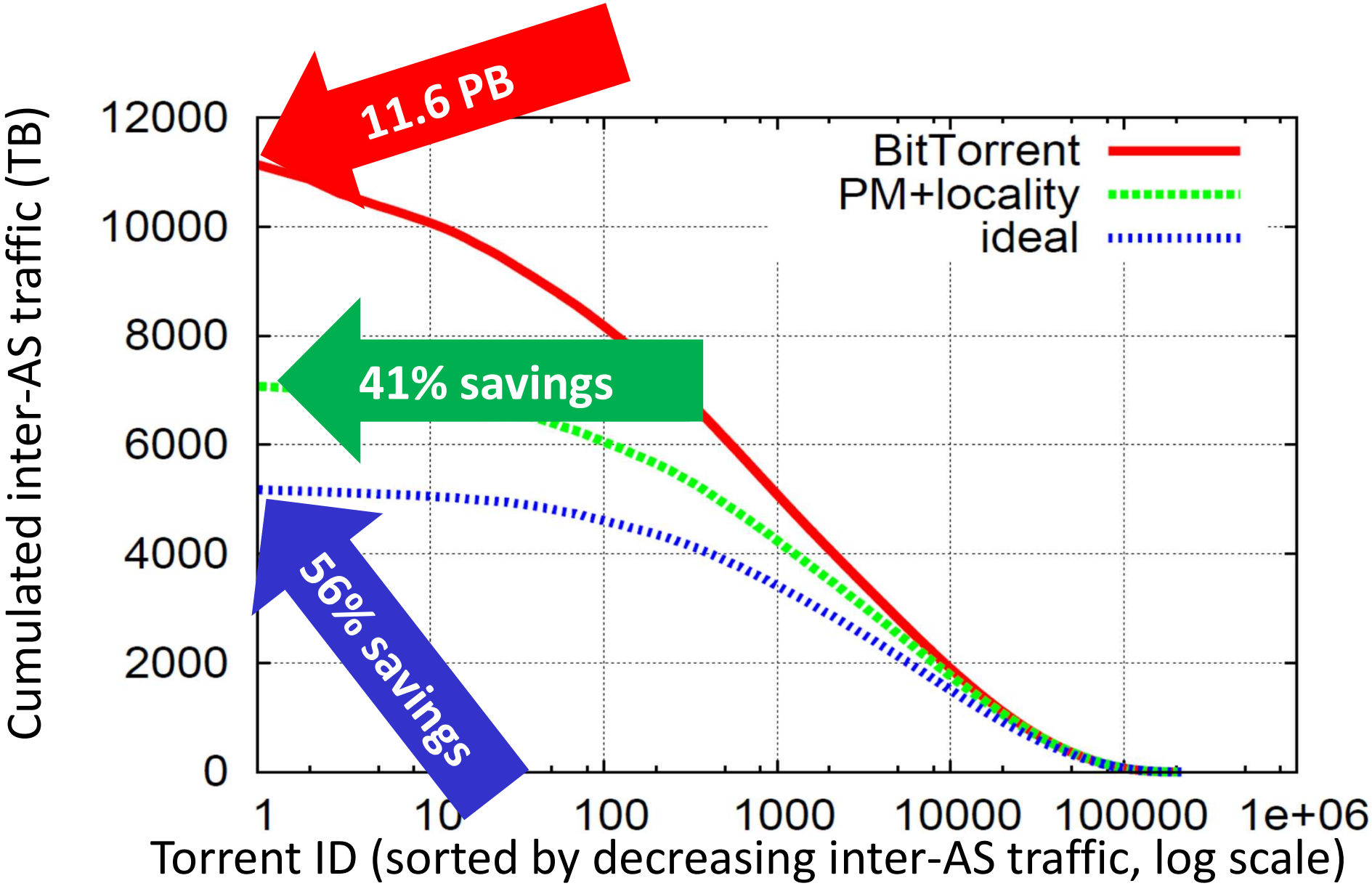
- You can use neat animations
  - Works in any case
  - Many excellent options
    - Square, circles, ovals, arrows, etc.
    - See examples in the following
- But, never use a laser pointer
  - Always disturbing
    - Aren't you shaking?

Use Thick Lines

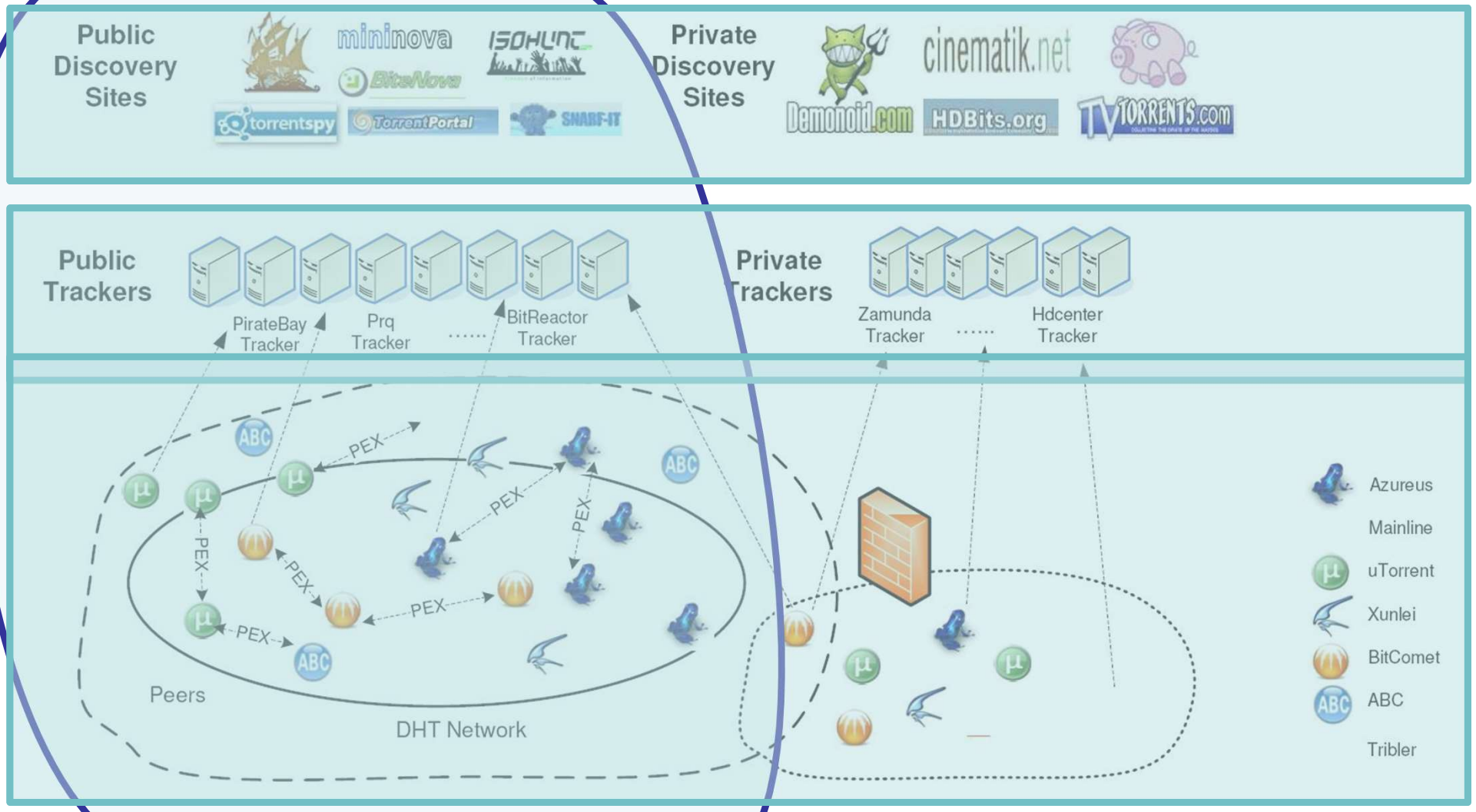




Use Arrows


11.6 PB
41% savings
56% savings
BitTorrent
PM+locality
ideal
Cumulated inter-AS traffic (TB)
12000
10000
8000
6000
4000
2000
0
1
10
100
1000
10000
100000
1e+06
Torrent ID (sorted by decreasing inter-AS traffic, log scale)

Use Semi-Transparent Squares



Focus of [42]

Explain All Slides

- Never present a slide you do not explain in details
  - Always drop a slide if you present it for less than 30 seconds
  - Spend time on complex figures or drop them
  - Spend time on equations or drop them
  - Talk on transition slides (e.g., outline reminders) or drop them
    - Use transition to summarize the previous part and introduce the next one

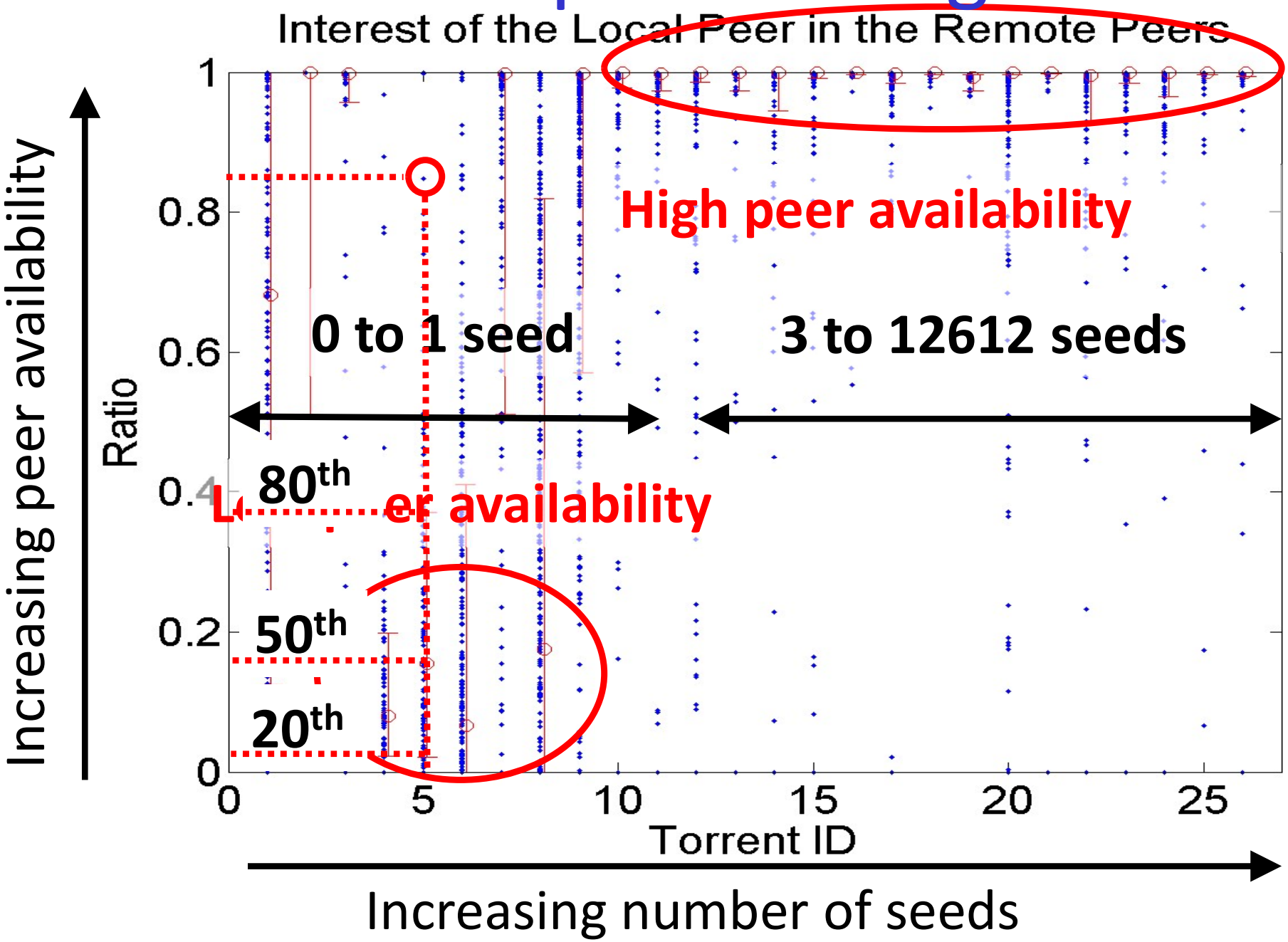
Minimum Explanation

- For each figure you must
  - Give for each of the x-axis, y-axis, and z-axis
    - Label, unit, scale (if log scale)
  - Give the legend
  - Explain all symbols
  - Take an example to illustrate a specific point in the figure
    - Very useful if the figure is complex

Minimum Explanation

- For each equation you must
  - Explain all variables and parameters
- If you cannot
  - Drop the figure or the equation, otherwise it will be useless

Example for a Figure



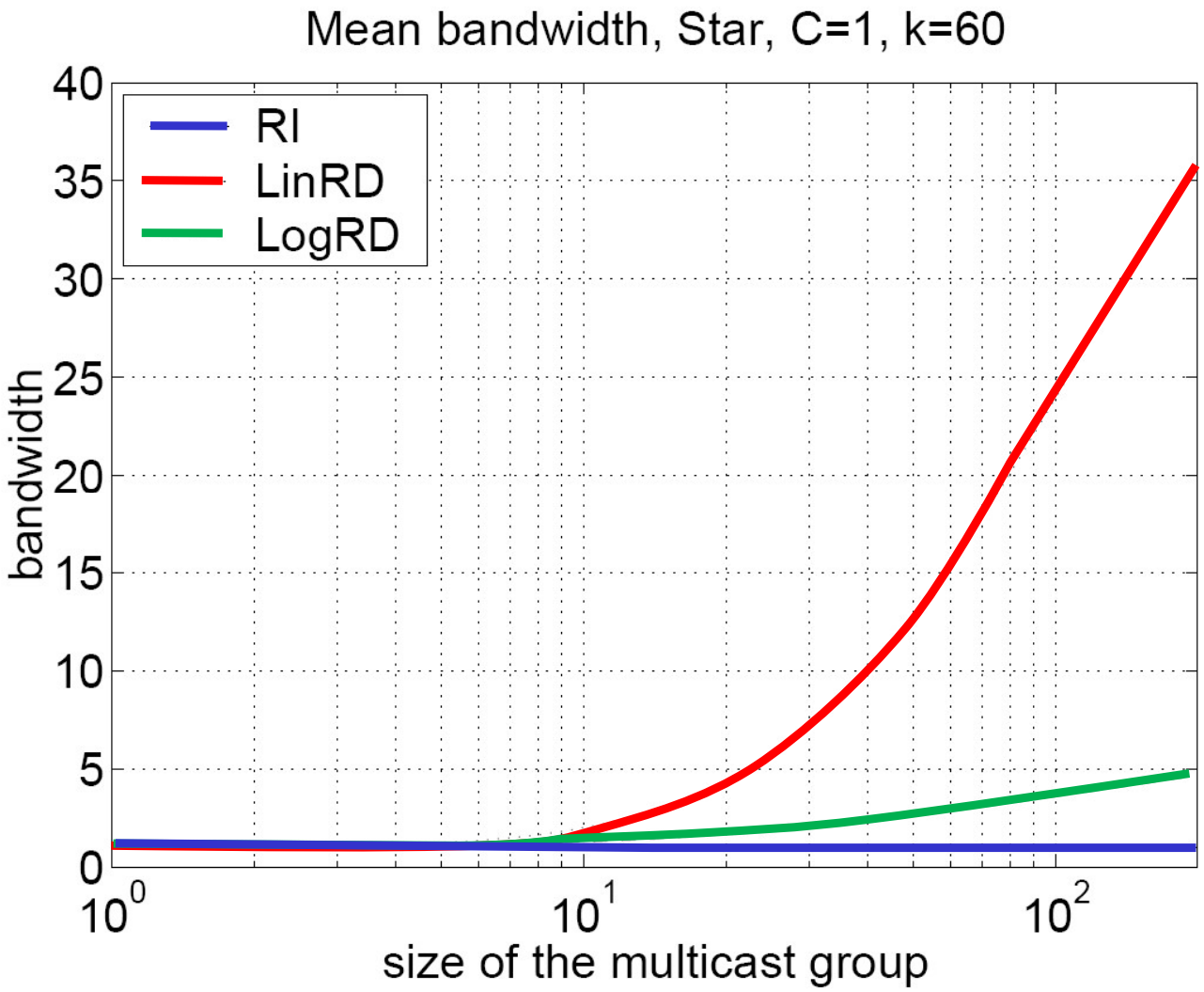
Example for an Equation

$$\bar{B}_{RI} = \frac{1}{k+m}\sum_{i=1}^{k+m}\frac{C}{k+1} = \frac{C}{k+1}$$

$$\bar{B}_{LinRD} = \frac{1}{k+m}\left(\sum_{i=1}^{k}\frac{C}{m+k} + \sum_{i=1}^{m}\frac{mC}{m+k}\right) = \frac{k+m^2}{(k+m)^2}C$$

$$\bar{B}_{LogRD} = \frac{1}{k+m}\left(\sum_{i=1}^{k}\frac{C}{k+(1+\ln m)} + \sum_{i=1}^{m}\frac{C(1+\ln m)}{k+(1+\ln m)}\right) = \frac{k+m(1+\ln m)}{(k+m)(k+1+\ln m)}C$$

But, Prefer the Figure to the Equation



Introduce and Summarize Slides

- For each important slide
  - Say a one sentence introduction
    - What you are going to discuss now
  - Say a one sentence summary
    - If the audience has to remember a single sentence it is this one

For very important results, show the take home message

Be Redundant

- Repeat several times
  - I'm going to explain…
  - My explanation is…
  - I just explained…
- Never too much redundancy

Never Go Back

- It is bad habit to go back to a previous slide
  - If you forgot something, just tell it
  - If you need a previously shown image, add it again
- Navigating within slides will lose your audience

Never Exceed Your Allocated Time

- This is a lack of respect for the audience and the next speakers
  - Not admissible, not professional
- Should never happen if you are well prepared

Never Exceed Your Allocated Time

- In case you feel you will exceed the allocated time
  - Drop slides
  - No problem to drop a full part
  - Never drop summary of contributions
  - Never stop in the middle of somewhere

One Slide Every Two Minutes

- Usually everybody agrees
- Now, count!
  - 10 minutes means 5 slides
  - 20 minutes means 10 slides
  - How many slides do you have for a 20 minutes talk?

One Slide Every Two Minutes

- You can violate this rule if
  - You have time to explain in details all slides
  - You will not exceed your allocated time
  - You will not speak much faster
- Hard to spend on average per slide
  - less than 1 minute (really short)
  - more than 3 minutes (start to be SB)

So boring! Not Smart boy.

Use a Watch

- On a room wall, in front of you
  - You can see it, but not the audience
- On your desk
  - Digital one with large enough numbers
- On PowerPoint
  - Presenter mode
    - Very convenient, you can get comments and a few slides before and after the current one

For Long Talks

- Several hours to several days
  - Make summary at the end of each part
    - Every hours and after each break
  - Involve the audience
    - “Jon, what do you remember from the last hour?”
    - “Jim, can you in few words explain me this part?”
    - But, don’t be too pushy: it is not an exam!

Q&A

- Reformulate questions
  - Make sure you understood them
  - Make sure everybody hear them
- Be concise in your answer
- Do not start a discussion
  - “I propose to continue this interesting discussion during the break. Another question?”

Q&A

- Never bluff or lie
- Acknowledge when you don't have the answer
  - "Thank you for that point, I don't have an answer now. We will definitely look at it."
  - "I don't know this article, but it looks similar to what we did. Can you send me the pointer?"
    - Never forget to send back your answer by email

Q&A

- Questions might be
  - Aggressive
  - Stupid (most of the time, such questions show you made a poor presentation)
  - Hard to answer
  - Showing you are wrong
- In any case never
  - Lie, aggress, or complain

Q&A

- During a conference, if you don't understand the question
  - Try to reformulate based on what you got
  - If after one try you still don't understand it
    - Ask the session chair
  - If after two tries nobody got it
    - Don't start a discussion at that point
    - Propose to take it off-line after the talk

Use Your Body

- Use eye contact
  - Do not stare (no more than 10 seconds)
  - Do not avert or switch fast
- Use your hands
  - To support visually what you say
- You can walk, but
  - Do not stand in front of your slides
  - Do not continuously walk along a line
  - Walk on a triangle and stop at each vertex

Use Your Body

- Stay in front of the audience
  - Aside the slides, but not in front of them
  - Do not show your back or your side
  - Do not persistently move while speaking

Use Your Voice

- Make a short pause before each important message
  - In the order of a few seconds
  - Pauses are even more effective than raising voice
- The rhythm of the speech is what makes a big difference to catch the attention

Use Your Voice

- Vary your voice level
  - Speaking softly catch better the attention than speaking even louder
    - Alternating loud and soft speech catch the best the attention
    - You need to practice a lot to find the right balance
  - My rule of thumb
    - Make a pause and speak softly before a very important result
- Never read your slides or notes

Show Enthusiasm

- If you don't show enthusiasm presenting you own work, do you really believe that the audience will be enthusiastic
  - Listening to you
  - Reading your work
  - Inviting you
  - Discussing with you

Use a Second Screen

- Do not look at your slides on the primary screen
  - You must not show your back to the audience
  - Hard to keep the eye contact this way
- Use instead a second screen (in clone or extended view)
  - Place it appropriately
    - Stay in front of the audience when you look at the slides
  - Hard to see you are looking at the slides

Practice

- Best speakers are the ones who practice the most
  - No improvisation or spontaneity
  - To look spontaneous you even need to practice more
- Stand up and speak with loud voice to practice
  - Practice at least once using a projector
- Practice with colleagues (once well trained)
- The shorter the talk the more you have to practice
- Be prepared to answer hard/aggressive questions

Practice

- To prepare a 20 minutes talk
  - Three days for a first version of the slides
  - Around 10 rehearsal in front of my desk
  - Around 5 “in situation” rehearsal
    - Final version of the slides
    - Stand up
    - Speak loud
    - May use a real projector
    - Stringent time constraint
    - In front of colleagues

Outline

- ❑Why should you bother doing talks?
- ❑How to structure your talk?
- ❑How to make your slides?
- ❑How to give your talk?
- ❑Great talks examples

Wonderful Examples

- General talks (not scientific)
  - Randy Pausch Last Lecture (in english)
    - How to communicate passion?
    - Try http://www.youtube.com/watch?v=ji5_MqicxSo
    - Or search google for “Randy Pausch Last Lecture”

Wonderful Examples

- General talks (not scientific)
  - Michel Serres aux 40 ans de l'INRIA (in french)
    - How to keep the audience focused during one hour without any slides and sitting at a chair?
    - Try http://www.inria.fr/40ans/forum/video.fr.php
    - On the same site you will find horrible presentations

Wonderful Examples

- Scientific talks
  - Gerard Berry (Collège de France)
    - In French: http://www.college-de-france.fr/default/EN/all/cha_inf2009/Lecon_inaugurale_du_19_novembr.jsp
    - More talks (some in English) here: http://www-sop.inria.fr/members/Gerard.Berry/

Wonderful Examples

- Watch talks on http://www.ted.com/
  - Extremely high quality standard
  - Elizabeth Gilbert on nurturing creativity
    - http://www.ted.com/talks/elizabeth_gilbert_on_genius.html