PROBLEM STATEMENTS

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PROBLEM STATEMENT – 1

Blockchain for Academic Credential Ecosystem

Problem Statement Id: **_CSHTN-01_**

Blockchain Technology provides the opportunity for ownership of verifiable records — trusted and provable via cryptography with:

- Proof of identity and consequent ownership of credentials tied to identity

- Transparency of all information related to the lifecycle of documented credentials including when and how they are issued, earned, and shared.

Students with blockchain-backed record of academic accomplishment can provide potential employers with assurance that their credentials are trustworthy. Their entire academic background might be stored on a blockchain ledger, creating a unique fingerprint of their personal trail of accomplishments, from diplomas and grades to attendance and participation in extra-curricular and co-curricular activities.

Design and Develop a complete blockchain based solution for an efficient and secured Academic Credential Ecosystem leveraging the following:

- Digitization and uploading of records and certificates by various stakeholders

- Prove the legitimacy of academic credentials

- Ownership rights with students to allow access of data record to institutions and employers.

- Build a digital infrastructure for facilitating transcript verification between institutions, students, and employers.

PROBLEM STATEMENT - 2

E-Governance implementation using Blockchain

Problem Statement Id: **_CSHTN-02_**

Simple, convenient and effective interaction between the government and the citizen has become a common expectation in the modern information society. Electronic government solutions bring fundamental changes to the distributed governance system, and affect the entire range of functions related to document management and processing.

Design and develop a blockchain for efficiently, securely and accurately storing various citizen data and performing E-governance activities.

The blockchain can be utilized for providing mechanism to digitally store various citizen data related to birth, death, marriage, land records, Aadhar, and other relevant data. The data can be entered, approved and used by various stakeholders such as government agencies and banks for various transactions initiated between citizen and the civic / government bodies. By implementing smart contracts, certain events such as registration of the birth, death and marriage, loan processing by the bank, emergency services, various interactions related to electricity and water consumption can be digitized, and implemented using efficient and shared mechanism.

PROBLEM STATEMENT - 3

AI / Blockchain-driven complete automated E-commerce for online procurement of Medicines

Problem Statement Id: **_CSHTN-03_**

Design and implement a complete automated E-Commerce web / mobile / Blockchain driven application for online purchase of medicines. The web application should possess the following:

- Generating automated medicine request from prescription uploaded by consumers in electronic format. (Image / PDF/ etc)

- Creation of efficient database related to all entities in the system.

- End-to-end solution including generation of Shopping Carts, check out facility, payment module, shipment module, bill generation, purchase history and inventory management.

- Efficient user validation, user navigation, other relevant security implementations.

PROBLEM STATEMENT – 4

A conversational AI-driven Chat-bot for an E-Commerce system

Problem Statement Id: **_CSHTN-04_**

E-commerce has drastically changed the marketplace dynamics by leveraging digital revolution. From the beginning to the end, the customer is in complete control of the purchase. Not only is that, but the customer service at each stage is virtual as well, in the form of conversational AI chatbots.

Consumers are experiencing a seamless online shopping like customer service, product selection help among others due to – first with the Internet, then mobile and now with the rise of conversational AI technology in retail and e-commerce. Conversational AI refers to a group of technologies that allow computers to perceive, process, and respond to speech or text inputs in a natural fashion.

Design and implement a conversational AI driven Chat-bot for an interactive E-commerce application to simplify shopping experience for the customers with seamless interactions using either web / mobile platform.

PROBLEM STATEMENT – 5

A conversational AI-driven Chat-bot for a Banking system

Problem Statement Id: **_CSHTN-05_**

Conversational AI refers to a group of technologies that allow computers to perceive, process, and respond to speech or text inputs in a natural fashion.

Design and implement a conversational AI driven Chat-bot application serving as an interactive tool for gathering various finance related information for a banking system.

The system should have simple user interaction consisting of the following:

- Authentication feature for legitimate user access
- AI-driven instructional methods and strategies to provide efficient ways to ask question and response generation.
- Implement database for efficient storage and retrieve all relevant information.
- Extensive search module for searching responses and relevant information.

PROBLEM STATEMENT - 6

Artificial Intelligence / Blockchain in transforming the FinTech Sector

Problem Statement Id: **_CSHTN-06_**

AI, cloud, blockchain and quantum computing form some of the pillars of the much-discussed Fourth Industrial Revolution, with financial services watching on in anticipation of the disruption they promise in the years ahead.

Design and implement AI / Blockchain. Artificial intelligence in finance is transforming the way we interact with money. AI is helping the financial industry to streamline and optimize processes ranging from credit decisions to quantitative trading and financial risk management.

Design and implement Web / Mobile driven intelligent automated system that drives how AI is leveraging the fintech sector to revolutionize the way to smartly interact with the customers and automate decision-making.

The Solution shall be developed to address the core functionality not on the user interface.

PROBLEM STATEMENT - 7

Web portal for an E-Commerce / E-governance leveraging intelligent robotic process automation.

Problem Statement Id: **_CSHTN-07_**

Design and implement a complete web application for any E-commerce / E-governance requirements leveraging intelligent robotic process automation.

The system should have simple browser-based user interaction for leveraging AI-driven instructional methods and strategies to provide efficient ways to optimize user navigation and experience.

PROBLEM STATEMENT - 8

An E-tutorial for training Full Stack Development to Graduating / Engineering students from IT / CS / AI, DS streams

Problem Statement Id: **_CSHTN-08_**

Create a complete online tutorial for teaching a Full Stack Web Development course using Web or Mobile platform. The course should provide efficient and effective education to graduating / engineering students from IT / CS / AIDS streams.

The system should provide easy communication between students and lectures.

The system should have simple browser/app based user interaction consisting of the following:

- Authentication feature for legitimate user access.

- Inclusion of all relevant teaching learning mechanism such as videos.

- Implement database for efficient storage and retrieve all relevant information.

- Provision for assignments, quiz session, learning content such as links for useful online material, books and projects.