Case Study: Retail Customer Support

Problem
Deploying a conversational bot to automate customer support worldwide

When confronted with an organization that groups different brands, audiences, territories and languages, orchestrating a conversational platform that can be scaled quickly and seamlessly is a complex task. Typically, early attempts to build conversational agents fall short of expectations, do not scale and remain in the POC stage without going into production.

The challenge: develop a bot life-cycle that allows for quick deployment and incremental improvement: start with one bot, one language and a specific set of intents, prove that it works and then reuse it for different purposes:

> Adding more intents to the initial bot, so bot NLU capabilities grow with client acceptance.**>** Extending the bot to different countries and brand shops.
> Adding more languages to the bot: English, Spanish, German, French, Italian, Dutch, Turkish, Polish, Chinese, Japanese, Korean

while avoiding having to start from scratch for every bot instance.

Solution: Bitext Multilingual Synthetic Training Data
Advanced Natural Language Generation for bootstrapping bot training and fine-tuning

For developing this wide range of bots, it is essential to have large amounts of training data. Manual data production doesn't provide the necessary scale and speed.

Using Bitext's advanced Natural Language Generation (NLG) tools, we generated different Multilingual Synthetic training datasets in a matter of days.

The initial dataset was extracted from the client's logs and knowledge base, to ensure proper understanding of the conversational behavior of the customers.

Figures highlights

REACH OUT

> Reaches up to 90% accuracy after just 6 months of data augmentation
> Generation of training data is reduced from months to days
> Out-of-the-box accuracy up to 65%
> Reduction of overhead costs from day 1: 2 million in Y1
> Roll out in multiple languages: English, Spanish, German, French, Italian, Dutch, Turkish, Polish, Chinese, Japanese and Korean

Results
A multilingual conversational bot with enhanced linguistic capabilities

Bitext's expertise in data management and performance benchmarking was key to ensure a steady accuracy improvement from 65% (month 1) to 90% (month 6).

After 6 months of deployment of the English version, traffic has grown from 2,000 to 250,000 queries per month. While, accuracy grew from 65% to 90% in the same period. At peak periods, when the bot is most needed, the bot has handled more than 40% of incoming requests from customers and 20% of full conversations.

Relying on manual methodologies to generate training data is a process that doesn't scale: it takes time, it is error-prone, and it doesn't allow for consistent error fixing and agile retraining. Bitext's unique Natural Language Generation processes have reduced the time required to create training data from months to days, for different volumes of intents, for different languages, for different regional markets (UK/US English, Spain/North America Spanish…), and for different language registers (colloquial, formal, offensive…) depending on the user demographics and profiles.

During this process, Bitext takes care of data generation, performance evaluation, data augmentation and improvement, to create a data management cycle that consistently ensures accuracy improvements.

About the client

The client is one of the largest fashion retailers in the world, covering over 200 markets with a combination of over 7,000 physical locations and an innovative online e-commerce platform.

The client engaged one of the leading technology integrators in Europe in the field of conversational AI, to improve its customer service operations and boost the quality of its customer experience.
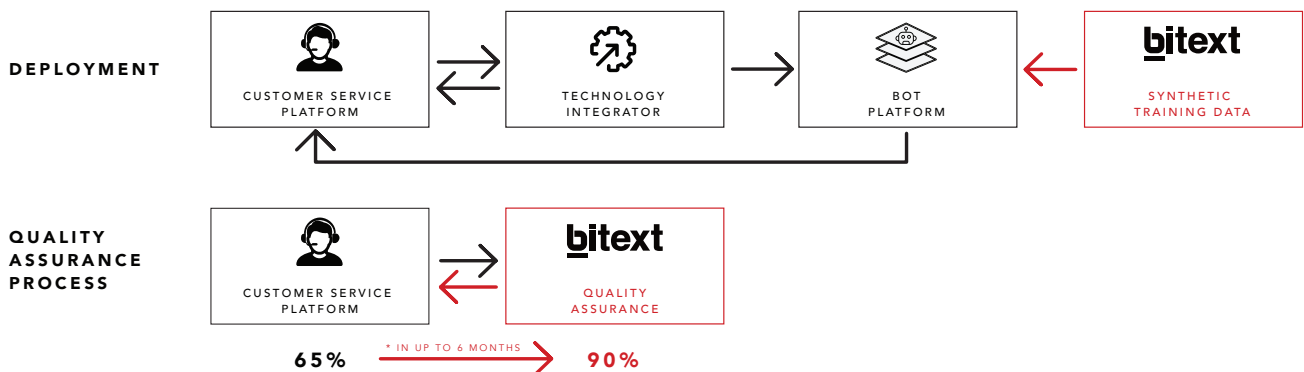
Bitext solutions - QA
Where Natural Language Generation meets Artificial Intelligence

Bitext's Multilingual Synthetic Data Generation automatically produces hundreds of relevant, semantically equivalent variations of a single seed query and tags their entities and intents, making it extremely easy to produce quality training data.

DEPLOYMENT

CUSTOMER SERVICE PLATFORM → TECHNOLOGY INTEGRATOR → BOT PLATFORM ← **bitext** SYNTHETIC TRAINING DATA

QUALITY ASSURANCE PROCESS

CUSTOMER SERVICE PLATFORM → **bitext** QUALITY ASSURANCE

65% * IN UP TO 6 MONTHS → **90%**

At Bitext, we use our technology to automate the chatbot training process, feeding the bot with different variations of all the possible user intents. **It significantly reduces training time from months to days and increases chatbot's accuracy, making it more conversational.**

Additionally, the chatbot was integrated with existing Customer Experience tools like the Contact Center, from a technical and organizational point of view.

> Try it out at https://www.bitext.com/demo-retail-chatbot/
> Contact us at https://www.bitext.com/contact-us/

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