CustomerAgreementBarometer

	0-200: Confident refusal to buy 200-400: Unwillingness to make a purchase, doubts with a preference to refuse a purchase, a complaint about the terms of purchase 400-600: Doubts about the purchase 600-800: Doubts with a preference to make a purchase 800-1000: Confident desire to make a purchase

The microservice is developed to predict the customer agreement barometer based on a dialog between a customer and seller.

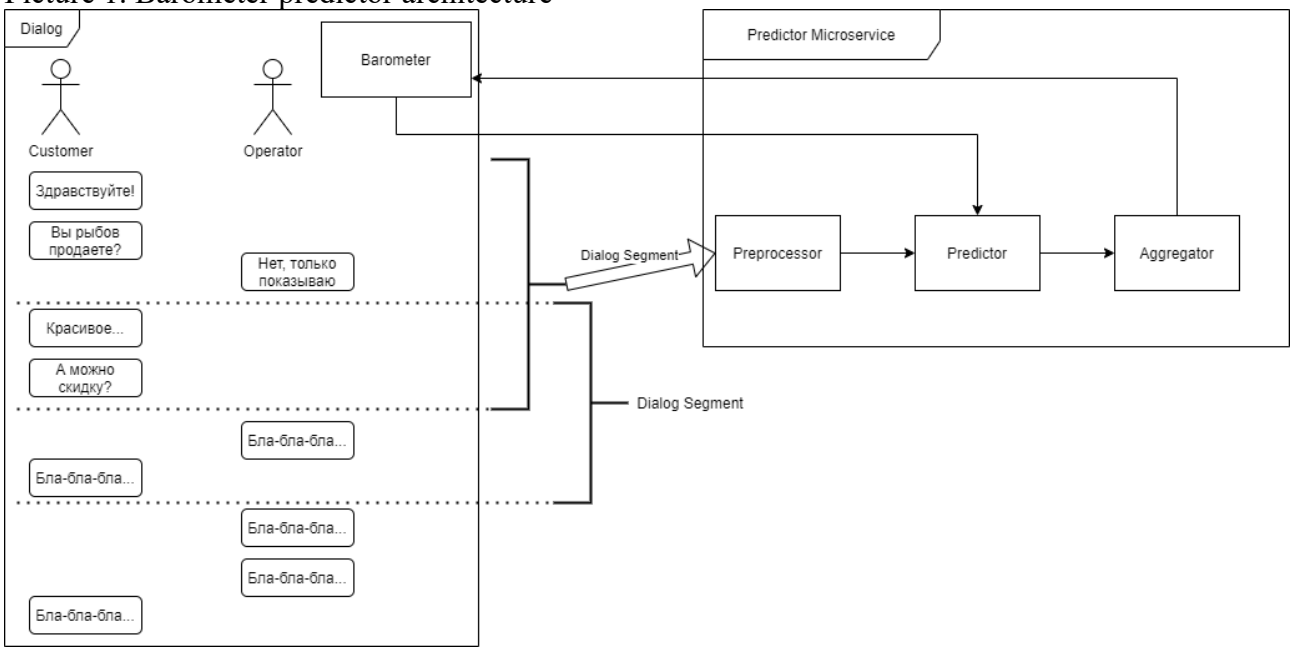
The input data is previous barometer values and a dialog segment. The output data is a new barometer value. Previous and predicted batometer values are normalized to the [0,1].

Each dialog segment contains the following parts:

1. The user's messages combined from the beginning of the dialog or from the last message of the seller to the next message of the seller.
2. The seller's response to the user's messages, messages combined from the user's messages from paragraph 1 to the next user's messages.
3. The user's reaction to the seller's response, messages combined from the seller's response from paragraph 2 to the end of the dialog or to the next message from the seller.

This segmentation of the dialog, combined with the use of the previous barometer value, allows to save the context of the dialog during the evaluation process.

Picture 1. Barometer predictor architecture



The model is trained using cloud services and saved to the file. Predictor is launched as python app that loads model from file. Predictor is launched in the Docker container.

The following techniques are used during training and running:

1. Lemmatizing
2. TF-IDF (term frequency – inverted document frequency)
3. RandomForestRegressor

Picture 2. Training schema