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Empowering Rural Communities through Information Access

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***Abstract*: Nowadays, many people use smartphones and the internet, but not everyone uses them to their full advantage. When users visit this platform, they receive suggestions and information about applications and websites that can be helpful to them. Additionally, the receiver deeper insights into the functionalities and benefits of these websites, understanding how they can be useful in their specific situations. This platform serves as a guide for individuals who have doubts about online services and feel apprehensive about using them due to their lack of knowledge. It aims to address their concerns and provide assistance in utilizing internet services effectively. By offering personalized suggestions, this platform helps users improve and develop their online experiences. It provides valuable information about the current applications and websites that can be beneficial.**

***Keywords*: Rural informer, GUI design, Rural development, SRS, Database, ER diagram, SDD.**

1. Introduction

In the current digital era, the internet has revolutionized for every sector of services. It has become an essential tool for countless individuals, making their lives easier and more convenient. However, there remains a significant portion of the population that lacks awareness about the usefulness of the internet and does not have idea to utilize it effectively. This is particularly true in our country, where a multitude of online services are available to both rural and urban communities.

The purpose of Rural Informer is to serve as a guide for those who are basically unaware of the online services that exist and how they can benefit from them. It aims to bridge the information gap and provide valuable insights to individuals in rural areas. While internet access is present in these regions, the lack of exposure and information often hinders people from taking advantage of the services available to them.

Rural Informer strives to address this issue by offering comprehensive guidance and information. It aims to empower individuals in rural areas by helping them understand and utilize the online services that can basically improve their lives. By doing so, it aims to enhance their overall well-being and to enhance their overall well-being and ensure that they are not left behind in this digital era.

Rural Informer is a remarkable platform that offers a positive solution for individuals seeking guidance on using internet services effectively and understanding the necessary steps. It proves to be particularly beneficial for those who perceive English as a barrier hindering their ability to utilize online services. This platform serves as a development as it is designed to cater to multiple languages, thus overcoming language barriers. Presently, Rural Informer functions as a user-friendly, presenting a single-page interface that offers valuable information on numerous useful websites and applications. It serves as a comprehensive guide, instructing users on how to navigate and make the most of these services. Whether registered or unregistered users, everyone can beneficial from the platform's offerings. Furthermore, the Rural Informer employs an innovative order model within the system dynamics, showcasing its dynamic behaviour under various operating and environmental conditions.

When an unregistered user visits the website, they can access information about various services and applications. They can follow the provided steps to use these services, but they do not have access to write or submit any content. Their access is limited to reading the information available. On the other hand, registered users are individuals who have completed the registration process on the website. They have the privilege to utilize the comment option, allowing them to ask questions or seek clarification about any information or steps related to the services. Additionally, registered users can respond to queries posted by other users if they possess the knowledge to provide relevant answers.

The primary objective of this platform is to raise awareness among all individuals by fostering a community-driven approach. Users who are actively engaged on this website contribute to spreading knowledge and information to other users, thereby creating a collective awareness among the community

The platform includes an admin role responsible for adding informative blogs about new websites or applications. The admin can also interact with users, addressing their queries and concerns promptly. In case a user posts irrelevant or inappropriate content, the admin has the authority to issue warnings and, if necessary, block their access. The platform is designed to continuously evolve and improve based on user requirements and to address any ambiguities that may arise. The admin's active involvement ensures efficient moderation and provides users with instant responses to their inquiries.

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A. Software Requirement Specification

It basically aims to establish the software requirement specifications for Rural Informer. Rural Informer is a website specifically designed to cater to the needs of individuals residing in rural areas. Its primary objective is to provide accessible information about various websites and applications that are beneficial for rural communities. The platform also offers step-by-step instructions, presented in easily understandable English, along with visual aids such as photos and videos. This approach addresses the language barrier commonly faced by rural individuals and ensures that they can effectively navigate and utilize the featured websites and applications.

The Software Requirement Specification (SRS) is a dynamic document that evolves alongside the development of the Rural Informer website. It process serves the purpose of providing a comprehensive description of the development process for the website. The primary objective behind creating this website is to cater to the needs of rural individuals, including students and women, who possess android phones and internet access. Currently, their internet usage is limited to watching videos, movies, and listening to songs. Recognizing this, the idea emerged to develop a website that empowers them to use their android phones and the internet in a manner similar to individuals in metropolitan cities. The website is aptly named Rural Informer.

Rural Informer aims to guide rural individuals by introducing them to various beneficial websites and android applications. It provides comprehensive information on how to effectively utilize these websites and applications. Furthermore, the platform allows users to seek assistance by posing queries related to website or application usage. Both the admin and authorized users have the authority to respond to these queries, ensuring that users receive timely and accurate guidance.

B. Functional/Non-functional Requirements

Functional Requirements are follows:

1) Admin

- Real-time database login functionality should be implemented.
- The admin should have the ability to manage user queries on the website and take appropriate actions on posts that are deemed irrelevant.
- Account management capabilities should be provided, allowing for the deletion or blocking of accounts.
- The website should be adaptable to changes in other websites and applications, with the ability to incorporate additional features as needed.

User requirements are as follows:

- The website should enable users to access step-by-step information about various websites and applications.
- Users should be able to browse all pages and access information even without logging into their accounts.
- Each user should be allowed to create only one account with a unique ID.
- After a successful login, users should have the ability to edit their profiles within the application.
- Users should be able to search for information based on specific categories.
- Registered users should be able to post queries on the website.
- Registered users should have the capability to respond to queries posted by other users.
- Users should have the option to add comments to the content on the website.

Non-functional Requirements:

Performance Requirements are listed as:

The following is a list of the performance requirements to indicate how the website is performing.

1. The website should maintain uninterrupted availability.
2. Regular updates must be implemented on the website to ensure that the information provided is up to date.
3. Accuracy of all information presented on the website must be guaranteed.
4. The system should be designed to be lightweight and perform tasks efficiently, ensuring fast response times.

2) Safety requirements

The following is a list of safety requirements to how the system shall prevent any possible threat to human lives.

1. Unauthorized users should not be allowed to post queries or provide replies within the system.
2. The admin should have the necessary control and authority to address any potential risks or concerns that may arise.

3) Security requirements

A secure social authentication or application registration process will be implemented to ensure the security of user data. In cases where the administrator identifies any irrelevant or inappropriate data, they will have the authority to delete the respective account. As a social networking site, users will have access only to their own profiles, and to ensure this, a robust authentication mechanism will be in place for all users.

C. Technical Requirements (Hardware/Software)

1) Operating Environment

The system should be compatible with various operating systems, including different versions of Windows and Linux environments. As a website, it will be accessible on any operating system that supports internet browsers such as Google Chrome, Firefox, Safari, Internet Explorer, and other latest browser versions. Furthermore, the website will be fully responsive, ensuring seamless functionality on android devices as well.

2) Hardware Interface

1. The system should be compatible with both 32-bit and 64-bit systems, ensuring platform independence.
2. The system should have the capability to interact with inbuilt modules and libraries, allowing users to download and utilize additional interacting libraries as needed.
3. The system should be accessible through command line interfaces, providing users with a command-based

interaction experience.

3) Software Interface

1. *Operating system:* The system should be compatible with all versions of Windows, Linux, Android, and iOS.
2. *Database:* MongoDB will be utilized as the preferred database.
3. *Tools Used:* The development process will involve the use of tools such as Visual Studio, Sublime Text, and Robo 3T.

4) Communication Interface

1. The system should support websites with HTTPS protocol, ensuring secure communication, and provide a continuous (24*7) response.
2. Users should have the option to contact through user ID or email for communication purposes.
3. The system should be available globally, accessible across various services and platforms via HTTP.

D. System Features

1) Module 1

Registration: If a user does not have an account, they can access general information through the provided blogs. However, for specific classified information, they can utilize the search feature. To ask queries or doubts, user registration is required. Once registered, users gain permission to ask and reply to queries. This process involves unregistering, registering, and obtaining the necessary privileges for active participation in the platform.

Login: Users have the option to log in using their gmail ID and password after completing the registration process. Similarly, the admin will also follow the same steps to log in as an admin.

2) Module 2

Each user who signs up in the application will have a unique profile associated with their account. To ensure privacy, the application includes a "Follower" feature, enabling users to follow and communicate with other users.

3) Module 3

Focuses on the homepage functionality, allowing users to upload their own content. Followers of a user can view their profile, provide comments, and like their suggestions.

4) Module 4

In a Real-Time Database using MongoDB is utilized to store user information. If a user decides to delete information from their profile, the corresponding data will also be removed from the MongoDB database.

E. Software Design

1) Introduction

Rural Informer aims to empower rural individuals by providing them with intellectual opportunities similar to those available in metro or other urban areas, through the use of the internet. The Software Requirements Specification (SRS) will serve as a comprehensive process outlining the specific requirements for the development of the rural informer website. This SRS will enable a thorough understanding of the envisioned rural informer platform and its functionalities, facilitating the development of suitable software for the end users. It will lay the foundation for the project, guiding the design, construction, and eventual testing phases of rural informer.

F. Feasibility

1) Technical Feasibility

The technical considerations are as follows:

1. Developing a data schema or structure that is flexible enough to accommodate different types of databases, ensuring ease of development without complexity.
2. Allocating resources in a sustainable manner for website maintenance, development, portal promotion, and support.
3. Mitigating the risk of technological advancements making the proposed solution outdated or requiring significant modifications.
4. Addressing potential challenges arising from changes in security policies of member organizations that may impact database access

2) Legal Feasibility

The main objectives of the legal feasibility analysis are as follows.

1. The project must comply with all applicable legal requirements.
2. Risks and obstacles should be identified and addressed through thorough technical analyses, financial modelling, and Value for Money analysis to facilitate effective risk management.
3. Clear requirements should be defined and considered at each subsequent stage to minimize major problems during the project's development and implementation.

3) Operational Feasibility

1. Involving users in the planning and development stages of the project helps minimize resistance to the new system. Early engagement increases user acceptance and reduces the likelihood of pushback towards the implemented changes.

2. Results

A. Registration

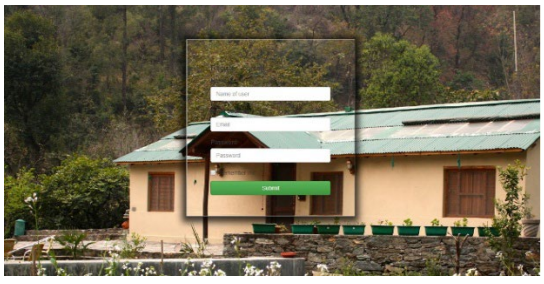

Fig. 1. Registration page

To access information, please complete the registration process by clicking on the registration tab. This will enable you to ask questions and also contribute by writing blogs for new users.

B. Login page

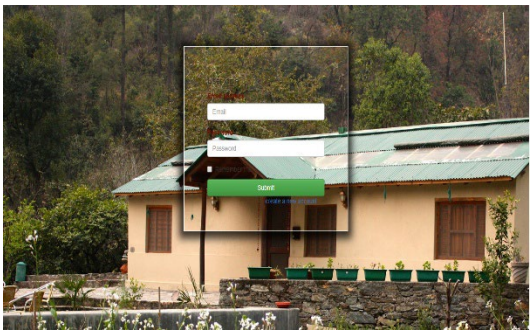

Fig. 2. Login page

Once users have completed the registration process, they can proceed to log in and gain access to the information they seek.

C. Educational Tab

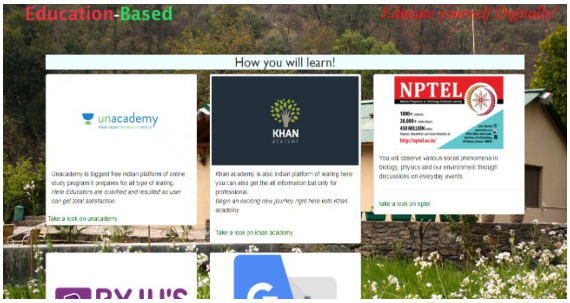

Fig. 3. Educational tab

Within the educational tab, you will discover a wide array of websites dedicated to education.

These websites provide valuable knowledge and insights, allowing you to explore their various applications.

D. Employment Tab

Fig. 4. Employment tab

This tab is specifically designed for employment purposes. Users can navigate to this section to find a comprehensive list of job vacancies that align with their interests and skills

E. Payment Tab

This particular tab serves as a resource for online payment methods, catering to users who are keen on expanding their knowledge in this area.

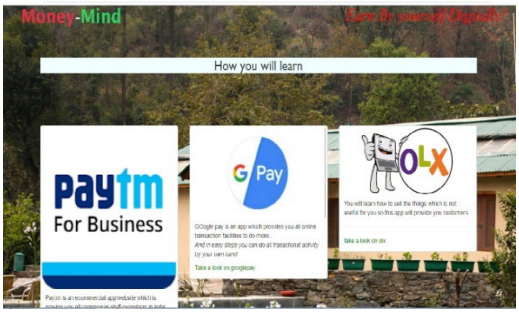

Fig. 5. Payment tab

Here, users can access information and learn about various online payment systems and methods available.

F. Guide Tab

Fig. 6. Guide tab

This tab proves to be invaluable for frequent travelers, as it provides comprehensive guidance on maps, hotels, and must-visit destinations. It serves as a valuable resource to assist and direct individuals who love to travel, offering them useful information and recommendations.

3. Conclusion

Looking back on this project, the overall outcome is aimed at bringing about tangible results. Rural Informer serves as a unique platform designed specifically to cater to the needs of rural communities. It provides valuable information and understanding about various websites and applications that are beneficial and relevant to them. The primary objective is to bridge the gap between rural users and the digital world by offering knowledge and step-by-step guidance on how to effectively navigate and utilize these websites and applications. One of the major challenges faced by rural individuals is the language barrier, and Rural Informer addresses this concern by providing information in a user-friendly and easily understandable manner.

The significance of Rural Informer extends beyond language barriers. It serves as a beacon of hope for those who perceive English as a hindrance to their utilization of internet services. By offering information and support in their native language, the website empowers individuals to overcome their reservations and take full advantage of the online world.

Rural Informer covers a wide range of categories, including education, business, smart technologies, pricing, and earning opportunities. Users can explore these categories to find

tailored information that meets their specific needs and interests.

Additionally, the platform encourages users with expertise in any particular website or application to share their valuable insights and knowledge with others. This collaborative environment fosters a sense of community and enables individuals to learn from one another, further enhancing their understanding and utilization of digital resources.

As Rural Informer continues to evolve, it aspires to be a comprehensive resource that empowers rural communities by providing them with the necessary tools and knowledge to navigate the online world confidently. Through its user-friendly interface, informative content, and collaborative approach, Rural Informer aims to bridge the digital divide and contribute to the overall development and empowerment of rural populations

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