



TSEC HACKATHON 2020



Problem Statement 1

The increasing complexity and scope of insurance products makes it difficult for individuals to track what they have bought and assess the suitability of new products. Develop an end-to-end customizable insurance portal where the customer gets personalized policy recommendations. The platform should allow the insurer or intermediaries to sell their solutions directly to the customer. Along with this, the platform should be fully equipped with secured payment gateways



Problem Statement 2

In times of disasters or calamities, the poor are struck the hardest. Despite donations received from government's fund raisers, in some cases the money doesn't reach the needy. Implement a KYC based system for the underprivileged for financial aid. You will have to develop a transparent system for handling of funds and ensure that these funds are securely and evenly distributed to the indigent through payment gateways linked with the KYC system



Problem Statement 3

Among the many challenges that visually impaired people face, the ability to adapt to modern methods of payment is a major one. Develop a mobile/web banking application for the blind for secure transaction of funds. The UI on the user end should have a unique verification method such as integration of gestures. The UI on the Bank's end should implement a special method to handle such transactions and ensure their security.



Problem Statement 4

Build a framework for secure E-payment of Tolls. It should implement specific protocols, tools and processes to ensure customer convenience.



Problem Statement 5

Build a Custom Reverse Image Detection model for Online Shopping for Clothing and Shoes. The system should be able to automatically search the web for similar products and display the price, available sizes and similar items in a web or android based application (ML/AI)



Problem Statement 6

Implement a Web Based solution through which farmers can participate in a commodity exchange market. The solution should explain the process involved and the benefits of commodity exchange to the user. The purpose of such an exchange is to provide a centralized marketplace where commodity producers can sell their commodities to those who want to use them for manufacturing or consumption. The solution should enable farmers to create independent accounts and interact with dealers to avail the best profits and deals.



Problem Statement 7

The importance of detection of fake news is essential in today's times where rumours travel much faster via social media platforms. Implement a ML based solution for detection of such rumours. Developers are expected to implement a data mining system for dynamic scanning and labelling of news articles and social media posts. The solution should support all widely used languages along with the ability to let the user provide their own data for retraining and improvising the predictions



Problem Statement 8

Implement an AI based gallery application with a feature of image noise removal that can sharpen old, blurry or pixelated images and allow nearly lossless zooming upto a certain extent. Apart from this, the application should have all the normal editing and browsing features like cropping, resizing, etc.



Problem Statement 9

Develop a Video Conferencing Platform for educational purposes having a capacity of 200 students. It should have the facility of screen sharing, annotations, whiteboard, etc. The host of the meeting should have features like removing, muting and unmuting participants. Developers can use reverse engineering from existing platforms to implement some functionalities without violation of copyrights



Problem Statement 10

Develop a complete DBMS Package System that allows the user to execute DDL, DML and DCL queries. The package system should incorporate

1. Custom language construct for defining query structures
2. Query engine for efficient execution of queries and result generation
3. UI for the executing queries (Optional)



Problem Statement 11

Implement an ERP package for online shopping. Incorporate the following:

1. Customer Registration
2. Product inventory
3. Shopping Cart Management
4. Billing and delivery system
5. Tracking and Customer Feedback



Problem Statement 12

Design and develop a blockchain backed solution for managing the patient's medical record management system. The system focuses on efficiently and optimally securing the medical information of an individual. The individual should have access to their account and should decide with whom to share the digital information. the solution should propose the following

- a. UI for efficient capturing of records.
- b. Model for securing the information
- c. Appropriate system for verification of the information.
- d. Legitimate access to the information.
- e. A network implementation of patients for ease of management