FitSize

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The Big Picture

The **clothing** industry has become more and more digital over the past years.

People can't try on the garment in **digital stores**: they choose according to their **size**.

The problem is that clothing sizes through different stores are rarely **standardized**.

Customers often buy clothes that don't fit them as they would think. They have to **return** the item to get a refund.

Such a process is **time and money consuming** and **carbon-intensive**.

The Solution

FitSize is a mobile application designed for both **sellers** and **customers**.

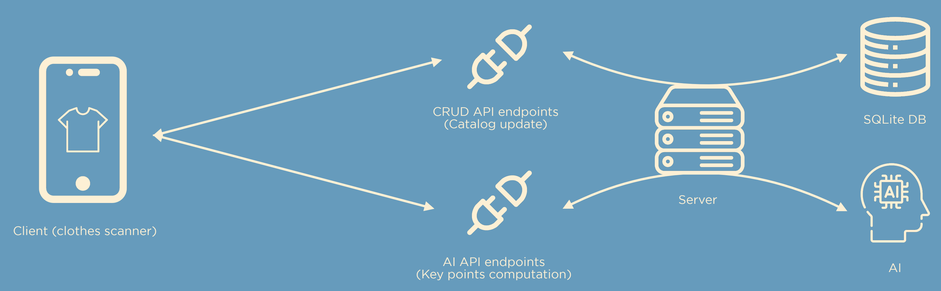
Based on **AI**, the application automatically **scans** your clothes to get the dimensions.

According to the computed dimensions, our app can **suggest** to the customer the models that fit them the best.

No more deception: the customer buys what **fits** them the best.

The Approach

The application consists of 2 parts: the front-end (a **Flutter** hybrid **mobile** app) and the back-end (a **Django** server managing the **data** and computing clothes dimensions with an **AI**).



The client communicates with the **AI endpoint** to compute **key point coordinates** on a clothing picture to compute its **dimensions**.

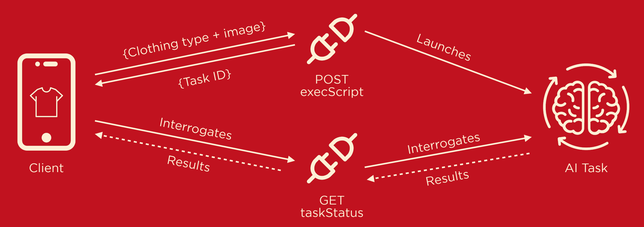
The client then computes with the **CRUD API** to **manage** its clothes **catalog**.

The AI

The AI API is designed with **2 endpoints**, based on the **asynchronism** paradigm.

The first is a **POST** request accepting a **type of clothing** and an **image** of the clothing with a 5x5cm **checkerboard** on it. This request launches the task of **key points** computing: a PyTorch script based on models trained with **Yolo**, the **Ailia** SDK, and **OpenCV**. The server runs the task in the **background** and the request returns a **task ID**, for the client to be able to get the task **status** and **results**.

The second endpoint is a **GET** request that, given a task ID, return the **task's status**, and if it is a **SUCCESS**, returns the associated results: the clothing **key points**.



The Mobile App

Our **mobile app** is a client for both clothes **customers** and clothes **resellers**.

Each **customer** can take a **picture** of the clothing that fits them the most (for **each type** of clothing). In this way, our service will compute its **dimensions** and will propose the **best size** for each reseller.

Each **reseller** can manage their **catalog** of clothes with the same principle: the app automatically handle the **size** of the clothing given its image.

The Result

Computing the cloth's key points on a Apple M1 chip takes about:

4 seconds

The user can enter the cloth's metadata during this time.

The Benefits

No more **returns** or **refunds**.

No more **money-wasting**.

More **inclusive** sizing system.