Assorted guidelines on giving short talks

Mirek Kratochvil
NPRG024 Design Patterns 25/26

Requirements again

- Official requirements
- "Quality"   What is quality?
- Constraints and techniques to fit

Do you recall a <u>good</u> talk about computing?

What made it good?

Do you recall a <u>good</u> talk about computing?

What made it good?

What properties separate it from bad talks?

Quality of talks is badly defined

- The best applicable definition of quality is "lack of problems"
- There are infinite amounts of problems to dodge

Instead we focus on tangible stuff:

- Let's look at what we work with
- Optimistically optimize for that

What do we work with?

- Audience
- Message   (your goal)
- Speaker
- Expectations   (talk context)

Learn these well.

Constraints

Take-home message is singular

- From a normal talk, audience carries exactly 1 "item" home
    - factoid
    - assertion
    - idea
    - intuition
    - …
- If you ask people to bring a notebook, they will *instead* take notes.

Take-home message is singular

- From a normal talk, audience carries exactly 1 "item" home
  - factoid
  - assertion
  - idea
  - intuition
  - …
- If you ask people to bring a notebook, they will *instead* take notes.

Solution: Present exactly one message.

- If there is more messages, relate everything to a single main one.
- If you really have multiple messages, forcibly connect them into one.
- If there's still more, split the talk very visibly into parts.
  - make a break
  - change slide style
  - change speaker

Audience attention is limited

- People can either read or listen, but not both.
- Too much text makes people lose track of your speech.
- No text makes it impossible to regain the track of your speech.

Audience attention is limited

- People can either read or listen, but not both.
- Too much text makes people lose track of your speech.
- No text makes it impossible to regain the track of your speech.

Solution: Limit text to whatever is needed to get back to the idea.

- Keep a running example around all the time.
- Keep the zoom layers ("breadcrumbs") around all the time.
- See also: assertions vs. topics

Abstract concepts are hard to explain

- If presented with an abstract definition:
  - Everyone will try to recall their favorite instance
  - ...with many properties that you don't expect
  - ...unlikely to actually match your abstract definition.

Abstract concepts are hard to explain

- If presented with an abstract definition:
    - Everyone will try to recall their favorite instance
    - ...with many properties that you don't expect
    - ...unlikely to actually match your abstract definition.

Solution: Abstract concepts can only be explained by sufficient examples.

- Have a picture of many instances of your abstract thing
- ...as well as of non-instances.
- Make a running example

Audience are impatient

A typical computer person is going to switch attention...

- after 3 minutes of waiting for the point
- after 1 minute of missing the point

Audience are impatient

A typical computer person is going to switch attention...

- after 3 minutes of waiting for the point
- after 1 minute of missing the point

Solution: Do a fast dive-in, start from a very general level.

- Your third slide should contain "the point". The attention gets quite scattered later.
- People are rarely interested in what's your name and where you came from. (They will be, but only after they realize your ideas are brilliant!)

Bandwidth is limited

- Your speaking rate has limits, especially if people should understand you.
- People's reading rate has limits.

Bandwidth is limited

- Your speaking rate has limits, especially if people should understand you.
- People's reading rate has limits.

Solution: Aim for one slide per minute.

- Readers won't get bored.
- Listeners will manage a quick peek.
    - under no circumstances draw complex illustrations that are 'full of action' (gen-AI loves these!)
    - listeners who try to peek will get lost in unimportant detail
- Conveying logic (proofs, definitions) requires half speed, <u>if</u> you really have to.
- If you don't know whether a part of the talk is necessary, it's not.

There's a time limit

- <u>Everyone</u> will get very annoyed if you keep talking over their break.

There's a time limit

- Everyone will get very annoyed if you keep talking over their break.

Solution: Aim for finishing early.

- Expect taking 2 minutes per slide.
  (even if you planned using 1 minute for each)
- If the main message gets through, no one is going to be upset if you finish early.
- People can go to washroom & get coffee!
- For the case you finish super early, prepare a self-sufficient *extension* of the talk.
  - Don't split the message!
  - Case studies and stories from the wild are often very welcome.

Longer lines of thought are hard to connect

- It often happens that you need to present a few "building blocks" or "dependencies" before getting to the main thing.
- People will get lost if the topic seemingly switches too often.
- People will get lost if the aim is not clear.

- It often happens that you need to present a few "building blocks" or "dependencies" before getting to the main thing.
- People will get lost if the topic seemingly switches too often.
- People will get lost if the aim is not clear.

Solution: Present a storyline from history, not a detective novel.

- Audience should always know "why am I looking at this slide"
- Brains are good at chronological stories, not topology-ordering
- Animate the running example along the story

Speaker is stressed

- Public performance anxiety is completely normal.
- The usual timing constraints aren't helping a lot.
- You will learn to ignore it.

Speaker is stressed

- Public performance anxiety is completely normal.
- The usual timing constraints aren't helping a lot.
- You will learn to ignore it.

Common effective solution: Get familiar with the audience.

- This removes the feeling of disconnection and expectations.
- Talk to random attendees in advance.
- Find them in the audience and direct the talk towards them.
    - Watch their faces to convince your brain that you're talking to a normal person.
- Talk to the chair in advance.
- Bring friends. Bribe them to ask good questions.

Techniques

Use assertions instead of topics

Assertion gives immediate guarantees.

Topic gives immediate empty space to fill.

Use assertions instead of topics

Assertion gives immediate guarantees.

Topic gives immediate empty space to fill.

Examples in slide titles:

- schematically: 'About X' vs. 'X does Y'
- 'Impact of changes' vs 'Reducing X improved Y'
- 'Slide titles' vs. 'Use assertions'
- 'Results' vs. 'X was cool, Y failed'
- 'Future work' vs. 'What should we do with Y?'

```
https://sixminutes.dlugan.com/
assertion-evidence-design-presentation-slides/
```

Record yourself giving the talk

Everyone hates recording themselves because:

- your own voice sounds weird
- all mistakes are super visible
- brain gets uncomfortable and wants to stop

Record yourself giving the talk

Everyone hates recording themselves because:

- your own voice sounds weird
- all mistakes are super visible
- brain gets uncomfortable and wants to stop

Approach:

- make sure you are alone (:D)
- force yourself to listen to the whole length of it
- record yourself again
- notice that your brain automatically fixed the worst issues

13

Use a running example

A single well-curated running example:

- prevents people from getting lost
- keeps attention
- shows change and impact
- often becomes the take-away message

Use a running example

A single well-curated running example:

- prevents people from getting lost
- keeps attention
- shows change and impact
- often becomes the take-away message

Great tools for graphical examples:

- `potrace` and similar can make hand-drawing look professional
- `TikZ` is great (and fast!) for diagrams in LaTeX Beamer
- `mermaid` is great for Markdown presentations

Make the impact unambiguously observable

- If you do not highlight what the impact is, people won't remember the reason they'd use it
- "...yeah but what did *you* improve?"
- The highlight of impact often fits the storytelling line.

Make the impact unambiguously observable

- If you do not highlight what the impact is, people won't remember the reason they'd use it
- "...yeah but what did *you* improve?"
- The highlight of impact often fits the storytelling line.

Techniques:

- Put a circle around a part of the running example.
- Before $\longrightarrow$ After.
  - can be done with a plot
  - circle around the change if it's tiny
- Animation helps, but draws attention. Stop the animation in time.

Make your graphics understandable

Choosing the level of detail is hard.

- Readers should be able to kinda get the picture on their own.
- Listeners should be able to quickly find the stuff they hear you talking about.

Make your graphics understandable

Choosing the level of detail is hard.

- Readers should be able to kinda get the picture on their own.
- Listeners should be able to quickly find the stuff they hear you talking about.

Common solution:

- Avoid surprise, use the style of graphics the field is used to.
- Hand-drawn boxes with pastel shades are underrated.
- Have a set of visual labels that point to the important things (your narrative).
- Annotate plots properly
    - Too much text is bad
    - Small text is worse than no text
    - Apple-releases-M1-style plots don't belong in science
    - CoW Fundamentals (https://clauswilke.com/dataviz/index.html)

Use formal methods only in dire necessity

- All math should be shortened to extreme minimum.
- Programs:
    - all code on the slide should be readable in under 5 seconds
    - use pseudocode with very nice syntax highlighting
    - only use real languages if the narrative requires it
- All plots should be reduced only to what's required for the narrative.

Use formal methods only in dire necessity

- All math should be shortened to extreme minimum.
- Programs:
    - all code on the slide should be readable in under 5 seconds
    - use pseudocode with very nice syntax highlighting
    - only use real languages if the narrative requires it
- All plots should be reduced only to what's required for the narrative.

Exceptions:

- You want to show that the theorem/proof/code is annoyingly long.
    - Make super sure no one starts to interpret the code
- You want to have the math/plot/code at hand for possible details/discussion
    - Keep it in backup slides, use only if people really ask.
    - Use a QR code that points to details.

Use the last slide for networking

Do not waste the last slide for "thanks for attention". Say that instead.

The last slide will stay displayed over most of the Q&A session.

Use the last slide for networking

Do not waste the last slide for "thanks for attention". Say that instead.

The last slide will stay displayed over most of the Q&A session.

Use that bandwidth:

- Finally show something interesting about yourself.
  (Locals may initiate networking.)

- QR code to a site about the talk&contacts
  (People are most likely to want to talk to you now!)

- Point to your next talk (or related talks)

- Keep showing a simple illustration of the main message.
  (Recall improves with repetition.)

Last slide!

Thank you for attention!   :)

Last slide!

Remember:

    Assertions, not topics

    Examples that convey

    1 slide per minute is fast

    This slide deck is <u>not</u> an example