Deck

a Go package for presentations

DECK: a package for presentations

Deck is a package written in Go

That uses a singular markup language

With elements for text, lists, code, and graphics

All layout and sizes are expressed as percentages

Clients are interactive or create formats like PDF or SVG

Elements

Hello, World

A block of text, word-wrapped to a specified width. You may specify size, font, color, and opacity.

```go
package main
import "fmt"
func main() {
    fmt.Println("Hello, World")
}
```

...

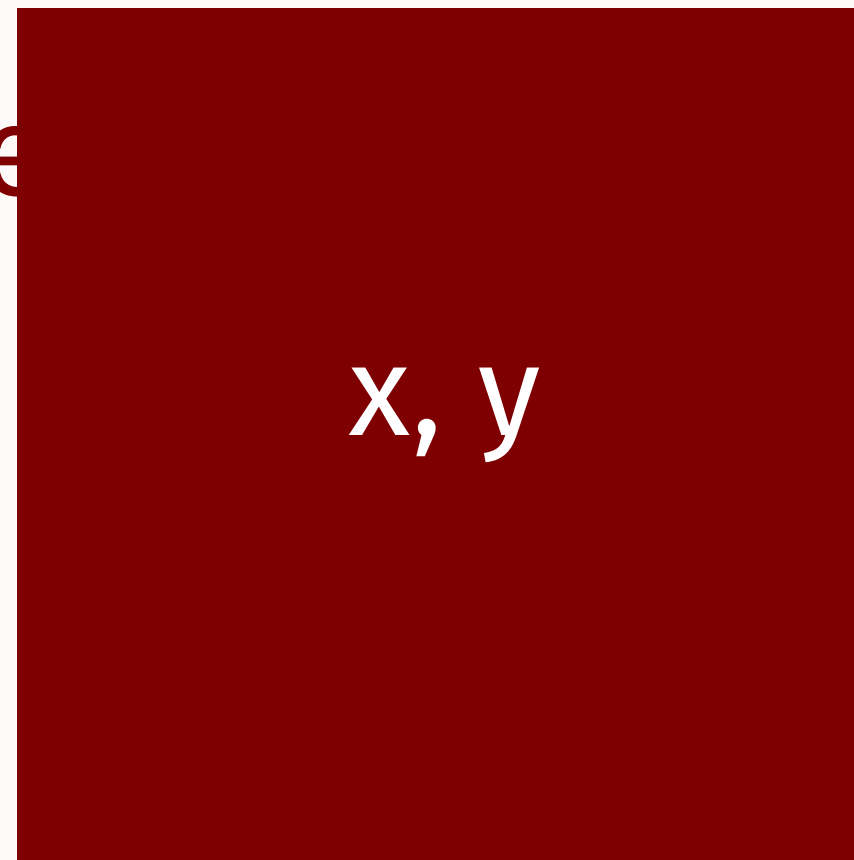| bullet	plain	number
● Point A	First item	1. This
● Point B	Second item	2. That
● Point C	The third item	3. The other
● Point D	the last thing	4. One more

`<list>...</list>`
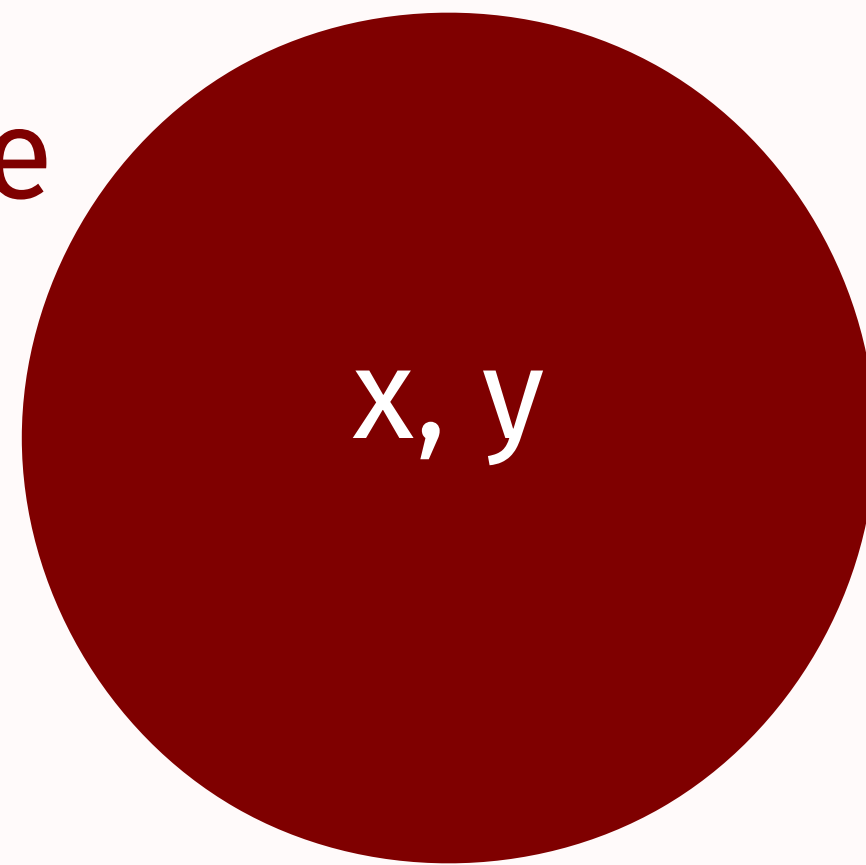
height

x, y

width

`<image .../>`

height (relative
to element
or canvas
width)

x, y

width

`<rect .../>`

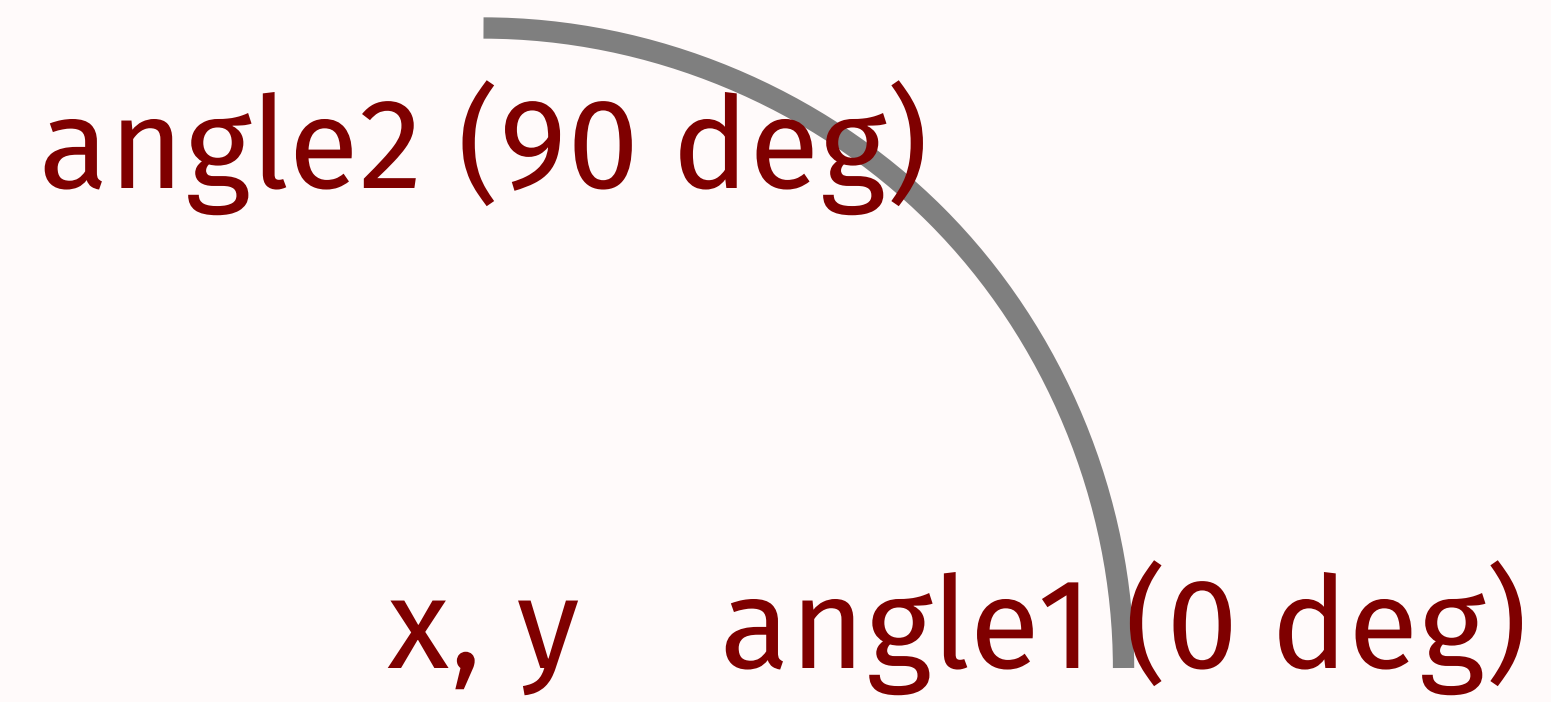height (relative to element or canvas width)

x, y

width

`<ellipse .../>`

start

end

`<line .../>`

angle2 (90 deg)

x, y   angle1 (0 deg)

`<arc .../>`

control

start

end

`<curve .../>`

Markup and Layout

Start the deck	`<deck>`
Set the canvas size	`<canvas width="1024" height="768" />`
Begin a slide	`<slide bg="white" fg="black">`
Place an image	`<image xp="70" yp="60" width="256" height="179" name="work.png" caption="Desk"/>`
Draw some text	`<text  xp="20" yp="80" sp="3">Deck uses these elements</text>`
Make a bullet list	`<list  xp="20" yp="70" sp="2" type="bullet">`
	`<li>text, list, image</li>`
	`<li>line, rect, ellipse</li>`
	`<li>arc, curve</li>`
End the list	`</list>`
Draw a line	`<line    xp1="20" yp1="10" xp2="30" yp2="10"/>`
Draw a rectangle	`<rect    xp="35"  yp="10" wp="4" hr="75" color="rgb(127,0,0)"/>`
Draw an ellipse	`<ellipse xp="45"  yp="10" wp="4" hr="75" color="rgb(0,127,0)"/>`
Draw an arc	`<arc     xp="55"  yp="10" wp="4" hp="3" a1="0" a2="180" color="rgb(0,0,127)"/>`
Draw a quadratic bezier	`<curve   xp1="60" yp1="10" xp2="75" yp2="20" xp3="70" yp3="10" />`
End the slide	`</slide>`
End of the deck	`</deck>`

Anatomy of a Deck

Deck uses these elements

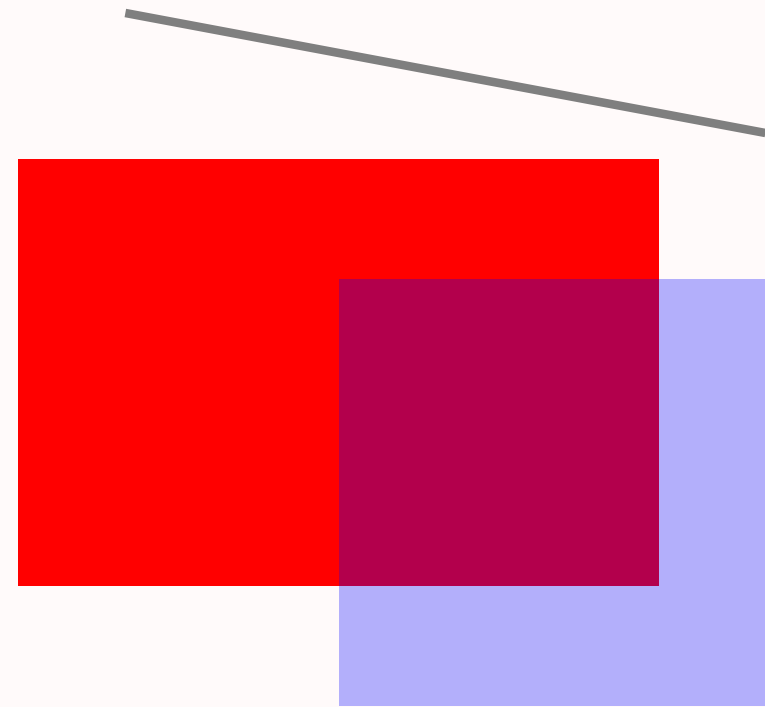- text, list, image

- line, rect, ellipse

- arc, curve

Desk

Text and List Markup

Position, size	`<text xp="..." yp="..." sp="...">`
Block of text	`<text ... type="block">`
Lines of code	`<text ... type="code">`
Attributes	`<text ... color="..." opacity="..." font="..." align="...">`

Position, size	`<list xp="..." yp="..." sp="...">`
Bullet list	`<list ... type="bullet">`
Numbered list	`<list ... type="number">`
Attributes	`<list ... color="..." opacity="..." font="..." align="...">`

Common Attributes for text and list

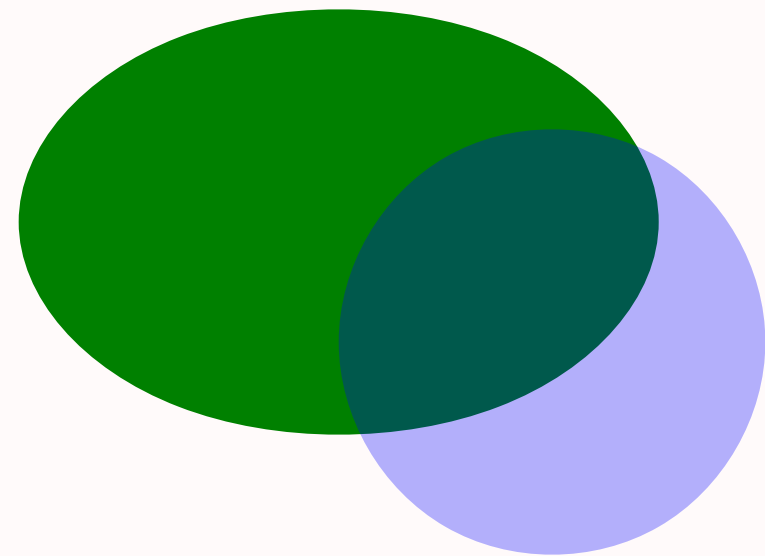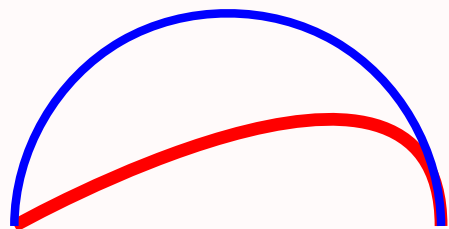|	
`xp`	horizontal percentage
`yp`	vertical percentage
`sp`	font size percentage
`type`	"bullet", "number" (list), "block", "code" (text)
`align`	"left", "middle", "end"
`color`	SVG names ("maroon"), or RGB "rgb(127,0,0)"
`opacity`	percent opacity (0-100, transparent - opaque)
`font`	"sans", "serif", "mono"

Graphics Markup

```
<line xp1="5" yp1="75" xp2="20" yp2="70" sp="0.2"/>

<rect xp="10" yp="60" wp="15" hr="66.6" color="red"/>
<rect xp="15" yp="55" wp="10" hr="100" color="blue" opacity="30"/>

<ellipse xp="10" yp="35" wp="15" hr="66.66" color="green"/>
<ellipse xp="15" yp="30" wp="10" hr="100" color="blue" opacity="30"/>

<curve xp1="5" yp1="10" xp2="15" yp2="20" xp3="15" yp3="10" sp="0.3" color="red"/>
<arc xp="22" yp="10" wp="10" wp="10" a1="0" a2="180" sp="0.2" color="blue"/>
```
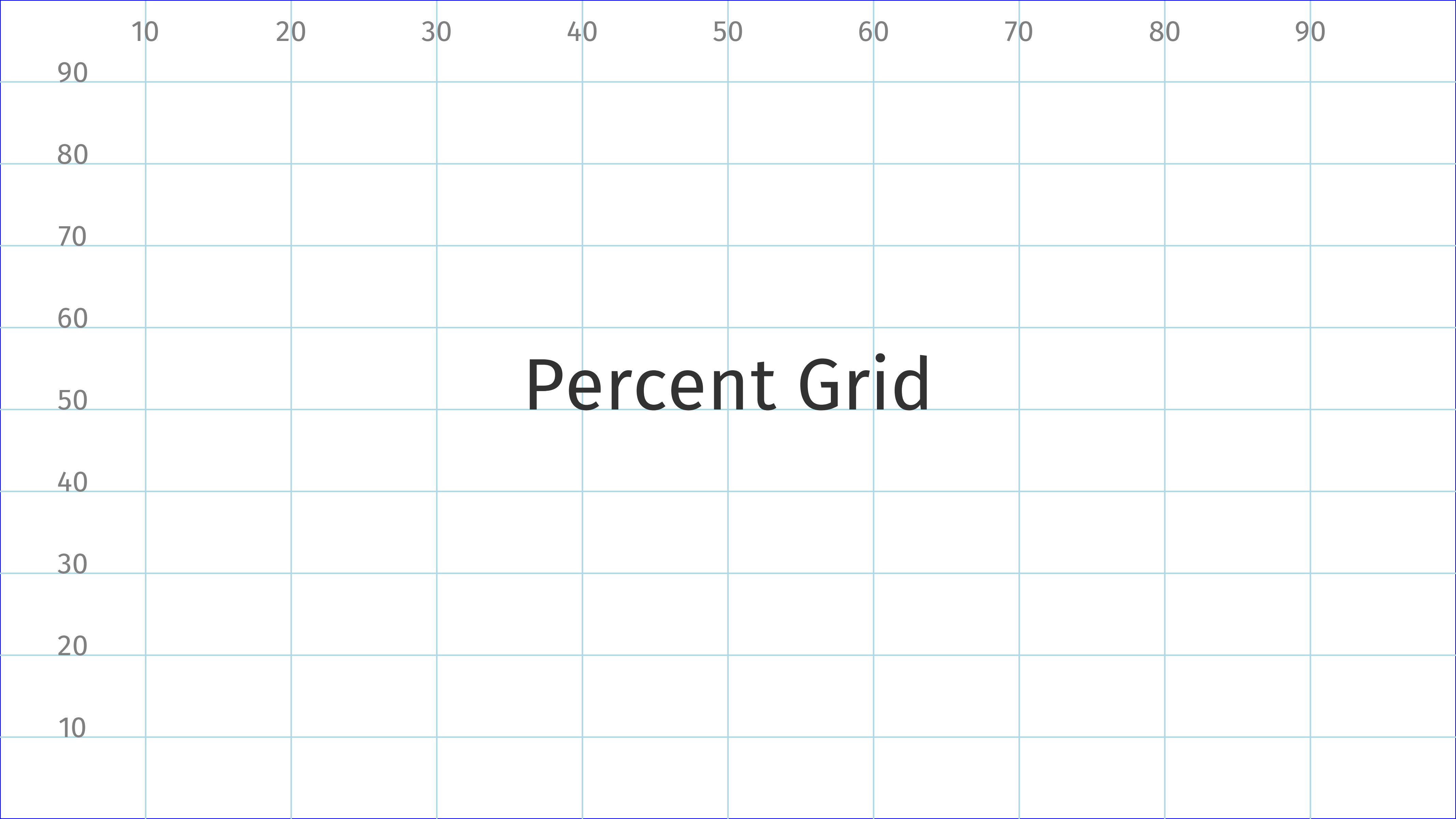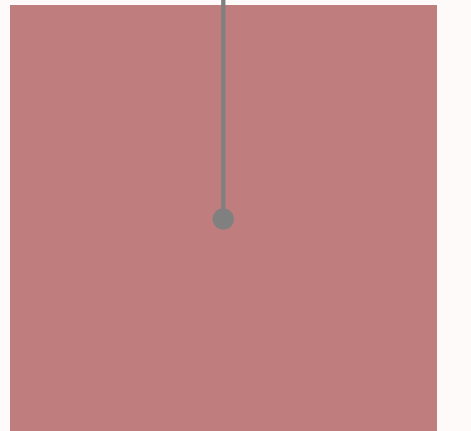
Percent Grid

10%, 50%

50%, 50%

90%, 50%

Hello

Percentage-based layout

bullet	plain	number
• Point A	First item	1. This
• Point B	Second item	2. That
• Point C	The third item	3. The other
• Point D	the last thing	4. One more

`<list>...</list>`

bullet
- Point A
- Point B
- Point C
- Point D

plain

First item

Second item

The third item

the last thing

number

1. This
2. That
3. The other
4. One more

`<list>...</list>`

Design Examples

hello, world

Top

Left

Right

Bottom

30%

70%

Summary (30%)

Detail (70%)

Two Columns

One

Two

Three

Four
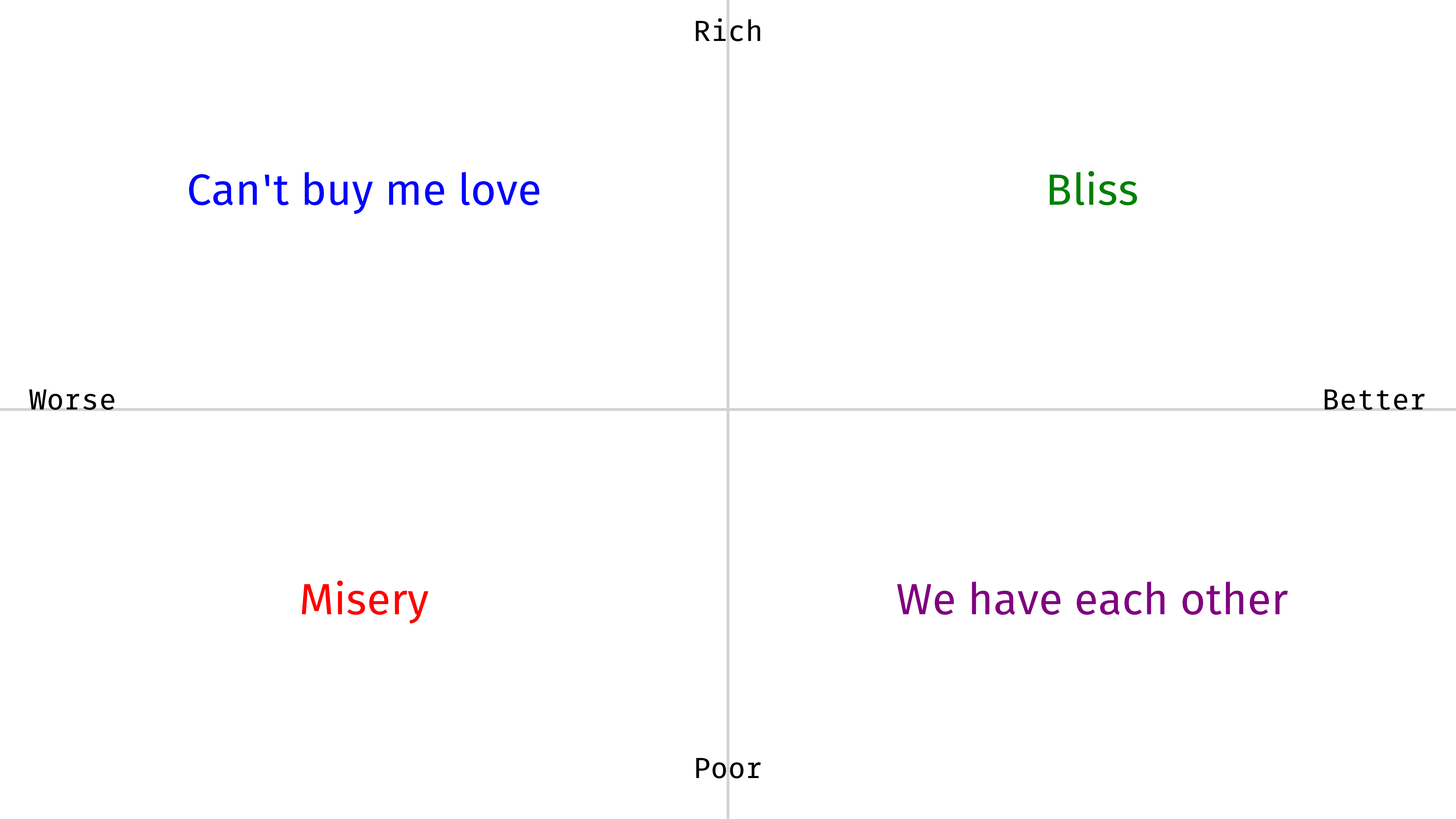

Tree and Sky

Five

Six

Seven

Eight

Rocks

This is not a index card

Rich

Can't buy me love

Bliss

Worse

Better

Misery

We have each other

Poor

Code

```go
package main
import (
    "github.com/ajstarks/svgo"
    "os"
)

func main() {
    canvas := svg.New(os.Stdout)
    width, height := 500, 500
    a, ai, ti := 1.0, 0.03, 10.0

    canvas.Start(width, height)
    canvas.Rect(0, 0, width, height)
    canvas.Gstyle("font-family:serif;font-size:144pt")

    for t := 0.0; t <= 360.0; t += ti {
        canvas.TranslateRotate(width/2, height/2, t)
        canvas.Text(0, 0, "i", canvas.RGBA(255, 255, 255, a))
        canvas.Gend()
        a -= ai
    }
    canvas.Gend()
    canvas.End()
}
```

Output

A few months ago, I had a look at the brainchild of a few serious heavyweights working at Google. Their project, the Go programming language, is a static typed, c lookalike, semicolon-less, self formatting, package managed, object oriented, easily parallelizable, cluster fuck of genius with an unique class inheritance system. It doesn't have one.

The Go Programming Language

is a static typed,

c lookalike,

semicolon-less,

self formatting,

package managed,

object oriented,

easily parallelizable,

cluster fuck of genius

with an unique class inheritance system.

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Andrew Mackenzie-Ross, OBJECTIVE-C LESSONS FROM GO

The Go Programming Language

is a static typed, c lookalike, semicolon-less, self formatting,

package managed, object oriented, easily parallelizable,

cluster fuck of genius with an unique class inheritance system.

It doesn't have one.

So, the next time you're about
to make a subclass, think hard
and ask yourself

what would Go do

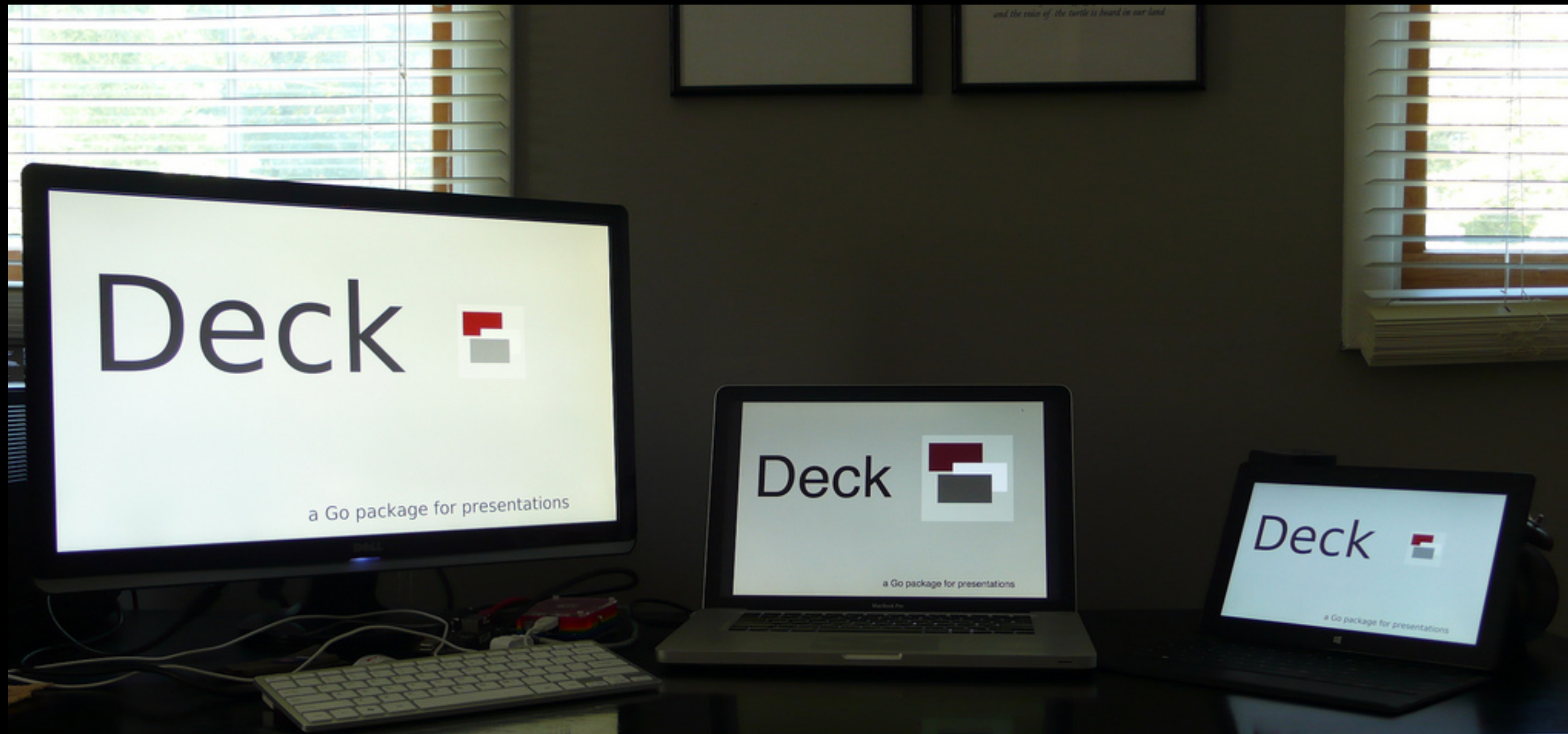You must not blame me if I do talk to the clouds.

FOR, LO,

the winter is past,
the rain is over and gone;
The flowers appear on the earth;
the time for the singing of birds is come,
and the voice of the turtle is heard in our land.

Song of Solomon 2:11-12

Clients

```go
package main
import (
    "log"
    "github.com/ajstarks/deck"
)
func main() {
    presentation, err := deck.Read("deck.xml", 1024, 768) // open the deck
    if err != nil {
        log.Fatal(err)
    }
    for _, slide := range presentation.Slide {              // for every slide...
        for _, t := range slide.Text {                      // process the text elements
            x, y, size := deck.Dimen(presentation.Canvas, t.Xp, t.Yp, t.Sp)
            slideText(x, y, size, t)
        }
        for _, l := range slide.List {                      // process the list elements
            x, y, size := deck.Dimen(presentation.Canvas, l.Xp, l.Yp, l.Sp)
            slideList(x, y, size, l)
        }
    }
}
```

A Deck Client

Process — deck code

- interactive
- PDF
- SVG
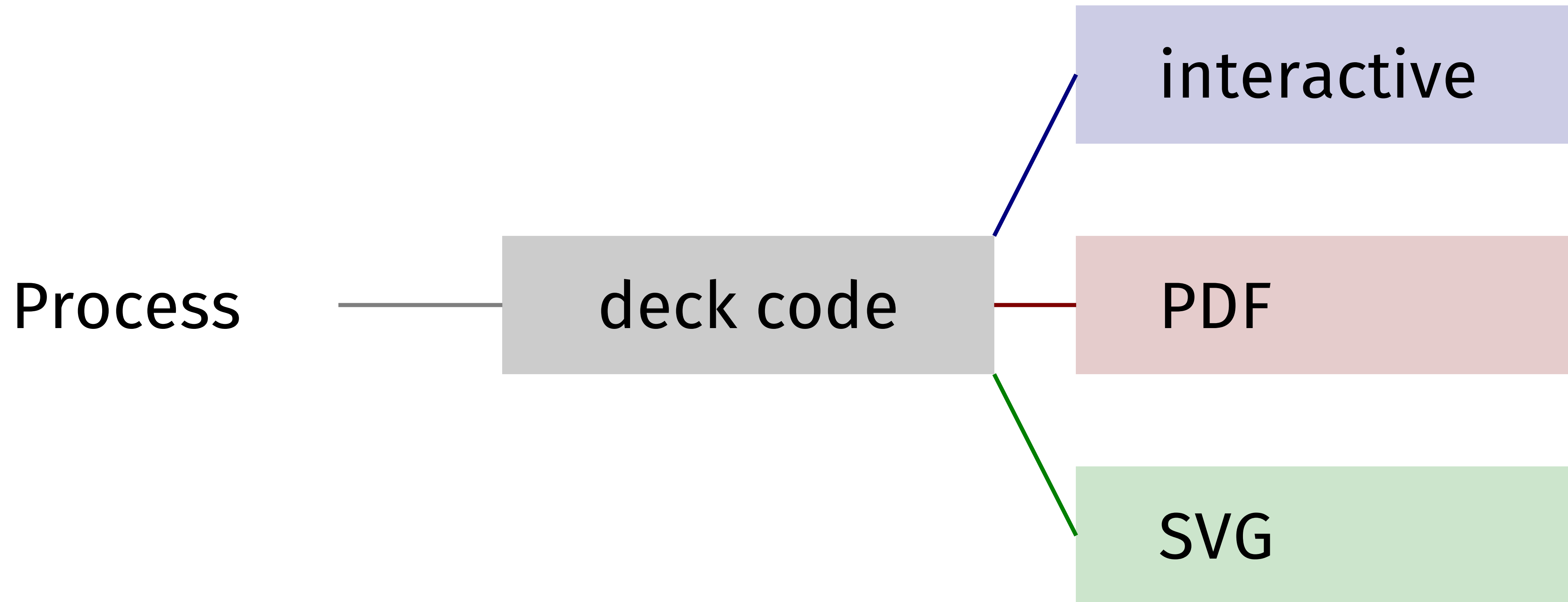
```go
func main() {
    benchmarks := []Bardata{
        {"Macbook Air", 154.701},
        {"MacBook Pro (2008)", 289.603},
        {"BeagleBone Black", 2896.037},
        {"Raspberry Pi", 5765.568},
    }
    ts := 2.5
    hts := ts / 2
    x := 10.0
    bx1 := x + (ts * 12)
    bx2 := bx1 + 50.0
    y := 60.0
    maxdata := 5800.0
    linespacing := ts * 2.0
    text(x, y+20, "Go 1.1.2 Build and Test Times", ts*2, "black")
    for _, data := range benchmarks {
        text(x, y, data.label, ts, "rgb(100,100,100)")
        bv := vmap(data.value, 0, maxdata, bx1, bx2)
        line(bx1, y+hts, bv, y+hts, ts, "lightgray")
        text(bv+0.5, y+(hts/2), fmt.Sprintf("%.1f", data.value), hts, "rgb(127,0,0)")
        y -= linespacing
    }
}
```

Generating a Barchart

Go 1.1.2 Build and Test Times

Macbook Air   154.7

MacBook Pro (2008)   289.6

BeagleBone Black   2896.0

Raspberry Pi   5765.6

```
$ (echo '<deck><slide>'; go run deckbc.go; echo '</slide></deck>')
```

go get github.com/ajstarks/deck/vgdeck

go get github.com/ajstarks/deck/pdfdeck

go get github.com/ajstarks/deck/svgdeck

pdfdeck [options] file.xml...

-sans, -serif, -mono [font] specify fonts

-pagesize [w,h, or Letter, Legal, Tabloid, A2-A5, ArchA, Index, 4R, Widescreen]

-stdout (output to standard out)

-outdir [directory] directory for PDF output

-fontdir [directory] directory containing font information

-author [author name] set the document author

-title [title text] set the document title

-grid [percent] draw a percent grid on each slide

svgdeck [options] file.xml...

-sans, -serif, -mono [font] specify fonts

-pagesize [Letter, Legal, A3, A4, A5]

-pagewidth [canvas width]

-pageheight [canvas height]

-stdout (output to standard out)

-outdir [directory] directory for PDF output

-title [title text] set the document title

-grid [percent] draw a percent grid on each slide

vgdeck [options] file.xml...

-loop [duration] loop, pausing [duration] between slides

-slide [number] start at slide number

-w [width] canvas width

-h [height] canvas height

-g [percent] draw a percent grid

vgdeck Commands

`+, Ctrl-N, [Return]`	Next slide
`-, Ctrl-P, [Backspace]`	Previous slide
`^, Ctrl-A`	First slide
`$, Ctrl-E`	Last slide
`r, Ctrl-R`	Reload
`x, Ctrl-X`	X-Ray
`/, Ctrl-F [text]`	Search
`s, Ctrl-S`	Save
`q`	Quit
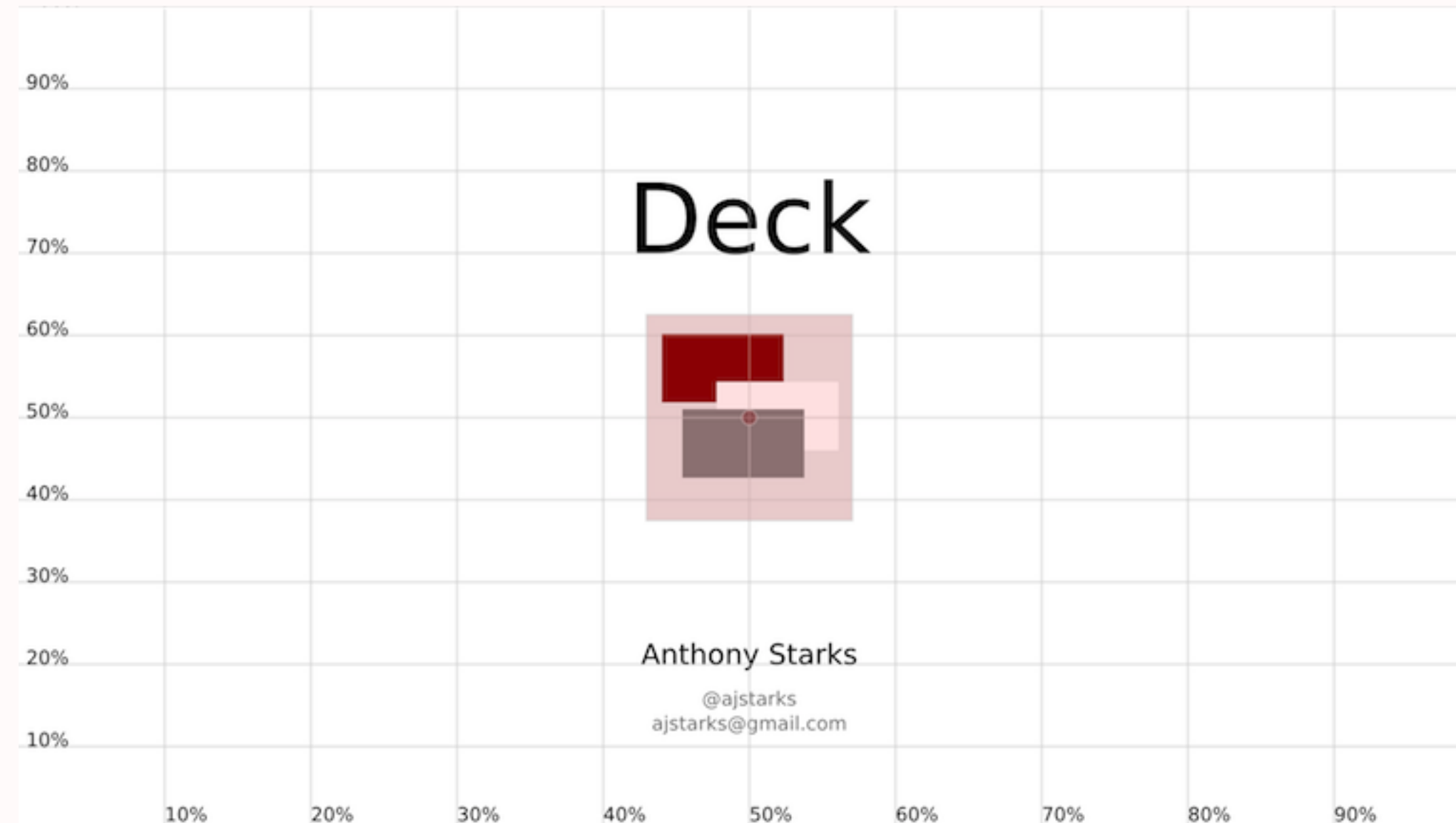
X-Ray mode shows the percent grid, and highlights images

github.com/ajstarks/deck

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