THE RIGHT LABELS FOR REAL RESULTS

Abstract

When automation of his labelling and annotation activities failed to yield accurate outcomes, Todd Garner, Chief Product Officer at a major US warehouse retailer turned to Infosys BPM for help. This case details how Infosys BPM using a team of expert annotators delivered the accuracy Todd wanted, as well as other delightful downstream outcomes.

Infosys®
Navigate your next

Stuck with broken automation

Todd Garner, Chief Product Officer, at a major US membership-only chain of warehouse-format retail stores, thought he had found a solution. With close to $100 Bn of sales across over 600 store locations, the business was seeking greater operational efficiency and customer experience through improved retail store inventory management and billing. Seeking to deliver on these objectives, Todd had onboarded a vendor to automate his inventory labelling and annotation activities. But things did not turn out as Todd hoped for.

Once the vendor implemented and set the automation into play, the accuracy of the automated annotations did not meet Todd's expectations. Instead of improving, the earlier poor efficiency of labelling operations was hampered even further due to drawbacks in the automated protocol. Todd was quickly forced to turn back to the tried and tested method of manually annotating and labelling the company's inventory. However, rather than give the mandate back to his internal teams, he decided to try out an outsourcing service provider with expertise in annotation to try and realise at least some efficiency gains.

In the past, Infosys BPM had already supported Todd's teams with some of their annotation and labelling activities and he remembered being impressed by their performance and the quality of their delivered annotated datasets. So, setting up fresh meetings with Karan Balaji, the Infosys BPM team lead, Todd reviewed his team's capabilities and expertise in annotation and labelling for multiple projects. Convinced, Todd awarded a large portion of the annotation services work to Karan and his team with no hesitation at all.

The expertise to get unstuck

The scope of the project was large. The store images needed to be annotated for inventory management. Additionally, to understand the customer shopping experience, objects or humans in key frames on video also needed to be assigned and annotated with global IDs by using python scripting. Karan began ramping up his team for the project specifically looking for the skillsets that would ensure that that every entry would be correct, verified, and consistent across multiple product categories and formats.

Approach summary

- Staffing the team with the right skillsets
- Taking a deep dive into product listings
- Carrying out end-to-end manual annotations

In no time, Karan's team was fully staffed and equipped with good analytical skills, command over English grammar, and the expertise in image labelling and basic python scripting needed for the video annotations. Karan then assigned this dedicated team to manage the labelling of Todd's store videos and images.

For effective labelling, Karan's team first spent some time studying the product listings and familiarising themselves with the large volume of datasets.

Then they carried out the end-to-end activities of manually annotating the product attributes such as titles, images, descriptions, and specifications. To accomplish this, the team used several annotation tools.

To ensure error-free annotations, Karan set up an operating model to ensure adequate governance and visibility, including a robust QA/QC methodology. He also updated Todd with regular statusreports including details such as the analysis performed on all quality feedback, errors, and anomalies, as well the activities undertaken to rework these. Furthermore, they also jointly conducted daily and weekly governance meetings with the annotation teams, carrying out hygiene checks of the project and ensuring time delivery of tasks. In these meetings, Todd also passed on change management updates pertaining to the project and signed off on the annotations processed and submitted by the team in the system.

Labelling the project a success

The expertise and diligence of Karan's team soon shone through with over 70,000 images and 5000 videos annotated in just a year. And this time Todd had no need to suffer angst on checking their accuracy. The quality of the datasets annotated and labelled by Karan's team was a splendid 98%.

Key benefits

- 70,000 images and 5000 videos annotated
- Over 98% accuracy
- Improved AI performance
- Enhanced operational efficiencies

Apart from the on-time delivery of annotated datasets and 98%+ quality of annotations, Todd was delighted with the tangible business benefits the company experienced due to the error-free labelling. These included improved AI performance, faster decision-making, and enhanced operational efficiencies. Further, Todd's in-house teams experienced a great reduction in their manual workloads and accelerated processes, all of which saved them much time and minimised their human errors. With the project still an ongoing one, and the quality of work continuing to impress, Todd has initiated discussions with Karan on soon increasing the volumes of datasets to be labelled. Surely, this project can rightly be labelled a success.

Names have been altered to preserve the identities of the people involved.

For more information, contact infosysbpm@infosys.com

Infosys®
Navigate your next

Infosysbpm.com

Stay Connected