CARDIFF UNIVERSITY
PRIFYSGOL CAERDYDD
National Software Academy
Academi Meddalwedd Genedlaethol

Adopting Technology

CM6312

Dr Wei Zhou
Dr Fernando Loizides

Lecture 1 Introduction & Module Overview

Learning Goals

- Get to know a little bit about the instructor and one or more classmates
- Understand the topics of the module
- Name an example of good/bad user experience

Who am I?

Currently I am a Lecturer at Cardiff University, UK.

- **Previous:** Postdoctoral Fellow at University of Waterloo, Canada
- **Industry:** Intel Labs, Microsoft Research, Alibaba Cloud

Research: Visual quality of experience, human perception, multimedia

ZhouW26@cardiff.ac.uk

https://profiles.cardiff.ac.uk/staff/zhouw26

Who is the TA?

Kehkashan Zeb

- PhD student in human-computer interaction
- Answer questions about the course and project
- Help design some case studies and assignments

ZebK@cardiff.ac.uk

Topics

1) **Requirements** Engineering
2) Design
3) Developing & **Prototyping**
4) Evaluation (qualitative)
5) **Evaluation** (quantitative)
6) Web specific
7) Mobile specific
8) Accessibility

Website

https://weizhou-geek.github.io/teaching/CM6312.html

- Frequently updated with learning materials and announcements
- Includes all the deadlines, release dates, slides, and notes

Communication

- Best way to reach me = email
- Second-best way to reach me = private LearningCentral or teams message

▶ Ask questions related to course

▶ You are encouraged to answer other students' questions

▶ I will try to respond in 2 business days

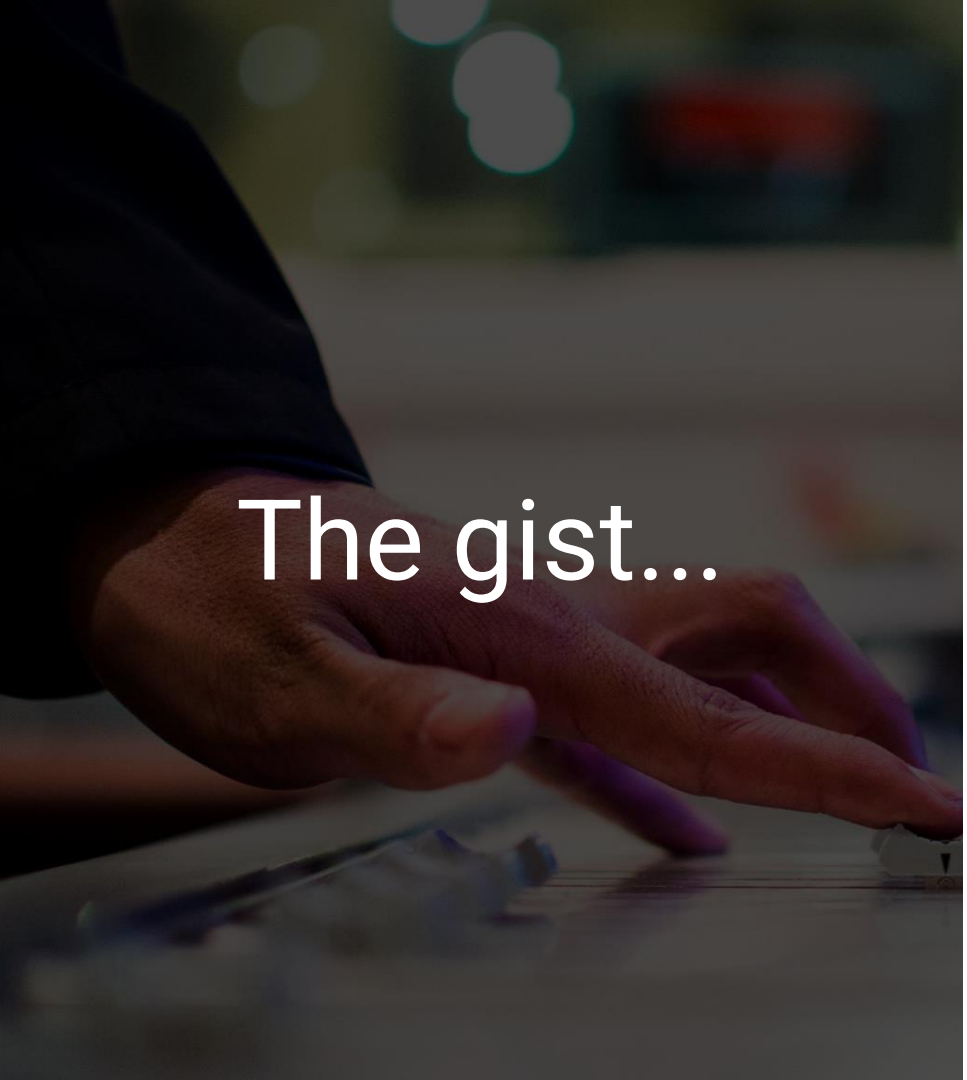
Assessment

- Create a software and its descriptions will be provided in the class
- 100% written assessment, software prototyping and evaluation

▶ Students can form a team with 3 or 4 members, but the report must specify the responsibility of each member

▶ There will be 2 presentations from you, and the final report due is Dec 14th

Kahoot.it



The gist...

Technology is good…

Technology is sometimes good…

Technology can be bad…

Technology can help...

Technology can harm…

Technology can be...

FRUSTRATING...

How do you open a door?

1) Centre the pointer on the twisty thing to point left (must be centre - no indication if its not perfect that would make this whole thing go wrong)
2) Put the card close. You will then after 2 seconds here a beep. If you do this too fast, then start again.
3) Move the card away relatively quickly and certainly BEFORE you move the knob anywhere.
4) Move the knob 90 degrees clockwise (no need to be exact it stops by itself)
5) Move the knob 180 degrees anticlockwise
6) Move the knob 90 degrees clockwise to return the knob to its original left centre position.

Hopefully you have done all that correctly and you can open the door. If not, try again from step 1.

Business Critical…

In 2010, a DOW (stock exchange indicator for 30 large, publicly owned companies) fell by 1000 points within 30 minutes. This is unprecedented…

There was a trade error... it was human in nature… but… how much so?

Business Critical…

This is the English alphabet...

Notice the position of the letter **‘M’** and notice the position of the letter **‘B’**...

Business Critical…

This is a keyboard...

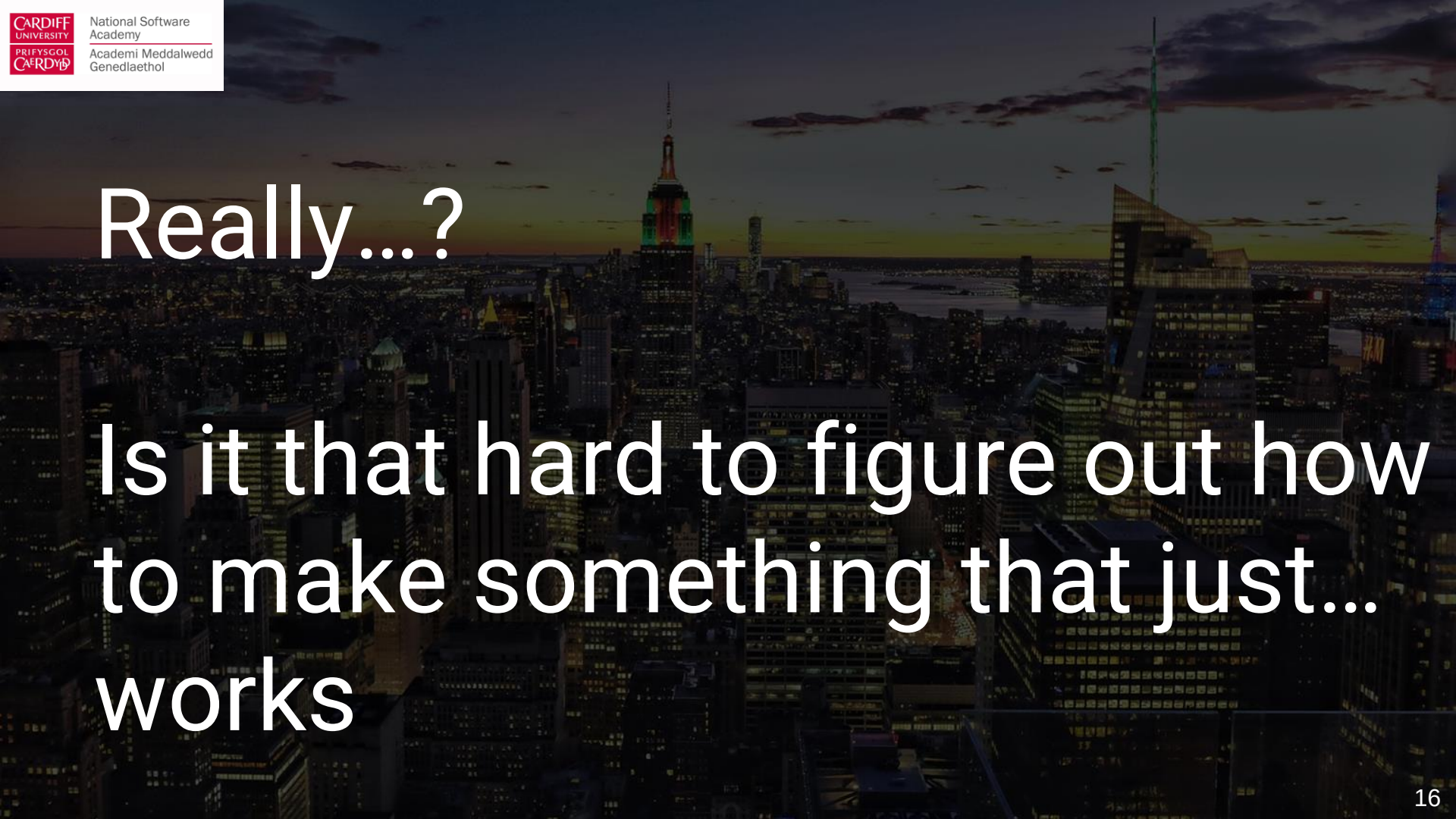
Notice the position of the letter **‘M’** and notice the position of the letter **‘B’**...

Business Critical…

m - million

b - billion

Apart from nationwide economic turmoil, the company in a few minutes lost over a third of its value… that's BILLIONS of dollars people...



Really…?

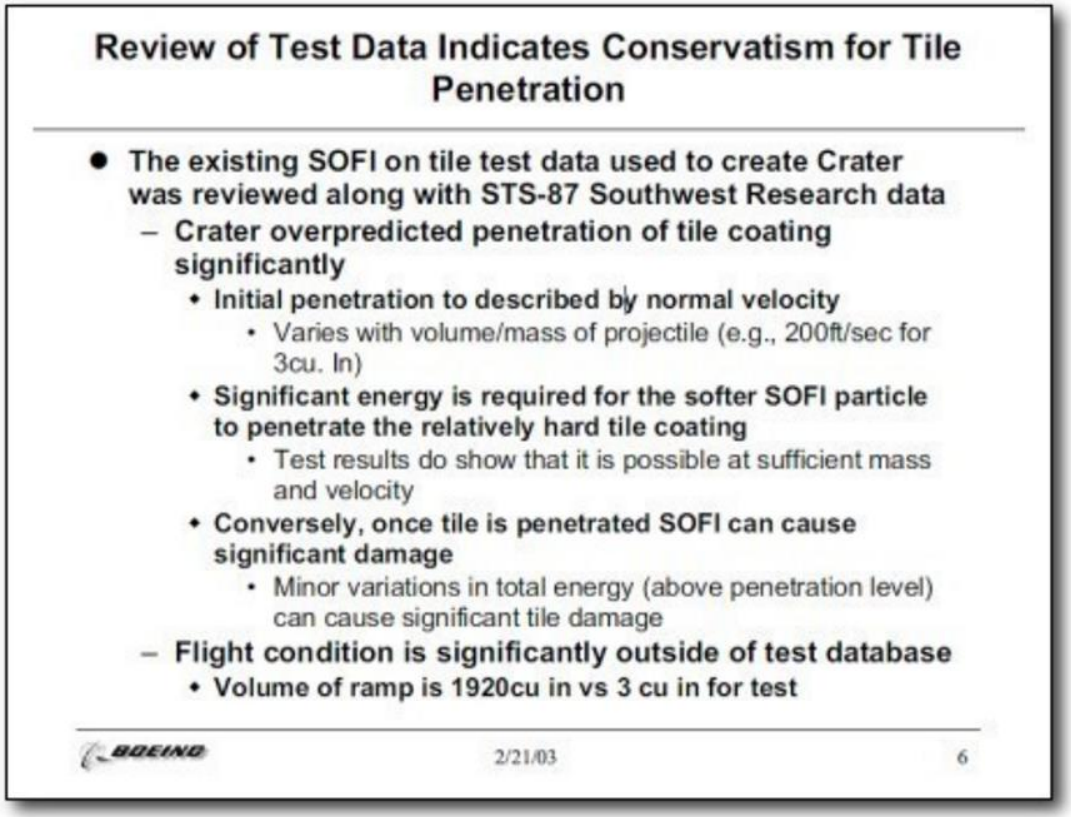
Is it that hard to figure out how to make something that just… works

Mis-

- information
- communication

Safety Critical

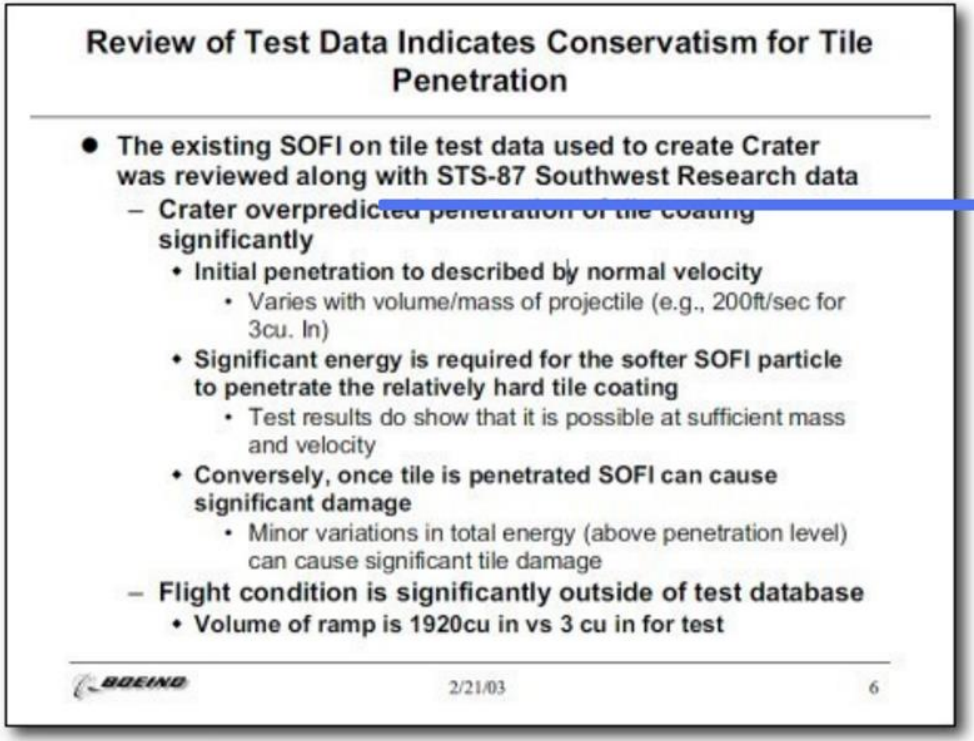
After a piece of debris hit the space shuttle Columbia during launch on January 16, 2003, NASA had to prepare it for re-entry. Engineers were called to assess the danger, and after reading their reports, NASA decided that everything was just fine.



Review of Test Data Indicates Conservatism for Tile Penetration

- The existing SOFI on tile test data used to create Crater was reviewed along with STS-87 Southwest Research data
  - Crater overpredicted penetration of tile coating significantly
    - Initial penetration to described by normal velocity
      - Varies with volume/mass of projectile (e.g., 200ft/sec for 3cu. In)
    - Significant energy is required for the softer SOFI particle to penetrate the relatively hard tile coating
      - Test results do show that it is possible at sufficient mass and velocity
    - Conversely, once tile is penetrated SOFI can cause significant damage
      - Minor variations in total energy (above penetration level) can cause significant tile damage
  - Flight condition is significantly outside of test database
    - Volume of ramp is 1920cu in vs 3 cu in for test

BOEING 2/21/03 6



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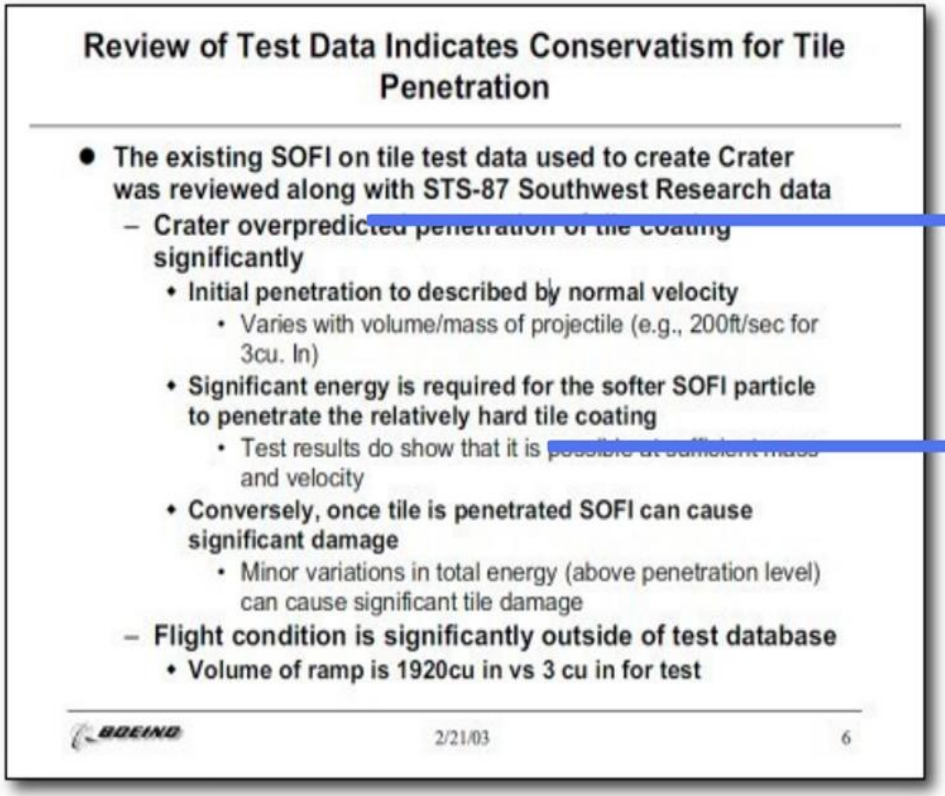
(**IN BOLD**)
It's not so bad guys...relax



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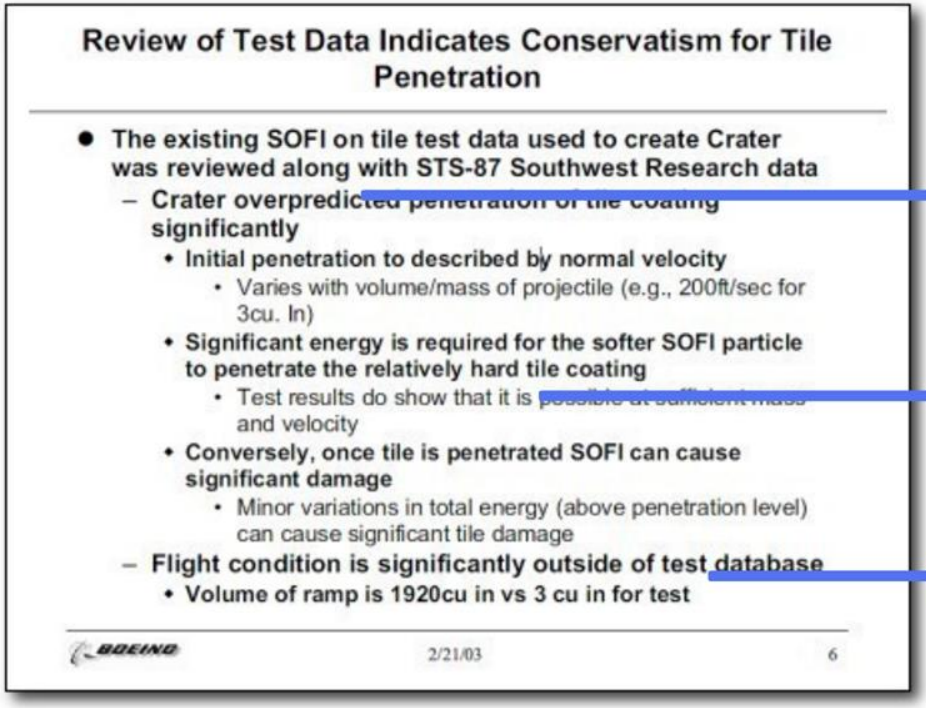
It's not so bad guys...relax

(normal text, lower bullet point order)
it: everyone will die
possible: can actually happen



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BOEING 2/21/03 6

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it: everyone will die
possible: can actually happen

(Last point, lower bullet order)
Debris that hit Columbia was 640 times bigger than the one they used for testing

LOTTERY, PAGE A2
Volume 263
Number 33
$2.00

Boston Sunday Globe

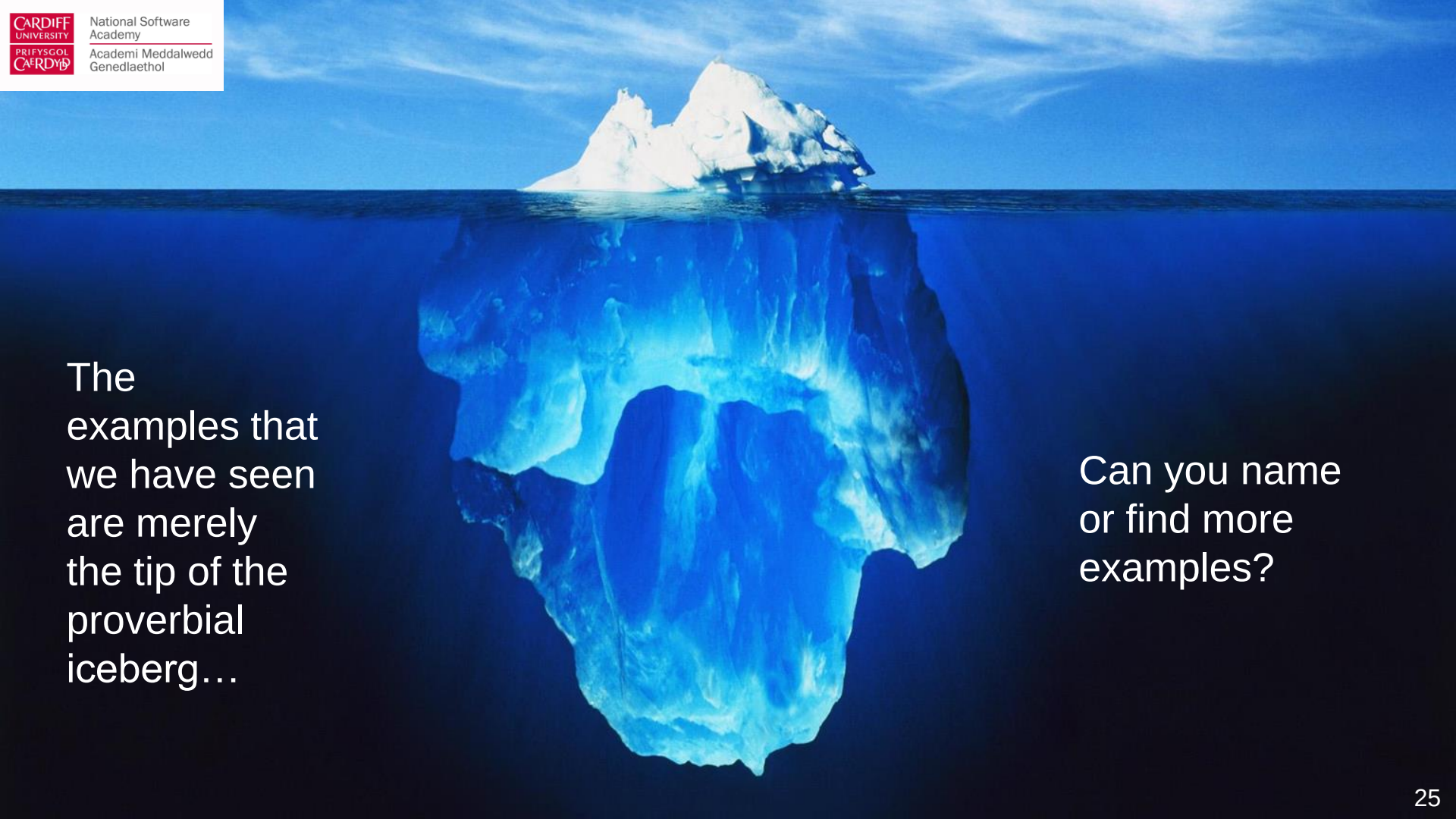
FEBRUARY 2, 2003

THE WEATHER
TODAY: Cloudy, with light rain likely, windy, 39
TOMORROW: Breezy, cloudy, chance of drizzle, 42
FULL REPORT: PAGE D12

Space shuttle Columbia lost on reentry; 7 astronauts dead

AP PHOTO/TYLER MORNING TELEGRAPH, DR. SCOTT LIEBERMAN

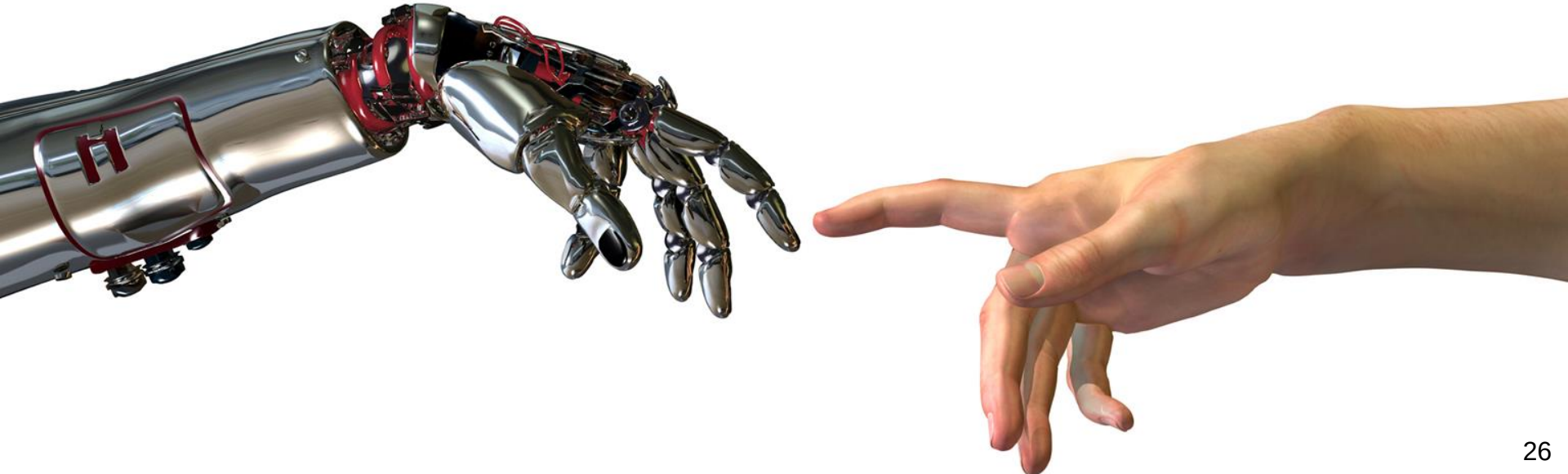
A fiery trail streaked across the sky as the space shuttle Columbia broke apart yesterday over Texas. An amateur photographer captured this image from his backyard in Tyler.



The examples that we have seen are merely the tip of the proverbial iceberg…

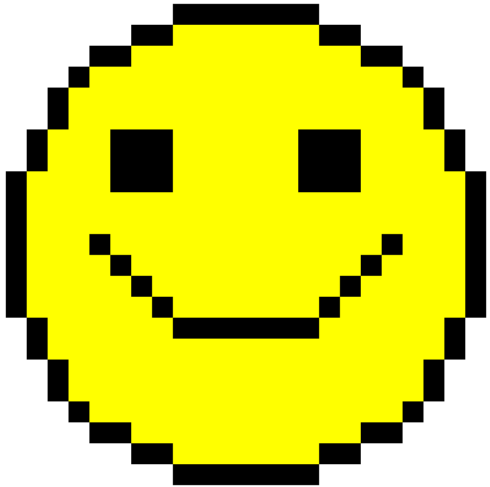
Can you name or find more examples?

What is Human Computer Interaction - User Experience - Usability - User Friendly...?

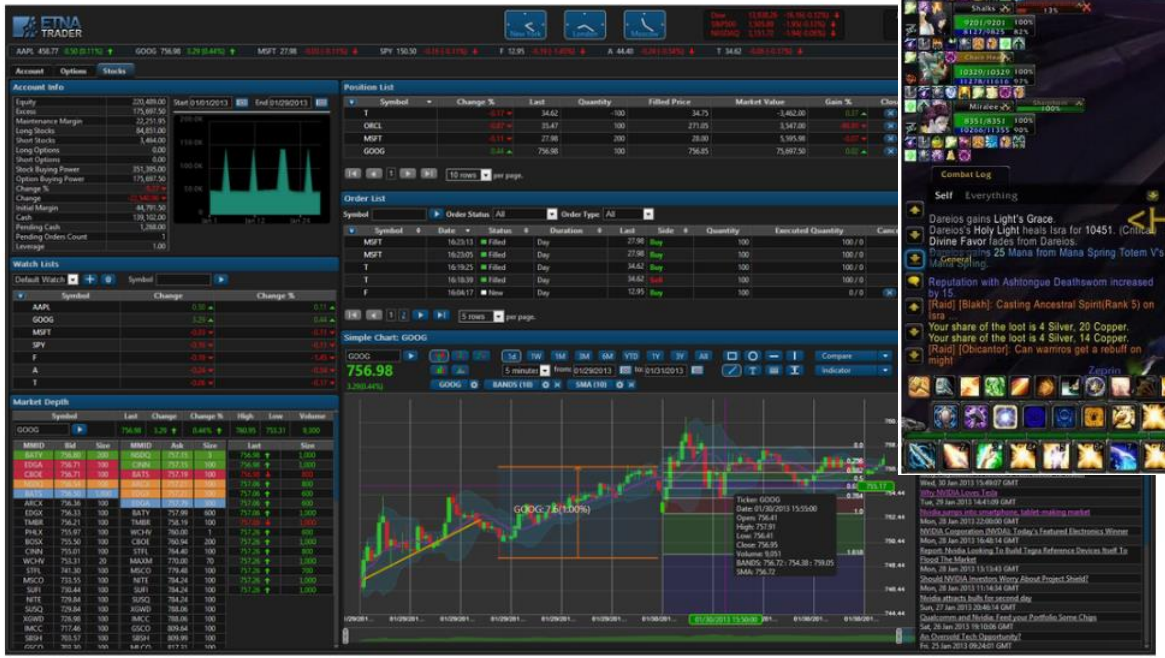


We get to (re) Design Doors… correctly

But it’s not all negative…



Sometimes we need things to look and feel complex…
But they are not…



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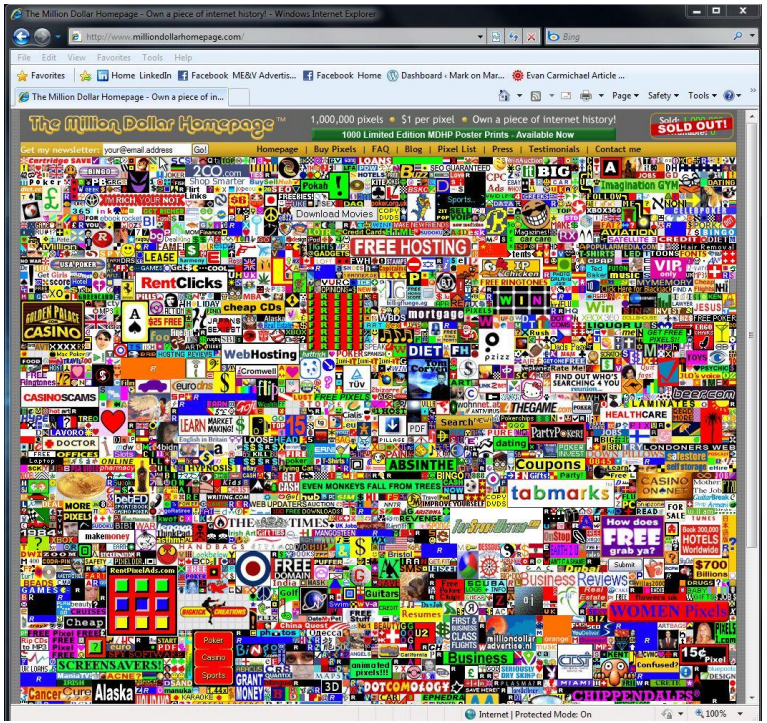
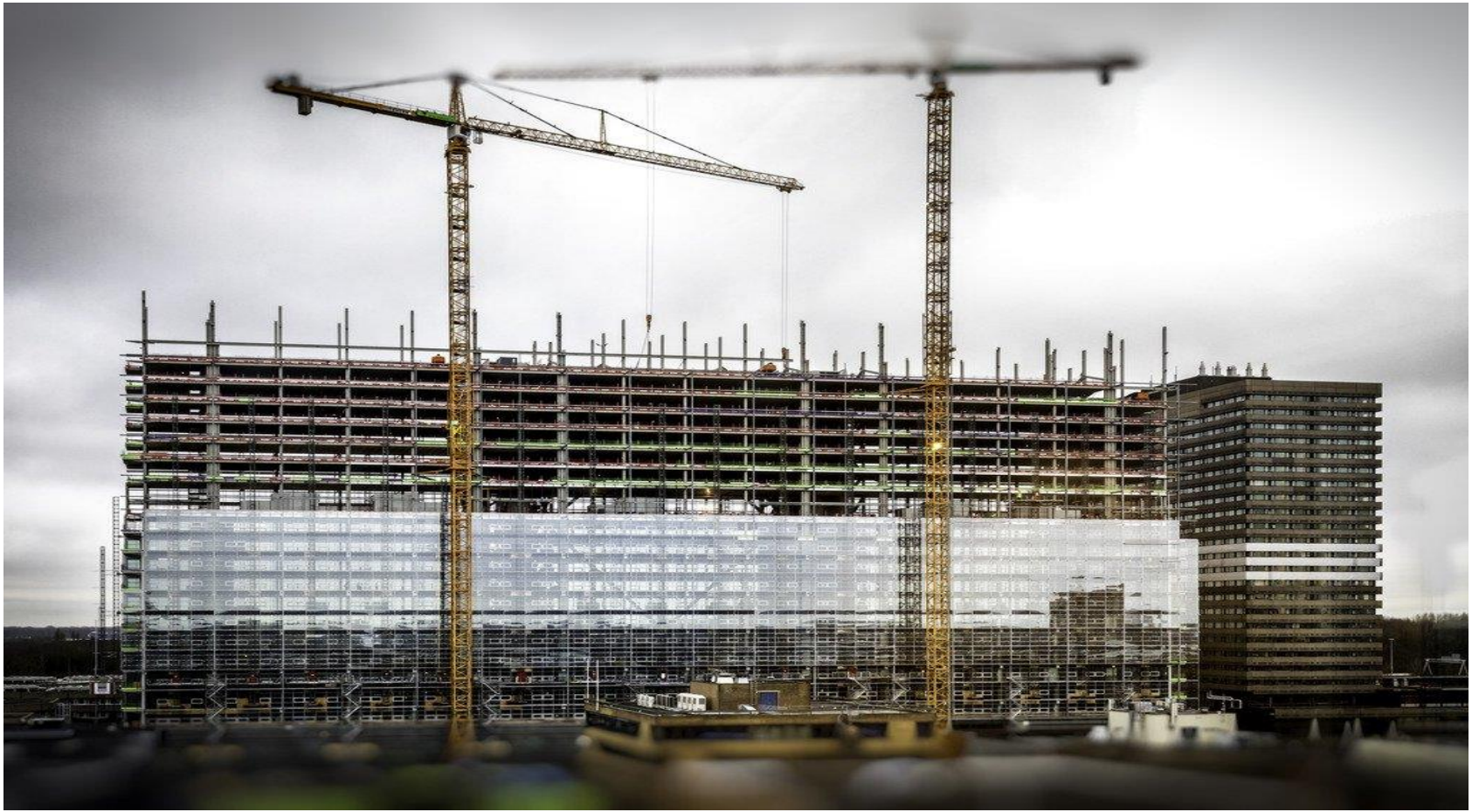



Visitors




5%
15%
20%
30%
35%
50%
No Tint

Accessibility...


The million billion
Trillion dollar
question...

Question

- Who do we trust?
- Who do we get to really know what to do?

▶ What is the answer?

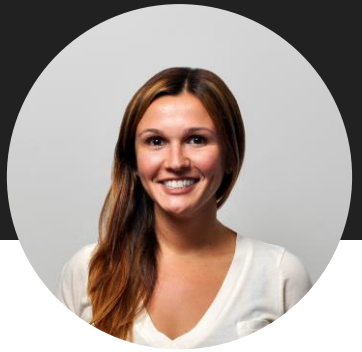

OREO

Who is important? Who is right?

There are many stakeholders, do we listen to them?

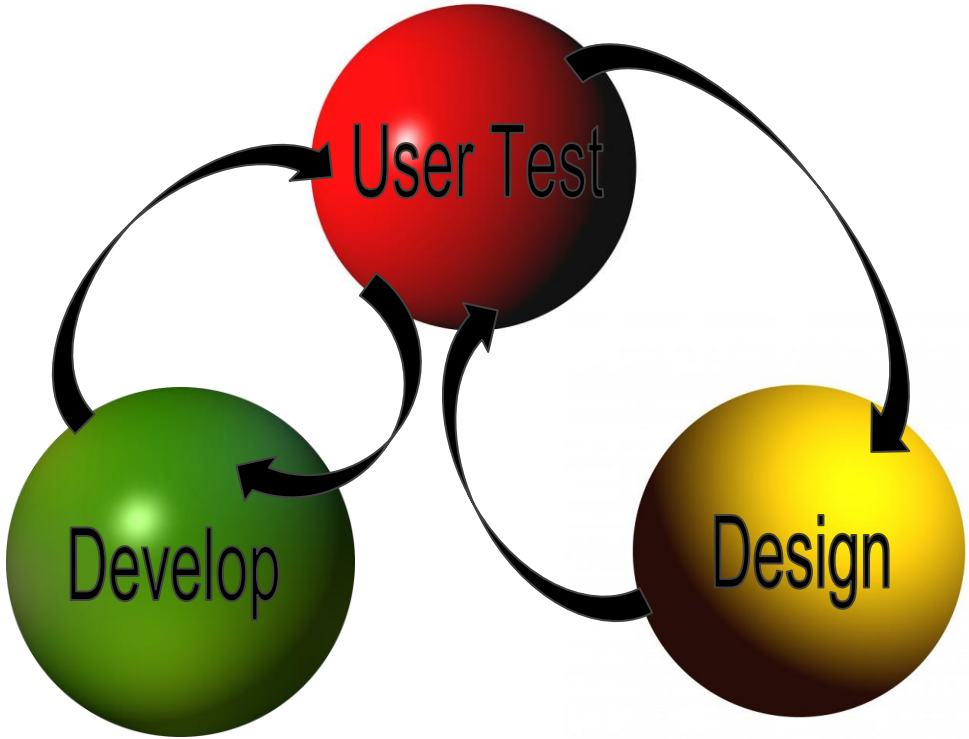
CEO

IT guy



End User

Investor


User Test
Develop
Design

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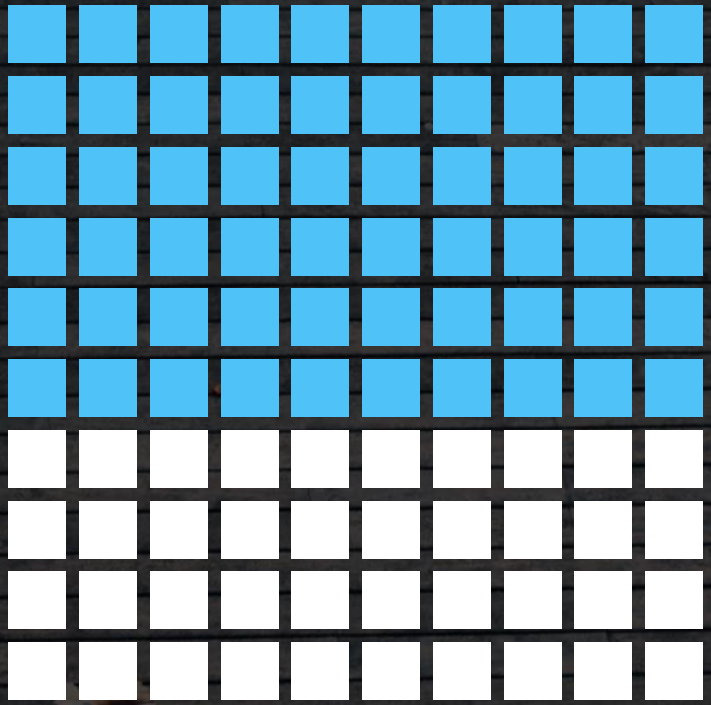
In class (home?) assignment



Some Slight Reading

Norman, D.A. (2013) *The Design of Everyday Things: Revised and Expanded Edition*. MIT Press.

https://www.nngroup.com/topic/human-computer-interaction/