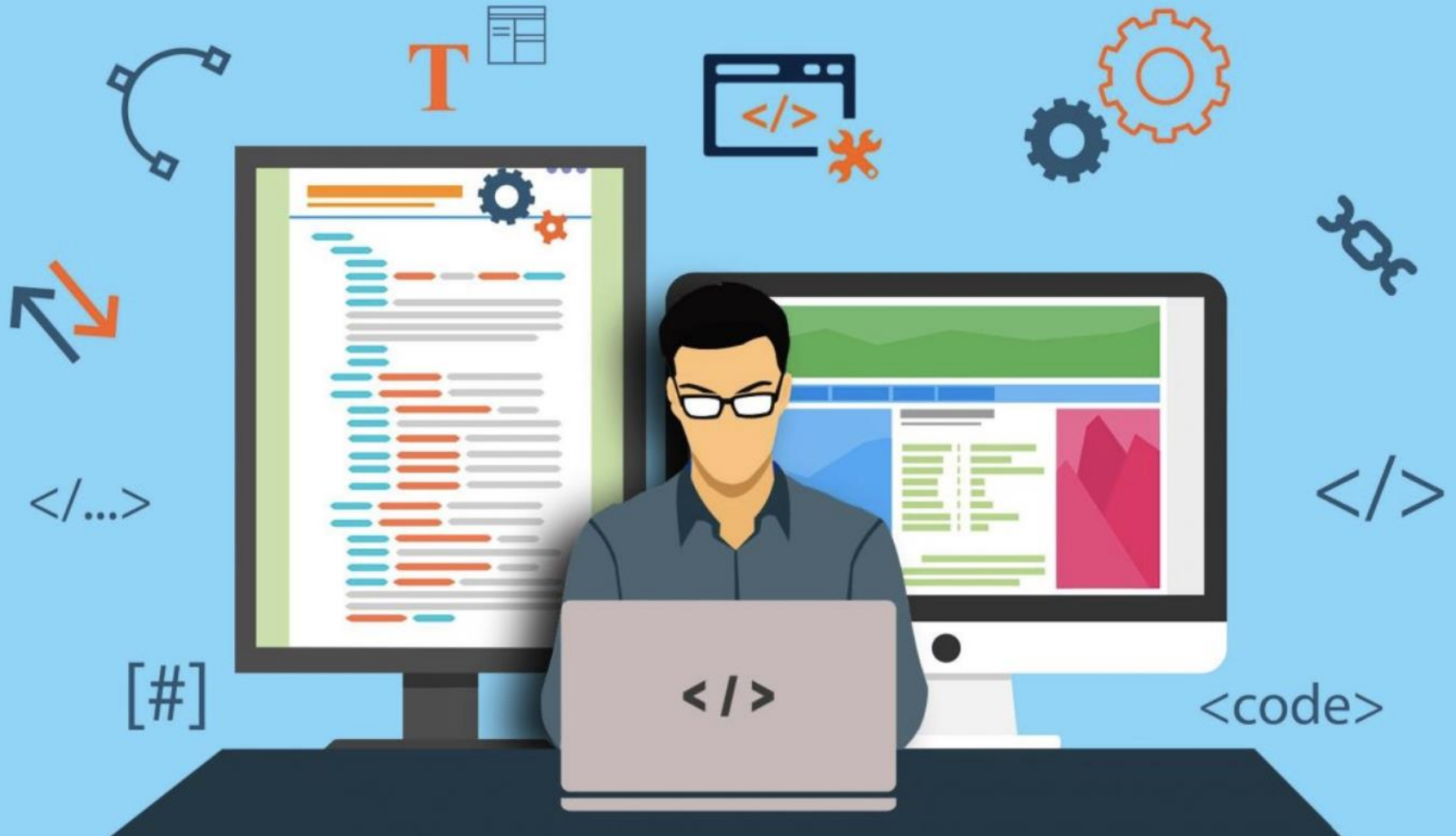




Prototyping & Gridding





Prototypes

“Users can’t tell you what they want, but when they see something and use it, they soon know what they *don’t* want”
(Preece)

A **prototype** is an invaluable design tool for testing ideas, clarifying requirements and initiating user input and feedback

Core component of iterative design





What is a Prototype?

In HCI design it can be (among other things):

a series of screen sketches

a storyboard, i.e. a cartoon-like series of scenes

a Powerpoint slide show

a video simulating the use of a system

a lump of wood (e.g. PalmPilot)

a cardboard mock-up

a piece of software with limited functionality written in the target language or in another language



Why Prototype?

- **Evaluation** and **feedback** are central to interaction design
- Team members can communicate effectively
- Prototypes answer questions, and support designers in choosing between alternatives



What to Prototype?

- **Technical issues**
- **Work flow, task design**
- **Screen layouts and information display**
- **Difficult, controversial, critical areas**



Types of Prototype

Fidelity refers to the level of detail:

- **Low Fidelity**
- **Medium Fidelity**
- **High Fidelity**

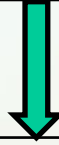


The Design Process

Low Fidelity Prototyping/Sketching



Wireframing



Gridding



**Medium/High Fidelity
Prototyping**



Low Fidelity Prototyping



Low Fidelity Prototypes

- Uses a **medium** which is unlike the final medium, e.g. paper, cardboard
- Is quick, cheap and easily changed
- Examples:
 - sketches of screens, task sequences, etc
 - 'Post-it' notes
 - storyboards
 - 'Wizard-of-Oz'



Storyboards

- Often used with scenarios, bringing more detail
- It is a **series of sketches** showing how a user might progress through a task using the device
- **Used early in design**



Storyboards

Rentally for Renters-Searching for Housing

Search

Address

City

Maximum Bid

State

Zip Code

Features

Beds ☐

Baths ☐

Parking Spaces ☐

Balcony ☐

Backyard ☐

Pets ☐

Garbage ☐

Water ☐

Cable ☐

Electric ☐

Spa ☐

Pool ☐

Security Guard ☐

Furnished ☐

Search Results

1. 123 Beverly Way, Los Angeles CA 91706

2. 456 Burning Lane, Orange CA 91707

3. 1899 Angel Ave, Newport CA 91701

4. 777 Lucky Ave, Cornell NY 9812

5. Apt 70 50 Red Ave, Cornell PA 8912

6. Apt 2115 1000 Melrose, Calistoga CA 9411

7. Apt 15 2315 Channing, Laguna NJ 9172

More Results: [P1](#) [P2](#) [P3](#)

Listing



123 Beverly Way Los Angeles
Ca 91706

Features

Beds 3

Baths 2

Parking Spaces 1

Balcony Y

Backyard N

Pets Y

Garbage Y

Water N

Cable N

Electric Y

Spa Y

Pool Y

Security Guard Y

Furnished N

Search

• Housing

• Roommate(s)

Listing



123 Beverly Way
Los Angeles Ca 91706

Features

Beds 3

Baths 2

Parking Spaces 1

Balcony ☐

Backyard ☐

Pets ☐

Garbage ☐

Water ☐

Cable ☐

Electric ☐

Spa ☐

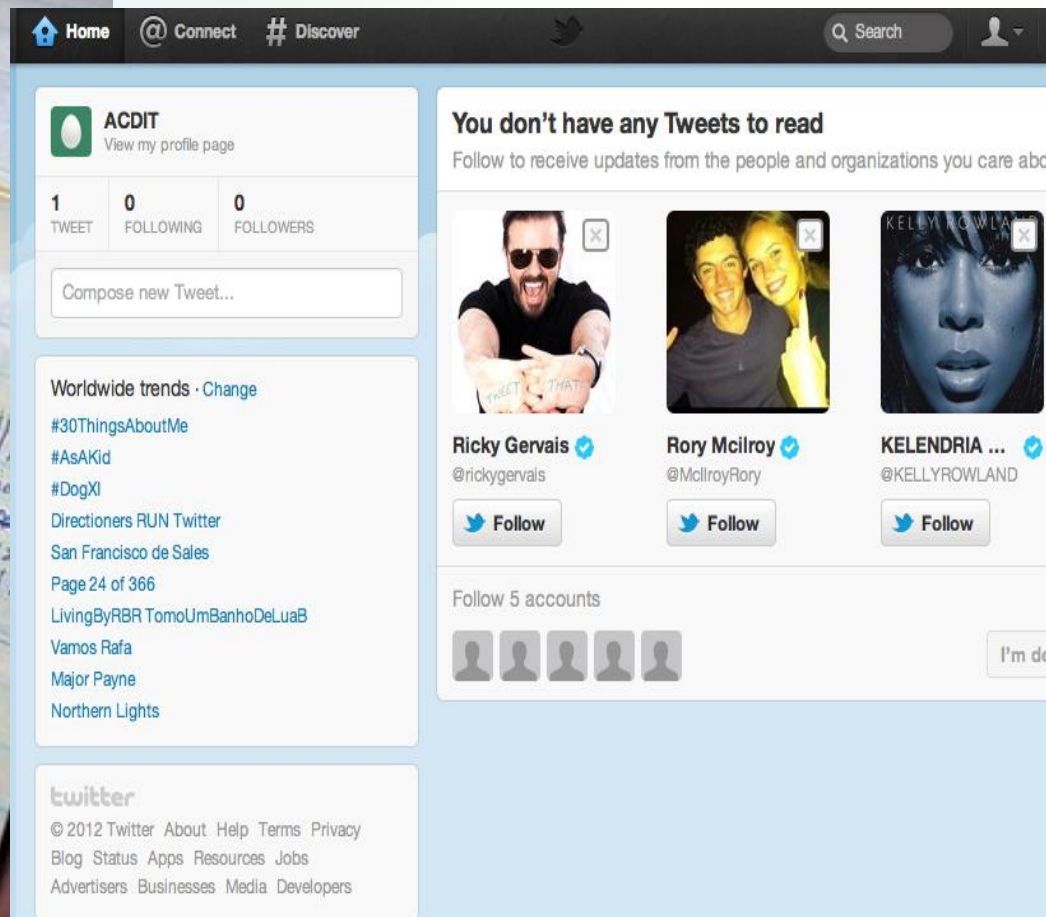
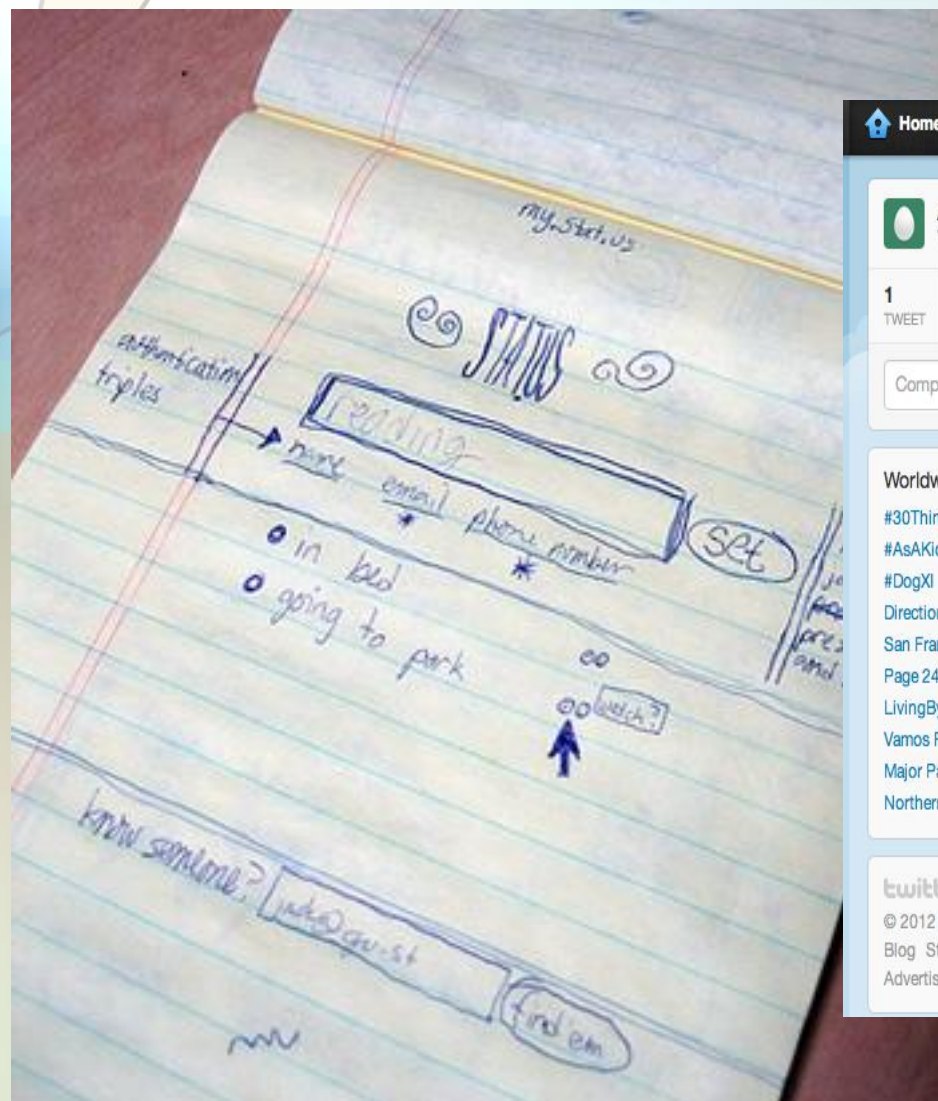
Pool ☐

Security Guard ☐

Furnished ☐

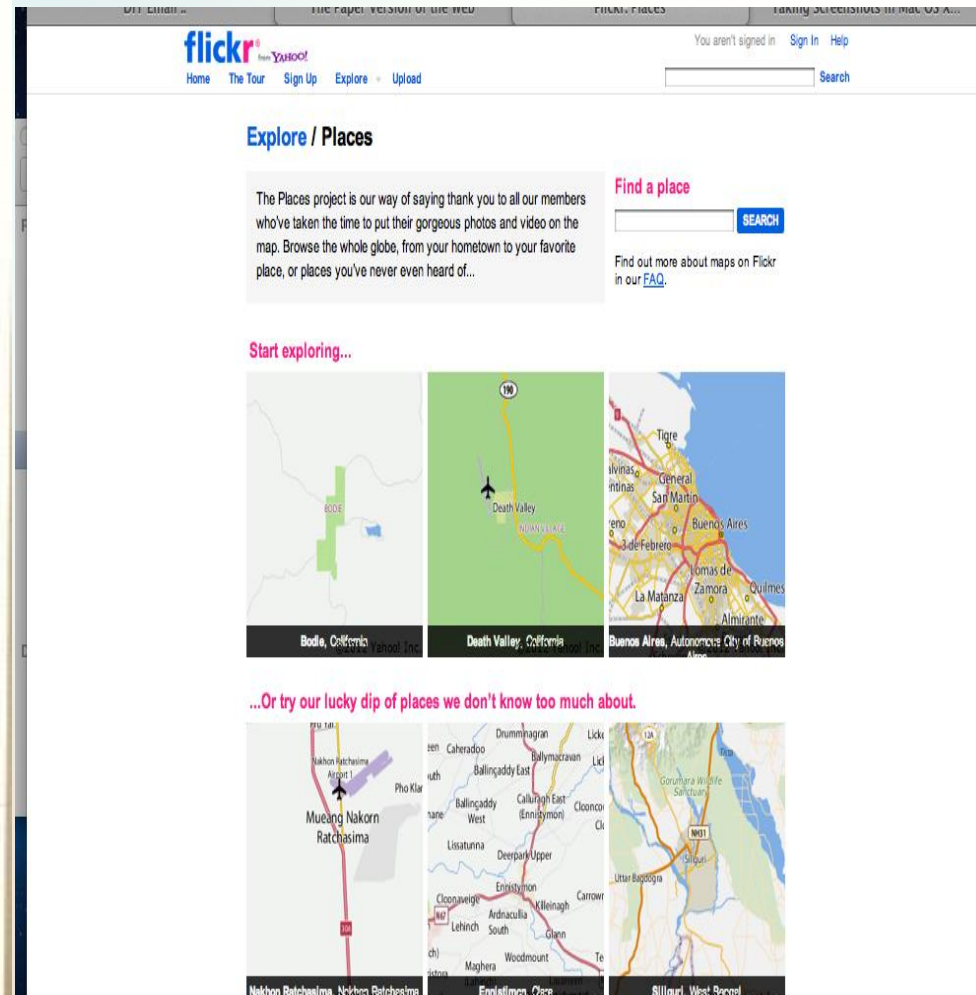
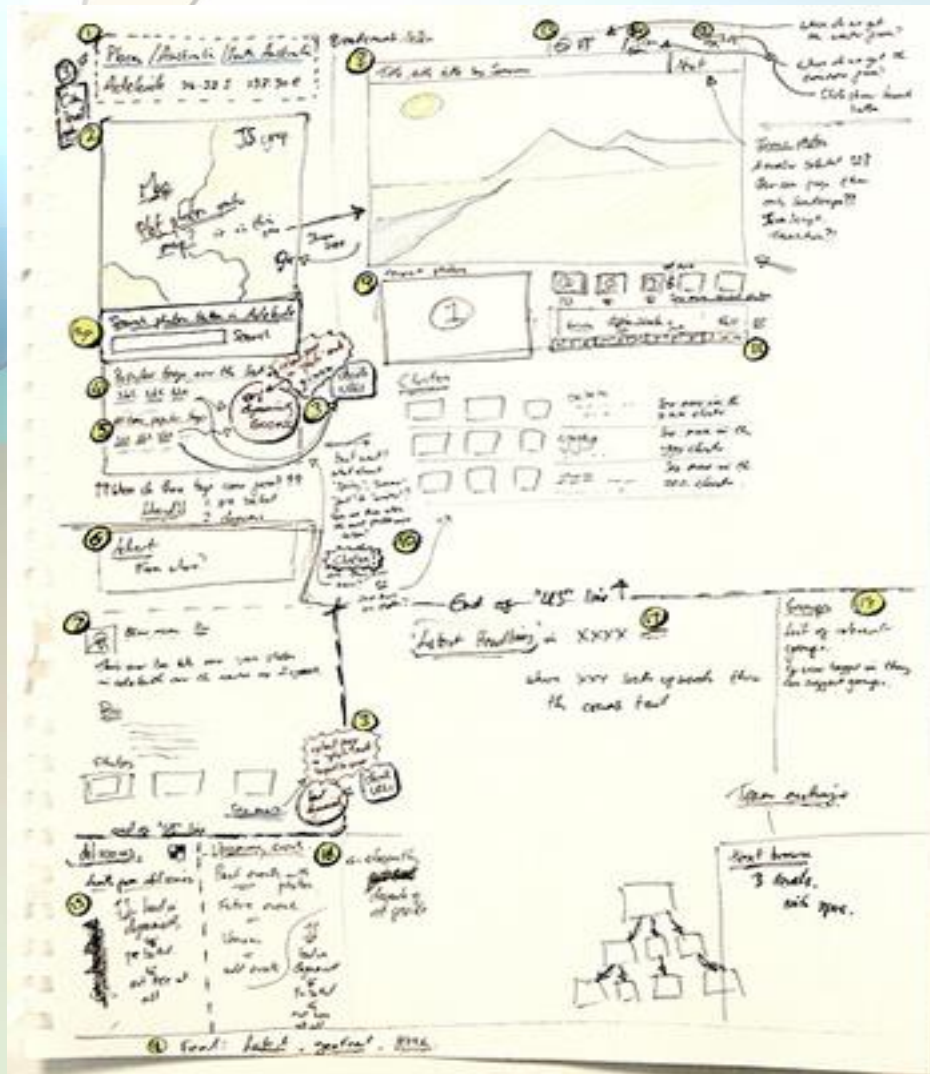


Original Twitter Prototype





Original Flickr Places Prototype

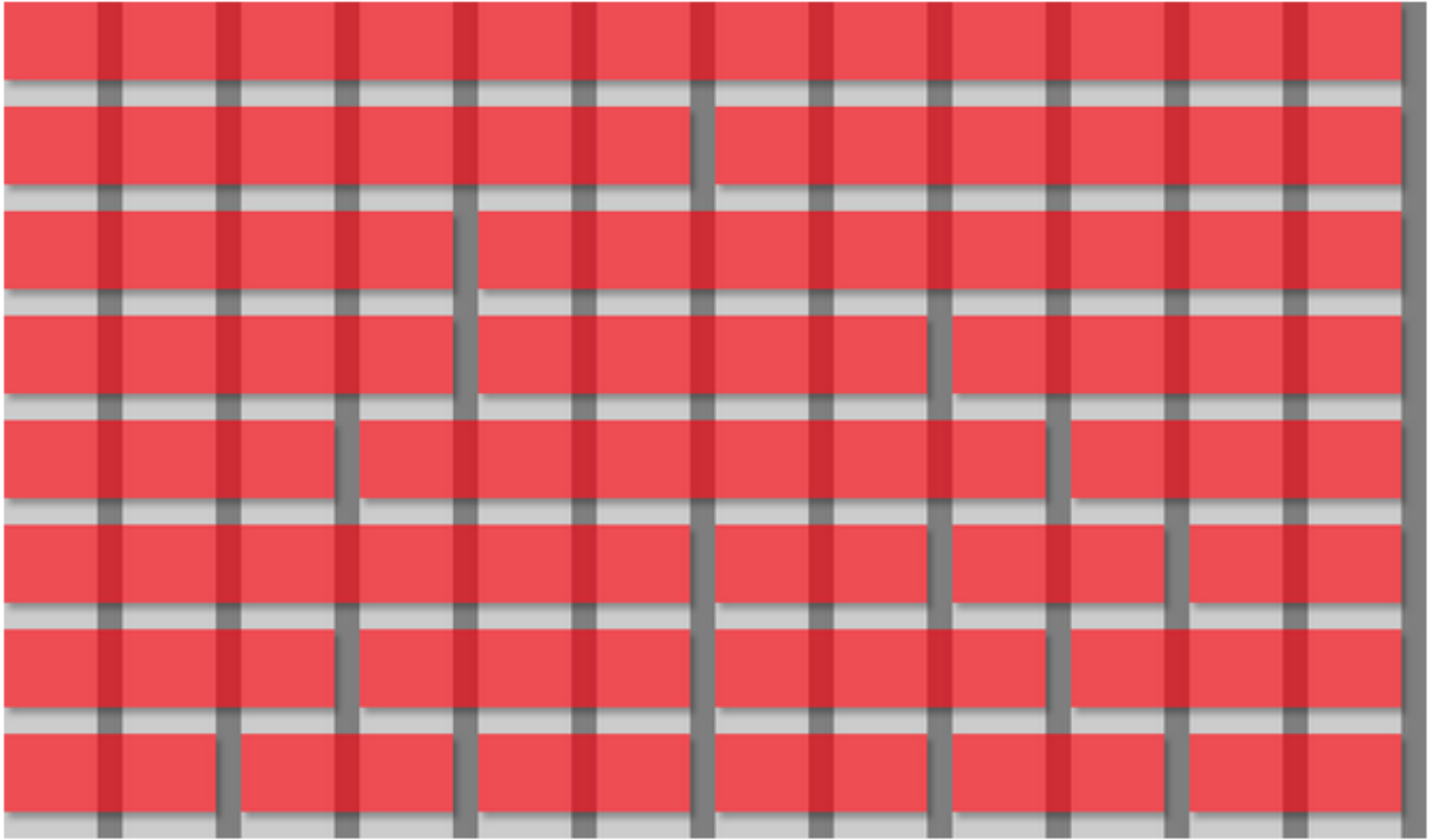




Gridding



Grids for Web Design





Grids for Web Design





Grids for Web Design

SNUB COMMUNICATIONS We design websites, built to web standards, and offer copywriting services to websites and publishers of books and magazines.

Since 1996, Craig Grannell's Snub Communications has provided cutting-edge web design and copywriting services. For all projects, people are the main priority: websites are created with a strong emphasis on contemporary graphic design, usability and web standards, and copy is ruthlessly edited, to ensure it's pleasurable to read and to the point. See [web design examples](#) and an [overview on writing](#) below. If you'd like to work with us, [contact details](#) are at the foot of the page.

Pinkflag.com □
Concept, structural design, graphic design and implementation for Wire—one of the UK's most influential indie bands.

2000 AD Books □
Concept, graphic design and implementation for Rebellion's range of 2000 AD graphic novels.

Played in Britain □
Complete website overhaul, including concept, structural design, graphic design and implementation.

Click site titles to visit sites | Click images to see larger screen grabs

Contemporary Monsters □
Concept, graphic design, artworking and implementation for artist Edith Garcia's characterful project.

Macworld □
Graphic design, templates and style guide recommendations for one of the UK's best-selling Macintosh magazines.

Thalamus Publishing □
Ground-up redesign for the Ludlow-based publisher, including concept, structural design, layout and implementation.

As a small publishing business we ran our own website for three years until finally conceding that the task was too onerous and important for amateurs. Craig took on the brief, nursed us through some difficult decisions, and patiently built a new site that is an absolute delight to look at and a pleasure to navigate. Since it launched we have been flooded with plaudits, and, just as importantly, we can now relax, knowing the foundations have been properly laid.
Simon Inglis, Played in Britain series editor

Please note: websites flagged "W" are maintained by the client and differ from the depicted screen grabs. Images on this website show designs as they were prior to being released to clients.

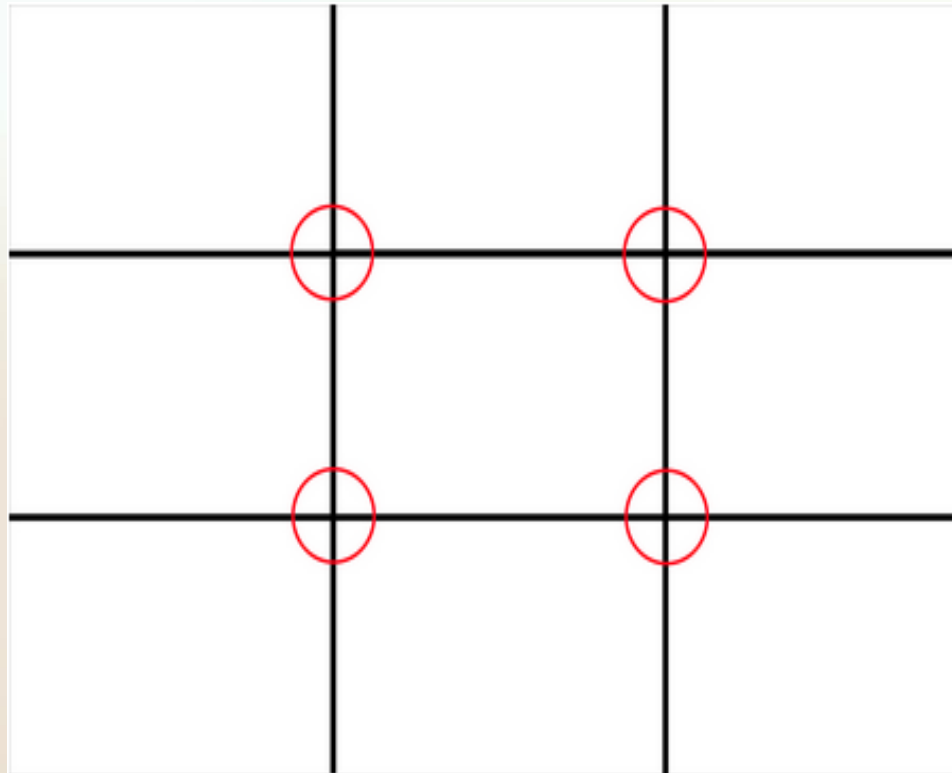
Web Design with Dreamweaver 8

Some people consider words almost irrelevant when creating websites or marketing literature to send out to potential customers. These people are wrong. And yet despite employing or hiring specialists for sales, management,



Grid Principles: Rule of Thirds

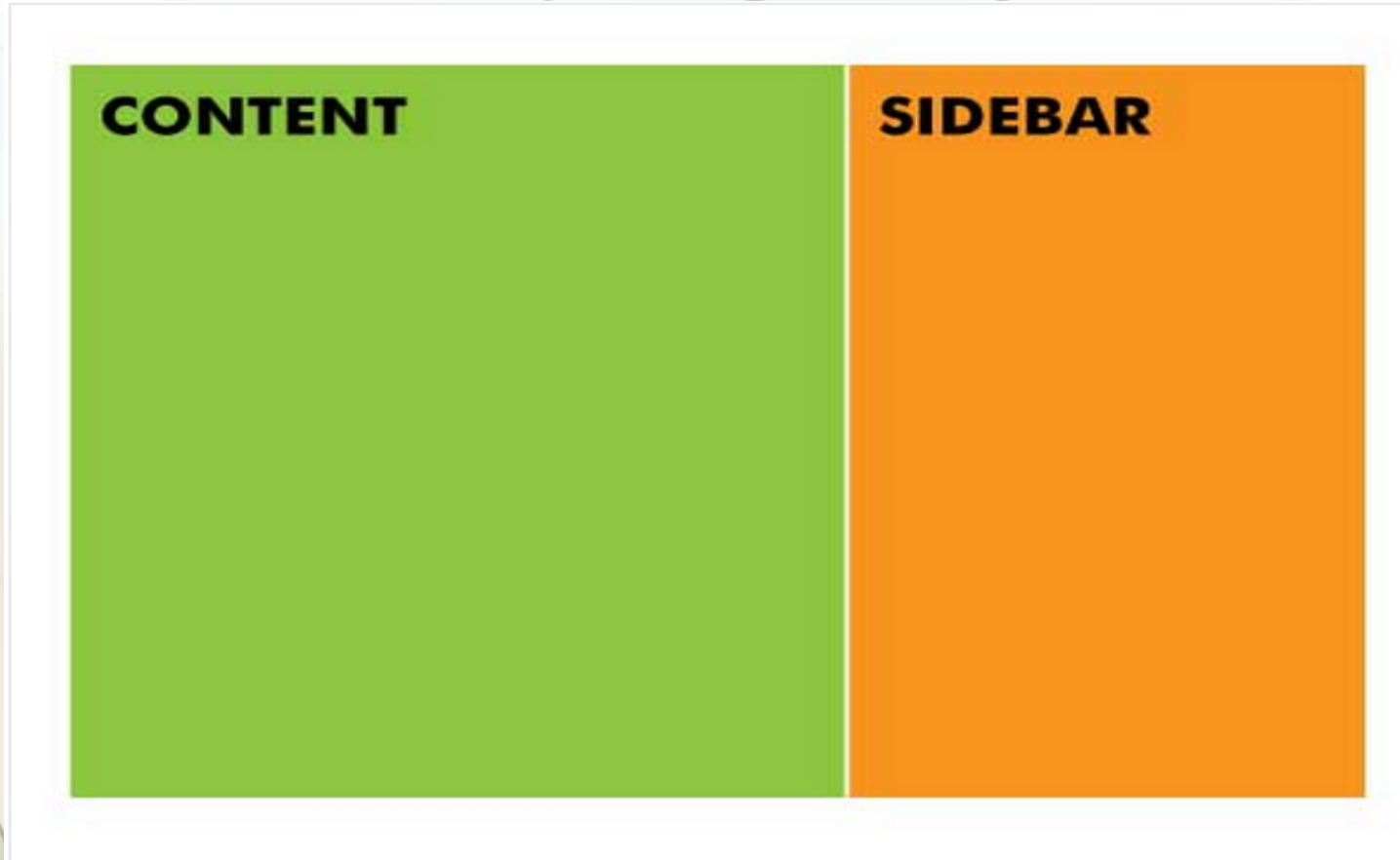
- **Contends that compositional strength can be found by dividing any image into 3 columns of equal width and 3 rows of equal width.**
- **The intersection of the dividing lines forms 4 focal points to which the human eye is naturally attracted.**





Grid Principles: Golden Ratio

- Based on Fibonacci Sequence, where Fibonacci numbers follow a 1:1.61 ratio – Golden Ratio.
- This ratio is most pleasing to the eye...

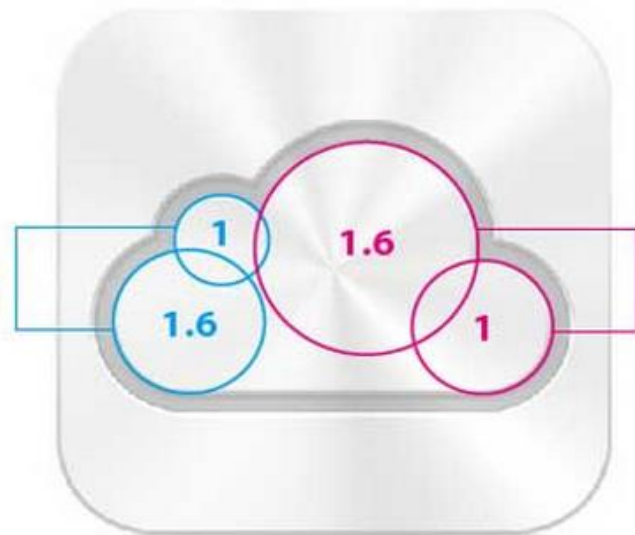




Grid Principles: Golden Ratio



黄金比
Golden ratio

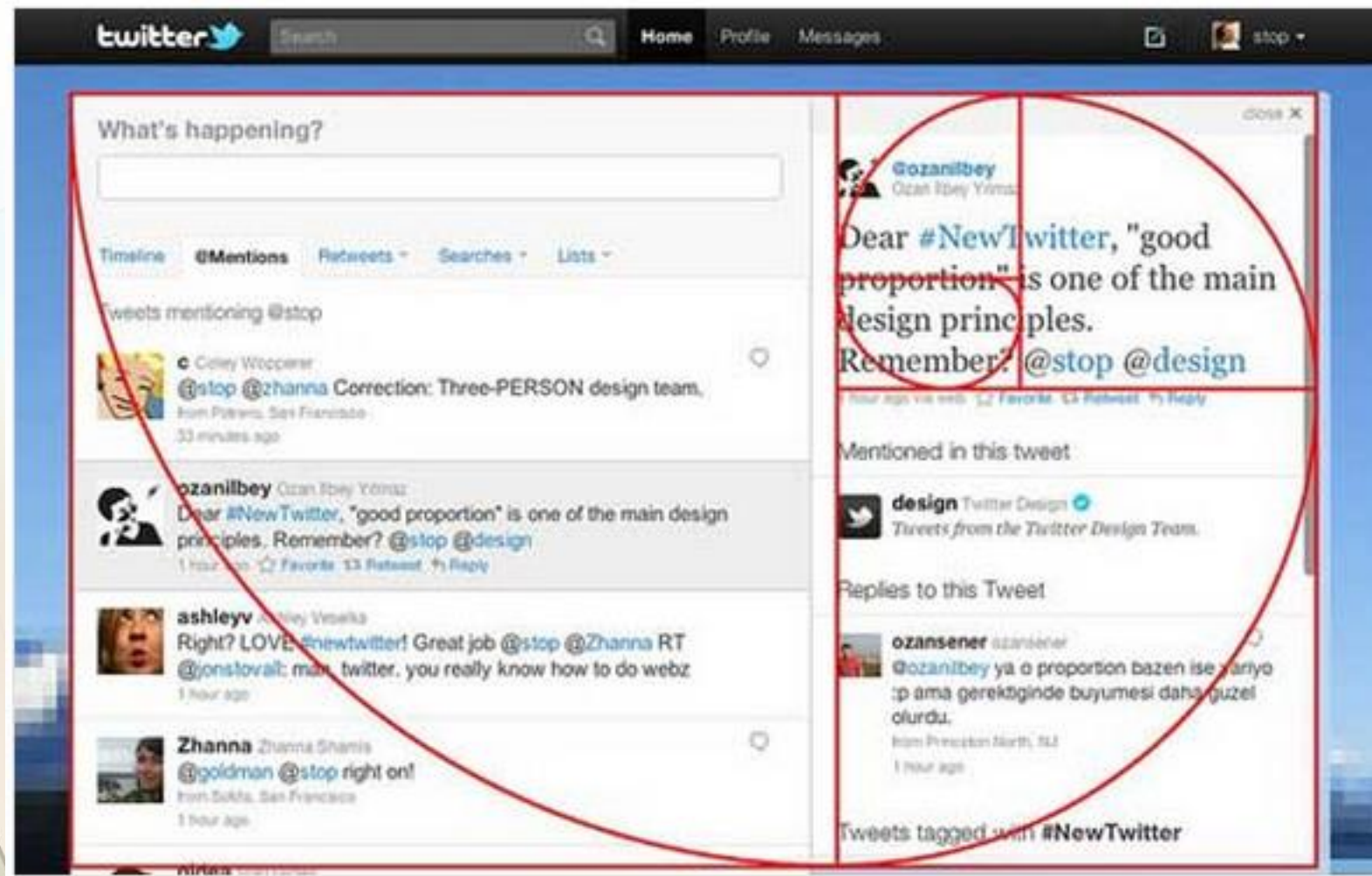


黄金比
Golden ratio



Grid Principles: Golden Ratio

The Twitter redesign





Grids

- What **advantages** are there to gridding?
- What **disadvantages** are there to gridding?



Medium & High Fidelity Prototyping



Medium Fidelity Prototyping

Prototyping with a computer

- simulate some but not all features of the interface
- engaging for end users

Purpose

- provides sophisticated but limited scenario for the user to try
- can test more subtle design issues

Dangers

- user's reactions often "in the small"
- users reluctant to challenge designer
- Users reluctant to touch the design
- management may think its real!



High Fidelity Prototyping

- Uses materials that you would expect to be in the final product.
- Prototype looks more like the final system than a low-fidelity version.
- Danger that users think they have a full system.....



Horizontal vs. Vertical Prototyping

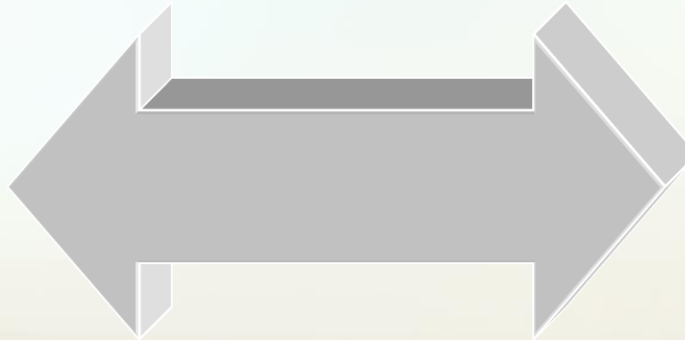
- Two common types of compromise
- **Horizontal prototype** – shows user interface but has limited functionality behind the buttons/controls. No database links included.
- **Vertical prototype** – contains all of the high level and low level functionality of particular areas in the system



Prototyping S/w Tools

Production tools

(that can be used
for prototyping too)



**Prototyping
tools**

Specifically used
for prototyping



Prototyping S/w Tools

Production tools:

- ✓ Produces re-usable software
- X Constraints of producing quality s/w not necessarily compatible with prototyping
- X Code management over head can slow production
- X Higher costs of producing prototype
- X Requires development skills -



Prototyping S/w Tools

Prototyping specific tools

- ✓ Faster
- ✓ Can be used by non technical staff
- X Must be throw-away
- X May not look exactly like future system
- X May limit what can be configured



Prototyping Specific Tools



Sketching and Prototyping with Firefox

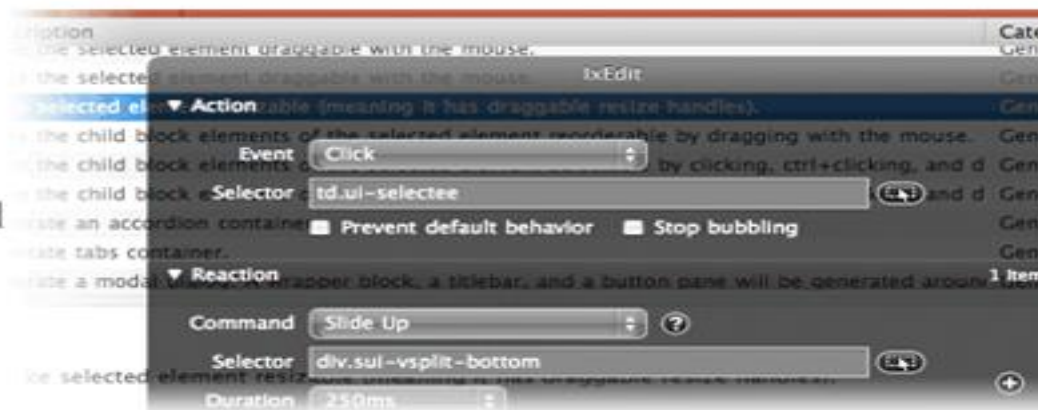
PENCIL PROJECT

Google SketchUp



IxEdit

The First On-the-Fly
Interaction Design Tool
for the Web.





References

- Terry Felke-Morris (2013), *Web Development and Design Foundations with HTML*
- Khoi Vinh (2011), *Ordering Disorder: Grid Principles for Web Design*