On Preparing Good Talks
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Advising students since 2005 (!)
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Ranjit Jhala
Advising students since 2005 (!)

“got a long list of ex-students ...
...they’re gonna tell you I'm insane"
Ranjit Jhala

I obsess about giving good talks
Why obsess about giving good talks
Why obsess about giving good talks

Howard Aiken
Why *obsess* about giving good talks

“Don't worry about people stealing an idea...”

Howard Aiken
Why obsess about giving good talks

“Don't worry about people stealing an idea… If it's original, you will have to ram it down their throats.”

Howard Aiken
Why *obsess* about giving good talks

Large & Captive Audience
Why obsess about giving good talks

Captive Audience: to Inspire

New *research* ...

New *collaborators* ...

New *users* ...

New *jobs* ...
How to go about giving good talks

How to create content

How to design talks

How to deliver talks
How to go about giving good talks

How to create content

How to design talks

How to deliver talks
How to design talks

What is our goal?
What is our goal?

Spread wisdom ...
What is our goal?

... without losing to Candy-Crush!
What is our goal?

Goal: *Enable Focus*

Eliminate opportunities to “get lost”
How to design talks

Enable Focus

Eliminate opportunities to “get lost”
How to design talks

Aristotle
How to *design* talks

1. Tell them what you *will tell* them
2. *Tell* them
3. Tell them what you *just told* them

Aristotle
How to design talks

1. Tell them what you will tell them
2. Tell them
3. Tell them what you just told them

“Aristotle “Three parts of a sermon”, 1908

https://quoteinvestigator.com/2017/08/15/tell-em/
How to design talks

How to draw an owl

1. Draw some circles
How to *design* talks

How to draw an owl

1. Draw some circles
2. Draw the rest of the f**king owl
How to design talks

I. Story
   “outline”

II. Scene
   “section”

III. Frame
   “slide”
I. Story
I. Story

1. Identify your *goal*

Key ideas you want to “ram down”
I. Story

1. Identify your goal

Story is a *path to* your goal
I. Story

Problem

Solution

1. Identify your goal

Story is a *path to* your goal
I. Story

*Problem*

*Solution*

Story is a *path to* your goal

How to design a path?
I. Story

Problem

Solution

2. Identify *landmarks* along path

How to design a path
I. Story

Problem

Solution

2. Identify *landmarks* along path

How to design a path
I. Story

Problem

Solution

2. Identify *landmarks* along path

How to design a path
I. Story: Example

Problem

Solution
I. Story: Example

Problem

Solution

What is my goal?
I. Story: Example

“Fickle Audience”

Solution

What is my goal?
I. Story : Example

“Fickle Audience”

“Enable Focus”

What is my goal?
I. Story: Example

“Fickle Audience”

“Enable Focus”

What are my landmarks?
I. Story: Example

“Fickle Audience”

I. Story

“Enable Focus”

What are my landmarks?
I. Story: Example

“Fickle Audience”

I. Story

II. Scene

“Enable Focus”

What are my landmarks?
I. Story: Example

“Fickle Audience”

What are my landmarks?
I. Story

What is my goal?
What are my landmarks?
I. Story

What are my landmarks?

How to pick good landmarks?
How to pick good landmarks?

Definition before use
How to pick good landmarks?

**Definition before use**

Problems *before* solutions

Intuition *before* formalism

*(do not do this!)*
How to pick good landmarks?
Definition before use

But *minimize bandwidth!*

“*State*” that audience must remember
How to pick good landmarks?

Definition before use

Yikes, must remember four defs!

But minimize bandwidth!
How to pick good landmarks?

**Definition** before **use**

*Re-order* **def** and **use**

*But* **minimize** bandwidth!
How to pick good landmarks?

Definition before use

But minimize bandwidth!
How to pick good landmarks?

Definition before use

V-shaped complexity
How to pick good landmarks?

V-shaped complexity

% Audience Attention

Time
How to pick good landmarks?

V-shaped complexity

Start at high-level motivation
How to pick good landmarks?

V-shaped complexity

Gradually introduce technical details
How to pick good landmarks?

V-shaped complexity

End with high-level summary & consequences
How to pick good landmarks?

Definition before use

V-shaped complexity

Landmarks are outline
How to pick good landmarks?

Landmarks are outline

How to design talks

I. Story

II. Scene

III. Frame

Repetition reinforces landmarks
Prevents “getting lost”, enabling focus
How to pick good landmarks?

Definition before use

V-shaped complexity

Landmarks are outline
I. Story

How to pick good landmarks
How to design talks

I. Story

II. Scene

III. Frame
II. Scene

*Short path* between landmarks
II. Scene

*Short path* between landmarks

*Show, don’t tell*
II. Scene

*Show, don’t tell*

(Only) use *examples*
II. Scene

Show, don’t tell

Sequence of transitions

(Not a set of slides)
II. Scene

Show, don’t tell

Sequence of transitions

Show “landmark” (by example!)
II. Scene
Show “landmark” (by example!)

Step 1: Identify complete example
II. Scene
Show “landmark” (by example!)

Step 1: Identify complete example

“Perfection is achieved … when there is nothing left to take away.”
II. Scene
Show “landmark” *(by example!)*

Step 1: Identify *complete* example
Start by creating the scene’s *last* slide
II. Scene
Show “landmark” *(by example!)*

Step 1: Identify *complete* example
Does it *show* essential elements?
II. Scene

Show “landmark” *(by example!)*

Step 1: Identify *complete* example

Is it as *simple* as possible?
II. Scene

Show “landmark” *(by example!)*

Step 1: Identify *complete* example

Does it *fit nicely* on the screen?
II. Scene
Show “landmark” (by example!)

Step 2: Work back, removing elements
II. Scene

Show “landmark” *(by example!)*

Step 2: Work back, *removing* elements
II. Scene

Show “landmark” *(by example!)*

Step 2: Work back, *removing* elements
II. Scene
Show “landmark” *(by example!)*

Step 2: Work back, *removing elements*
II. Scene

Show “landmark” (by example!)

Step 2: Work back, removing elements
II. Scene
Show “landmark” (by example!)

Step 2: Work back, removing elements
II. Scene

Show “landmark” (by example!)

Step 2: Work back, removing elements

Result: Seq. of transitions building upto landmark
II. Scene

Sequence of transitions
Show “landmark” (by example!)
Ideally, make sense without speech
II. Scene

(by example!)
Interval Sets

Landmark
Represent a set of integers by

\[ \{ \ldots, 3, \ldots \} \]

Begin ordering into a list

[3]

Partition your list into compact lists

\[ [\ldots, 3] \]
Scene: Example

Sequence of Transitions

- IntervalSeats
  Repr a List of Intr

- Repr a List of Intr
  by orden nake list

- Repr a List of Intr
  Partin ord Lis into Lits
“Monkey Test”: Does scene make sense without audio?
II. Scene

Sequence of transitions

Show “landmark” (by example!)

Should make sense without audio
How to design talks

I. Story

II. Scene

III. Frame
III. Frame

What is on a *single* slide?
III. Frame

What *one thing* to focus on?
Be Minimal
Be Minimal

Make the focus *obvious* *

* c.f. Shewchuk’s 12-words-per-slide rule
Be Minimal

Don’t ever make slides like this!

• Where do I even begin with its awfulness?
• What part of it are you supposed to be focussing on? The top? The bottom? Are you supposed to be reading it while the speaker talk? (Candy crush, here we come…)
• First, bullet points are the devil: avoid them like the freaking plague.
  • The only thing worse than bullet points are nested bullets.
  • Why on earth does keynote even let you go three levels deep.
• Hey! Did you get this far down? (Poor you.)
• Oh, I saved the best for last. NEVER NEVER EVER wrap around text. There is nothing that destroys focus more quickly than making your optic muscles perform a “carriage return” — i.e. having to swerve all the way backwards after hitting the end of the line.
• Excuse me now. My fingers, eyes, and soul are hurting.
Be Minimal

Don’t ever make slides like this!

- Where do I even begin with its awfulness?
- What part of it are you supposed to be focusing on? The top? The bottom? Are you supposed to be reading it while the speaker talk? (Candy crush, here we come...)
- First, bullet points are the devil: avoid them like the freaking plague.
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- Excuse me now. My fingers, eyes, and soul are hurting.
III. Frame
Make the focus obvious

Be Minimal

Be Incremental
Be Incremental
Gradually build up to landmark

On each slide focus is on the “diff”
Be Incremental
Gradually build up to landmark

Data Structure to Represent Sets

\{ 7 \ 1 \ 10 \ 3 \ 11 \ 2 \ 9 \ 12 \ 4 \}\n
On each slide focus is on the “diff”
III. Frame
Make the focus obvious

Be Minimal

Be Incremental

Highlight the focus
Highlight the focus

Where’s Waldo?
Highlight the focus
Highlight the focus

Here’s Waldo!
Data Structure to Represent Sets

\{ 7 1 10 3 11 2 9 12 4 \}

By Ordering into a sequence…

\[ 1 2 3 4 7 9 10 11 12 \]

and Partitioning into Intervals

\[ 1-5 7-8 9-13 \]
III. Frame

Make the focus *obvious*

Be Minimal

Be Incremental

Highlight the focus
How to design talks

I. Story
Find landmarks towards goal

II. Scene
Show landmark by transitions

III. Frame
Make the focus obvious
How to design talks

I. Story
II. Scene
III. Frame

Iterate!
Circular dependencies
How to go about giving good talks

How to create \textit{content}

How to \textit{design} talks

How to \textit{deliver} talks
How to deliver talks

Adrienne Porter Felt
@__apf__

I asked James Mickens what his trick was for giving a truly funny and insightful talk. His answer: you spend three months preparing and study videos of other inspiring speakers. Actually pretty helpful to know the amount of work that goes into a really good talk

9:53 AM - 17 Aug 2018

https://mickens.seas.harvard.edu/wisdom-james-mickens
How to deliver talks

Preachers
How to deliver talks

Preachers    Politicians
How to deliver talks

Preachers

Politicians

Comedians
How to design talks

I. Story
Landmarks towards goal

II. Scene
Sequence of transitions

III. Frame
Make the focus obvious
Recommended Reading

Derek Dreyer

How to Give Talks That People Can Follow


Jonathan Shewchuk

Giving an Academic Talk

https://people.eecs.berkeley.edu/~jrs/speaking.html