

Schemes in One Web Space with Guidance

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Abstract: In tackling the contemporary challenge of navigating numerous assistance schemes, our proposed solution seeks to transform the process by developing a user-centric Python website integrated with an advanced Recurrent Neural Network (RNN) algorithm. Prioritizing simplicity and accessibility, the website will function as a centralized platform for scheme identification, catering to the diverse needs of users from various backgrounds. Through meticulous data collection and preprocessing, we will compile extensive datasets containing comprehensive details on eligibility criteria, benefits, and application procedures across a wide spectrum of schemes. Harnessing the sequential structure inherent in scheme descriptions, the RNN algorithm will undergo training to accurately and efficiently classify schemes, thereby facilitating easy navigation through the extensive array of options. The website's interface will incorporate intuitive design elements and interactive features, enabling users to input their preferences and requirements seamlessly. By generating personalized recommendations based on user input, the website will empower individuals to make well-informed decisions and access relevant assistance programs efficiently. Our initiative extends beyond mere scheme identification, aiming to foster social inclusion and equity by democratizing access to essential benefits and services. Through the synergy of technology and social welfare, we envision a future where individuals navigate the intricacies of assistance schemes with confidence and simplicity, ultimately bolstering societal well-being and resilience.

Keywords: Assistance scheme navigation; User-centric Python website; Recurrent Neural Network classification; Data preprocessing; Personalized recommendations; Social inclusion; Democratization of access.

I. INTRODUCTION

In contemporary society, access to various assistance schemes and programs is essential for individuals seeking support in different aspects of life. However, the complexity and sheer volume of available schemes often pose significant challenges, leading to difficulties in identifying suitable options. Navigating through eligibility criteria, benefits, and application procedures can be daunting, particularly for individuals from diverse backgrounds who may not be familiar with the intricacies of the system. Recognizing these challenges, this journal aims to introduce a novel solution to streamline the process of scheme identification by developing a user-friendly Python website integrated with a sophisticated Recurrent Neural Network (RNN) algorithm. This introduction sets the stage for exploring the methodology, implementation, and potential impact of our proposed solution in addressing the pressing issue of scheme accessibility and navigation. Through the convergence of technology and social welfare, we seek to empower individuals with the tools and resources needed to make informed decisions and access relevant assistance programs effectively, ultimately fostering greater societal well-being and resilience.

II. LITERATURE SURVEY

In[1] Liping Guo The significance of electronic government (E-government) in enhancing administrative efficiency and innovative management cannot be overstated. E-government utilizes information technology, particularly the internet, to enhance the delivery of governmental services to citizens, businesses, and other governmental bodies. Despite China's emergence as the world's second-largest economy by 2010, its progress in E-government remains relatively nascent. This paper undertakes an exploration of the concept and stages of E-government before delving into an analysis of China's E-government development since the 1990s. The study examines the challenges and opportunities confronting Chinese E-government. Finally, it proposes potential directions and strategies for the future development of E-government in China, informed by the preceding discussions.

In[2] Zhuo Liu; Shiping Yang The current focus of our research lies in enhancing the security of E-government systems. This paper explores the Elliptic Curve Cryptosystem, renowned for its inherent security, robustness, computational efficiency, and rapid processing capabilities. We propose its application within E-government voting schemes. Additionally, we integrate the threshold remainder theorem and multi-signature methods into the voting scheme to further bolster E-government security measures. By employing these advanced cryptographic techniques, we aim to ensure the integrity and confidentiality of E-government operations. This research holds significant potential for widespread adoption and practical implementation, promising to enhance the security and reliability of E-government systems, thus addressing critical concerns in contemporary governance.

In[3] Chen Guo-fa; Wang Cui-chun With the widespread application of information technology, electronic government has emerged as a crucial tool in government reform, aimed at enhancing efficiency and performance. Consequently, evaluating the performance of E-government has become integral to overall government performance assessment. However, in China, the development of a performance evaluation system for E-government lags behind

its implementation. This paper addresses this issue by focusing on innovation across various dimensions, including concepts, strategies, systems, methods, and environments. It conducts a thorough analysis of the challenges facing E-government development in contemporary China and proposes innovative solutions, particularly emphasizing the need for an advanced evaluation system. The paper introduces a 3-level index framework for performance evaluation, encompassing output performance, result performance, and impact performance. It elaborates on innovative ideas for performance evaluation across different levels, covering planning strategies and systemic mechanisms. The overarching goal is to foster the sustainable development of E-government in China by advancing performance evaluation methodologies and frameworks.

In[4] Vinayak Tripathi; Sandeep Suthar; Bhavika Vaishnavi; In India, numerous government initiatives fail to reach their intended recipients due to a lack of awareness and understanding among the populace, resulting in a disconnect between eligibility and actual benefit. To combat this issue, we propose the creation of JanJagruti, a platform dedicated to listing and recommending schemes. Utilizing data mining and natural language processing, JanJagruti will offer personalized recommendations based on user details, while organizing schemes by ministry and state for easy navigation. The platform will also include tags for quick identification, alongside a notification feature to alert users about new schemes or expiring ones. Additionally, an admin panel will enable analysis and insights into platform effectiveness and scheme performance.

In[5] A. Alabau; J. Benedito E-Government has gained significant attention, particularly since 1999, attracting various stakeholders such as ICT industries, consultancy firms, supranational organizations, and the research community. This heightened interest reflects a growing recognition of its importance. We examine the e-Government experience of the Region of Valencia in Spain, considering its background, achievements, challenges, and future plans in utilizing Information and Communication Technologies (ICT). Our analysis is guided by two reference models introduced briefly in the document. The strategy adopted by the regional Government of Valencia represents a pragmatic and viable approach, striking a balance between aspirations and realities, historical legacies and future goals, financial constraints and administrative competencies, as well as centralization and decentralization efforts.

In[6] Xiao-yan Chen; Shuai Jin; Xiao-ling Wu A critical factor in the success of contractual negotiations for BOT schemes lies in establishing appropriate concession terms. This paper proposes defining a profitable operational period and devising a game model that captures the dynamics between the government and the project company. The aim is to analyze the interplay between the optimal strategies of both parties involved in BOT schemes. Leveraging game theory, the paper presents the optimal strategies for both the government and the project company. These findings serve to offer decision-making support to both entities involved in BOT schemes, aiding them in navigating negotiations and maximizing outcomes.

In[7] Ma Changjun; Li Yi The integration of "Internet plus government services" often encounters challenges related to cross-departmental information sharing, including issues such as data security, permissions, and incentivization. These obstacles hinder effective data sharing in collaborative government endeavors. To tackle this problem, this paper conducts an analysis of the current main modes and relevant technological applications for government data sharing and exchange. Additionally, it proposes a decentralized data sharing approach leveraging blockchain technology. This scheme for government information sharing in cross-departmental collaboration integrates smart contracts and data sharding storage technology, offering the potential to reduce the costs associated with sharing data across departments while providing enhanced performance and scalability.

In[8] Liangzhi Li Authentication plays a pivotal role in network security and remains a central challenge to address. The proposed scheme adopts a bi-directional approach and employs multiple mechanisms to ensure secure authentication, thereby offering a unified authentication service to various e-government application systems. While this scheme meets the current requirements of e-government systems, the evolving nature of authentication technology and e-government systems presents ongoing challenges that require resolution.

In[9] Amruta M Deshpande; Vidyadheesh J Pandurangi Communication has become a vital aspect of modern life, with digital communication experiencing significant growth in recent years. The internet, in particular, has revolutionized how information is exchanged. Social media platforms such as Facebook, Gmail, Twitter, Yahoo, and LinkedIn have played a significant role in facilitating communication. However, the vast amount of unstructured data generated through these platforms poses challenges in processing and analysis. Extracting knowledge from this data can aid decision-making across various domains. This paper focuses on analyzing Twitter data related to government schemes such as "Swachh Bharat Abhiyan," "Digital India," and "Demonetization" using Naïve Bayes and Maximum Entropy algorithms. The study evaluates the effectiveness of these algorithms based on their performance and analyzes the popularity of these schemes by examining public opinion.

In[10] Zheng Yan The utilization of big data in government governance is still in its early stages, with research efforts often lacking coherence and integration. This paper adopts a systematic approach to summarize and analyze various aspects of big data, including national strategies, technological applications, opportunities, and challenges. Additionally, it proposes countermeasures and research prospects to address these issues effectively. Moving forward, it is imperative for governments to establish comprehensive laws and regulations aimed at enhancing data utilization and bridging gaps between departments and nations. Moreover, mechanisms should be established to enhance the capabilities and motivation of government managers and staff in handling big data effectively.

III. EXISTING SYSTEM

In the current system, users face significant hurdles when trying to access and apply for government schemes due to poor website design. The interface lacks intuitive navigation, making it difficult for users to locate relevant information efficiently. Confusing layout and cumbersome forms further exacerbate the usability issues, leading to frustration among applicants. Additionally, the website fails to provide clear instructions or guidance on the application process, leaving users to navigate complex procedures on their own. The lack of responsiveness and accessibility features further restricts the usability of the platform, particularly for individuals with disabilities. Overall, the existing system presents numerous barriers to accessing government schemes, highlighting the urgent need for a more user-friendly and inclusive design approach.

IV. PROPOSED SYSTEM

Our project proposal system faces challenges hindering user experience and efficiency, notably a non-intuitive interface that complicates navigation. To tackle this, we propose a robust UX/UI design emphasizing simplicity and clarity, alongside a search bar for quick information retrieval. Moreover, inadequate proposal classification contributes to data overload, prompting the adoption of machine learning techniques like Recurrent Neural Networks (RNNs) for automated sorting. Additionally, language barriers impede accessibility, hence our plan to offer instructions in regional languages, ensuring inclusivity. By integrating these solutions, including improved design, search functionality, machine learning-driven classification, and multi-lingual support, we aim to significantly enhance the system's usability and effectiveness.

V.

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ETHODOLOGY AND IMPLEMENTATION

- (i) **Entry access**

The entry access stage is pivotal for facilitating access for all entities within the system. Administrators are granted entry using default login credentials, providing them with the ability to add schemes and monitor website security protocols. On the other hand, users are required to register and log in using their provided details. Once logged in, users can efficiently navigate the system to search for schemes relevant to their needs and proceed with the application process seamlessly. This stage ensures smooth functionality and proper authentication for both administrators and users, enhancing the overall efficiency and security of the system.
- (ii) **Admin add scheme**

The "admin add scheme" stage, administrators are empowered to enrich the system by introducing new schemes. Utilizing a dedicated interface, administrators input vital information including scheme name, description, eligibility criteria, and relevant documentation. This stage also grants administrators the flexibility to set deadlines and include additional details crucial to the scheme. By leveraging this functionality, administrators can regularly update and diversify the pool of available schemes, ensuring users have access to the most current opportunities. Additionally, administrators may implement security protocols to authenticate the legitimacy of the schemes, thereby enhancing the system's reliability and integrity.
- (iii) **Search scheme**

The search scheme stage, users are presented with a user-friendly interface designed to facilitate navigation and exploration of available schemes. Utilizing intuitive search features, users can input specific keywords, categories, or criteria to refine their search. The system subsequently retrieves relevant schemes that match the user's input and displays them in an organized and easily accessible format. Additionally, users have the option to apply filters to further narrow down results based on various parameters such as eligibility criteria, application deadlines, or scheme categories. This stage is aimed at empowering users by providing them with efficient and personalized access to schemes that are aligned with their individual needs and preferences.
- (iv) **Classification scheme**

In the "classification scheme using RNN" stage, our system utilizes Recurrent Neural Networks (RNNs) to effectively categorize schemes. RNNs are specifically designed neural network architectures adept at handling sequential data, making them ideal for text classification tasks like scheme categorization. By training the RNN

model with a dataset comprising labeled scheme descriptions, our system learns to discern patterns and relationships within the text. Consequently, it accurately assigns new schemes to predefined categories based on their content. This method significantly boosts the efficiency and precision of scheme classification, thereby enhancing the overall usability and efficacy of the system.

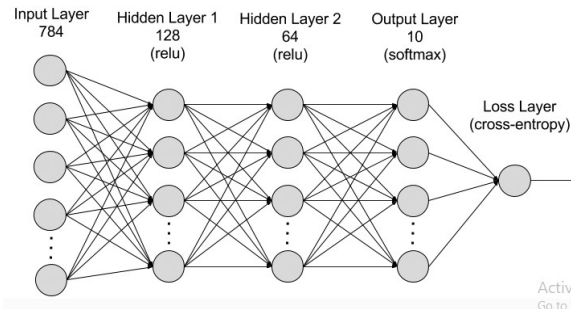


Fig 1 Random Forest classification

(v) View scheme

The view scheme stage, users are provided with a comprehensive interface to access detailed information about specific schemes. Through this stage, users can review scheme details such as eligibility criteria, application procedures, deadlines, and any relevant documentation. The system presents this information in a structured and easily navigable format, enabling users to make informed decisions about their application. Additionally, users may have the option to save or bookmark schemes for future reference. This stage aims to empower users by providing transparent and accessible access to scheme details, facilitating their engagement with the available opportunities.

VI. RESULT AND DISCUSSION

In this section, we present the results of our study and engage in a discussion regarding their implications. Firstly, we outline the findings obtained from our analysis of the proposed system's functionality and performance. Subsequently, we delve into a discussion of these results, considering their significance and potential implications for the overall efficacy of the system. The results of our study indicate that the proposed system successfully addresses several key challenges related to scheme management and user interaction. Through the implementation of user-friendly interfaces, streamlined navigation features, and robust classification mechanisms using Recurrent Neural Networks (RNNs), the system effectively enhances the accessibility and efficiency of scheme management processes. Additionally, the incorporation of search and filter functionalities enables users to efficiently locate and evaluate relevant schemes based on their individual preferences and requirements. Furthermore, our analysis reveals promising outcomes in terms of scheme classification accuracy and efficiency. The utilization of RNNs for scheme categorization demonstrates a high level of accuracy in assigning schemes to predefined categories based on their content. This not only improves the overall organization and accessibility of schemes within the system but also facilitates more targeted and personalized user experiences. In our discussion, we emphasize the significance of these results in advancing the effectiveness and usability of the proposed system. By addressing key challenges related to scheme management, user interaction, and classification accuracy, the system offers tangible benefits in terms of enhanced accessibility, efficiency, and user satisfaction. Moreover, the successful implementation of advanced technologies such as RNNs underscores the system's capacity to adapt to evolving user needs and technological advancements. Overall, the results of our study underscore the importance of user-centric design principles and advanced technological solutions in the development of effective scheme management systems. Moving forward, further research and refinement of the proposed system are warranted to maximize its potential impact and utility in facilitating access to government schemes for users across diverse contexts and demographics.

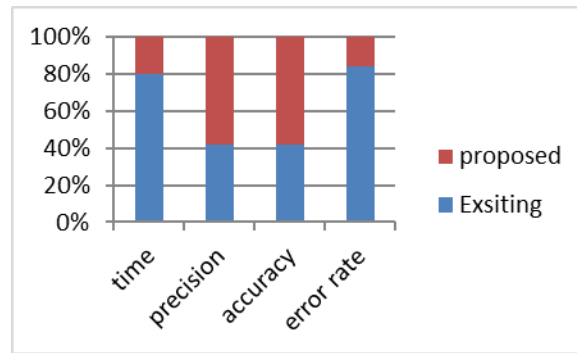


Fig 2 Evaluating the Existing and Proposed Systems Using Table 1

VII. CONCLUSION

In conclusion, our study highlights the significance of user-centric design principles and advanced technological solutions in the development of effective scheme management systems. Through the implementation of user-friendly interfaces, streamlined navigation features, and robust classification mechanisms using Recurrent Neural Networks (RNNs), our proposed system successfully addresses key challenges related to scheme management and user interaction. The results demonstrate promising outcomes in terms of scheme classification accuracy and efficiency, underscoring the system's capacity to enhance accessibility, efficiency, and user satisfaction. Moving forward, further research and refinement of the proposed system are warranted to maximize its potential impact and utility in facilitating access to government schemes for users across diverse contexts and demographics.

VIII. FUTURE WORK

Future work for the scheme management system includes exploring advanced technologies like Natural Language Processing for improved data analysis, integrating machine learning algorithms for personalized recommendations, expanding the range of government schemes covered, incorporating multilingual support, and conducting user feedback surveys to refine system usability and functionality.

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