2 AI Service for Module 2 in the Service Life Cycle: Ticket assignment

SERVICE MEISTER

INTELLIGENT AND AUTOMATED ALLOCATION OF TEXT-BASED SERVICE TICKETS

In a service/ticket system, many requests arrive every day. In order to classify these correctly and forward them to the appropriate processor, qualified service staff are required and are usually working at full capacity. However, this is a job that an AI algorithm can learn and be used to support. There are clear categories into which requests are sorted and solved there by an explicit group of editors. The Ticket Dispatcher learns the assignment to these corresponding categories and agent groups on the basis of historical tickets.

FOR THE FOLLOWING CHALLENGES
- Optimisation of the ticketing system
- Inefficient service processes
- High service costs
- Skills shortage

THE USE CASE
During the operation of technical systems (e.g. machine tools), but also during the monitoring of complex infrastructures (e.g. gas networks for the transport of natural gas), errors occur again and again, which are usually reported within the scope of manually created tickets. Here, the initial error description is recorded in an electronic ticket, typically either by telephone, email or via a self-service portal.

The service management system then records these tickets centrally. These tickets are then analysed manually, sometimes in large numbers, and assigned to the appropriate agent group, whereby the priority must also be correctly assessed.

This entire process, from assignment to delivery to the correct processor group, takes a lot of time and is also prone to errors. This means that tickets are often assigned incorrectly and may then go through several cycles until the ticket can be assigned correctly, which costs unnecessary time and money.

An AI-based, automated solution can help optimise this process.

THE SOLUTION IN DETAIL
A Natural Language Processing (NLP) model is used here to infer the category, priority, and agent group from error tickets (text descriptions of the error). For this, the NLP model must first be trained with historical data.

The model, after being trained in a controlled manner, can then take on the tasks of prioritisation and distribution in a fully automated manner based on the tickets to be resolved.

The knowledge about the category, the priority and the group of editors makes it possible to send the ticket directly to the corresponding experts and thus to initiate the starting point of the processing more quickly.

If the ticket dispatcher is unsure, the ticket can be forwarded to the service desk as usual, which can then explicitly focus on such complex tickets.

In summary, the entire ticketing process is optimised in terms of time and money.

PROJECT STATUS
The model is commercially available.

REQUIREMENTS
- The service requires a service management application, well-defined error categories, and historical data.
- Regarding the data, sufficient examples are needed for each error category. The fewer examples and the more error classes there are, the less precise the assignments become.

AVAILABILITY
Upon request.

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SPECIFICATION

	Input data	Preprocessing	Data storage	Algorithms	Interfaces
High-level description	Tickets from Valuemation, historical tickets as training data	Parse text	Cache	NLP (statistical approach via TF-IDF Vectoriser)	Valuemation or service management
Configurability	Definition of the training data			Parameterisation, training period	Threshold value above which the ticket ends up at the user helpdesk
Technical implementation	REST-API	Python (Docker Container)	File system, SQLite (Docker container)	Python Script (Docker Container)	REST-API
Specific example from the speedboat project	The Ticket Dispatcher is controlled via Valuemation	Text is divided into individual words, Punctuation marks and superfluous spaces removed, language recognition, subject and short text are merged		The Ticket Dispatcher explicitly predicts the category, priority and agent group	The Ticket Dispatcher is controlled via Valuemation

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