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TSEC 24 HACKS

PROBLEM STATEMENTS



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WEB / APP DOMAIN



TECH DISCUSSIONS OTC

OTC (Our Tech Community), hosts weekly online meetups every Saturday, fostering engaging discussions on various aspects of the tech industry. While these gatherings are enriching, the current manual process of summarizing and posting content on the community's website presents significant challenges in terms of time efficiency and accuracy. To address these issues and further elevate the community experience, there is a pressing need for an advanced and automated application.

Ref: <https://catchup.ourtech.community/summary/166>

POTENTIAL FEATURES:

- Extract key insights, discussions, and trends from the conversations.
- Generate concise summaries for each meetup.
- Group summarized content into relevant topics or categories for easy navigation and content discovery.
- Create a system that gauges overall participant mood and reactions, integrating analytics to evaluate individual meetup participation based on factors like contribution frequency, topic expertise, and engagement level.
- Develop a user-friendly search feature, allowing users to search for specific keywords, like 'hackathon,' and retrieve relevant meetings along with their transcriptions.
- Automatic uploading of summaries to the community's website.

BONUS POINTS:

1. Capture the best photogenic moments from the meeting and add them to the summary.
2. Integrate with various platforms like Google Meet, Zoom, etc.

Note: You are permitted to use different LLM models API for implementation.



ONE HUB, INFINITE REACH

Content creators and social media enthusiasts struggle with the time-consuming task of manually sharing their creations on diverse platforms like Instagram, YouTube, and Facebook. This process demands meticulous attention to detail, leading to inefficiencies and potential oversights. As the number of platforms and content creation increases, there is a need for an innovative solution that simplifies and centralizes the content creation and sharing process across the digital landscape.

POTENTIAL FEATURES:

- Enable simultaneous content uploads across Instagram, YouTube, and Facebook with one click.
- Implement an AI tool for automatic, eye-catching thumbnail suggestions.
- Provide a unified analytics dashboard for total views across linked platforms.
- Recommend optimal posting schedules based on peak engagement times.
- Centralized tool for planning and tracking content releases across platforms.
- Auto-generate short clips from the most relevant segment for platforms like Instagram Reels and YouTube Shorts.
- Implement robust measures to secure keys, ensuring protection against unauthorized access and safeguarding creators' data and content.

BONUS POINTS:

Enable creators to receive real-time content suggestions by analyzing the latest trends across social media platforms, facilitating timely and relevant content creation.



HARMONIZING HOMES

Managing an interior design project with multiple servicemen becomes complex without a cohesive platform. The absence of integration hinders task tracking, cost management, and completion monitoring. This disjointed approach leads to communication gaps, project delays, and conflicts among participants. An integrated platform is essential for streamlined communication, collaboration, and maintaining transparency, efficiency, and harmony in interior design project management.

POTENTIAL FEATURES:

- A centralized dashboard providing real-time updates for all members of a family to track project progress and milestones with respect to their area of interest.
- An integrated task management system allowing assignment, tracking, documents and status updates for various tasks associated with the interior design project.
- Comprehensive cost tracking and budgeting feature to monitor expenses, allocate budgets, and ensure financial transparency throughout the project.
- Integrated communication hub facilitating seamless interaction and information exchange between vendors, contractors, and other stakeholders.
- Analytical tools providing insights into the completion rates of different project phases, enabling proactive adjustments to meet project deadlines effectively.
- System for collecting feedback from all stakeholders at various project stages.
- Accessibility across different platforms

BONUS POINTS:

Seamless integration with e-commerce platforms to enable users to directly purchase recommended furniture and decor items



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A / M

D O M A I N





MEDSCANOCR

15K

In the healthcare sector, efficient extraction and organization of information from diagnostic reports are critical for medical professionals. Existing challenges include the lack of a specialized OCR system tailored for medical records, suboptimal data structuring, and the absence of a comprehensive user interface. To address these issues, we propose the development of MedScanOCR—an integrated solution that operates independently, combining OCR capabilities, structured data conversion, user-friendly interfaces, chatbot integration, and accuracy validation.

Note: Do not use any third-party services, such as BARD, for OCR functionality.

POTENTIAL FEATURES:

- Develop a robust OCR engine capable of accurately extracting text from medical records in both image and PDF formats.
- Implement a mechanism to convert the extracted text data into a structured JSON key-value format, ensuring the integrity and relevance of the medical information.
- Develop a user-friendly interface allowing users to upload medical documents through camera or file upload in PDF/image formats, supporting multiple pages organized by test name and dates.
- Implement two interfaces: one for document upload and another for dynamic data querying from all reports.
- Create an intelligent chatbot to facilitate doctors in querying document data, for instance, retrieving Red Blood Cell (RBC) counts from all reports and presenting them chronologically by date.

Dataset: <https://shorturl.at/enBP4>



INTELLIGENT INTERIOR DESIGN COMPANION

Designing the interior of a house is a complex and time-consuming task that often requires professional expertise. Many individuals, however, lack the resources or accessibility to hire an interior designer, leading to challenges in creating aesthetically pleasing and functional living spaces. To address this issue, there is a need for an intelligent Conversational AI platform that enables users to plan and visualize the interior design of their homes effectively.

POTENTIAL FEATURES:

- Users should be able to communicate their preferences, ideas, and constraints using natural language.
- Provide style recommendations based on user preferences, taking into account popular interior design trends and personalized choices.
- Interactive tools to visualize designs
- Incorporate a budget management feature to help users make cost-effective decisions by suggesting affordable yet stylish furniture and decor options.
- Offer suggestions for materials and color palettes that align with the user's taste and the overall design concept.
- Optimize the functionality of each room by considering the user's lifestyle, needs, and the intended purpose of the space.
- Provide a feature to track the progress of the design, enabling users to make revisions and adjustments as needed.

BONUS POINTS:

1. Integration with design platforms for seamless design files
2. Advanced 3D Modeling and Rendering



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SOCIAL DOMAIN



CORPORATE SOCIAL RESPONSIBILITY

The Government of India has mandated that companies with an annual profit exceeding 5 crores allocate a minimum of 2 percent of their profits towards Corporate Social Responsibility (CSR) initiatives. However, many companies struggle to identify and choose relevant CSR causes that align with their values and the needs of the local community. There is a need for an efficient and user-friendly solution that assists companies in discovering suitable CSR causes within a specific geography, providing them with personalized suggestions to streamline their CSR efforts.

POTENTIAL FEATURES:

- The app should allow companies to specify the geographical area where they wish to focus their CSR initiatives.
- Companies should be able to create profiles detailing their core values, mission, and areas of interest.
- Database of verified CSR causes, categorized by sectors such as education, healthcare, environment, etc.
- Provide information on the potential impact of each CSR cause, including metrics and success stories.
- Facilitate communication between companies and local communities or NGOs associated with the chosen causes.
- Integrate tools to monitor CSR fund allocation, ensuring compliance with government regulations.
- Generate comprehensive reports showcasing the impact of a company's CSR initiatives over time.
- Identify potential collaboration opportunities with other companies, NGOs, or governmental bodies working towards similar CSR goals.
- Incorporate features for educating companies on legal and ethical aspects of CSR, aiding compliance and ethical standards navigation.



NUTRISAFE

Siddanth is new to town; he enters a supermarket to shop for food/groceries and is met with a myriad of choices - unfortunately with the ever-growing options comes another problem- tracking the allergens in said products. Siddanth has specific dietary restrictions and faces the challenge of navigating through products while making sure they are safe to consume. Deciphering complex ingredient lists and nutritional labels is a time-consuming and daunting task. There is a need for an application so that users like Siddanth can quickly and easily identify if a food product is safe to consume with regards to following criteria. Allergens, Lactose(or similar such intolerances) and Religious Dietary Considerations (Jain, Halal, Kosher etc.)

Additionally, Siddanth also wishes to know **alternatives** to the products that are otherwise harmful to consume.

POTENTIAL FEATURES:

- A list of stores where the user can find products that are safe to consume- thus saving time.
- Users should have the capability to report instances where a product caused unexpected allergic reactions.
- A community page that encourages suggestions and discussion over food products and allergic reaction causing items
- Provide users with recipes that align with their dietary restrictions and preferences, utilizing the safe-to-consume products available in stores.
- Offline functionality to allow access to the app when internet connection may be inconsistent
- Recommendation system based on products chosen by other users with common allergies.
- A feature that helps users navigate through stores efficiently, guiding them to the specific aisles or sections where they can find products that meet their dietary requirements.



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BLOCKCHAIN DOMAIN





ESTATE CHAIN

The real estate business, which is a crucial part of our economy, is currently dealing with problems because of using old-fashioned paper methods. These old ways make it hard to smoothly and clearly transfer property ownership. As a result, it causes delays, makes transactions more expensive, and is not very easy for everyone involved. It's all about using blockchain technology to completely change how real estate deals happen, making them faster and simpler for everyone.

POTENTIAL FEATURES:

- Develop a secure system that enables seamless property ownership representation while prioritizing privacy.
- Leverage smart contracts to automate and streamline property transactions, fostering transparency, reducing reliance on intermediaries, and mitigating the risk of fraudulent activities.
- Create a decentralized ledger for property records, ensuring a secure and immutable database accessible to relevant parties, including buyers, sellers, real estate agents, and government authorities.
- Establish an unalterable ownership history that provides a transparent and traceable record of all property transactions over time, enhancing accountability and trust.
- Enforce compliance with local real estate regulations, ensuring that transactions adhere to legal requirements, thereby fostering a trustworthy ecosystem.
- Develop solutions to enhance accessibility to property information for potential buyers, sellers, and other stakeholders, facilitating a more informed and efficient real estate market.



TRANSFORMING CROSS-BORDER COMMERCE

Indian businesses in import-export face hurdles in achieving swift and cost-effective cross-border transactions aligned with WTO agreements and ESG norms. Current systems lack transparency and traceability, resulting in delays, higher costs, and compliance challenges with international trade regulations and sustainability standards. There's a critical need for a Consortium Blockchain solution to streamline these processes, ensuring transparency, efficiency, and adherence to global standards in the import-export activities of Indian businesses.

POTENTIAL FEATURES:

- Implement smart contracts to automate and enforce trade agreements in alignment with WTO rules, reducing the risk of disputes and ensuring compliance.
- Secure transactions with multi-signature approval in the Consortium Blockchain's escrow system.
- Establish a decentralized identity management system to secure and authenticate all participants in the import-export process, ensuring compliance with international standards and mitigating the risk of identity-related fraud.
- Integrate ESG data to assess and track the environmental, social, and governance impact of import-export activities, providing businesses with insights to improve sustainability practices.
- Enable transparent cross-border commerce through real-time tracking, auditability, and community consensus mechanisms