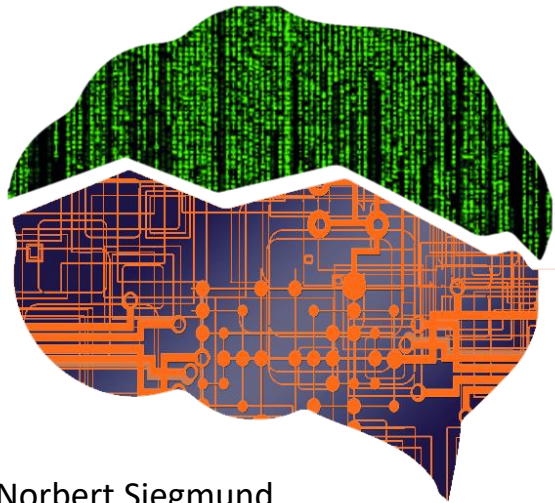


# Modern Software Technologies

How to Present!



Prof. Dr.-Ing. Norbert Siegmund

Intelligent Software Systems

Slides based on material by Graham Horton, Christian Kästner

**Bauhaus-Universität  
Weimar**

# Einleitung

- "Ein Referat ist ein Vortrag über ein Thema, der in einer begrenzten Zeit (etwa 10-30 Minuten) gehalten wird."
- Die häufigsten Formen sind mündliche Berichte, Fachvorträge bei Tagungen, Kurzreferate bei Seminaren oder Übungsreferate in der Schule."
- "Bei Referaten in der Schule oder einem Seminar geht es in erster Linie um die Wiedergabe recherchierter Tatsachen und Gedanken, während Fachreferate bei Tagungen meist die eigene Forschung des Vortragenden (Referenten) zum Inhalt haben."
- Bei Fachkongressen ist eine Zeitdauer von 15 bis 20 Minuten das übliche Maß, bei invited Papers auch etwas länger. Im Schulbetrieb kann das Referat ein Leistungsnachweis in Form einer gleichwertigen Feststellung von Schülerleistungen sein."
- Es gibt auch Referate in rein schriftlicher Form, beispielsweise als Kurzreferat (Bericht) über eine längere Veröffentlichung."

- (Wikipedia, 2014)

# Vortrag planen



# Vortragsstil

- important
- Depend on situation
- Referent entscheidet über Stil
- Nicht einschläfernd
- Sollte gut sein

What happend?

This is how you should NOT do it!

# Preparation

---

- Prepare for a talk!
- Preparation takes time (20x time of actual presentation)
- Do not prepare slides the evening before!

# How to prepare a presentation

- **Preparation** is the single most important part of making a successful presentation!
- Consider the following for preparation:
  - The Subject
  - The Audience
  - The Place
  - The Time
  - Length of Talk



# Fear of Speaking





# How to overcome fear of speaking

- Practice out loud and verbalize your complete presentation
- Stop seeing your presentation as a performance
- Pause frequently
- Use the **AWARE** method to overcome panic attacks:
  - **A**cknowledge & Accept
  - **W**ait & Watch (and maybe, Work)
  - **A**ctions (to make myself more comfortable)
  - **R**epeat
  - **E**nd



# Prepare for a very large Room



# Workshop Room



# What makes a Successful Presentation?

---

- **Facts**
  - Content
  - Structure
  - Cohesion / line of thoughts
- **Visuals**
  - Design of slides
  - Visualizations
- **Appearance**
  - Body language
  - Language
  - Subjective impression

# Structure

# Goals

---

- Every presentation has a goal
- Every presentation has several tasks
- Answer these questions first:
  - What is my goal?
  - What is my main point?
  - Why should the audience listen?
  - Why is the topic interesting?
  - Who will benefit from this presentation?

# Structure

---

**Beginning:** Connect to audience



**Middle:** Convey information



**End:** Take home message

# Structure

---

- Beginning: Connect to audience
  - Introduce yourself
  - Motivate your topic (why should they listen?)
  - Executive summary (main points, main results)
  - (Calm down)
- Middle: Convey information
  - Facts, Arguments, Results, Discussion
- End: Take home message
  - Summarize main points
  - Emphasize consequences
  - Future work



# Beginning

---

- What is the general problem?
- Why is this problem interesting?
- What is the specific problem?
- Why is this problem interesting?
- Which question(s) to answer?
- (State of the art)
- How to proceed and why?
- Goals and tasks?

# Middle

---

- What background knowledge is necessary?
- Which problems need to be solved?
- Which decisions to make?
- Which assumptions/simplifications and why?
- Experiments
- Results
- Interpretation
- Does this answer my hypothesis?

# End

---

- What was the main result?
- How general are these results? (threats to validity)
- What are the consequences?
- What remains open? Which new questions arose? Future work?
- Thank for attention

# Typical problems

---

- Too quick introduction
- Motivation is missing or too late
  - Hint: Motivate before you show your outline
- Problem remains unclear
- Consequences / results unclear
- Too much “what I did”
- Too little “why did I do this (each step)”
- Too little “what’s the point”
- No connection between thoughts / slides
- Missing cohesion

# Slides

# Technical Hints

---

- 20 min, about 7 to 15 slides
- Fontsize  $\geq 18$ , sans-serif fonts (this is 24)
- Name, title (and affiliation) on every slide
- Slides number on every slide
- At most one topic per slide
- Visualization, colors where necessary
- Avoid overfull slides ( $> 7$  objects or  $> 36$  words)
- Avoid full sentences, instead summarize content using headwords.

# Structure slide?

- **Only** if you have something to say
- Maybe only after motivation slides

## Agenda

- Problems and Advantages of Preprocessors
- 4 Improvements
  - Views
  - Visual Representation
  - Disciplined Annotations
  - Product-Line-Aware Type System
- Summary and Perspective

# Visualizations

- Assists memory
  - Assists comprehension
  - Emphasizes the content
  - More accessible style
- 
- If
    - Meaning is clear
    - Visualized content is correct
    - Text is readable

Christian Kästner: Virtual Separation of Concerns

5

## Academia: Compositional Approaches

Base / Platform

```
class Stack {  
  void push(Object o) {  
    elementData[size++] = o;  
  }  
  ...  
}
```

Feature: Queue

```
refines class Stack {  
  void push(Object o) {  
    Lock l = lock(o);  
    Super.push(o);  
    l.unlock();  
  }  
  ...  
}
```

Feature: Diagnostic

```
aspect Diagnostics {  
  ...  
}
```

Composition

```
class Stack {  
  void push(Object o) {  
    Lock l = lock(o);  
    elementData[size++] = o;  
    l.unlock();  
  }  
  ...  
}
```

Module  
Components  
Frameworks, Plug-ins  
Feature-Modules / Mixin Layers / ...  
Aspects / Subjects, Hyper/

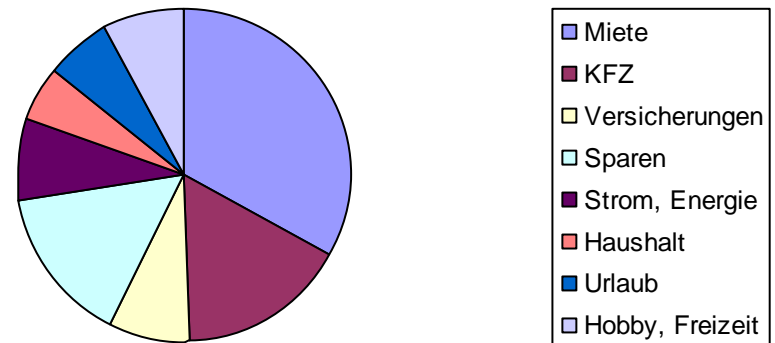


# Different kinds of visualizations

- Diagrams
- Photos
- Clip-arts
- ...



Private Ausgaben



Christian Kästner: Virtual Separation of Concerns

9

## Preprocessor in Femto OS



# Simplify visualizations

- A microprocessor consists of X, Y and Z...

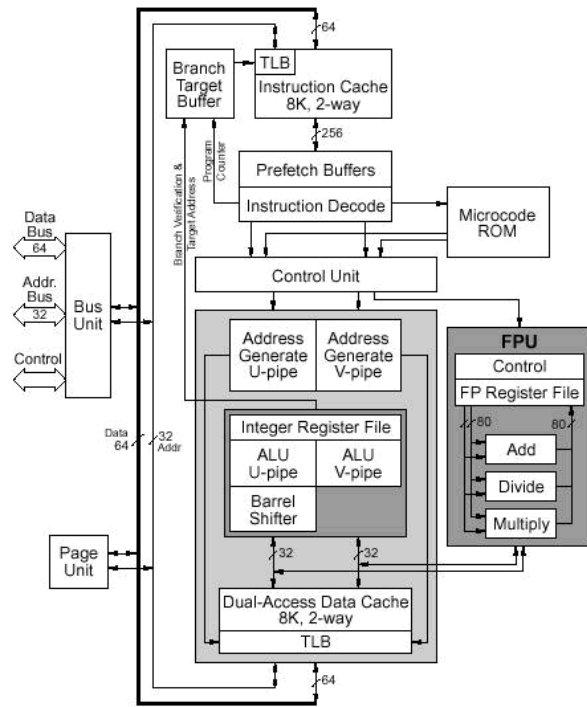
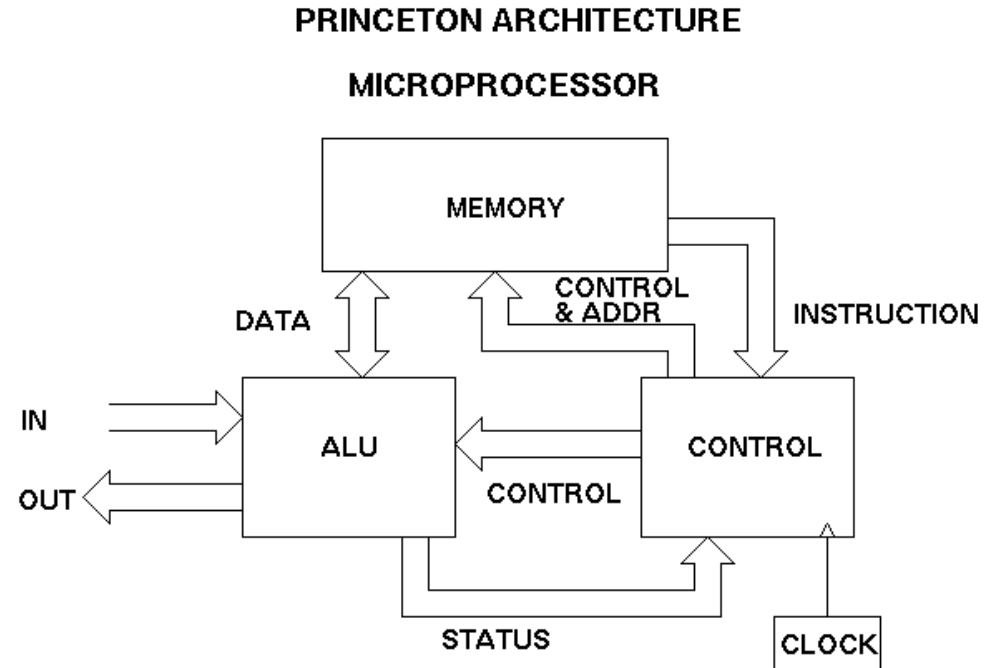


Figure 1. Pentium block diagram.



# Animation

---

- Use animation with care
- Use
  - to focus attention (~ laser pointer)
  - to visualize a process / several steps
- Do not use without specific purpose

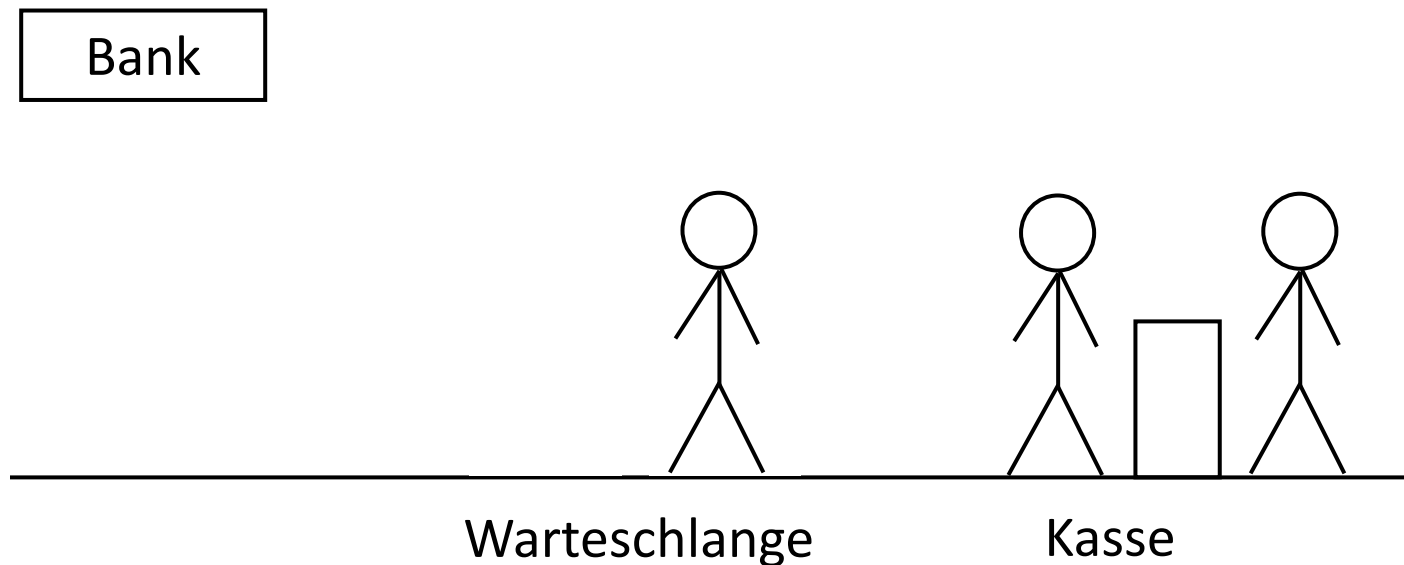
# Animation: Die Todsünde

---

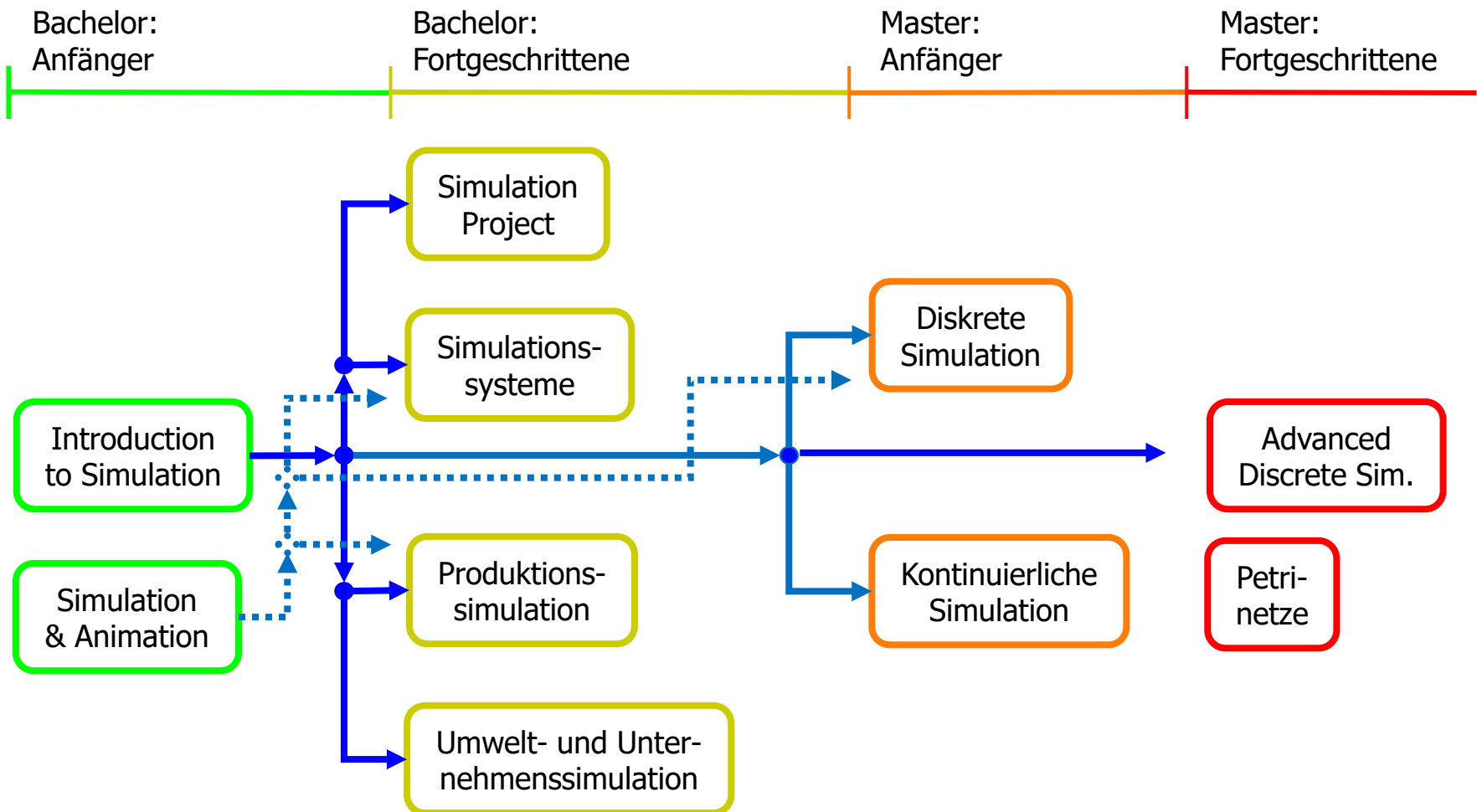
- Punkt 1 Blah blah blah blah blah
  - Punkt 1-1 Blah blah blah blah blah
  - Punkt 1-2 Blah blah blah blah blah
- Punkt 2 Blah blah blah blah blah
  - Punkt 2-1 Blah blah blah blah blah
  - Punkt 2-2 Blah blah blah blah blah
- Punkt 3 Blah blah blah blah blah

# Abläufe visualisieren

- Erklärung eines Warteschlangensystems:



# Aufmerksamkeit lenken



# Checklist for visualizations

---

- Can text be replaced by visualizations?
- Is the meaning clear?
- Are the facts correct?
- All texts and details readable?
- No unnecessary or misleading elements?
- Does it help comprehension?

**design.**

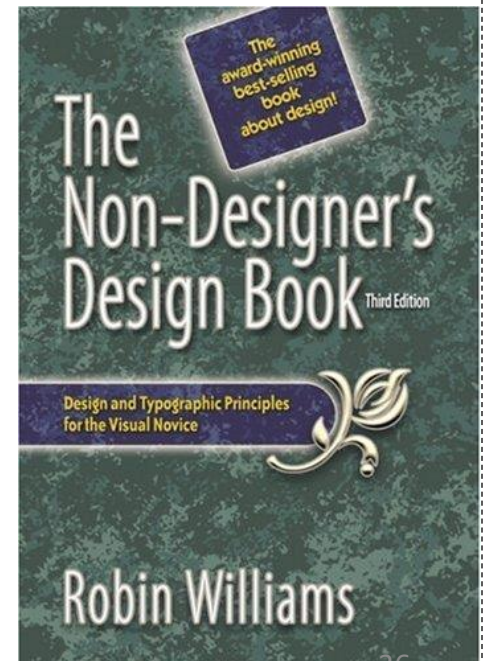


**I start with an  
empty slide.**

(don't be scared of white space)

slide numbers?  
university logo?

contrast  
repetition  
alignment  
proximity



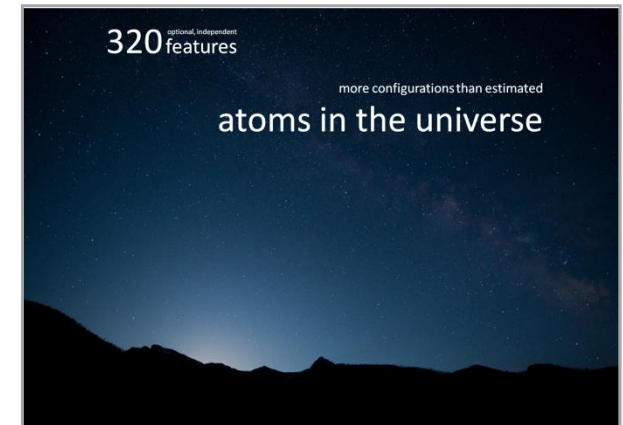
# contrast.

color, typeface

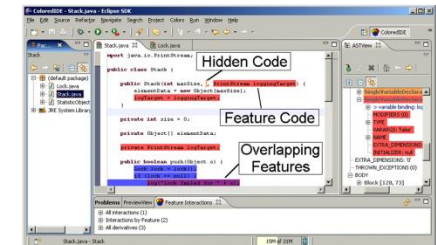
make differences strong (e.g., 36 vs 80)

# alignment.

align along few strong lines  
avoid center alignment



## My History



Disciplined annotations; enables analysis; type system [HCS'08, ASE'08, TOSEM'11]

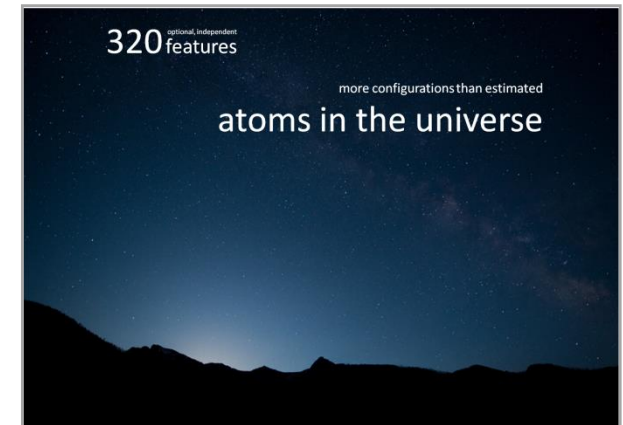
## Evaluation Subjects

in my PhD thesis

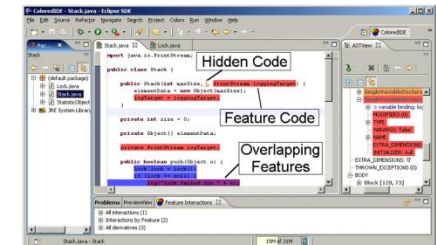
Subject	Lines of Code	Features
AHEAD	17000	14
Arithmetic Expression Evaluator	460	25
Berkeley DB	84000	42
FAME DBMS	5000	14
Functional Graph Library	2600	18
Graph Product Line	1350	18
Lampiro	45000	11
MobileMedia	5700	14
MobileRSSReader	20000	14
Prevayler	8000	5
Pynche	2400	12
SQL Parser	60	4
WaterBoiler	10000	14

# alignment.

align along few strong lines  
avoid center alignment



## My History



Disciplined annotations; enables analysis; type system [KICSE08, ASE08, TOSEM11]

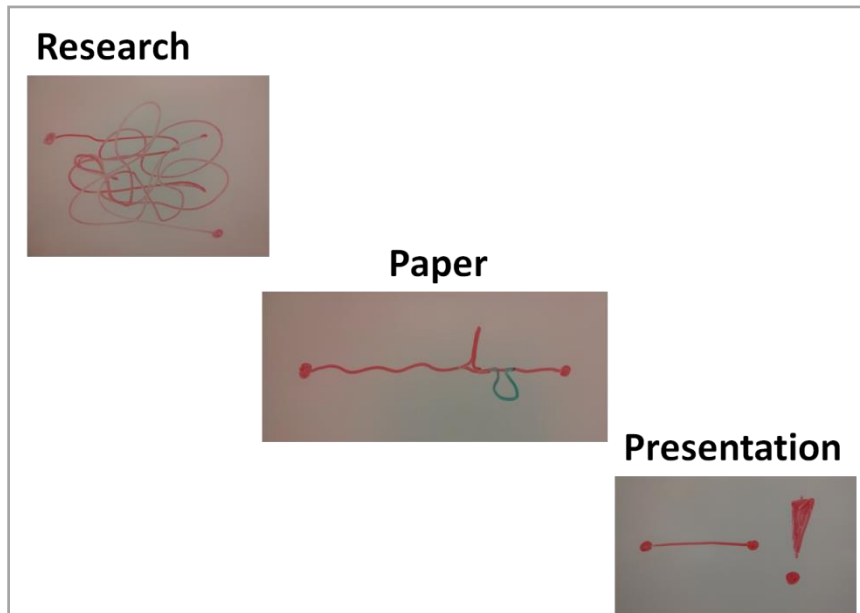
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Lampiro	45000	11
MobileMedia	5700	14
MobileRSSReader	20000	14
Prevayler	8000	5
Pynche	2400	12
SQL Parser	60	4
WaterBoiler	10000	14

# proximity.

physical closeness implies a relationship  
embrace white space, but do not trap it



# repetition.

consistent look

repeat design ideas





# More on design

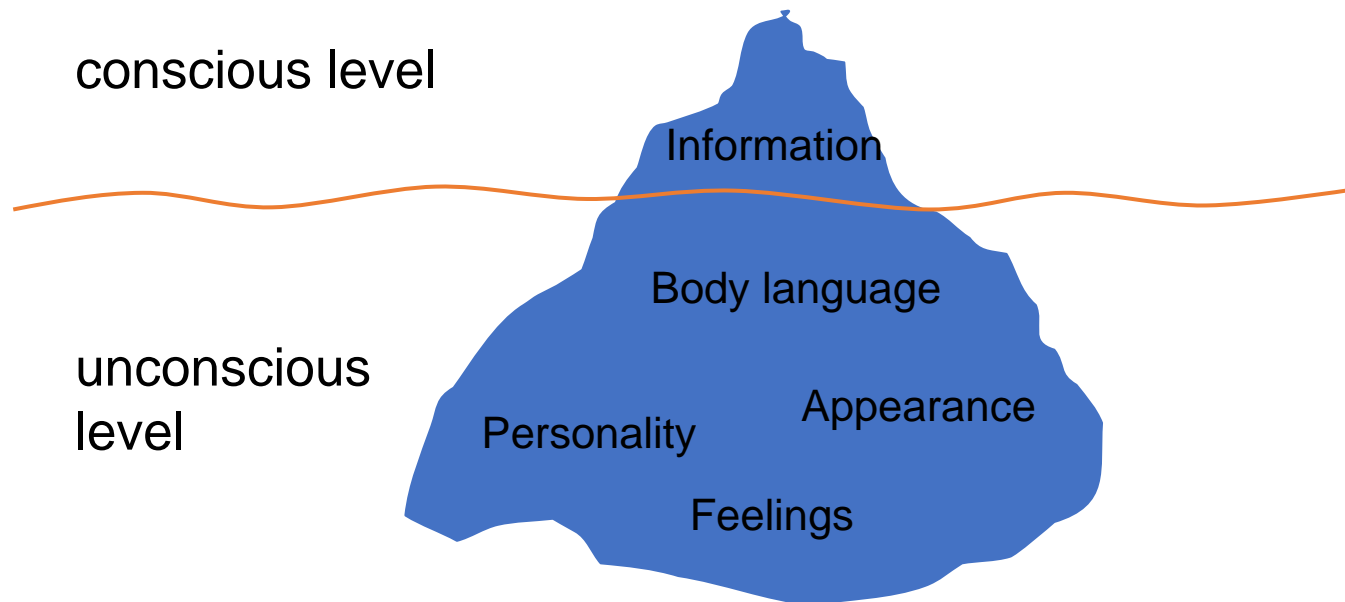
---

- <https://speakerdeck.com/mseckington/the-art-of-slide-design>

# Presentation

# Communication

- *You cannot not communicate*



# Where to stand

- Facing the audience
- Not too far away
- Don't hide the projected image
- Don't hide behind furniture



# Posture

- Upright
- Open
- Relaxed
- Stable



# Movement

- Don't fidget
- Emphasize thoughts with gestures and facial expressions
- Calm, but not fixed



# Eyes

- Look at the audience and make eye contact (yes, really!)
- Try to look at everybody **naturally**
- Do not stare at screen/window/corner/floor



# Voice / Language

---

- Slow and loud enough (not too fast or too quietly)
- Clear pronunciation
- Enough pauses
- Avoid monotony (modulate your tone)
  
- Keep sentences simple
- Don't read your talk!
- Avoid unfamiliar words, abbreviations, or parasites ("um, er")
- Avoid empty phrases, such as "I have to say, ..."



# Timing

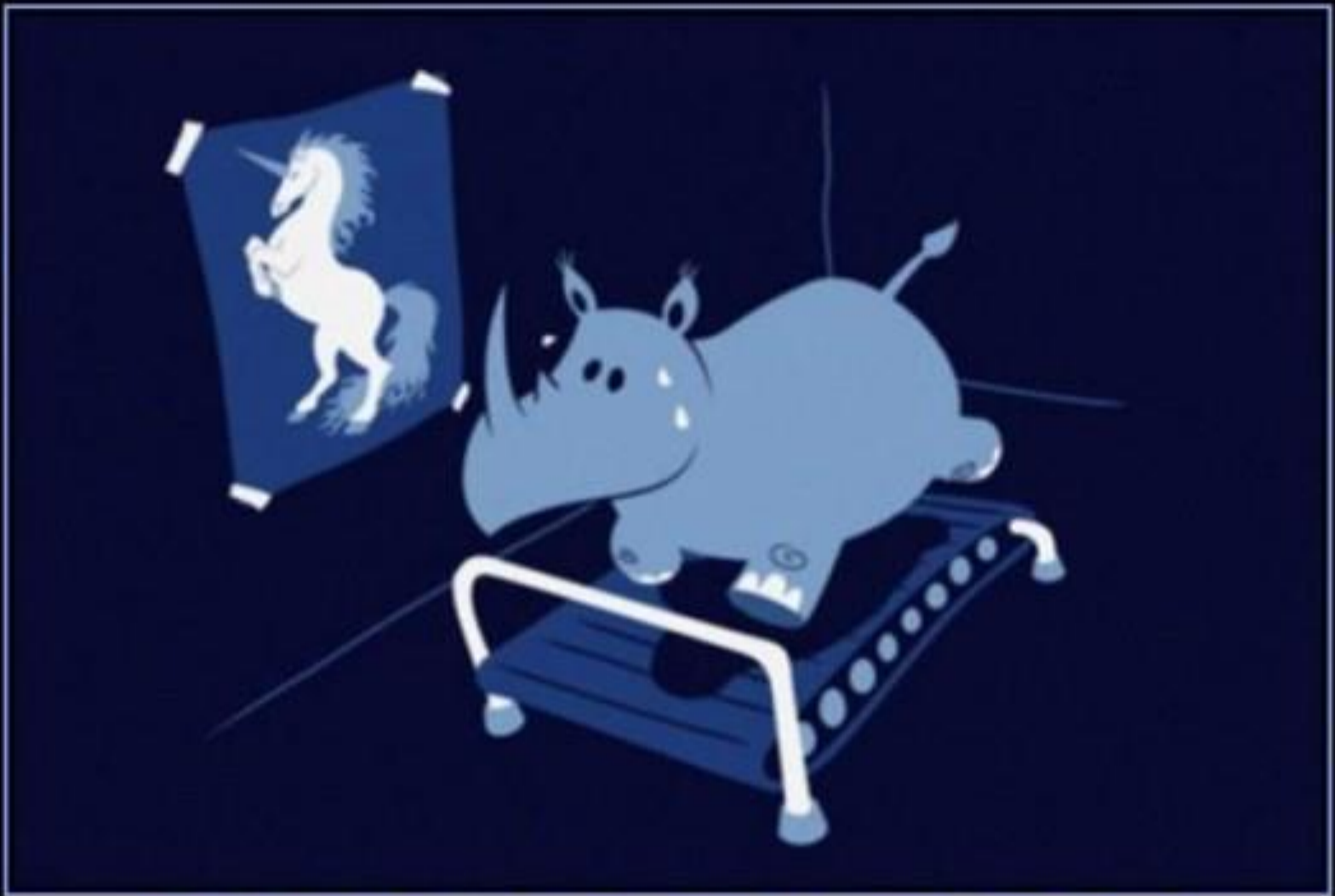
---

- Practice timing
  - If faster when nervous plan ahead
  - Have a timer during presentation
  - Check speed during presentation
- 
- Practice fast and slow version of last 3 slides (maybe have an extra slide you might skip)

# Some Last Tips

---

- Always be prepared
  - Have a PDF version of your slides
  - On at least 2 USB sticks & internet
  - Prepare presentation before the session, usually only one laptop
- Laser pointer hard to see in large rooms -> animations instead
- Practice timing and phrasing!



# VISUALIZATION

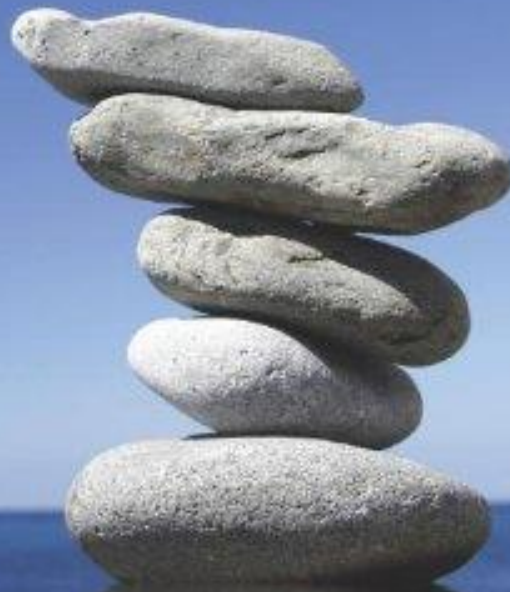
Unless you have a clear picture of your goal, you will never fully appreciate just how badly you failed to measure up.

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FOREWORD BY GUY KAWASAKI

# presentationzen

Simple Ideas on Presentation Design and Delivery



Garr Reynolds

New  
Riders

Copyrighted Material

VOICES THAT MATTER™

The  
award-winning  
best-selling  
book  
about design!

# The Non-Designer's Design Book

Third Edition

Design and Typographic Principles  
for the Visual Novice



Robin Williams