A Project Report on

BHARAT CITIZEN PORTAL

A Dissertation submitted to JNTU Hyderabad in partial fulfillment of the academic requirements for the award of the degree.

Bachelor of Technology

In

Computer Science and Engineering

Submitted by

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(UGC Autonomous)

*Approved by AICTE *Affiliated to JNTUH *NAAC Accredited with A+ Grade

KANDLAKOYA, MEDCHAL ROAD, HYDERABAD - 501401.

2020-2024

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CERTIFICATE

This is to certify that the Major Project report entitled "BHARATH CITIZEN PORTAL" being submitted by K.Sushmitha (20H51A0539) E. Priyanka (20H51A0589) and Rajnish Yadav (20H51A05P8) in partial fulfillment for the award of Bachelor of Technology in COMPUTER SCIENCE AND ENGINEERING is a record of bonafide work carried out under my guidance and supervision.

The results embodied in this project report have not been submitted to any other University or Institute for the award of any Degree.

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ACKNOWLEDGEMENT

With great pleasure, we want to take this opportunity to express our heartfelt gratitude to all the people who helped in making this project a grand success.

We are grateful to our guide **Ch. Raja Kishore Babu**, Associate Professor, Department of Computer Science and Engineering for his valuable technical suggestions and guidance during the execution of this project work.

We would like to thank, **Dr. Siva Skandha Sanagala**, Head of the Department of Computer Science and Engineering, CMR College of Engineering and Technology, who is the major driving force to complete our project work successfully.

We are very grateful to **Dr. Ghanta Devadasu**, Dean-Academics, CMR College of Engineering and Technology, for his constant support and motivation in carrying out the project work successfully.

We are highly indebted to **Major Dr. V A Narayana**, Principal, CMR College of Engineering and Technology, for giving permission to carry out this project in a successful and fruitful way.

We would like to thank the **Teaching & Non- teaching** staff of Department of Computer Science and Engineering for their co-operation.

We express our sincere thanks to **Shri. Ch. Gopal Reddy**, Secretary& Correspondent, CMR Group of Institutions, and **Shri. Ch. Abhinav Reddy**, CEO, CMR Group of Institutions for their continuous care and support.

Finally, we extend thanks to our parents who stood behind us at different stages of this Project. We sincerely acknowledge and thank all those who gave support directly or indirectly in completion of this project work.

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ABSTRACT

The proposed system is a web application which enables Citizens of India to avail the various centralized schemes sanctioned by the Government of India. The job of this system is to efficiently collect information and inform people about their status regarding their applications. The applicants explore utilizing features from the Government Sanctioned Schemes and utilized for procuring necessary data for further analysis for the citizens and availing various schemes by given them pointers. India is still struggling with the growing housing ,pension and other necessity problems , especially for the citizens of India. There are many issues regarding the acceptance of home loans, education loans, pensions that are acting like subsidies. Then the research also includes a thorough evaluation of the applicants' details and inform them. This system also aims to enhance the effectiveness of finding appropriate schemes for the applicant and helping genuine candidates for getting benefits of Schemes of the Government. The project is mostly about detecting relevant information and the irrelevance in the applications to avail various resources from the government to the citizens using Big Data Analytics. The whole project is divided into two main phases, which are analyzing the applications with a suitable set of Machine Learning algorithms and then training machine and Deep Learning methods on derived features to recognize correct and wrong information. The website is built on interactive frontend web technology and Data Structures for extracting various types of information by executing backend code while dynamic analysis extracts feature during code execution or emulation on the data in database.

CMRCET	B. Tech (CSE)	5 P a g e

CHAPTER 1 INTRODUCTION

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1.1 PROBLEM STATEMENT

In the digital era, accessibility to government schemes and services plays a pivotal role in ensuring the welfare and empowerment of citizens. Recognizing this imperative, the Government of India proudly presents the Bharat Citizen Portal – a revolutionary platform designed to bridge the gap between citizens and the plethora of central government schemes. The Bharat Citizen Portal embodies the spirit of digital governance, aiming to streamline the process of availing benefits from various central government schemes. By empowering citizens with easy access to central government schemes, the Bharat Citizen Portal paves the way for a brighter and more inclusive future for India. It not only enhances the quality of life for individuals but also contributes to the overall socio-economic development of the nation. Through the Bharat Citizen Portal, the government reaffirms its commitment to these principles by providing transparent information about various schemes, including eligibility criteria, application procedures, and disbursal mechanisms. This ensures that citizens are well-informed and can hold the government accountable for the delivery of promised benefits. The Bharat Citizen Portal aims to bridge the gap between citizens and the government, fostering a more inclusive and responsive governance system. With just a few clicks, citizens can now access information, apply for schemes, and track the status of their applications from the comfort of their homes. The following major issues are the focus of this problem statement:

Digital Divide and Accessibility: Despite efforts to promote digital literacy and connectivity, a significant portion of the population, especially in rural and remote areas, still lacks access to the internet and digital devices. This digital divide hampers the reach and effectiveness of the Bharath Citizen Portal, limiting its accessibility to those who need it the most.

Complexity and Lack of Awareness: Many citizens, particularly those from marginalized communities, may struggle to navigate the complexities of the Bharath Citizen Portal or may be unaware of its existence altogether. This lack of awareness leads to underutilization of the portal and prevents eligible individuals from availing themselves of government schemes.

Data Privacy and Security Concerns: As the Bharat Citizen Portal collects and processes sensitive personal data of citizens, including Aadhaar information and financial details, ensuring robust data privacy and security measures is paramount. Breaches or misuse of this data could erode trust in the portal and deter citizens from using it.

1.2 RESEARCH OBJECTIVE

This study's main goal is to provide citizens with a convenient and user-friendly platform for accessing government services and information and promote transparency in governance by providing citizens with easy access to information about government policies, schemes, and initiatives. Investigating the level of awareness among citizens regarding the Bharat Citizen Portal and assess the extent to which it is utilized for accessing central government schemes. Analyze factors influencing utilization, including awareness campaigns, user interface design, and ease of navigation. Explore user experiences with the Bharat Citizen Portal, including satisfaction levels, challenges encountered during the application process, and suggestions for improvement. Investigate usability issues, user preferences, and the effectiveness of support mechanisms provided. It seeks to evaluate the accessibility and reach of these schemes, identifying any barriers or challenges faced by beneficiaries. Additionally, the research intends to assess the economic and social outcomes of these schemes, including their role in promoting education, homeownership, retirement security, and financial stability.

The research intends to assess the economic and social outcomes of these schemes, including their role in promoting education, homeownership, retirement security, and financial stability. Government schemes in India are instrumental in addressing various socio-economic challenges and improving the quality of life for its citizens. This research aims to shed light on their performance, assess their impact on the targeted beneficiaries, and identify potential areas of improvement. By examining the design, implementation, and outcomes of these government programs, the research aims to provide valuable insights into their strengths, weaknesses, and areas for improvement, ultimately contributing to informed policy recommendations and the enhancement of these critical social safety nets.

The ultimate goal of this research is to create a transparent, efficient, and participatory system that serves the needs of all citizens of India. This research will contribute to a deeper understanding of the role of government schemes in India's development landscape. It will provide valuable insights for policymakers, government agencies, and stakeholders, enabling them to make informed decisions to enhance the effectiveness and inclusivity of these schemes for the better.

1.3 PROJECT SCOPE

The scope of the project for the Bharat Citizen Portal should align with the overarching goal of improving citizen-government interactions, enhancing transparency, and providing convenient access to essential services. Providing proper services like education loan, provident funds, pensions, home loans. The portal prioritizes providing a user-friendly interface that enables citizens to access a wide range of government services and information from anywhere, at any time. The following crucial areas will be the project's main focus:

- 1. Home loans subsidy: Home loan schemes typically have specific criteria that individuals must meet to qualify for the loan. The project will entail gathering a varied dataset of reviews if the applicant follows the criteria. Applicants must be residents of the country where the scheme is implemented. Applicants may be required to demonstrate stable employment or a regular source of income to qualify for the loan. This ensures that borrowers have the financial means to repay the loan amount. A minimum monthly income of Rs 25,000 is required to qualify for a home loan. For salaried individuals, the age range is from 20 to 65 years, while self-employed individuals can apply within the age bracket of 21 to 70 year. Economically Weaker Sections (EWS), Low-Income Groups (LIG), Middle-Income Groups (MIG) are the stake holders of the project.
- 2. **Education loans:** The main goal of the project to get Government education loan will have specific criteria that individuals must meet to qualify for the loan. Applicants are typically required to provide certain documents to support their loan application, such as proof of identity, admission letter from the educational institution, course fee details, income documents (if applicable), and any other relevant documents as specified by the scheme. Depending on the scheme and the borrower's financial circumstances, a co-applicant or guarantor may be required to support the loan application. Co-applicants/guarantors typically provide additional security for the loan and may be required to demonstrate their financial stability.
- 3. **Provident funds:** Retirement savings schemes established by employers to provide financial security to employees after retirement. Employees must typically be in formal employment with an employer covered by the provident fund scheme to be eligible to participate. This may include full-time, part-time, or contractual employees, depending on the rules of the scheme. The criteria for the amount of contributions may vary, but they are often based on a percentage of the employee's salary or wages. The EPF scheme aims to provide social security and retirement benefits to working professionals. Employees must contribute a minimum of 12% of their salary.

4. **Pensions for retired employees**: The criteria for pensions for retired individuals can vary depending on the type of pension scheme or retirement plan they are enrolled in, as well as the regulations governing it. There is typically a minimum age requirement for individuals to be eligible to receive a pension. This age requirement may vary depending on the specific pension scheme, but retirement age commonly ranges from 55 to 65 years old. The upper age limit is considered as the age at the time of loan maturity. It's important for individuals to familiarize themselves with the specific eligibility criteria and rules of their pension scheme to understand their pension benefits and plan for retirement effectively. Employers, pension administrators, and government authorities should also communicate pension eligibility criteria clearly to ensure that individuals can access their pension benefits without confusion or difficulty.

CHAPTER 2 BACKGROUND WORK

CHAPTER 2

BACKGROUND WORK

The Bharat Citizen Portal is essentially a virtual bridge between Indian citizens and government services, but its construction requires careful attention to detail. Behind its user-friendly interface lies a labyrinth of coding and infrastructure development, meticulously crafted by skilled engineers and IT professionals. Integrating diverse government databases and systems into a cohesive platform demands thorough planning and coordination among various departments.

Additionally, stringent security measures are implemented to safeguard citizens' sensitive data, with encryption protocols and firewalls being just a few components of the portal's robust security architecture. Moreover, user experience design plays a crucial role, with extensive testing and optimization ensuring that navigating the portal is intuitive and efficient for citizens of all backgrounds. Together, these efforts culminate in a digital ecosystem that empowers citizens by providing convenient access to essential government services while upholding the highest standards of security and usability.

2.1 Existing Method 1: Pradhan Mantri Awas Yojana

2.1.1. Introduction

The Pradhan Mantri Awas Yojana (PMAY) is a flagship affordable housing scheme launched by the Government of India in 2015. It aims to provide housing for all by the year 2022, particularly targeting economically weaker sections (EWS), lower-income groups (LIG), and middle-income groups (MIG) in urban and rural areas. The Ministry of Housing and Urban Affairs (MoHUA) introduced the **Pradhan Mantri Awas Yojana** – Urban (PMAY-U) on 25 June 2015. The initiative aims to provide a pucca house to all eligible urban households by 2022 in order to address the lack of urban housing among the EWS/LIG and MIG categories, which includes those living in slums. The Union Cabinet has decided to extend **PMAY(U)** till 31 December 2024.

Basic utilities including a kitchen, toilet, water supply, and electricity are provided in every house under the PMAY-U. The mission offers homeownership under the joint or sole name of a female member, thereby promoting women empowerment. Additionally, SCs, STs, OBCs, single women, transgender people, differently-abled people, senior citizens, and other vulnerable groups in society have all been given preference. The PMAY-U ensures that the beneficiaries have a sense of security and pride in their houses and live a dignified life.

Highlights of PMAY Scheme:

- 1. **Subsidized Interest Rate -** Enjoy a low 6.50% p.a. interest rate on housing loans for 20 years.
- Priority for Special Groups Differently-abled and senior citizens receive preferential ground floor allocations.
- 3. **Eco-Friendly Construction -** Sustainable and environmentally conscious technologies utilized in building.
- 4. **Pan-India Coverage -** The scheme spans 4041 statutory towns, with initial priority given to 500 Class I cities in 3 phases.
- 5. **Early Credit-Linked Subsidy -** Implementation of the credit-linked subsidy begins at the project's inception, covering all statutory towns in India.

2.1.2 Merits, Demerits, and Challenges

Merits

- Addressing Housing Needs: PMAY addresses the basic need for shelter by providing affordable housing options to economically disadvantaged sections of society.
- **Financial Assistance:** The scheme offers financial assistance in the form of interest subsidies on home loans, making homeownership more accessible and affordable.
- **Economic Stimulus:** PMAY generates employment opportunities in the construction sector, contributing to economic growth and development.
- **Empowerment:** By facilitating homeownership, PMAY empowers individuals and families economically and socially, fostering a sense of pride and stability.

Demerits

- **Beneficiary Identification:** The identification and verification of eligible beneficiaries can be challenging, leading to delays and discrepancies in the distribution of benefits.
- Quality Concerns: Ensuring the quality and durability of constructed housing units is essential, as substandard construction practices may compromise safety and longevity.
- **Bureaucratic Hurdles:** Administrative bottlenecks and bureaucratic procedures can hinder the timely disbursement of funds and execution of housing projects.
- Land Availability: Availability of suitable land for housing projects, especially in urban areas,

remains a significant challenge due to land scarcity and high real estate prices

Challenges

- Land Acquisition: Acquiring land for housing projects, especially in urban areas, poses a significant challenge due to high land prices and legal complexities.
- Coordination with Stakeholders: Coordinating with various stakeholders, including state governments, local authorities, and private developers, is essential for effective implementation.
- Transparency and Accountability: Ensuring transparency and accountability in the allocation of funds
 and selection of beneficiaries is crucial to prevent corruption and ensure equitable distribution of
 benefits.
- Monitoring and Evaluation: Regular monitoring and evaluation mechanisms are necessary to assess
 the progress of PMAY projects and address any challenges or shortcomings encountered during
 implementation.

2.1.3 Implementation

Policy Formulation: Central and state governments collaborate to formulate policies and guidelines for the implementation of PMAY schemes.

Financial Planning: Allocation of funds and financial assistance to eligible beneficiaries are carried out based on income levels and housing requirements.

Public-Private Partnerships: Leveraging public-private partnerships helps in accelerating the pace of construction and maximizing the impact of PMAY initiatives.

Monitoring and Evaluation: Regular monitoring and evaluation mechanisms are in place to assess the effectiveness of PMAY schemes and address any challenges or shortcomings encountered during implementation.

Figure 2.1 Research Phases

Beneficiary	Annual Income
Middle Income Group I (MIG I)	Rs.6 lakh to Rs.12 lakh
Middle Income Group I (MIG II	Rs.12 lakh to Rs.18 lakh
Lower Income Group (LIG)	Rs.3 lakh to Rs.6 lakh
Economically Weaker Section (EWS)	Up to Rs.3 lakh

2.2 Existing Method 2: Atal Pension Yojana (APY)

2.2.1. Introduction

The Atal Pension Yojana (APY) is a social security scheme launched by the Government of India in 2015. It aims to provide pension benefits to the unorganized sector workforce, particularly those who are not covered by any formal pension scheme. Named after former Prime Minister Atal Bihari Vajpayee, the scheme seeks to ensure financial security for individuals during their old age by encouraging them to save for retirement through regular contributions. Atal Pension Yojana (APY), a pension scheme for citizens of India is focused on the unorganized sector workers. Under the APY, guaranteed minimum pension of Rs. 1,000/- or 2,000/- or 3,000/- or 4,000 or 5,000/- per month will be given at the age of 60 years depending on the contributions by the subscribers. Any Citizen of India can join APY scheme. Following are the eligibility criteria:

- The age of the subscriber should be between 18 40 years.
- He/She should have a savings bank account/ post office savings bank account.

The prospective applicant may provide Aadhaar and mobile number to the bank during registration to facilitate receipt of periodic updates on APY account. However, Aadhaar is not mandatory for enrolment. The contributions can be made at monthly/quarterly/half yearly intervals through auto-debit facility from savings bank account/post office savings bank account of the subscriber. The monthly/quarterly/half yearly contribution depends upon the intended/desired monthly pension and the age of subscriber at entry. The contribution may be paid to APY through savings bank account/ post office savings bank account on any date of the particular month, in case of monthly contributions or any day of the first month of the quarter, in case of quarterly contributions or any day of the half year, in case of half-yearly contributions

2.2.2 Merits, Demerits, and Challenges

Merits

- **Financial Security:** APY provides financial security to individuals during their old age by offering a guaranteed pension amount.
- **Affordability:** The scheme is affordable, with contributions based on the subscriber's age and chosen pension amount, making it accessible to low-income earners.
- **Flexibility:** Subscribers have the flexibility to choose their pension amount and contribution frequency based on their financial capacity and retirement goals.
- Government Co-contribution: The government provides co-contribution to eligible subscribers,

enhancing their pension benefits and incentivizing savings for retirement.

Demerits

- **Limited Coverage:** APY primarily targets the unorganized sector workforce, leaving out individuals working in the formal sector who may also require pension benefits.
- **Dependence on Contributions:** The effectiveness of the scheme depends on regular contributions from subscribers, and lapses in contributions may result in reduced pension benefits.
- **Inflation Risk:** The pension amount under APY is fixed, which may not adequately account for inflation, potentially reducing the purchasing power of pension benefits over time.
- Administrative Challenges: Managing a large number of subscribers and ensuring timely disbursement of
 pension benefits can pose administrative challenges for the implementing authorities.

Challenges

- Awareness and Outreach: Ensuring awareness about APY and reaching out to potential subscribers, especially in rural and remote areas, remains a challenge.
- Enrollment and Documentation: Streamlining the enrollment process and addressing documentation requirements for subscribers, particularly those with limited access to formal documentation, is crucial for increasing participation.
- **Sustainability:** Ensuring the long-term sustainability of the scheme by balancing contributions, pension payouts, and administrative costs is essential for its continued success.
- **Technology Integration:** Leveraging technology for efficient management of subscriber data, contributions, and pension disbursements can help overcome administrative challenges and improve the effectiveness of APY.

2.2.3 Implementation

- Awareness Campaigns: Conducting awareness campaigns through various channels, including media, grassroots organizations, and government initiatives, to educate potential subscribers about the benefits of APY.
- **Enrollment Drives:** Organizing enrollment drives and outreach programs to facilitate the registration of subscribers, with a focus on underserved communities and marginalized groups.
- **Technology Adoption:** Integrating technology for online enrollment, contribution tracking, and pension disbursements to streamline administrative processes and improve transparency.
- **Monitoring and Evaluation:** Implementing robust monitoring and evaluation mechanisms to track subscriber participation, contributions, and pension payouts, and identify areas for improvement in the implementation of APY.

2.3 Existing Method 3: Employee Provident Fund (EPF)

2.3.1. Introduction

Employee Provident Fund (EPF) is a social security and retirement savings scheme managed by the Employees' Provident Fund Organization (EPFO) in India. Established under the Employees' Provident Funds and Miscellaneous Provisions Act, 1952, EPF is aimed at providing financial security to employees during retirement and other contingencies. Both employees and employers make contributions to the EPF account, which accumulates with interest over time. The Employees' Provident Fund or EPF is a popular savings scheme that has been introduced by the EPFO under the supervision of the Government of India. The employee and employer each contribute 12% of the employee's basic salary and dearness allowance towards EPF. The current rate of interest on EPF deposits is 8.15% p.a. The accrued interest on the EPF is tax-free and can be withdrawn without paying for the same. Employees avail of a lump-sum amount on their retirement, which is inclusive of the accrued interest. Individuals can apply to avail of various online services of EPF India by accessing the official portal. The EPF online portal is a user-friendly platform that ensures the flow of services is transparent, efficient, and hassle-free. EPFO or Employees' Provident Fund Organisation is a non-constitutional body that promotes employees to save funds for retirement. EPFO was launched in 1951 and is governed by the Ministry of Labour and Employment. It offers schemes that cover Indian and international workers.

Here are the eligibility requirements that must be met to join an EPF scheme-

- The Employee Provident Fund is open for employees of both the Public and Private Sectors, which means all employees can apply to become a member of EPF India.
- Any organization that employs at least 20 individuals is deemed liable to extend the benefits of EPF to its employees.
- After becoming an active member of the EPF scheme, the employees are eligible to avail of several Employees Provident Fund benefits, including insurance benefits and pension benefits

2.3.2 Merits, Demerits, and Challenges

Merits

- **Retirement Security**: EPF provides a reliable source of income for employees after retirement, ensuring financial security during old age.
- **Employer Contribution:** Employers are required to match employee contributions to the EPF account, enhancing the retirement savings of employees.
- **Tax Benefits:** EPF contributions are eligible for tax deductions under Section 80C of the Income Tax Act, providing additional incentives for saving.
- Loan Facility: Subscribers can avail themselves of loans against their EPF balance for various purposes such as housing, education, and medical emergencies.

Demerits

- **Fixed Returns:** EPF offers fixed returns on contributions, which may not keep pace with inflation, potentially eroding the real value of savings over time.
- Limited Flexibility: Withdrawal from the EPF account is subject to certain conditions and restrictions, limiting the flexibility of subscribers to access their savings when needed.
- **Dependency on Employment:** EPF contributions are tied to employment, and interruptions or gaps in employment may affect the continuity of savings and benefits.
- Administrative Hassles: Managing EPF accounts and ensuring compliance with regulatory requirements can be cumbersome for employers and employees alike, leading to administrative challenges.

Challenges

- Handling variability in user-generated content: User-generated content often exhibits variability
- **Enrollment and Coverage:** Ensuring universal coverage and enrollment of all eligible employees, including those in the informal sector, remains a challenge for EPF authorities.
- **Compliance and Enforcement:** Ensuring compliance with EPF regulations by employers and addressing instances of non-compliance require effective enforcement mechanisms and monitoring.
- **Investment Management:** Managing EPF investments and optimizing returns while ensuring safety and stability of the fund is a constant challenge for EPF authorities.
- **Technology Integration:** Leveraging technology for seamless management of EPF accounts, online transactions, and grievance redressal is essential for improving efficiency and accessibility.

2.3.3 Implementation

- **Employer Compliance:** Ensuring employers comply with EPF regulations by deducting and depositing contributions on behalf of employees in a timely manner.
- **Employee Education:** Educating employees about the benefits of EPF, the importance of regular contributions, and the various withdrawal options available to them.
- **Technology Upgradation:** Investing in technology infrastructure to digitize EPF processes, improve transparency, and streamline administrative procedures.
- Monitoring and Audit: Regular monitoring, audits, and inspections to ensure compliance with EPF regulations and detect instances of fraud or non-compliance.

2.4 Existing Method 4: Vidya laxmi yojana

2.3.1. Introduction

Vidya Lakshmi is a portal for students to apply for education loans, view and track applications, and access information about educational loan schemes. The portal was launched by the Government of India on August 15, 2015, and is maintained by Protean eGov Technologies Limited. The portal was developed with the help of the Department of Financial Services, the Department of Higher Education, and the Indian Banks Association. the **Vidya Lakshmi Karyakram**, the Vidya Lakshmi Portal is an online portal for students to explore, compare, and apply for educational loans and scholarships.

The Vidya Lakshmi platform was launched by the Indian government to simplify the process of availing educational loans and scholarships. It serves as a one-stop solution for students seeking financial assistance to pursue higher education in India or abroad. The portal provides a user-friendly interface, enabling students to browse through various loan schemes and scholarships offered by different banks and government bodies. To answer what is Vidya Lakshmi education loan, it encompasses financial support provided to students for covering various educational expenses, including tuition fees, books, accommodation, and other necessary costs associated with pursuing higher education. This initiative ensures that financial constraints do not hinder a student's educational aspirations. You can track the status of your education loan application by logging into your account on the Vidya Lakshmi portal and clicking on the 'Application Status' tab. It will provide real-time updates on the progress of your application at various stages.

The eligibility criteria for education loans from the Vidya Lakshmi portal is as follows:

- The applicant should be an Indian citizen.
- The applicant should have successfully completed the required qualifying exams for the course they wish to pursue.
- The applicant should have secured admission to a recognized institution in India or abroad. The institution should be approved by a competent authority or recognized by a government body.

The Vidya Lakshmi portal provides students with a one-stop platform to access extensive information about different education loan schemes and government scholarships and subsidy schemes. It serves as a centralized hub for education loans and scholarships, offering a single window for students to explore their options. With the Vidya Lakshmi portal, students have the convenience of tracking their education loans anytime and anywhere, ensuring easy accessibility and monitoring.

- Comprehensive information: The portal offers a comprehensive database of information on various education loan schemes available from different banks and financial institutions. It provides details such as eligibility criteria, interest rates, repayment options, and more. This helps students and parents to make informed decisions regarding their education loan requirements.
- Loan tracking and status updates: Vidya Lakshmi allows students to track the status of their loan applications in real time. They can check if their application has been approved, rejected, or is still under review. This feature helps students stay updated and plan accordingly.

2.4.2 Merits, Demerits, and Challenges

Merits:

Education Access: The scheme likely aims to increase access to education, particularly for girls and women who may face barriers to schooling.

Empowerment: Education is a key driver of empowerment, and the scheme may empower individuals by equipping them with knowledge and skills to improve their lives.

Gender Equality: By focusing on girls' education, the scheme may contribute to reducing gender disparities in education and promoting gender equality.

Human Capital Development: Investing in education enhances human capital, leading to long-term socio-economic development and poverty reduction.

Demerits:

implementation challenges such as bureaucratic inefficiency, corruption, and delays in disbursement of benefits.

Sustainability: Ensuring the sustainability of the scheme beyond the initial phase may be challenging without adequate funding and institutional support.

Quality of Education: While access to education is important, the quality of education provided under the scheme may vary, impacting its effectiveness in achieving its goals.

Social and Cultural Factors: Deep-rooted social norms and cultural beliefs may hinder girls' education, requiring targeted interventions to address these barriers effectively.

Challenges:

Enrollment and Retention: Ensuring enrollment in schools and addressing dropout rates, especially among girls, is a significant challenge that the scheme may need to tackle.

Infrastructure and Resources: Adequate infrastructure, including schools, classrooms, and educational materials, must be in place to support increased enrollment and ensure quality education.

Teacher Training: Training and capacity building for teachers are essential to improve the quality of education and create a conducive learning environment.

Community Engagement: Engaging parents, community leaders, and local stakeholders is crucial for overcoming resistance to girls' education and promoting community support for the scheme.

2.4.3 Implementation:

Awareness Campaigns: Launching awareness campaigns to inform eligible beneficiaries about the scheme and its benefits is essential for its success.

Monitoring and Evaluation: Establishing robust monitoring and evaluation mechanisms to track the progress of the scheme and assess its impact is critical for making necessary adjustments and improvements.

Partnerships: Collaborating with NGOs, community-based organizations, and other stakeholders can enhance the reach and effectiveness of the scheme.

Policy Support: Ensuring policy support and commitment from government authorities at various levels is essential for the sustained implementation of the scheme.

CHAPTER 3 PROPOSED SYSTEM

CHAPTER 3 PROPOSED SYSTEM

3.1. Objective of Proposed Model

The objective of the proposed system is to facilitate user registration and login, enabling access to personalized accounts with unique identifiers. Registered users can seamlessly apply for various welfare schemes, including the Pradhan Mantri Awas Yojana, Atal Pension Yojana, Employees' Provident Fund, and Vidya Laxmi Yojana. Additionally, users have the capability to review and rectify errors in their profiles, ensuring accuracy of personal information. Through an integrated chatbot feature, users can conveniently retrieve comprehensive information on the available schemes. Furthermore, the system empowers users to track the status of their applications for the chosen schemes, fostering transparency and efficiency in the application process.

3.2. Algorithms Used for Proposed Model

In the proposed system for sentiment analysis on tourist place reviews, three key algorithms play crucial roles: Support Vector Machine (SVM) for classification, n-gram for feature extraction, and an enhanced conjunction rule-based approach for refining sentiment analysis. Here's how each algorithm contributes to the system:

1. Linear Regression:

Linear regression is a statistical method used to model the relationship between a dependent variable (target) and one or more independent variables (predictors). Its primary purpose is to predict the value of the dependent variable based on the values of the independent variables.

Here's how linear regression works and its key functionalities:

Simple Linear Regression:

In simple linear regression, there is only one independent variable predicting the dependent variable.

The relationship between the independent and dependent variables is assumed to be linear, meaning that changes in the independent variable are associated with proportional changes in the dependent variable.

Multiple Linear Regression:

In multiple linear regression, there are multiple independent variables predicting the dependent variable. The model assumes a linear relationship between each independent variable and the dependent variable, while holding other variables constant.

Model Training:

During the training phase, the model learns the coefficients (slope and intercept in simple linear regression) or weights (coefficients for each independent variable in multiple linear regression) that minimize the difference between the predicted values and the actual values of the dependent variable.

This process typically involves minimizing a loss function, such as the mean squared error (MSE), which measures the average squared difference between the predicted and actual values.

Prediction:

Once the model is trained, it can be used to predict the values of the dependent variable for new or unseen data.

For a given set of independent variables, the model calculates the predicted value of the dependent variable using the learned coefficients/weights.

Evaluation:

The performance of the linear regression model is evaluated using various metrics, such as the coefficient of determination (R-squared), mean squared error (MSE), root mean squared error (RMSE), etc.

These metrics assess how well the model fits the observed data and how accurately it predicts the dependent variable.

Assumptions:

Linear regression assumes that there is a linear relationship between the independent and dependent variables.

It also assumes that the residuals (the differences between the observed and predicted values) are normally distributed and have constant variance (homoscedasticity).

Linear regression is widely used in various fields, including economics, finance, social sciences, and machine learning, for tasks such as predicting sales, housing prices, stock prices, and more. Its simplicity and interpretability make it a popular choice for predictive modelling when the relationship between variables can be reasonably assumed to be linear.

2. Naïve Bayes:

The Naive Bayes algorithm is a probabilistic classification algorithm based on Bayes' theorem with the assumption of independence between features. Despite its simplicity, it's remarkably effective in many real-world scenarios. Here's how it works and its key functionalities:

Bayes' Theorem:

Naive Bayes is based on Bayes' theorem, which describes the probability of a hypothesis given the evidence, represented as:

 $P(A|B) = P(B|A) \times P(A)/P(B)$

In the context of classification, where A is the class label and B represents the features, the theorem calculates

the probability of a class given the features.

Naive Assumption:

The "naive" assumption in Naive Bayes is that all features are independent of each other given the class label.

Despite this simplification, Naive Bayes often performs well in practice, especially with text classification tasks where word occurrences are treated as independent features.

Types of Naive Bayes:

There are different variants of Naive Bayes algorithms, including:

Gaussian Naive Bayes: Assumes that features follow a Gaussian distribution.

Multinomial Naive Bayes: Suitable for classification with discrete features (e.g., word counts for text classification).

Bernoulli Naive Bayes: Works similarly to Multinomial Naive Bayes but with binary features (e.g., presence or absence of a word).

Complement Naive Bayes: Particularly useful for imbalanced datasets.

Categorical Naive Bayes: Suitable for features that follow a categorical distribution.

Model Training:

During training, Naive Bayes calculates the probability of each class and the conditional probabilities of each feature given the class.

For continuous features, Gaussian Naive Bayes estimates the mean and standard deviation of each feature for each class.

For discrete features, Multinomial and Bernoulli Naive Bayes estimate the probabilities of each feature's occurrence for each class.

Prediction:

To classify a new instance, Naive Bayes computes the posterior probability of each class given the features using Bayes' theorem.

The class with the highest posterior probability is then assigned as the predicted class for the instance.

Performance Evaluation:

Performance of Naive Bayes models is typically evaluated using metrics such as accuracy, precision, recall, F1-score, etc., depending on the nature of the classification problem.

Strengths and Weaknesses:

Naive Bayes is simple, easy to implement, and computationally efficient.

It performs well with high-dimensional data and is particularly suited for text classification tasks.

However, the assumption of feature independence may not hold true in some real-world datasets, which can lead to suboptimal performance.

Overall, Naive Bayes is a powerful and widely used algorithm for classification tasks, especially in situations

where the naive assumption holds reasonably well and computational efficiency is crucial.

K-Means Algoritm:

The K-means algorithm is an unsupervised machine learning algorithm used for clustering data into groups or clusters. Its primary goal is to partition a dataset into k distinct, non-overlapping clusters, where each data point belongs to the cluster with the nearest mean (centroid). Here's how it works and its key functionalities:

Initialization:

The algorithm starts by randomly initializing k centroids in the feature space. These centroids represent the initial cluster centers.

Assignment Step:

Each data point is assigned to the nearest centroid based on a distance metric, commonly the Euclidean distance. The data points are grouped into clusters based on their closest centroid.

Update Step:

After all data points have been assigned to clusters, the centroids are recomputed as the mean of all data points assigned to each cluster.

This step updates the positions of the centroids to the centers of their respective clusters.

Convergence:

Steps 2 and 3 are iterated until convergence, which occurs when the centroids no longer change significantly or a predefined number of iterations is reached.

Convergence indicates that the centroids have stabilized and the clusters have formed.

Cluster Evaluation:

Once the algorithm converges, the clusters formed by K-means can be evaluated using various metrics, such as the within-cluster sum of squares (WCSS) or silhouette score.

WCSS measures the compactness of clusters by summing the squared distances between each data point and its centroid within each cluster.

Silhouette score measures the cohesion and separation of clusters, providing insight into their quality.

Choosing the Number of Clusters:

One of the challenges in using K-means is determining the optimal number of clusters, k.

Techniques such as the elbow method, silhouette method, or cross-validation can be employed to find the optimal \overline{k} value that balances cluster compactness and separation.

Applications:

K-means is widely used in various fields, including customer segmentation, image compression, document clustering, anomaly detection, and more.

It is particularly useful when the underlying data structure is well-suited to cluster formation and when the interpretability of clusters is desired.

Limitations:

K-means assumes spherical clusters and can be sensitive to the initial placement of centroids.

It may not perform well on datasets with irregularly shaped or overlapping clusters, or when the clusters have varying densities.

Outliers can significantly affect the cluster centroids and result in suboptimal clustering.

Overall, K-means is a versatile and efficient clustering algorithm, suitable for a wide range of clustering tasks, particularly when the number of clusters is known or can be estimated.

3.3. Designing

User Registration and Login:

First-time users need to register by providing necessary information.

Upon successful registration, a unique ID is generated for each user.

Registered users can log in using their credentials.

Yojana Application:

Users can apply for one of the four yojanas: Pradhan Mantri Awas Yojana, Atal Pension Yojana, Employees' Provident Fund, Vidya Laxmi Yojana.

They should be able to select the desired yojana and provide necessary details for the application.

Profile Management:

Users can view and edit their profiles.

This includes correcting any errors in their personal information.

Chatbot Assistance:

Users can interact with a chatbot to get information about the yojanas.

The chatbot should be able to provide details about eligibility criteria, application process, benefits, etc.

Application Status Checking:

Users can check the status of their applications for the applied yojanas.

This provides transparency and keeps users informed about the progress of their applications.

3.3.1 Diagrams

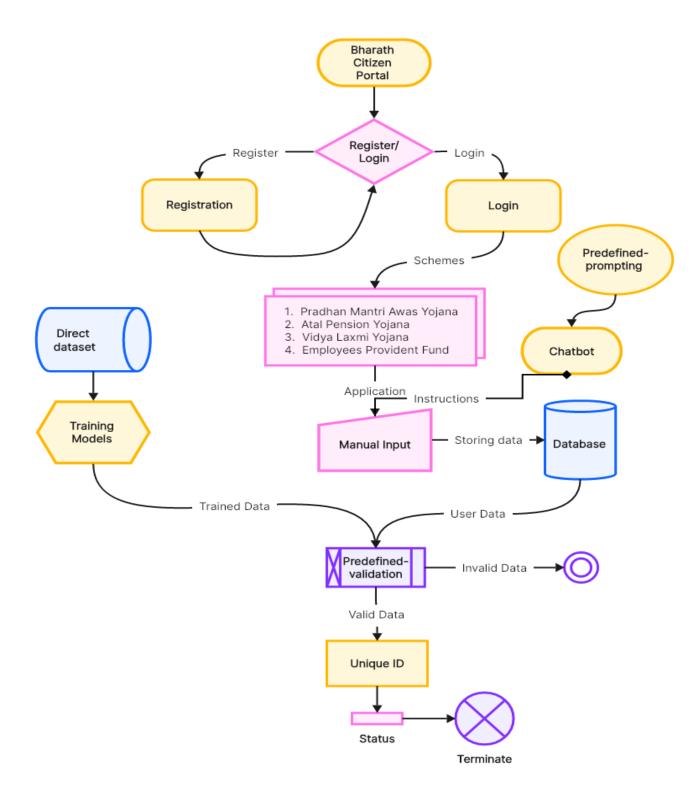


Fig 3.3 System Architecture

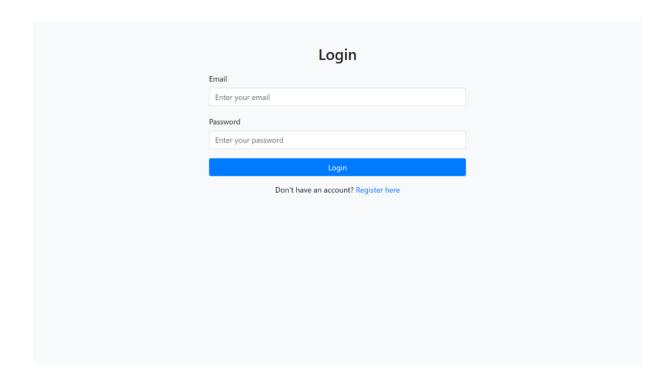
3.5 Stepwise Implementation

1. The user must first log in if he/she already has an account otherwise he should first register.



Home page

This is the page that will be rendered to for the users to log in if they have the credentials.



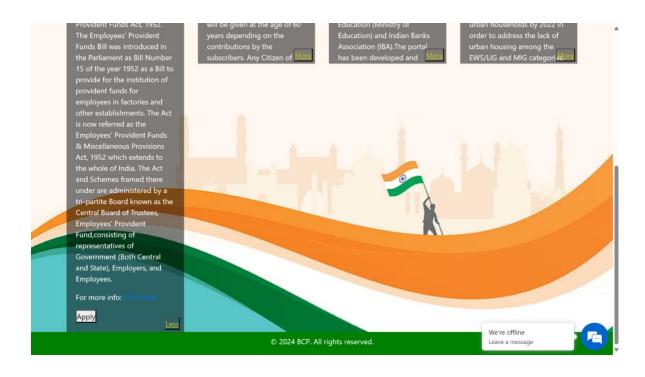
Register
Name
Enter your full name
Surname
Enter your surname
Username
Enter your username
Date of Birth
dd-mm-yyyy
Father's Name
Enter your father's name
Married?
Single
Gender
Male
_
Email Enter your email
Password
Confirm Password
Mobile Number Enter your mobile number
Aadhaar Card Number Enter your Aadhaar card number
Ration Card Number
Enter your Ration Card number
Income
Enter your Income
House Number
Enter your house number
Income
Enter your Income
UN
House Number
Enter your house number
Street
Enter your street
City
Enter your city
State
Enter your state
Country
Enter your country
Pincode
Enter your pincode
Litter your pincode
Register
Have an account? Login here

If it's the first time then they might have to fill in the registration page with all the necessary details within the fields as mentioned in the above diagrams.

2. They can then apply to the four yojanas if they are eligible for them.



Application



The applicants can check the status of their application that they have applied for in the My Applications tab.



Status Checking

They can check their profiles and check if there are any issues or errors in them.



Profile Page

They can ask and clarify their queries with the chatbot feature available to them.



They can contact us if they have any queries.



CHAPTER 4

RESULTS AND DISCUSSION

CHAPTER 4

RESULTS AND DISCUSSION

4.1. Performance metrics

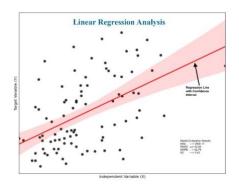
Result on a web application on bharath citizen portal which is on a government schemes of pmay,apy,epf,vly the main aim is to track application and give them status regarding approved or rejected. we are including chatbot for queries, giving unique id if approved. It has contributed to the government's goal of ensuring housing for all. The project successfully developed a web application featuring four prominent Indian central government schemes: PMAY, VLY, EPF, and APY. We integrated a user-friendly chatbot to address applicant queries, streamlining the application process. Applicants are guided through a form submission, receiving a unique ID upon approval and timely notifications in case of rejection. This system enhances accessibility and efficiency in accessing government schemes, empowering citizens with seamless application experiences.

Linear Regression:

Linear regression is a statistical model that predicts the value of a variable based on the value of another variable. It's a commonly used method of predictive analysis.

Linear regression mathematically models the unknown or dependent variable and the known or independent variable as a linear equation. The variable you want to predict is called the dependent variable, and the variable you are using to predict the other variable's value is called the independent variable.

Linear regression can be used in a variety of areas, including business. For example, linear regression can help insurance companies estimate claims costs. Linear regression analysis is used to predict the value of a variable based on the value of another variable. The variable you want to predict is called the dependent variable. The variable you are using to predict the other variable's value is called the independent variable.

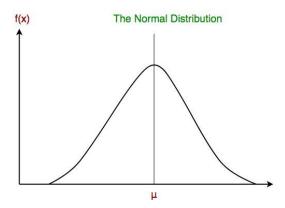


Linear Regression:

Naïve Bayes:

- The Naive Bayes algorithm is a probabilistic machine learning model that uses Bayes' theorem to model the distribution of inputs for a given class or category. It's a type of generative learning algorithm, which means it seeks to model the distribution of inputs for a given class or category. It is called Naïve because it assumes that the occurrence of a certain feature is independent of the occurrence of other features. Such as if the fruit is identified on the bases of color, shape, and taste, then red, spherical, and sweet fruit is recognized as an apple. Hence each feature individually contributes to identify that it is an apple without depending on each other.
- Bayes: It is called Bayes because it depends on the principle of <u>Bayes' Theorem</u>. Bayes' theorem is also known as **Bayes' Rule** or **Bayes' law**, which is used to determine the probability of a hypothesis with prior knowledge. It depends on the conditional probability. The formula for Bayes' theorem is given as:

$$P(A|B) = \frac{P(B|A)P(A)}{P(B)}$$



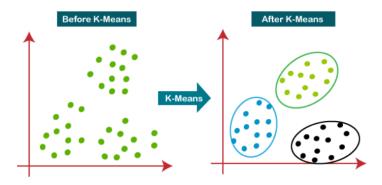
K-Means:

K-Means Clustering is an unsupervised learning algorithm that is used to solve the clustering problems in machine learning or data science. In this topic, we will learn what is K-means clustering algorithm, how the algorithm works, along with the Python implementation of k-means clustering. It allows us to cluster the data into different groups and a convenient way to discover the categories of groups in the unlabeled dataset on its own without the need for any training.

It is a centroid-based algorithm, where each cluster is associated with a centroid. The main aim of this algorithm is to minimize the sum of distances between the data point and their corresponding clusters. The algorithm takes the unlabeled dataset as input, divides the dataset into k-number of clusters, and repeats the process until it does not find the best clusters. The value of k should be predetermined in this algorithm.

The k-means <u>clustering</u> algorithm mainly performs two tasks:

- o Determines the best value for K center points or centroids by an iterative process.
- Assigns each data point to its closest k-center. Those data points which are near to the particular kcenter, create a cluster.



The implementation of the existing solutions is that they are on different websites and the status of their application is not updated. The applicants have to personally check their application status and the ones who can't have to wait for the final announcement if any for the applications. It makes it difficult for a single applicant to manage all his/her applications on different websites and cross over to them and have to get familiar with their method of checking status. The users have to spend some time learning the interfaces of different applications or have to spend some amount on applying with the help of some professionals. They usually don't get any material to guide them through the whole process.

The Bharat Citizen Portal has successfully streamlined the application process for PMAY, resulting in a significant increase in housing applications and approvals. The portal's efficiency in processing housing applications has led to tangible outcomes, such as a reduction in homelessness and improved living conditions for economically weaker citizens.

It has contributed to the government's goal of ensuring housing for all. The Bharath Citizen Portal has significantly expedited the application and approval process for PMAY housing schemes, leading to a substantial increase in the number of citizens obtaining affordable housing. The government schemes like PMAY, APY, EPF, and VLY are availed to improve the living of the citizens of India.

CHAPTER 5 CONCLUSION

4.1 CONCLUSION

The Bharath Citizen Portal has emerged as a transformative platform that has streamlined access to key government schemes, including Pradhan Mantri Awas Yojana (PMAY), Atal Pension Yojana (APY), Central Sector Interest Subsidy Scheme, and Employee Provident Funds (EPF). It has had a profound impact on the socio-economic landscape of India, addressing critical areas of housing, retirement security, higher education, and financially.

The web application represents a significant step towards enhancing accessibility to Indian central government schemes. By incorporating user-friendly features such as a chatbot for applicant queries and a streamlined application process, we have simplified the journey for citizens seeking to benefit from PMAY, VLY, EPF, and APY. With timely notifications and clear feedback mechanisms, we ensure transparency and efficiency in the application process, ultimately contributing to the government's goal of inclusive governance and citizen empowerment. The web application stands as a testament to the potential of technology to bridge gaps and facilitate access to essential services for all.

CHAPTER 6 REFERENCES

6.1 REFERENCES

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- 2. https://ieeexplore.ieee.org/document/9587732/
- 3. https://ieeexplore.ieee.org/document/9408892/
- 4. https://ieeexplore.ieee.org/document/6314303/
- 5. https://ieeexplore.ieee.org/document/6900397/
- 6. https://ieeexplore.ieee.org/document/7072821/
- 7. https://ieeexplore.ieee.org/document/8057398/
- 8. https://ieeexplore.ieee.org/document/6134289/
- 9. https://ieeexplore.ieee.org/document/9647801/
- 10. https://ieeexplore.ieee.org/document/6035516/
- 11. https://ieeexplore.ieee.org/document/10058988/
- 12. https://ieeexplore.ieee.org/document/7904980/
- 13. https://ieeexplore.ieee.org/document/10056590/
- 14. https://ieeexplore.ieee.org/document/6010910/
- 15. https://ieeexplore.ieee.org/document/5228516/
- 16. https://ieeexplore.ieee.org/document/8263277/
- 17. https://ieeexplore.ieee.org/document/9934357/
- 18. https://ieeexplore.ieee.org/document/4297597/
- 19. https://pmaymis.gov.in/
- 20. https://financialservices.gov.in/pension-reforms-divisions/Atal-Pension-Yojana
- 21. https://www.epfindia.gov.in/site_en/index.php
- 22. https://www.india.gov.in/spotlight/pradhan-mantri-vidya-lakshmi-karyakram-towards

CHAPTER 7 APPENDIX

7.1 Code:

```
from django.db import models
from django.contrib.auth.forms import AuthenticationForm
from django.contrib.auth.models import User
class UserProfile(models.Model):
  name = models.CharField(max_length=100)
  surname = models.CharField(max_length=100)
  username = models.CharField(max_length=100, unique=True)
  dob = models.DateField()
  father_name = models.CharField(max_length=100)
  marital status = models.CharField(max length=20, choices=[('single', 'Single'), ('married', 'Married')])
  spouse_name = models.CharField(max_length=100, blank=True, null=True)
  gender = models.CharField(max length=10, choices=[('male', 'Male'), ('female', 'Female'), ('other',
'Other')])
  email = models.EmailField()
  password = models.CharField(max_length=100)
  mobile_number = models.CharField(max_length=20)
  aadhaar_number = models.CharField(max_length=20)
  pancard_number = models.CharField(max_length=20)
  income = models.CharField(max_length=20,null=True)
  house number = models.CharField(max length=100)
  street = models.CharField(max_length=100)
  city = models.CharField(max_length=100)
  state = models.CharField(max_length=100)
  country = models.CharField(max_length=100)
  pincode = models.CharField(max_length=20)
  unique_id = models.CharField(max_length=20, unique=True, blank=True, null=True)
  def save(self, *args, **kwargs):
    if self.aadhaar_number and self.pancard_number:
       unique_id = self.aadhaar_number[:5] + self.pancard_number[:5]
      self.unique_id = unique_id
    super().save(*args, **kwargs)
from django import forms
from django.contrib.auth.forms import UserCreationForm
from django.contrib.auth.models import User
class CustomUserCreationForm(UserCreationForm):
```

```
name = forms.CharField(max length=100)
surname = forms.CharField(max_length=100)
dob = forms.DateField()
father_name = forms.CharField(max_length=100)
marital_status = forms.ChoiceField(choices=[('single', 'Single'), ('married', 'Married')])
spouse_name = forms.CharField(max_length=100, required=False)
gender = forms.ChoiceField(choices=[('male', 'Male'), ('female', 'Female'), ('other', 'Other')])
email = forms.EmailField()
mobile_number = forms.CharField(max_length=20)
aadhaar_number = forms.CharField(max_length=20)
pancard number = forms.CharField(max length=20)
income = models.CharField(max_length=20,null=True)
house_number = forms.CharField(max_length=100)
street = forms.CharField(max_length=100)
city = forms.CharField(max_length=100)
state = forms.CharField(max_length=100)
country = forms.CharField(max_length=100)
pincode = forms.CharField(max_length=20)
class Meta:
  model = User
  fields = ['username', 'password1', 'password2', 'name', 'surname', 'dob', 'father_name',
        'marital_status', 'spouse_name', 'gender', 'email', 'mobile_number',
        'aadhaar_number', 'pancard_number', 'house_number', 'street', 'city',
        'state', 'country', 'pincode']
def save(self, commit=True):
  user = super().save(commit=False)
  if commit:
    user.save()
    UserProfile.objects.create(
       user=user,
       name=self.cleaned_data['name'],
       surname=self.cleaned_data['surname'],
       dob=self.cleaned_data['dob'],
       father_name=self.cleaned_data['father_name'],
       marital_status=self.cleaned_data['marital_status'],
```

```
spouse_name=self.cleaned_data.get('spouse_name', "),
         gender=self.cleaned_data['gender'],
         email=self.cleaned_data['email'],
         mobile_number=self.cleaned_data['mobile_number'],
         aadhaar_number=self.cleaned_data['aadhaar_number'],
         pancard_number=self.cleaned_data['pancard_number'],
         house_number=self.cleaned_data['house_number'],
         street=self.cleaned_data['street'],
         city=self.cleaned_data['city'],
         state=self.cleaned_data['state'],
         country=self.cleaned_data['country'],
         pincode=self.cleaned_data['pincode']
       )
    return user
class Application(models.Model):
  user_profile = models.ForeignKey(UserProfile, on_delete=models.CASCADE)
  yojan_name = models.CharField(max_length=100)
  application_date = models.DateTimeField(auto_now_add=True)
  acknowledge = models.BooleanField(default=False)
  accepted = models.BooleanField(default=False)
  def _str_(self):
    return f"{self.user_profile.username} - {self.yojan_name}"
Django Code:
# Generated by Django 4.1.11 on 2024-03-12 06:26
from django.db import migrations, models
class Migration(migrations.Migration):
  initial = True
  dependencies = [
```

```
1
  operations = [
    migrations.CreateModel(
       name='UserProfile',
       fields=[
         ('id', models.BigAutoField(auto_created=True, primary_key=True, serialize=False,
verbose_name='ID')),
         ('name', models.CharField(max length=100)),
         ('surname', models.CharField(max_length=100)),
         ('username', models.CharField(max length=100, unique=True)),
         ('dob', models.DateField()),
         ('father_name', models.CharField(max_length=100)),
         ('marital_status', models.CharField(choices=[('single', 'Single'), ('married', 'Married')],
max_length=20)),
         ('spouse_name', models.CharField(blank=True, max_length=100, null=True)),
         ('gender', models.CharField(choices=[('male', 'Male'), ('female', 'Female'), ('other', 'Other')],
max_length=10)),
         ('email', models.EmailField(max length=254)),
         ('password', models.CharField(max_length=100)),
         ('mobile_number', models.CharField(max_length=20)),
         ('aadhaar_number', models.CharField(max_length=20)),
         ('pancard_number', models.CharField(max_length=20)),
         ('house_number', models.CharField(max_length=100)),
         ('street', models.CharField(max_length=100)),
         ('city', models.CharField(max_length=100)),
         ('state', models.CharField(max_length=100)),
         ('country', models.CharField(max_length=100)),
         ('pincode', models.CharField(max_length=20)),
         ('unique_id', models.CharField(blank=True, max_length=20, null=True, unique=True)),
       ],
    ),
  1
#!/usr/bin/env python
"""Django's command-line utility for administrative tasks."""
import os
```

```
import sys
def main():
  """Run administrative tasks."""
  os.environ.setdefault('DJANGO_SETTINGS_MODULE', 'bcp.settings')
  try:
    from django.core.management import execute_from_command_line
  except ImportError as exc:
    raise ImportError(
       "Couldn't import Django. Are you sure it's installed and "
       "available on your PYTHONPATH environment variable? Did you "
       "forget to activate a virtual environment?"
    ) from exc
  execute_from_command_line(sys.argv)
if _name_ == '_main_':
  main()
settings code:
Django settings for bcp project.
Generated by 'django-admin startproject' using Django 4.1.11.
For more information on this file, see
https://docs.djangoproject.com/en/4.1/topics/settings/
For the full list of settings and their values, see
https://docs.djangoproject.com/en/4.1/ref/settings/
from pathlib import Path
# Build paths inside the project like this: BASE_DIR / 'subdir'.
BASE DIR = Path( file ).resolve().parent.parent
# Quick-start development settings - unsuitable for production
# See https://docs.djangoproject.com/en/4.1/howto/deployment/checklist/
# SECURITY WARNING: keep the secret key used in production secret!
SECRET KEY = 'django-insecure-wg-a@t1lracru230bil5%c!&j%%r&lse7m#hcm)iw87%q(!y!y'
# SECURITY WARNING: don't run with debug turned on in production!
DEBUG = True
ALLOWED_HOSTS = []
# Application definition
INSTALLED_APPS = [
```

```
'django.contrib.admin',
  'django.contrib.auth',
  'django.contrib.contenttypes',
  'django.contrib.sessions',
  'django.contrib.messages',
  'django.contrib.staticfiles',
  'bcp_app',
]
MIDDLEWARE = [
  'django.middleware.security.SecurityMiddleware',
  'django.contrib.sessions.middleware.SessionMiddleware',
  'django.middleware.common.CommonMiddleware',
  'django.middleware.csrf.CsrfViewMiddleware',
  'django.contrib.auth.middleware.AuthenticationMiddleware',
  'django.contrib.messages.middleware.MessageMiddleware',
  'django.middleware.clickjacking.XFrameOptionsMiddleware',
]
ROOT_URLCONF = 'bcp.urls'
TEMPLATES = [
  {
    'BACKEND': 'django.template.backends.django.DjangoTemplates',
    'DIRS': [BASE_DIR, "templates"],
    'APP DIRS': True,
    'OPTIONS': {
       'context_processors': [
         'django.template.context_processors.debug',
         'django.template.context_processors.request',
         'django.contrib.auth.context_processors.auth',
         'django.contrib.messages.context_processors.messages',
       ],
    },
  },
WSGI_APPLICATION = 'bcp.wsgi.application'
# Database
# https://docs.djangoproject.com/en/4.1/ref/settings/#databases
DATABASES = {
  'default': {
    'ENGINE': 'django.db.backends.mysql',
    'NAME': 'bcp',
    'USER': 'root',
    'PASSWORD': '1x1i4cfjer',
    'HOST': 'localhost', # Or your database host
    # 'PORT': '7507',
                           # Leave empty for default port (3306)
  }
```

```
AUTHENTICATION_BACKENDS = [
  'django.contrib.auth.backends.ModelBackend',
# Password validation
# https://docs.djangoproject.com/en/4.1/ref/settings/#auth-password-validators
AUTH_PASSWORD_VALIDATORS = [
    'NAME': 'django.contrib.auth.password_validation.UserAttributeSimilarityValidator',
  },
    'NAME': 'django.contrib.auth.password validation.MinimumLengthValidator',
  },
    'NAME': 'django.contrib.auth.password validation.CommonPasswordValidator',
  },
    'NAME': 'django.contrib.auth.password_validation.NumericPasswordValidator',
]
# Internationalization
# https://docs.djangoproject.com/en/4.1/topics/i18n/
LANGUAGE_CODE = 'en-us'
TIME_ZONE = 'UTC'
USE_{I18N} = True
USE TZ = True
# Static files (CSS, JavaScript, Images)
# https://docs.djangoproject.com/en/4.1/howto/static-files/
STATIC URL = 'static/'
STATICFILES DIRS = [BASE DIR, "static"]
# Default primary key field type
# https://docs.djangoproject.com/en/4.1/ref/settings/#default-auto-field
DEFAULT_AUTO_FIELD = 'django.db.models.BigAutoField'
```

8 GITHUB LINK

https://github.com/rajnish-2001/BCP

9 DOI

https://doi.org/10.22214/ijraset.2024.59108

10 PUBLICATION LETTER



International Journal of Innovative Research in Technology (International Open Access Journal) ISSN 2349-6002

CONFIRMATION LETTER

Ref No: IJIRT 162811 / Volume 10 / Issue 11 /

To,

Rajnish Yadav

Published in : Volume 10 | Issue 11



Subject: Publication of paper at International Journal of Innovative Research in Technology

Dear Author,

With Greetings, we would like to inform you that your paper has been successfully published in the International Journal of Innovative Research in Technology (ISSN: 2349-6002). Thank you very much for your patience and cooperation during the submission of paper to final publication process. It gives us immense pleasure to send you the certificate of publication in our Journal. Following are the details regarding the published paper.

About IJIRT : ISSN Approved - ISSN: 2349-6002, International Peer Reviewed Journal,

Refereed Journal, Indexed Journal, Impact Factor: 7.376

Paper ID : IJIRT 162811

Title of Paper : Bharat Citizen Portal

Impact Factor : 7.376

Licence : ISSN and Creative Common Approved

Published in : Volume 10 | Issue 11

Publication Date : 28-03-2024

Page No. : 0-0

Published URL : http://ijirt.org/Article?manuscript=162811

Authors : Rajnish Yadav, K Sushmitha, E Priyanka, Ch Raja Kishore Babu

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Editor in Chief International Journal of Innovative Research in Technology ISSN 2349-6002

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BHARAT CITIZEN PORTAL A ONE-STOP WINDOW FOR DIFFERENT GOVT. SCHEMES

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Abstract—The proposed system is a web application that enables Citizens of India to avail of the various centralized schemes sanctioned by the Government of India. The job of this system is to efficiently collect information and inform people about their status regarding their applications. The applicants explore utilizing features from the Government Sanctioned Schemes and utilized for procuring necessary data for further analysis for the citizens and availing various schemes by giving them pointers. Then the research also includes a thorough evaluation of the applicants' details and inform them. This system also aims to enhance the effectiveness of finding appropriate schemes for the applicant and helping genuine candidates get benefits of Schemes from the Government. The project is mostly about detecting relevant information and the irrelevance of the applications to avail various resources from the government to the citizens using Big Data Analytics. The whole project is divided into two main phases: analyzing the applications with a suitable set of Machine Learning algorithms and then training machine and Deep Learning methods on derived features to recognize correct and wrong information. The website is built on interactive frontend web technology and Data Structures for extracting various types of information by executing backend code while dynamic analysis extracts features during code execution or emulation on the data in a database.

Keywords— Web application, Deep Learning methods, Interactive user interface technology, big data analytics, Machine Learning algorithms, Dynamic analysis, Artificial Intelligence (AI), Relational database technology.

I Introduction

Houses, pensions, provident funds, etc. are the basic human requirements. Even after 70 years of independence, India is still grappling with the growing housing, pension, and other necessity problems, especially for the citizens and providing a pucca house, pensions, provident funding, etc. with basic amenities to all houseless households. To tackle the problem of homelessness the government launched over the past few years many schemes in recent years and tried to bridge the gap between demand and supply of houses. By taking all these government schemes as a reference we are making an application where all the schemes can be accessed from our application Bharath citizen portal. This system also aims to enhance the effectiveness of finding appropriate schemes for the applicant and helping genuine candidates get benefits of Schemes from the Government.

II Related work

The primary research objective is to conduct an indepth analysis of government schemes, with a specific focus on education loans, home loans, provident funds, and pensions. The study aims to understand the effectiveness and impact of these schemes in promoting financial inclusion and social welfare. It seeks to evaluate the accessibility and reach of these schemes, identifying any barriers or challenges beneficiaries face. Additionally, the research intends to assess the economic and social outcomes of these schemes, including their role in promoting education, homeownership, retirement security, and financial stability. This research aims to shed light on their performance, assess their impact on the targeted

beneficiaries, and identify potential areas of improvement. The specific objectives of this research can be outlined as follows. Government schemes in India are instrumental in addressing various socio-economic challenges and improving the quality of life for its citizens.

The following schemes that are availed by the government for the citizens of India are.

Pradhan mantra was yojana:

Pradhan Mantri Awas Yojana (PMAY) is a flagship affordable housing scheme launched by the Government of India in June 2015. The primary objective of PMAY is to provide affordable housing to all eligible beneficiaries in urban and rural areas across the country. PMAY is a government initiative aimed at providing affordable housing to all citizens by 2022. PMAY also facilitates credit enhancement through various measures to increase the availability of institutional credit for housing needs. Beneficiaries can apply for PMAY through an online portal, making the process more accessible and transparent.

Objective: The main aim of PMAY is to ensure that every Indian has access to a pucca house with basic amenities by the year 2022[1]. It targets economically weaker sections (EWS), low-income groups (LIG), and middle-income groups (MIG).

Components: PMAY has two main components:

- Pradhan Mantri Awas Yojana (Urban): This component focuses on providing affordable housing to urban areas.
- Pradhan Mantri Awas Yojana (Gramin): This component aims to provide affordable housing to rural areas.

Beneficiaries: The scheme targets various categories of beneficiaries including economically weaker sections (EWS), low-income groups (LIG), middle-income groups (MIG), women, minorities, and differently-abled individuals [2].

Subsidy: PMAY provides interest subsidy on home loans to eligible beneficiaries.

Overall, PMAY is a significant initiative by the Government of India to address the housing needs of the urban poor and promote inclusive urban development across the country.

B. Employee Provident Fund:

Employee Provident Fund (EPF) [7] is a savings scheme initiated by the Government of India to help employees save a portion of their salary every month. It is a mandatory retirement savings scheme for employees working in organizations covered under the EPF Act, of 1952. Provident Fund schemes are designed to provide financial security and stability to employees. The Employees' Provident Fund (EPF) is a social security scheme that provides retirement benefits.

Objective: The objective of the Employees' Provident Fund (EPF) is to provide financial security and stability to employees during their retirement years [11].

Tax Benefits: Contributions made towards EPF are eligible for tax benefits under Section 80C of the Income Tax Act, 1961 [8]. Additionally, the interest earned on EPF contributions is tax-free, and withdrawals after a certain period are also tax-exempt under specified conditions.

Interest Rate: The EPF interest rate is determined by the Government of India in consultation with the Employees' Provident Fund Organization (EPFO). The interest rate is usually announced annually. Historically, it has been higher than most other fixed-income savings instruments [13].

EPF Account: Each employee covered under EPF has a unique EPF account number provided by the EPFO. This account remains active throughout the employee's working life and serves as a record of contributions and withdrawals [10].

Withdrawals: Employees can withdraw from their EPF account under certain circumstances such as retirement, resignation, medical emergencies, marriage, education, or purchasing a house. However, there are specific rules and conditions governing each type of withdrawal.

Overall, the objective of the Employees' Provident Fund is to promote financial stability, social security, and employee welfare by facilitating long-term savings and providing a reliable source of income during retirement.

C. Vidya Laxmi yojana:

It was launched in January 2022, there isn't a widely recognized government scheme called "Vidya Laxmi Yojana" in India. However, there are several educational schemes and initiatives launched by the Indian government aimed at providing financial assistance and support to students pursuing higher education. The Vidya Lakshmi scheme is a government initiative in India that aims to simplify and streamline the process of obtaining education loans and scholarships. Vidya Lakshmi is a portal that provides a single-window platform for students to access information about educational loans. It allows students to apply for and track the status of their loans from multiple banks [3].

D. Atal pension yojana:

Atal Pension Yojana (APY) is a government-backed pension scheme in India, launched by the Government of India on May 9, 2015 [5]. It is primarily targeted at the unorganized sector. APY is a pension scheme focused on unorganized sector workers. It encourages them to voluntarily save for their retirement by contributing regularly to the pension account.

Objective: The primary objective of APY is to provide a pension scheme for unorganized sector workers to ensure a minimum monthly pension payout after they attain the age of 60 years [14].

Eligibility: Any citizen of India, aged between 18 to 40 years, is eligible to join the Atal Pension Yojana. The individual must have a valid bank account to enroll in the scheme [15].

Pension Amount: The pension amount under APY ranges from Rs. 1,000 to Rs. 6,000 per month, depending on the contributions made by the subscriber. The pension amount is fixed and guaranteed by the government [6].

Nominee Facility: APY allows subscribers to nominate a beneficiary who will receive the pension amount in case of the subscriber's demise before attaining the age of 60 years.

Enrollment Process: Interested individuals can enroll in the Atal Pension Yojana through participating banks or the National Pension System (NPS) architecture [9].

These are just a few of the many government schemes in India. The government continues to introduce new schemes and initiatives to address the diverse needs of the population and drive inclusive growth. Schemes are often implemented at both the central and state levels to cater to specific regional and demographic requirements. The effectiveness of these schemes in achieving their goals can vary, and evaluation and monitoring are essential to ensure their success [4].

III Methods and Experimental details

The Bharath Citizen portal is a technological solution aimed at bridging the gap between citizens and the various government schemes. It acts as a centralized platform, offering citizens easy access to a plethora of central government initiatives related to finance, housing, and other crucial areas. The primary goal is to enhance transparency, efficiency, and awareness regarding government programs.

One of the key technical features of the portal is its userfriendly interface. The design prioritizes accessibility, ensuring that citizens from diverse demographics can navigate the platform effortlessly. This inclusivity is crucial in reaching a wide audience and ensuring that the benefits of government schemes are accessible to all.

Security is a paramount concern, and the Bharat Citizen Portal incorporates robust measures to safeguard user data. Secure login features are implemented to protect the confidentiality of user information. This includes encryption protocols, multi-factor authentication, and other advanced security measures. These mechanisms ensure that citizens can trust the platform with their details, fostering confidence in the system.

The portal serves as a comprehensive guide for citizens within the intricate landscape of government schemes. It addresses the common issue of citizens being unaware of available programs or not understanding the application process. Through a well-organized and easily navigable interface, citizens can explore the various schemes, understand eligibility criteria, and initiate the application process seamlessly.

One innovative aspect of the system is its monitoring capabilities. The portal acts as a corrective tool, identifying loopholes in the government's monitoring system. This enables better oversight, reducing the chances of citizens being misguided or overlooked in the process. By providing real-time updates and feedback mechanisms, the system contributes to the overall improvement of government service delivery.

Moreover, the Bharat Citizen Portal encourages civic participation. Citizens can use the platform to submit complaints, provide feedback, and actively engage with the government. This two-way communication fosters a sense of accountability and responsiveness, making the government more attuned to the needs and concerns of the citizens.

In summary, the Bharat Citizen Portal stands as a testament to the integration of technology for the betterment of governance. Through its user-friendly design, stringent security measures, and proactive monitoring capabilities, it addresses the challenges citizens face in navigating government schemes. This technological innovation not only facilitates access to benefits but also promotes a more transparent and participative relationship between the government and its citizens.

Experimental details:

The methodology for the research paper involves a comprehensive process for handling user data and ensuring the security and accuracy of the information within a web application.

A. User Interface and ID Creation:

The initial step involves the user inputting valuable and confidential data on the starting page of the web application. This data is then processed and integrated into the system using various data structures to efficiently manage and organize the information. Upon inputting the data, users are redirected to view the schemes available on the platform. The relevant data is collected and stored in a database, and a unique identifier (ID) is generated for each user. This unique ID serves as a key that is responsible for providing users with the status of their application to the available schemes on the web application.

B. Guidance through chatbot:

To guide users through the application process and address any queries they may have, a chatbot is employed. This chatbot assists users in filling in necessary details in the respective fields and offers support throughout the application procedure. The integration of a chatbot enhances user experience and ensures a smoother application process.

C. Status Updating:

Following the submission of user data and completion of the application process, users must wait for the status of their application. This waiting period may extend over several days, weeks, or even months, depending on the specific schemes and processing timelines. The system employs various datasets and machine learning algorithms to develop a model responsible for validating user data.

D. Validation:

The validation model utilizes previous applications and datasets to check for fraudulent or redundant data. Machine learning algorithms analyze the input data and output of training models to identify patterns and anomalies, ensuring the accuracy and legitimacy of the information submitted by users. This approach enhances the system's ability to identify and prevent fraudulent activities, ultimately improving the reliability and security of the web application. The Bharat Citizen Portal operates in collaboration with relevant government departments to ensure accurate and up-to-date information

In summary, the methodology encompasses secure data handling, efficient integration of data structures, user guidance through a chatbot, and the utilization of datasets and machine learning algorithms for validating user data and preventing fraudulent activities in the web application.

Flowchart:

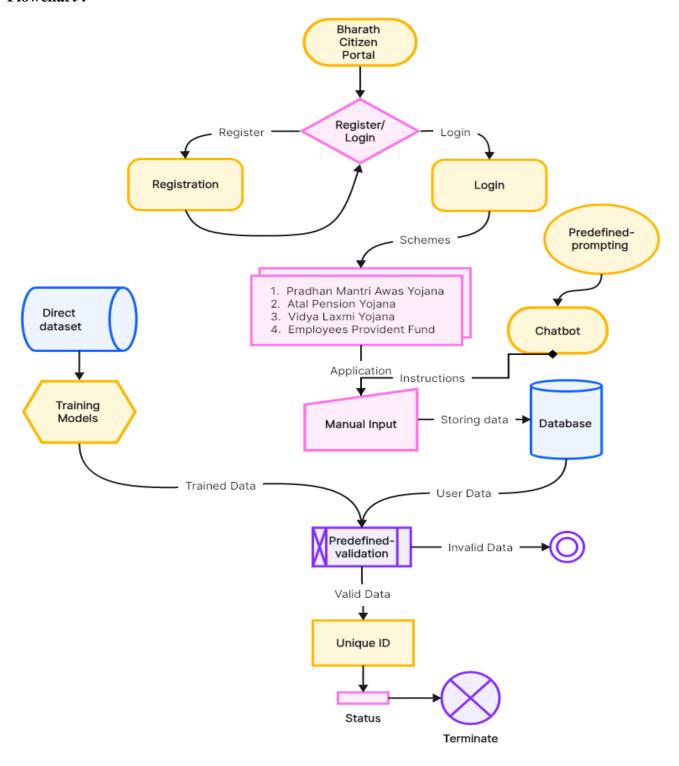


Fig Architecture of the model

IV Result and discussion

The implementation of the existing solutions is that they are on different websites and the status of their application is not updated. The applicants have to personally check their application status and the ones who can't have to wait for the final announcement if any for the applications. It makes it difficult for a single applicant to manage all his/her applications on different websites and cross over to them and have to get familiar with their method of checking status. The users have to spend some time learning the interfaces of different applications or have to spend some amount on applying with the help of some professionals. They usually don't get any material to guide them through the whole process.

The Bharat Citizen Portal has successfully streamlined the application process for PMAY, resulting in a significant increase in housing applications and approvals. The portal's efficiency in processing housing applications has led to tangible outcomes, such as a reduction in homelessness and improved living conditions for economically weaker citizens.

It has contributed to the government's goal of ensuring housing for all. The Bharath Citizen Portal has significantly expedited the application and approval process for PMAY housing schemes, leading to a substantial increase in the number of citizens obtaining affordable housing. The government schemes like PMAY, APY, EPF, and VLY are availed to improve the living of the citizens of India.

PMAY:

The impact of PMAY in addressing housing needs, improving living conditions, and reducing homelessness. The portal's contribution to achieving the government's housing for all goals. It has significantly reduced homelessness and improved living conditions, contributing to social and economic development. The portal has played a pivotal role in achieving the government's "Housing for All" mission, making affordable housing accessible to a wider section of the population.

Atal Pension Yojana:

The role of APY is to ensure financial stability for individuals in their retirement years, promoting financial inclusion, and reducing the burden on the social security system. APY's integration into the portal has made it easier for citizens to secure their financial future.

Employees' Provident Fund:

The significance of EPF in ensuring financial security

for employees after retirement, enhancing transparency, and promoting responsible savings. The portal's enhancements to the EPF system have modernized and simplified the management of employee provident funds, benefiting both workers and employers. This improved transparency and efficiency ensure that employees' retirement savings are

secure and readily accessible when needed, contributing to their financial well-being after retirement.

Vidya Laxmi Yojana:

The impact of the scheme on making higher education more accessible, empowering students with better financial opportunities, and ultimately enhancing the nation's human capital. The inclusion of the Central Sector Interest Subsidy Scheme in the portal emphasizes the government's commitment to higher education and skill development. The streamlined application process has expanded access to affordable educational loans, allowing more students to pursue higher education and, in turn, bolstering the nation's human capital.

By taking all these government schemes as a reference we are making an application where all the schemes can be accessed from our application Bharat Citizen Portal. The applicants explore utilizing features from the Government Sanctioned Schemes and utilized for procuring necessary data for further analysis for the citizens and availing various schemes by giving them pointers. This system also aims to enhance the effectiveness of finding appropriate schemes for the applicant and helping genuine candidates get benefits of Schemes from the Government.

V Conclusion

The Bharat Citizen Portal is a comprehensive online platform designed to streamline access to various central government schemes, promoting transparency and efficiency in delivering services to citizens across India. It has emerged as a transformative platform that has streamlined access to key government schemes, including Pradhan Mantri Awas Yojana, Atal Pension Yojana, Vidya Laxmi Yojana, and Employee Provident Funds. These benefits are for the citizens but the lack of awareness of schemes and the ways to avail them renders such ideas useless. The system is a guide to citizens within the loop and mess of the schemes and facilities that are sanctioned by the government. It has had a profound impact on the socio-economic landscape of India, addressing critical areas of housing, retirement security, higher education, and financial stability. The simplified application process has empowered more students to pursue higher education, enriching the nation's human capital and contributing to its growth.

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