SETHU INSTITUE OF TECHNOLOGY

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Department of

Computer Science and Business Systems

FIRST REVIEW

E – BOT

An Advanced Deep Learning based Chatbot built using NLP and Keras Neural Networking

Batch Members

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Guided By

Guide
Designation
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Abstract

- Web based *Chatbot* for easier access.
- Allows both user to navigate through *Tamilnadu E-Service websites*.
- Adapts to the users prompt and gives respective answers.
- Records the users prompt to *train the chatbot*.

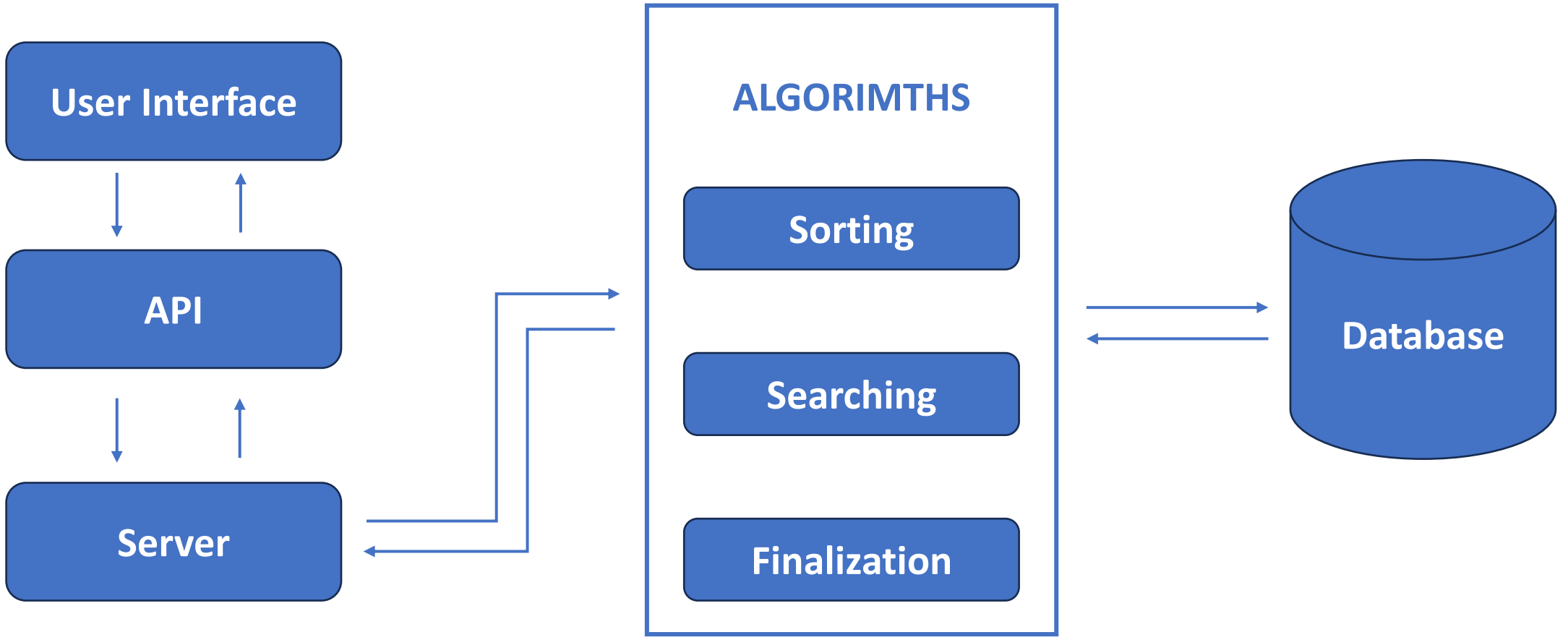
Literature Survey

Title of Paper	Description	Publications Details
A Survey Paper on Chatbots	This paper aims at providing some positive information through continuous dialogue answers in order to guide adolescents to think and face difficulties with a positive and optimistic attitude and the agenda of reliving the psychological pressure of the adolescents can be achieved.	**Aafiya Shaikh, Dipti More** Pimpri Chinchwad College of Engineering ***IRJET Volume: 06 Issue: 04 | Apr 2019***
Chatbots in Customer Service: Relevance and Impact.	opportunities to improve customer service. The present paper examines chatbots in this context, elaborating on their functional aspects that are rapidly leading to significant improvements in service quality. First, based on a literature review of recent publications in this field, an overview of their key features and functionalities.	**Chiara Valentina Misischia** University of Vienna ***Science Direct Volume 11 | March 22-25, 2022***

Literature Survey

Title of Paper	Description	Publications Details
Design and Development of CHATBOT: A Review	This paper focuses on a newly emerging tool for learning from CHATBOT, which is a learning-cum-assisted tool. A CHATBOT is an artificially created virtual entity that interacts with users using interactive textual or speech skills.	**Rohit Tamrakar, Niraj Wani** Sardar Vallabhabhi National Institute ***Research Gate Volume: 16 Issue: 12 - Apr 2021***
Rule Based Chatbot	Chatterbots engage in a conversation with the client and respond to the client based on human input. It gives the impression that the user is conversing with a human when they was having a conversation with humans or with a computer.	**Parsi Anurag** The School Of Computer Science And Engineering ***IRJETS Volume 04 | May 2022 | Issues: 05***

Block Diagram



Existing Solution

- There is *no prior feature* to navigate users through websites.
- *Manual Navigation* using human knowledge.
- Existing chatbot available in the markets are.
  - **Response Chatbot:** Customer service chatbots
  - **Rule – Based Chatbot:** If – Else condition chatbot

Proposed System

- The proposed systems is a ***Conventional Chatbot***.
- This chatbot *guides users* through E-Service websites.
- Allows users to *fetch details* of places and officials.
- *Payment of bills* like Electricity bill, Water bill, Etc.., [*optional]
- Uses users chat to *make suggestions*.

Methodology

Scope and Objective

- The scope of the chatbot is help users navigate through Tamilnadu E – Service websites

User – Centric Design

- This Chatbot focuses on user’s comfort with features like translation to native languages and adaptive colors and auto complete for elderly people

Methodology

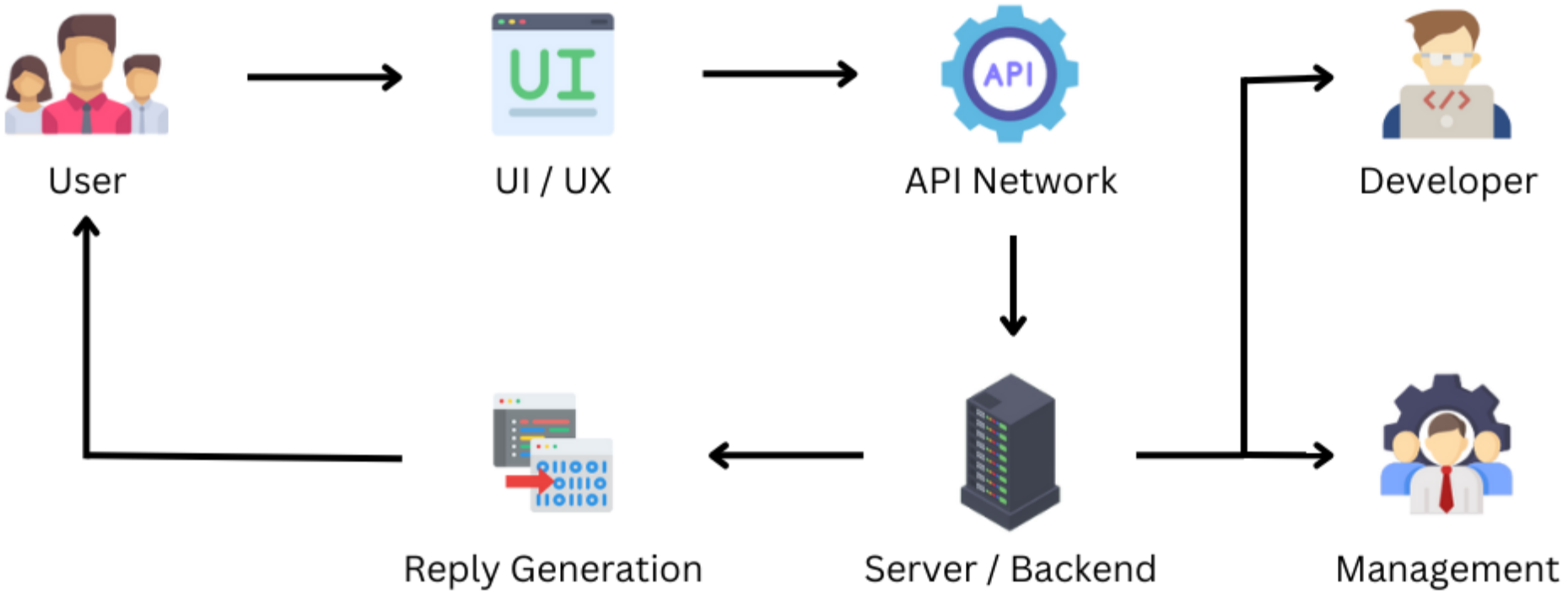
Data Collection

- Collect various source of dataset for pre-processing at the initial stage of application.

Development and Testing

- Usage of *AGLIE* methodology to build, test and maintain application in iterative process.

Work Flow


User
UI
UI / UX
API
API Network
Developer
Reply Generation
Server / Backend
Management

Algorithm

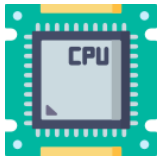
- **Natural Language Processing :** Can understand and reply human like answers.
- **Tensor Flow :** Used along with NLP to Implement Machine learning application.
  - **Training Application –** Used to train the chatbot using pre – processed dataset.
  - **Real time generation –** Used to learn from the user's prompt.

Algorithm

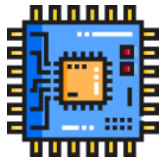
KERAS Neural Network

- It is a functionality available in TensorFlow package.
- Builds a neural network between the queries, answers and keywords.
- It is used to Fine tune the reply.
- Stronger the neural connection, better the answer.

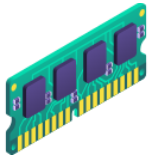
Hardware Requirements



CPU
4 core | 8 Thread



TPU
2 GB HBM | 6 Teraflops



RAM
6 GB (Minimum)

Connectivity
High – Speed Internet

Physical Storage
512 GB (Minimum)

Software Requirements

IDE
Visual Studio Code

Database
MySQL - Work Bench

Programming Language
Python 3.11.7

Designing Tool
Figma

Cloud Platform
Heroku

Expected Outcome

- Assist users to navigate through website.
- Simple User Interface to be understandable by all users.
- Adaptable to users prompt even with mistakes.
- Can be used in any application.
- Data collected can be used to train in future.

Conference / Journal Publication

S No	Process	Progress
01	Data Collection	Yet to Complete
02	Report Creation	Yet to Complete
03	Report Correction	Yet to Complete
04	Journal Submission	Yet to Complete
05	Journal Verification	Yet to Complete
06	Journal Publication	Yet to Complete

Thank You