



Your Grandmother is a Computer Scientist.

Or, a niche configuration use-case

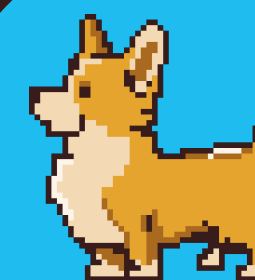
FOSD 2026

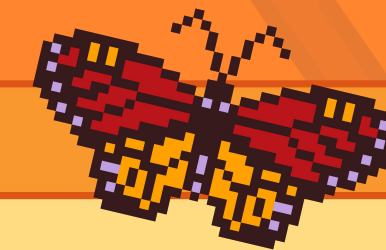




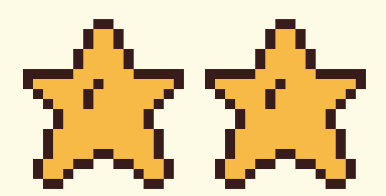
Knitting!

Let's discuss the domain!



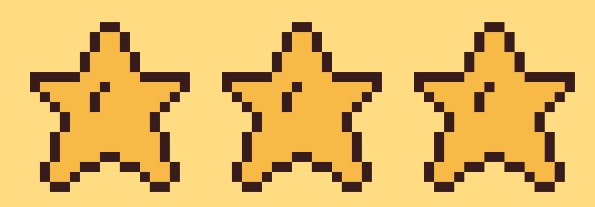
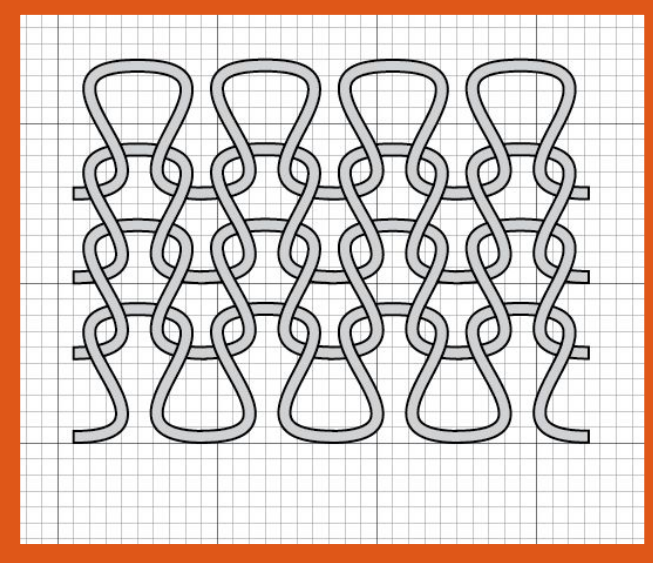


The Science



Weight

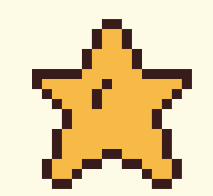
Thickness of the
yarn



Stitches

loops and hoops
forming a fabric

nd (right side): Working across Back Hem stitches, slip
sm, purl to next marker, sm, [p1, k1] 6 times, slip last
nto a cable stitch holder; pick up Front Hem with right
ding cable stitch holder in front of work, use Back He
nt Hem, place marker on right-hand needle for Left S
holder; working across Front Hem stitches, [k1, p1] 6
marker, sm, [p1, k1] 4 times, p2, [k1, p1] 4 times, sm, p
p1, k1] 6 times, slip the last stitch of Front Hem onto
up Back Hem with right side facing you, being carefu
and holding cable stitch holder in back of work, p1 fr
nique marker on right-hand needle for end of round
itch holder to left-hand needle. [184 (200, 216, 232
: 92 (100, 108, 116, 124, 132) stitches each for Fro



Pattern

a text document,
the recipe

Terminology

Neck/Collar

Cuff

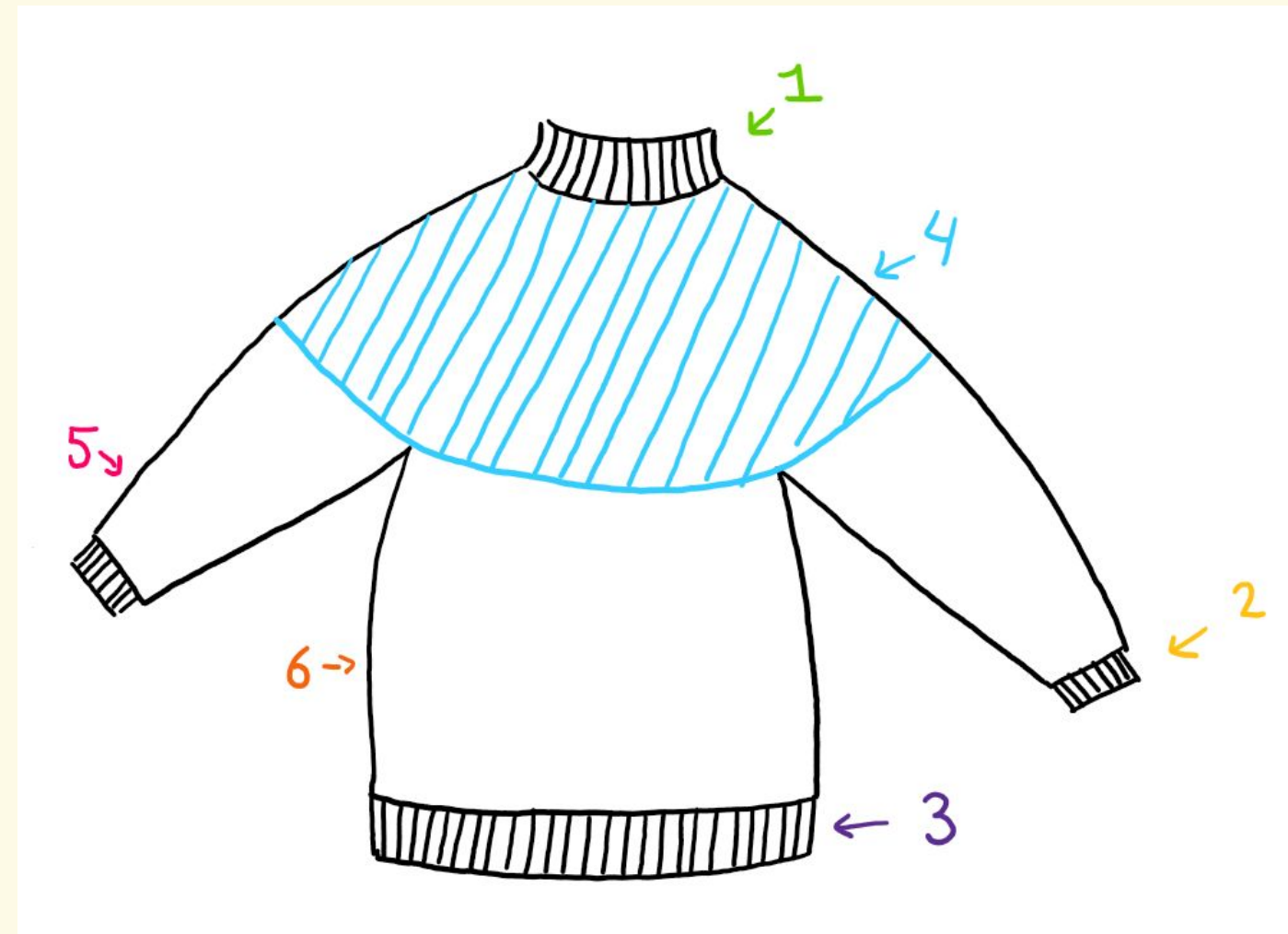
Hem

Yoke

Sleeve

Body

The Sweater



Current Climate of Pattern Production

Handcrafting i.e
Repetition galore



Mass producing i.e.
AI generated patterns



Mass customization?

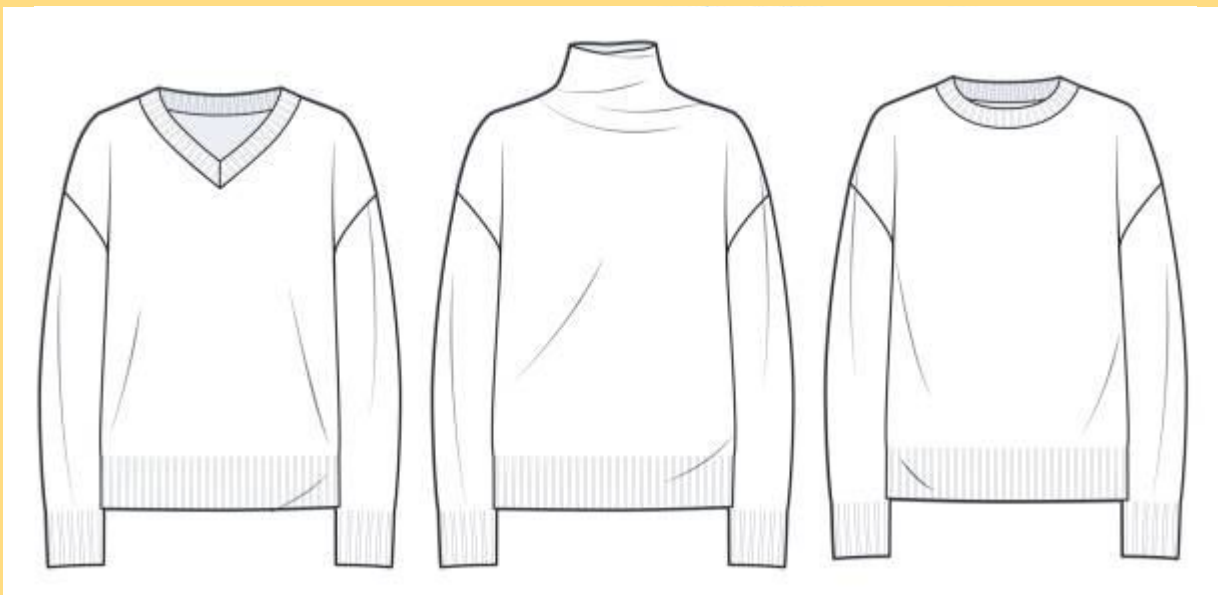




**What we
aim to do**

Concept

Configuration AND knitting?

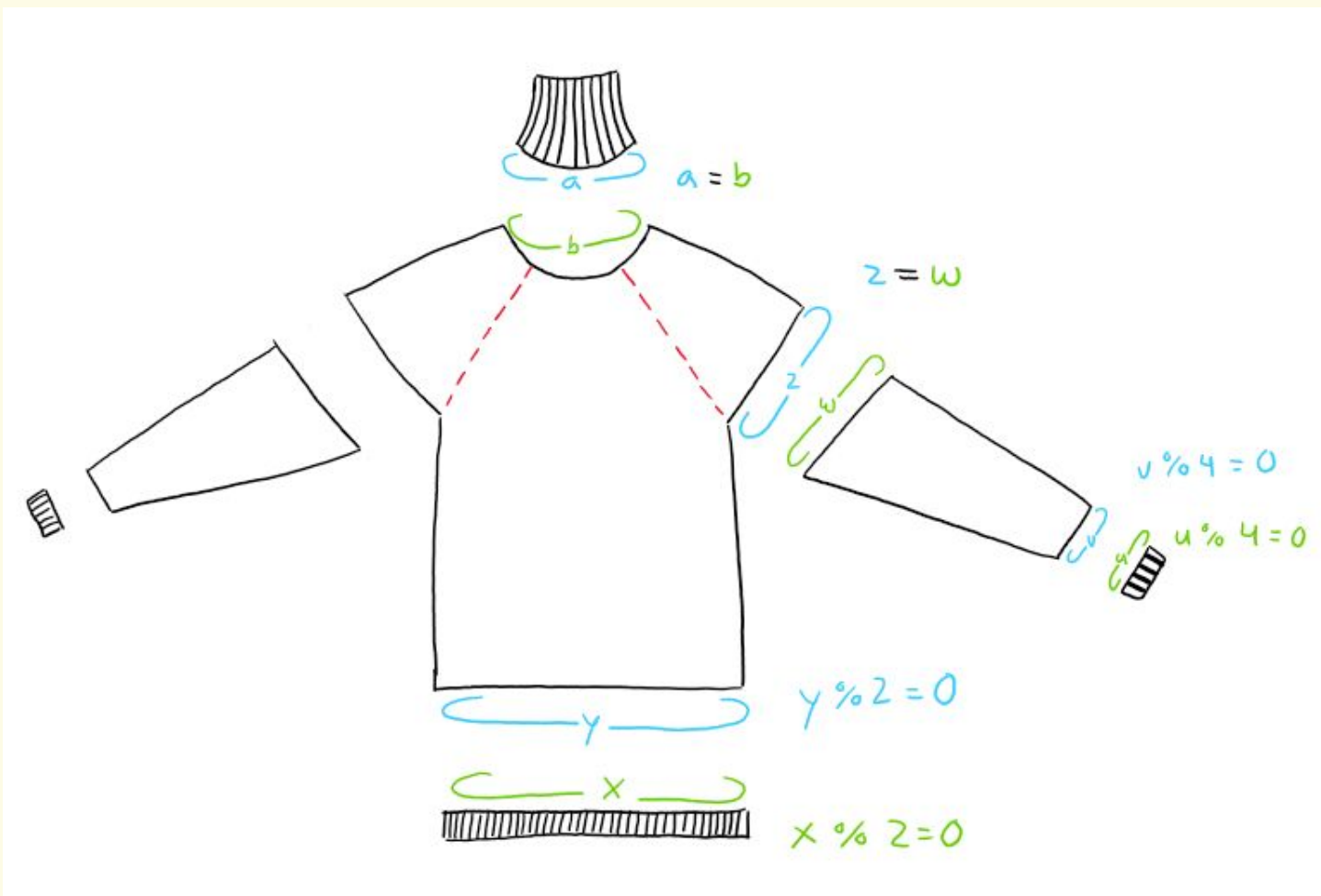


What we aim to do

- Create a configurator
- Separate patterns into reusable artifacts
- Configure custom sweaters
- Produce knitting recipes
- On a locally hosted website



Limitations and Constraints

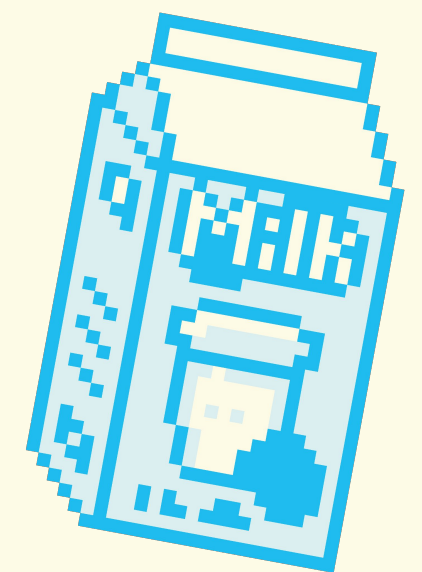


Domain scoping:

- Weight
- Size
- Construction

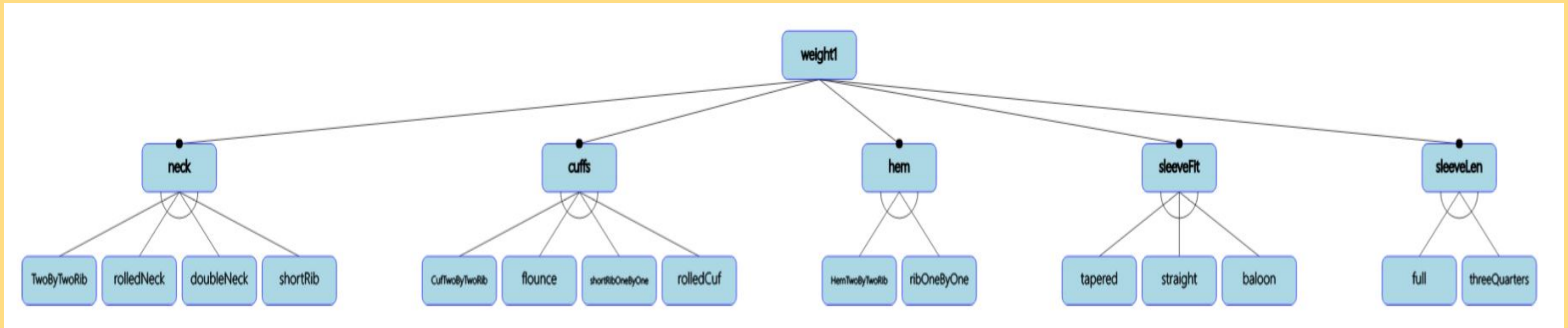
The glue (The thing your grandma has down to a science):

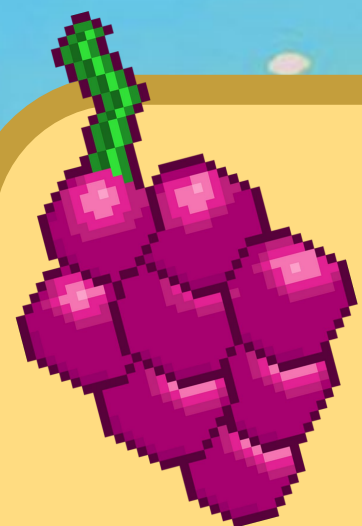
- Stitches i.e. dependencies





With just 5 patterns..





The finished product

Configurator

annotative /
feature combining

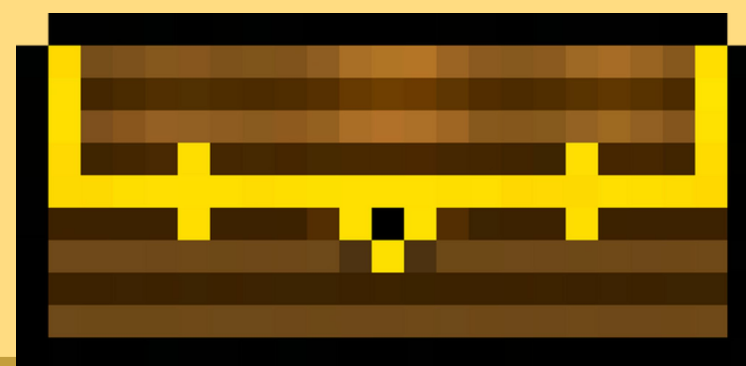
Sweater

Of the users own
creation

Text document

A "recipe" only
scientists can
understand

The Future...?



Working across Back Hem
t marker, sm, [p1, k1] 6 t
ch holder; pick up Front
ch holder in front of work
marker on right-hand ne
g across Front Hem stitc
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s, slip the last stitch of Fr
with right side facing you
ble stitch holder in back
on right-hand needle for
left-hand needle. [184 (C
3, 116, 124, 132) stitche

Title goes here

illustration

Neck

Double Neck

Single Rib 1

Third one

Fourth one

Sleeve fit

Tapered

Baloon

Sleeve Lenght

Full

3/4ths

Cuffs

Ribbed(2x2)

Flounce

Short Rib (1x1)

Hem

Ribbed(1x1)

Ribbed(2x2)

website made as part of a bachelor project in computer science in spring 2026



Sofie Løfberg



Sandra Johansen

**Thank You!
Any Questions?**

The End

