



# Principles of Design

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# Affordance

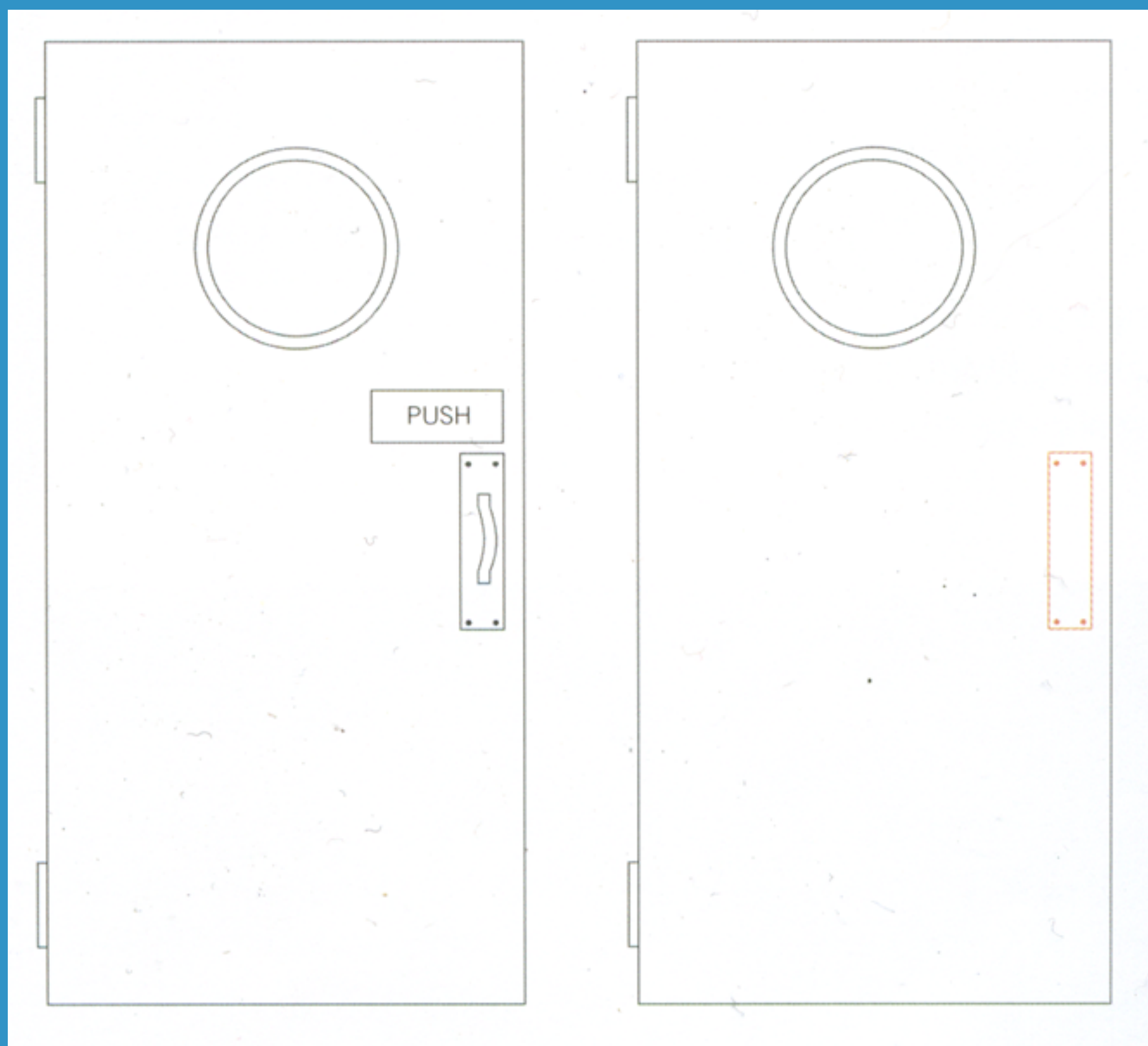
**PERCEPTION**

A horizontal bar at the top of the slide consists of 15 colored squares in the following order from left to right: green, green, light blue, blue, purple, purple, orange, orange, yellow, orange, white, light grey, light grey, medium grey, and dark grey.

Physical characteristics influence  
function

# Affordance


- Design things to afford their intended function
  - Round wheels roll better than square ones
  - 3D Buttons and the desktop metaphor
- Door usability
  - Do I push or pull this door? How do I know?
  - Handles afford pulling, plates afford pushing
- Affordance errors can cause issues on websites when common elements like form fields and buttons are styled to look like other page objects



A horizontal bar at the top of the slide composed of several colored squares: green, blue, purple, orange, yellow, white, grey, and dark blue.

# Mapping

**PERCEPTION**

A decorative header bar at the top of the slide, consisting of a horizontal row of 15 colored squares. The colors from left to right are: green, blue, purple, orange, yellow, white, grey, and dark grey.

The relationship between controls and  
their effects or movements



# Mapping


- Position controls so that their location and behavior correspond to the layout and behavior of the device
- Avoid single controls for multiple functions (remember the plane crash?)
- Examples
  - Range controls and associated burners
  - Form fields and submit buttons
  - The Segway





# Chunking

**LEARNING**

A horizontal bar at the top of the slide consists of a series of colored squares in various shades including green, blue, purple, orange, yellow, and grey.

Combining information into a limited  
amount of chunks for easier  
processing and recall

# Chunking

- How much information can our brain/attention handle at once?
- Chunk information when it's important that users retain that information or when using for problem solving
- Can help with page layouts and logical grouping of content and media
- The maximum number of chunks that can be processed in short-term memory is 4 (+/- 1).

GitHub Pages

Project title

Websites for you and your projects.

Hosted directly from your [GitHub repository](#). Just edit, push, and your changes are live.

GitHub Training

Education from Octopress 2.0

Education from Octopress 2.0

Roll vanilla, or generate a site for your project to quickly get started.

You get one site per GitHub account and organization, and unlimited project sites. Ready? Let's get started.

User or organization site

Project site

1

Create a repository

Head over to GitHub and create a new repository named `username.github.io`, where `username` is your username (or organization name) on GitHub.

If the first part of the repository doesn't exactly match your username, it won't work, so make sure to get it right.

Repository name

Repository description

Public

Private

Initialize this repository with a README

Create repository

2

What git client are you using?

Get started

GitHub for Windows

GitHub for Mac

I don't know

2

Clone the repository

Go to the folder where you want to store your project, and clone the new repository:

```
- $ git clone https://github.com/username/username.github.io
```

3

Hello World

Enter the project folder and add an index.html file:

```
- $ cd username.github.io
- $ echo "Hello World" > index.html
```

4

Push it

Add, commit, and push your changes:

```
- $ git add --all
- $ git commit -m "Initial commit"
- $ git push -u origin master
```

5

...and you're done!

Fire up a browser and go to <http://username.github.io>.

✓

Now that you're up and running, here are a few things you should know.



Blogging with Jekyll

Using Jekyll, you can blog using beautiful Markdown syntax, and without having to deal with any databases. Learn how to set up Jekyll.



Custom URLs

Want to use your own custom domain for a GitHub Pages site? Just create a file named `CNAME` and include your CNAME. Learn more.



Guides

Learn how to create custom 404 pages, use submodules, and learn more about GitHub Pages.

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7

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# Signal-to-Noise Ratio

**LEARNING**

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The ratio of relevant to irrelevant  
information in a display




# Signal-to-Noise Ratio

- Highest S/N Ratio is desired for design
- Did someone say website ads?
  - Answers.com
- Keep designs simple (both from a layout and color/texture perspective)
- Don't make me think!



# Hick's Law

**USABILITY**

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The time it takes to make a decision  
increases as the number of  
alternatives increases




# Hick's Law

- Hick's Law effects any situation where simple decisions are involved
  - Website menus
  - Way-finding layout and signage
  - Emergency response
- Always try to reduce the number of decisions involved



# 80/20 Rule

**USABILITY**

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A high percentage of effects in any  
large system are caused by a low  
percentage of variables

# 80/20 Rule


- Examples
  - 80% of website usage comes from 20% of visitors
  - 80% of a company's revenue comes from 20% of its products
  - 80% of innovation comes from 20% of people
- Focus on the 20%



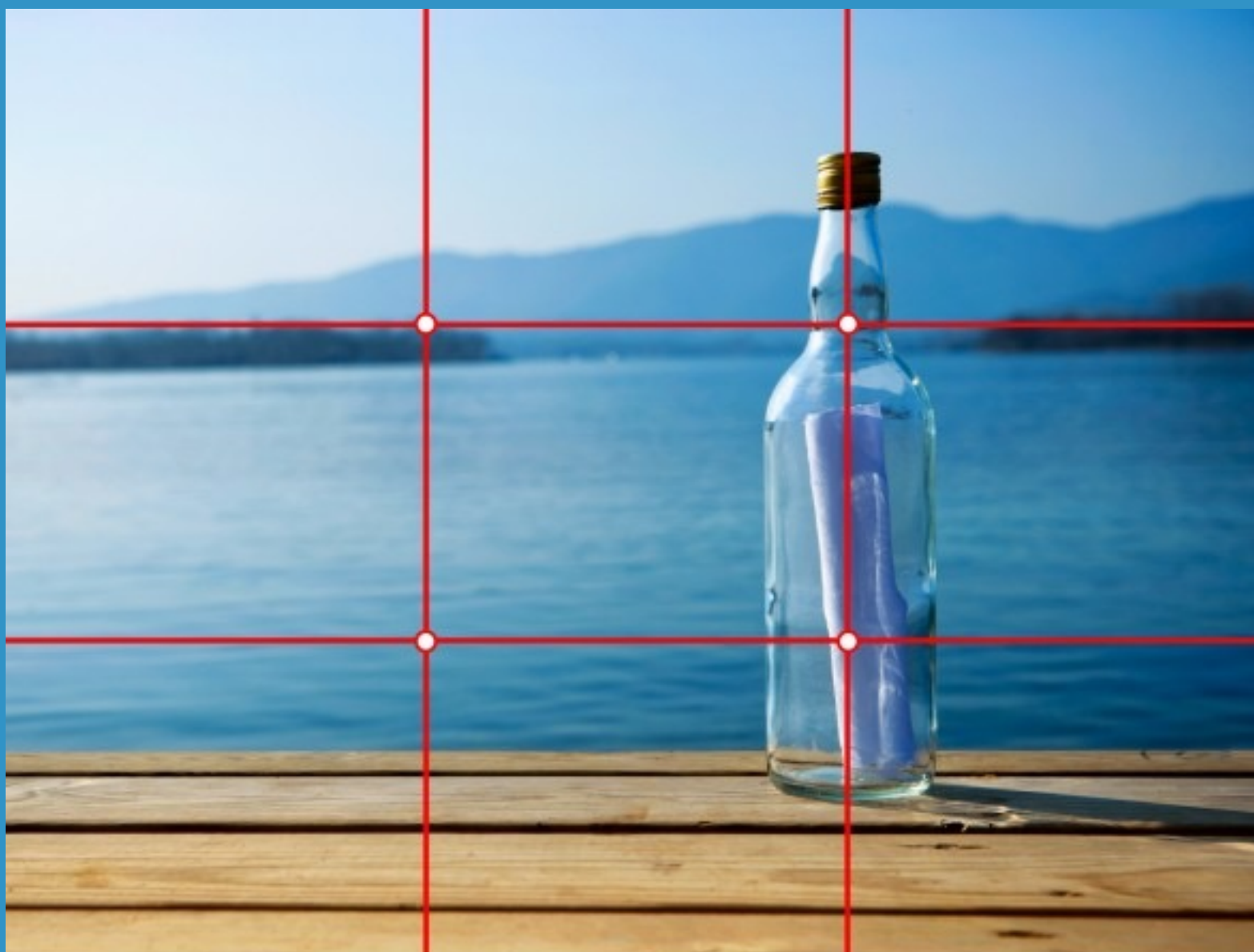
# Rule of Thirds

**APPEAL**



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A technique in composition in which a medium is divided into thirds, creating aesthetic positions for design



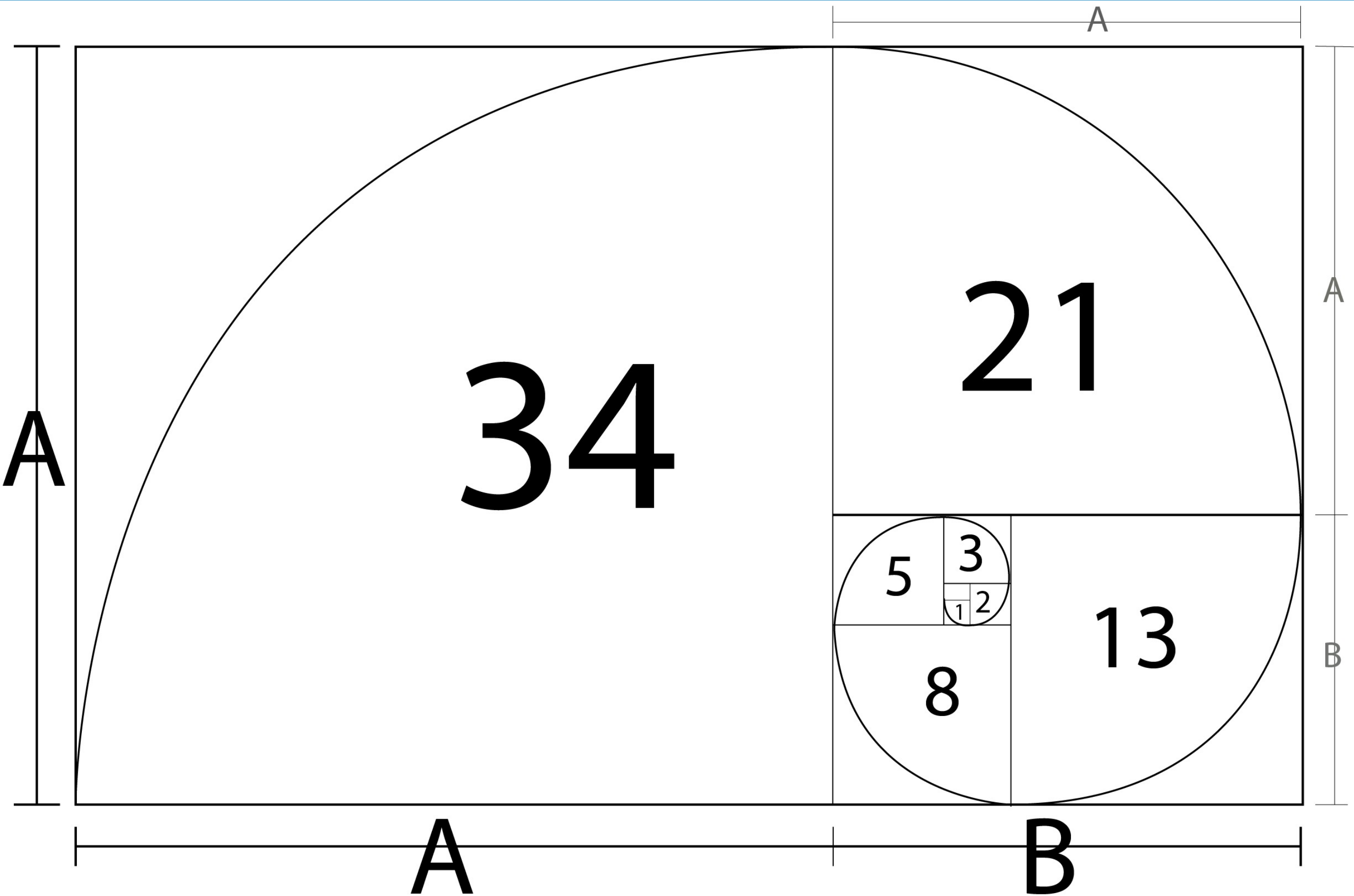


# Golden Ratio

**APPEAL**

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A ratio within elements of a form,  
such as height to width,  
approximating **0.618/1.618**





# Modularity

**DECISIONS**

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Dividing systems into smaller, self-  
contained systems.



# Modularity


- Examples
  - Twitter Bootstrap
  - Apache
- Smaller components are easier to design and less prone to error
- Allows users to combine modules they need to create custom solutions





# Ockham's Razor

**DECISIONS**

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Given the choice between functionally  
equivalent designs, the simplest  
design should be selected