

PerfectFit

No more speculation when buying clothes online.

The Problem:

The core problem of online apparel shopping is its inability to properly show how a piece of clothing will “fit” a customer.

Online apparel shopping has an average of 30% returns, whereas in-store purchases are returned only 15% of the time. [*Internet Retailer*] 70% of all returns are fit related. [*Drapers' Etail Report of 2012*] The average retailer's reverse logistics costs for consumer goods are 8.1% of total sales. [*Shopify*] Therefore, of the \$63 billion worth of apparel sold online in the US in 2016, \$1.786 billion [*] was lost because consumers have no effective way to try on clothes online.

Moreover, most retailers are neither prepared nor equipped to support the inevitable transition of the consumer to online shopping and are desperately looking for a new technological solution to make buying clothes online precise for both shoppers and themselves.

PerfectFit will address both of those problems with 3D scanning of clothing pieces and with mobile-based 3D scanning of customers to provide a realistic visualization of how a garment will fit on a customer.

The Opportunity:

In the age when the digital world is constantly brought one step closer to the physical one, the world of online shopping is still lagging behind. Valued at \$3,000 billion, the global apparel market is surprisingly underrepresented technologically. Since both customers and retailers are not satisfied with the current state of online shopping and have been longing for a technological change to improve its precision and overall experience, PerfectFit positions itself perfectly for the targeted market.

Product Description:

PerfectFit is an API based web-browser extension that gets activated on partnering retailers' websites as well as a mobile app based shopping platform that allows users to see how a chosen piece of clothing will fit on their body as close to reality as possible. PerfectFit achieves this by putting scanned clothing pieces directly onto stored 3D models of customers. The visualization is done via a mix of machine learning and existing fabric simulation technology to digitally convey properties like the drape and shape of a fabric and the silhouette of clothes. The texture and dimensions of clothes are scanned via a *Structure Sensor* (developed by *Occipital* in Boulder, CO). Consumers can create their personal 3D model with a free mobile app that relies on deep neural networks to render a mannequin from their photos and reported heights as input.

Value of the Product:

- Online shoppers enjoy the convenience of avoiding crowds, of always knowing which items are in stock, and of a significantly easier way to browse products. The biggest inconvenience of online shopping continues to be when purchases need to be returned, especially if the store does not pay for shipping and in-store returns are unavailable. PerfectFit addresses this problem directly by making online “fitting” look as close to the in-store experience as possible.
- The more shoppers use our platform, the more personal recommendations they would get from us.
- Clothing retailers are suffering immensely from the increased return rate of online purchases; almost every retailer is actively looking for a way to reduce the percentage of clothes returned.

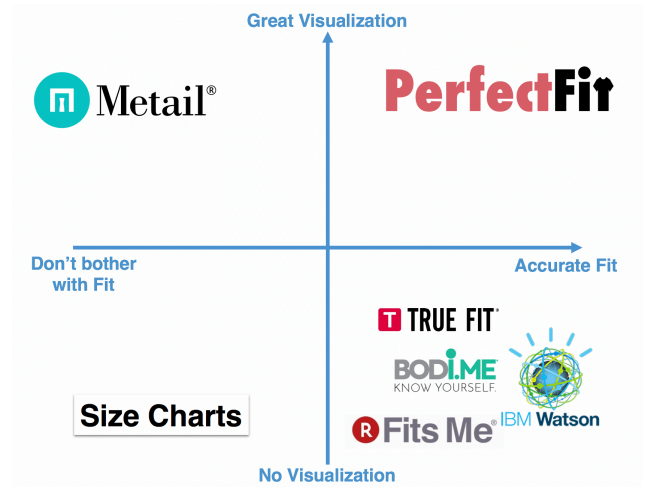
- Additionally, since customers have no effective way to predict how clothes will fit, they are not as willing to branch out and experiment in their fashion choices, which hurts retailers in terms of potential profits. PerfectFit addresses that problem directly.
- Finally, retailers and brands would get market insights that were unheard of before by knowing exactly what body types/demographics try on which clothes through our platform and where specific apparel falls short in terms of fit.

Go-to-market & Growth strategies:

- Using existing datasets of 3D body scans, we can cheaply make an accurate 3D photo-based body shape estimator based on neural network models. This approach makes it almost effortless for consumers to try our product.
- By offering an initial discount to retailers in return to getting direct access to their customers and insight, we can save immensely on initial marketing costs.
- By providing a free and accurate online shopping method to consumers, we can raise awareness of our product and encourage more people to try it.
- Once a customer's model is in our database, their model can be used to try on any apparel. Therefore, the main growth strategy will be to partner with the most retailers and brands, both brick-and-mortar and online.
- To complement the brick-and-mortar shopping experience, we will offer digital in-store fitting for all merchandise in stock.

Competition:

While the idea of trying clothes on before purchasing them online is not novel, existing competition is limited and does not address the problem: the impossibility of predicting the fit of clothes without seeing them on yourself.



Financials:

- To involve as many shoppers as possible, the app will be free for them.
- Retailers are the paying side in our business, so PerfectFit offers a subscription-based, tiered pricing model based on the number of sales made using our product. By using our service, retailers still benefit significantly by cutting the amount of returns, increasing customer exposure to merchandise, and gaining online traffic.
- The main financial burden for PerfectFit is the development of an accurate fabric simulation and 3D clothing scanning. Otherwise, the operational cost of PerfectFit is minimal due to the digital format of the product.

The Team:

We are a group of three entrepreneurs (Denis Kazakov, Nicole Woytarowicz, Max Kazakov) with experience and skills in data science, machine learning (computer vision, neural nets), software development, economics, and product management.

[*] \$63 billion * [(0.3 - 0.15) difference in online return ratio / 0.3] reducible ratio of returns * 0.7 returns due to fit ratio * 0.081 reverse logistics costs of total sales = \$1.786 billion