# CONTEXT-AWARE CHATBOT CONVERSATION FLOW COMPONENT FOR UNIVERSITY WEBSITE USING DIALOGFLOW

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The growing demand for fast, accurate and automated access to university services has prompted the use of intelligent chatbots to reduce staff workload and increase user engagement, in the case of higher education institutions – applicants and students. This article presents the design and development of a context-aware chatbot for a department website using Dialogflow. The main focus is on creating a dynamic conversation flow component that is able to interpret user-entered data in context and provide students with correct and fast information related to educational programs, admission, schedule and administrative services.

The development of the chatbot (pic. 1) included: interviews with stakeholders, collection and categorization of frequently asked questions (FAQs), building a communication architecture (intents, contexts, responses), implementation and testing on the university department website, integration with popular messengers.
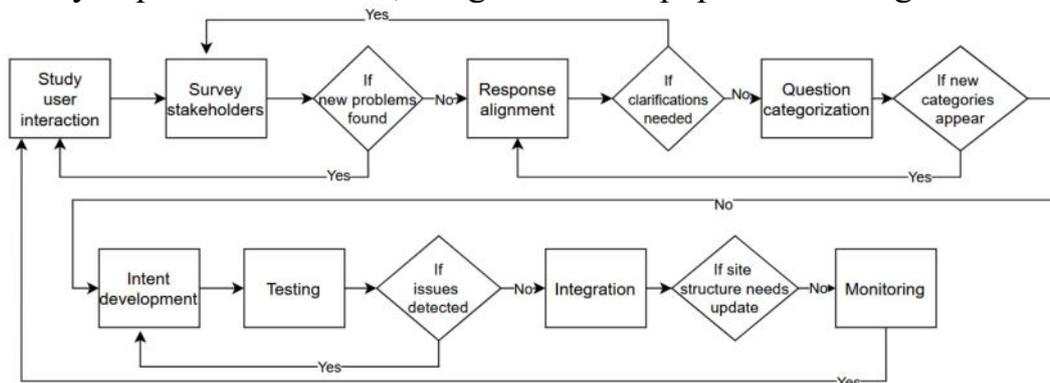
Picture 1 – Chatbot development workflow using Dialogflow

In addition to Dialogflow, several alternative tools and platforms are widely used for developing chatbot systems [1]-[2]. IBM Watson Assistant offers robust intent classification and object recognition capabilities with a visual dialog editor suitable for enterprise applications. Microsoft LUIS supports integration with Azure services and is used for domain bots. Rasa is an open source framework that provides full control over NLU pipelines and is best suited for privacy-sensitive solutions. Amazon Lex on AWS is often used for voice bots due to its deep integration with Lambda functions. The choice among these platforms depends on technical requirements, scalability goals, and developer experience.

The result of this work is a reusable and scalable chatbot system component that handles requests based on frequently asked questions and adapts to the context of the conversation, thus improving user interaction and minimizing staff intervention.

References:

1. M. Mahmoud and R. Kumar, "A Review on Chatbot Design and Implementation Techniques," IJET, vol. 7, no. 2, 2020.

2. W. S. Nsaif et al., "Chatbot Development: Framework, Platform, and Assessment Metrics," EPSTEM, vol. 27, 2024.