# Lecture-3

CS798H: Human Computer Interaction

Logistics

- Slides and readings up on Hello IIT
  - Please do the readings, they will show up in exams / quizzes.

- Quiz on Tuesday, 21 January. Material until what is covered today.

- If you are unable to access the course on HelloIITK:
  - Email the TA lakshanal23@iitk.ac.in

Recap

- HCI → how humans and computers communicate
  - To accomplish tasks, and in various contexts
  - Making <u>useful</u> "computing" stuff that are <u>usable</u>

- Interactions vs. Interfaces vs. Experience
  - Good vs. Bad User Experience
  - Good vs. Bad Interfaces

- Elements of good interfaces:
  - Affordances, Signifiers, Mappings

Human / User	Task
	Components
Interface / Device / Tool	Context
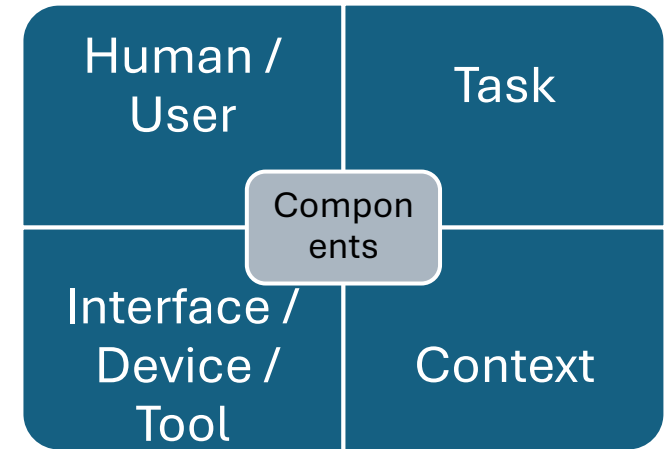
Today...

- More on building "good" vs. "bad" interfaces
  - Error proofing
  - Enforcement of Constraints
  - Use of Conventions
- Why this all works?
  - Gulf of execution
  - Gulf of evaluation
  - Limits of human abilities - Demo
- Basics of sketching (if time permits)

A note on interfaces

- They can be many kinds
  - Visual (screen)
  - Audio interfaces
  - Pointing interfaces
  - Touch interfaces
  - Conversational interfaces
- Principles generally hold good, though modalities differ.
  - How would you do "signify" to users audio interface affordances?
  - What about touch interfaces?

Good vs. Bad interfaces

- Make affordances obvious

- Signify what affordance is for what
    - Natural Mapping
    - Labels, Icons
    - Use conventions: In general do not violate them! Why?

Good Vs. Bad Interfaces

- Good Interfaces offer feedback
  - Clear, constructive, concise.

- Common kinds of feedback
  - Status, progress, errors
  - Action done or not

CONFUSING ERROR MESSAGE

CLEAR ERROR MESSAGE
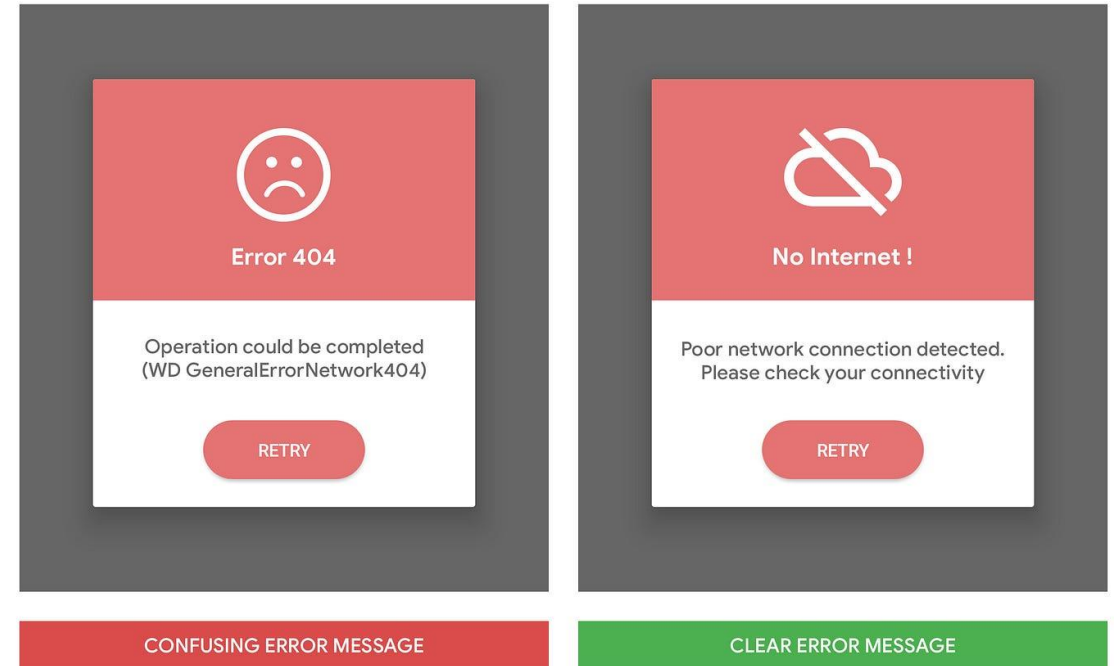
Windows

An error has occurred. To continue:

Press Enter to return to Windows, or

Press CTRL+ALT+DEL to restart your computer. If you do this,
you will lose any unsaved information in all open applications.

Error: 0E : 016F : BFF9B3D4

                    Press any key to continue _

:(

Your PC ran into a problem and needs to restart. We're just
collecting some error info, and then we'll restart for you.

0% complete

For more information about this issue and
possible fixes, visit

http://windows.com/stopcode

If you call a support person, give them this info:
Stop code: MANUALLY_INITIATED_CRASH

404 Not Found

404

Sorry , the page not found

The link you followed probably broken
or the page has been removed.
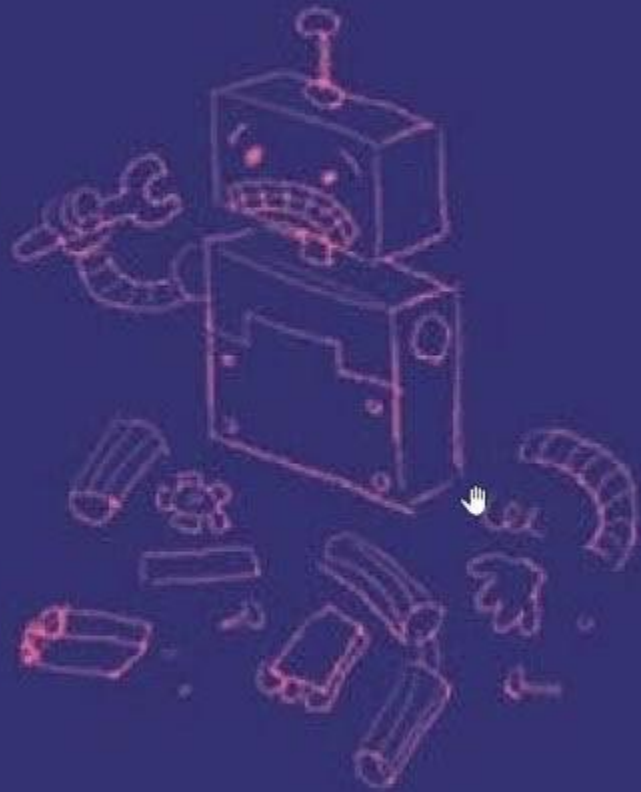
airbnb

Oops!

We can't seem to find the page you're looking for.

Error code: 404

Here are some helpful links instead:

Home
Search
Help
Traveling on Airbnb
Hosting on Airbnb
Trust & Safety
Sitemap

ERROR 404 PAGE

OO... ...FIND IT ...

- Always double check your spelling.
- Try similar keywords, for example: tablet instead of laptop.
- Try using more than one keyword.

| Q Type and hit enter | GO TO HOME PAGE |

Can you do better?

THANK YOU!

We've received your submission, and we'll be in touch soon!

KEEP EXPLORING 🚲

WHOOPS!
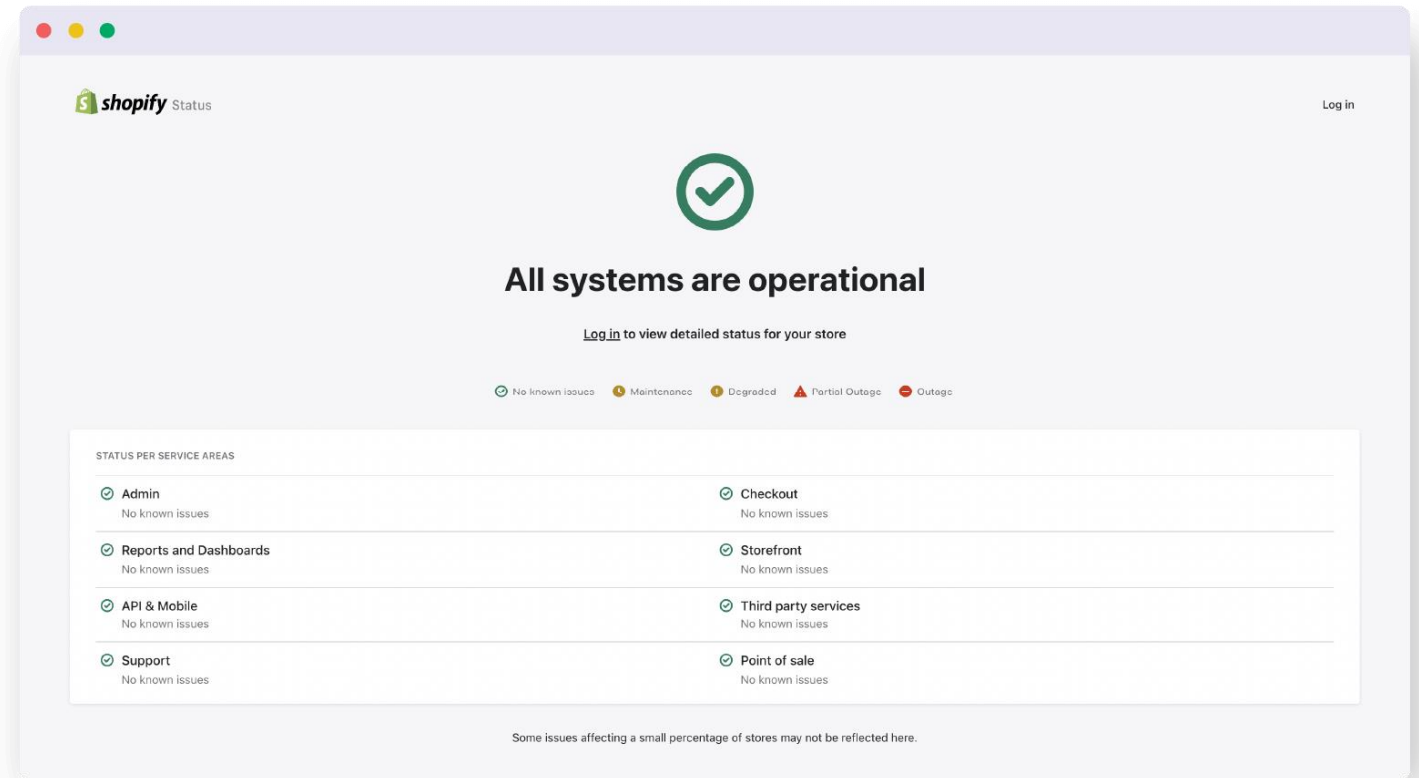
Something went wrong. Let's give this another try.

TRY AGAIN ↻

Step 1   Step 2   Step 3

1   2   3
Step 1   Step 2   Step 3

Step 1   Step 2   Step 3

91%

85 / 100

15%
progress

75%

GAS DETECTION SYSTEM INTERFACE

ENTRY OK

SYSTEM STATUS

IGD
www.internationalgasdetectors.com
MADE IN UK
CE

shopify Status

Log in

All systems are operational

Log in to view detailed status for your store

No known issues   Maintenance   Degraded   Partial Outage   Outage

STATUS PER SERVICE AREAS

Admin
No known issues

Checkout
No known issues

Reports and Dashboards
No known issues

Storefront
No known issues

API & Mobile
No known issues

Third party services
No known issues

Support
No known issues

Point of sale
No known issues

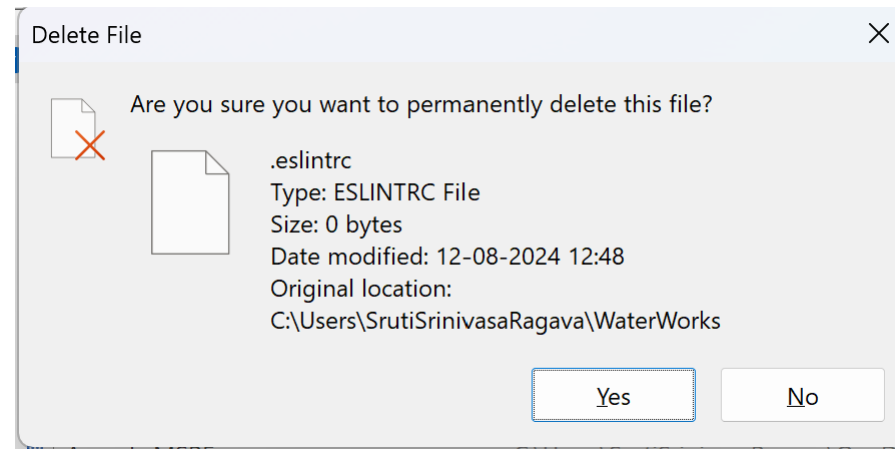Some issues affecting a small percentage of stores may not be reflected here.

Good Interfaces vs. Bad Interfaces

- Good Interfaces
    - Prevent errors → Anti-affordances, Constraints
    - Help you recover from them

Email or phone

⊗ Enter an email or phone number

Forgot email?

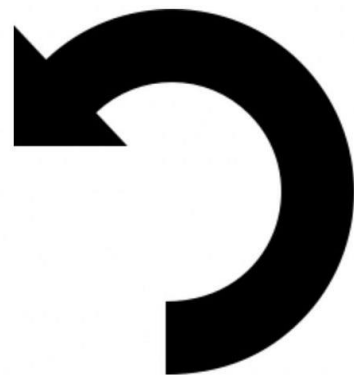Not your computer? Use Guest mode to sign in privately. **Learn more about using Guest mode**
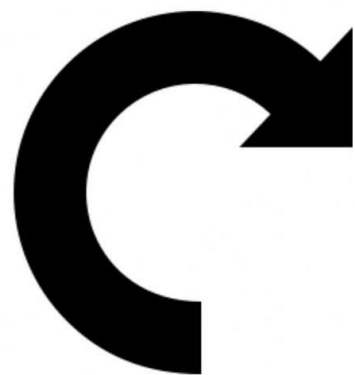
Create account   Next

Name

Email
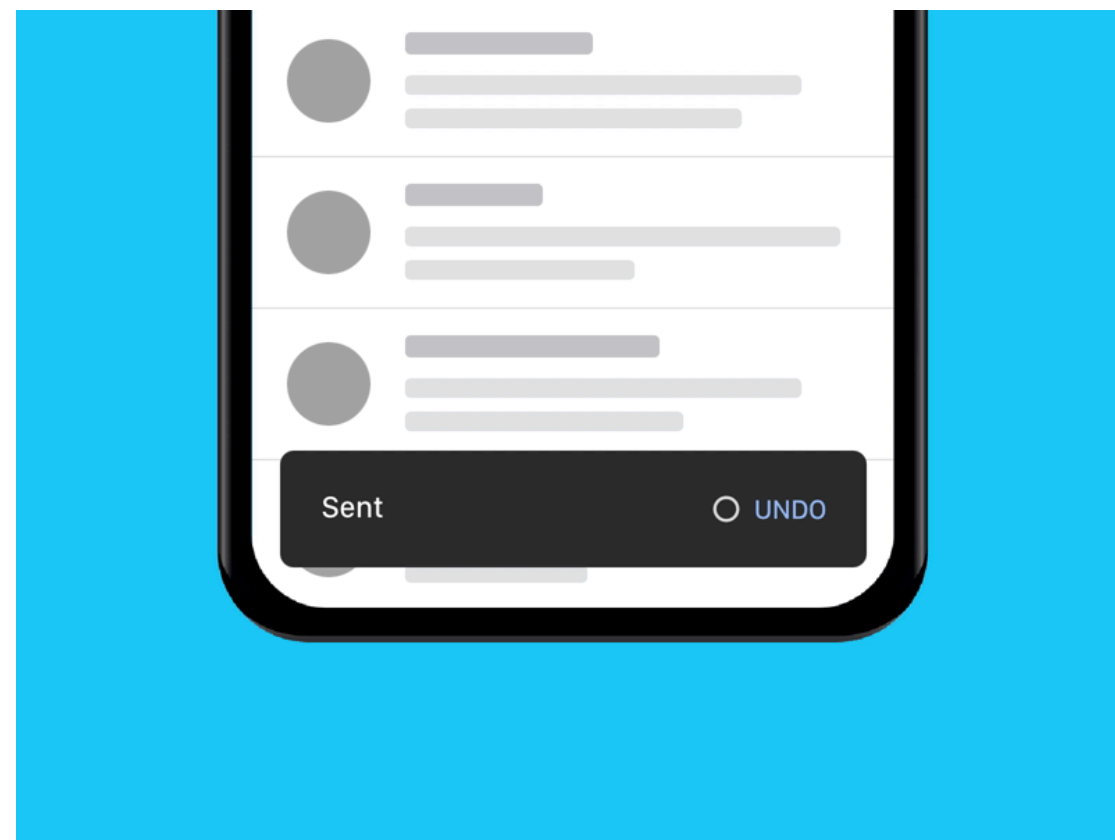
Submit

Undo   Redo

Sent   ○ UNDO

Why do these work?

GOAL

GULF OF EXECUTION

How do I work this?

What can I do?

GULF OF EVALUATION

What happened?

Is this what I wanted?

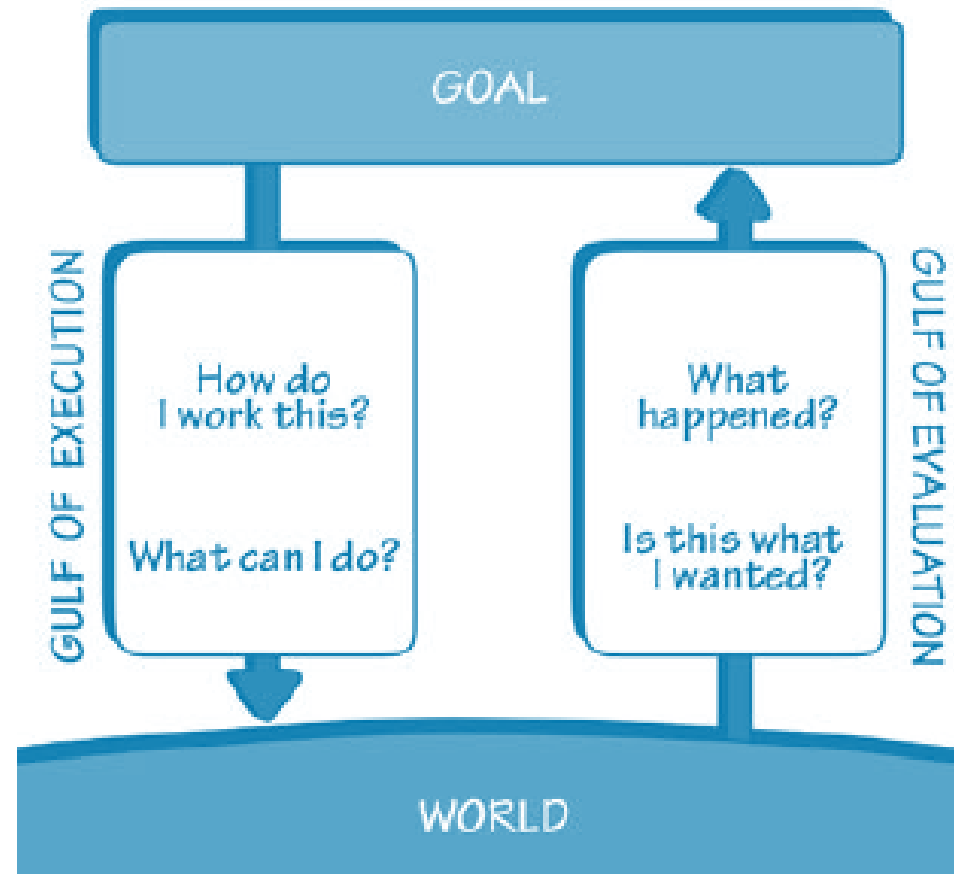WORLD
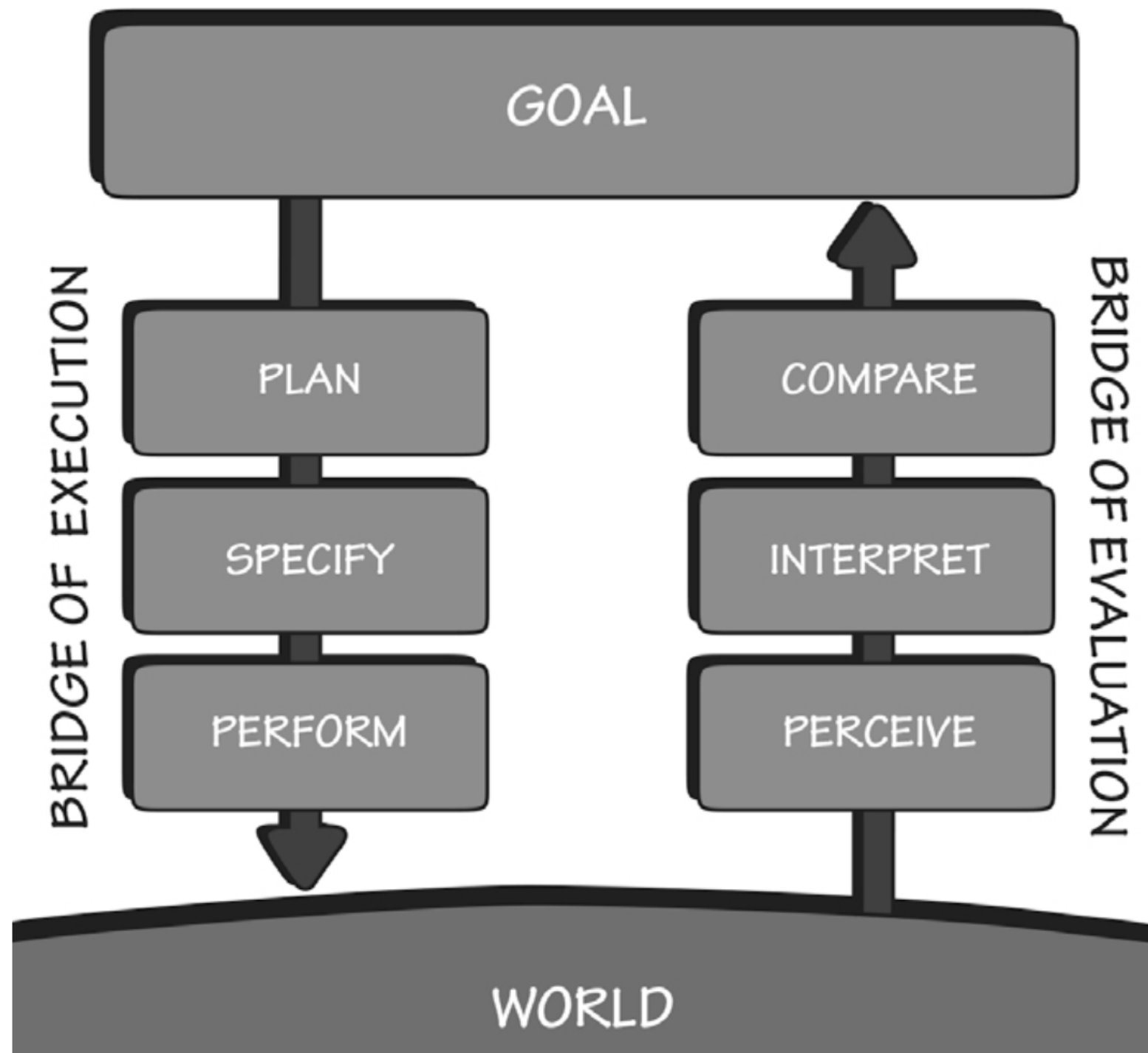
Good design

- Minimizes gulf of execution
  - Make it very clear what to do, without making the user think

- Minimizes gulf of evaluation
  - Offer feedback on recent actions, system status

- Accounts for human diversity and limitations
  - Cognitive, senses, motor, etc.

Next class...

- We will start talking about human capabilities, limitations, etc.
- Important for designing usable signifiers, affordances, etc.

Trailer…

- A volunteer, please?

What is the problem here?

- Is there an affordance?

- Is there a signifier?

- What is the problem?

Reading

- Design of Everyday things
  - Chapter 2, the section "How people do things?"
  - Chapter 4

BASICS OF SKETCHING

Sketches…

- Are important to UI design

- Sketch before you build

- Can be learnt

- Doesn't have to be perfect

- Easier than Engineering Drawing (no perspectives!)

Warmup: Sketching

- Lines and Curves