

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>

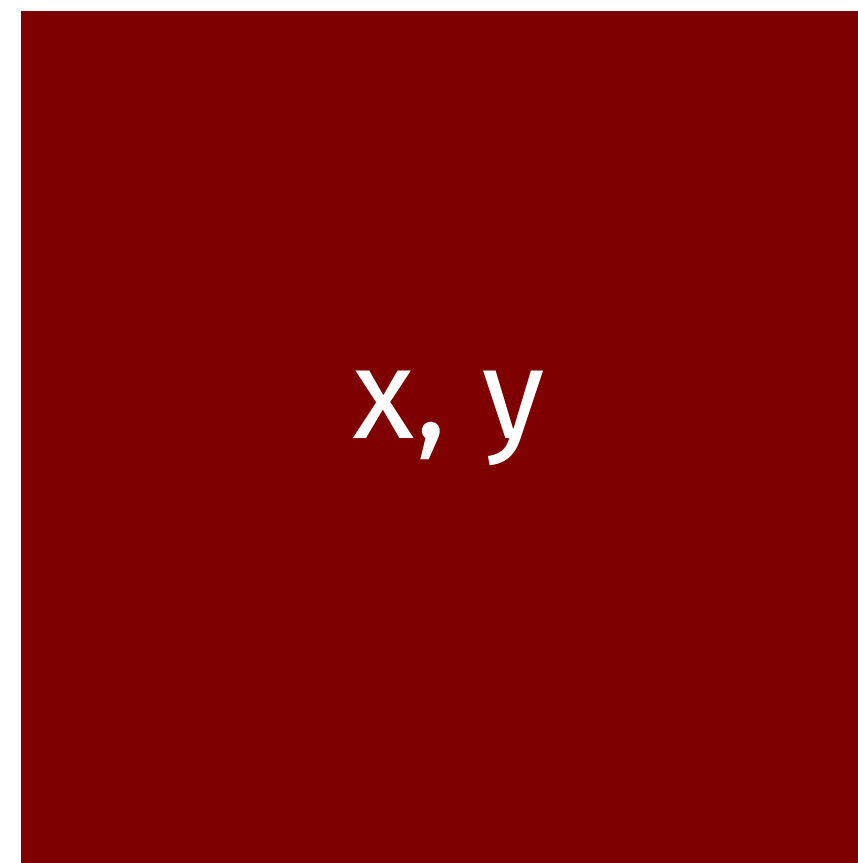
height



width

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

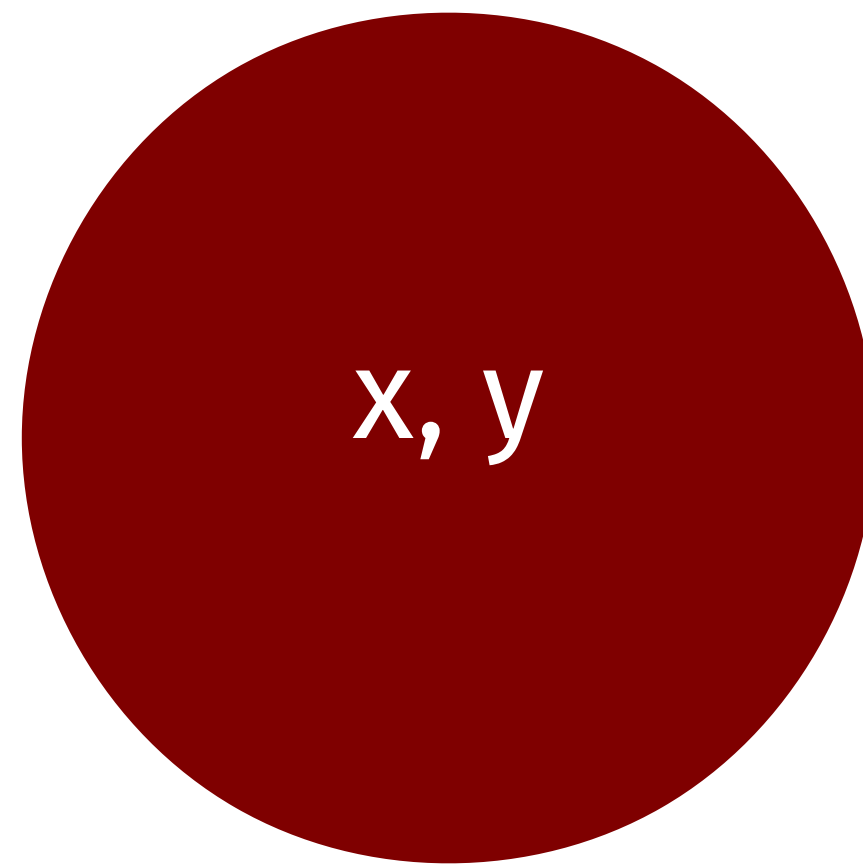
height (relative
to element
or canvas
width)



width

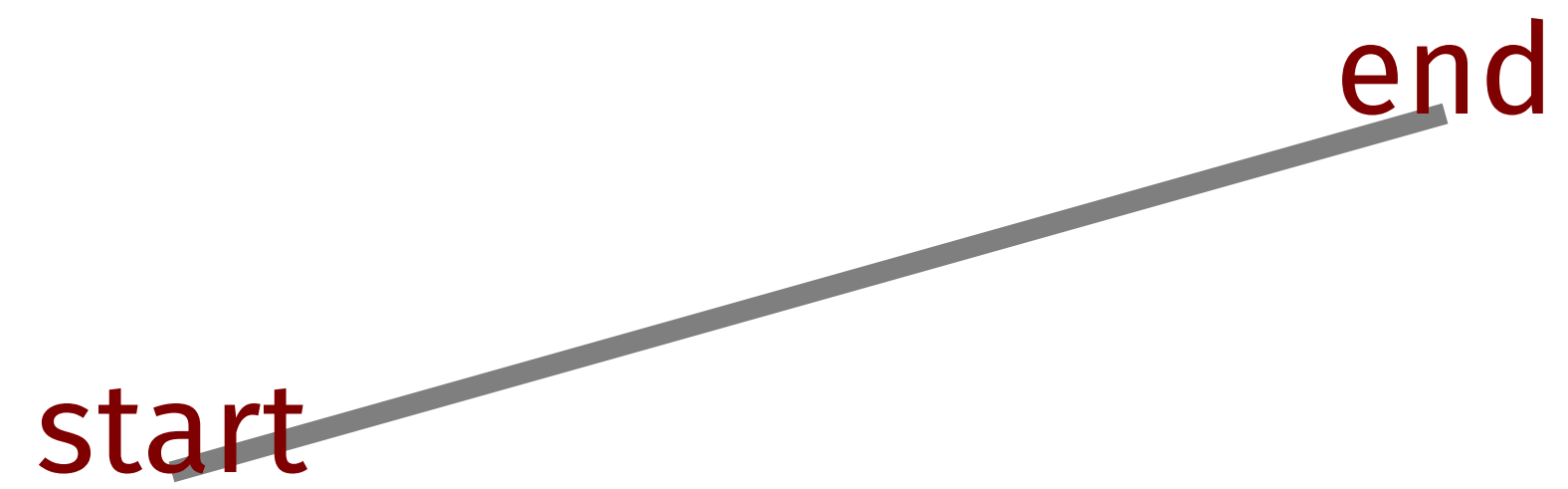
```
<rect .../>
```

height (relative
to element
or canvas
width)

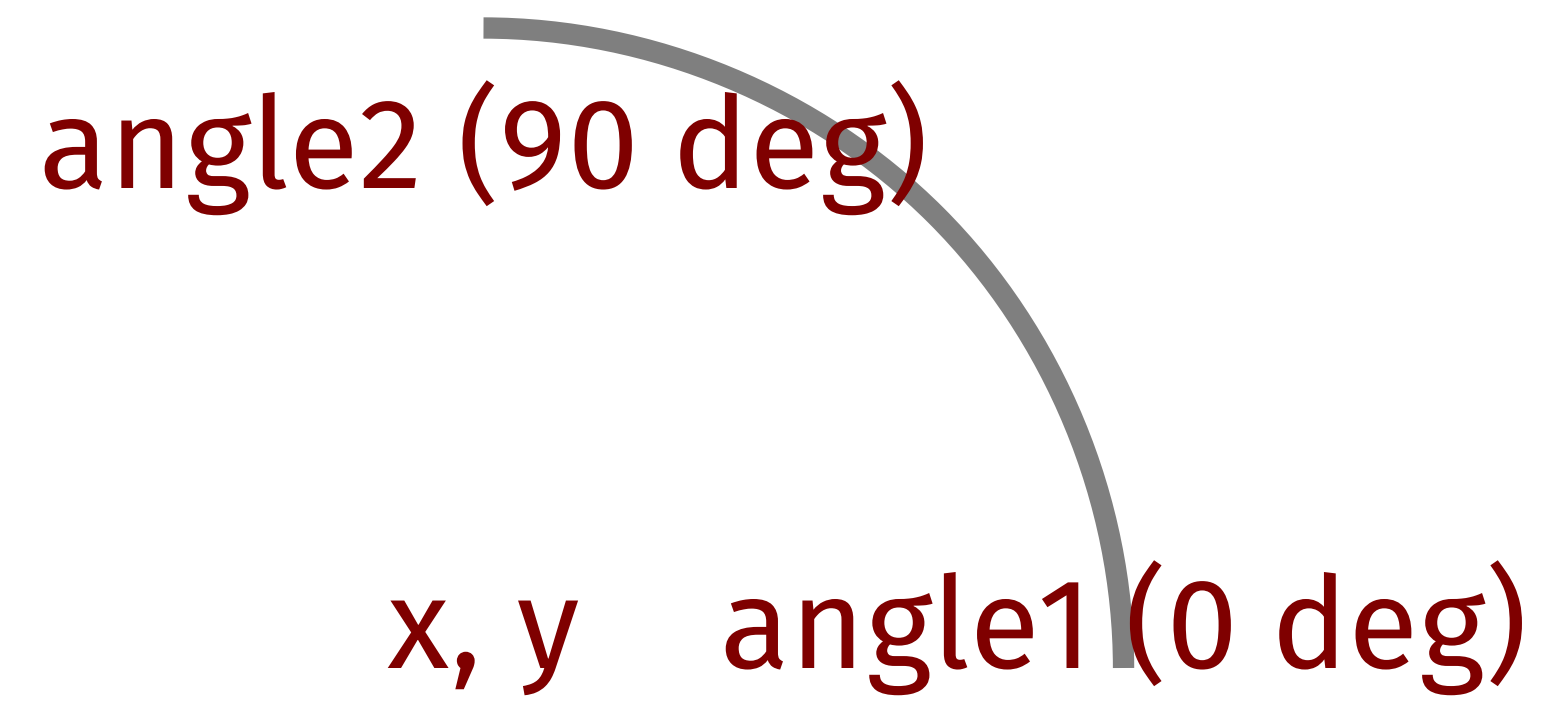


width

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

`<line .../>`



`<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">
	text, list, image
	line, rect, ellipse
	arc, curve
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><text xp="..." yp="..." sp="..."></code>
Block of text	<code><text ... type="block"></code>
Lines of code	<code><text ... type="code"></code>
Attributes	<code><text ... color="..." opacity="..." font="..." align="..."></code>
Position, size	<code><list xp="..." yp="..." sp="..."></code>
Bullet list	<code><list ... type="bullet"></code>
Numbered list	<code><list ... type="number"></code>
Attributes	<code><list ... color="..." opacity="..." font="..." align="..."></code>

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"/>
```

A blank percent grid with a 10x10 grid of squares. The horizontal axis is labeled 10, 20, 30, 40, 50, 60, 70, 80, 90. The vertical axis is labeled 10, 20, 30, 40, 50, 60, 70, 80, 90. The text "Percent Grid" is centered in the middle of the grid.

10%, 50%

Hello

50%, 50%



90%, 50%



Percentage-based layout

bullet

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plain

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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%)

BOS



SFO

Virgin America 351

Gate B38

8:35am

On Time

JFK



IND

US Airways 1207

Gate C31C

5:35pm

Delayed

AAPL	503.73	-16.57 (3.18%)
------	--------	----------------

AMZN	274.03	+6.09 (2.27%)
------	--------	---------------

GOOG	727.58	-12.41 (1.68%)
------	--------	----------------

Two Columns

One

Two

Three

Four



Tree and Sky

Five

Six

Seven

Eight

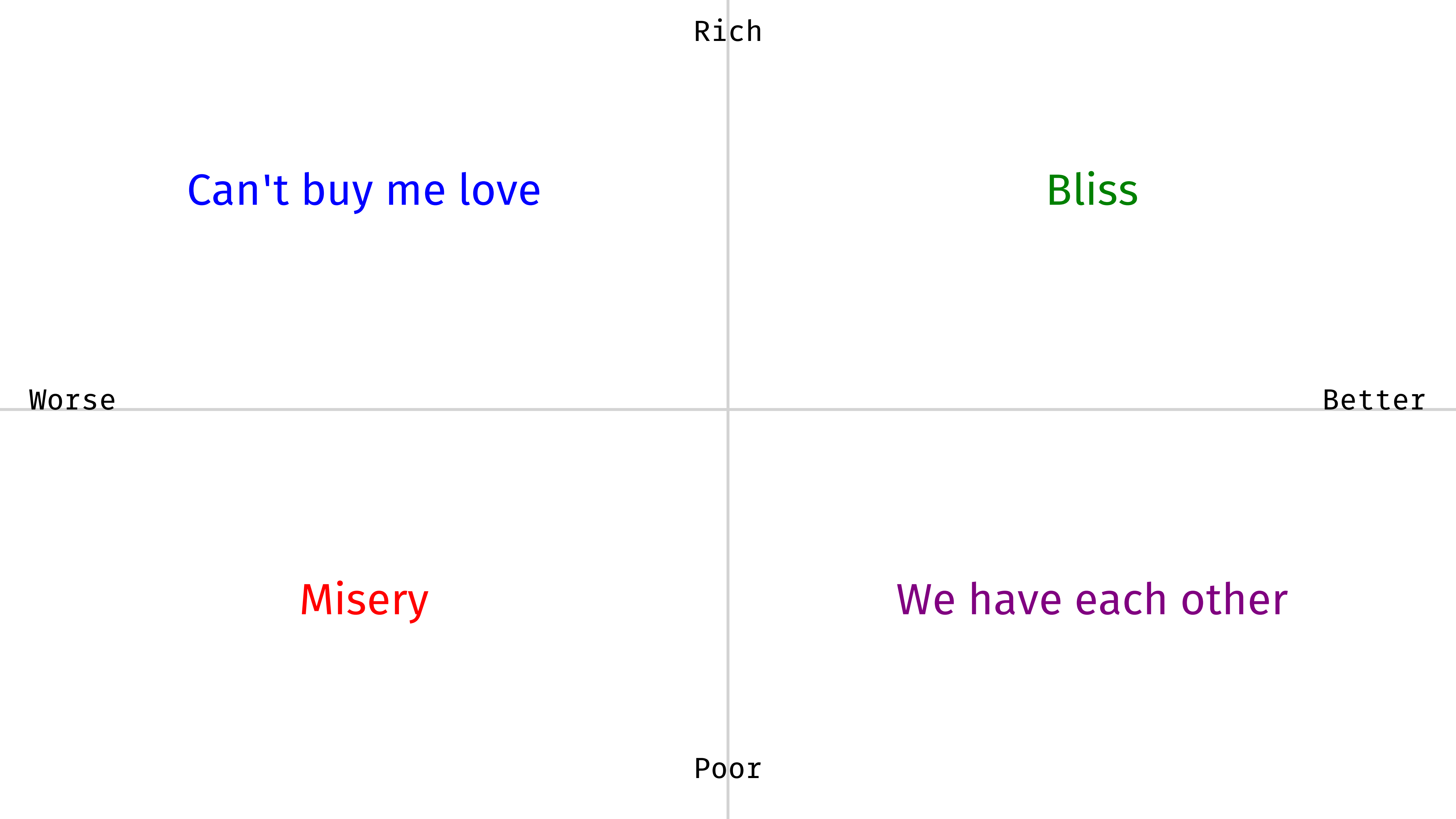


Rocks

go

build	compile packages and dependencies
clean	remove object files
env	print Go environment information
fix	run go tool fix on packages
fmt	run gofmt on package sources
get	download and install packages and dependencies
install	compile and install packages and dependencies
list	list packages
run	compile and run Go program
test	test packages
tool	run specified go tool
version	print Go version
vet	run go tool vet on packages

This is not a index card



Rich

Can't buy me love

Bliss

Worse

Better

Misery

We have each other

Poor

Code

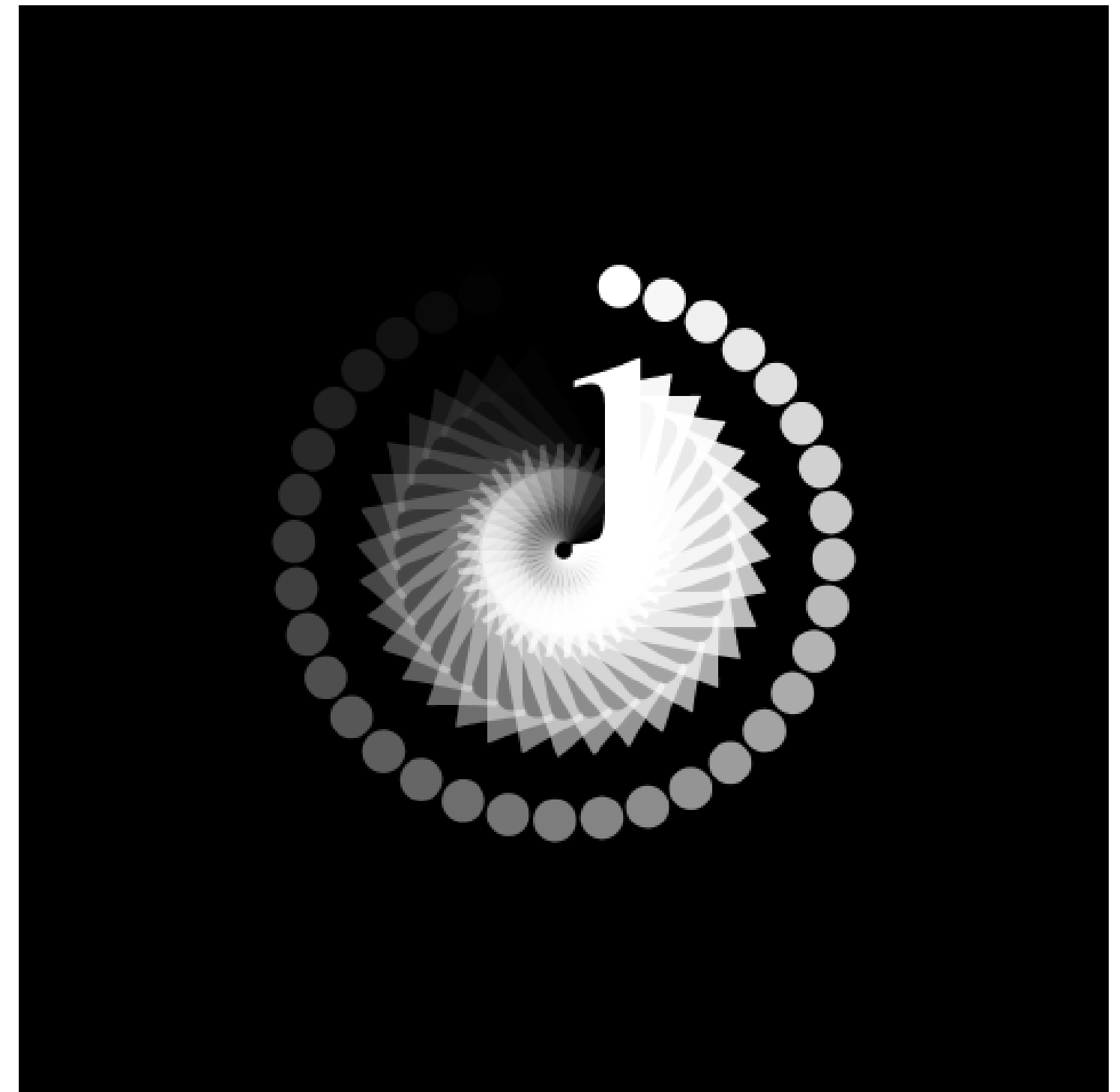
```
package main
import (
    "github.com/ajstarks/svgo"
    "os"
)

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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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

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



Python and Ruby programmers come to Go because they don't have to surrender much expressiveness, but gain performance and get to play with concurrency.

Less is exponentially more
Rob Pike

The background of the image is a photograph of a sky filled with large, dark blue and grey clouds. A bright, glowing light source, likely the sun, is visible in the upper center, partially obscured by the clouds, creating a strong contrast and illuminating the scene. The overall mood is dramatic and atmospheric.

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.

Good Design

is innovative

makes a product useful

is aesthetic

makes a product understandable

is unobtrusive

is honest

is long-lasting

is thorough down to the last detail

is environmentally-friendly

is as little design as possible



Dieter Rams



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

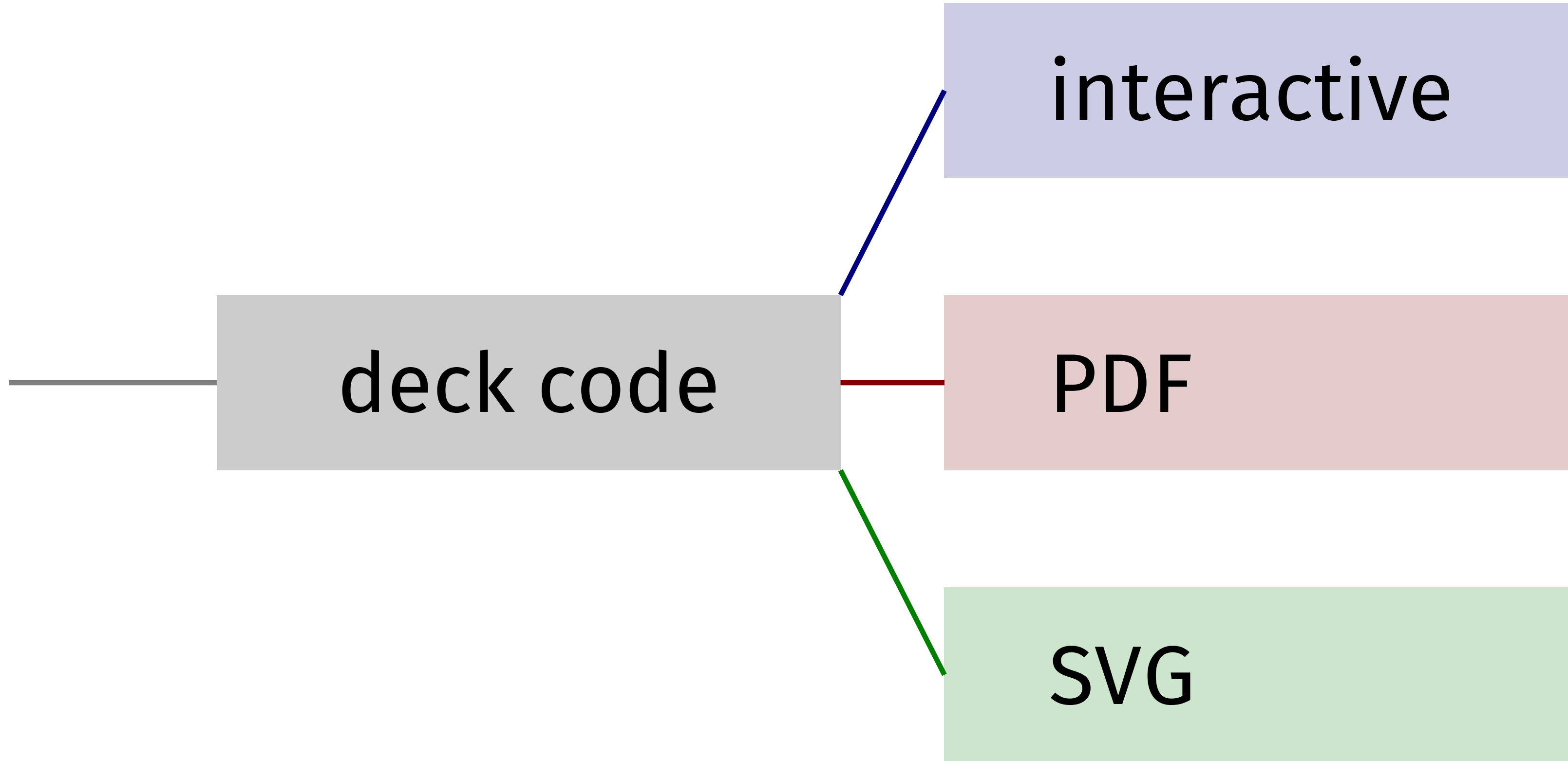
Process

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
    }
}

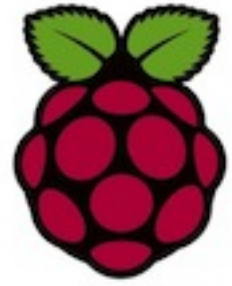
```

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 [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

<code>+, Ctrl-N, [Return]</code>	Next slide
<code>-, Ctrl-P, [Backspace]</code>	Previous slide
<code>^, Ctrl-A</code>	First slide
<code>\$, Ctrl-E</code>	Last slide
<code>r, Ctrl-R</code>	Reload
<code>x, Ctrl-X</code>	X-Ray
<code>/, Ctrl-F [text]</code>	Search
<code>s, Ctrl-S</code>	Save
<code>q</code>	Quit

Deck Web API

GET /decks/

List the content on the server

POST /upload/ Deck:foo.xml

Upload content

POST /deck/foo.xml?cmd=1s

Play a deck with the specified duration

POST /deck/foo.xml?cmd=stop

Stop playing a deck

DELETE /deck/foo.xml

Remove content

POST /table/ Deck:file.txt

Generate a table from a tab-separated list

POST /media/ Media:foo.mov

Play the specified video

Display

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- is as little design as possible

Server

HDMI

RESTful API

Controller

- > list
- > upload
- > play/stop
- > delete

github.com/ajstarks/deck



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