

Coding Design Systems

Building Software for Designers



Hallo, ich bin Marius Wilms

Tech lead, Software creator und
Künstler. CTO bei Atelier Disko.

Mein Vortrag:

Warum und wie wir DSK entwickelt haben. DSK ist ein Open Source Tool, um Design Systeme zu erstellen.



- DataEntry
- Components
 - Button
 - Counter
 - Datepicker
 - Dropdown
 - MultiSelect
 - SingleSelect
 - Enumeration
 - RadioButton
 - TextField
 - Email
 - Mehrzeilig
 - Nummer
 - Passwort
 - Suche
 - Toggle
- Forms
 - Adresse
 - Login
 - Suche

DataEntry / Components / **MultiSelect**

A MultiSelect-Component lets variaty of options.

PLATFORM: WEB PROGRESS: DRAFT

Usage

Lorem ipsum dolor sit amet, consetetur sadipscing elitr tempor invidunt ut labore et dolore magna aliquyam er

KEEP IN MIND

At vero eos et accusam et justo duo dolores et ea rebum gubergren, no sea takimata sanctus est Lorem ipsum e

Lorem ipsum dolor sit amet, consetetur sadipscing elitr tempor invidunt ut labore et dolore magna aliquyam er vero eos et accusam et justo duo dolores et ea rebum no sea takimata sanctus est Lorem ipsum dolor sit am

Design Systems?

Component lets

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est Lorem ipsum

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dolores et ea rebum
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Design Systems?

Viele Unternehmen nutzen
bereits Design Systeme.

Component lets

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est Lorem ipsum

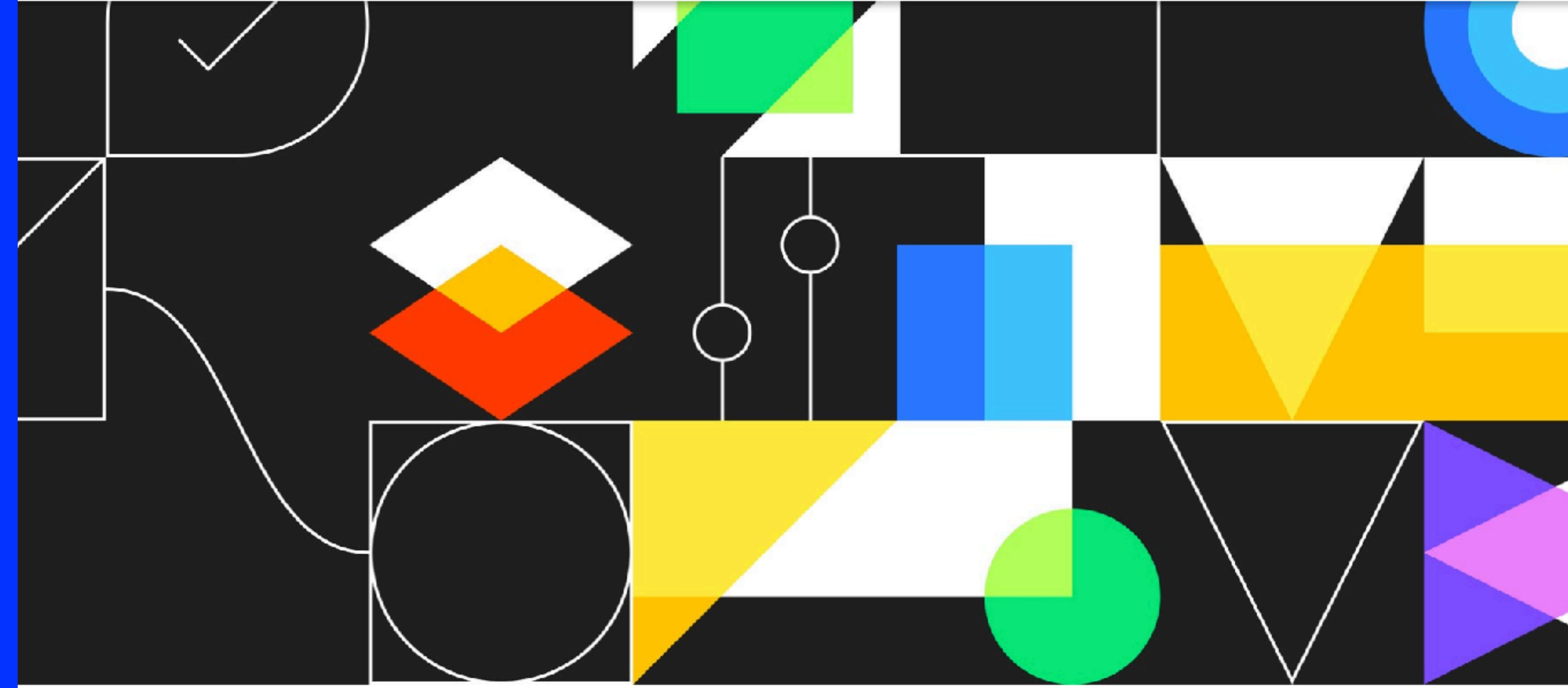
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sum dolor sit am



Living Language

A shared vocabulary for design

Google



Design Is Never Done

Material Design's new suite of tools and guidelines—all in one place

By Nicholas Jitkoff

google.design

Design is the art of continuous problem solving—an active cycle of investigating and validating needs, crafting and developing ideas, and creating solutions. Over the course of its life, a digital



Speaking of... Life Paths Content

Strategist Amy Gurka talks
seeking growth over glamour

Perspectives

Audi

audi.com/ci



Search

Fundamentals

Brand Appearance

Basics

>

Guides

User Interface

Communication Media

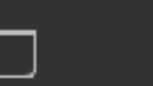
Corporate Branding

Corporate Sound

Motion pictures

Audi Sport

Dealer Facility



Digital first

How do you renew a successful brand? In reality, it does so itself: a brand is always ahead of its time. So let's simply let it breathe more new perspective. In other words: let's approach it from a digital angle.

Audi

Size calculator for rings and typography

Proportion 1



Lorem

Proportion 2



**Lorem ipsum
dolor sitre amet**

Proportion 3



Lorem ipsum dolor
sit amet, konsekutivem
ad pincing lit. Am
kone modu llile met.

Proportion 4



Lorem

Proportion 4 (Sponsoring)

Millimeter and point

Pixel

Ring Height

42.00

mm

Font-Size

127.29

pt

Design Systems? Was sind die Vorteile?



itself: af

is always ahead of its time. So let's simply let it breathe more perspective. In other words: let's approach it from a digital ang

Design Systems? Was für Inhalte finden sich?

Let's build one!

Let's build one!

Zielgruppen:

Designer & Frontend Entwickler

Let's build one!

Anforderungen:

Let's build one!

Anforderungen:

skizzieren,
sammeln,
organisieren

Let's build one!

Anforderungen:

Artikel zur Design Kultur,
Guides zur Verwendung,
Komponenten,
Sketch files (Design Kits)

Let's build one!

Anforderungen:

Enable process quickly

Let's build one!

Wunsch:

Reusable,
Ready to invest,
Longterm tool

Blank-Canvas Tool



Janvdee, CC BY-SA 3.0

Let's build one!

Annahme:

„Keine Struktur bedeutet Freiheit und führt deswegen zu kreativen Ergebnissen.“

Let's build one!

Annahme:

„Ähnliche Dinge finden
automatisch zueinander.“

Let's build one!

Aber: das hat so nicht gepasst.

Let's build one!

Nächster Versuch + Learnings

Let's build one!

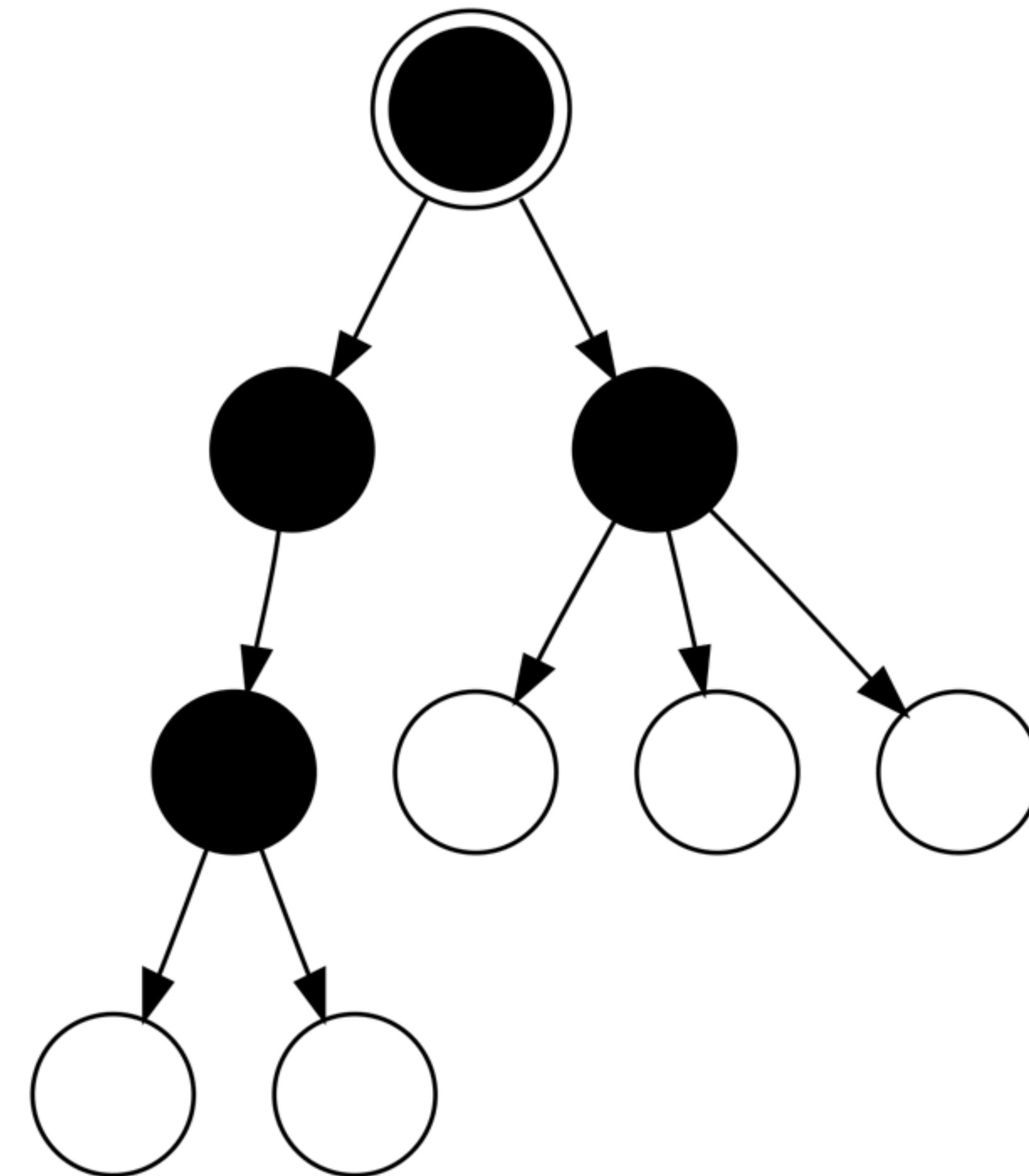
Gesucht wurde jetzt:

- einordnende Struktur
- Ähnliches zusammenfassen
- etwas Unmittelbares

Let's build one!

Unsere Antworten:

Bäume als primäre Struktur



List

A List-component displays items in an ordered or unordered list.

PROGRESS/DRAFT

RELEASE/0.6

Markdown

Visual Design

The following visual design has been agreed upon by our team:

![bullet list](List.png)

Usage Rules

We use lists when we have to convey large amounts of information, but still keep it structured. As they can easily grow very large, we try to keep the number of our interfaces down to a minimum.

Not to be confused with ...

While both lists and [tables](/Components/Displaying Content/Table) display content in an orderly fashion, lists are to be used for listed data, while tables must only store tabular data. Duh.

~

Dateisystem als Interface

The screenshot shows a Mac OS X Finder window titled "example". The window displays a hierarchical file structure with the following contents:

Name	Änderungsdatum	Größe	Art
► 01_Style	Gestern, 17:49	--	Ordner
▼ 02_Components	Gestern, 17:49	--	Ordner
▼ Displaying Content	Gestern, 18:27	--	Ordner
▼ List	Heute, 08:24	--	Ordner
01-About.md	Heute, 08:17	557 Byte	Markdo...ument
02-API.md	Gestern, 18:27	287 Byte	Markdo...ument
List Design.sketch	Gestern, 18:27	24 KB	Dokument
List.png	Gestern, 18:27	67 KB	PNG-Bild
meta.yaml	Gestern, 18:27	165 Byte	YAML document
meta.yaml	Gestern, 18:27	130 Byte	YAML document
▼ Input	Gestern, 17:47	--	Ordner
meta.yaml	Gestern, 17:47	110 Byte	YAML document
meta.yaml	Gestern, 17:47	207 Byte	YAML document
► Navigation	Gestern, 17:47	--	Ordner
▼ 03_Content	Gestern, 17:47	--	Ordner
► Glossary	Gestern, 17:47	--	Ordner
► Tone of Voice	Gestern, 17:47	--	Ordner
► 04_Culture	Gestern, 17:47	--	Ordner

At the bottom of the window, a status bar indicates "1 von 21 ausgewählt, 115,42 GB verfügbar".

Let's build one!

Unsere Antworten:

- Lokal ausgeführte Web App
- JavaScript Frontend
- Go Backend
- 1 static binary
- Deployed to Dropbox

Let's build one!

Design System Kit (DSK)

```
go build -race -ldflags "-X main.Version=head-e015759"
./dsk example
DSK
Version head-e015759

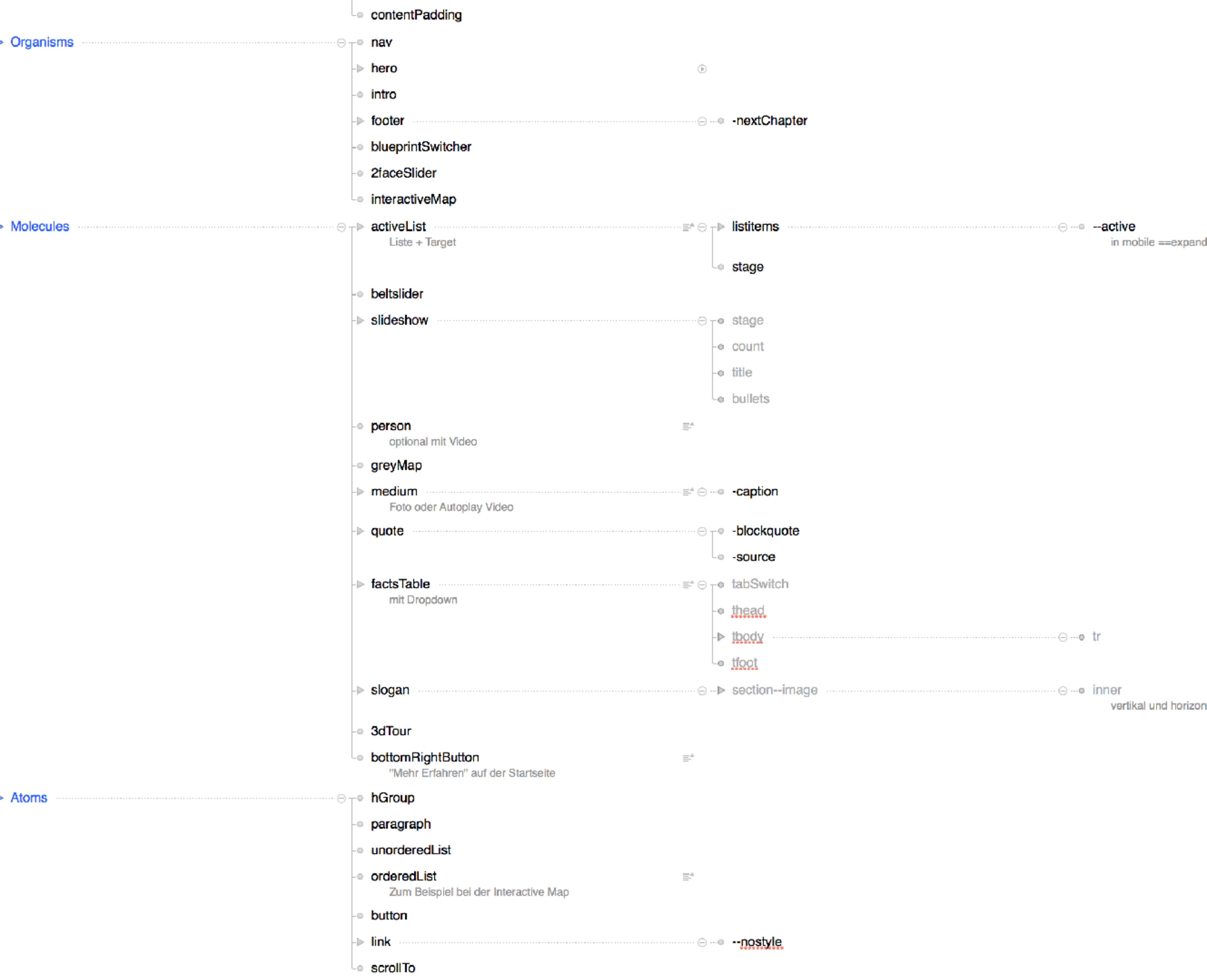
Starting message broker...
Detecting tree root...
Tree root found: /Users/mariuswilms/Code/ad/infra/boxes/de
sko/dsk/example
Begin watching tree for changes...
Opening tree...
Synced tree with 12 total node/s in 8.875341ms
Mounting APIv1...
Mounting frontend...
Starting web interface on 127.0.0.1:8080.....
Please visit: http://127.0.0.1:8080
Hit Ctrl+C to quit
```

The screenshot shows a web-based design system interface. At the top left is a mobile phone icon with the text "DSK / Lorem" and a placeholder input field. To the right is a large card titled "MultiSelect". The card has a breadcrumb trail "DataEntry / Components / MultiSelect". Below the title is a sub-section header "DataEntry" with a list of components: Components, Button, Counter, Datepicker, Dropdown, MultiSelect, SingleSelect, Enumeration, RadioButton, TextField, Email, Mehrzeilig, Nummer, Passwort, Suche, Toggle, Forms, Adresse, Login, and Suche. There are two small green buttons at the bottom of this list: "PLATFORM: WEB" and "PROGRESS: DRAFT". To the right of the component list is a section titled "Usage" containing placeholder text: "Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua." Below this is a section titled "KEEP IN MIND" with more placeholder text: "At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet. Lorem ipsum dolor sit amet, consetetur sadipscing elitr, sed diam nonumy eirmod tempor invidunt ut labore et dolore magna aliquyam erat, sed diam voluptua. At vero eos et accusam et justo duo dolores et ea rebum. Stet clita kasd gubergren, no sea takimata sanctus est Lorem ipsum dolor sit amet."

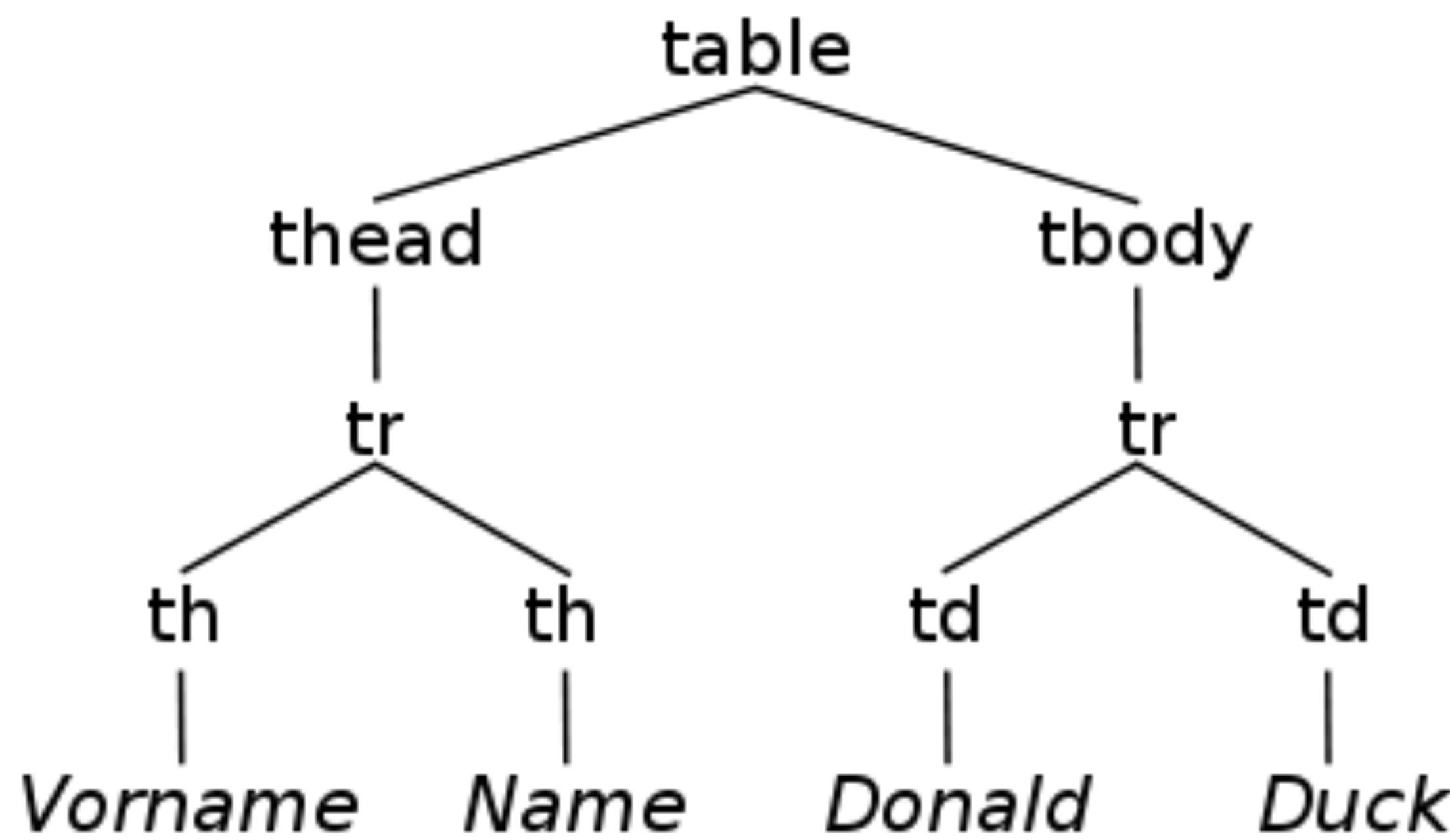
Let's build one!

Warum Trees?

The Japanese Tree Outliner App



DOM



Frontend Tree Navigation

```
list = list.concat(this.flatten(child));
});
return list;
}

// Returns a new non-sparse tree instance selecting only given
// nodes, their parents and all their children.
//
// Filters out any not selected nodes. Descends into branches first,
// then works its way back up the tree filtering out any nodes, that
// are not selected. For selection conditions see check().
//
// Selecting a leaf node, selects all parents. But not the siblings.
//
//      a*
//
//      b*
//
//      c!  d   e
//
// Selecting a node, always selects all its children.
//
//      a*
//
//      b!
//
//      c*  d*  e*
//
filteredBy(selectedURLs = []) {
  let tree = new Tree(JSON.parse(JSON.stringify(this.root))); // deep clone

  if (selectedURLs) {
    let check = n => selectedURLs.includes(n.url) || n.children.some(check);

    let select = (n) => {
      if (selectedURLs.includes(n.url)) {
        return true;
      }

      n.children = n.children.filter(select);
      return n.children.some(check);
    };
    tree.root.children = tree.root.children.filter(select);
  }
}
```

Design System als Tree definieren

The Design Definitions Tree

The *design definitions tree* (DDT for short), is a tree of directories and subdirectories. Each of these directories stands for a *design aspect* in the hierarchy of your design system, these might be actual components, when you are documenting the user interface, or chapters of your company's guide into its design culture.

Each directory may hold several files to document these design aspects: a configuration file, to add meta data or supporting assets that can be downloaded through the frontend.

example

```
└── AUTHORS.txt           ← authors database, see "Authors" below
└── DataEntry
    ├── Button             ← "Button" design aspect
    │   └── ...
    └── TextField          ← "TextField" design aspect
        ├── Password         ← nested "Password" design aspect
        │   └── readme.md
        ├── api.md            ← document
        ├── exploration.sketch ← asset
        ├── meta.yml           ← meta data file
        ├── explain.md         ← document
        └── unmask.svg          ← asset
```

Note: Directories beginning with an underscore (`_`), `x-` and `x_` or a dot (`.`) are ignored.

Documenting Design Aspects

Aspects are documented by adding [Markdown](#) formatted documentation files to their directory. A `readme.md` file, may describe an aspect or give clues how to use a certain component. You can split documentation over several files when you like to. We usually use `api.md`, `explain.md` or `comments.md`.

Note: `readme.md` is in no ways treated specially by dsk, but is usually displayed by GitHub as the primary document in the web interface.

Let's build one!

DSK 1.0:

- Hosted Version
- Bring your own Frontend
- API v1 Freeze
- „Live“ Updates

sk, but is usually displayed by GitHub as the primary document in the

or Markdown, these are supported too. For this use `ht=1` instead.

Demo time!

Let's build one!

Was wirklich gut geklappt hat:

- Trees, Trees, Trees
- Minimalismus
- Dropbox deployments
- Filesystem als Interface
- Coding mit Designern

Merci.

Atelier Disko

Design System Kit

Data Entry

- Data Entry
 - Components
 - Counter
 - Counter
 - Datepicker
 - Datepicker
 - MultiSelect
 - MultiSelect
 - SingleSelect
 - SingleSelect
 - Enumeration
 - Enumeration
 - RadioButton
 - RadioButton
 - TextField
 - TextField
 - Email
 - Email
 - Number
 - Number
 - Password
 - Password

Displaying Data

- Badge
 - Carousel
 - ExpandableSection
 - Hyperlink
 - List

Merci.

github.com/atelierdisko/dsk

@nperson

atelierdisko.de