

## **Software Requirements Specification (SRS-1)**

**Project Title:** AI Chatbot for Student Support Services **Platform:** Google Dialogflow

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Link to Use :- [disha Chabot](#)

### 1. **Introduction**

#### 1.1 Purpose

The purpose of this chatbot is to provide automated support to students by answering frequently asked questions (FAQs) and guiding them through academic processes using predefined guidelines.

#### 1.2 Scope

This chatbot will:

- Handle student queries related to admissions, courses, exams, and campus facilities.
- Operate 24/7 with multilingual support.
- Be integrated into the school website or LMS.
- Use Dialogflow's NLP capabilities to understand and respond to user intents.

#### 1.3 Definitions, Acronyms, and Abbreviations

- **NLP:** Natural Language Processing
- **FAQ:** Frequently Asked Questions
- **LMS:** Learning Management System
- **SRS:** Software Requirements Specification

### 2. **Overall Description**

#### 2.1 Product Perspective

The chatbot is a standalone module that can be embedded into existing web platforms. It uses Dialogflow's agent-based architecture and supports webhook integration for dynamic responses.

#### 2.2 Product Functions

- Intent recognition and response generation.
- Context-aware conversation handling.

- FAQ database lookup.
- Escalation to human support if needed.

## 2.3 User Characteristics

- Students aged 15–25
- Basic familiarity with chat interfaces
- Expect quick, accurate, and friendly responses

## 2.4 Constraints

- Limited to predefined intents and entities
- Requires internet connectivity
- Privacy compliance (e.g., GDPR, FERPA)

## 3. Specific Requirements

### 3.1 Functional Requirements

- **FR1:** The chatbot shall respond to student queries using predefined intents.
- **FR2:** The chatbot shall escalate queries to human support if confidence score is low.
- **FR3:** The chatbot shall log conversations for analytics and improvement.
- **FR4:** The chatbot shall support at least two languages (e.g., English and Hindi).

### 3.2 Non-Functional Requirements

- **NFR1:** Response time shall be under 2 seconds.
- **NFR2:** The system shall be available 99.9% of the time.
- **NFR3:** The chatbot shall be scalable to handle 1000+ concurrent users.

### 3.3 External Interface Requirements

- **User Interface:** Web-based chat widget
- **Software Interface:** Dialogflow console, webhook server (Node.js/Python)
- **Hardware Interface:** Hosted on cloud (e.g., Firebase or AWS)

## 4. System Features

Feature	Description
FAQ Handling	Uses intents to answer common questions
Context Management	Maintains session context for multi-turn conversations
Escalation	Transfers to human agent if needed
Analytics	Tracks usage, popular queries, and performance

## 5. 🛠️ Design Approach

- **Architecture:** Modular intent-entity-response structure
- **Tools Used:** Google Dialogflow, Firebase Functions, Google Sheets (for FAQ DB)
- **Security:** HTTPS, OAuth (if integrated with student portal)

## 6. 📚 Future Enhancements

- Integration with voice assistants (Google Assistant, Alexa)
- Sentiment analysis for emotional support
- Personalized responses using student profiles