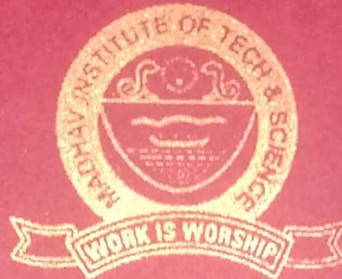


MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

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Project Report

on

Development Of Village Administration Hub

Submitted By:

Kartik Badal
(0901CA221033)

Industry Mentor:

Mr. Ramswaroop Yadav, sarpanch, Gram Panchayat Ladhwaya

Faculty Mentor:

Dr. Anshu Chaturvedi (Professor)

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

Gwalior – 474005 (MP) Estd. 1957

January – June 2024

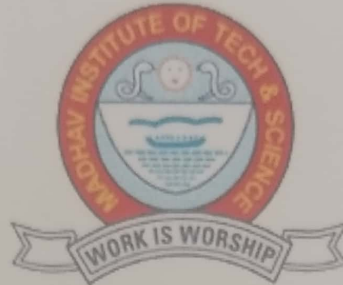


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Project Report

on

Development Of Village Administration Hub

A project report submitted in partial fulfilment of the requirement for the degree of

MASTER IN COMPUTER APPLICATION

in

COMPUTER SCIENCE AND ENGINEERING

Submitted By:

Kartik Badal
(0901CA221033)

Industry Mentor:

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कार्यालय ग्राम पंचायत लदवाया, ग्वालियर, मध्य प्रदेश
Karyalay Gram Panchayat Ladhwaya, Gwalior, MP
Janpad Panchayat Bhitwar, Jila Gwalior, MP

Contact: 8349687081

Ref: GPL-2024/GPL/002

Date: 21-04-24

To whom so ever it may concern

This is to certify that **Mr. Kartik Badal** student of MCA at MITS, Gwalior, has successfully completed an “internship” with **KARYALAY GRAM PANCHAYAT LADHWAYA** as a Software developer in the new Technology Department from **25 JAN to 25 APRIL 2024**.

He has worked on the “**Village Administration Hub**” project under the supervision and guidance of Employment Assistant. During the internship, he has gained several learnings such as MGNREGA, Panchayat Darpan, Problem Analysis, System Designing, UI/UX, Project Management, Data Management.

Besides showing high comprehension Capacity, managing assignments with the utmost experts and exhibiting maximal efficiency, he has also showcase excellent moral character throughout the internship period.

I hereby certify his overall work as very good to the best of my knowledge. Wishing him the best of luck in his future Endeavour's.

२१/०४/२४

सरपंच

ग्राम पंचायत लदवाया
जन. पंचायत बितरवार

Ramswaroop Yadav

(Sarpanch)

Gram Panchayat Ladhwaya

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

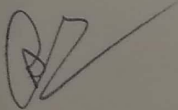
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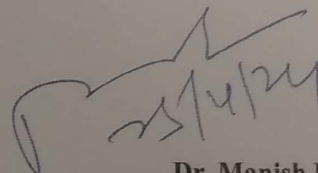
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CERTIFICATE

This is certified that **Kartik Badal (0901CA221033)** has submitted the project report titled **Village Administration Hub** under the mentorship of **Mr. Ramswaroop Yadav, sarpanch**, Gram Panchayat Ladhwaya, in partial fulfilment of the requirement for the award of degree of **Master in Computer Application** of Computer Science and Engineering from **Madhav Institute of Technology and Science, Gwalior**.



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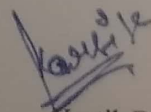
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DECLARATION

I hereby declare that the work being presented in this project report, for the partial fulfilment of requirement for the award of the degree of Master in Computer Application in Computer Science and Engineering at **Madhav Institute of Technology & Science, Gwalior** is an authenticated and original record of my work under the mentorship of **Mr. Ramswaroop Yadav, sarpanch**, Gram Panchayat Ladhwaya

I declare that I have not submitted the matter embodied in this report for the award of any degree or diploma anywhere else.



Kartik Badal

0901CA221033

2022-2024

Master in Computer Application
Computer Science and Engineering

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE

Deemed to be University

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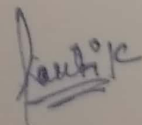
ACKNOWLEDGEMENT

The full semester project has proved to be pivotal to my career. I am thankful to my institute, **Madhav Institute of Technology and Science** to allow me to continue my disciplinary project. I extend my gratitude to the Director of the institute, **Dr. R. K. Pandit** and Dean Academics, **Dr. Manjaree Pandit** for this.

I would sincerely like to thank my department, **Department of Computer Science and Engineering**, for allowing me to explore this project. I humbly thank **Dr. Manish Dixit**, Professor and Head, Department of Computer Science and Engineering, for his continued support during the course of this engagement, which eased the process and formalities involved.

I would like to extend my heartfelt appreciation to **Mr. Ramswaroop Yadav, sarpanch**, Gram Panchayat Ladhwaya for his exceptional mentorship, guidance, and assistance throughout the project. His valuable input and feedback during the course of the project have helped me enhance my knowledge and skills. His constant encouragement and support have been instrumental in the successful completion of this project.

I am sincerely thankful to my faculty coordinator. I am grateful to the guidance of **Dr. Anshu Chaturvedi**, (Professor), Computer Science and Engineering, for his continued support and guidance throughout the project. I am also very thankful to the faculty and staff of the department.



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ABSTRACT

The term "Village Administration Hub " is a vague idea that probably refers to a system or instrument intended to offer observations or insights on the operation and efficacy of Village. In India, Village are village or small town-level local self-governing entities that are mostly in charge of local governance and administration. The Village Administration Hub (PDS) is a comprehensive framework designed to improve the accountability, openness, and efficiency of Village, India's local level of government. Given the decentralized governance framework and the vital role played by Village in rural development, it is imperative to establish tools that can assess their performance and aid in making well-informed decisions.

To provide a comprehensive understanding of Panchayat operations, the PDS combines data analytics, information technology, and participatory government concepts. Stakeholders, including elected officials, the public, and governing bodies, can obtain up-to-date information on a range of Panchayat operations, including infrastructure development, social welfare programs, financial management, and service provision.

A digital platform called the Village Administration Hub was developed with the intention of promoting open governance and efficient Panchayat administration in India. This system provides a comprehensive understanding of Panchayat operations, including financial management, community involvement, developmental projects, and administrative tasks. Stakeholders, including government officials, policymakers, and residents, can monitor progress, identify obstacles, and make informed decisions with the use of the Village Administration Hub 's data visualization and analytics. This strategy supports the development of rural areas generally and the empowerment of local people by encouraging participatory governance and accountability.

सार

शब्द "पंचायत दपपण प्रणाली" एक अस्पष्ट विचार है जो संभित: एक प्रणाली या उपकरण को संदवभपत करता है वजसका उद्देश्य पंचायतों के संचालन और प्रभािकाररता पर अिलोकन या अंतर्दपवष्ट प्रदान करना है। भारत में, पंचायतें गाँवों या छोटे शहर स्तर की स्थानीय स्वशासी संस्थाएँ हैं जो ज्यादातर स्थानीय शासन और प्रशासन की प्रभारी होती हैं। पंचायत दपपण प्रणाली (पीडीएस) एक व्यापक ढांचा है वजसे भारत की स्थानीय स्तर की सरकार, पंचायतों की जिाबदेही, खुलेपन और दक्षता में सुधार के वलए वडजाइन वकया गया है। विक्के द्रीकृत शासन ढांचे और ग्रामीण विकास में पंचायतों द्वारा वनभाई गई महत्वपूर्ण भूमिका को देखते हुए, ऐसे उपकरण स्थावपत करना जरूरी है जो उनके प्रदशपन का आकलन कर सकें और सुविज्ञ वनणपय लेने में सहायता कर सकें।

पंचायत संचालन की व्यापक समझ प्रदान करने के वलए, पीडीएस डेटा एनावलवटक्स, सूचना प्रौद्योगिकी और भागीदारी सरकारी अधारणाओं को जोड़ती है। वनिापवचत अवधकारर्यों, जनता और शासी वनकार्यों सवहत वहतधारक, बुवनयादी ढांचे के विकास, सामावजक कल्याण कायपक्रमों, वित्तीय प्रबंधन और सेिा प्रािधान सवहत पंचायत संचालन की एक शृंखला पर निनतम जानकारी प्राप्त कर सकते हैं।

भारत में खुले शासन और कुशल पंचायत प्रशासन को बढािा देने के इरादे से पंचायत दपपण वसस्टम नामक एक वडवजटल प्लेटफॉर्म विकवसत वकया गया था। यह प्रणाली वित्तीय प्रबंधन, सामुदावयक भागीदारी, विकासात्मक पररयोजनाओं और प्रशासवनक कायों सवहत पंचायत संचालन की व्यापक समझ प्रदान करती है। सरकारी अवधकारर्यों, नीवत वनमापताओं और वनिावसर्यों सवहत वहतधारक, पंचायत दपपण प्रणाली के डेटा विजुअलाइजेशन और विश्लेषण के उपयोग से प्रगवत की वनगरानी कर सकते हैं, बाधाओं की पहचान कर सकते हैं और सूवचत वनणपय ले सकते हैं। यह रणनीवत आम तौर पर सहभागी शासन और जिाबदेही को प्रोत्सावहत करके ग्रामीण क्षेत्र के विकास और स्थानीय लोगों के सशक्तिकरण का समथपन करती है।

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CHAPTER 1 : INTRODUCTION

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Village are the cornerstone of grassroots democracy in India's decentralized system of governance. They are responsible for community welfare, development planning, and local administration. Understanding how important Village are for promoting democratic engagement at the local level and advancing socioeconomic development, the idea of the Village Administration Hub becomes apparent as a vital instrument for improving accountability, openness, and effectiveness in Panchayat governance.

The Village Administration Hub, which uses digital technology to empower both administrators and citizens equally, signifies a paradigm shift in how we view and handle local government. This system breaks through the conventional hurdles of bureaucratic inefficiency and information asymmetry by offering a centralized platform for data aggregation, analysis, and distribution. This promotes an inclusive development and evidence-based decision-making culture.

The Village Administration Hub's core values, goals, and workings are explored in this introduction, which also emphasizes the system's revolutionary potential to completely change local governance and inspire sustainable development at the community level. This paper seeks to clarify the significance of the Village Administration Hub as a catalyst for promoting socio-economic empowerment, participatory democracy, and the realization of the vision of inclusive and equitable development throughout rural India through a thorough examination of its features and advantages.

1.1 Problem Identification: -

Determining the issues that the Village Administration Hub seeks to resolve is essential to comprehending the system's importance and necessity within the Indian context of local governance. The following is a summary of possible issues that the system aims to address:

1.1.1 Limited Transparency: Panchayat governance using traditional methods is sometimes opaque, which causes opacity in project implementation, resource distribution, and decision-making procedures. This opacity can encourage corruption and inefficiency, making it more difficult to use public funds effectively and weakening the confidence that the public has in local organizations.

1.1.2 Data Fragmentation: Large volumes of data are produced by Village about financial transactions, development projects, and administrative operations. But this data is frequently dispersed, strewn over several departments or registries, making it challenging to access, examine, and apply for well-informed policy formation and decision-making.

1.1.3 Lack of Accountability: There might not be enough accountability among elected members and Panchayat officials in the absence of strong monitoring systems. This may result in resource mismanagement, project implementation delays, and a disregard for community interests, all of which could undermine public trust in local governance institutions.

1.2 Parent Organization: -

The governing body or agency in charge of managing rural development and local governance programs in India is most likely the parent organization of the Village Administration Hub . A few possible parent companies are listed below:



1.2.1 Ministry of Panchayati Raj: The development and promotion of Panchayati Raj institutions (PRI) in India falls within the purview of this ministry. It develops policies, offers direction, and allots financial resources to fortify Village and enable local self-governing entities.

1.2.2 National Informatics Centre (NIC): Under the Indian Ministry of Electronics and Information Technology (MeitY), NIC is a leading science and technology agency. It is crucial in helping different government departments and organizations, such as those in charge of local government and rural development, by providing digital infrastructure and e-Government solutions.

1.2.3 State Rural Development Departments: In India, decentralization efforts, poverty alleviation plans, and rural development programs are carried out by rural development departments in each state. At the state level, these departments might be in charge of developing and implementing digital platforms similar to the Village Administration Hub .

1.3 Hardware and Software Specification: -

Hardware Specification: -

This system's hardware requires an Intel Core i3 CPU or higher to ensure sufficient performance for a variety of computing activities. With at least 5 GB of RAM, the system can handle memory-intensive apps and multitasking with ease. It also features a 250 GB solid-state drive (SSD), which enables speedy data access and system boot times. An excellent complement to the SSD is a traditional hard disk drive (HDD) with a 50 GB capacity that provides lots of space for storing data, documents, and applications. This SSD and HDD combination strikes a balance between speed and storage capacity to satisfy performance and data retention requirements. When all is said and done, these hardware specifications provide a robust computing platform suitable for daily tasks and professional work and limit your use of multimedia. Whether this system is being used for web browsing, media streaming, or document creation, the aim is to provide a smooth and responsive user experience.

Software Specification: -

Operating on Windows 10 or a more current version, this configuration provides a stable environment for regular computing tasks and software development. It ensures compatibility with a range of drivers and programs for a faultless user experience. Included is Visual Studio Code, a compact source code editor with support for many programming languages and add-ons that is ideal for web development. There are several features for storing data in the MySQL database management system. XAMPP facilitates the setup of a local web server environment for offline work. Notepad handles basic text editing needs, but modern web browsers like Google Chrome make it easier to preview and assess online content. Robust scripting features are offered by JavaScript and PHP for backend development. WiFi connectivity facilitates online collaboration and real-time testing of web applications by making network and internet access easy. To sum up, this configuration provides a comprehensive web development environment with a range of tools and technologies to support cutting-edge applications.

CHAPTER 2 : SYSTEM ANALYSIS

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2.1 Problem Analysis:

To guarantee the successful design, development, and implementation of the Village Administration Hub , a thorough understanding of its goals, stakeholders, requirements, procedures, and limitations is necessary. The following summarizes the main elements of the Village Administration Hub system analysis:

2.1.1 Objectives Identification: Examine the main aims and objectives of the Village Administration Hub , including strengthening local community empowerment and panchayat governance's accountability, transparency, and efficiency.

2.1.2 Stakeholder Analysis: Determine and evaluate the many parties engaged in the Village Administration Hub , such as elected officials, residents, government organizations, and development partners. Recognize their expectations regarding the system as well as their roles, duties, and interests.

2.1.3 Requirement Gathering: Gather comprehensive requirements by talking to relevant parties, looking over current procedures and systems, and examining the issues and difficulties that Village have been identified as facing. To direct the design and development of the system, document the functional, technical, and operational requirements.

2.1.4 Feasibility Study: Examine the Village Administration Hub 's implementation viability in light of many aspects, including organizational preparedness, economic viability, legal and regulatory compliance, and technical viability. Determine any potential dangers and limitations that might affect the installation and functioning of the system.

2.1.5 System Design: Based on the requirements acquired, create a thorough system design taking into account aspects like system architecture, database design, user interface design, security measures, and system interaction with pre-existing systems. Make that the design complies with the Village Administration Hub 's goals and limitations.

2.1.6 Prototyping and Testing: Based on the requirements acquired, create a thorough system design taking into account aspects like system architecture, database design, user interface design, security measures, and system interaction with pre-existing systems. Make that the design complies with the Village Administration Hub 's goals and limitations.

2.2 Feasibility Study:-

2.2.1. Economical Feasibility Study:- Evaluating the financial benefits and implications of the Village Administration Hub's design, development, implementation, and operation is part of the study's economic feasibility. The main elements of the economic feasibility analysis are summarized as follows:

i. Cost Estimation: Calculate the overall cost of creating and deploying the Village Administration Hub, taking into account costs for infrastructure setup, software development, hardware acquisition, training, and continuing support and maintenance. Divide the expenses into two categories: capital (one-time) and operating (recurring).

ii. Benefit Identification: Determine the possible financial gains from the Village Administration Hub, including cost savings from enhanced productivity, less administrative costs, higher income production, and more effective use of available resources. Take into account both the measurable and non-measurable intangible advantages.

iii. Cost-Benefit Analysis: To ascertain the Village Administration Hub's overall cost-effectiveness, compare the system's total expenses with its projected benefits. To evaluate the project's economic viability, compute important financial measures such as payback period, internal rate of return (IRR), net present value (NPV), and return on investment (ROI).

iv. Risk assessment: Determine possible risks and uncertainties, such as cost overruns, technological obsolescence, implementation delays, and modifications to the financing source or regulatory environment, that could have an impact on the Village Administration Hub's economic viability. Analyze these risks' likelihood and potential effects on the project's financial results.

v. Sensitivity Analysis: Use sensitivity analysis to determine how changes in important factors (such as project costs, benefits, and discount rate) may affect the Village Administration Hub's economic viability. Determine which variables have the biggest impact on the project's financial success, then adjust risk-reduction plans accordingly.

vi. Evaluation of Alternative Solutions: Take into account different strategies or solutions for dealing with the issues that have been identified and accomplishing the goals of the Village Administration Hub. To choose the best affordable and workable solution, weigh the advantages and disadvantages of several solutions.

2.2.2. Technical Feasibility Study: -

A technical feasibility study is carried out to ascertain whether the Village Administration Hub can be successfully constructed and implemented from a technological aspect. The following is a summary of the technical feasibility study's primary components:

Hardware requirements: The minimum hardware components for the system we are utilizing are as follows:-

i. Processor: It is very possible to meet the criterion for an Intel Core i3 or higher generation processor. These processors provide more than enough processing capacity for database management and web application development. They also guarantee compatibility with modern software frameworks and facilitate the development of web applications that are effective and responsive.

ii. RAM: It should be possible for modern systems to support the suggested RAM requirement of up to 5 GB. Database operations, backend process management, and user experience enhancement can all be handled with this amount. A sufficient amount of RAM enables multitasking, supports many user requests, and quickly processes complex queries—all of which are essential for the ASC module to function.

iii. SSD: A 250 GB Solid State Drive is helpful and practical. SSDs improve the responsiveness and performance of the ASC module by offering dependable storage and fast data access. SSDs improve system responsiveness overall and speed up web page and data retrieval loads, enhancing user experience. This is because SSDs have faster read/write rates than traditional HDDs.

iv. Hard Drive: Data from websites, including user profiles, exam schedules, admissions records, and other relevant information, make sense and are practically best kept on a 50 GB hard drive. This allotment permits future growth of the ASC and ensures scalability. The chosen technical specifications adhere to industry standards and best practices for developing web applications. They provide the highest level of functionality, reliability, and scalability for the ASC module, supporting the project's objectives of boosting administrative efficiency and promoting digital literacy. Using SSDs and making sure there is enough RAM allotted enhances system speed and user experience, which is in accordance with the mission's goals.

Software requirements: The software requirements for the Village Administration Hub encompass a range of functionalities and features necessary for its development and operation. Here's an outline of the key software requirements:

i. Operating System and Software: Compatibility with modern programming tools like MySQL and Visual Studio Code is guaranteed on Windows 10 and higher. Together with Notepad for code editing and Xampp for running local servers, these apps provide a robust development environment. Enough interoperability with widely used web browsers ensures widespread accessibility.

ii. Programming Languages: When developing front-end and back-end applications, HTML, CSS, JavaScript, and PHP enable flexibility and scalability. These languages have widespread support, which makes it possible to develop and maintain the ASC module efficiently. c. Network Requirements: Utilizing Wi-Fi network connectivity during the development and deployment stages facilitates online resource access and collaboration.

iii. User Interface (UI) : Interface that is simple to use and intuitive for residents, elected authorities, and Panchayat officials. To guarantee accessibility on a variety of platforms (e.g., PCs, smartphones, tablets), responsive design is used. Support in several languages to provide users with different linguistic origins.

iv. Access Control and Authentication: To confirm user identity, utilize secure authentication methods (such as username/password or biometric authentication). Different levels of access and permissions can be defined depending on user roles and responsibilities using role-based access control.

v. Accounting for Finances: Spending and budgeting monitoring features to distribute cash to various projects and activities, oversee spending against budgets, and manage Panchayat finances. Integration with financial systems to provide smooth financial transaction auditing and reconciliation.

2.2.3. Behavioural Feasibility Study: -

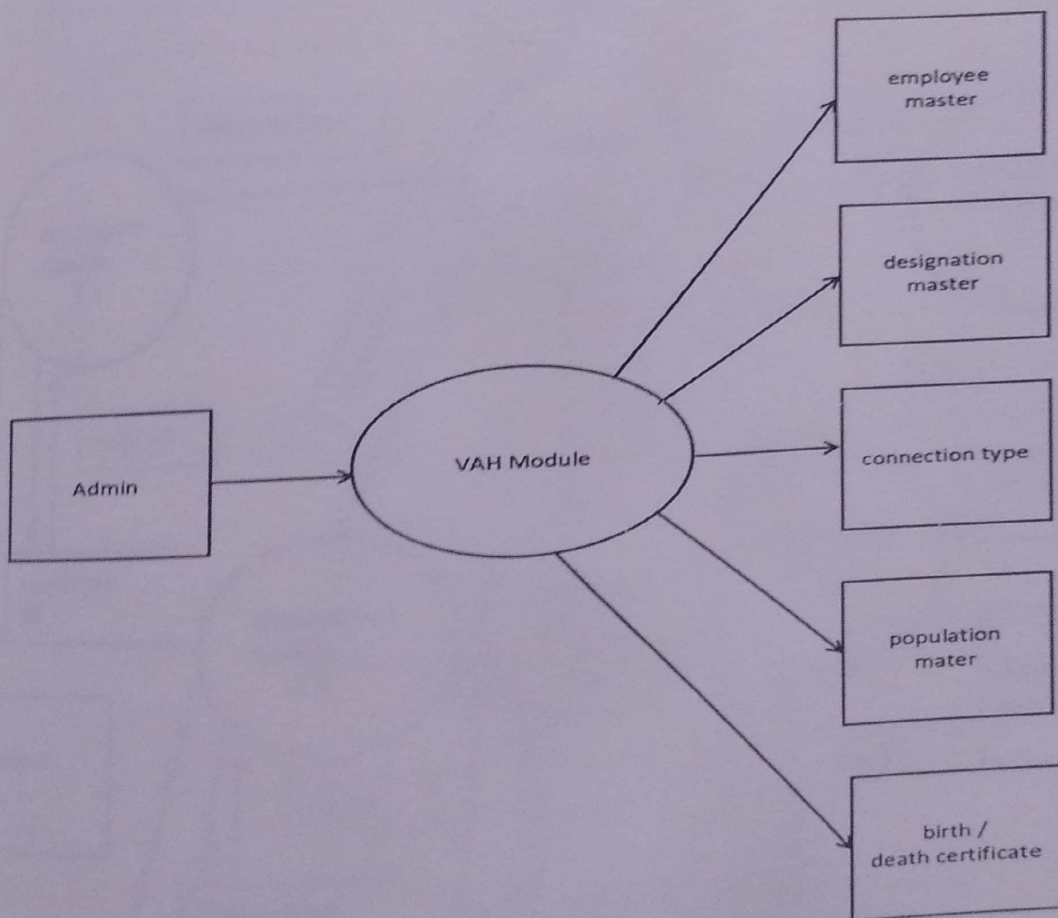
i. User Acceptance: Assess the degree to which elected officials, Panchayat officials, and residents are eager to use the Village Administration Hub . To get feedback on user preferences, needs, and expectations regarding the system, conduct focus groups, interviews, or surveys.

ii. User Experience (UX): Evaluate the Village Administration Hub 's usability in terms of ease of use, navigation, responsiveness, and interface design satisfaction. Determine the pain spots and usability problems that could hinder user adoption and acceptance.

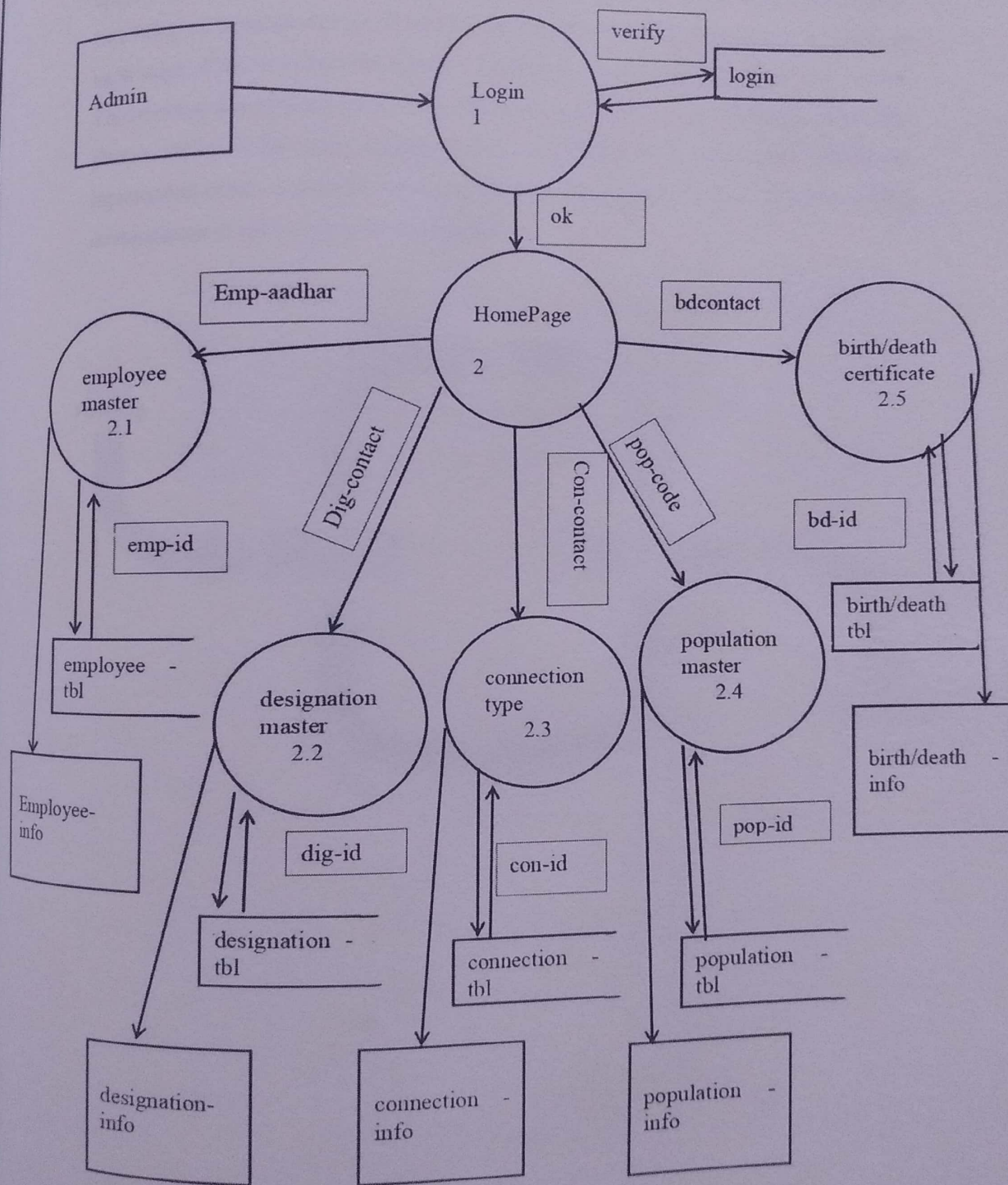
iii. Training and assistance: To ensure that the Village Administration Hub is used efficiently, ascertain what kind of training and assistance elected officials, Panchayat officials, and other stakeholders require. Provide onboarding training, user manuals, and support channels to help users become proficient with the technology.

2.3 Data Flow Diagram (DFD): -

2.3.1 0 Level DFD: -

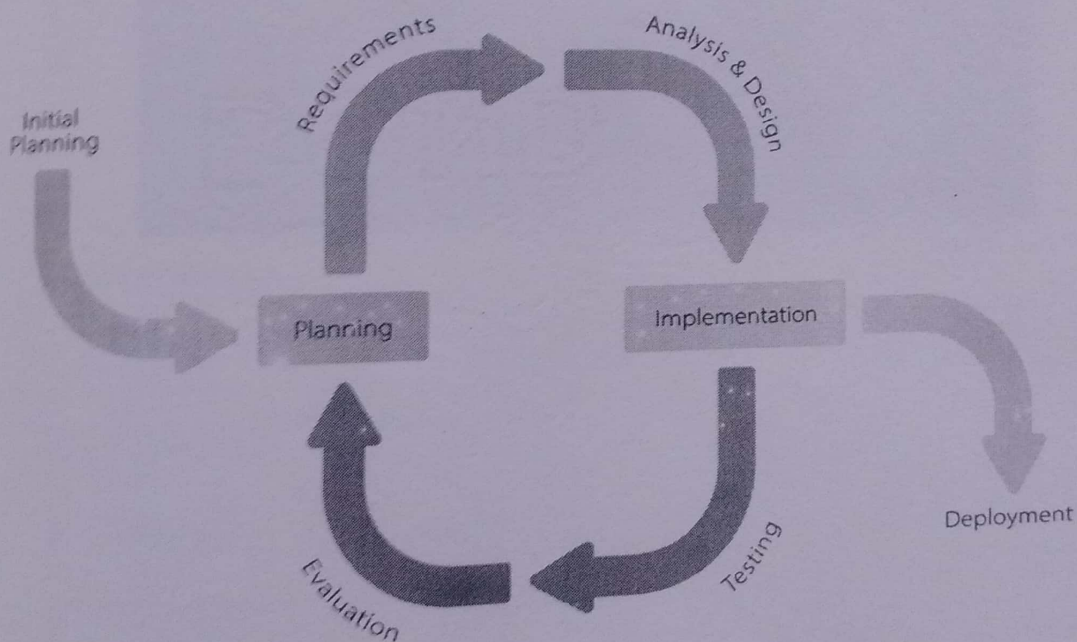


2.3.2 Level 1 DFD for Admin :



2.4 Software Development Process :-

We have used iterative and incremental Waterfall Methodology in the development of Village Administration Hub (VAH). The main reason behind using iterative waterfall model is feedback path. The Iterative Waterfall Model is a software development approach that combines the sequential steps of the traditional Waterfall Model with the flexibility of iterative design. It allows for improvements and changes to be made at each stage of the development process, instead of waiting until the end of the project. The iterative waterfall model provides feedback paths from every phase to its preceding phases, which is the main difference from the classical waterfall model. While the incremental model approach helped us to take advantage of what was learnt during development of earlier parts of the system.



CHAPTER 3 : SYSTEM DESIGN

CHAPTER 3: SYSTEM DESIGN

3.1 Database Tables: -

3.1.1 Population_tbl

S. No	Name	Type	Constraint
1.	pop_id	number(10)	Primary key
2.	pop_name	Varchar(20)	
3.	pop_gender	Varchar(15)	---
4.	pop_age	Number(20)	---
5.	pop_address	Varchar(70)	---

3.1.2 Login_tbl

S. No	Name	Type	Constraint
1.	username	varchar(10)	Primary key
2.	password	Varchar(20)	
3.	User_type	Varchar(15)	---
4.	Email	Varchar(20)	---
5.	User_key	Varchar(70)	---

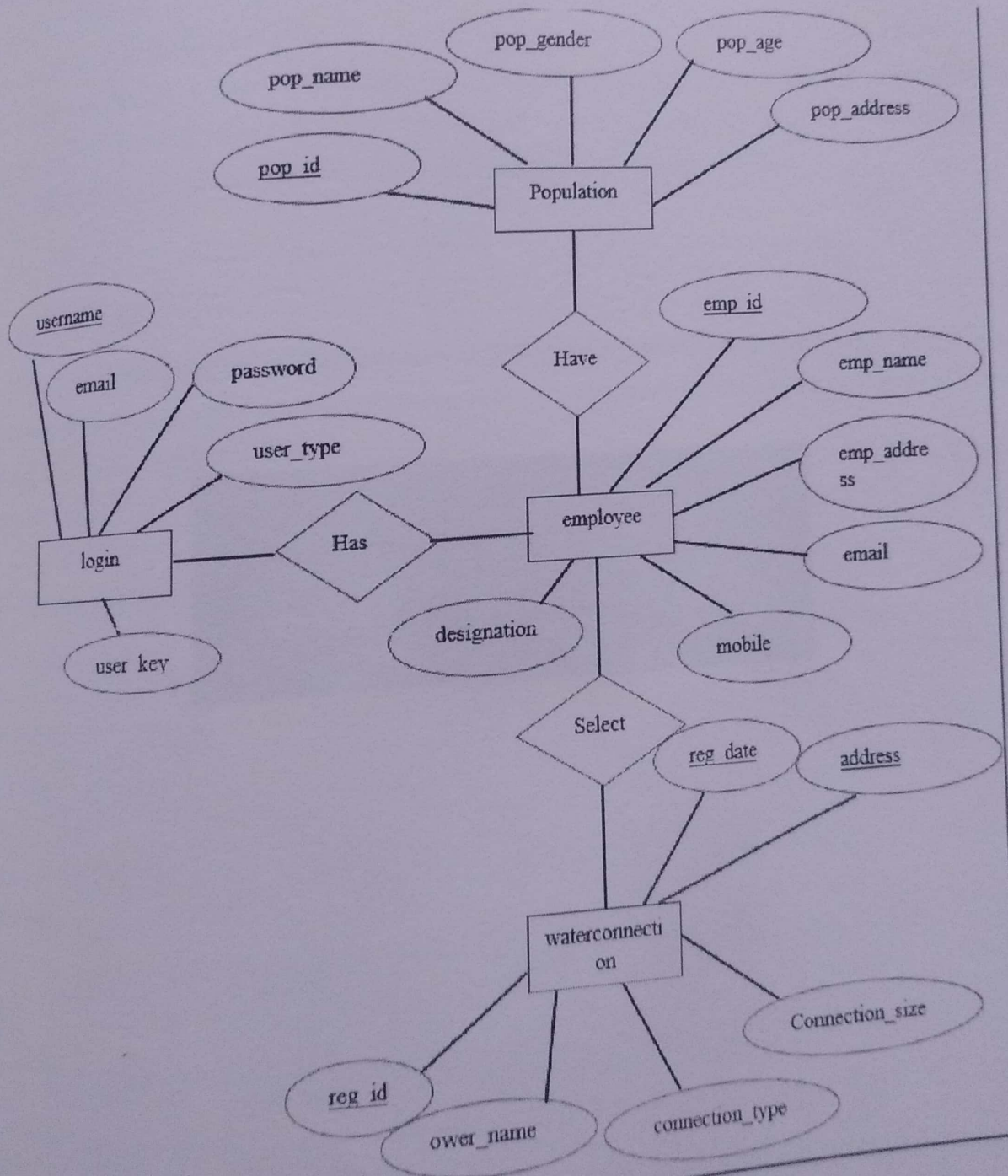
3.1.3 employee_tbl

S. No	Name	Type	Constraint
1.	emp_id	varchar(10)	Primary key
2.	emp_name	Varchar(20)	---
3.	emp-address	Varchar(15)	---
4.	Email	Varchar(20)	---
5.	mobile	number(10)	---
6.	designation	Varchar(20)	---

3.1.4 WaterConnection_tbl

S. No	Name	Type	Constraint
1.	reg_id	varchar(10)	Primary key
2.	owner_name	Varchar(20)	---
3.	reg_date	number(15)	---
4.	Address	Varchar(20)	---
5.	connection_type	Varchars(10)	---
6.	connection_size	Varchar20)	---

3.2 Entity Relationship Diagram



CHAPTER 4: TESTING

CHAPTER 4: TESTING

"Testing" in a project report describes the systematic procedure of evaluating a software system to ensure that it operates as intended. It comprises executing pre-written test scenarios, looking for errors, and confirming details. The goal is to assess the software's functionality, dependability, and quality in order to lower risks and improve user satisfaction. System, acceptance, unit, integration, performance, security, and usability testing are among the several types of testing. Effective testing is the only way to identify and address issues early in the software development process, which is necessary to produce high-quality software.

4.1 Unit Testing: -

Unit testing is evaluating distinct software system modules or components separately to make sure they function as intended. It emphasizes on confirming each unit's functioning and behavior, which aids in finding and fixing bugs early in the development cycle.

SECTION: Login

Test Case: Mandatory test (Unit test)

Main Test Case ID	Element Name
M1	Email ID
M2	Password

Q

Test Result:-

Test Case ID	Section	Element Name	Input	Test Data	Expected Result	Actual Result
01	Email-ID	Input Box	admin@gmail.com	No Error	No Error	Passed
02	Email-ID	Input Box	No input	Error	Error	Passed
03	Password	Input Box	1234	No Error	No Error	Passed
04	Password	Input Box	No input	Error	Error	Passed

4.2 Integration Testing:

Integration testing test that the interface between two software unit or modules are working properly or not. After performing unit testing, we perform the integration testing by connecting the different interfaces with each other and checks that they are giving correct result or not. This testing results with the correct output.

Test Case ID	Element name
Test Case 1	login
Test Case 2	View Employee

Test Result

Test Case ID	Section	Element Name	Input	Expected Result	Actual Result	Test result
Test case 1	Login	Text Box	No input	Error	Error	Passed
Test case 2	View employee	Text Box	Ramswaroop	Show employee	Show employee	Passed
Test Case 1	Login	Input Box	1234	No Error	No error	Passed
Test Case 2	View employee	Input Box	No input	Error	Error	Passed
Test case 4	Add employee	Form	No input	Error	Error	Passed
Test case 4	Add population	Form	Gender: Male Birth date: 24/01/24	No error	No error	Passed

4.3 Validation Testing: -

Involve end users to verify that the system works, is easy to use, and meets their needs and expectations. This includes elected officials, Panchayat officials, and people. Hold user-acceptance testing (UAT) sessions where users engage with the system to carry out routine tasks like reporting, data entry, project management, and citizen involvement. Get user input on any problems, worries, or ideas for enhancements that they may have had during UAT sessions. Make that the Village Administration Hub is operating as planned, accurately and effectively. Verify that important features including project management, reporting, data management, user authentication, and citizen involvement meet the criteria. Make that the system complies with government regulations and standards for accessibility, security, and privacy of data. Analyze the Village Administration Hub 's scalability and performance under various load scenarios. To evaluate the system's ability to manage many user sessions, high data volumes, and peak usage scenarios, perform load, stress, and scalability tests. Assess response times, data flow, and resource usage to spot any bottlenecks and enhance system efficiency.

4.4 Portability Testing:-

The Village Administration Hub 's portability test evaluates how well it can be moved or customized to various settings, platforms, and gadgets without compromising its usefulness and functionality. The system can be put through portability testing in the following ways:

Goal: Guarantee optimal module performance during the transfer from development to client devices.

Compliance: To guarantee that the website's functionality remains unchanged upon being transferred to a client device.

Outcomes: The database and all of the files can be moved from the development device to the client device.

4.5 Disaster Recovery and Backup Testing:

Goal: Confirm that the website can recover from data loss and calamities.

Test Scenarios: Record scenarios for testing data backups and catastrophe recovery.

As a result: we have stored our files and data on several non-volatile disks in several places to avoid failure and the data is effectively backed up.

CHAPTER 5 : IMPLEMENTATION

CHAPTER 5. IMPLEMENTATION

First of all, we have to download some software to the system for the implementation of our project which are as follows:-

a. Visual Studio Code:

- i. Go to the official Visual Studio website <https://visualstudio.microsoft.com/downloads/>
- ii. Click on the "Download" button for the version of Visual studio you want to install.
- iii. Choose the components you want to install, such as languages, frameworks, and tools.
- iv. Click on the "Install" button to start the installation process.
- v. Follow the installation wizard and select the options that suit your needs.

b. PHP:

- i. Setup the PHP development server like XAMPP. Choose the integrated development environment or code editor for writing PHP code, such as Visual Studio Code.
- ii. The project involves interacting with the database, design the database schema. Determine the tables, fields and relationships between them. Choose the database management system (DBMS) such as MYSQL.
- iii. Create the necessary PHP files to handle different parts of your project. Implement the core functionality using PHP, including handling forms, processing user inputs and interacting with database. Use the HTML and CSS to create interface.
- iv. We used MySQL in localhost through XAMPP or web browser First of all, we have to download some software to the system for the implementation of our project which are as follows:

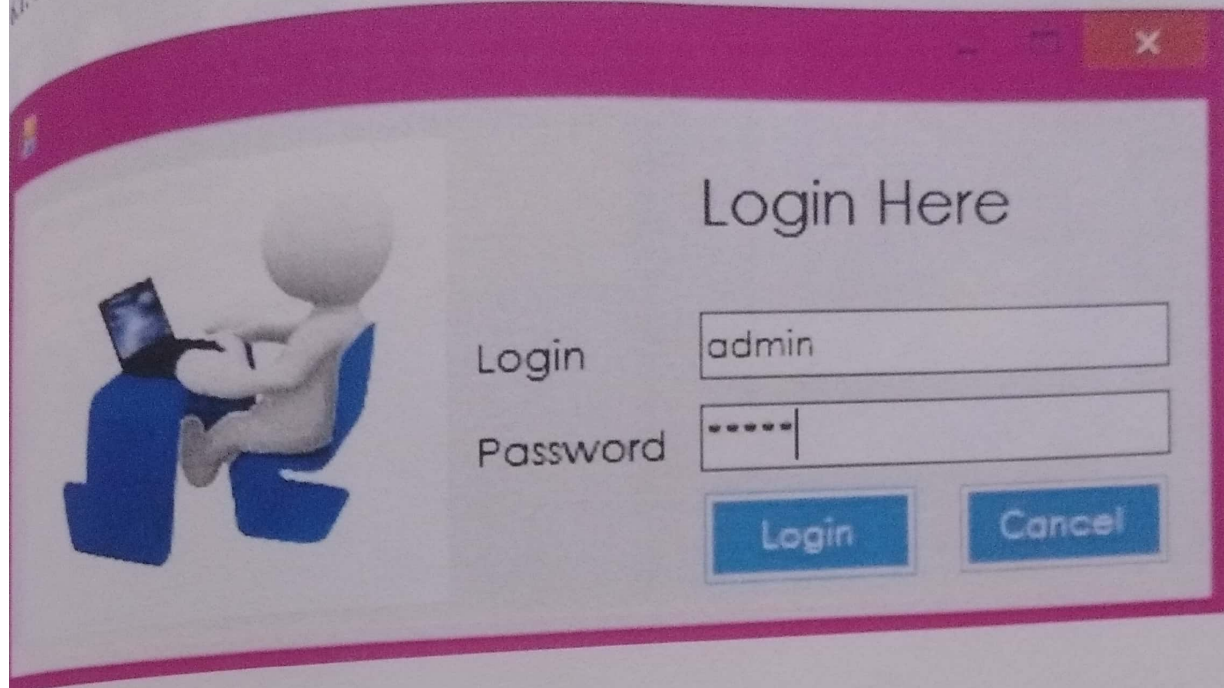
Based on the established criteria and specifications, develop or modify the Village Administration Hub 's software modules and functionality. Utilize agile development techniques to create, test, and improve the system iteratively while taking stakeholder feedback into account all along the way. To provide a solid, dependable, and user-friendly system, make sure that coding standards, best practices, and quality assurance procedures are followed.

Transfer current data to the Village Administration Hub from spreadsheets, paper-based records, or older systems, making sure that the data is accurate, full, and consistent. When necessary, integrate the system with third-party services, government databases, and external data sources to enable data sharing, interoperability, and exchange.

To acquaint Panchayat officials, elected representatives, and other stakeholders with the Village Administration Hub and enhance their ability to use it successfully, offer them thorough training and capacity-building programs. To aid in user acceptance and system proficiency, provide hands-on workshops, user manuals, online tutorials, and training materials.

CHAPTER 6: SAMPLE FORMS AND REPORTS

1. Login Page



A screenshot of a login window titled "Login Here". On the left, there is a 3D illustration of a person sitting at a desk with a laptop. To the right of the illustration are two input fields: "Login" with the text "admin" and "Password" with masked characters "*****". Below these fields are two buttons: "Login" and "Cancel". The window has a pink border and standard window controls (minimize, maximize, close) in the top right corner.

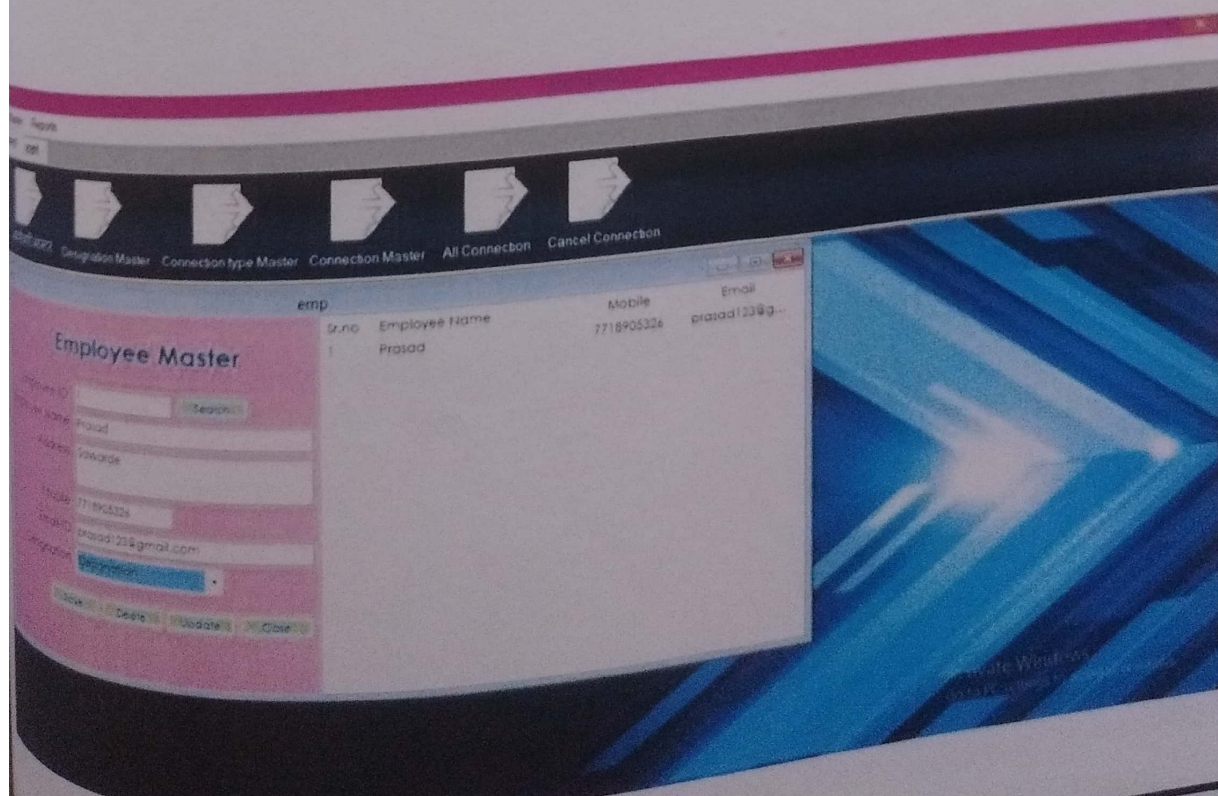
Login Here

Login admin

Password *****

Login Cancel

2. Karmachari Master



A screenshot of the "Employee Master" form. The form has a pink header and a blue sidebar with navigation icons. The main area contains a table with employee data. Below the table is a form for adding or editing employee details, including fields for Name, Address, Mobile, and Email. At the bottom of the form are buttons for "Save", "Delete", "Update", and "Cancel".

Employee Master

Emp ID	Employee Name	Mobile	Email
1	Prasad	7718905324	prasad123@gmail.com

Search

Name: Prasad

Address: Sawai

Mobile: 7718905324

Email: prasad123@gmail.com

Save Delete Update Cancel

6.3. Designation Master

Designation Master

ID: 3

Designation: Upa Sarpanch

Search

Save Delete Update Close

ID	Designation
1	Gramsevak
2	Sarpanch
3	Upa Sarpanch

6.4. Connection Type Master

Connection Type

ID: 1

Type: Water Connection

Details:

New Save Close

ID	Type
1	Water Connection

Connection Master

New Water Connection

Reg. Date 26 February 2017

Reg. ID 1

Owner Name

Address

Connection Type Select type

Connection size

New Save Close

6. All Connection

[illegible]

6.7. Cancel Connection

The screenshot shows a window titled "Cancel Connection". At the top left, there is a label "ID:" followed by a text input field. To the right of the input field are two buttons labeled "Search" and "Cancel". Below the search area is a table with four columns: "Reg No.", "Owner", "Reg. Date", and "Connection Type". The table has multiple rows, all of which are currently empty.

8. Janm Dakhla

The screenshot shows the 'जन्म प्रमाणपत्र' (Birth Certificate) form on the Maharashtra Birth and Death Registration Portal. The form is in Marathi and includes the following fields:

- जन्मक** (Birth Name): जन्म व मृत्यू नोंदणी अधिनियम, १९६९ च्या कलम १२/१७ आणि महाराष्ट्र जन्म आणि मृत्यू नोंदणी नियम, २००० चे नियम ८/१२ अन्वये देण्यात आले आहे।
- प्रमाणित करण्यात येते की खालील माहिती मूळ अभिलेखाच्या जन्म नोंदवहीतून घेण्यात आली आहे जी वी (स्थानिक क्षेत्र)।**
- कन्या** (Child Name): **विवरण** (Details): महाराष्ट्र राज्याच्या नोंदवहीत उल्लेख आहे.
- खालील नाव:** **लिंग: पुरुष/स्त्री**
- जन्म दिनांक:** 26 February 2017 **जन्म ठिकाण:**
- आईचे पूर्ण नाव:** **वडिलांचे पूर्ण नाव:**
- आईचे जन्माचे वेळी वडिलांचा पत्ता:** **आई वडिलांचा कामगमचा पत्ता:**
- नोंदणी क्रमांक:** **नोंदणी दिनांक:** 26 February 2017

At the bottom of the form, there are four buttons: **प्रमाणित करा** (Certify), **निलंबित करा** (Suspend), **अवरोधित करा** (Withdraw), and **विलंबित करा** (Delay).

6.9. Mrityu Dakhla

Master Reports

मृत्यु दाखला मृत्यु दाखला रहिवाशी दाखला जन्मतः मृत्यु

मृत्यु प्रमाणपत्र

Reg. Date 26 February 2017

Death Registration

Reg. ID

Name

Father Name

Mother Name

Address

Contact

Death Place

Death of Birth 26 February 2017

Gender

Informant

Address

Mobile

New Save Close

Activate Windows
Go to PC settings to activate Windows

6.10. Rahivashi Dakhla

Master Reports

मृत्यु दाखला मृत्यु दाखला रहिवाशी दाखला जन्मतः मृत्यु

Form15

दिनांक 26 February 2017

रहिवासी असल्याचा दाखला

सरपंच ग्रामपंचायत धामणवणे, ता. चिपळूण, जि. रत्नगिरी यांजकडून दाखला देण्यात येतो की, श्री. श्रीमती/कुमार/कुमारी
हे/ह्या/हा/ही

ग्रामपंचायत कार्यक्षेत्रातील मौजे धामणवणे या गावातील रहिवाशी असून हे/ह्या/हा/ही/ या गावात गेली
वर्षा वास्तव्यास आहे/आहेत. तसेच त्यांची वर्तवणूक चांगली आहे.

म्हणून भागणीवरून खात्री करून दाखला दिला.

सरपंच
ग्रामपंचायत धामणवणे
ता. चिपळूण, जि. रत्नगिरी

जिल्हा न्याय दफतरी न्याय दफतरी न्याय दफतरी न्याय दफतरी

Activate Windows
Go to PC settings to activate Windows

11. Population Master

Population in Village

ID

Name

Gender ▼

Age

Address

12 Population Report

Population Report

Date :- 26-02-2017

ID	Name	Gender	Age	Address
1	Mahendra Gajendra Jadhav	Male	35	Chakala
2	Sangita Rajendra Bhoir	Female	29	Wadala
Total :- 2				

Total Page No: 1

Zoom Factor: 100%

12. Total Male in Project

Male Report

Date :- 26-02-2017

ID	Name	Gender	Age	Address
1	Mahendra Gajendra Jadhav	Male	35	Chakala

Total :- 1

Total Page No.: 1 Zoom Factor: 100%

13. Total Female in Village

Male Report

Date :- 26-02-2017

ID	Name	Gender	Age	Address
2	Sangita Rajendra Bhoir	Female	29	Wadala

Total :- 1

Total Page No.: 1 Zoom Factor: 100%

CHAPTER 7 : CONCLUSION

CHAPTER 7: CONCLUSION

In summary, the Village Administration Hub is an important project that aims to improve Panchayat governance's accountability, openness, and efficiency. This would ultimately empower local communities and promote rural development in India. The system's extensive features and functionalities enable improved administrative work management, project monitoring, financial management, and grassroots citizen interaction.

To guarantee the Village Administration Hub's successful deployment and uptake throughout all Village in the country, thorough planning, teamwork, and stakeholder engagement are required during its implementation. The system helps Panchayat administrations to make better decisions, streamline operations, and provide citizens with better services by utilizing digital platforms and technology.

The system's performance during the installation phase depends critically on important factors such user training, data migration, scalability, and security. It is imperative to have ongoing monitoring, evaluation, and feedback systems in place to pinpoint areas that require improvement and to propel continuous system innovations in response to changing demands and obstacles.

In general, the Village Administration Hub facilitates inclusive and participatory local governance by enabling Village to efficiently address community needs and support rural India's socioeconomic growth. The system has the capacity to spur constructive change and transformation at the local level as it develops and matures, opening the door for long-term sustainable development and rural community empowerment.

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- iv. <http://www.codeproject.com>
- v. <http://www.wikipedia.org>

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
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Industry/Organization	शा.प. लदवाया		Date/Duration	25-1-24 से 31-1-24 तक	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work					
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	परियोजना की आवश्यकता को समझा तथा योजना बनाई				
OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	सरपंच				
Signature of Industry Mentor	<div style="display: flex; justify-content: space-between;"> <div> <p>राम स्वराज भादव</p> <p>राजेश्वर २०२५</p> </div> <div> <p>ग्राम पंचायत लदवाया</p> <p>जन. पंचायत पितरवार</p> </div> </div>				

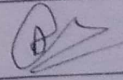
Receiving Date	6/2/24	Name of Faculty Mentor	Dr. Anshu Chaturvedi	Sign	
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FORTNIGHTLY PROGRESS REPORT (FPR) FROM INDUSTRY MENTOR

Name of student	आर्यक बाइल		Department	MCA	
Industry/Organization	डा. प. लक्ष्मी		Date/Duration	01-2-24 से 15-2-24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work					✓
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	HTML का कार्य किया				
OVERALL GRADE (Any)	<u>POOR/AVERAGE/GOOD/VERYGOOD/EXCELLENT</u>				
Name of Industry Mentor	<div>सुरपच</div> <div>ग्राम पंचायत लदवाणा</div> <div>जन. पंचायत भितरवार</div>				
Signature of Industry Mentor	रामसूर्य यादव				
Dating Date	20/4/24	Name of Faculty Mentor	Dr Anshu Chaturvedi	Sign	

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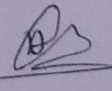
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Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation				✓	
Performance/Quality of work				✓	
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work			✓		
Comment on nature of work done/Area/Topic	HTML व CSS का कार्य जारी आता रहा				
OVERALL GRADE (Any one)	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	रामरंजन यादव		सरपंच ग्राम पंचायत लक्ष्मी जन. पंचायत भितरवार		
Signature of Industry Mentor	रामरंजन यादव				

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Industry/Organization	डा. अ. अ. अ.		Date/Duration	01/3/24 to 15/03/24	
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Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation			✓		
Performance/Quality of work				✓	
Behaviour/Discipline/Team work					✓
Sincerity/Hard work				✓	
Comment on nature of work done/Area/Topic	CSS व JS पर कार्य जारी है				
OVERALL GRADE (Any one)	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u>				
Name of Industry Mentor	रामेश्वर राय पांडे		सरपंच ग्राम पंचायत लदवाया		
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Industry/Organization	डा. प. लक्ष्मी		Date/Duration	16-03-24 से 31-03-24	
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Punctuality/Timely completion of assigned work			✓		
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work				✓	
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work					✓
Comment on nature of work done/Area/Topic	Backend पर कार्य किया				
OVERALL GRADE (Any one)	<u>POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT</u> सराप				
Name of Industry Mentor	रामरवरी माहव		ग्राम पंचायत लक्ष्मी जन. पंचायत नि.		
Signature of Industry Mentor	रामरवरी माहव				
Receiving Date	16/4/24	Name of Faculty Mentor	Dr. Anshu Chaturvedi	Sign	

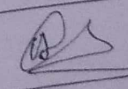
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Comment on nature of work done/Area/Topic	Backend पर कार्य जारी				
OVERALL GRADE (Any)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT				
Name of Industry Mentor	सरपंच				
Signature of Industry Mentor	श्रीम. वरुण यादव ग्राम पंचायत लदवाया जन. पंचायत भितरवार				

Receiving Date	16/4/24	Name of Faculty Mentor	Dr. Anshu Chaturvedi	Sign	
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Name of student	कार्तिक बांदल		Department	MCA	
Industry/Organization	मो. प. लक्ष्मण		Date/Duration	16-04-24 से 30/04-24	
Criterion	Poor	Average	Good	Very Good	Excellent
Punctuality/Timely completion of assigned work				✓	
Learning capacity/Knowledge up gradation					✓
Performance/Quality of work					✓
Behaviour/Discipline/Team work				✓	
Sincerity/Hard work				✓	
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OVERALL GRADE (Any one)	POOR/AVERAGE/GOOD/VERY GOOD/EXCELLENT सर्वोत्तम				
Name of Industry Mentor	रामेश्वर राय यादव ग्राम पंचायत लक्ष्मण जन. पंचायत भित्ति				
Signature of Industry Mentor	रामेश्वर राय यादव				

Receiving Date	16/4/24	Name of Faculty Mentor	Dr. Ansh Chaturvedi	Sign	
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