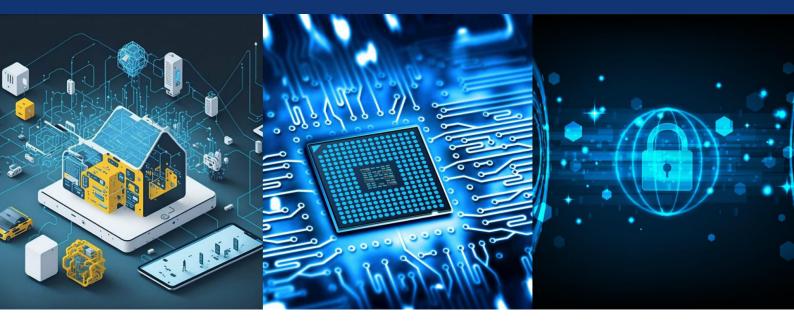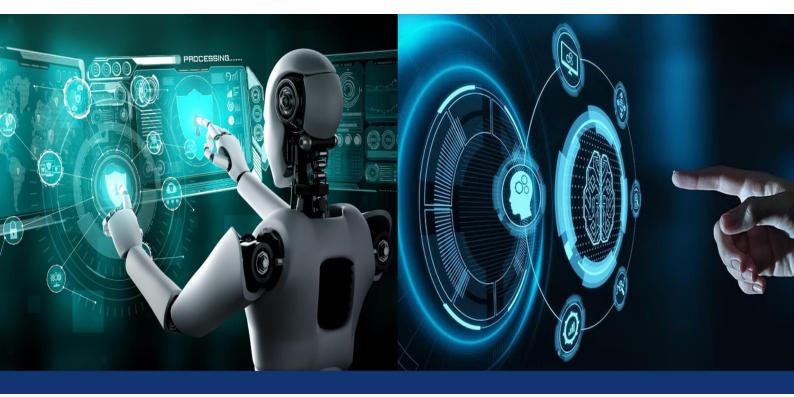# International Journal of Innovative Research in Computer and Communication Engineering

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Leveraging Technology to Improve Customer Experience

Rachana Varadaraj, Mohammed Tauseef Ahmed, Dhriteshree M R, Mohammed Zahid Hasan

Student, School of Computer Science and Engineering, Presidency University, Bengaluru, India

ABSTRACT: It can be difficult for consumers to navigate the wide range of insurance coverage in the fast-paced digital world of today. Our proposal aims to streamline this procedure by introducing a comprehensive web platform that meets the needs of contemporary consumers by offering condensed insights into a variety of insurance policies. This project places a strong emphasis on a simplified, approachable, and user-focused method of investigating and comprehending insurance plans. Our platform strives to enable customers to make well-informed decisions with the least amount of work by incorporating features like text summary and a responsive design. The technology contributes to a more effective and inclusive method of handling insurance-related chores by increasing accessibility and user participation. The program is a useful tool for people looking for clarity and simplicity in the insurance industry because of its strong architecture, which includes a dynamic frontend for easy user interaction and a secure backend for data management.

KEYWORDS: Insurance coverage, Web platform, Condensed insights, Registration, User credentials, Dashboard, Insurance categories, Policy details, Text summary, Responsive design, Accessibility, User participation, Secure backend, Data management, User-friendly interface.

I. INTRODUCTION

By covering risks like medical emergencies, accidents, and property damage, the insurance sector contributes significantly to financial security. However, because of the complicated terminology, extensive paperwork, and legalese, consumers frequently find it difficult to comprehend their insurance contracts. Many people don't read the entire policy, which causes miscommunications and discontent when claims are rejected or unexpected provisions are brought up. Customers and insurance companies have a mistrustful relationship as a result of this communication breakdown, which compromises the goal of the policy. In their interactions with businesses, modern consumers demand greater transparency. They favour relationships built on trust, easily accessible information, and succinct, unambiguous explanations of policy terminology. Customers are more likely to feel secure about their insurance decisions and stick with their insurer when they are aware of their coverage and exclusions, according to research. Traditional policy documents, which are typically lengthy, fall short of these standards, which results in low customer engagement and unresolved claims disputes. Insurance firms are looking into methods to use technology to streamline communication. This is how new technologies are increasing the insurance industry's transparency, facilitating easier access to products, and strengthening consumer and insurer trust. The objective is to find workable solutions that guarantee that clients properly comprehend their coverage and streamline policy paperwork, which will increase customer satisfaction and reduce disputes. In a competitive market, building trust through clear communication and accessible technology is essential for retaining customers and maintaining strong relationships over time.

II. RELATED WORK

The efficacy of current methods is limited by the substantial research gaps that still exist despite advances in the processing and summarizing of insurance documents. These include difficulties processing a variety of document formats, such as PDFs and scans, difficulties summarizing complicated insurance jargon due to a lack of domain-specific knowledge, and a lack of contextual awareness that results in incomplete summaries. Biases in summarization, ethical adherence to privacy regulations, and scalability for real-time processing are still issues. Limited user customisation, inadequate evaluation criteria specific to the insurance industry, poor interface with current systems, and inadequate multilingual assistance are some further limitations. Domain-adapted models, strong natural language

processing pipelines, sophisticated contextualization strategies, model optimization, explainable AI, customized summaries, smooth system integration, and multilingual capabilities are all necessary to address these problems.

III. PROPOSED ALGORITHM

1.Requirements analysis
Stakeholder Engagement: Learn about the demands of stakeholders (insurers and consumers) for more understandable policy communication.
Functional Requirements: Determine necessary functionality, like the ability to manage user accounts.
Non-Functional Requirements: To guarantee a strong user experience, specify performance standards, security protocols, and usability objectives.

2.System Design
Architecture Design: Describe the interactions between the SQL database, Node.js backend, and React frontend.
Database Structure: Make a schema that includes user and policy tables to guarantee organized data management.
User Interface Design: To guarantee a user-friendly interface and depict the user experience, create wireframes and mock ups.

3.Technology Stack Selection
Frontend: To create dynamic user interfaces, utilize React.
Backend: For server-side programming, go with Node.js and Express.
Database: For organized data management, choose a SQL database (such as MySQL or PostgreSQL).
Libraries/Tools: Find more libraries to handle multimedia.

4.Implementation
Project Configuration: Create a new React application, initialize the project folder, then configure Node.js using npm.
Backend Development: Construct RESTful APIs and set up an Express server to manage multimedia and policy data.
Frontend Development: Create React components according to designs, incorporating multimedia content and policy information sections. To maintain the user interface current, it will dynamically retrieve content from the backend.

5.Monitoring and Maintenance
Monitoring: Put in place instruments to keep tabs on system performance and user interactions. Pay attention to error rates and load times.
Feedback Gathering: Provide channels for users to offer comments and ideas for enhancements.
Frequent Maintenance: Plan software dependency updates, address defects, and add functionality in response to user feedback, all while maintaining database security and backups.

IV. PSEUDO CODE

Step 1: Generate all available insurance options.
Step 2: Calculate the Policy Details for each company using predefined parameters.
Step 3: Check the following condition for each company until a policy is finalized:
    Condition:
    If the policy does not meet user-defined criteria (e.g., coverage below a threshold or premium above a limit):
        Exclude the company from the list of selectable options.
    Else:
        Retain companies with policies that satisfy the criteria for further evaluation.
Step 4: Calculate the total comparison score for all selected companies.
Step 5: Select the most suitable policy based on the highest comparison score.
Step 6: Summarize the selected policy details for user review.
Step 7: Provide options for further actions:
    Redirect Option: Allow users to return to the home page for exploring other categories or policies.
Step 8: End.

Conclude the process after the user has reviewed the selected policy and taken appropriate action.

V. RESULTS

Simplified Insurance Documents: By eliminating jargon and complicated phrases, automated summaries of policy documents are produced that are simple to grasp.

Better Customer Engagement: Policyholders are interacting with papers more frequently, which improves comprehension and helps them make well-informed decisions.

Less Miscommunication: Because information is presented more clearly, there are fewer cases of misinterpretations of coverage, exclusions, and claims.

Enhanced Trust: Long-term partnerships are fostered by strengthened trust between insurers and clients

VI. CONCLUSION

By presenting brief policy summaries, improving user-friendly navigation with a standardized navbar and structured dashboard, and enabling individualized experiences through safe account creation and data storage, the initiative seeks to make it easier for people to access insurance information. Customers can examine comprehensive policy details for in-depth comparison, aided by a comparison tool for assessing benefits, costs, and coverage. Features like read-aloud capabilities and summaries enhance accessibility and comprehension, enabling users to make well-informed decisions quickly and openly.

Technology integration into insurance procedures has become a potent instrument for improving accessibility and transparency. Insurers can increase customer satisfaction, lower dispute rates, boost productivity, and fortify compliance by scanning insurance papers and leveraging cutting-edge technologies. These developments are probably going to lead to even more improvements in insurance transparency, which will make it simpler for consumers to comprehend and control their coverage.

By adopting these technology advancements, insurers may establish themselves as client-focused businesses that value openness, confidence, and a satisfying policyholder experience.

REFERENCES

1. K. Ganesan et al., "Text Summarization Techniques in Insurance Platforms: A Review," Journal of Data and Information Systems, 2018.
2. J. Kim et al., "Database Integration for Secure Web Applications," in Proceedings of Web Technologies and Systems, 2020.
3. L. Morrison et al., "Accessibility in Modern Web Applications: Best Practices," International Journal of Human-Computer Interaction, 2019.
4. J. Nielsen, "Web Usability and Navigation Principles," Usability Research Lab, 2018.
5. R. Patterson et al., "Designing Effective Dashboards: A User-Centric Approach," User Experience Journal, 2014.
6. P. Rao et al., "Digital Transformation in Insurance: Trends and Challenges," Journal of Financial Technologies, 2020.
7. A. Singh and N. Gupta, "Impact of Comparison Tools in Insurance Platforms," Insurance Technology Review, 2021.
8. L. Zhang et al., "API-Driven Development: Case Studies in Insurance Platforms," in ACM Web Science Conference Proceedings, 2022.

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9940 572 462 6381 907 438 ijircce@gmail.com

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