⚛️ Atomic Design

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User Interface (UI)

Component

Component Examples

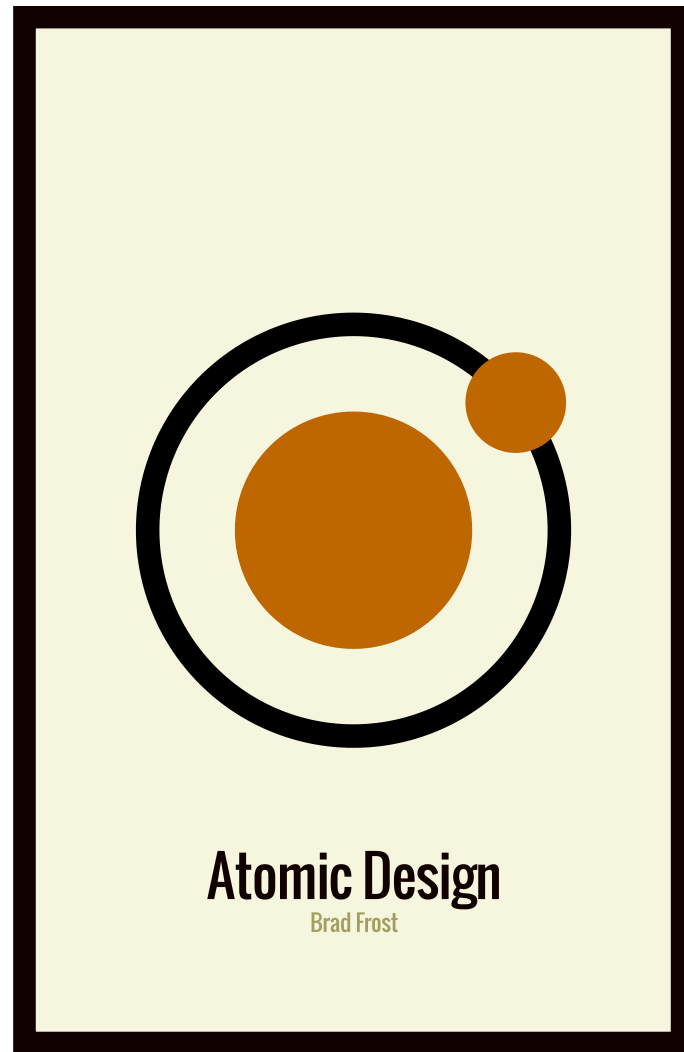|	
`<Button />`	Hello
`<Input />`	Name...
`<Label />`	Name
`<InputWithLabel />`	Name:
`<LoginForm />`	Email:
	Password:
	Login

Atomic Design

Brad Frost

atomicdesign.bradfrost.com

Periodic Table of the Elements

1 IA 1A	2 IIA 2A	3 IIIB 3B	4 IVB 4B	5 VB 5B	6 VIB 6B	7 VIIB 7B	8 VIII 8	9 VIII 8	10 VIII 8	11 IB 1B	12 IIB 2B	13 IIIA 3A	14 IVA 4A	15 VA 5A	16 VIA 6A	17 VIIA 7A	18 VIIIA 8A
1 **H** Hydrogen 1.008																	2 **He** Helium 4.003
3 **Li** Lithium 6.941	4 **Be** Beryllium 9.012											5 **B** Boron 10.811	6 **C** Carbon 12.011	7 **N** Nitrogen 14.007	8 **O** Oxygen 15.999	9 **F** Fluorine 18.998	10 **Ne** Neon 20.180
11 **Na** Sodium 22.990	12 **Mg** Magnesium 24.305											13 **Al** Aluminum 26.982	14 **Si** Silicon 28.086	15 **P** Phosphorus 30.974	16 **S** Sulfur 32.066	17 **Cl** Chlorine 35.453	18 **Ar** Argon 39.948
19 **K** Potassium 39.098	20 **Ca** Calcium 40.078	21 **Sc** Scandium 44.956	22 **Ti** Titanium 47.867	23 **V** Vanadium 50.942	24 **Cr** Chromium 51.996	25 **Mn** Manganese 54.938	26 **Fe** Iron 55.845	27 **Co** Cobalt 58.933	28 **Ni** Nickel 58.693	29 **Cu** Copper 63.546	30 **Zn** Zinc 65.38	31 **Ga** Gallium 69.723	32 **Ge** Germanium 72.631	33 **As** Arsenic 74.922	34 **Se** Selenium 78.971	35 **Br** Bromine 79.904	36 **Kr** Krypton 84.798
37 **Rb** Rubidium 84.468	38 **Sr** Strontium 87.62	39 **Y** Yttrium 88.906	40 **Zr** Zirconium 91.224	41 **Nb** Niobium 92.906	42 **Mo** Molybdenum 95.95	43 **Tc** Technetium 98.907	44 **Ru** Ruthenium 101.07	45 **Rh** Rhodium 102.906	46 **Pd** Palladium 106.42	47 **Ag** Silver 107.868	48 **Cd** Cadmium 112.414	49 **In** Indium 114.818	50 **Sn** Tin 118.711	51 **Sb** Antimony 121.760	52 **Te** Tellurium 127.6	53 **I** Iodine 126.904	54 **Xe** Xenon 131.294
55 **Cs** Cesium 132.905	56 **Ba** Barium 137.328	57-71	72 **Hf** Hafnium 178.49	73 **Ta** Tantalum 180.948	74 **W** Tungsten 183.84	75 **Re** Rhenium 186.207	76 **Os** Osmium 190.23	77 **Ir** Iridium 192.217	78 **Pt** Platinum 195.085	79 **Au** Gold 196.967	80 **Hg** Mercury 200.592	81 **Tl** Thallium 204.383	82 **Pb** Lead 207.2	83 **Bi** Bismuth 208.980	84 **Po** Polonium [208.982]	85 **At** Astatine 209.987	86 **Rn** Radon 222.018
87 **Fr** Francium 223.020	88 **Ra** Radium 226.025	89-103	104 **Rf** Rutherfordium [261]	105 **Db** Dubnium [262]	106 **Sg** Seaborgium [266]	107 **Bh** Bohrium [264]	108 **Hs** Hassium [269]	109 **Mt** Meitnerium [268]	110 **Ds** Darmstadtium [269]	111 **Rg** Roentgenium [272]	112 **Cn** Copernicium [277]	113 **Uut** Ununtrium unknown	114 **Fl** Flerovium [289]	115 **Uup** Ununpentium unknown	116 **Lv** Livermorium [298]	117 **Uus** Ununseptium unknown	118 **Uuo** Ununoctium unknown

Lanthanide Series

57 **La** Lanthanum 138.905	58 **Ce** Cerium 140.116	59 **Pr** Praseodymium 140.908	60 **Nd** Neodymium 144.243	61 **Pm** Promethium 144.913	62 **Sm** Samarium 150.36	63 **Eu** Europium 151.964	64 **Gd** Gadolinium 157.25	65 **Tb** Terbium 158.925	66 **Dy** Dysprosium 162.500	67 **Ho** Holmium 164.930	68 **Er** Erbium 167.259	69 **Tm** Thulium 168.934	70 **Yb** Ytterbium 173.055	71 **Lu** Lutetium 174.967

Actinide Series

89 **Ac** Actinium 227.028	90 **Th** Thorium 232.038	91 **Pa** Protactinium 231.036	92 **U** Uranium 238.029	93 **Np** Neptunium 237.048	94 **Pu** Plutonium 244.064	95 **Am** Americium 243.061	96 **Cm** Curium 247.070	97 **Bk** Berkelium 247.070	98 **Cf** Californium 251.080	99 **Es** Einsteinium [254]	100 **Fm** Fermium 257.095	101 **Md** Mendelevium 258.1	102 **No** Nobelium 259.101	103 **Lr** Lawrencium [262]
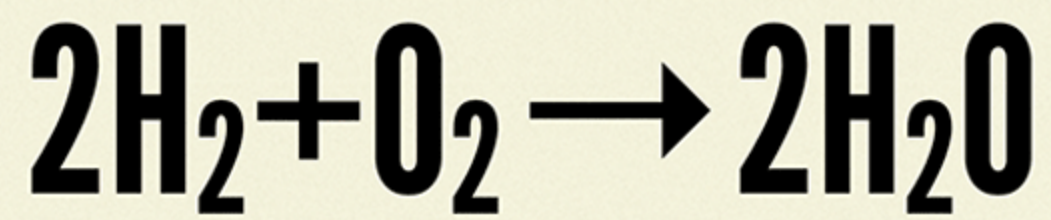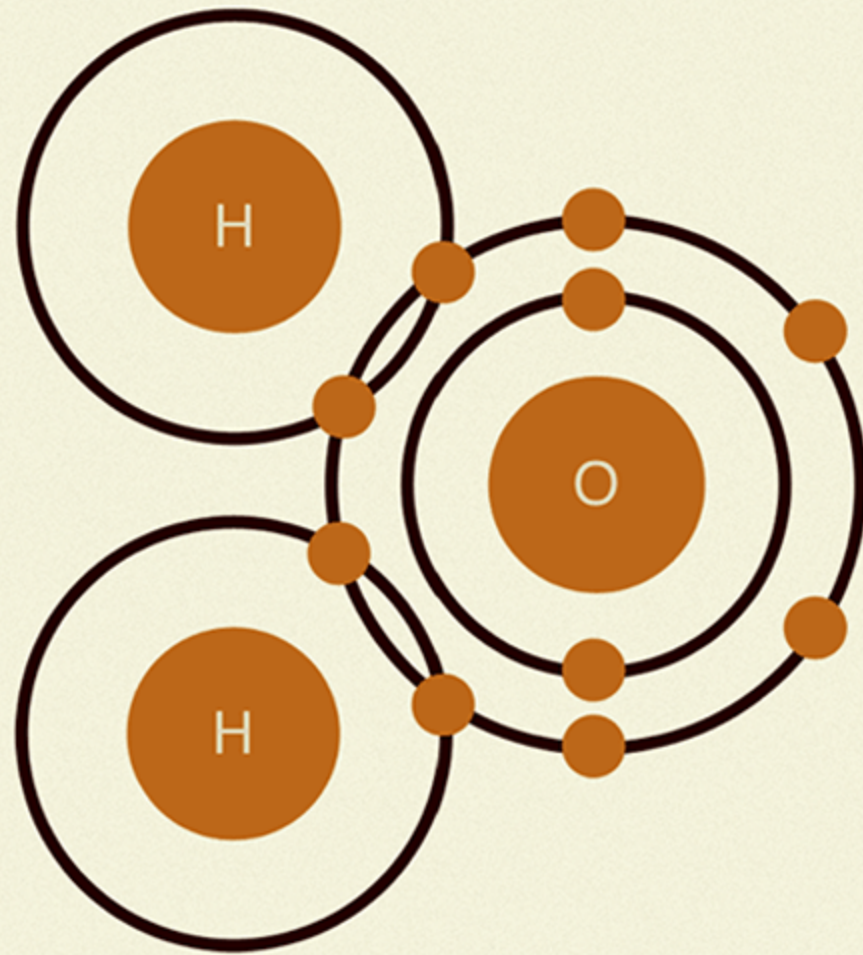
$$2H_2 + O_2 \rightarrow 2H_2O$$

Periodic Table of the Elements

																	col	table
head	span								div	fieldset	form	body	h1	section	colgroup	tr
title	a								pre	meter	select	aside	h2	header	caption	td
meta	rt	dfn	em	i	small	ins	s	br	p	blockquote	legend	optgroup	address	h3	nav	menu	th
base	rp	abbr	time	b	strong	del	kbd	hr	ol	dl	label	option	datalist	h4	article	command	tbody
link	noscript	q	var	sub	mark	bdi	wbr	figcaption	ul	dt	input	output	keygen	h5	footer	summary	thead
style	script	cite	samp	sup	ruby	bdo	code	figure	li	dd	textarea	button	progress	h6	hgroup	details	tfoot

img	area	map	embed	object	param	source	iframe	canvas	track*	audio	video	device*

Legend:

- Root element
- Metadata and scripting
- Embedding content
- Text-level semantics
- Grouping content
- Forms
- Document sections
- Tabular data
- Interactive elements

ATOMS → MOLECULES → ORGANISMS → TEMPLATES → PAGES
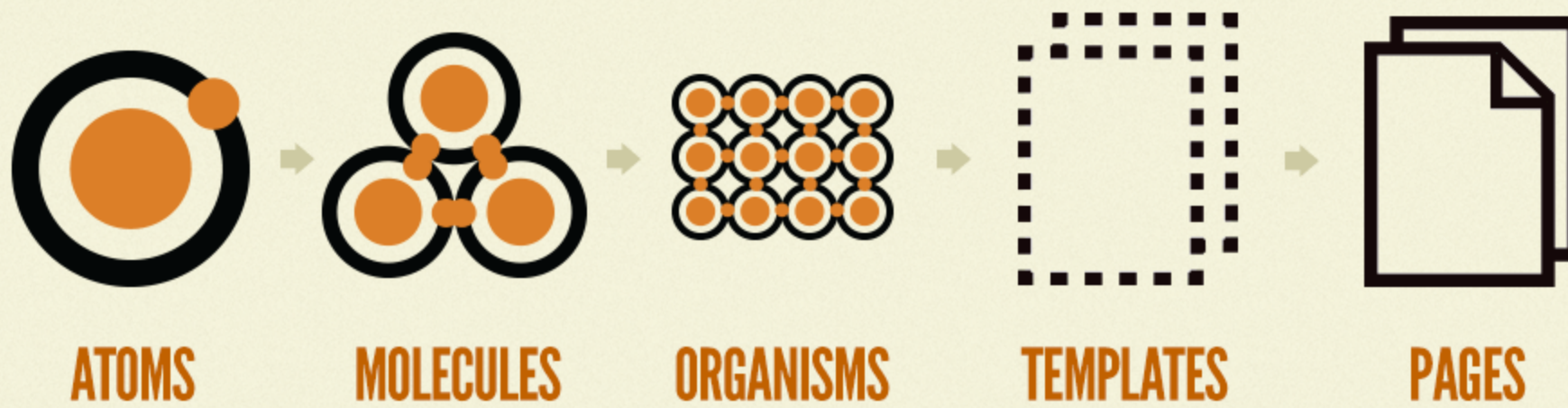
Atoms

<Button />	Hello
<Input />	Name...
<Label />	Name
<Form />	*(not visible)*
<FormGroup />	*(not visible)*

```jsx
export const Input = ({ type, className, ...rest }) => (
  <input
    type={type || 'text'}
    className={classNames('form-control', className)}
    {...rest}
  />
);
```

Molecules

`<InputWithLabel />`

Name:

```jsx
export const InputWithLabel = ({ label, id, onInputChange, ...rest }) => (
  <FormGroup>
    <Label htmlFor={id}>{label}:</Label>
    <Input
      id={id}
      name={id}
      onChange={e => onInputChange && onInputChange(id, e.target.value)}
      {...rest}
    />
  </FormGroup>
);
```

Organisms

`<LoginForm />`

Email:

[   ]

Password:

[   ]

[Login   ]

```
export const LoginForm = ({ values, onInputChange, ...rest }) => (
  <Form {...rest}>
    <InputWithLabel
      id="email"
      label="Email"
      value={(values || {}).email}
      onInputChange={onInputChange}
    />
    <InputWithLabel
      id="passowrd"
      label="Password"
      type="passowrd"
      value={(values || {}).passowrd}
      onInputChange={onInputChange}
    />
    <Button block type="submit" title="Login" />
  </Form>
);
```

Template

= Page UI

Templates

<LoginTemplate />

Log Into E-shop

Email:

Password:

Login

© 2016-2018

```
export const LoginTemplate = ({ ...rest }) => (
  <PageWrapper>
    <Heading>Log Into E-shop</Heading>
    <LoginForm {...rest} />
    <Paragraph muted className="mt-5 mb-3">
      © 2016-2018
    </Paragraph>
  </PageWrapper>
);
```
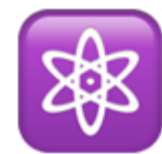
Page

= Template + Data + Logic

Pages

`<LoginPage />`

Log Into E-shop

Email:

Password:

Login

© 2016-2018

Pages

```jsx
export class LoginPage extends Component {
  state = {
    email: '',
    passowrd: '',
  };

  render() {
    const { email, passowrd } = this.state;
    const values = { email, passowrd };

    return (
      <LoginTemplate
        values={values}
        onInputChange={(id, value) =>
          this.setState({ [id]: value })
        }
        onSubmit={e => {
          e.preventDefault();
          alert(`Send data: ${JSON.stringify(values)}`);
        }}
      />
    );
  }
}
```

⚛️ Atomic Design

= System of Components

🤦 🧘‍♀️

```
src
└── components
    ├── Button.js
    ├── Form.js
    ├── FormGroup.js
    ├── Heading.js
    ├── Input.js
    ├── InputWithLabel.js
    ├── Label.js
    ├── LoginForm.js
    ├── LoginPage.js
    ├── LoginTemplate.js
    ├── PageWrapper.js
    └── Paragraph.js
```

```
src
└── components
    ├── atoms
    │   ├── Button.js
    │   ├── Form.js
    │   ├── FormGroup.js
    │   ├── Heading.js
    │   ├── Input.js
    │   ├── Label.js
    │   ├── PageWrapper.js
    │   └── Paragraph.js
    ├── molecules
    │   └── InputWithLabel.js
    ├── organisms
    │   └── LoginForm.js
    ├── pages
    │   └── LoginPage.js
    └── templates
        └── LoginTemplate.js
```

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Thanks! 🙏