**Department of Computer Science**



**Banasthali Vidyapith**



Software Requirement Specification(SRS)

System Design Specification (SDS)

**AIDA**

**BTI\_G19**

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**Chapter 1 SRS**

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**1. Introduction**

The purpose of this SRS is to provide a detailed overview of our software product, its parameters and goals. This document describes the project’s target audience and its user interface, hardware and software requirements.

**1.1 Purpose**

This project is focusing on creating a web based chatbot to be used by one to get their queries about Banasthali Vidyapith University responded easily from the website. The College Enquiry Chatbot has the capacity to make friendly conversations, respond to the course and faculty details.

**1.2 Scope**

The goal is to provide people a quick and easy way to have their questions answered. User does not have to go personally to the college office for the enquiry. This application saves time for the student as well as teaching and non teaching staff.

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**1.3 Definitions, Acronyms, and Abbreviations**.

* A chatbot is a service, powered by rules and sometimes artificial intelligence, that you interact with a chat interface.
* b) Web API: an application programming interface (API).
* c) GUI: Graphic User Interface, a type of user interface that allows users to interact with the software through graphical icons.

**1.4 Overview**

A chatbot will be used to give information or answers to any question asked by a user.It will interact with the users through text chatting. According to input, system will process the query and give responses to users. In case the question asked by the user is not

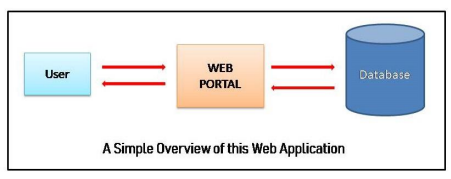
present in the database then it will ask to store that question in a file which will later on be seen by the administrator of software and then it can be modified in chatbot.

**2. The Overall Description**

**2.1 Product Perspective**

This system will consist of one web portal. The web portal will be used for managing the information about Banasthali Vidyapith and the system as a whole.

The web portal will use the database to get data while will also add and modify data. All of the database communication will go over the Internet.



**2.1.1 Product Function**

In this project, website will collect information from person and apply machine learning algorithms. This website will also have collected data sets of Banasthali. Users will get their queries solved by interacting with the chatbot. The chatbot will provide information regarding the users’ queries based on the data provided.

**2.1.2 Hardware Interfaces**

**4.2.1 Server-Side Requirements:**

✔ RAM: Min 4 GB

✔ HDD: 20 GB or more (Free space excluding data size)

✔ Processor: Min 3 GHz or onwards

**4.2.2 Client-Side Requirements:**

✔ RAM: Min 512 MB

✔ HDD: 10 GB or more (Free space excluding data size)

✔ Processor: Min 1 GHz or onwards.

**2.1.3 Software Interfaces**

|  |  |
| --- | --- |
| **Technology** | **Software Product** |
| Client Server | Web Browser |
| OS | Windows |
|  |  |
| Database Server | MySQL |
| Development End | HTML, JavaScript, CSS, NodeJS |
| Machine Learning | Python, Scikit, Numpy, Scipy, Matplot |

**2.1.4 Communications Interfaces**

⮚ Various communication protocols will be used for different parts of the system.

⮚ Communication between client server and web server will be done with JSON. Fixed device will send the data through Internet.

⮚ JSON data will consist of values retrieved from database on the basis of the provided by the user.

⮚ Client on Internet will be using HTTP/HTTPS protocol.

**2.2 User Characteristics**

User interface of web application will be comprehensible and easy to use. There will be basic pages such as: login page, home page, admissions etc. The users of this application should be computer literate.

The characteristics of web application’s user interface will be as follows:

∙ Interface will be shown by web browsers. There will be login page where user will be able to make a personalized customer account.

∙ In home page, user will have different option of the web portal which will help user according to their needs.

Users of this software can be categorized as following:

⮚ **Guest:** These include those who wish to obtain university information but are not affiliated with Banasthali Vidyapith

⮚ **Student:** These include student of Banasthali Vidyapith who are interested in learning more about their activities or have any other questions.

⮚ **Administrator:** These types of users are basically the administrator of whole website. They can change any data at any time without creating any conflict or any confusion for the rest of users.

**2.3 Constraints**

* ∙ Higher Order Language Functions: The HTML, CSS, JavaScript will be used for developing the web-pages and for the database information MySQL Server will be used.
* ∙ Criticality of the Application: The server application will be available 24 X 7. ∙ Safety and Security Considerations: The password and a valid username are the security issue.
* ∙Person should be literate. Language is also constraints as website is made in English language.
* ∙ The Internet connection is also a constraint for the application. Since the application fetches data from the database over the Internet, it is crucial that there is an Internet connection for the application to function.
* ∙ Any substantial enhancement in website will require approval of the administrator.

**2.4 Technologies Used**

⮚ **Front End:** HTML, CSS, JavaScript

⮚ **Back End:** NodeJS, MySQL

⮚ **Communication Interface:** JSON

**3. Specific Requirements**

**3.1 Functional Requirements**

* Predict queries with the given uneven input.
* Compare the given queries with the input datasets.
* Provide information according to the user queries.
* If user query is not given then give sorry message

**3.2 Non-functional Requirements (Software System Attributes)**

3.2.1 Availability

The availability of this web-site is up to the Internet connection of the client. Since this is client-server related web-site shall be attainable all the time. User should have an account to enter the system; if user does not have an account, then user can only see the information which will be displayed on the homepage of the web-site.

3.2.2 Security

The authorization mechanism of the system will block the unwanted attempts to the server and also let the system decide on which privileges may the user have. The system has different types of users so there are different levels of authorization.

3.2.3 Reliability

A backup file is maintained so that in case of system crash, the data will not be affected.

3.2.4 Portability

The system is developed using Apache Tomcat which provides a framework for developing web-based applications.

3.2.5 Maintainability

This website will follow the modular structure so it will be easy to maintain