

# 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.

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

<text>...</text>

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>`

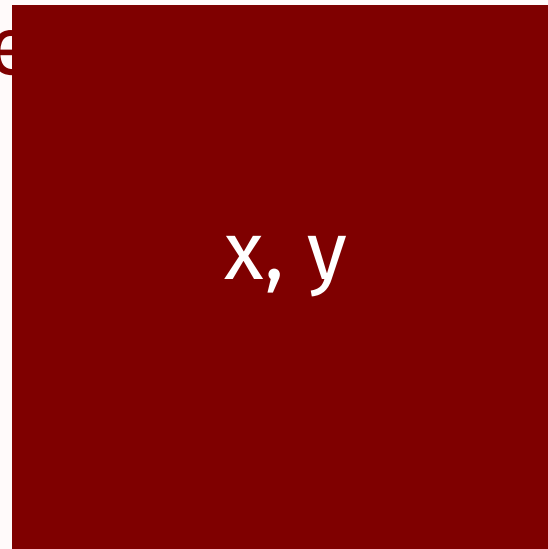
height



width

```
<image .../>
```

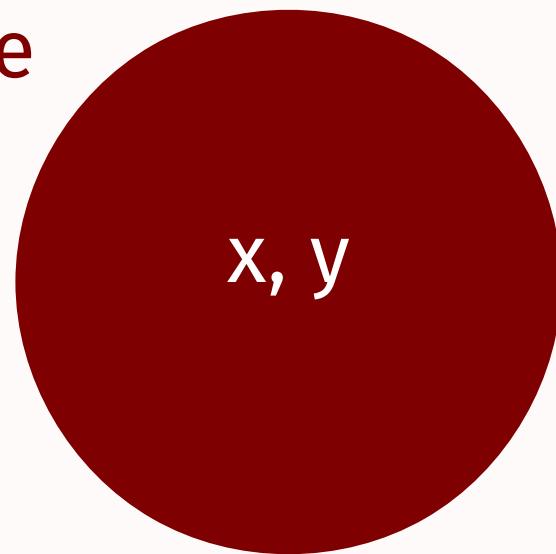
height (relative  
to element  
or canvas  
width)



width

```
<rect .../>
```

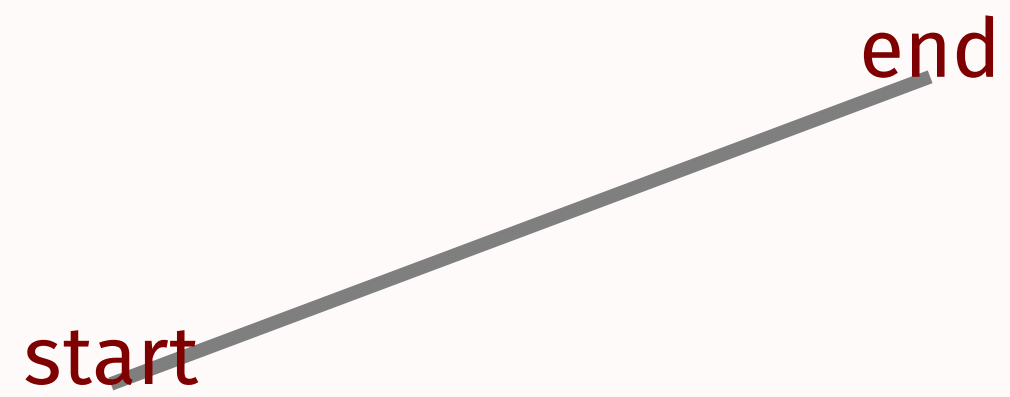
height (relative  
to element  
or canvas  
width)



width

```
<ellipse .../>
```





`<line .../>`

angle2 (90 deg)

x, y   angle1 (0 deg)

A diagram showing a gray arc. The start of the arc is labeled 'angle1 (0 deg)' and the end is labeled 'angle2 (90 deg)'. The center of the arc is labeled 'x, y'.

<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>

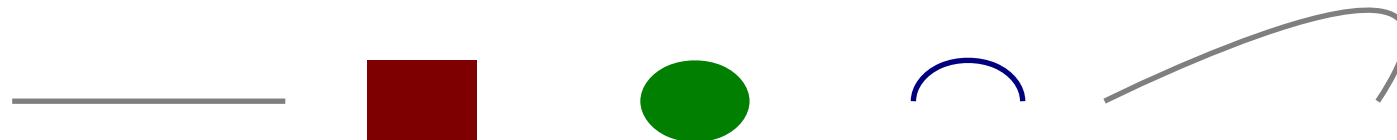
## Anatomy of a Deck

# Deck uses these elements

- text, list, image
- line, rect, ellipse
- arc, curve



Desk



# Text and List Markup

Position, size	<code>&lt;text xp="..." yp="..." sp="..."&gt;</code>
Block of text	<code>&lt;text ... type="block"&gt;</code>
Lines of code	<code>&lt;text ... type="code"&gt;</code>
Attributes	<code>&lt;text ... color="..." opacity="..." font="..." align="..."&gt;</code>
Position, size	<code>&lt;list xp="..." yp="..." sp="..."&gt;</code>
Bullet list	<code>&lt;list ... type="bullet"&gt;</code>
Numbered list	<code>&lt;list ... type="number"&gt;</code>
Attributes	<code>&lt;list ... color="..." opacity="..." font="..." align="..."&gt;</code>

# Common Attributes for text and list

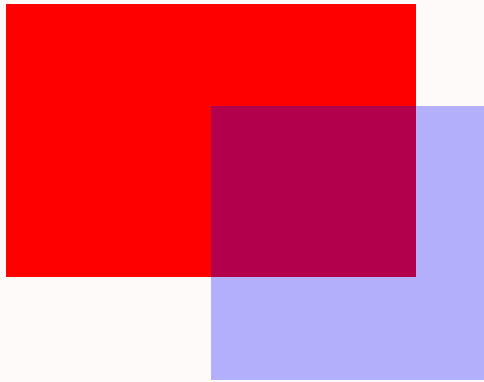
<b>xp</b>	horizontal percentage
<b>yp</b>	vertical percentage
<b>sp</b>	font size percentage
<b>type</b>	"bullet", "number" (list), "block", "code" (text)
<b>align</b>	"left", "middle", "end"
<b>color</b>	SVG names ("maroon"), or RGB "rgb(127,0,0)"
<b>opacity</b>	percent opacity (0-100, transparent -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



# Graphics Markup

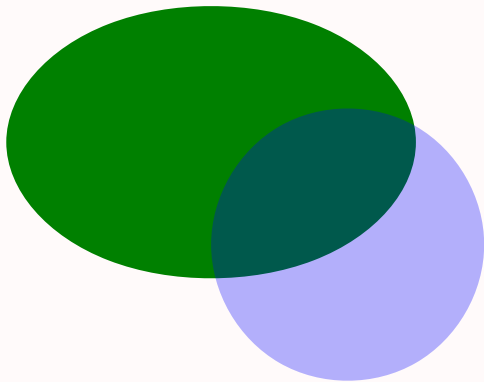


```
<line xp1="5" yp1="75" xp2="20" yp2="70" sp="0.2"/>
```



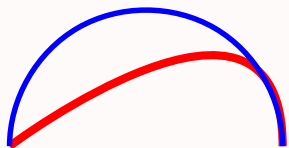
```
<rect xp="10" yp="60" wp="15" hr="66.6" color="red"/>
```

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



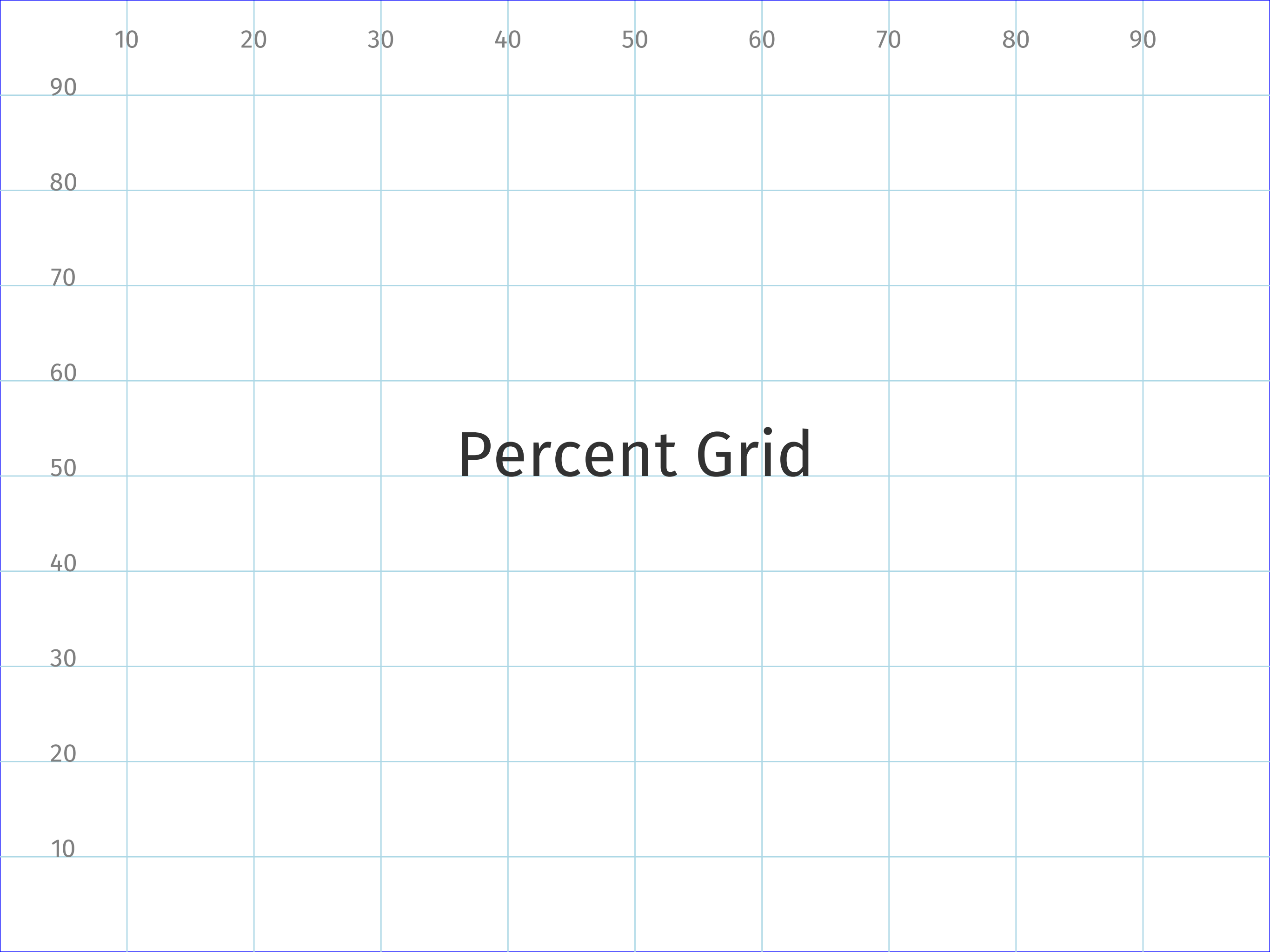
```
<ellipse xp="10" yp="35" wp="15" hr="66.66" color="green"/>
```

```
<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"/>
```



10

20

30

40

50

60

70

80

90

90

80

70

60

50

40

30

20

10

Percent Grid

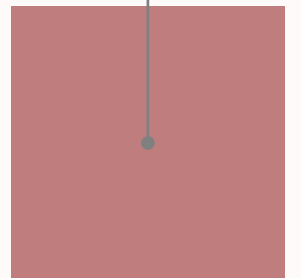
10%, 50%

Hello

50%, 50%



90%, 50%



Percentage-based layout

bullet

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- Point B
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- Point D

plain

First item  
Second item  
The third item  
the last thing

number

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

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

Design Examples



hello, world

Top

Left

Right

Bottom



20%

30%

70%

20%

Header (top 20%)

Summary  
(30%)

Detail  
(70%)

Footer (bottom 20%)

# Two Columns

One

Two

Three

Four



Tree and Sky

Five

Six

Seven

Eight



Rocks

This is not a notecard

Rich

Can't buy me love

Bliss

Worse

Better

Misery

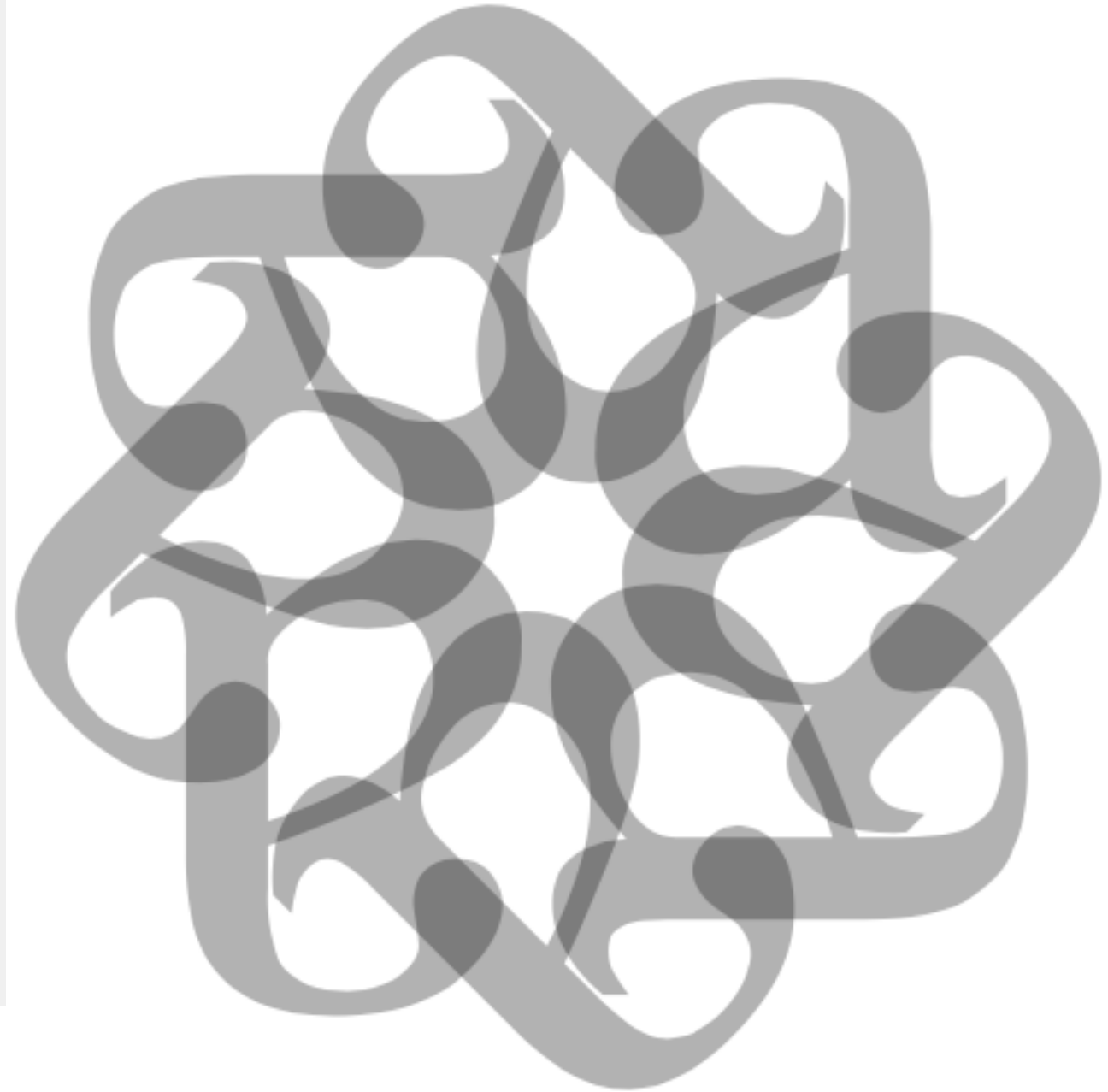
We have each other

Poor

## Code

```
package main
import (
    "os"
    "github.com/ajstarks/svgo"
)
func main() {
    canvas := svg.New(os.Stdout)
    width := 850
    height := 1100
    canvas.Start(width, height)
    canvas.Gstyle("fill-opacity:0.3;font-size:480pt")
    for r := 0.0; r < 360.0; r += 45 {
        canvas.TranslateRotate(width/2, height/2, r)
        canvas.Text(0, 0, "a")
        canvas.Gend()
    }
    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 paralellizable, 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,  
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---

# The Go Programming Language

is a static typed, c lookalike, semicolon-less, self formatting,  
package managed, object oriented, easily paralellizable,  
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

Andrew Mackenzie-Ross, <http://pocket.co/sSc56>



A full-page background image of a sky. In the upper half, a bright sunburst is visible, breaking through a layer of white, wispy clouds. The lower half of the image shows a darker, more solid mass of clouds, possibly a cumulonimbus cloud, with some lighter patches where the sun's light is filtering through. The overall color palette is dominated by deep blues and greys, with the bright white of the sunburst providing a strong contrast.

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.





Clients

```

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

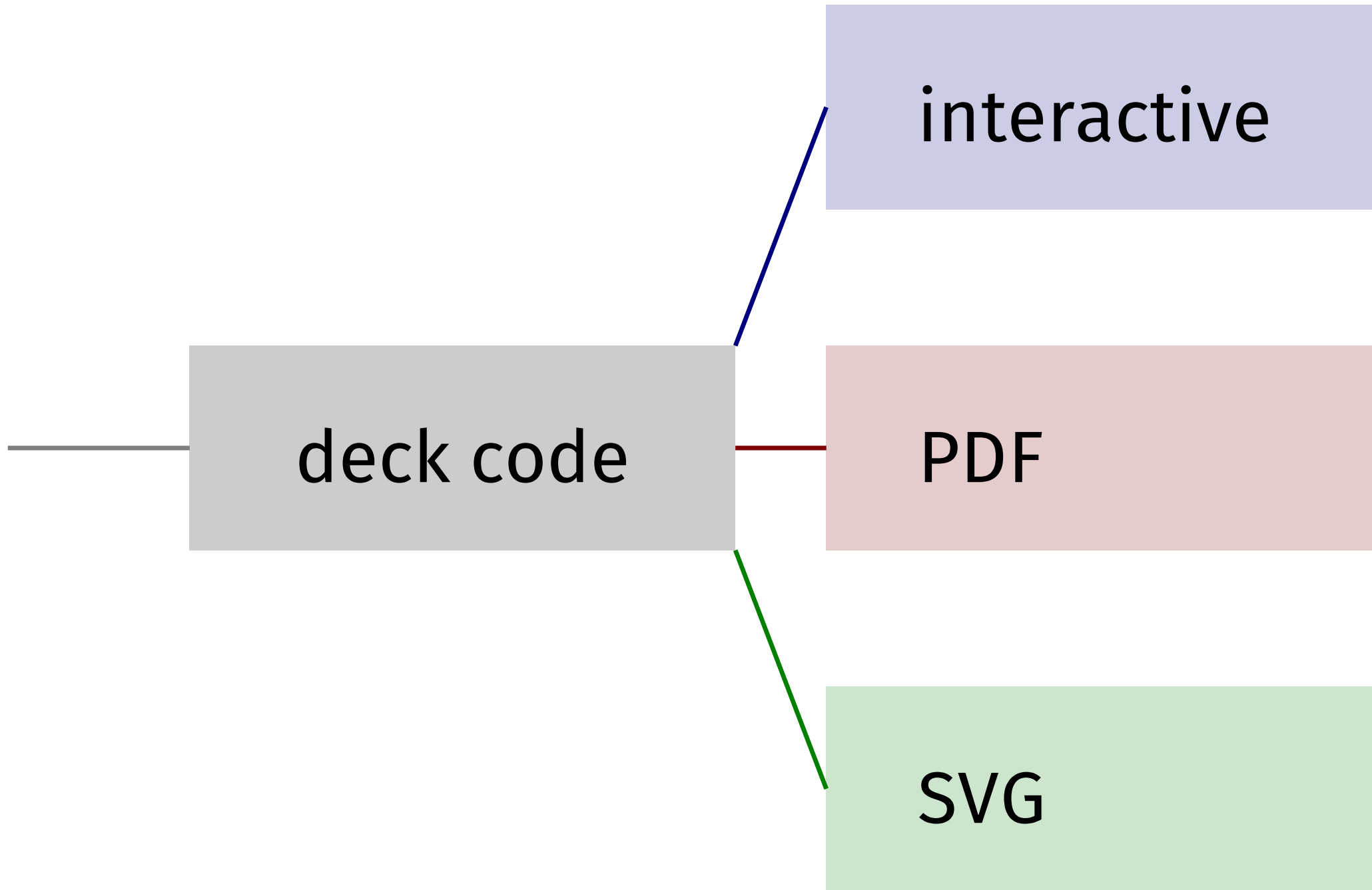
Process

deck code

interactive

PDF

SVG





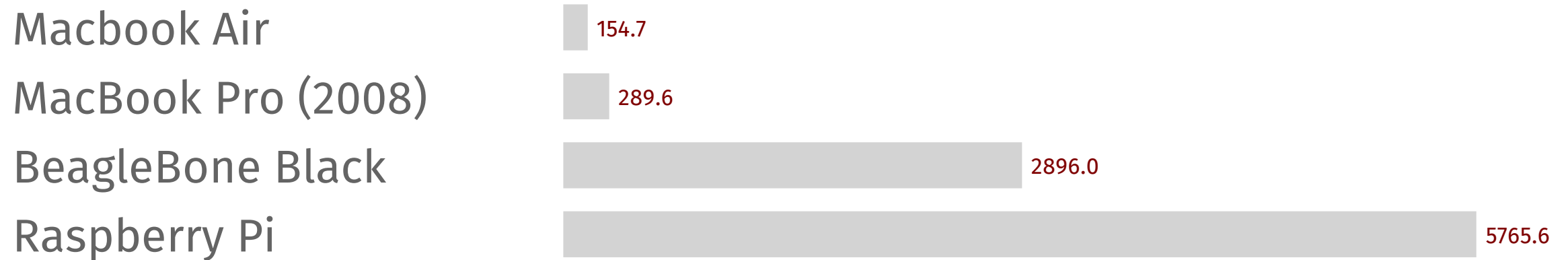
```

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



```
$ (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 [Letter, Legal, Tabloid, A2, A3, A4, A5, ArchA, Index, 4R, Widescreen]
- pagewidth [page width (pt)]
- pageheight [page height (pt)]
- 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]`

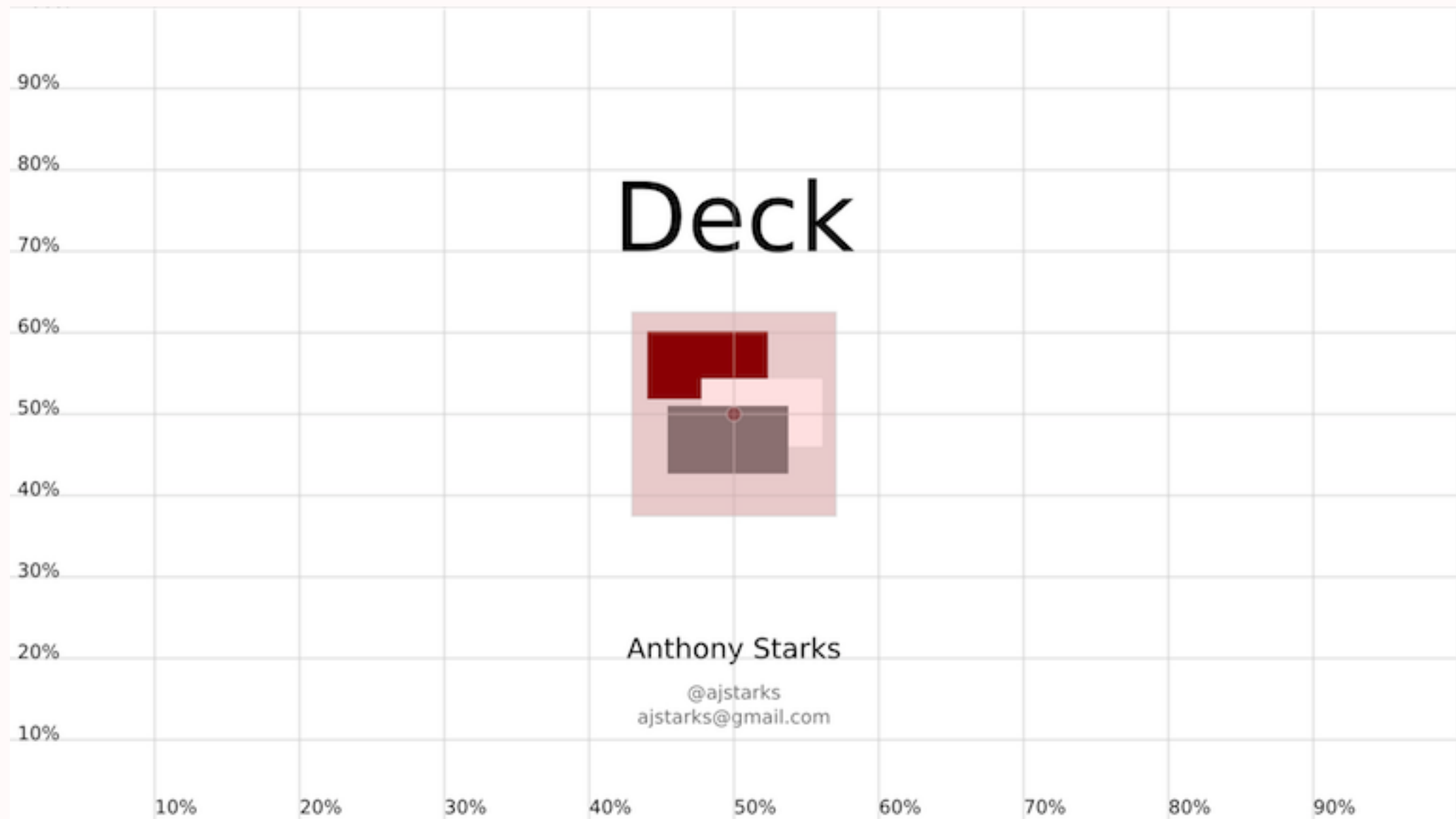
Search

`s`, `Ctrl-S`

Save

`q`

Quit



X-Ray mode shows the percent grid, and highlights images



[github.com/ajstarks/deck](https://github.com/ajstarks/deck)



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