If You're Happy and You Know It

Inside the mind of a developer

Dom Davis
@idomdavis

VNVNATION

Anachron SOUNDS

SIDE ONE

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Automatic

1. ON-AIR 2. SPACE & TIME 3. RESOLUTION 4. CONTROL 5. GOODBYE 20TH CENTURY
6. STREAMLINE 7. GRATITUDE 8. NOVA (SHINE A LIGHT ON ME) 9. PHOTON 10. RADIO

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BUS STAND
hooplakidz

THE WHEELS ON THE BUS

As I was going to St. Ives,

As I was going to St. Ives,
I met a man with seven wives,

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:
Kits, cats, sacks, and wives,

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:
Kits, cats, sacks, and wives,
How many were there going to St. Ives?

1

I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:
Kits, cats, sacks, and wives,
How many were there going to St. Ives?

1
8
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:
Kits, cats, sacks, and wives,
How many were there going to St. Ives?

1

1 + 7 = 8

7 x 7 = 49

Each sack had seven cats,

Each cat had seven kits:

Kits, cats, sacks, and wives,

How many were there going to St. Ives?

1

1 + 7 = 8

7 x 7 = 49

49 x 7 = 343

Each cat had seven kits:

Kits, cats, sacks, and wives,

How many were there going to St. Ives?

1

1 + 7 = 8

7 x 7 = 49

49 x 7 = 343

343 x 7 = 2,401

Kits, cats, sacks, and wives,

How many were there going to St. Ives?

1

7

7 x 7 = 49

49 x 7 = 343

343 x 7 = 2,401

Kits, cats, sacks, and wives,

How many were there going to St. Ives?

$7^0 = 1$

$7^1 = 7$

$7^2 = 49$

$7^3 = 343$

$7^4 = 2,401$

Kits, cats, sacks, and wives,

How many were there going to St. Ives?

1

7

7 x 7 = 49

49 x 7 = 343

343 x 7 = 2,401

7 + 49 + 353 + 2,401 = 2,800

How many were there going to St. Ives?

```
[davisd@hyperion ~]$ node
> var howMany
undefined
>
```

As I was going to St. Ives,
I met a man with seven wives,
Each wife had seven sacks,
Each sack had seven cats,
Each cat had seven kits:
Kits, cats, sacks, and wives,
How many were there going to St. Ives?

$$7^0 + 7^1 + 7^2 + 7^3 + 7^4 = 2{,}801$$

Heads

Heads

Shoulders

Heads
Shoulders
Neezantos

Define: Web Services

Define: Neezanto

Oh, the cow in the meadow goes "moo!"

3/14 = π day

3/14 = 3rd of when??

23:59:59

23:59:60

TGIF

TGIW

Mary had a little lamb,
its fleece was white as snow.

```go
package main

type size string

type colour struct {
  r int
  g int
  b int
}

type lamb struct {
  size
  colour
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return return lamb{size: s, colour: c}
}

func main() {
  marysLamb := New(little, snow)
}
```

Mary had a little lamb,
its fleece was white as snow.
And everywhere that Mary went,
The lamb was sure to go.

```go
package main

type size string

type colour struct {
  r int
  g int
  b int
}

type location struct {
  x int
  y int
}

type lamb struct {
  size
  colour
  location
  mary location
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return return lamb{size: s, colour: c}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New(little, snow)
}
```

```go
package main

type size string
type bags int

type colour struct {
  r int
  g int
  b int
}

type location struct {
  x int
  y int
}

type lamb struct {
  size
  colour
  location
  mary location
  wool bool
  yield bags
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return return lamb{size: s, colour: c}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New(little, snow)
}
```

```go
package main

type size string
type bags int

type colour struct {
  r int
  g int
  b int
}

type location struct {
  x int
  y int
}

type lamb struct {
  size
  colour
  location
  mary location
  wool bool
  yield bags
  sound string
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return lamb{size: s, colour: c, sound: "Baa, baa!"}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New(little, snow)
}
```

```go
package main

import (
  "fmt"
  "net/http"

  "github.com/gorilla/mux"
)

type size string
type bags int

type colour struct {
  r int
  g int
  b int
}

type location struct {
  x int
  y int
}

type lamb struct {
  size
  colour
  location
  mary location
  wool bool
  yield bags
  sound string
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return lamb{size: s, colour: c, sound: "Baa, baa!"}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New(little, snow)
  router := mux.NewRouter()

  router.Handle("/size", http.HandlerFunc(
    func(w http.ResponseWriter, r *http.Request) {
      fmt.Fprintf(w, "%s", marysLamb.size)
    })).Methods("GET")
  router.Handle("/colour", http.HandlerFunc(
    func(w http.ResponseWriter, r *http.Request) {
      fmt.Fprintf(w, "{r: %d, g: %d, b: %d}",
marysLamb.colour.r,
        marysLamb.colour.g,  marysLamb.colour.b)
    })).Methods("GET")

  http.Handle("/", router)
  fmt.Println("Listening on port 8001...")
  if err := http.ListenAndServe(":8001", nil); err != nil {
    panic(err)
  }
}
```

```go
package main

import (
  "fmt"
  "net/http"

  "github.com/gorilla/mux"
)

type size string
type bags int

type colour struct {
  r int
  g int
  b int
}

type location struct {
  x int
  y int
}

type lamb struct {
  size
  colour
  location
  mary location
  wool bool
  yield bags
  sound string
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return lamb{size: s, colour: c, sound: "Baa, baa!"}
}

        b) path() {
  // ro        l.location to l.mary
}

func main()
  marysLa    New    tle, snow)
  route    mux.New    er()

  r    .Handle("/si    , http.HandlerFunc(
      nc(w http.Resp    eWriter, r *http.Request) {
      fmt.Fprintf(w    s", marysLamb.size)
    })).Methods("GE
  router.Handle("/c    ur", http.HandlerFunc(
    func(w http.R    nseWriter, r *http.Request) {
      fmt.Fprin    "{r: %d, g: %d, b: %d}",
marysLamb.colo
        ma    b.colour.g,  marysLamb.colour.b)
    }))    s("GET")

  http.Handle("/", router)
  fmt.Println("Listening on port 8001...")
  if err := http.ListenAndServe(":8001", nil); err != nil {
    panic(err)
  }
}
```

```go
package main

type size string

type colour struct {
  r int
  g int
  b int
}

type location struct {
  x int
  y int
}

type lamb struct {
  size
  colour
  location
  mary location
}
```

```go
var snow = colour{255, 255, 255}
const little = size("little")

func New(s size, c colour) lamb {
  return return lamb{size: s, colour: c}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New(little, snow)
}
```

```go
package main

type location struct {
  x int
  y int
}

type lamb struct {
  location
  mary location
}
```

```go
func New() lamb {
  return return lamb{}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New()
}
```

```go
package main

type location struct {
  x int
  y int
}

type lamb struct {
  location
  mary location
}

func New() lamb {
  return lamb{}
}

func (l lamb) path() {
  // route from l.location to l.mary
}

func main() {
  marysLamb := New()
}
```

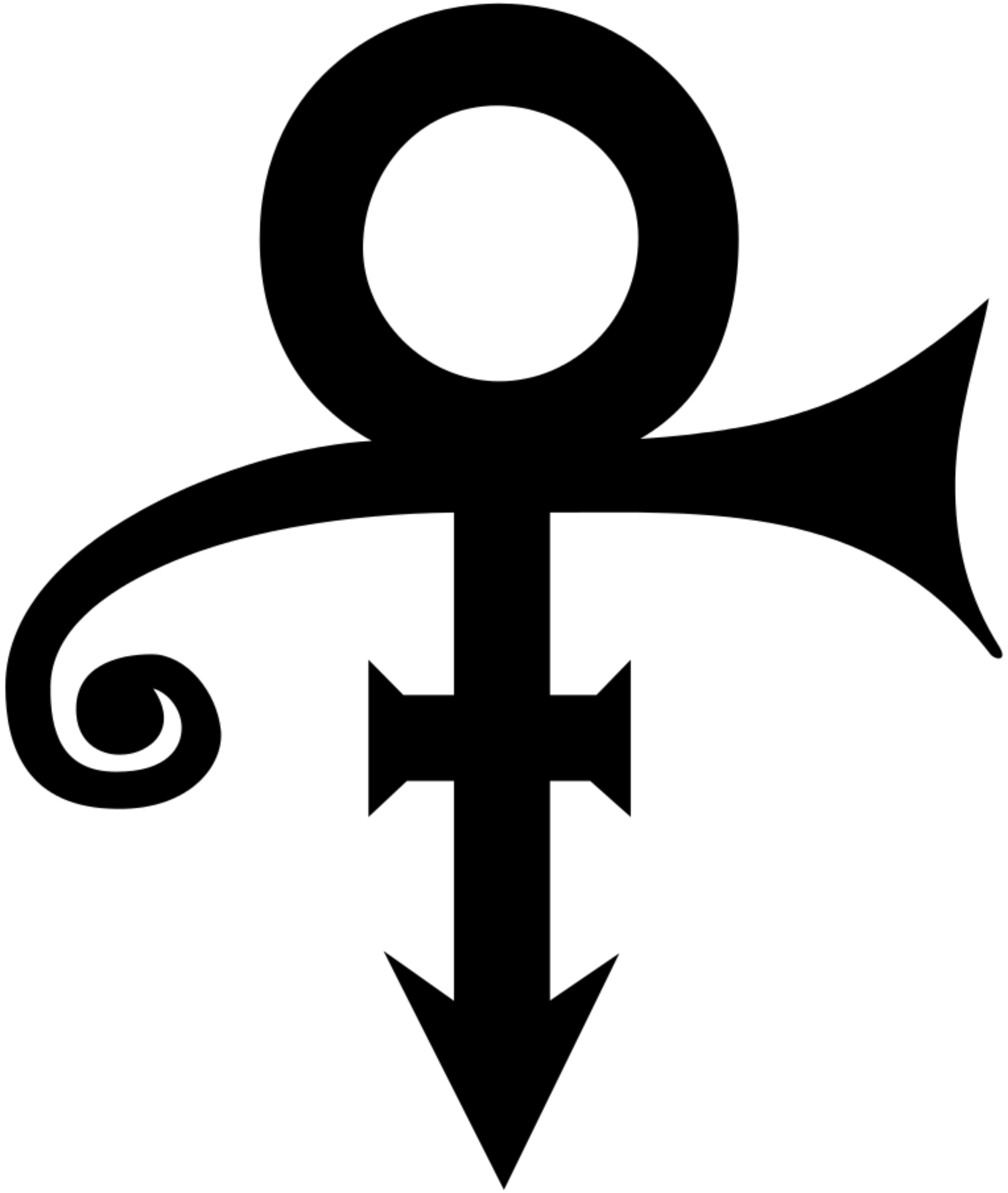
```go
package main

type location struct {
  x int
  y int
}

func (l location) path(to location) {
  // route from current location to new location
}

func main() {
  lamb := location{0, 0}
  mary := location{1, 0}
  lamb.path(mary)
}
```

```go
package main

type location struct {
  x int
  y int
}

type area struct {
  tl location
  tr location
  bl location
  br location
}

func (l location) path(to location, avoid []area) {
  // route from current location to new location
  // avoiding the given areas
}

func main() {
  lamb := location{0, 0}
  mary := location{1, 0}
  lamb.path(mary, []area{})
}
```

```go
type name struct {
  title string
  givenName string
  middleNames []string
  surname string
  suffixes []string
}
```

```go
type name struct {
  title string
  givenName string
  middleNames []string
  surname string
  suffixes []string
}

var re = regexp.MustCompile(`\s+`)

func (n name) String() string {
  parts := []string{n.title, n.givenName}
  parts = append(parts, n.middleNames...)
  parts = append(parts, n.surname)
  parts = append(parts, n.suffixes...)

  fullName := strings.Join(parts, " ")
  fullName = strings.TrimSpace(fullName)
  fullName = re.ReplaceAllString(fullName, " ")

  return fullName
}
```

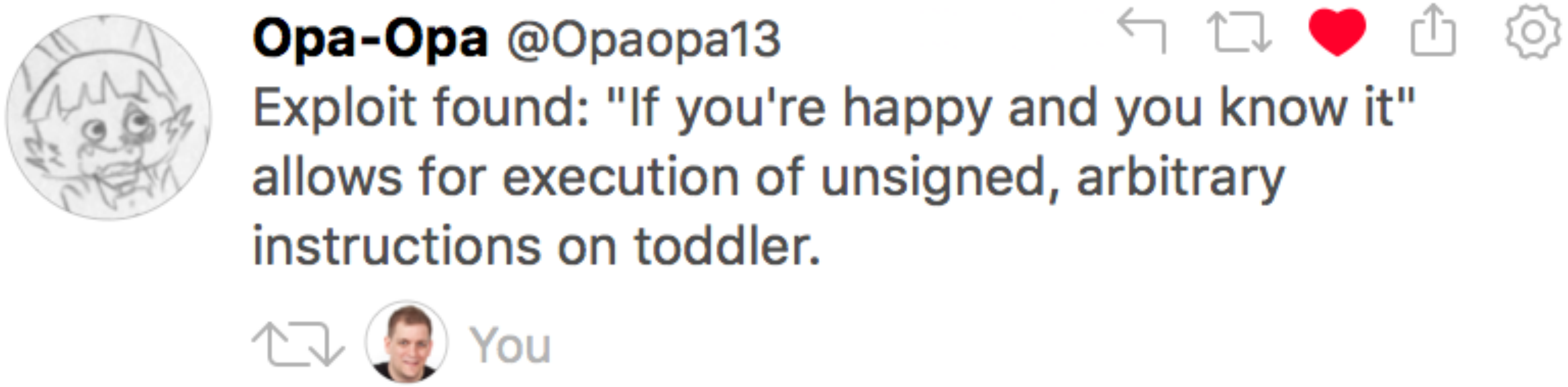
```go
func (n name) String() string {
  parts := []string{n.title}

  if n.eastern {
    parts = append(parts, n.surname)
  } else {
    parts = append(parts, n.givenName)
  }

  parts = append(parts, n.middleNames...)

  if n.eastern {
    parts = append(parts, n.givenName)
  } else {
    parts = append(parts, n.surname)
  }

  parts = append(parts, n.suffixes...)

  fullName := strings.Join(parts, " ")
  fullName = strings.TrimSpace(fullName)
  fullName = re.ReplaceAllString(fullName, " ")

  return fullName
}
```



```
var name string
```

If you're happy and you know it
Clap your hands

```go
package main

import "fmt"

type person struct {
  areHappy          bool
  knowIt            bool
  reallyWantToShowIt bool
}

func (p person) clapHands() {
  fmt.Println("Clap! Clap!")
}

func main() {
  you := person{true, true, true}

  if you.areHappy && you.knowIt {
    you.clapHands()
  }

  if you.areHappy && you.knowIt {
    you.clapHands()
  }

  if you.areHappy && you.knowIt && you.reallyWantToShowIt {
    if you.areHappy && you.knowIt {
      you.clapHands()
    }
  }
}
```



Opa-Opa @Opaopa13

Exploit found: "If you're happy and you know it" allows for execution of unsigned, arbitrary instructions on toddler.

You

```go
package main

import "fmt"

type person struct {
  areHappy           bool
  knowIt             bool
  reallyWantToShowIt bool
}

func (p person) clapHands() {
  fmt.Println("Clap! Clap!")
}

func main() {
  you := person{true, true, true}

  if you.areHappy && you.knowIt {
    you.clapHands()
  }

  if you.areHappy && you.knowIt {
    you.clapHands()
  }

  if you.areHappy && you.knowIt && you.reallyWantToShowIt {
    if you.areHappy && you.knowIt {
      you.clapHands()
    }
  }
}
```

```go
package main

import "fmt"

type person struct {
  areHappy           bool
  knowIt             bool
  reallyWantToShowIt bool
}

func (p person) clapHands() {
  fmt.Println("Clap! Clap!")
}

func main() {
  you := person{true, true, true}

  if you.areHappy && you.knowIt {
    you.clapHands()
    you.clapHands()
    if you.reallyWantToShowIt {
      you.clapHands()
    }
  }
}
```

```go
package main

import "fmt"

type Person struct {
  AreHappy           bool
  KnowIt             bool
  ReallyWantToShowIt bool
}

func (p Person) clapHands() {
  fmt.Println("Clap! Clap!")
}

func Clapper(you Person) {
  if you.AreHappy && you.KnowIt {
    you.clapHands()
  }

  if you.AreHappy && you.KnowIt {
    you.clapHands()
  }

  if you.AreHappy && you.KnowIt && you.ReallyWantToShowIt {
    if you.AreHappy && you.KnowIt {
      you.clapHands()
    }
  }
}
```

BUS STAND
hooplakidz

Dom Davis
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