Gujarat Vidyapith Chatbot

Submitted By:

MCA Semester: 3

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As part of syllabus of MCA Sem-3 Question paper no. MCA 304, Prepared project report for Computer Science Department, Gujarat Vidyapith.

Year: 2025-2026

Internal Guide

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https://www.gujaratvidyapith.org/

Acknowledgement

I am pleased to present this project, *“Gujarat Vidyapith Chatbot,”* developed as part of the MCA (Semester 3) curriculum at Gujarat Vidyapith. I express my deep gratitude to **Dr. Neepa Shah**, Professor, Department of Computer Science, for her consistent guidance, encouragement and expert insights throughout the development of this work. Her support helped me understand the practical aspects of chatbot systems and complete this project with clarity and confidence.

I am also thankful to the faculty members of the Department of Computer Science for providing a supportive academic environment that motivated me to explore, learn and innovate.

I extend my sincere thanks to my friends and classmates, who continuously encouraged me, discussed technical challenges with me and helped in testing various parts of the system. Their cooperation and teamwork significantly contributed to the successful completion of this project.

Lastly, I appreciate everyone who supported me directly or indirectly during this journey. Their help, even in small ways, made a meaningful impact.

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1 About Gujarat Vidyapith

Gujarat Vidyapith is a renowned educational institution founded by **Mahatma Gandhi** on **18 October 1920** during the Indian freedom movement. Established with the vision of promoting self-reliance, rural upliftment and value-based education, the university continues to follow Gandhian principles as its core foundation. In 1963, it was recognized as a **Deemed University** under Section 3 of the UGC Act, 1956.

The university offers a wide range of academic programs, from undergraduate and postgraduate courses to M.Phil. and Ph.D. research programs. Its disciplines include humanities, social sciences, education, science, computer science, rural management, journalism, library science and vocational studies. Gujarat Vidyapith emphasizes constructive work, community service and character-building as part of its holistic education system.

With its central campus located in Ahmedabad, along with several regional centers and affiliated institutes, Gujarat Vidyapith provides an environment where academic learning is combined with social responsibility. The university also encourages students to engage in rural camps, extension activities and social awareness programs, aligning with Gandhiji’s ideals of Nai Talim and community-oriented learning.

The Department of Computer Science at Gujarat Vidyapith is committed to providing quality education in the field of computing and information technology. The department aims to develop skilled professionals who can apply technical knowledge to real-world challenges while upholding the values and educational philosophy of the institution.

The department offers a range of academic programs, including **BCA**, **MCA**, **MSC(IT)** and **PGDCA** courses designed to equip students with strong theoretical foundations and hands-on practical experience. The curriculum covers key areas such as programming, data structures, databases, operating systems, networking, artificial intelligence, machine learning and web technologies.

The Department of Computer Science maintains a strong relationship with industry and academic partners, helping students gain professional insights and career guidance. Its focus on both technical competency and value-based education prepares students to contribute effectively as IT professionals, researchers and responsible members of society.

2 Introduction

With the increasing use of digital technologies in educational institutions, there is a growing need for systems that can provide quick, reliable and accessible information to students and visitors. University enquiry processes often depend on physical visits, office hours and static website content, which can lead to delays, confusion and repeated manual work for administrative staff. To address these challenges, the **Gujarat Vidyapith Chatbot** has been developed as an interactive, intelligent and user-friendly solution.

The chatbot functions as a virtual assistant that provides instant responses to queries related to admissions, courses, departments, fees, hostel facilities and general university information. By using Natural Language Processing (NLP) and a trained machine learning model, the system can understand user queries, classify their intent and generate appropriate responses within seconds. This not only reduces dependency on manual enquiries but also ensures 24/7 accessibility, allowing users to obtain information anytime, from anywhere.

The system is built using **Django** for the backend, **PyTorch** for model inference and **MongoDB** for data storage. The architecture is designed to be scalable, enabling future improvements such as multilingual support, voice-enabled interaction and integration with live human assistance. Through a conversational interface, the chatbot enhances user experience while reducing workload for university staff by handling repetitive questions efficiently.

Overall, the Gujarat Vidyapith Chatbot represents a modern approach to university information management. It bridges the gap between users and institutional resources by offering fast, clear and structured responses, making university information more accessible and improving the overall communication process within the institution.

3 Existing System

Most universities still depend on simple, traditional methods to share information with students and parents. These methods work, but they are slow and not convenient.

1. Physical Enquiry

Students often have to visit the campus to ask about admissions, fees, courses, or facilities. This takes time and is especially difficult for people coming from other cities or villages.

During a physical visit, the user approaches the enquiry counter and explains the question to a staff member. The staff member then checks printed documents, internal files or departmental information to provide the required details. In some cases, the enquiry is redirected to another department, which increases the waiting time. After receiving the information, the user leaves, but if another doubt appears later, the same process must be repeated again.

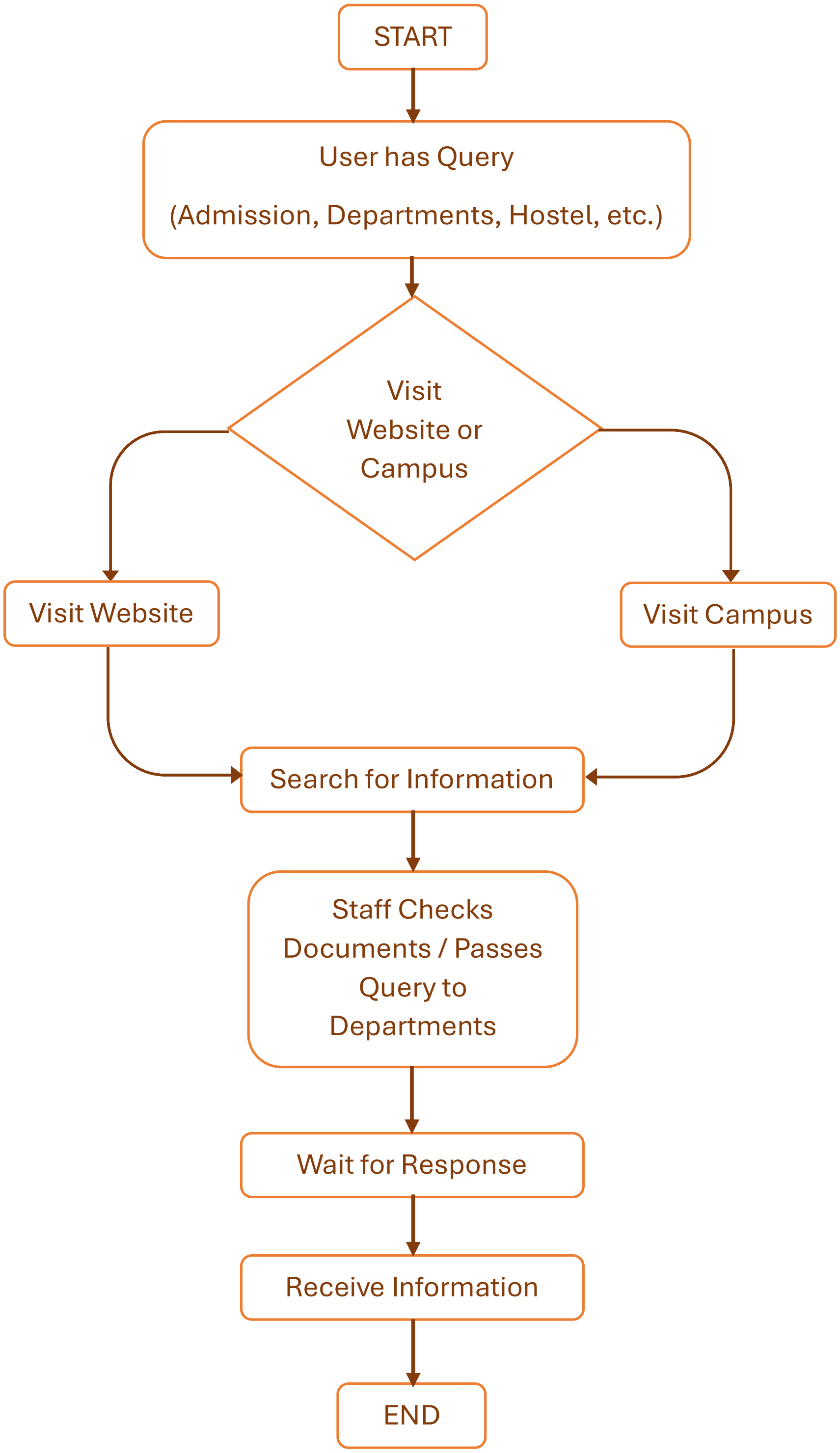
2. University Website

Websites provide general information, but the details are scattered across many pages. Users must search manually, and the site cannot answer follow-up questions or give instant clarification.

Limitations of the Current System

- Physical visits take extra time and effort.
- Websites show only static information.
- No interactive guidance for specific doubts.
- Students depend on staff availability.
- Staff handle repetitive questions during admission season.

3.1 Existing System Flow Chart



4 Existing System Problem Areas

Time-Consuming Information Access
Students and parents often need to visit the campus or make repeated phone calls just to get basic information. This leads to unnecessary delays, especially during admission periods.

Static and Scattered Website Information
University websites contain information spread across multiple pages and PDF files. Users struggle to find exact details, and the website cannot answer personalized or follow-up questions.

No Instant Support
The existing system depends on office timings. Students cannot get answers during evenings, weekends or holidays, which slows down decision-making.

High Workload on University Staff
Staff members handle the same set of questions repeatedly during admission season. This increases manual effort and reduces the time available for important administrative tasks.

Limited Accessibility for Remote Users
Students from distant locations face difficulty in accessing timely and accurate information. Phone lines may remain busy, and physical visits are not always possible.

Lack of Personalized Guidance
The existing system provides only general information. It cannot adjust answers based on the exact query or provide clarification when the user has additional doubts.

Risk of Miscommunication
Since responses depend on different staff members, there is a chance of inconsistent or incomplete information being shared.

No Mechanism for Handling Repetitive Queries Efficiently
The system has no automation to filter and respond to common questions, leading to repeated manual effort and longer waiting times.

5 System Analysis

Existing System Analysis

Dependence on Traditional Methods
Students rely mainly on physical enquiry counters and the university website to obtain information, making the process slow and inconvenient.

Lack of Interactivity
The existing system provides static information. It cannot answer personalized questions or guide users through follow-up queries.

Not Available 24/7
Information can be accessed only during office hours. Students must wait during weekends, holidays and after closing time to get answers.

Repetitive Manual Work for Staff
Staff members must respond to the same common questions repeatedly, especially during admission season. This increases workload and reduces efficiency.

Accessibility Challenges
Students from remote areas or those who cannot visit the campus face difficulty getting timely information. Phone lines may be busy, and emails take time to receive responses.

Higher Chance of Miscommunication
Since information is communicated manually by different staff members, there is a risk of inconsistent or incomplete details being provided.

Proposed System Analysis

Introduction of Chatbot as Virtual Assistant
The proposed system replaces manual enquiry with an intelligent chatbot that answers student queries instantly through a web interface.

Interactive and Conversational Responses
The chatbot uses Natural Language Processing (NLP) to understand user queries and provide accurate, structured answers in real time.

24/7 Availability
Users can get information anytime, without waiting for office hours or staff availability. This improves convenience and reduces delays.

Reduced Staff Workload
By handling repetitive and common questions automatically, the chatbot allows university staff to focus on important administrative tasks.

Faster Decision-Making for Students
Instant access to information helps students make quicker decisions about courses, admissions, fees and other academic matters.

Better Accessibility for Remote Users
Students from any location can access information through the chatbot, making the system more inclusive and supportive.

Structured and Consistent Information
The chatbot uses predefined responses stored in a database or JSON file, ensuring accurate and uniform information for all users.

Scalability for Future Enhancements
The system can be extended to support voice queries, multilingual interaction, or integration with human support in future versions.

5.1 Objectives to Be Fulfilled

The main objective of the proposed university chatbot system is to simplify the way students and parents access important information. Instead of depending on physical enquiry counters or navigating long website pages, the chatbot provides a fast and interactive method to get accurate answers. The system aims to improve accessibility, reduce staff workload and offer a modern information experience for users from any location.

Provide Instant Information

Deliver quick, reliable answers to common queries related to admissions, courses, fees, hostel facilities, departments and campus life. The goal is to reduce the time students spend searching for information manually.

Reduce Physical Enquiries

Minimize the need for students and parents to visit the campus for basic questions. This saves travel time, reduces crowding during admission season and improves convenience for users from remote areas.

Lower Staff Workload

Automate repeated and routine questions so university staff can focus on more important academic and administrative tasks. This helps improve efficiency within departments.

Ensure 24/7 Availability

Provide information at any time of the day, including weekends and holidays. The chatbot serves as an always-available source of guidance, unlike traditional enquiry counters.

Improve Accessibility for All Users

Support students from rural and urban areas equally by making information accessible with just a message. No special technical knowledge is required to use the system.

Offer Consistent and Accurate Responses

Use predefined structured data and official sources to ensure every user receives the same correct and up-to-date information, avoiding confusion and miscommunication.

Support Future Expansion

Build the system in a scalable way so features like multilingual support, voice interaction or integration with human assistance can be added easily in future versions.

5.2 Scope of Proposed System

The proposed system is a **university information chatbot** designed to provide instant and accurate answers to student and parent queries. Instead of relying only on physical visits or static website content, the chatbot will act as a virtual assistant that can be accessed through a web or mobile platform.

The chatbot will handle questions related to admissions, courses, fees, hostel facilities, deadlines, and other university-related information. By using Natural Language Processing (NLP) and a structured database, the system will identify the intent of the query and deliver a suitable response within seconds.

In Scope

- Providing information about admission procedures, deadlines, and eligibility.
- Answering queries about different courses, duration, and fees.
- Offering details of hostel facilities and other student services.
- Allowing users to interact in a conversational manner through a web-based chatbot interface.
- Ensuring availability of information 24/7.
- Reducing repetitive workload for university staff by automating common queries.

Out of Scope (Future Enhancements)

- Voice-enabled queries and responses.
- Multilingual support for non-English users.
- Integration with live human agents for complex queries.
- Advanced AI features such as personalized recommendations.

Overall Scope

The chatbot focuses on delivering accessible, structured and reliable information to users while reducing repetitive workload on university staff. It stays within informational boundaries and always directs users to the correct official documents or department pages for confirmation. Its scope balances helpful guidance with clear limitations, ensuring a smooth and dependable information experience.

5.3 System Features

The proposed university chatbot system is designed to make information access simple, quick and reliable for students, parents and visitors. It uses a conversational interface to answer common queries instantly, reducing the need for manual enquiry counters. The system focuses on providing accurate and structured information through predefined responses, improving the user experience and reducing repetitive workload for staff.

Interactive Chat Interface

The chatbot offers a simple and user-friendly interface where users can type questions naturally. It responds in conversational language and guides users to accurate information without requiring them to navigate multiple web pages or documents.

Admission Information

The system provides clear details about admission procedures, eligibility criteria, application steps, required documents and important deadlines. It also directs users to the official admission prospectus or website for complete and updated information.

Course and Program Details

Users can ask about available UG and PG programs, syllabus outlines, department offerings and academic structure. The chatbot gives short summaries and links to department or syllabus pages where needed.

Fee Structure Guidance

Instead of displaying outdated numbers, the chatbot redirects users to the official fee matrix or prospectus. This ensures accuracy and prevents confusion due to frequently changing fee details.

Hostel and Facility Information

The system supports queries about hostel rules, allocation process, accommodation details and campus facilities. It guides users to official documents for hostel fees and application requirements.

Instant Query Resolution

By processing user queries through predefined intents and responses, the chatbot answers questions within seconds. This reduces waiting time and allows students to get information quickly during peak admission periods.

Instant Query Resolution

By processing user queries through predefined intents and responses, the chatbot answers questions within seconds. This reduces waiting time and allows students to get information quickly during peak admission periods.

NLP-Based Accuracy

Responses are generated from structured data sources, ensuring consistent and reliable answers. The underlying NLP model helps classify user intent and select the best possible response.

Reduced Staff Workload

By automating repetitive and commonly asked questions, the system allows staff to focus on more important administrative tasks. This improves efficiency during admission seasons.

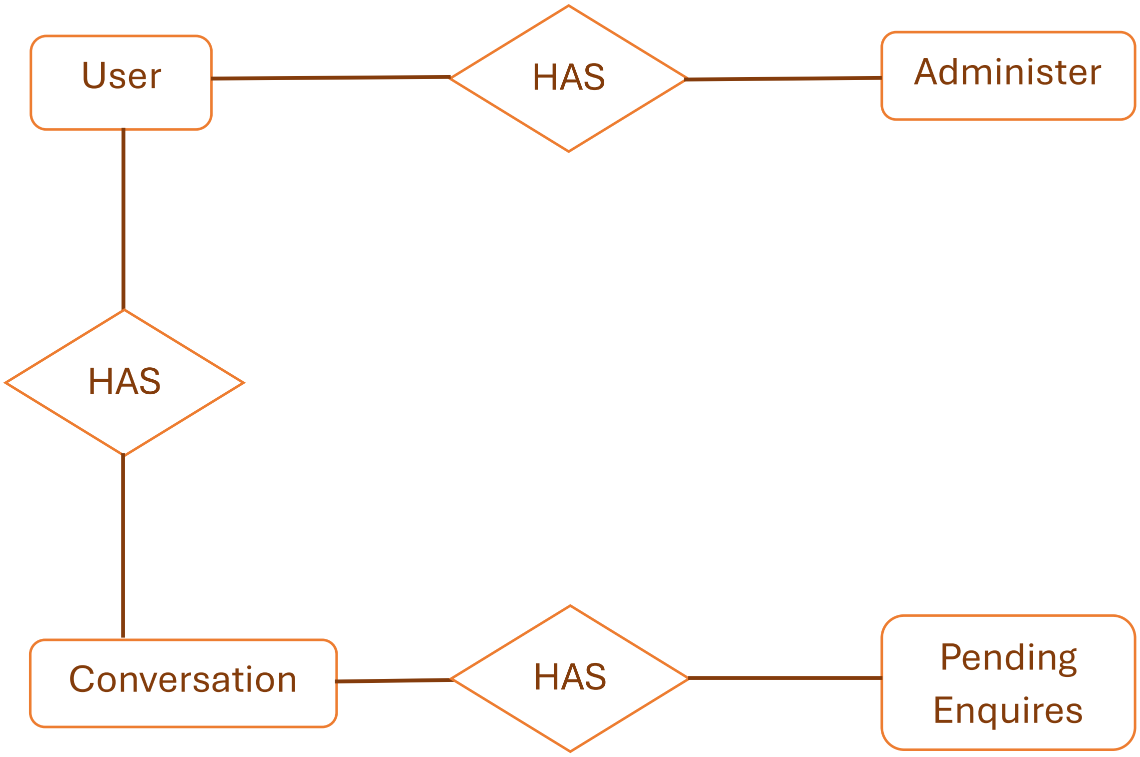
Fallback and Clarification Handling

When the chatbot cannot understand a question, it asks for clarification or suggests related topics instead of giving incorrect information. This maintains accuracy and keeps the conversation meaningful.

Scalability and Future Expansion

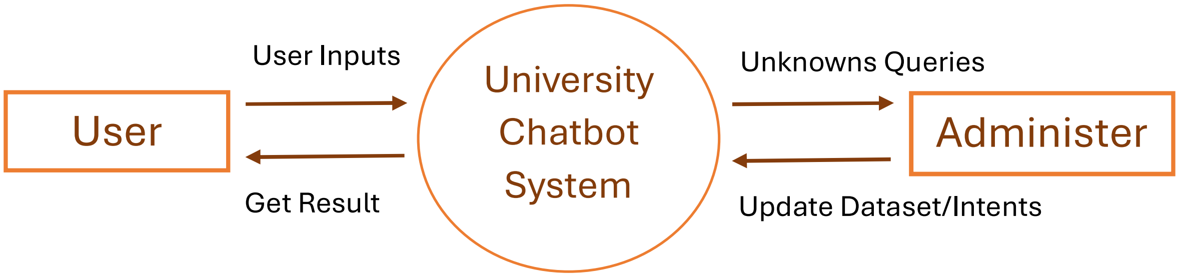
The system is designed to support future upgrades such as multilingual responses, voice interaction, integration with human support, and expanded academic modules. New intents and responses can be added easily as the university's needs grow.

5.3.1 E-R Diagram (ERD)

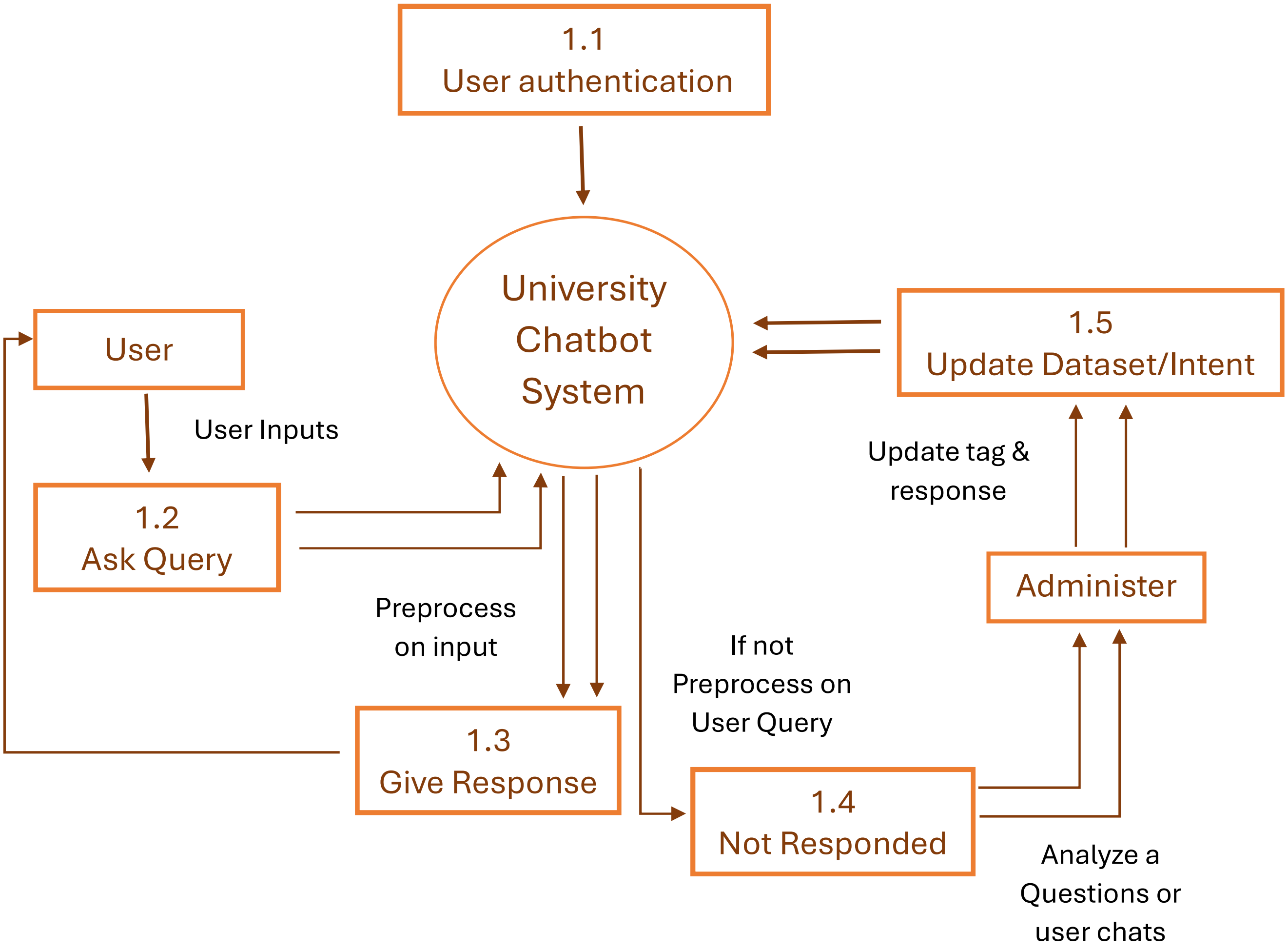


5.3.2 Data Flow Diagram (DFD)

LEVEL 0:



LEVEL 1:



5.3.3 Hardware & Software Environment

Hardware Requirements

These are enough for development and testing:

- **Processor:** Dual-core (Intel i3 or equivalent)
- **RAM:** 4 GB
- **Storage:** 20 GB free space
- **Display:** Standard 1366×768 resolution
- **Input Devices:** Keyboard, Mouse
- **Network:** Basic internet connection for package installation and model training

Software Requirements

1. Operating System

The project can run on any modern operating system that supports Python and MongoDB:

- Windows 10 / 11
- Linux (Ubuntu recommended for deployment)
- macOS (for development)

2. Backend Technologies

These tools form the core backend of the chatbot:

- **Python 3.8+** – Primary programming language.
- **Django Framework** – Used for building the web application, routing and server-side logic.
- **Djongo** – Connector that allows Django to work directly with MongoDB.
- **MongoEngine** – ODM for advanced MongoDB operations.

3. Database

The chatbot uses a NoSQL database for storing intents, sessions and responses:

- **MongoDB Community Server** (local or cloud)
- MongoDB Compass (optional GUI for administration)

4. Machine Learning & NLP Libraries

Libraries used for model training, inference and text processing:

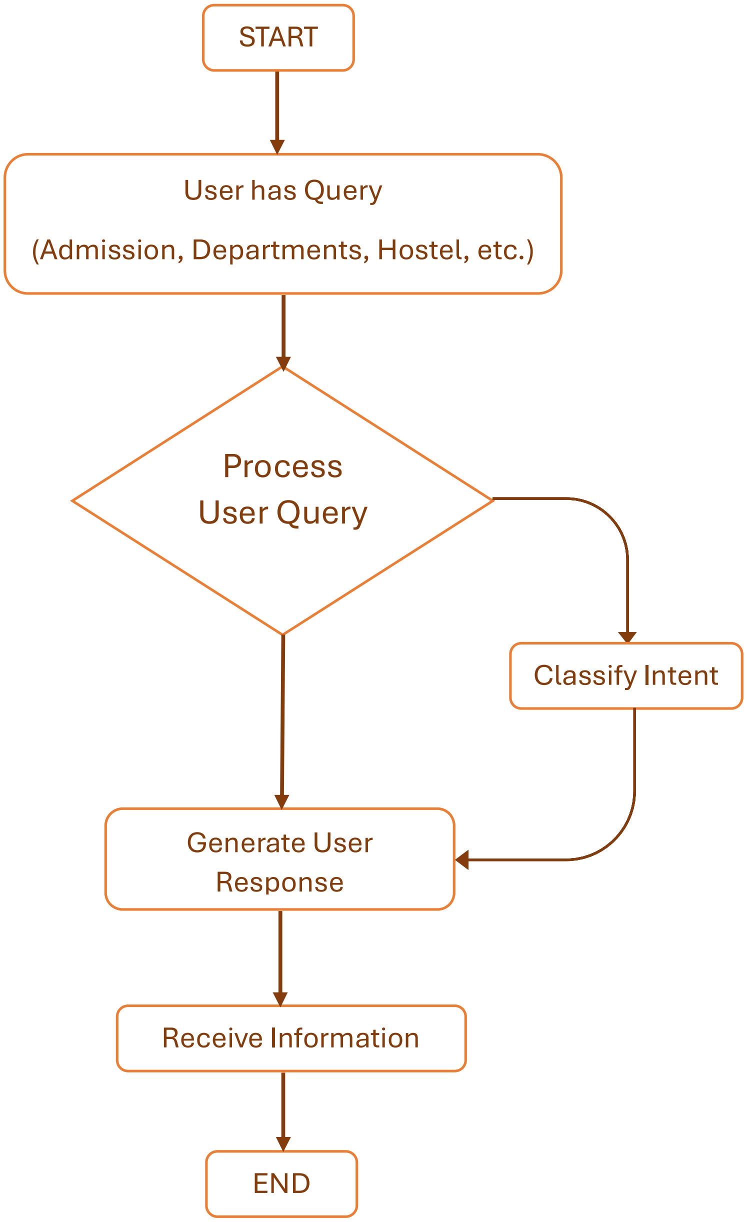
- **PyTorch (torch)** – For building and training the neural network model.
- **NLTK** – For tokenization and basic NLP preprocessing.
- **NumPy** – For vector and matrix operations during training.

5. Frontend Technologies

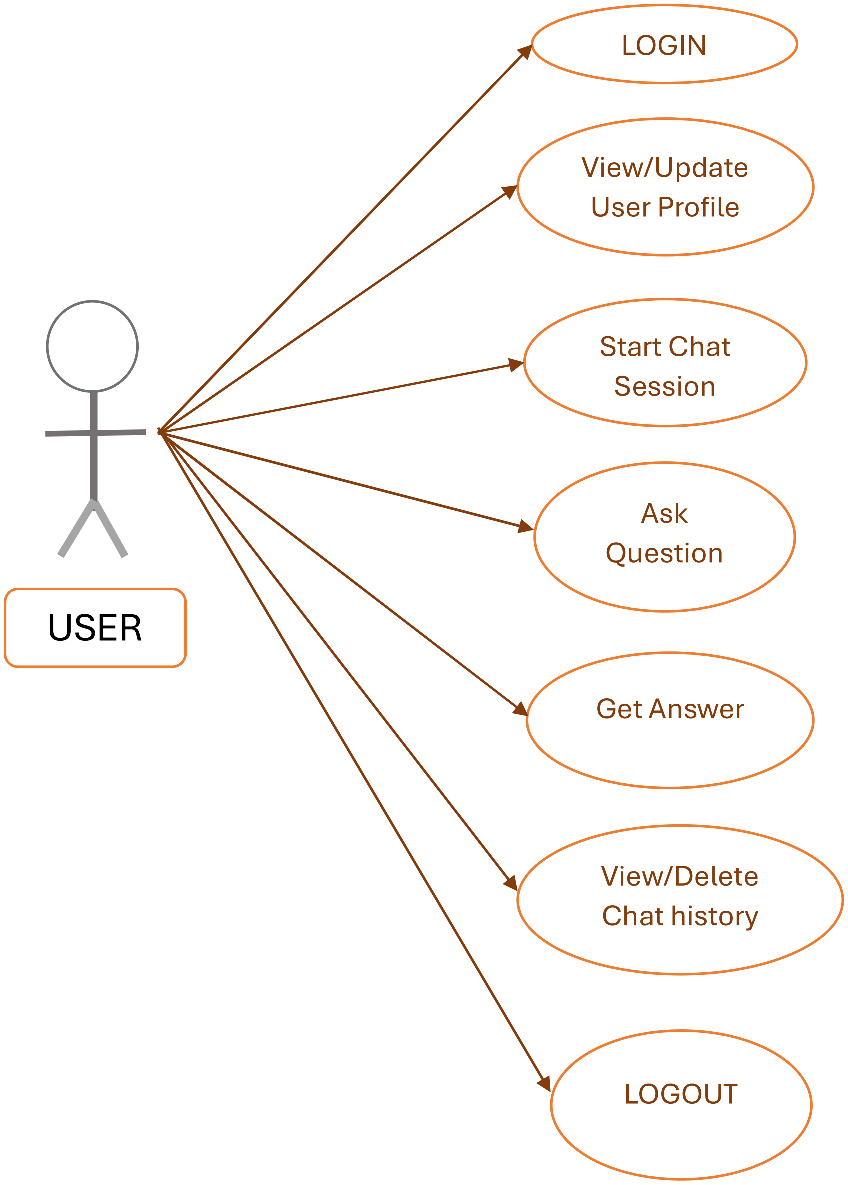
Used to design the chat interface and user experience:

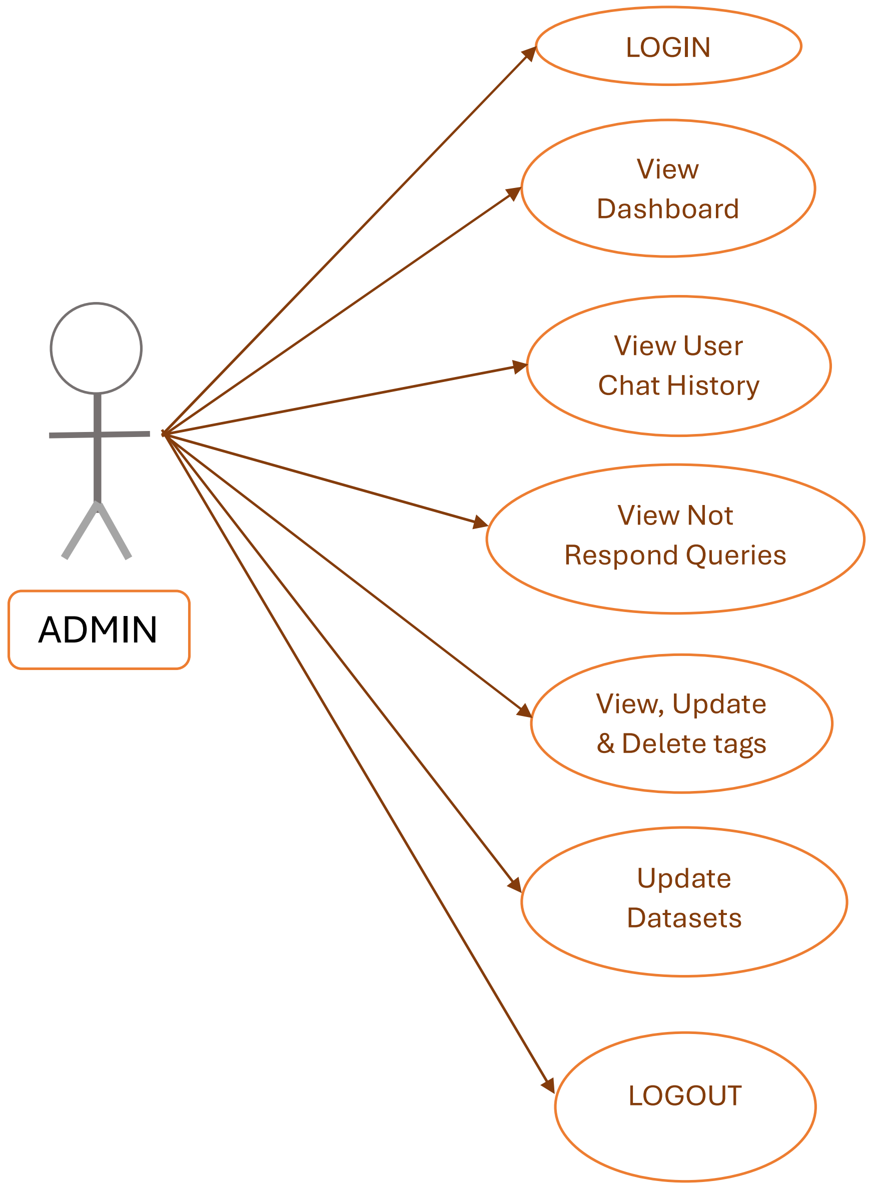
- **HTML5**
- **CSS3**
- **Bootstrap 5** (for layout and styling)
- **JavaScript (AJAX/FETCH)** for sending user queries to Django without reload.

6 Chatbot System Flow Chart

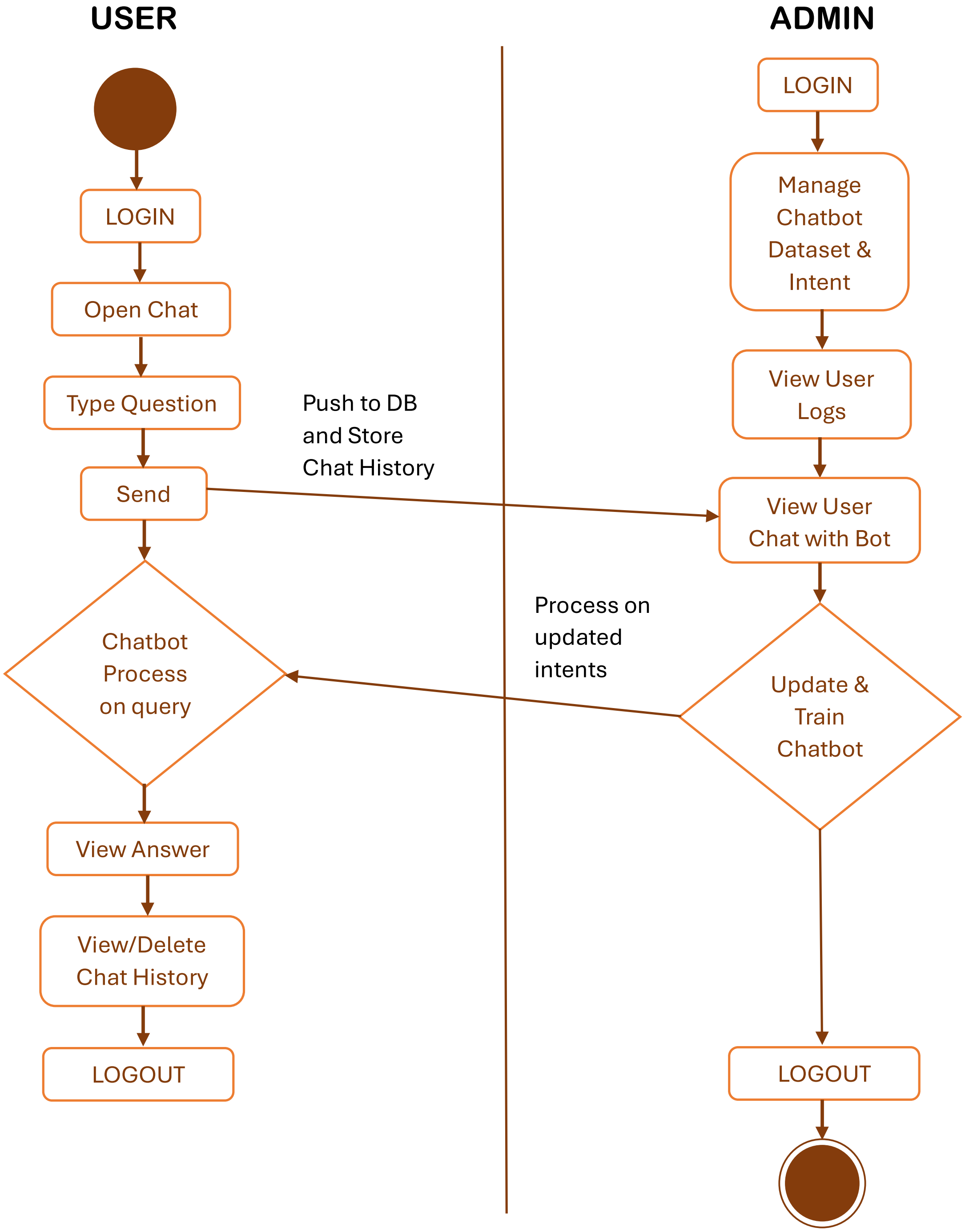


6.1 Use Case Diagram




LOGIN
View Dashboard
View User Chat History
View Not Respond Queries
View, Update & Delete tags
Update Datasets
LOGOUT
ADMIN

6.2 Activity Diagram



7 Data Dictionary

1. User Table Structure (ChatBot_user)

Column Name	Data Type	Description
_id	ObjectId	MongoDB internal ID
id	Integer	Auto-increment user ID
full_name	String	User's full name
username	String	Unique login username
email	String	User email address
password	String	Plain password (should be hashed in production)
gender	String	male / female
role	String	student / parent / faculty / staff / other
profile_image	String	Profile picture path
joined_date	DateTime	Registration timestamp
status	String	active / inactive

2. Admin User Table (ChatBot_adminuser)

Column Name	Data Type	Description
_id	ObjectId	MongoDB auto ID
username	String	Admin username
email	String	Admin email
password	String	Admin password

3. Pending Questions Table (ChatBot_pendingquestion)

Field Name	Data Type	Description
_id	ObjectId	MongoDB internal ID
id	Integer	Unique question ID
user_id	Integer	FK → User.id
username	String	Username of the person who asked
question_text	String	User's actual question
model_tag	String	Chatbot's predicted tag
confidence	Float	Prediction confidence (0-1)
created_at	DateTime	When question was asked
is_resolved	Boolean	false = pending, true = handled
admin_note	String	Admin explanation / fix note

4. Conversation Table (ChatBot_conversation)

Column Name	Type	Description
_id	ObjectId	Unique conversation ID
id	Integer	Conversation row ID
user_id	Integer	FK → User.id
message	String	Chat message content
is_bot	Boolean	true = bot message, false = user
created_at	DateTime	Message timestamp

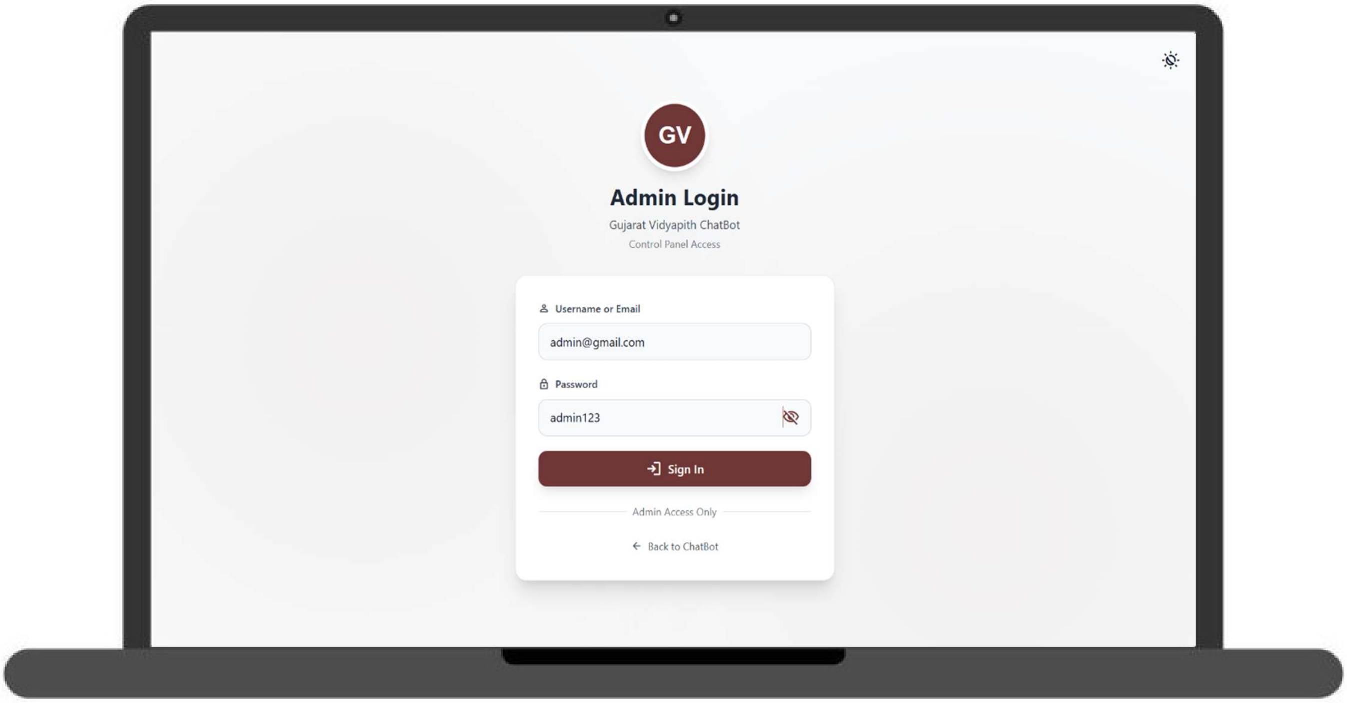
5. Chat Dataset (intents.json)

Field	Type	Description
tag	String	Intent identifier
patterns	Array	User input examples
responses	Array	Bot output responses

7.1 Ui Design

Admin Dashboard

1. Admin Login



GV

Admin Login

Gujarat Vidyapith ChatBot

Control Panel Access

Username or Email: admin@gmail.com

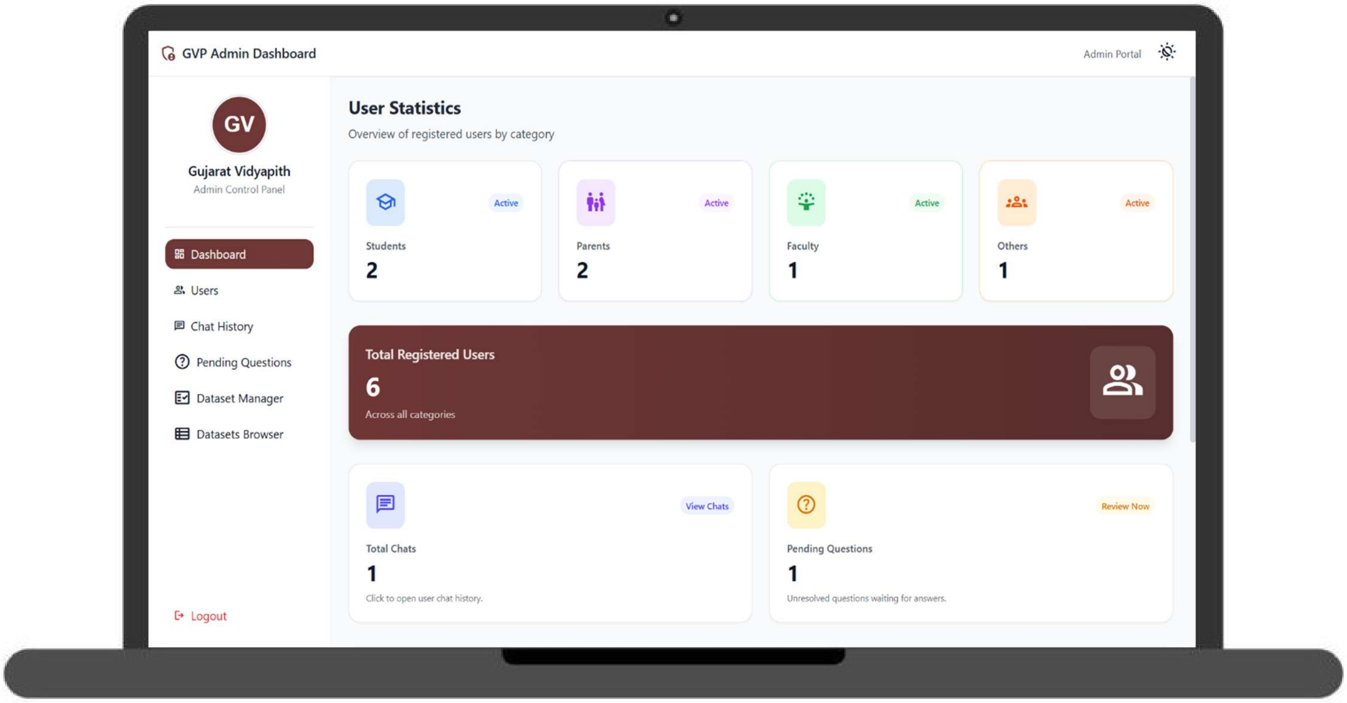
Password: admin123

Sign In

Admin Access Only

← Back to ChatBot

2. Admin Dashboard & User Statistics



GVP Admin Dashboard

Admin Portal

GV

Gujarat Vidyapith

Admin Control Panel

- Dashboard
- Users
- Chat History
- Pending Questions
- Dataset Manager
- Datasets Browser

Logout

User Statistics

Overview of registered users by category

Category	Status	Count
Students	Active	2
Parents	Active	2
Faculty	Active	1
Others	Active	1

Total Registered Users

6

Across all categories

Total Chats — View Chats

1

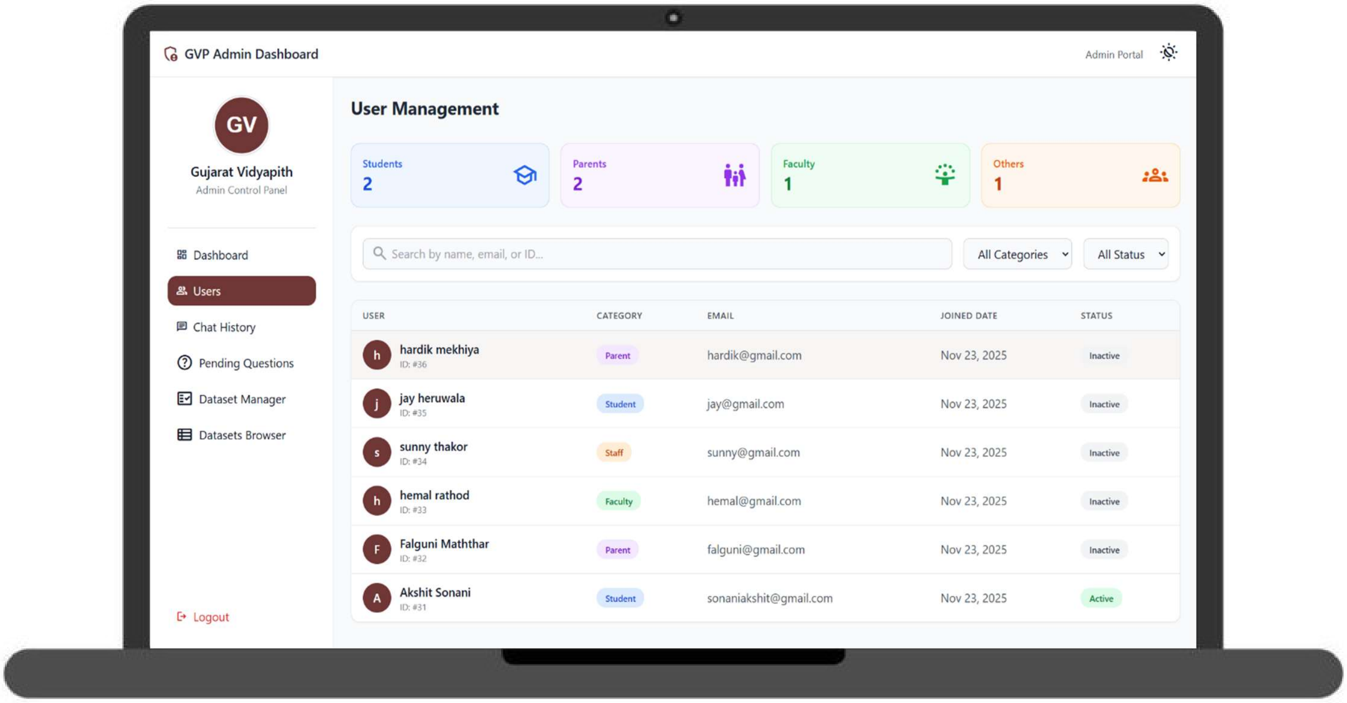
Click to open user chat history.

Pending Questions — Review Now

1

Unresolved questions waiting for answers.

3. User Management



User Management

Students 2

Parents 2

Faculty 1

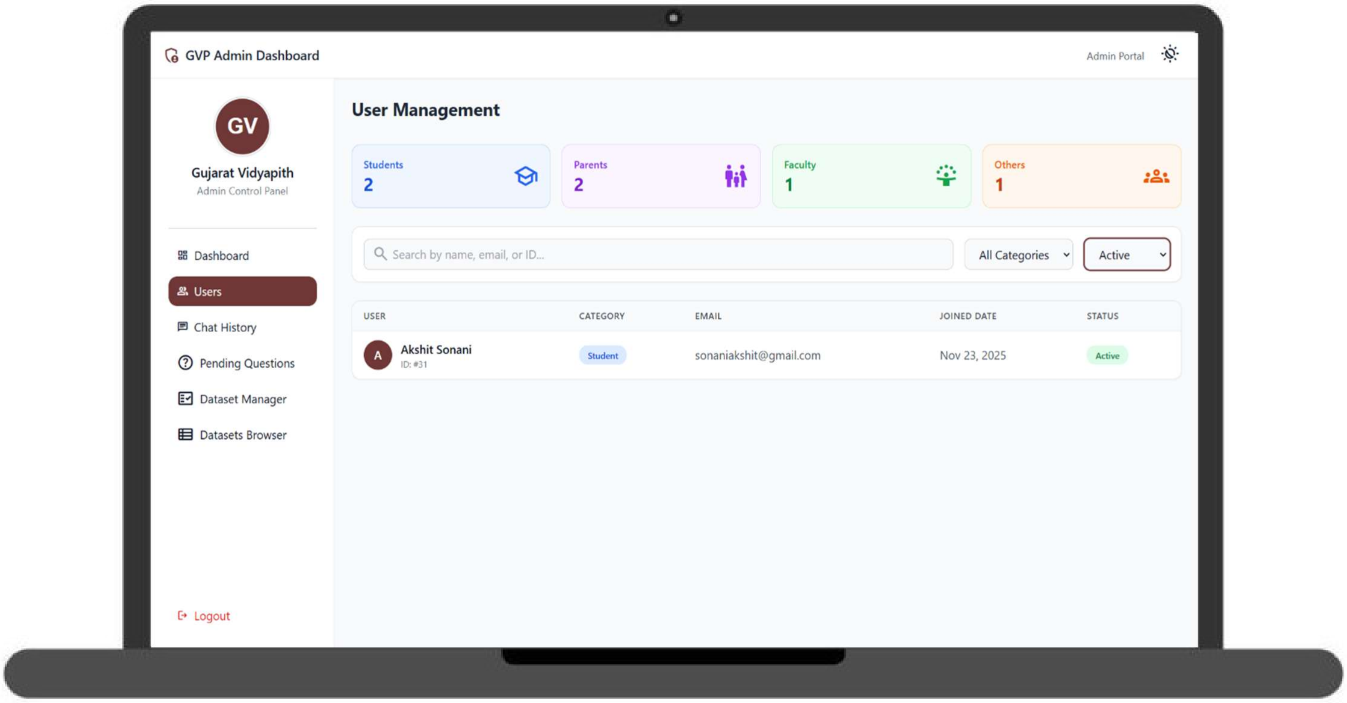
Others 1

Search by name, email, or ID...

All Categories

All Status

USER	CATEGORY	EMAIL	JOINED DATE	STATUS
h hardik mekhiya ID: #36	Parent	hardik@gmail.com	Nov 23, 2025	Inactive
j jay heruwala ID: #35	Student	jay@gmail.com	Nov 23, 2025	Inactive
s sunny thakor ID: #34	Staff	sunny@gmail.com	Nov 23, 2025	Inactive
h hemal rathod ID: #33	Faculty	hemal@gmail.com	Nov 23, 2025	Inactive
F Falguni Maththar ID: #32	Parent	falguni@gmail.com	Nov 23, 2025	Inactive
A Akshit Sonani ID: #31	Student	sonaniakshit@gmail.com	Nov 23, 2025	Active



User Management

Students 2

Parents 2

Faculty 1

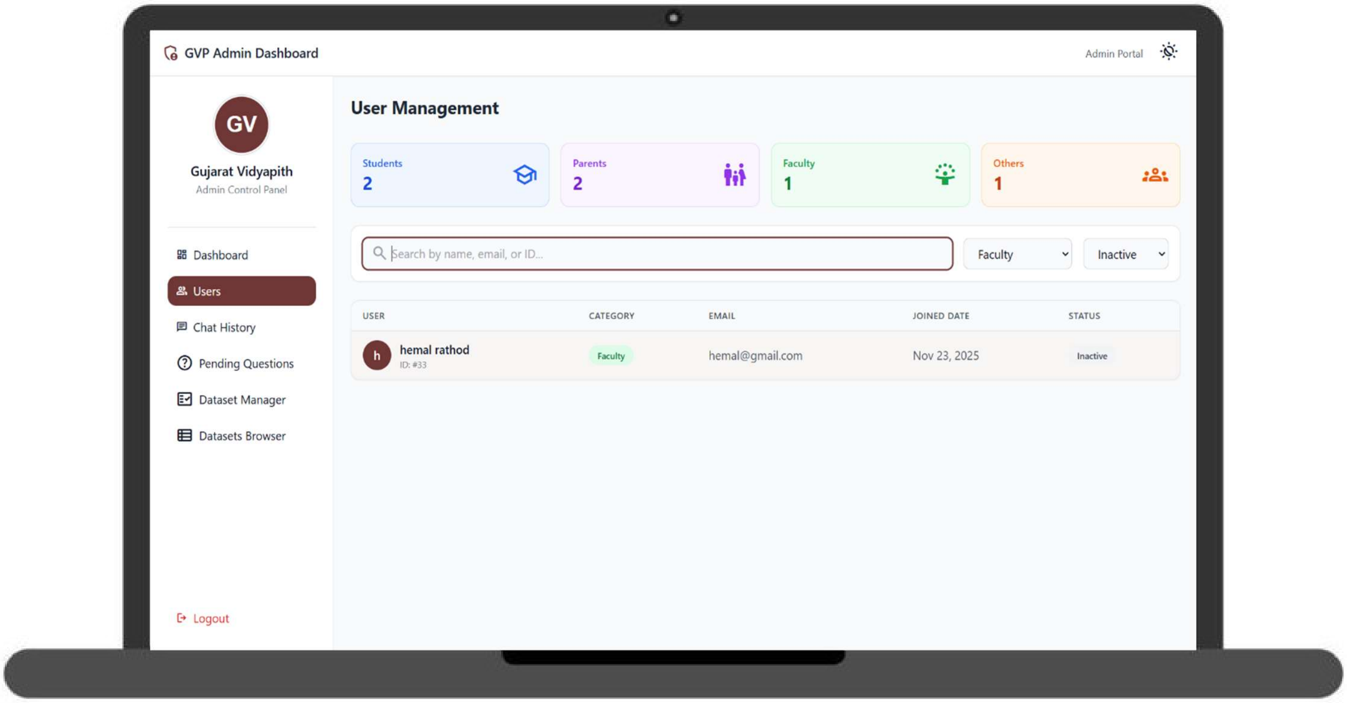
Others 1

Search by name, email, or ID...

All Categories

Active

USER	CATEGORY	EMAIL	JOINED DATE	STATUS
A Akshit Sonani ID: #31	Student	sonaniakshit@gmail.com	Nov 23, 2025	Active



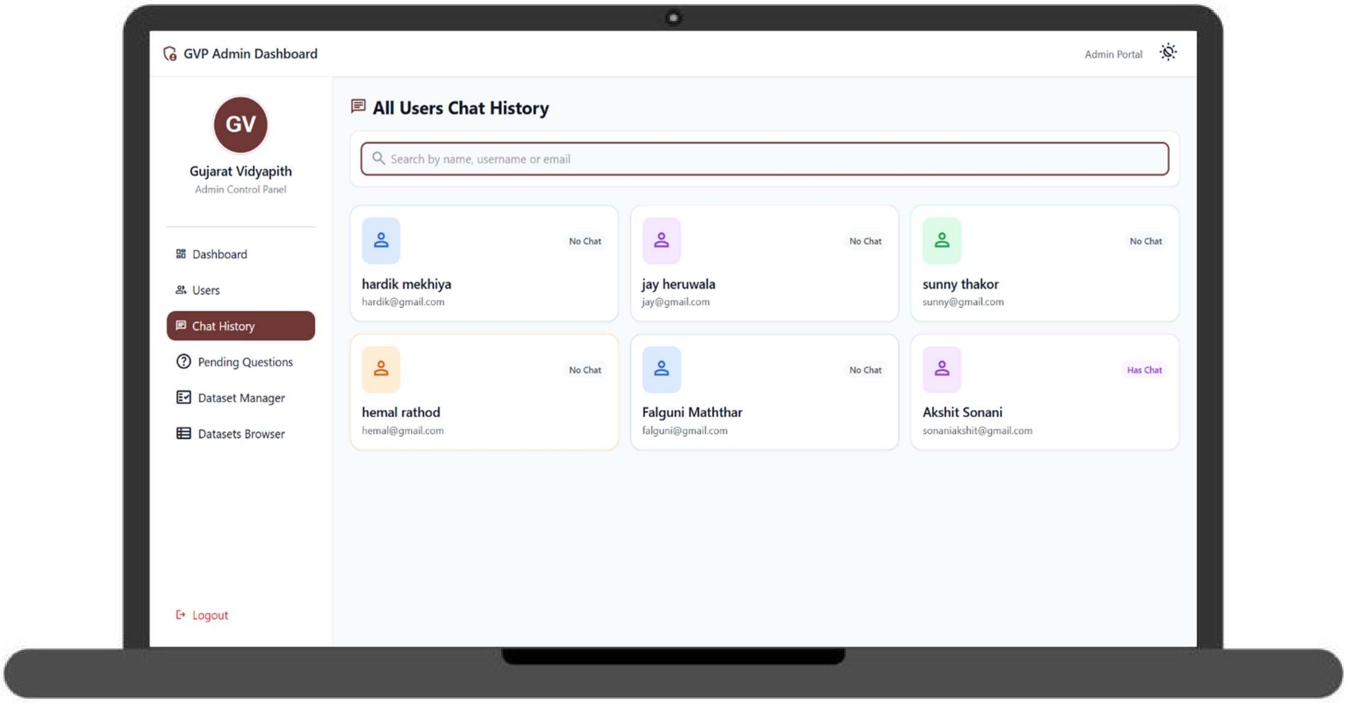
User Management

Students	Parents	Faculty	Others
2	2	1	1

Search by name, email, or ID... Faculty Inactive

USER	CATEGORY	EMAIL	JOINED DATE	STATUS
h hemal rathod ID: #33	Faculty	hemal@gmail.com	Nov 23, 2025	Inactive

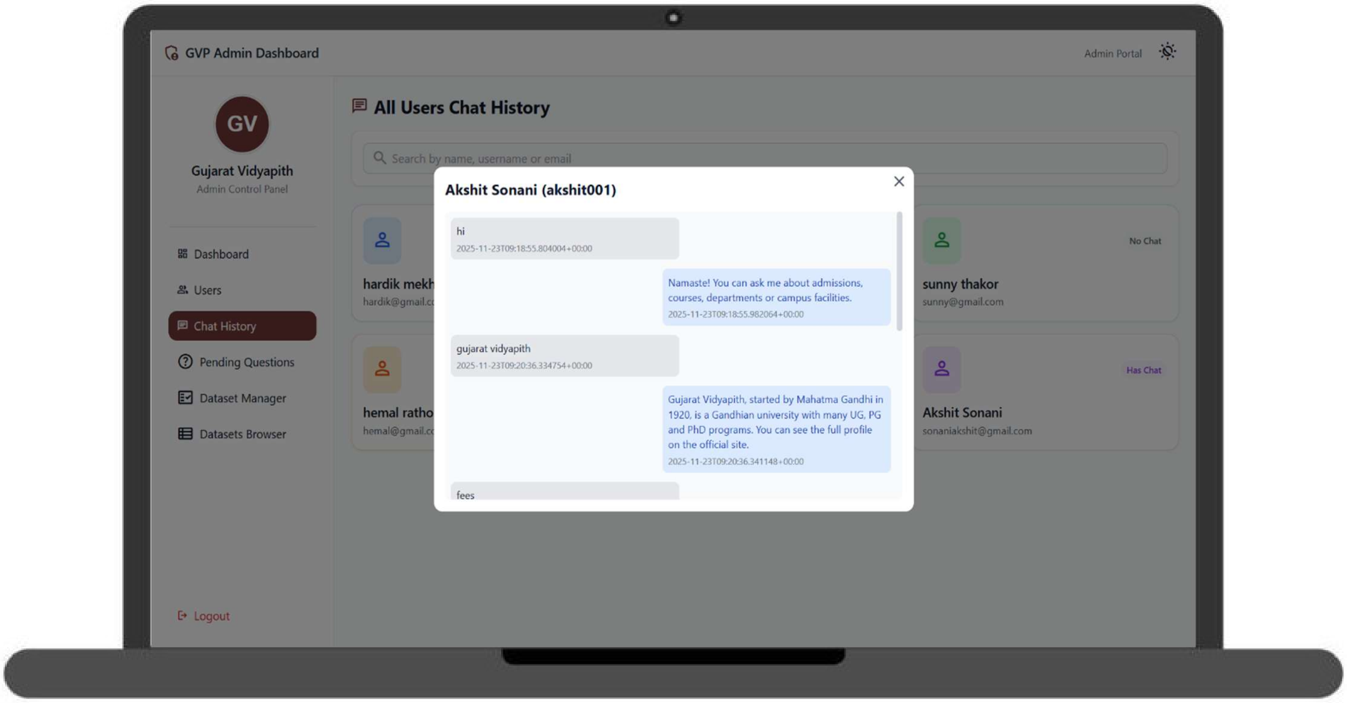
4. All Users Chat History



All Users Chat History

Search by name, username or email

Name	Email	Status
hardik mekhiya	hardik@gmail.com	No Chat
jay heruwala	jay@gmail.com	No Chat
sunny thakor	sunny@gmail.com	No Chat
hemal rathod	hemal@gmail.com	No Chat
Falguni Maththar	falguni@gmail.com	No Chat
Akshit Sonani	sonaniakshit@gmail.com	Has Chat



hardik mekh
hardik@gmail.c

hemal ratho
hemal@gmail.c

sunny thakor
sunny@gmail.com

Akshit Sonani
sonaniakshit@gmail.com

Akshit Sonani (akshit001)

hi
2025-11-23T09:18:55.804004+00:00

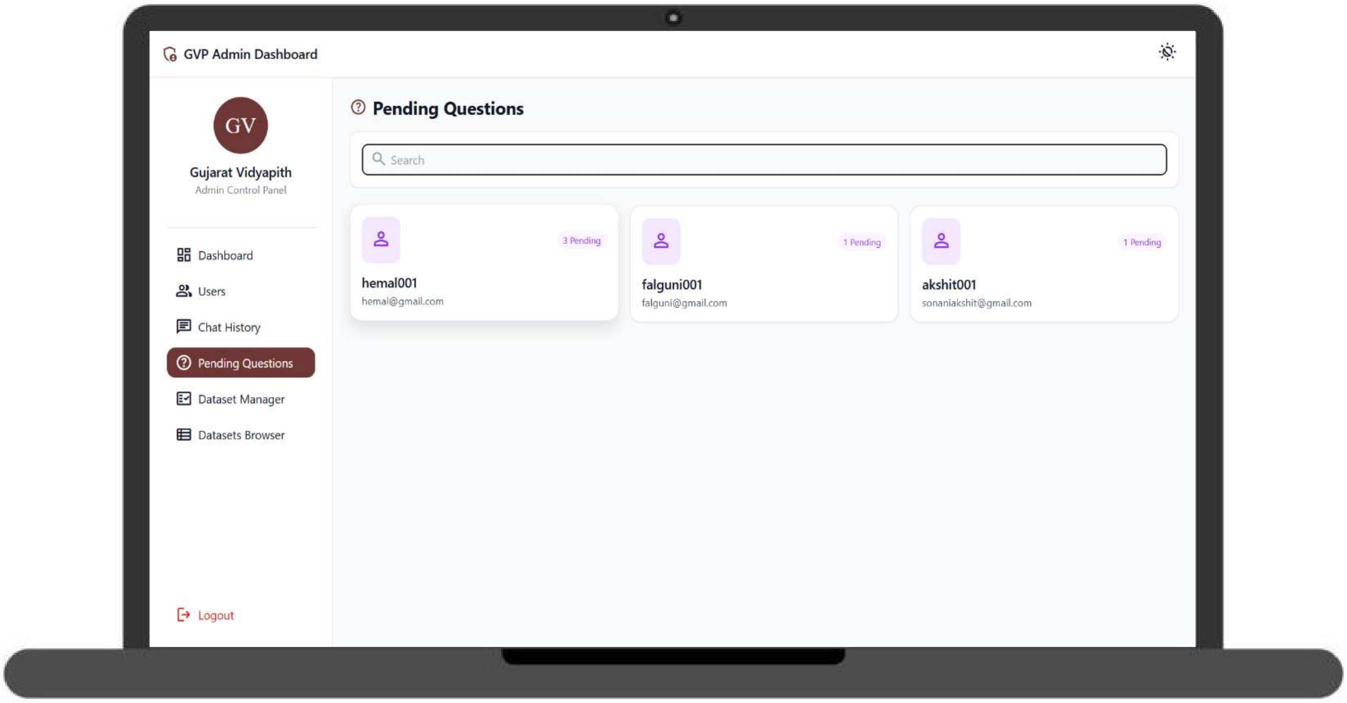
Namaste! You can ask me about admissions, courses, departments or campus facilities.
2025-11-23T09:18:55.982064+00:00

gujarat vidyapith
2025-11-23T09:20:36.334754+00:00

Gujarat Vidyapith, started by Mahatma Gandhi in 1920, is a Gandhian university with many UG, PG and PhD programs. You can see the full profile on the official site.
2025-11-23T09:20:36.341148+00:00

fees

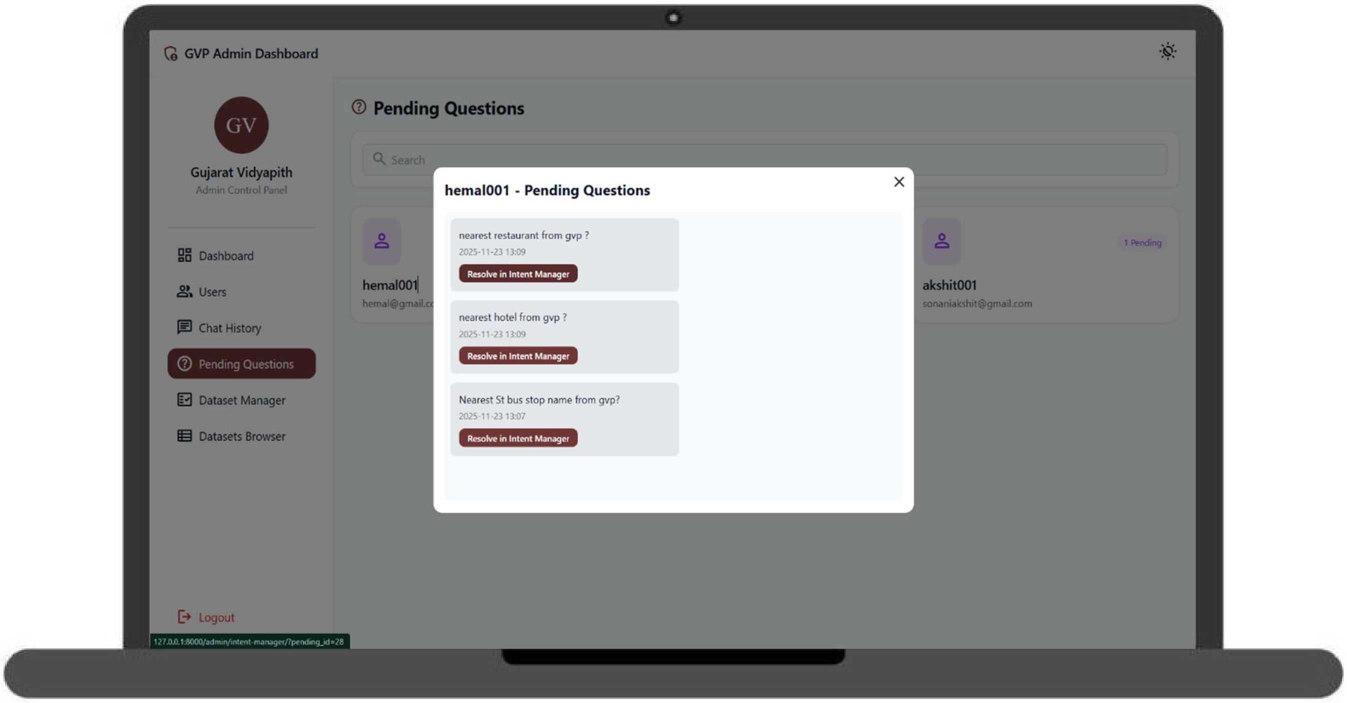
5. Pending Questions



hemal001 — 3 Pending
hemal@gmail.com

falguni001 — 1 Pending
falguni@gmail.com

akshit001 — 1 Pending
sonaniakshit@gmail.com



Pending Questions

hemal001 - Pending Questions

nearest restaurant from gvp ?
2025-11-23 13:09

nearest hotel from gvp ?
2025-11-23 13:09

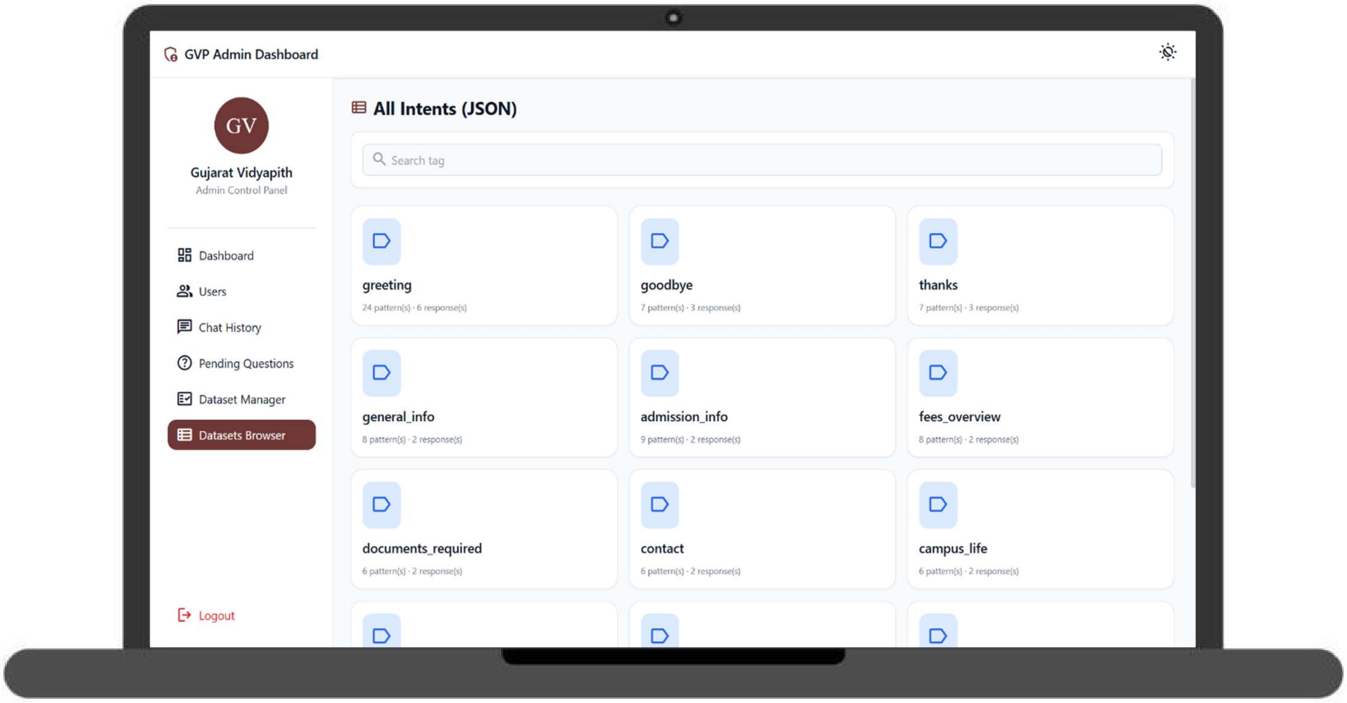
Nearest St bus stop name from gvp?
2025-11-23 13:07

hemal001
hemal@gmail.c

akshit001
sonaniakshit@gmail.com

127.0.0.1:8000/admin/intent-manager/?pending_id=28

6. Datasets Browser



All Intents (JSON)

greeting
24 pattern(s) · 6 response(s)

goodbye
7 pattern(s) · 3 response(s)

thanks
7 pattern(s) · 3 response(s)

general_info
8 pattern(s) · 2 response(s)

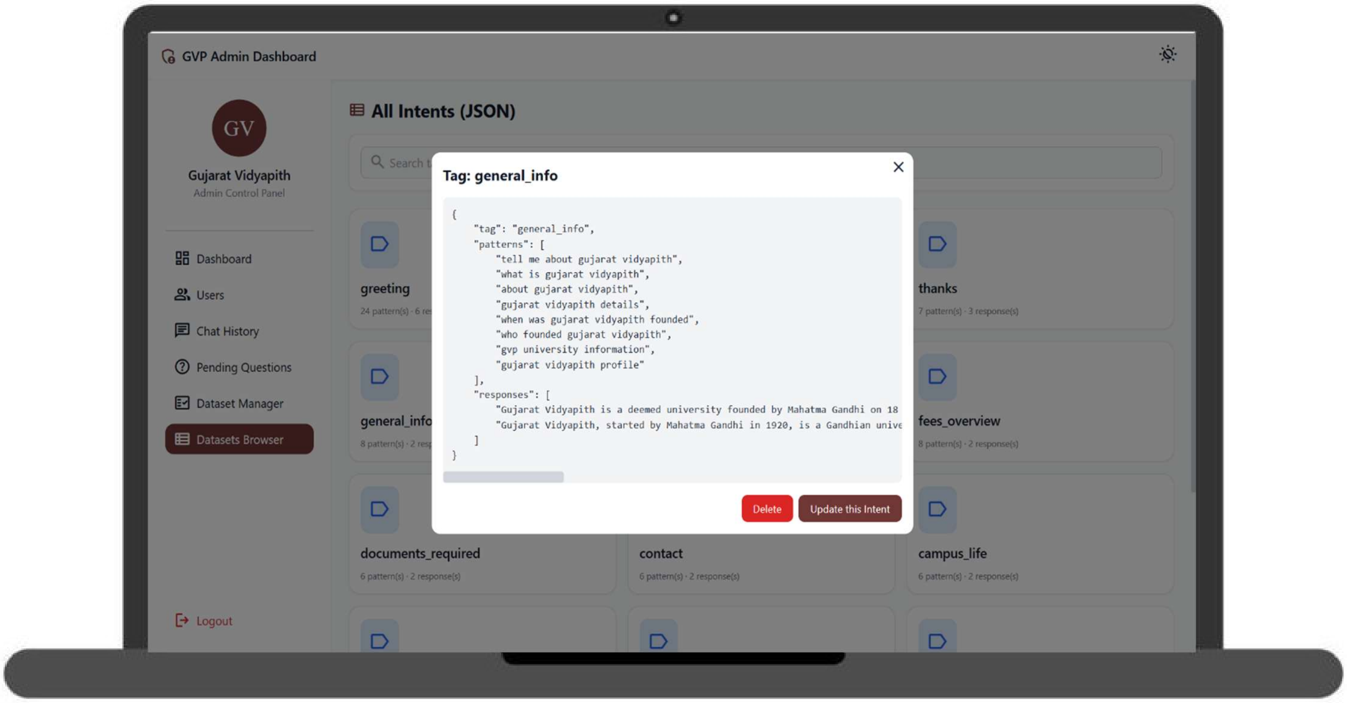
admission_info
9 pattern(s) · 2 response(s)

fees_overview
8 pattern(s) · 2 response(s)

documents_required
6 pattern(s) · 2 response(s)

contact
6 pattern(s) · 2 response(s)

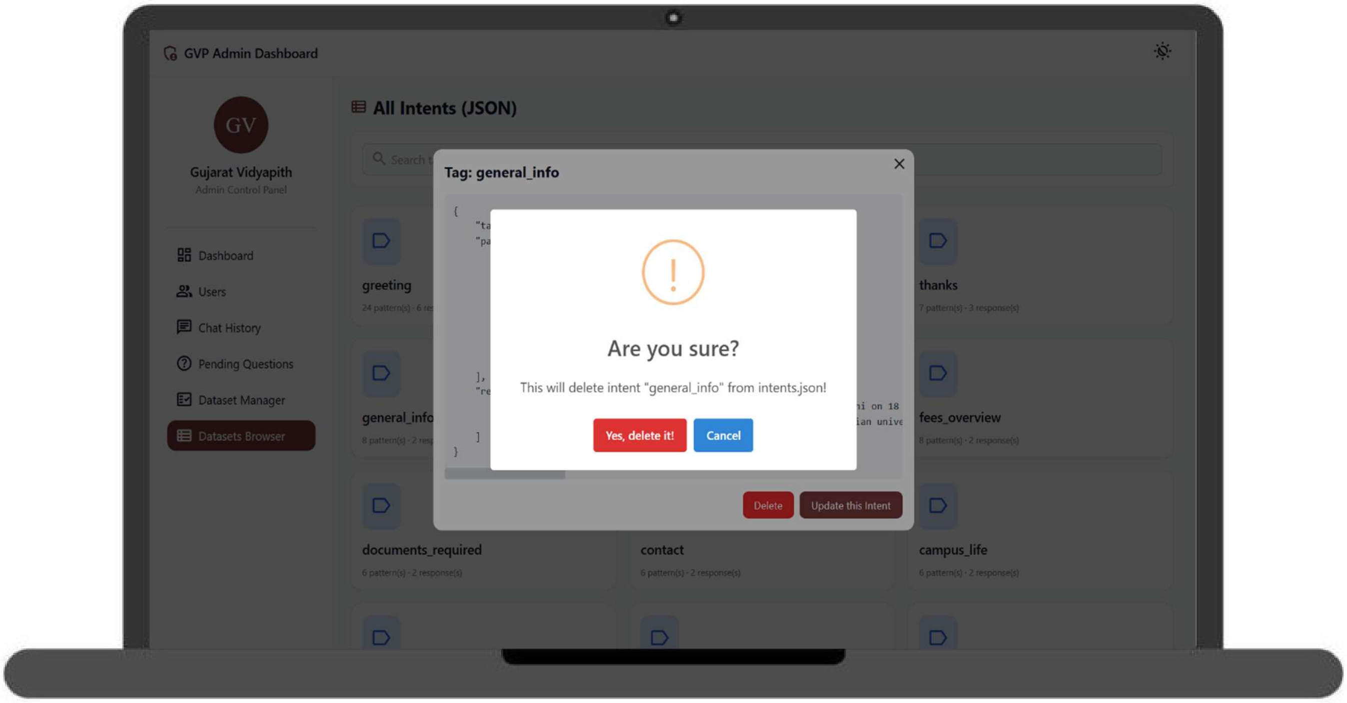
campus_life
6 pattern(s) · 2 response(s)



Tag: general_info

```
{
    "tag": "general_info",
    "patterns": [
        "tell me about gujarat vidyapith",
        "what is gujarat vidyapith",
        "about gujarat vidyapith",
        "gujarat vidyapith details",
        "when was gujarat vidyapith founded",
        "who founded gujarat vidyapith",
        "gvp university information",
        "gujarat vidyapith profile"
    ],
    "responses": [
        "Gujarat Vidyapith is a deemed university founded by Mahatma Gandhi on 18
        "Gujarat Vidyapith, started by Mahatma Gandhi in 1920, is a Gandhian unive
    ]
}
```

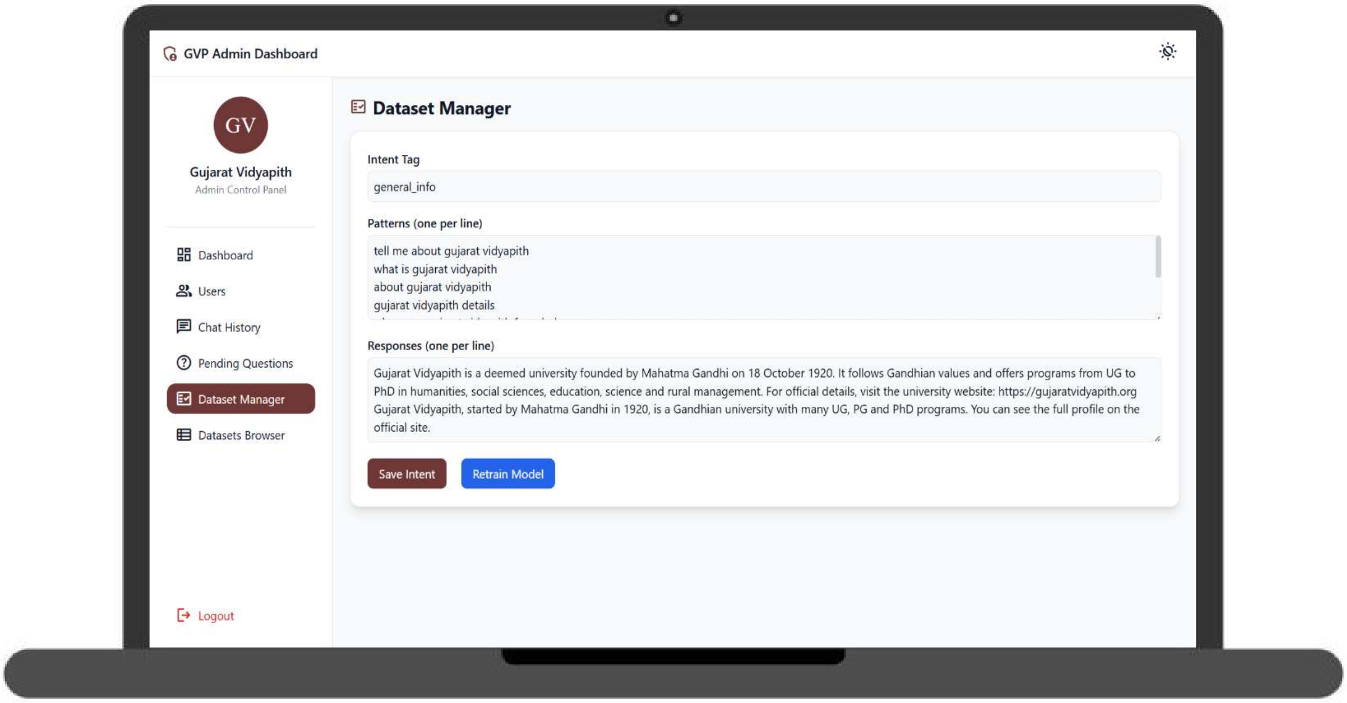
7. Delete above(general_info) intent from JSON file



Are you sure?

This will delete intent "general_info" from intents.json!

8. Update above(general_info) Intent



Dataset Manager

Intent Tag

general_info

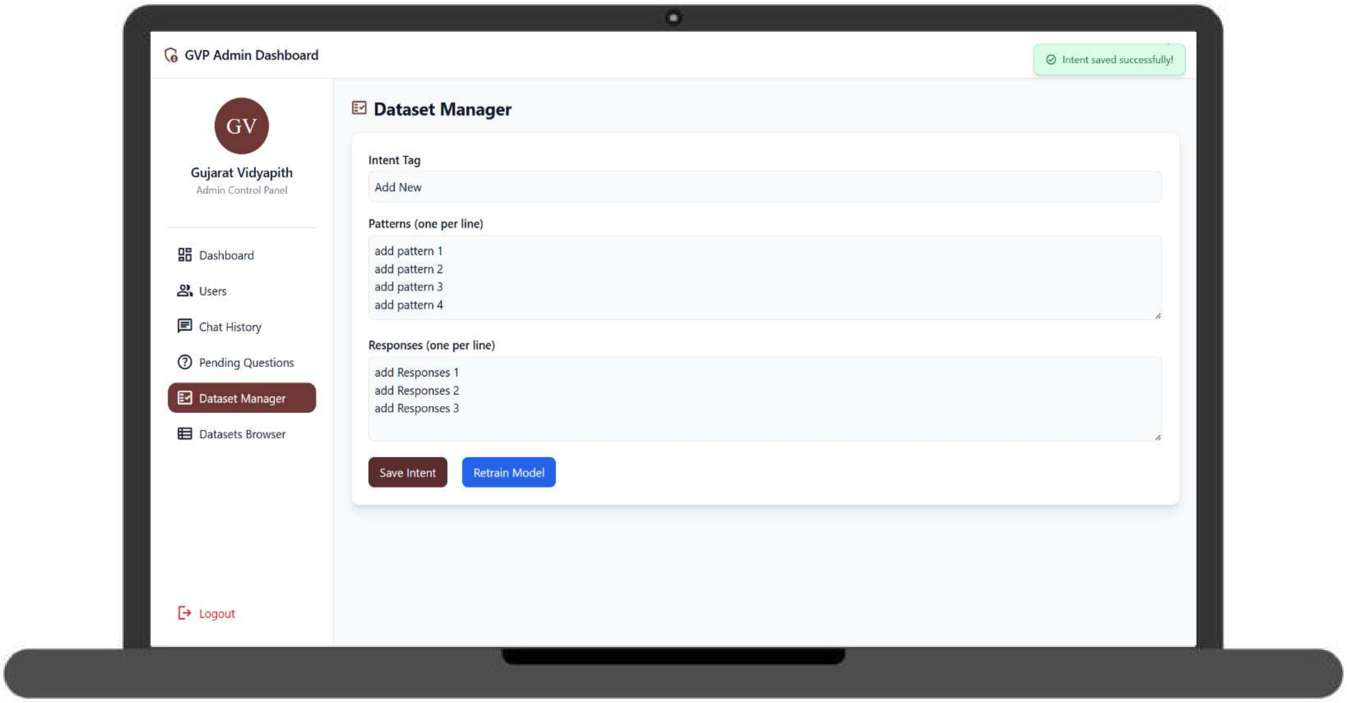
Patterns (one per line)

tell me about gujarat vidyapith
what is gujarat vidyapith
about gujarat vidyapith
gujarat vidyapith details

Responses (one per line)

Gujarat Vidyapith is a deemed university founded by Mahatma Gandhi on 18 October 1920. It follows Gandhian values and offers programs from UG to PhD in humanities, social sciences, education, science and rural management. For official details, visit the university website: https://gujaratvidyapith.org
Gujarat Vidyapith, started by Mahatma Gandhi in 1920, is a Gandhian university with many UG, PG and PhD programs. You can see the full profile on the official site.

9. Add new Intent



Intent saved successfully!

Dataset Manager

Intent Tag

Add New

Patterns (one per line)

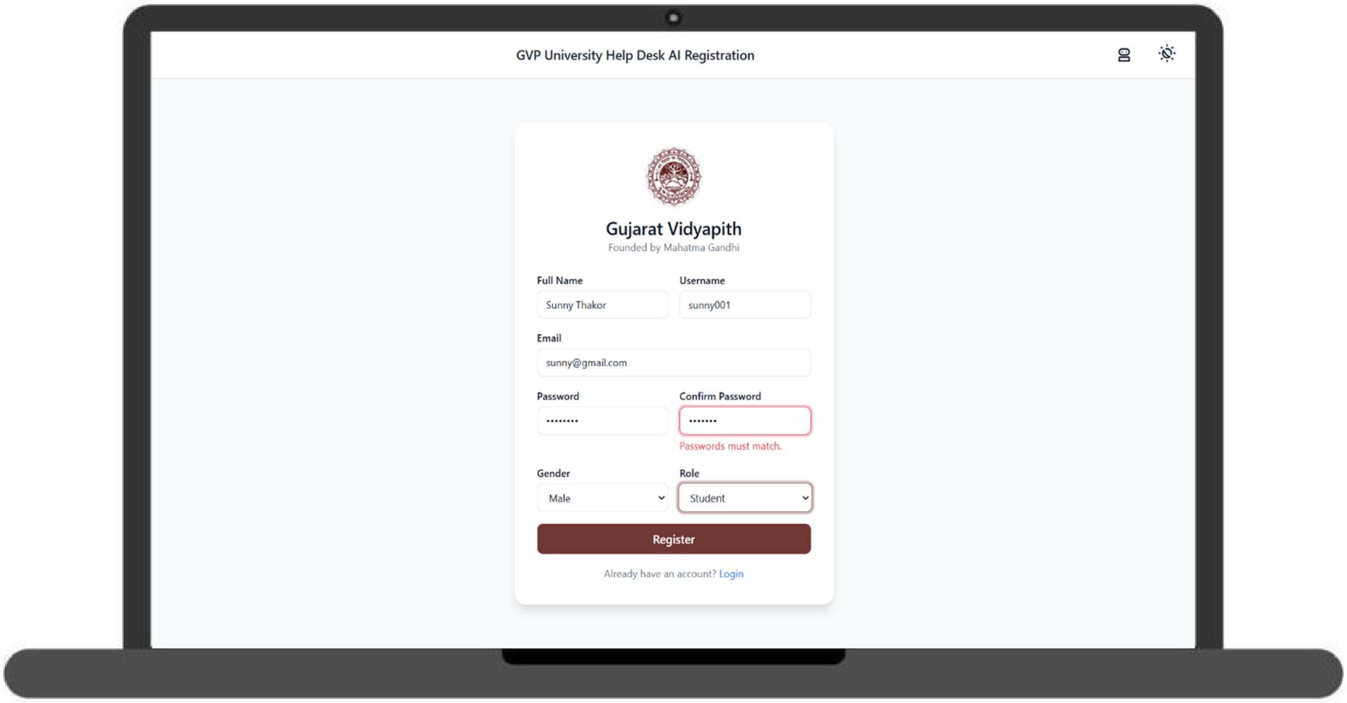
add pattern 1
add pattern 2
add pattern 3
add pattern 4

Responses (one per line)

add Responses 1
add Responses 2
add Responses 3

User Side Pages

1. User Registration



GVP University Help Desk AI Registration

Gujarat Vidyapith

Founded by Mahatma Gandhi

Full Name: Sunny Thakor

Username: sunny001

Email: sunny@gmail.com

Password: ••••••••

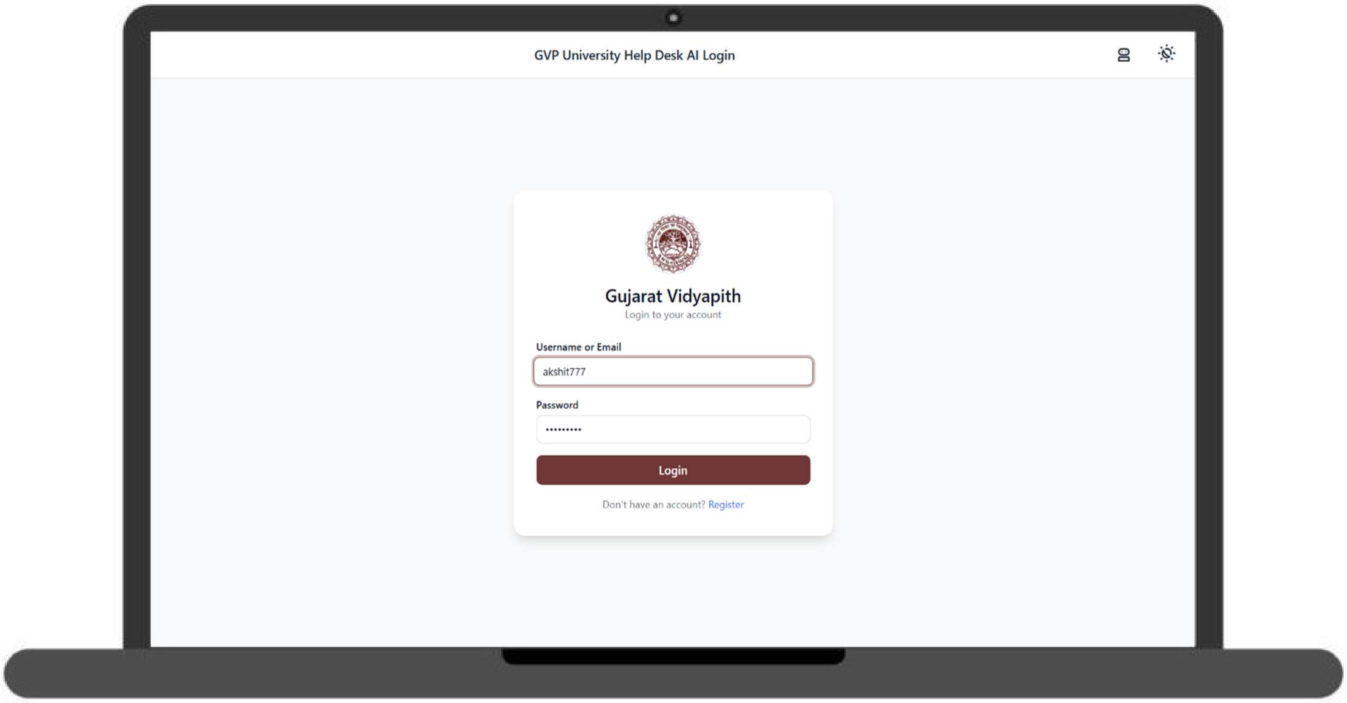
Confirm Password: •••••••

Passwords must match.

Gender: Male

Role: Student

2. User Login



GVP University Help Desk AI Login

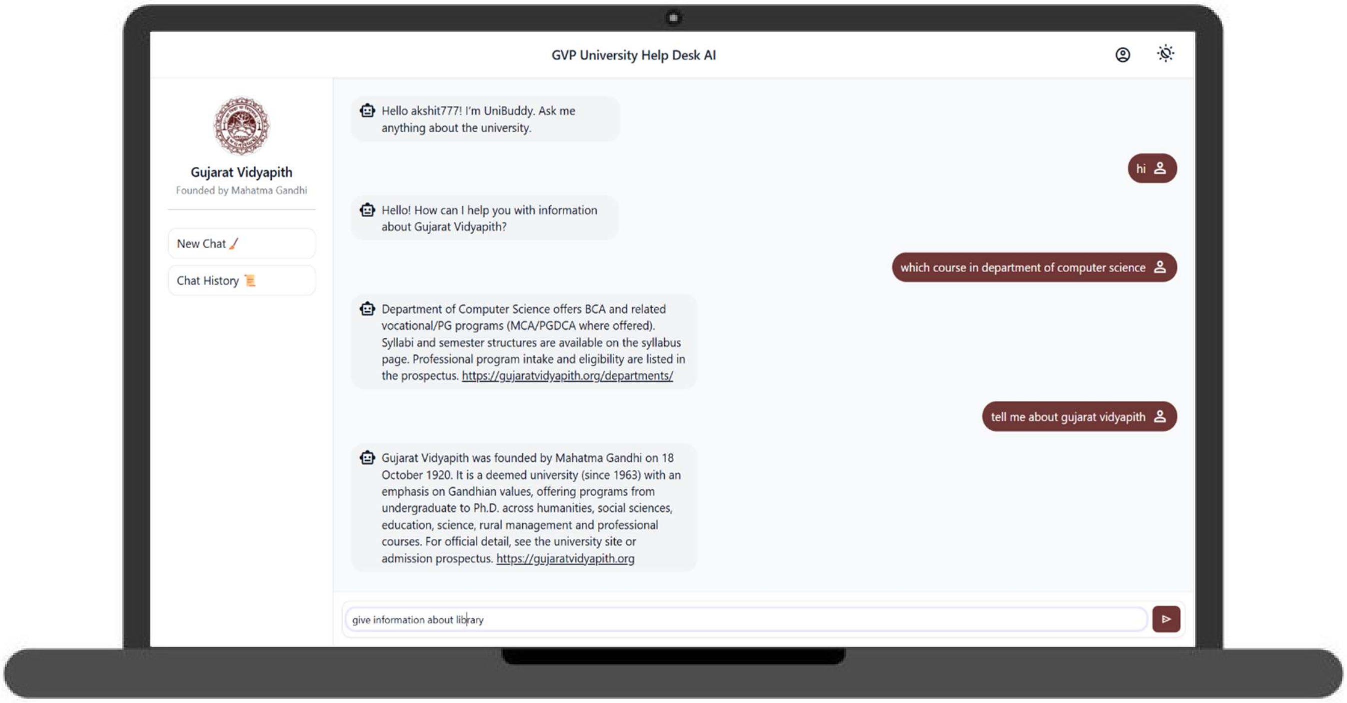
Gujarat Vidyapith

Login to your account

Username or Email: akshit777

Password: •••••••••

3. GVP Chatbot



Hello akshit777! I'm UniBuddy. Ask me anything about the university.

hi

Hello! How can I help you with information about Gujarat Vidyapith?

which course in department of computer science

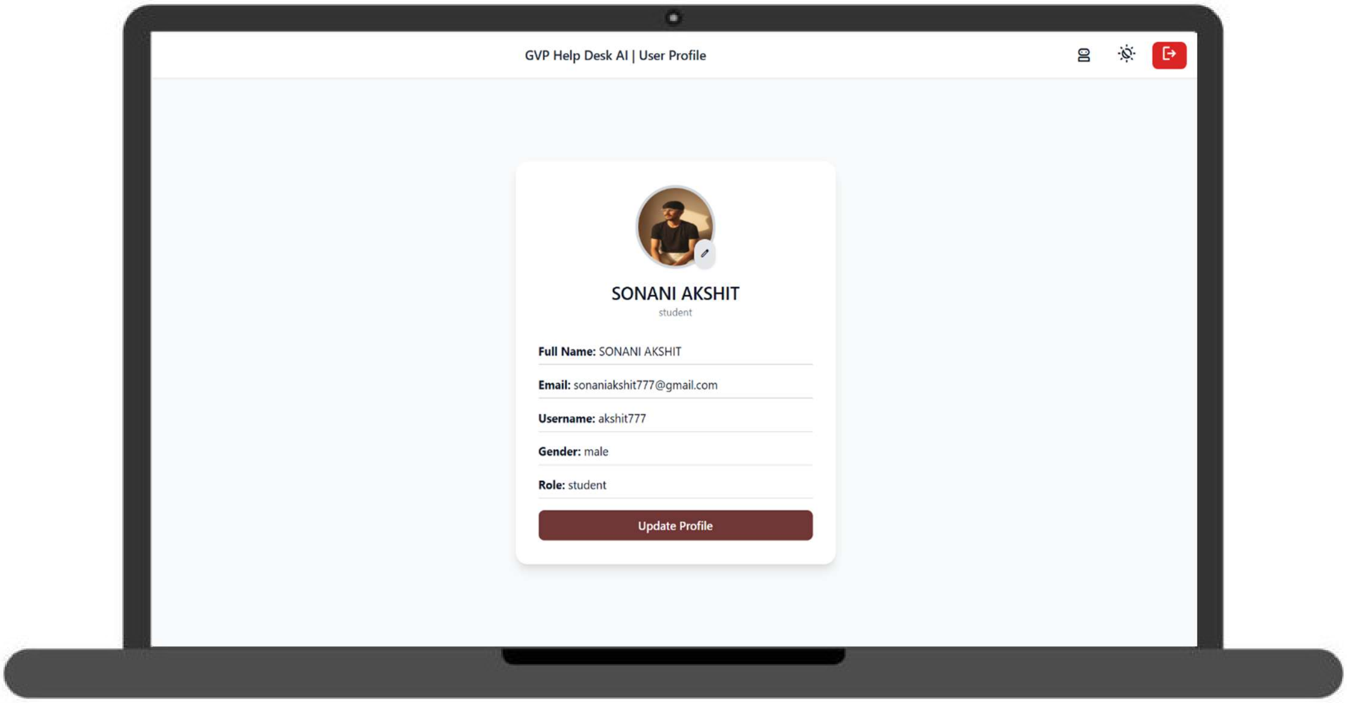
Department of Computer Science offers BCA and related vocational/PG programs (MCA/PGDCA where offered). Syllabi and semester structures are available on the syllabus page. Professional program intake and eligibility are listed in the prospectus. https://gujaratvidyapith.org/departments/

tell me about gujarat vidyapith

Gujarat Vidyapith was founded by Mahatma Gandhi on 18 October 1920. It is a deemed university (since 1963) with an emphasis on Gandhian values, offering programs from undergraduate to Ph.D. across humanities, social sciences, education, science, rural management and professional courses. For official detail, see the university site or admission prospectus. https://gujaratvidyapith.org

give information about library

4. User Profile



Full Name: SONANI AKSHIT

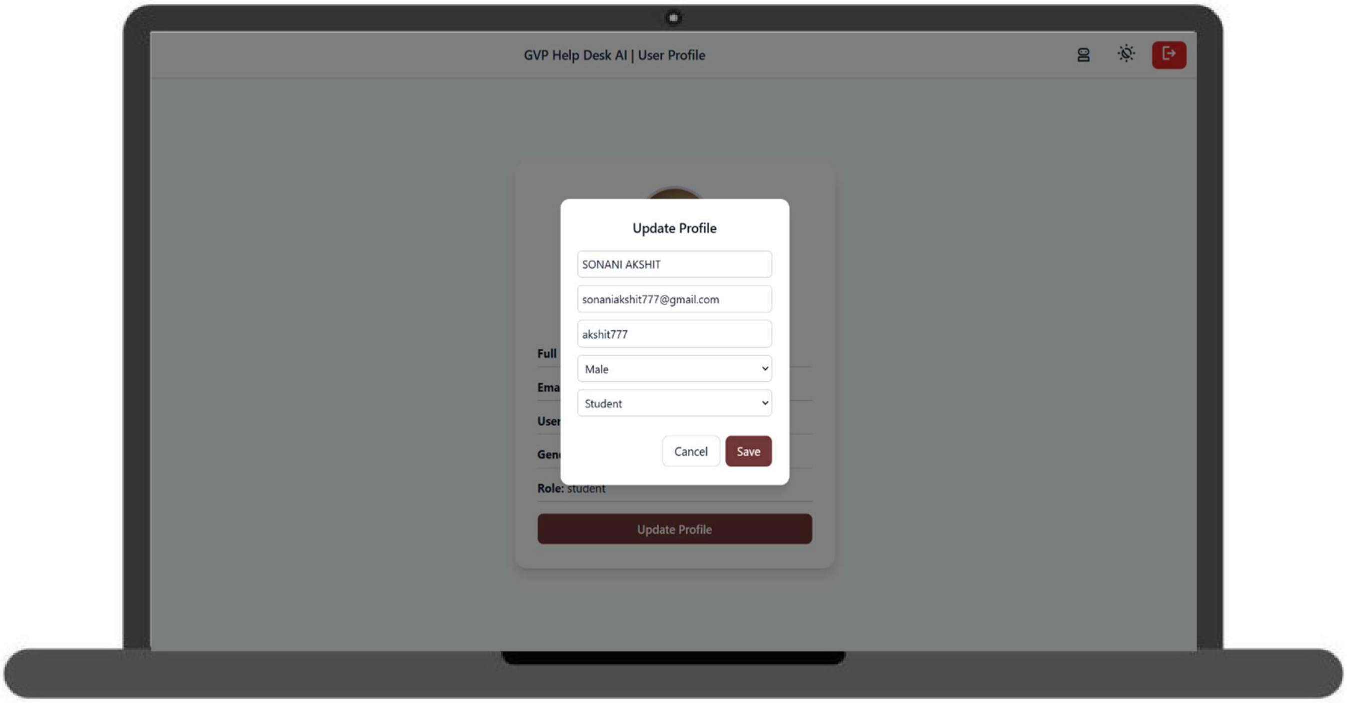
Email: sonaniakshit777@gmail.com

Username: akshit777

Gender: male

Role: student

5. Update User Profile



Update Profile

SONANI AKSHIT

sonaniakshit777@gmail.com

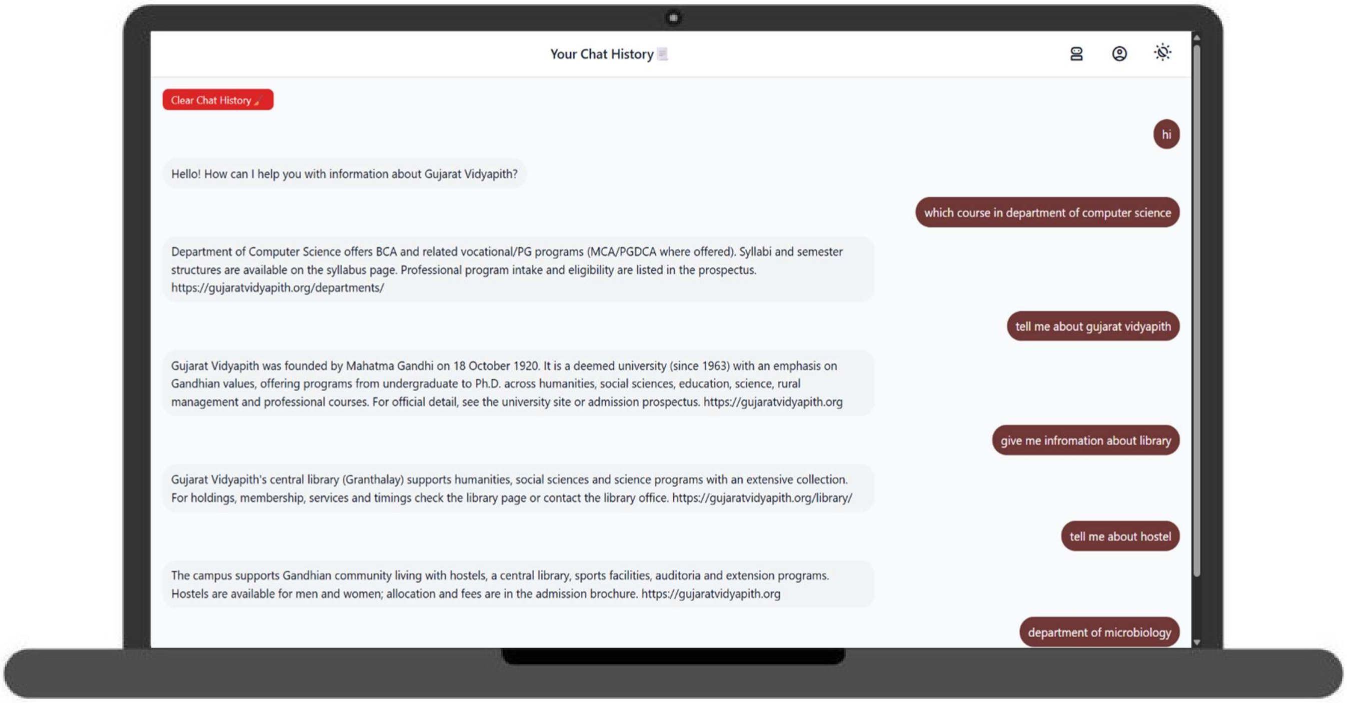
akshit777

Male

Student

Role: student

6. User Chat History



hi

Hello! How can I help you with information about Gujarat Vidyapith?

which course in department of computer science

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give me infromation about library

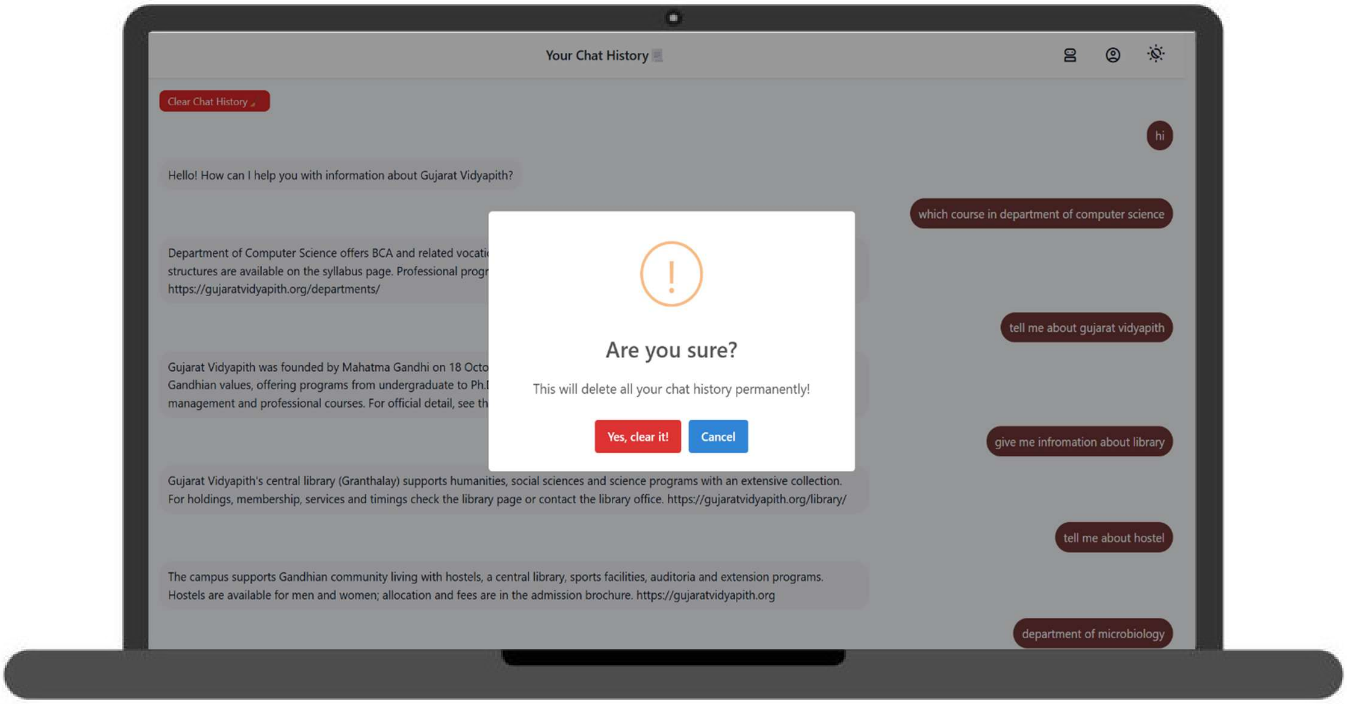
Gujarat Vidyapith's central library (Granthalay) supports humanities, social sciences and science programs with an extensive collection. For holdings, membership, services and timings check the library page or contact the library office. https://gujaratvidyapith.org/library/

tell me about hostel

The campus supports Gandhian community living with hostels, a central library, sports facilities, auditoria and extension programs. Hostels are available for men and women; allocation and fees are in the admission brochure. https://gujaratvidyapith.org

department of microbiology

7. Clear Chat History



hi

Hello! How can I help you with information about Gujarat Vidyapith?

which course in department of computer science

Department of Computer Science offers BCA and related vocati
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department of microbiology

Are you sure?

This will delete all your chat history permanently!

8. Limitations of the System

Not a Real-Time or Fully Accurate Source

The chatbot provides high-level guidance based on predefined data. It cannot give real-time updates such as seat availability, changing fee structures, or last-minute admission rules unless the dataset is manually updated.

No Official Decision-Making Ability

The system cannot make admission decisions, verify documents, allocate hostels, or process applications. It only provides general information and links to official sources.

Limited Handling of Complex or Ambiguous Queries

If the user asks a vague, mixed, or highly detailed question, the chatbot may fail to interpret it correctly and revert to fallback messages or clarification prompts.

Dependence on Predefined Intents and Data

The chatbot responds only to the intents and patterns it was trained on. Any new or uncommon question outside the dataset may lead to incorrect or no response.

No Automatic Content Updates

The system does not crawl the university website or prospectus. When university information changes, the dataset and responses must be updated manually.

Language and Input Limitations

The chatbot performs best with clean English queries. Highly informal messages, spelling errors, mixed languages (like Gujarati + English), or slang can reduce accuracy unless additional training data is provided.

Does Not Handle Transactions or Secure Portals

The system cannot manage payments, logins, application submissions, fee payments, or student record access. It only provides informational support.

Limited Personalization

Every user receives the same generic response. The chatbot does not tailor answers based on student history, enrolled course, or personal preferences.

Accuracy Depends on Model Quality

The neural network is trained on a relatively small dataset, so intent classification accuracy may decline when users ask questions in unexpected ways.

Requires Manual Maintenance for Improvements

Updating intents, adding paraphrases, handling new departments, and retraining the model all require manual effort, which may limit scalability.

8.1 Proposed Enhancements

Although the current version of the Gujarat Vidyapith Chatbot provides accurate responses using a predefined dataset and a manually trained model, there are several opportunities to enhance the system in future versions. These improvements would make the chatbot more intelligent, scalable and user-friendly.

1. Automatic Model Retraining

At present, the chatbot is trained manually using a fixed set of intents and responses. In the future, the system can be upgraded to automatically retrain the model based on real chat logs. This would include:

- Collecting user queries and storing them as training samples
- Automatically identifying new patterns and updating intents
- Running scheduled training jobs (daily/weekly)
- Deploying improved models without manual effort this enhancement will allow the chatbot to evolve continuously and become more accurate over time.

2. Multilingual Support

Currently, the chatbot primarily supports English. A major enhancement will be adding support for multiple languages such as Gujarati, Hindi and Hinglish. Future features may include:

- Automatic language detection
- Separate datasets for additional languages
- Translation-based response generation this will make the chatbot more accessible to local users and improve usability for non-English speakers.

3. Voice Interaction

In future versions, voice input and output can be integrated using speech-to-text and text-to-speech APIs.

This will allow users to communicate with the chatbot verbally, making the system easier to use for visually impaired students or users who prefer voice-based interaction.

9 Bibliography

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Djongo: MongoDB Connector for Django ORM.
https://www.djongomapper.com

University Website (for informational training data)
Gujarat Vidyapith. *Official University Website*:
https://gujaratvidyapith.org

GitHub Repositories (Open Source Chatbot Examples)
Various developers. *Chatbot implementations using Python, NLP and Django* (referenced for understanding patterns and structure).
https://github.com

Thank You…