Backend Developer - Recruitment Test

'Our 3D scanner can provide body measurement data of a scanned person. Using this data, we would like to give clothing size recommendations to the user. Therefore, we would like to implement a small service and provide a simple API to the user so he or she is able to detect if a given t-shirt fits.

The service needs to be able to receive and return JSON formatted data.

User Story

As a user, I want to know if a given t-shirt fits me and in which size I would have to buy it.

Tasks

- choose a suitable data storage for the body-measurements and t-shirt size data
- implement an API endpoint to submit a clothing ID and user ID, return if the t-shirt [clothing ID] fits the user's avatar [user ID] with a recommendation for the best fitting t-shirt size (S, M, L, XL, …)
    - if the service is not able to find a suitable t-shirt size, it should respond with an error message that states: “This garment is currently not available in your size”.
- implement an API endpoint to submit new t-shirt models and its sizes
- implement an API endpoint to submit new body measurement data for new and existing users
- provide a small documentation about the technology stack and a reason for why a certain technology was used

Acceptance Criteria

- all data is persisted in a suitable datastore
- all API endpoints work as described above
- unit- or integration tests are written for service functions where applicable
- there is a small documentation for the API and technology stack

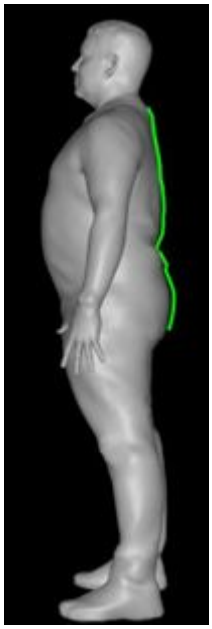
Provided Data

Provided in the attached zip file are the body measurements of three different user as well as the sizing tables of three different t-shirt models.

Body Measurements

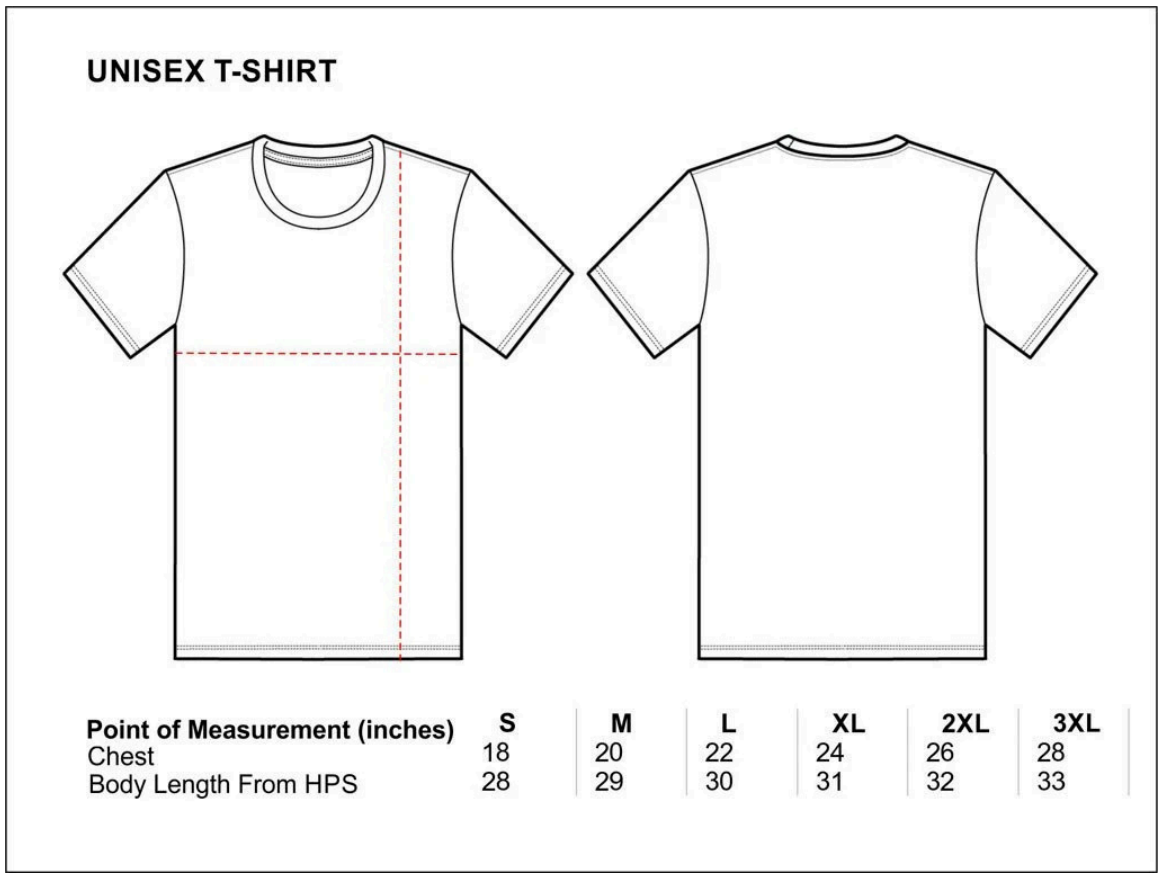
The body measurement data for each user is provided as a JSON formatted file. The unit of all measurements is meters. For this user story, the following measurements are of particular interest:

chestGirth	shirtLength



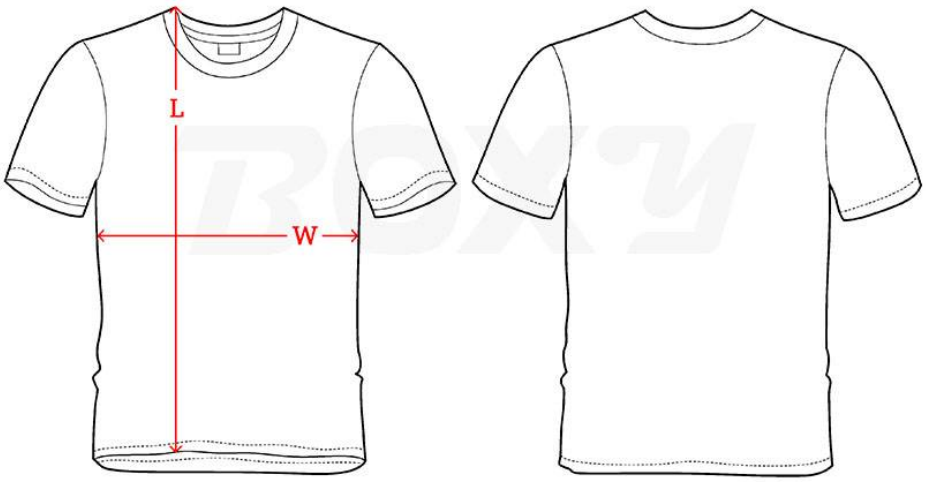
T-Shirts

The t-shirt size data is provided as an approximation of a fashion industry related TechPack.

T-Shirt Models	Sizes
Producer: Neki Model: The Unisex	

Producer: Boxy

Model: The Boxer



SIZE REFERENCE

BOXY

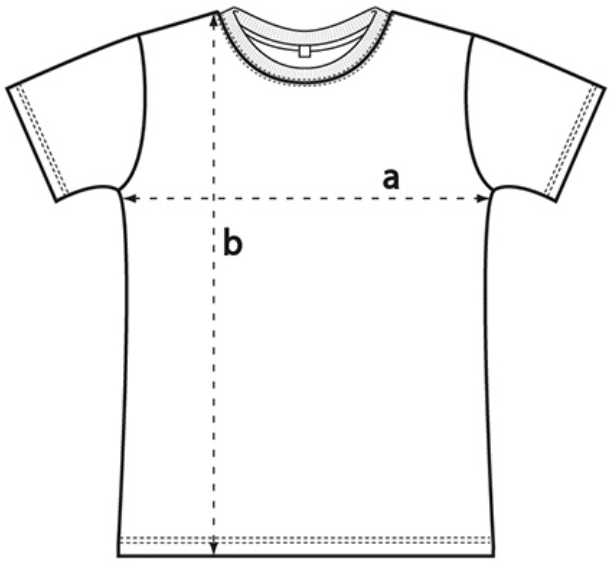
UNISEX	XS	S	M	L	XL	2XL	3XL
LENGTH	64 cm	67 cm	70 cm	73 cm	75 cm	77 cm	79 cm
CHEST	44 cm	47 cm	50 cm	53 cm	56 cm	59 cm	62 cm

*Chest measurement is measured front (left to right) only

*Measurement tolerance : +/- 5%

Producer: M+H

Model: the-plain-old-one



	XS	S	M	L	XL	XXL	3XL	
a	18 1/2	19 3/4	20 3/4	22	23 1/2	25 1/4	26 3/4	inch
	47	50	53	56	60	64	68	cm
b	26 3/4	27 1/2	28 1/4	29 1/4	30	30 3/4	31 1/2	inch
	68	70	72	74	76	78	80	cm

Notes about the implementation

The assignment can be done in one of the following programming languages: Java, JavaScript/Typescript or Python 3.

Docker can be used to provide your chosen data storage service.

Please provide unit- and/or integration tests where applicable and a small README.md documentation file on how to build, test and run your application. Build artefacts should not be part of the submission.