Overview

I want to write a program that can take input measurements of a person and the essential numbers of a knitted or crochet swatch and be able to write a pattern that will fit perfectly either from the neck down or from the waist up. The program needs to have a number of features that the knitter can choose from so that the jumper pattern is not only the correct size but also individualised in style and pattern. Standard measurements would need to an integral part of the program. It would probably be wise to start with childrens sizes first and work up to adult male sizes.

Motivation

If this project could work it would mean that the knitter would not have to search for another jumper pattern. The knitter would be able to choose their favourite stitch and their favourite wool and produce a perfect pattern for their chosen model everytime. Every season woollen mills bring out new patterns and withdraw old patterns. Also the mills retire yarns and introduce new ones. As long as the knitter can obtain enough yarn of the same type and produce a satisfactory tension square it shouldn’t matter matching yarn to a pattern or buying a pattern and then finding the yarn to knit it.

Description

For each jumper the knitter would be required to enter in required data taken from a tension swatch made with the yarn they want to use, and using the needles the knitter prefers. This data will be how many stitches per centremeter and rows per cm, what size and material the knitting needles were and what composition the yarn is. Some yarns are better for jumpers than others. And the program should be able to state whether a yarn is suitable or if another should be chosen.

Measurements of the model then need to be input:

Chest

Waist

Hips

Back length

Sleeve length

Head circumference ( for children under 4)

A range of features needs to be selected:

Neck finish

Sleeve length

Cuff

Sleeve top

Top down or bottom up

Seamed or in the round

A range of stitch patterns could be included for the knitter to select and use, and suggestion that the knitter work another tension square using the pattern and measure it.

Standard body measurements will be incorporated enabling the knitter to choose a standard size rather than measure. There is no Australian Standard for adult sizes but there is a children’s standard. For adults sizes the program can use the Craft Council of America’s standards with a cautionary warning.

The output would be a knitting pattern for the given size, including the size and the details of yarn, needles and stitch pattern, in download PDF form and printable hardcopy. The PDF can be read by the program and does not need to be opened with another program. The PDF will have essential measurements on a schematic for the knitter to block the garment to when finished. Ideally each pattern would be issued at a charge of $2.25. This is a quarter of the cost of a hard copy pattern and should be attractive to knitters. A free standard jumper pattern could be included with the program to demonstrate what the pattern hybrid would look like.

Tools and Technologies

Hardware needed is something that can display, or store or send to printer a PDF file. Ideally it would be available on any operating system and available for smart phones, desktops, and tablet/iPads.

I have no idea where to start programming. I read a bit about Ruby on Rails and it has facilitated some really large projects. I know Rails can be used on any operating system.

Skills

Programming nous needed.

Specialist knitting knowledge needed.

There are a lot of boffin knitters out there. I could place a please assist on a forum board and ask for assistance with the programming.

I know plenty of general knitters who could beta test the program.

Outcome

Limited impact if successful (there were 3 million registered knitters on Ravelry in 2013), however there are a lot of knitters who cannot find a knitting pattern that they like all the elements. There are a lot of knitters who won’t knit a jumper because they never fit properly. There are also knitters who would like to produce garments that nobody else has. This program would enable people to design and knit something truly individual. It is not a get rich quick idea. This though has been bubbling in my head for years.