A.V.C COLLEGE OF ENGINEERING, MANNAMPANDAL

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

"FORCE (FORum of Computer science and Engineers') Newsletter"

Volume: 6 **Month: Aug'2019** **Issue: 01**

HOD'S DESK

I congratulate the students team participated in the grand finale of Smart India Hackathon 2019 at Ghaziabad. Also appreciate the students those who completed their internships got the placement opportunities. Further congratulate the Saai Priya team received grants from Tamil Nadu State council for Science and Technology for their project proposal.

"Everything you need is already inside you.

Don't wait for others to light your fire.

You have your own matches"

Dr.S.Padmapriya, HOD/CSE

8 Rules to a better life:

1. Never Hate
2. Don't Worry
3. Live Simply
4. Expect a Little
5. Give a lot
6. Always Smile
7. Live with Love
8. Best of All, Be with God

CHATBOT TECHNOLOGY

Mrs.N.SELVARANI, AP/CSE

Introduction:

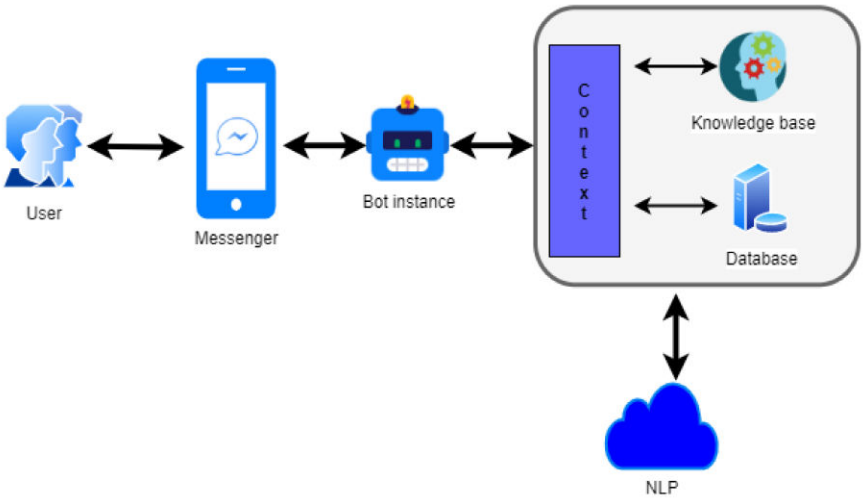
A Chatbot is a computer program that simulates human conversation through voice commands or text chats or both. Chatbot, short for chatterbot, is an artificial intelligence (AI) feature that can be embedded and used through any major messaging applications. There are a number of synonyms for chatbot, including "talkbot," "bot," "IM bot," "interactive agent" or "artificial conversation entity.

Chatbots are software applications that use artificial intelligence & natural language processing to understand what a human wants, and guides them to their desired outcome with as little work for the end user as possible. Like a virtual assistant for your customer experience touchpoints.

A well designed & built chatbot will:

1. Use existing conversation data (if available) to **understand** the type of questions people ask.
2. **Analyze** correct answers to those questions through a 'training' period.
3. Use machine learning & NLP to **learn** context, and continually get better at answering those questions in the future.

Fig.1 Diagram for Chatbot



Types of Chatbots:

There are three types of chatbots most consumers see today:

1. **Rules-Based Chatbots** – These chatbots follow pre-designed rules, often built using a graphical user interface where a bot builder will design paths using a decision tree.
2. **AI Chatbots** – AI chatbots will automatically learn after an initial training period by a bot developer.

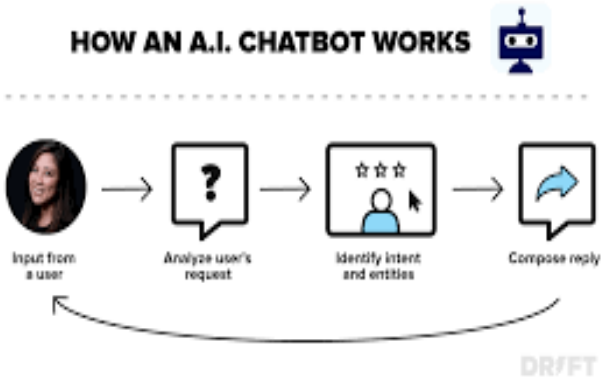


Fig.2 Chatbot works

Chatbot Connectors:

Chatbot connectors are pre-built libraries of intelligent connectors that span a range of business and AI assets including RPA (robotic process automation) and CPaaS (Communications Platform as a Service). chatbot use channels include: Amazon Alexa, Android chat, Cortana, Discord, Facebook Messenger, Google Assistant, iOS Chat, IVR by Twilio, IVR by Nexmo, IVR by Cisco, LINE, Microsoft Teams, MS Bot Framework, Skype, Slack, SMS by Nexmo, Telegram, Twitter, Wechat, WhatsApp, or a custom app for mobile, in car or home.

Limitations of Chatbots:

- A chatbot's efficiency highly depends on language processing and is limited because of irregularities, such as accents and mistakes.
- Chatbots are unable to deal with multiple questions at the same time and so conversation opportunities are limited.

Student Corner

BLOCKCHAIN TECHNOLOGY

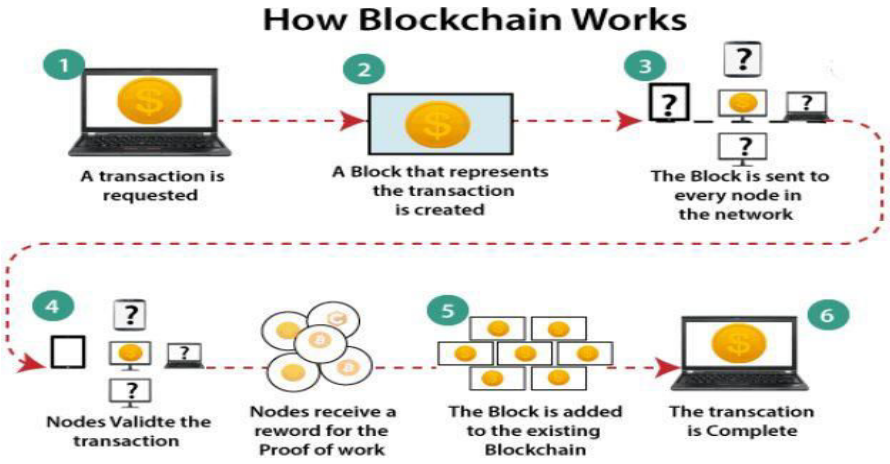
M.KANAGARAJ, III CSE

Introduction:

Blockchain is a shared, immutable ledger that facilitates the process of recording transactions and tracking assets in a business network. An *asset* can be tangible (a house, car, cash, land) or intangible (intellectual property, patents, copyrights, branding). Virtually anything of value can be tracked and traded on a blockchain network, reducing risk and cutting costs for all involved.

Blockchain Explained: A Quick Overview

- A blockchain is a database that stores encrypted blocks of data then chains them together to form a chronological single-source-of-truth for the data
- Digital assets are distributed instead of copied or transferred, creating an immutable record of an asset
- The asset is decentralized, allowing full real-time access and transparency to the public
- A transparent ledger of changes preserves integrity of the document, which creates trust in the asset.
- Blockchain's inherent security measures and public ledger make it a prime technology for almost every single sector.



Blockchain consists of three important concepts: blocks, nodes and miners.

Blocks

Every chain consists of multiple blocks and each block has three basic elements:

- The **data** in the block.
- A 32-bit whole number called a **nonce.** The nonce is randomly generated when a block is created, which then generates a block header hash.
- The **hash** is a 256-bit number wedded to the nonce. It must start with a huge number of zeroes (i.e., be extremely small).

When the first block of a chain is created, a nonce generates the cryptographic hash. The data in the block is considered signed and forever tied to the nonce and hash unless it is mined.

Miners

Miners create new blocks on the chain through a process called mining. In a blockchain every block has its own unique nonce and hash, but also references the hash of the previous block in the chain, so mining a block isn't easy, especially on large chains. Miners use special software to solve the incredibly complex math problem of finding a nonce that generates an accepted hash. Because the nonce is only 32 bits and the hash is 256, there are roughly four billion possible nonce-hash combinations that must be mined before the right one is found. When that happens miners are said to have found the "golden nonce" and their block is added to the chain.

Applications

- Banking & Finance
- Currency
- Healthcare
- Records of Property
- Supply Chain
- Voting
- Smart Contract

DEPARTMENT SPOTLIGHTS

Push your ideas to

Faculty: M.Kavitha,AP/CSE

Student Coordinator:

1. V.GokilaVani, IV CSE
2. M.Kanagaraj, III CSE
3. J.Rukshana Safrin, II CSE

Editors-Force Newsletter

Mail-id:forcenewsletter@gmail.com

Institution Vision

To blossom into a cynosure of technological innovations.

Mission

To participate in the noble cause of nation building by offering professional education, research and training in engineering and technology especially to the rural based poor students.

Department Vision:

To excel in the field of Computer Science and Engineering with technological innovations.

Department Mission:

1. To impart quality technical education to the students through creative teaching learning process especially to the rural based students.

2. To create facilities and expertise in cutting-edge computer technologies through industry institute partnership.

3. To motivate the students to apply their innovative ideas to construct research models.

4. To transform the students into socially and ethically responsible professionals.

Programme Educational Objectives (PEOs):

Graduates of this B.E Computer Science and Engineering will be able to

PEO 1: To enable graduates to pursue higher education and research, or have a successful career in industries associated with Computer Science and Engineering, or as entrepreneurs.

PEO 2: To ensure that graduates will have the ability and attitude to adapt to emerging technological changes.

PEO 3: To effectively communicate ideas in oral or written and to promote collaboration with other members of engineering teams.

Programme Outcomes (POs):

By the time of graduation, graduates will attain the following programme outcomes:

1. Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.

2. Problem analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.

3. Design/development of solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.

4. Conduct investigations of complex problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.

5. Modern tool usage: Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

6. The engineer and society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

7. Environment and sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

8. Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

9. Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

10. Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.

11. Project management and finance: Demonstrate knowledge and understanding of the engineering and management principles and apply these to one‘s own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. Life-long learning: Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Specific Objectives (PSOs)

1. To analyze, design and develop computing solutions by applying foundational concepts of Computer Science and Engineering

2. To apply software engineering principles and practices for developing quality software for scientific and business applications

3. To adapt to emerging Information and Communication Technologies (ICT) to innovate ideas and solutions to existing/novel problems.