

A SECURE G-CLOUD-BASED FRAMEWORK FOR GOVERNMENT HEALTHCARE SERVICES

Submitted in partial fulfillment of the requirements for the award of
Bachelor of Engineering in Computer Science Engineering

By

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING
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SATHYABAMA

INSTITUTE OF SCIENCE AND TECHNOLOGY

(DEEMED TO BE UNIVERSITY)

Accredited with Grade “A” by NAAC

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MARCH – 2021



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BONAFIDE CERTIFICATE

This is to certify that this project report is the bonafide work of **Kanaka Durga (37110609)** and **Ramya K (37110620)** who carried out the project entitled “**A SECURE G-CLOUD-BASED FRAMEWORK FOR GOVERNMENT HEALTHCARE SERVICES**” under my supervision from **August 2020** to **March 2021**.

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ABSTRACT

Most of the schemes introduced by government go into the dustbin just because the officials who implement the schemes could not make them available to suitable people. Although government works for the welfare of the people and brings up new schemes to improve their standard of living. Most of the time schemes go unnoticed by the people due to two major reasons i.e., they are not aware of the scheme and the other even if they are aware they do not know the procedures to get the benefits of the scheme. Our project solves both these problems as we give the complete details of the scheme and also allow them to apply for a scheme. So there is a gotten and straightforward framework required which empower a self-assertive individual to straightforwardly apply for a plan and track the status occasionally and know whether he is qualified for get the natural product or his application is dismissed by authorities. In our framework administrator will add the plan subtleties to the framework. What's more, he can ready to the view the enlisted client subtleties. He can ready to acknowledge or dismiss the plan which is mentioned by the customer. Furthermore, client can ready to see the situation with his plan demand level.

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LIST OF ABBREVIATIONS

ABBREVIATION	EXPANSION
JRE	Java Runtime Environment
OS	Operating System
J2SE	Java Standard Edition
RDBMS	Relational Database Management System
GNU	GNU's Not Unix
PHP	Hypertext Preprocessor
LAMP	Linux Apache MySQL Php
TYPO3	Typing errors, typo, and the third version

GUI	Graphical User Interface
FRS	Functional Requirement Specifications
UML	Unified Modeling Language
OLAP	Online Analytical Processing
TCP	Transfer Control Processing
UDP	User Datagram Protocol
NFR	Non-Functional Requirements

CHAPTER 1

INTRODUCTION

1.1 DESCRIPTION OF THE PROJECT

Our system works for the benefits of all sections of the society i.e., farmers, students, women etc. Our purpose is to make sure that all the schemes released by the government must reach the people in need. Our Project allows users and public to register themselves on our system. It helps the admin to give the details of the schemes that meets the eligibility criteria of the users and also give the details of even other schemes those that are shown interest by the user and shows the eligibility criteria if he is not acceptable.

Our device brings up to date with all the new government schemes with its out-and-out details. Once it is updated the notification goes to all the acceptable users i.e., those who have registered to our system. It is completely an automated system which allows the users to perform various operations. All the processes involved are also automated. So that it saves the time and allows the user to work more efficiently.

We also provide the users the access to track the status of their applied schemes from time to time. The admin alone is given the authority to change, add, update or to delete the schemes so that every time the schemes are updated and accurate. The users have no authenticity to edit the details of the scheme they can only view the details provided by the admin. We also provide the user wise reports that is how many of their applied schemes are approved, rejected or in the pending list. This helps the user to track their status in time to time. The user can directly upload the documents to the scheme if he has registered on our system. Since our system is beneficial to all the sections of the society and the government releases many new schemes every year. There is a huge scope for our system, it brings about more transparency and ultimately helps the people in need in time.

The purpose of this project is to develop a system which provides the details of government schemes and beneficiaries. The main purpose is to design a system which

automates the processes involved and allows users to perform various operations. This system is to design a system which automates the processes involved and allows users to perform various operations. The date of incomplete and asymmetric information makes it important for government to implement reward and punishment before enough analyzing. From the aspect of validity analysis, the optimal proposal will have the characteristics of monotone, that is, the awards to the manager which are provided by government should increase with the improvement of output level. It is eventually concluded that the reformation of e-government services outsourcing relationship requires incentive scheme. A secure publishing scheme based on Markel hash tree is proposed. The scheme is able to resist the malicious replacement of published information and its cost is modest.

1.2 SCOPE OF THE PROJECT

The Government Schemes Alerts provides an easier way to access and save the time to register and use the scheme services. The scope of the government scheme alerts is to assure a transparent and secured system. The Government Schemes Alerts helps user to directly apply for a scheme and track the status from time to time. Through this site helps to know whether user is entitled to receive the fruit or his application is rejected by officials. This site is helpful to every individual to check their current status of their scheme request level.

CHAPTER 2

LITERATURE SURVEY

2.1 ANALYSIS OF THE LITERATURE

Literature survey is the main advance in programming improvement measure. Prior to building up the instrument it is important to decide the time factor, economy and friends strength. When these things are fulfilled, at that point the subsequent stage is to figure out which working framework and language can be utilized for building up the device. When the developers begin assembling the apparatus the software engineers need parcel of outer help. This help can be gotten from senior developers, from book or from sites. The major part of the project development sector considers and fully survey all the required needs for developing the project. For every project Literature survey is the most important sector in software development process. Before developing the tools and the associated designing it is necessary to determine and survey the time factor, resource requirement, man power, economy, and company strength. Prior to building the framework the above thought are considered for building up the proposed framework. The significant piece of the undertaking advancement area considers and completely survey all the necessary requirements for building up the venture. For each undertaking Literature survey is the main area in programming improvement measure. Prior to building up the instruments and the related planning it is important to decide and survey the time factor, asset prerequisite, labor, economy, and friends strength. When these things are fulfilled and completely surveyed, at that point the following stage is to decide about the product details in the separate framework, for example, what kind of working

framework the venture would require and what are largely the important programming are expected to continue with the subsequent stage like building up the apparatuses, and the related activities. Here we have taken the general surveys of different creators and noted down the fundamental central issues with respect to their work. In this venture literature survey assumes a prevailing part in get assets from different areas and all the connected points that are exceptionally valuable under this segment. The most awesome aspect if this is the manner in which things get all together and encourages us to suite our work according to the current information.

2.2 LITERARY REVIEWS

“A Hybrid multi-criteria decision-making method for cloud adoption: Evidence from the healthcare sector”, Mahak Sharma, Rajat Sehrawat (2020).

In this paper the primary spotlight is on the medical services neural framework which gives private cloud answer for getting and overseeing patient information. Distributed computing has arisen as a primary in giving medical care Services. Hence, provincial medical care associations should move towards building their own private cloud framework which is a fantastic Solution for country needs for the improvable necessities in medical services administrations. In this paper the arrangement gives verification and capacity model reinforce client wellbeing information when information is put away in cloud climate. The primary concern is utilization of two distinctive information base for clinical record which impedes the way for an assailant to change the information put away in the cloud.

“Analysis of E-government Services Outsourcing and Incentive Scheme” (2019).

Relative speculations, activity examples and patterns about e-government out-sourcing are contemplated. In this way, the examinations on the motivator model and framework for government and venture in the e-government rethinking project are introduced dependent on the hypothesis of game and head specialist, underlining on inspiration and

execution assessment in overseeing out-sourcing business, in which the significance of impetus game in head specialist is additionally determined.

“Data Warehouse-Based Personalized Information Service Scheme in E-Government”, Xilin Liu, Dong Li (2019).

In this paper, we study the utilization of information distribution center in e-government according to the perspective on the customized data administration, and dissect its design and highlights consolidating with the necessity of the e-government data administration. At last, we clarify the cycles of information warehousing in the e-government with a genuine model in voyaging. The method of customized data administration necessitates that e-government can have the limit and capacity on managing the unique data interest. In any case, at long last the information distribution center instrument is utilized to dissect data and make reports. This paper design gives the whole Vertical area e-government design with an ideal space for the improvement of information warehousing.

“IGoSA - A Novel Framework for Analysis of and Facilitating Government Schemes”, Sabyasachi Mohanty, Amit K.Mishra, Dhruba C.Panda (2019).

Progress in the field of Information and Communication Technology (ICT) has profited the e-Governance arrangements with higher proficiency and better responsibility. In this paper we have recognized an area of government which centers on government assistance plans for the more fragile segments of the general public. For the better agreeableness of the plans, data sharing and investigation of the plan related data is urgent. However, since it is an exceptionally high size of activity, it is difficult to make conspires that are generally reasonable for the objective recipients.

“A Proposed abstract model for Adopting Cloud Computing in E-government”, Ali, K.E., Mazen, S. A., & Hassanein (2018).

This paper exhibits e-government's deterrents and distributed computing highlights. This Hybrid proposed model recognizes three distinct examples of distributed computing which are Local Governmental cloud, Regional legislative cloud, and wide administrative cloud. This model decide how the element interfaces and what the connection is. This proposed reasonable model for distributed computing appropriation in e-government setting made ready for creating functional work focusing on the e-Services to move into government cloud and recognizing cloud organization model. Thus it gives a decent preparation about proposing a system that helps the association in overseeing and observing after appropriation of the distributed computing.

“Study on Massive E-government Data Cloud Storage Scheme Based on Hadoop”, Li Bo (2018).

Conventional social data set can't meet the necessity of enormous e-government information stockpiling. Utilizing the huge information stockpiling of Jinan walling the executives stage for instance, this paper presents an e-government distributed storage conspire dependent on Hadoop, which improves the productivity of information access, yet in addition ease, high security and high versatility can be agreeable. Hadoop is quite possibly the most dispersed enormous information preparing systems.

“A secure publishing scheme in e-Government”, Jiang Hong, Dai Jiazhu (2018).

Quite possibly the main elements of e-Government is distribution through the Internet. Despite the fact that advanced mark can be abused to secure the uprightness and legitimacy of distributed data, it can't successfully oppose vindictive substitution in situations where the distributed data comprises of various documents. A safe distributing plan dependent on Merkel hash tree is proposed. The plan can oppose the noxious substitution of distributed data and its expense is unobtrusive. In spite of the fact that these techniques are viable somewhat, they can't adapt to pernicious substitution by aggressors.

“Research on the E-Government Scheme based on Multi-Technologies and Bidirectional Authentication”, Li Liangzhi (2018).

The verification is the critical piece of the organization security. It is likewise the primary issue we should resolve. This plan, which is bi-directional, utilizing multi instrument to guarantee wellbeing verification and giving a uniform confirmation administration to other e-government application framework, addresses the issue of current e-government framework.

“Design of cloud security in the HER for Indian healthcare services”, Pradeep Deshmukh (2017).

The author has built up a framework for the administration of wellbeing records, where patients and medical services suppliers can get to records utilizing key control. Because of the minimal effort and utilizing key control. Because of the minimal effort and adaptability of an application the cloud is turning into the foundation for the vast majority of the EHR however without bargaining security of the information. In this paper, they had proposed a system for putting away the wellbeing records and getting to them by persistent and doctor as approved key control plot. They have considered for both rustic and are for Centers and it is likewise more suitable for Indian medical care Services. The outcomes shows that it has a capacity of scaling in number of patients and furthermore number of components in wellbeing record and it is workable for huge populace.

“Cloud Computing on e-Health”, Rodrigues, Sendra Compte (2016).

In this paper we can learn about how cloud based arrangements can be applied to e-wellbeing arrangements can be applied to e-wellbeing administrations and applications. Utilizing that arrangement information can be facilitated on the cloud and their customers. The cloud e-wellbeing worldview presents a few hindrances that should defeat like security and patient mindfulness. To acquire the security and property. We have won the trust of the customers by legitimate certifications even on account of framework disappointments a cloud supplier should get e-wellbeing frameworks against possible

outside assaults with security instruments which forestall a non-approved gathering accessing private information.

***“A Platform for secure monitoring and sharing of generic health data in the Cloud”*,
Danan Thilakanathan, and Surya Nepal, Rafael Calvo (2015).**

In this paper, we learn about the information protection and security in the cloud. It is a secured information sharing model and the convention which is low private and secure sharing of information in cloud. The primary benefit of conveying data effectively between the group and settling on clinical choice rapidly. It offers a creative idea for information sharing, approval and information recuperate hypothesis permits to reestablish the entrance.

CHAPTER 3

SOFTWARE DESIGN AND DEVELOPMENT METHODOLOGY

3.1 ARCHITECTURAL DESIGN

The architecture of a system describes its major components, their relationships (structures), and how they interact with each other. Software architecture and design includes several contributory factors such as Business strategy, quality attributes, human dynamics, design, and IT environment. Architecture serves as a blueprint for a system. It provides an abstraction to manage the system complexity and establish a communication and coordination mechanism among components.

- It defines a structured solution to meet all the technical and operational requirements, while optimizing the common quality attributes like performance and security.
- Further, it involves a set of significant decisions about the organization related to software development and each of these decisions can have a considerable impact on quality, maintainability, performance, and the overall success of the final product.

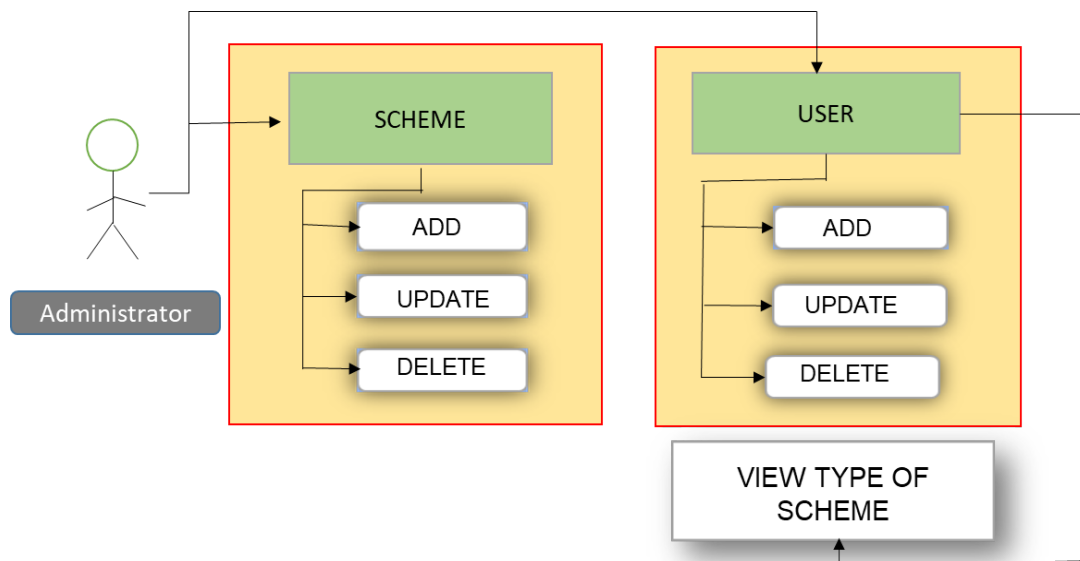


Fig: 3.1 Architecture Diagram

3.2 SYSTEM DESIGN

System design is the process of defining elements of a system like modules, architecture, components and their interfaces and data for a system based on the specified requirements. It is the process of defining, developing and designing systems which satisfies the specific needs and requirements of a business or organization. A systemic approach is required for a coherent and well-running system. Bottom-Up or Top-Down approach is required to take into account all related variables of the system. A designer uses the modelling languages to express the information and knowledge in a structure of

system that is defined by a consistent set of rules and definitions. The designs can be defined in graphical or textual modelling languages. User Interface Design is concerned with how users add information to the system and with how the system presents information back to them. Data Design is concerned with how the data is represented and stored within the system. Finally, Process Design is concerned with how data moves through the system, and with how and where it is validated, secured and/or transformed as it flows into, through and out of the system. At the end of the system design phase, documentation describing the three sub-tasks is produced and made available for use in the next phase. Physical design, in this context, does not refer to the tangible physical design of an information system. To use an analogy, a personal computer's physical design involves input via a keyboard, processing within the CPU, and output via a monitor, printer, etc. It would not concern the actual layout of the tangible hardware, which for a PC would be a monitor, CPU, motherboard, hard drive, modems, video/graphics cards, USB slots, etc. It involves a detailed design of a user and a product database structure processor and a control processor. The H/S personal specification is developed for the proposed system.

Input Design

The input design is the link between the information system and the user. It comprises the developing specification and procedures for data preparation and those steps are necessary to put transaction data in to a usable form for processing can be achieved by inspecting the computer to read data from a written or printed document or it can occur by having people keying the data directly into the system. The design of input focuses on controlling the amount of input required, controlling the errors, avoiding delay, avoiding extra steps and keeping the process simple. The input is designed in such a way so that it provides security and ease of use with retaining the privacy. Input Design considered the following things:

What data should be given as input?

How the data should be arranged or coded?

The dialog to guide the operating personnel in providing input.

Methods for preparing input validations and steps to follow when error occur.

Output Design

A quality output is one, which meets the requirements of the end user and presents the information clearly. In any system results of processing are communicated to the users and to other system through outputs. In output design it is determined how the information is to be displaced for immediate need and also the hard copy output. It is the most important and direct source information to the user. Efficient and intelligent output design improves the system's relationship to help user decision-making.

The output form of an information system should accomplish one or more of the following objectives.

- Convey information about past activities, current status or projections of the future.

- Signal important events, opportunities, problems, or warnings.

- Trigger an action.

- Confirm an action.

The design of output is the most important task of any system. During output design, developers identify the type of outputs needed, and consider the necessary output controls and prototype report layouts. Output integrity controls include routing codes to identify the receiving system, and verification messages to confirm successful receipt of messages that are handled by network protocol.

3.2.1 EXISTING SYSTEM

In the current situation, different government plans are distributed on paper media and publicized by the separate offices. It is frequently hard for individuals to get the significant

data and approach the authorities for profiting the administrations. Because of absence of appropriate correspondence among different divisions and authorities, regularly the motivation behind the plans are not accomplished. Individuals don't become acquainted with about the plans and don't profit by them. In spite of the fact that they become acquainted with about the wellbeing administrations yet at the same time neglect to apply or enroll themselves this doesn't imply that they are ignorant, it's simply because of absence of information. In the current world the e-Governance situation in different wellbeing area is baffling generally the wellbeing areas run by the Government is imploding and are rarely satisfied.

3.2.2 PROPOSED SYSTEM

The proposed system is a web based application, which maintains a centralized repository of all scheme related information. This makes it easy to search for the desired information. Users and public can access the system to get the information and also apply online for the proposed schemes. The system allows coordination among all concerned departments and officials. The system also allows the regular monitoring and modification of information. The main problem in today's world that there is no proper guidance regarding any health beneficiary and there's no proper health parameters. The method what we have proposed is extremely important in building a secured, standard and quality of government system information services.

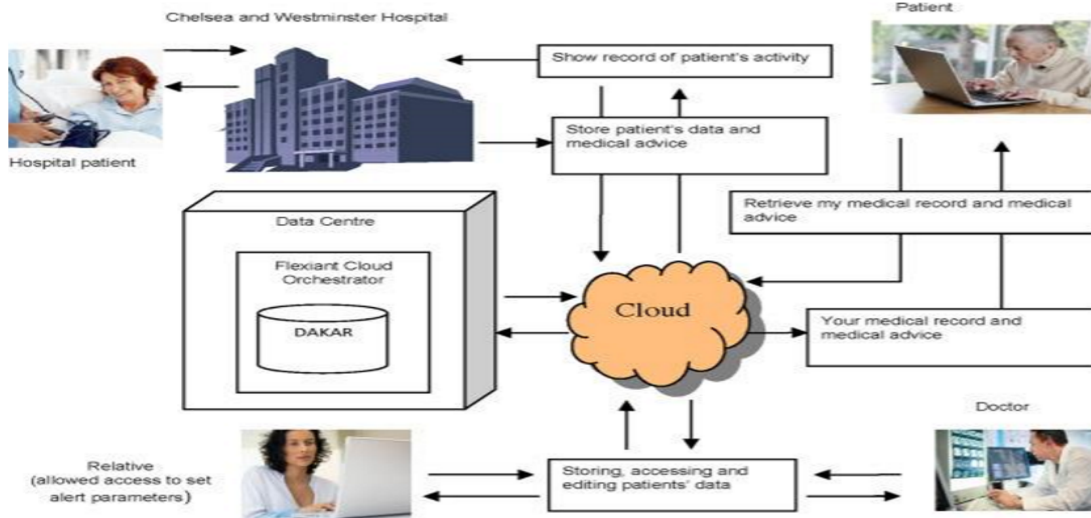


Fig: 3.2 Proposed System for Scheme Alerts Performance Analysis in Healthcare Services Using Cloud Computing.

ADVANTAGES OF PROPOSED SYSTEM:

- Provides all the schemes released by the Government.
- Announcing the every new schemes.
- Displaying the notifications on the main pages.
- User registration process.
- Login authentication.
- Allows users to check their status details.

3.3 SYSTEM REQUIREMENTS

System requirements are the configuration that a system must have in order for a hardware or software application to run smoothly and efficiently. Failure to meet these requirements can result in installation problems or performance problems. The former may prevent a device or application from getting installed, whereas the latter may cause a product to malfunction or perform below expectation or even to hang or crash. For packaged products, system requirements are often printed on the packaging. For downloadable products, the system requirements are often indicated on the download

page. System requirements can be broadly classified as functional requirements, data requirements, quality requirements and constraints. They are often provided to consumers in complete detail. System requirements often indicate the minimum and the recommended configuration. The former is the most basic requirement, enough for a product to install or run, but performance is not guaranteed to be optimal. The latter ensures a smooth operation. Hardware system requirements often specify the operating system version, processor type, memory size, available disk space and additional peripherals, if any, needed. Software system requirements, in addition to the aforementioned requirements, may also specify additional software dependencies (e.g., libraries, driver version, and framework version). Some hardware/software manufacturers provide an upgrade assistant program that users can download and run to determine whether their system meets a product's requirements.

Hardware Requirements:

- System - Windows 7/10
- Speed - 2.4GHZ
- Hard disk - 40GB
- Monitor - 15VGA color
- RAM - 4GB

Software Requirements:

- Operating System - Windows 10
- Coding language - Java
- IDE - Net beans
- Backend - MySQL

3.3.1 REQUIREMENT ANALYSIS

Requirement analysis, also called requirement engineering, is the process of determining user expectations for a new modified product. It encompasses the tasks that determine the need for analyzing, documenting, validating and managing software or system

requirements. The requirements should be documentable, actionable, measurable, testable and traceable related to identified business needs or opportunities and define to a level of detail, sufficient for system design.

Functional Requirements

It is a technical specification requirement for the software products. It is the first step in the requirement analysis process which lists the requirements of particular software systems including functional, performance and security requirements. The function of the system depends mainly on the quality hardware used to run the software with given functionality.

i. Usability

It specifies how easy the system must be use. It is easy to ask queries in any format which is short or long, porter stemming algorithm stimulates the desired response for user.

ii. Robustness

It refers to a program that performs well not only under ordinary conditions but also under unusual conditions. It is the ability of the user to cope with errors for irrelevant queries during execution.

iii. Security

The state of providing protected access to resource is security. The system provides good security and unauthorized users cannot access the system there by providing high security.

iv. Reliability

It is the probability of how often the software fails. The measurement is often expressed in MTBF (Mean Time between Failures). The requirement is needed in order to ensure that the processes work correctly and completely without being aborted. It can handle any load and survive and survive and even capable of working around any failure.

v. Compatibility

It is supported by version above all web browsers. Using any web servers like local host makes the system real-time experience.

vi. Flexibility

The flexibility of the project is provided in such a way that it has the ability to run on different environments being executed by different users.

vii. Safety

Safety is a measure taken to prevent trouble. Every query is processed in a secured manner without letting others to know one's personal information.

Non-Functional Requirements

Non-functional requirement (NFR) is a requirement that specifies criteria that can be used to judge the operation of a system, rather than specific behaviors. They are contrasted with functional requirements that define specific behavior or functions. The plan for implementing non-functional requirements is detailed in the system architecture, because they are usually architecturally significant requirements.

i. Portability

It is the usability of the same software in different environments. The project can be run in any operating system.

ii. Performance

These requirements determine the resources required, time interval, throughput and everything that deals with the performance of the system.

iii. Accuracy

The result of the requesting query is very accurate and high speed of retrieving information. The degree of security provided by the system is high and effective.

iv. Maintainability

Project is simple as further updates can be easily done without affecting its stability. Maintainability basically defines that how easy it is to maintain the system. It means that how easy it is to maintain the system, analyze, change and test the application.

Maintainability of this project is simple as further updates can be easily done without affecting its stability.

3.4 MODULE DESCRIPTION

Modules used:-

- Administrator
- User
- Schemes
- Report
- Result

i. Administrator Module:

Administrator will check for the new updates available then admin updates all this information on the site and if user is applicable for the particular schemes administrator send the SMS. Administrator will also check Eligibility details, how many members are already applied for the schemes all these details will be displayed. Admin takes care of the activities related to the schemes provided by the government. This module takes care of accepting various applications from users.

ii. User Module:

User gets the message if he is ineligible for scheme first user visits the website and then checks the documents that are needed for schemes and then can apply for that particular scheme. They also check their application status by logging into the system easily. Only user can update or delete the details of users from list.

iii. Schemes Module:

This module provides facility to admin, admin can add new scheme, delete previous scheme, update previous scheme. In this it displays all details of scheme also scheme wise user and criteria as well as conditions. Only the admin is able to new scheme on the portal. All the remaining users can view the details of schemes

iv. *Report Module:*

The reporting module we can see various types of reports like scheme wise report, and user wise report. Various reports like Approved applications, Pending applications and rejected applications also user wise. Scheme wise report contains scheme name, scheme type, scheme id, validity date. User wise report should contains all the information of user and also scheme details which are they apply with criteria and condition. Status of the application and any remarks information will be displayed in approved applications report. All the rejected applications report will be placed in the rejected applications report

v. *Result Module*

To provide that schemes to applicable user first we required that users all information to check every condition mention above, for that we collect user's information using user registration process after that we are able to deliver the particular scheme to that particular applicable person or user. Using it user can get benefit from tat government scheme.

Other Modules used:

i. *Register Module:*

This module is used for the user to register their login id by providing the minimal information. So that they can login to the website.

ii. *Login Module:*

In this, user can login to the website by registered login id and a valid password. Only the authenticated user can login and use the website.

iii. *Frequent Dataset module:*

We introduce a Pincer-search algorithm for efficient mining of the frequent item sets. The pre-filtering method is applied to the input dataset to remove the item having low variance.

3.5 UML DIAGRAMS

UML is a method for describing the system architecture in detail using the blueprint. UML represents a collection of best engineering practices that have proven successful in the modeling of large and complex systems. UML is a very important part of developing objects oriented software and the software development process. UML uses mostly graphical notations to express the design of software projects. Using the UML Helps project teams communicate, explore potential designs, and validate the architectural design of the software.

3.5.1 Activity Diagram

Activity diagrams describe the workflow behavior of a system. Activity diagrams are similar to state diagrams because activities are the state of doing something. The diagrams describe the state of activities by showing the sequence of activities performed. Activity diagrams can show activities that are conditional or parallel.

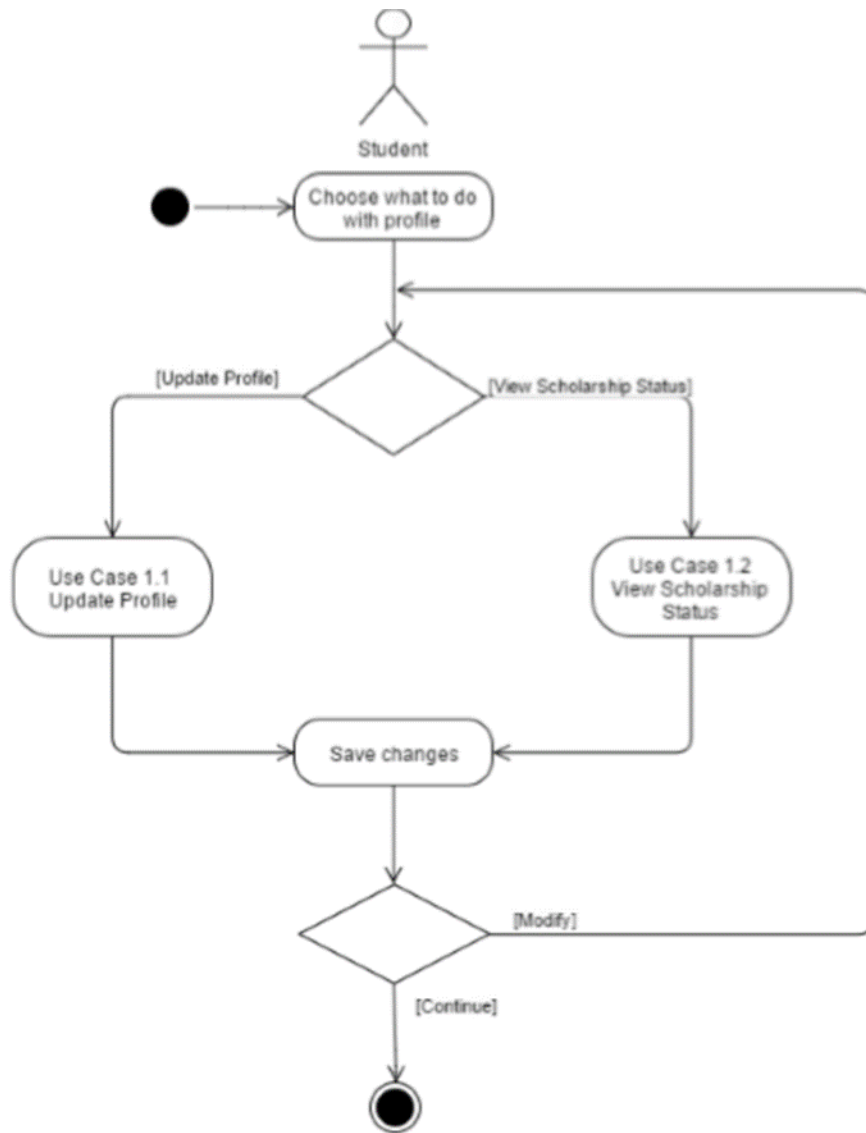


Fig: 3.3 choosing the desired profile

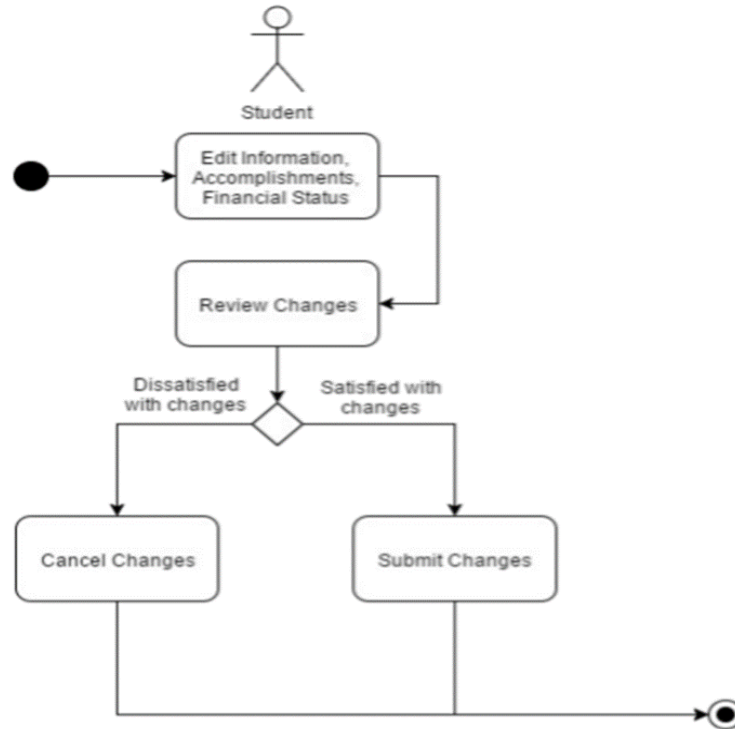


Fig: 3.4 Editing and reviewing the changes

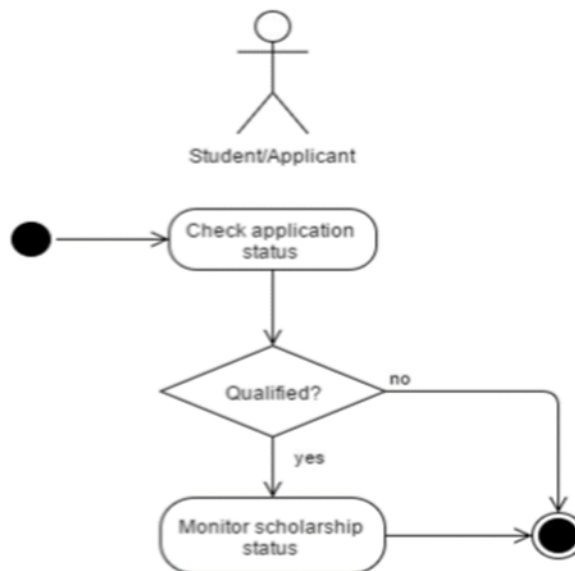


Fig: 3.5 checking application status



Fig: 3.6 checking if applicant meets requirements

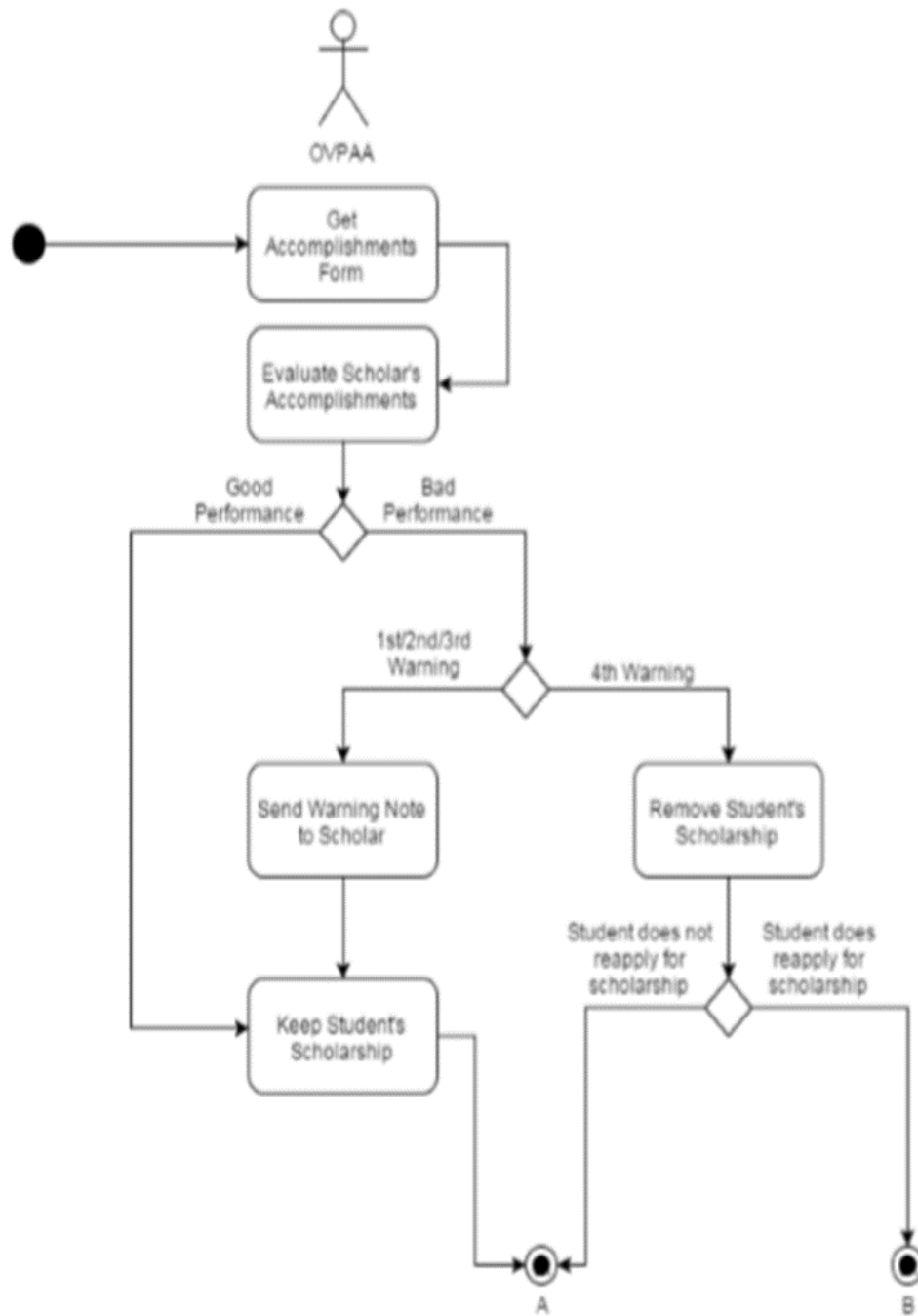


Fig: 3.7 Scholarship details

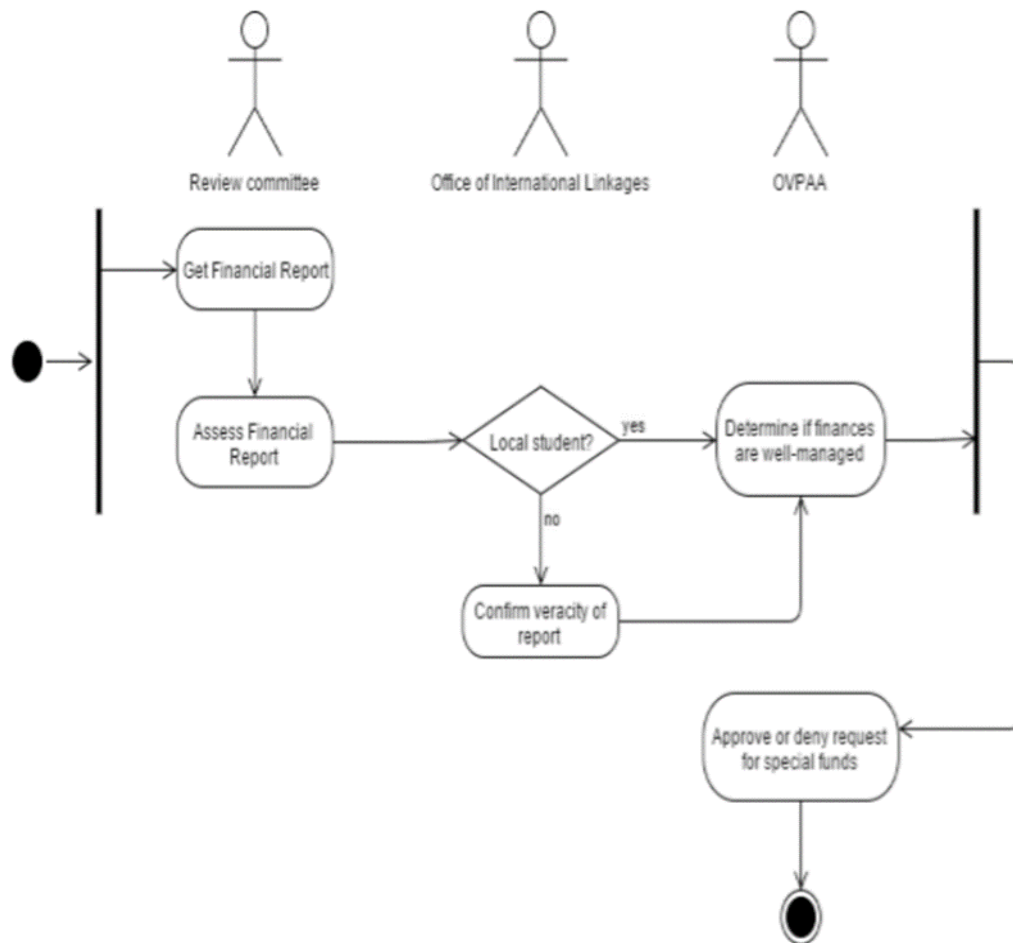


Fig: 3.8 Approval or denial of form

3.5.2 Use case Diagram

A use case diagram in the Unified Modeling Language (UML) is a type of behavioral diagram defined by and created from a Use-case analysis. Its purpose is to present a graphical overview of the functionality provided by a system in terms of actors, their goals (represented as use cases), and any dependencies between those use cases.

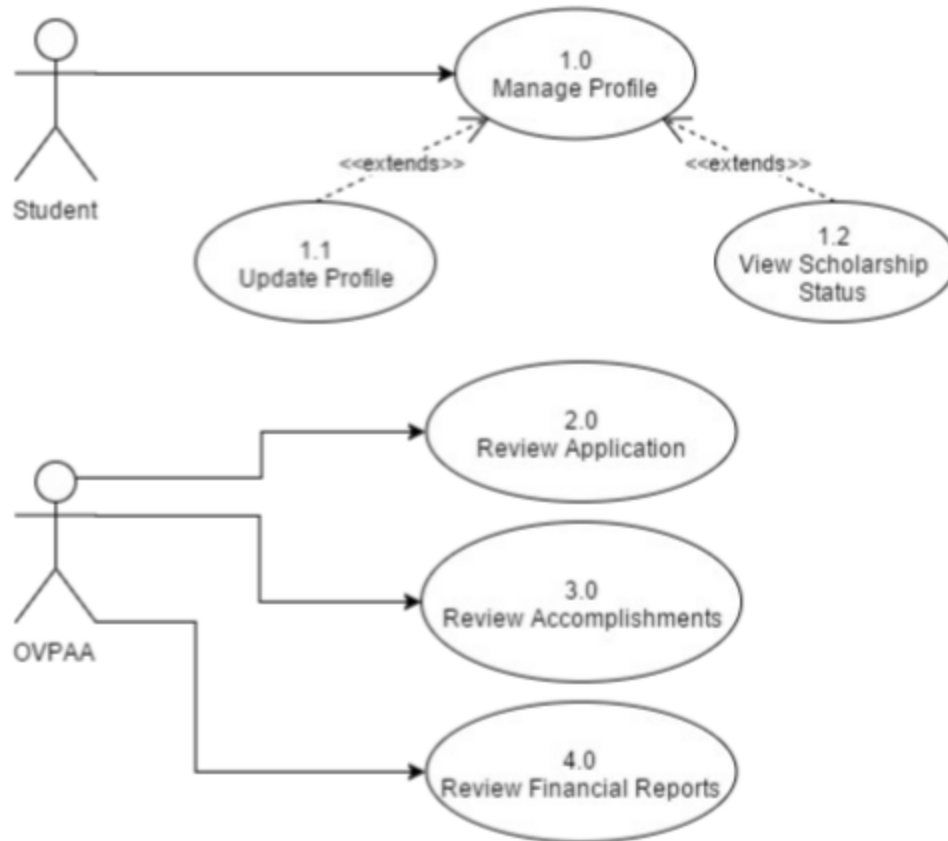


Fig: 3.9 Use case diagram

3.5.3 Class Diagram

Class diagrams are widely used to describe the types of objects in a system and their relationships. Class diagrams model class structure and contents using design elements such as classes, packages and objects. Class diagrams describe three different perspectives when designing a system, conceptual, specification, and implementation. These perspectives become evident as the diagram is created and help solidify the design. Class diagrams are arguably the most used UML diagram type. It is the main building block of any object oriented solution. It shows the classes in a system, attributes and operations of each class and the relationship between each class. In most modeling

tools a class has three parts, name at the top, attributes in the middle and operations or methods at the bottom. In large systems with many classes related classes are grouped together to create class diagrams. Different relationships between diagrams are show by different types of Arrows. Below is an image of a class diagram. Follow the link for more class diagram examples.



Fig: 3.10 Class diagram

3.6 SYSTEM TESTING

System testing is testing conducted on a complete integrated system to evaluate the system's compliance with its specified. System testing takes, as its input, all of the integrated components that have passed integration testing. The purpose of integration testing is to detect any inconsistencies between the units that are integrated together (called assemblages). System testing seeks to detect defects both within the "inter-assemblages" and also within the system as a whole. The actual result is the behavior produced or observed when a component or system is tested. System testing is performed on the entire system in the context of either functional requirement specifications (FRS) or system requirement specification, or both. System testing tests not only the design, but also the behavior and even the believed expectations of the customer. It is also intended to test up to and beyond the bounds defined in the software or hardware requirements specification.

3.6.1 Testing Process

The purpose of testing is to discover errors. Testing is the process of trying to discover every conceivable fault or weakness in a work product. It provides a way to check the functionality of components, sub-assemblies, assemblies and/or a finished product it is the process of exercising software with the intent of ensuring that the Software system meets its requirements and user expectations and does not fail in an unacceptable manner. There are various types of test. Each test type addresses a specific testing requirement.

Types of Testing:-

i. *Unit Testing:*

Unit testing involves the design of test cases that validate that the internal program logic is functioning properly, and that program input produces valid outputs. All decision branches and internal code flow should be validated. It is the testing of individual software units of the application .it is done after the completion of an individual unit before integration. This is a structural testing, that relies on knowledge of its construction and is invasive. Unit tests perform basic tests at component level and test a specific business process, application, and system configuration. Unit tests ensure that each unique path of

business process performs accurately to the documented specifications and contains clearly defined inputs and expected results.

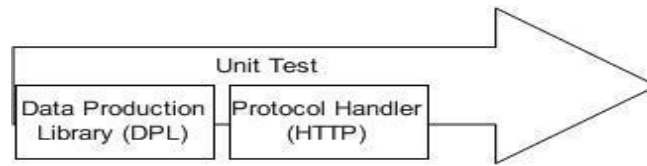


Fig: 3.11 Unit Testing

ii. *Integration Testing:*

Integration tests are designed to test integrated software components to determine if they actually run as one program. Testing is event driven and is more concerned with the basic outcome of screens or fields. Integration tests demonstrate that although the components were individually satisfaction, as shown by successfully unit testing, the combination of components is correct and consistent. Integration testing is specifically aimed at exposing the problems that arise from the combination of components.

iii. *Functional Testing:*

Functional tests provide systematic demonstrations that functions tested are available as specified by the business and technical requirements, system documentation and user manuals.

Functional testing is centered on the following items:

- *Valid Input* is used to identified classes of valid input must be accepted.
- *Invalid Input* is used to identified classes of invalid input must be rejected.
- *Functions* are used to identified functions must be exercised.
- *Output* is used to identify classes of application outputs.

Systems/Procedures is used to interfacing systems or procedures must be invoked. Organization and preparation of functional tests is focused on requirements, key functions, or special test cases. In addition, systematic coverage pertaining to identify Business process flows; data fields, predefined processes, and successive Processes must be considered for testing. Before functional testing is complete, additional tests are identified and the effective value of current tests is determined.

iv. *System Testing:*

System testing ensures that the entire integrated software system meets requirements. It tests a configuration to ensure known and predictable results. An example of system testing is the configuration oriented system integration test. System testing is based on process descriptions and flows, emphasizing pre-driven process links and integration points.

v. *White Box Testing:*

White Box Testing is a testing in which the software tester has knowledge of the inner workings, structure and language of the software, or at least its purpose. It is used to test areas that cannot be reached from a black box level.

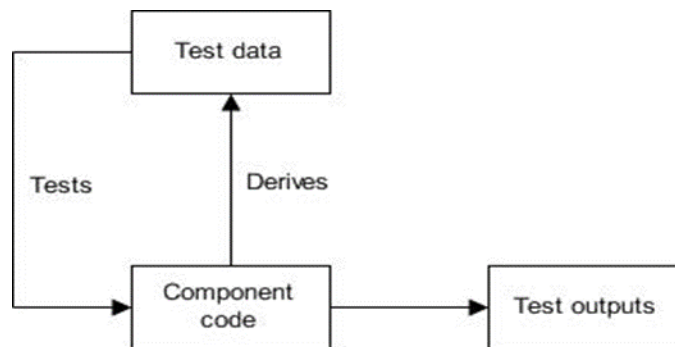


Fig: 3.12 White Box Testing

vi. *Black Box Testing:*

Black Box Testing is testing the software without any knowledge of the inner workings, structure or language of the module being tested. Black box tests, as most other kinds of tests, must be written from a definitive source document, such as specification or requirements document, such as specification or requirements document. It is a testing in which the software under test is treated, as a black box you cannot “see” into it. The test provides inputs and responds to outputs without considering how the software works.

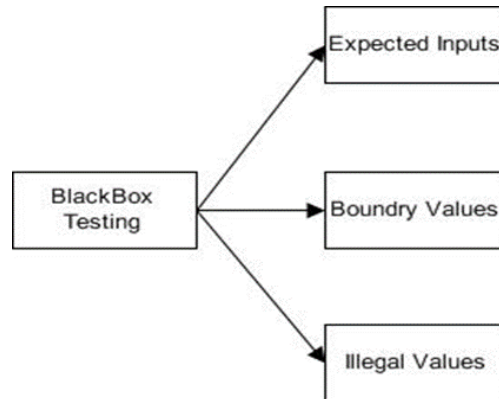


Fig: 3.13 Black Box Testing

3.6.2 Test Strategy and Approach

Field testing will be performed manually and functional tests will be written in detail.

Test Objectives:

- All field entries must work properly.
- Pages must be activated from the identified link.
- The entry screen, messages and responses must not be delayed.
- Features to be tested.
- Verify that the entries are of the correct format.
- No duplicate entries should be allowed.
- All links should take the user to the correct page.

i. Integration Testing:

Software integration testing is the incremental integration testing of two or more integrated software components on a single platform to produce failures caused by interface defects. The task of the integration test is to check that components or software applications.

ii. Acceptance Testing:

User Acceptance Testing is a critical phase of any project and requires significant participation by the end user. It also ensures that the system meets the functional requirements.

iii. Alpha Testing:

In software development, alpha test will be a test among the teams to confirm that your product works. Originally, the term alpha test meant the first phase of testing in a software development process. The first phase includes unit testing, component testing, and system testing. It also enables us to test the product on the lowest common denominator machines to make sure download times are acceptable and pre loaders work.

iv. Beta Testing:

In software development, alpha test will be a test among the teams to confirm that your product works. Originally, the term alpha test meant the first phase of testing in a software development process. The first phase includes unit testing, component testing, and system testing. It also enables us to test the product on the lowest common denominator machines to make sure download times are acceptable and pre loaders work.

3.7 FEASIBILITY STUDY

The feasibility of the project is analyzed in this phase and business proposal is put forth with a very general plan for the project and some cost estimates. During system analysis the feasibility study of the proposed system is to be carried out. This is to ensure that the proposed system is not a burden to the company. For feasibility analysis, some understanding of the major requirements for the system is essential. The feasibility study investigates the problem and the information needs of the stakeholders. It seeks to determine the resources required to provide an information systems solution, the cost and benefits of such a solution, and the feasibility of such a solution. The goal of the feasibility study is to consider alternative information systems solutions, evaluate their feasibility, and propose the alternative most suitable to the organization. The feasibility of a proposed solution is evaluated in terms of its components.

Types of Feasibility:

i. Economic feasibility:

This study is carried out to check the economic impact that the system will have on the organization. The amount of fund that the company can pour into the research and

development of the system is limited. The expenditures must be justified. Thus the developed system as well within the budget and this was achieved because most of the technologies used are freely available. Only the customized products had to be purchased.

ii. *Technical feasibility:*

This study is carried out to check the technical feasibility, that is, the technical requirements of the system. Any system developed must not have a high demand on the available technical resources. This will lead to high demands on the available technical resources. This will lead to high demands being placed on the client. The developed system must have a modest requirement, as only minimal or null changes are required for implementing this system.

iii. *Social feasibility:*

The aspect of study is to check the level of acceptance of the system by the user. This includes the process of training the user to use the system efficiently. The user must not feel threatened by the system, instead must accept it as a necessity.

3.8 LANGUAGE OVERVIEW

Java is one of the world's most important and widely used computer languages, and it has held this distinction for many years. Unlike some other computer languages whose influence has waned with passage of time, while Java's has grown.

3.8.1 Introduction to Java

Application of Java

Java is widely used in every corner of world and of human life. Java is not only used in software but is also widely used in designing hardware controlling software components. There are more than 930 million JRE downloads each year and 3 billion mobile phones run java.

Following are some other usage of Java:

Developing Desktop Applications
Web Applications like LinkedIn.com, Snapdeal.com etc
Mobile Operating System like Android
Embedded Systems
Robotics and games etc.

Features of Java:

The prime reason behind creation of Java was to bring portability and security feature into a computer language. Beside these two major features, there were many other features that played an important role in molding out the final form of this outstanding language. Those features are:-

1) Simple

Java is easy to learn and its syntax is quite simple, clean and easy to understand. The confusing and ambiguous concepts of C++ are either left out in Java or they have been re-implemented in a cleaner way.

2) Object Oriented

In java everything is Object which has some data and behavior. Java can be easily extended as it is based on Object Model.

3) Robust

Java makes an effort to eliminate error prone codes by emphasizing mainly on compile time error checking and runtime checking. But the main areas which Java improved were Memory Management and mishandled Exceptions by introducing automatic Garbage Collector and Exception Handling.

4) Platform Independent

Unlike other programming languages such as C, C++ etc. which are compiled into platform specific machines. Java is guaranteed to be write-once, run-anywhere language. On compilation Java program is compiled into byte code. This byte code is platform

independent and can be run on any machine, plus this byte code format also provide security. Any machine with Java Runtime Environment can run Java Programs.

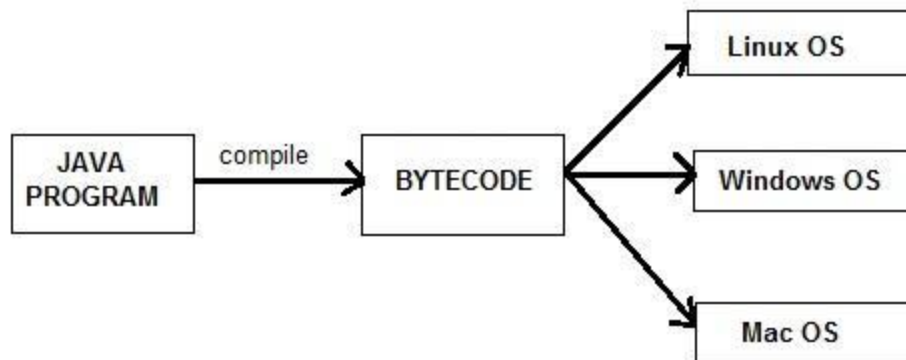


Fig: 3.14 Java Compilation

5) Secure

When it comes to security, Java is always the first choice. With java secure features it enable us to develop virus free, temper free system. Java program always runs in Java runtime environment with almost null interaction with system OS, hence it is more secure.

6) Multi-Threading

Java multithreading feature makes it possible to write program that can do many tasks simultaneously. Benefit of multithreading is that it utilizes same memory and other resources to execute multiple threads at the same time, like While typing, grammatical errors are checked along.

7) Architectural Neutral

Compiler generates byte codes, which have nothing to do with a particular computer architecture, hence a Java program is easy to interpret on any machine.

8) Portable

Java Byte code can be carried to any platform. No implementation dependent features. Everything related to storage is predefined, example: size of primitive data types.

10) High Performance

Java is an interpreted language, so it will never be as fast as a compiled language like C or C++. But, Java enables high performance with the use of just-in-time compiler.

Collection framework

Collection framework was not part of original Java release. Collections was added to J2SE 1.2. Prior to Java 2, Java provided adhoc classes such as Dictionary, Vector, Stack and Properties to store and manipulate groups of objects. Collection framework provides many important classes and interfaces to collect and organize group of alike objects.

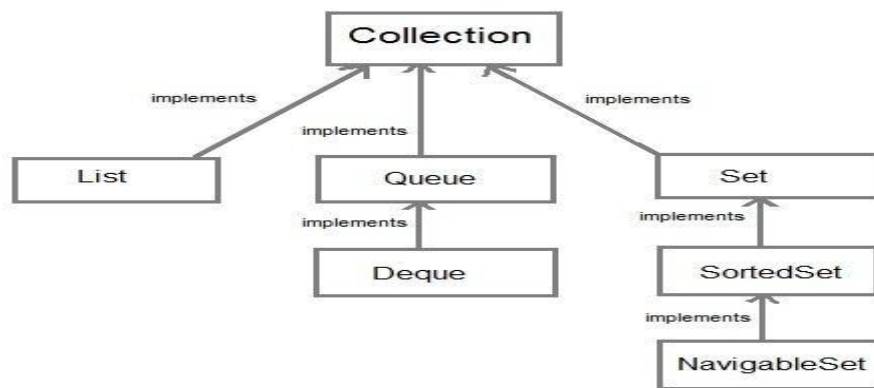


Fig: 3.15 Collection framework

3.8.2 MY SQL

MySQL, officially, but also called "My Sequel" is the world's most widely used open-source relational database management system (RDBMS) that runs as a server providing multi-user access to a number of databases, though SQLite probably has more total embedded deployments. The SQL phrase stands for Structured Query Language. The MySQL development project has made its source code available under the terms of the GNU General Public License, as well as under a variety of proprietary agreements. MySQL was owned and sponsored by a single for-profit firm, the Swedish company

MySQL AB, now owned by Oracle Corporation. MySQL is a popular choice of database for use in web applications, and is a central component of the widely used LAMP open source web application software stack (and other 'AMP' stacks).

LAMP is an acronym for "Linux, Apache, MySQL and Perl/PHP/Python." Free software-open source projects that require a full-featured database management system often use MySQL. For commercial use, several paid editions are available, and offer additional functionality. Applications which use MySQL databases include: TYPO3, MODx, Joomla, Word Press, phpBB, MyBB, Drupal and other software. MySQL is also used in many high-profile, large-scale websites, including Wikipedia, Google (though not for searches), Facebook, Twitter, Flickr and YouTube.

T-SQL expands on the SQL standard to include procedural programming, local variables, and various support functions for string processing, data processing, mathematics, etc. SQL Server consists of a Database Engine and a Management Studio (and lots of other stuff which we will not mention here). The Database engine has no graphical interface - it is just a service running in the background of your computer (preferable on the server). The Management Studio is graphical tool for configuring and viewing the information in the database. It can be installed on the server or on the client (or both). SQL Server Management Studio can also be used to create a new database, alter any existing database schema by adding or modifying tables and indexes, or analyze performance. It includes the query windows which provide a GUI based interface to write and execute queries.

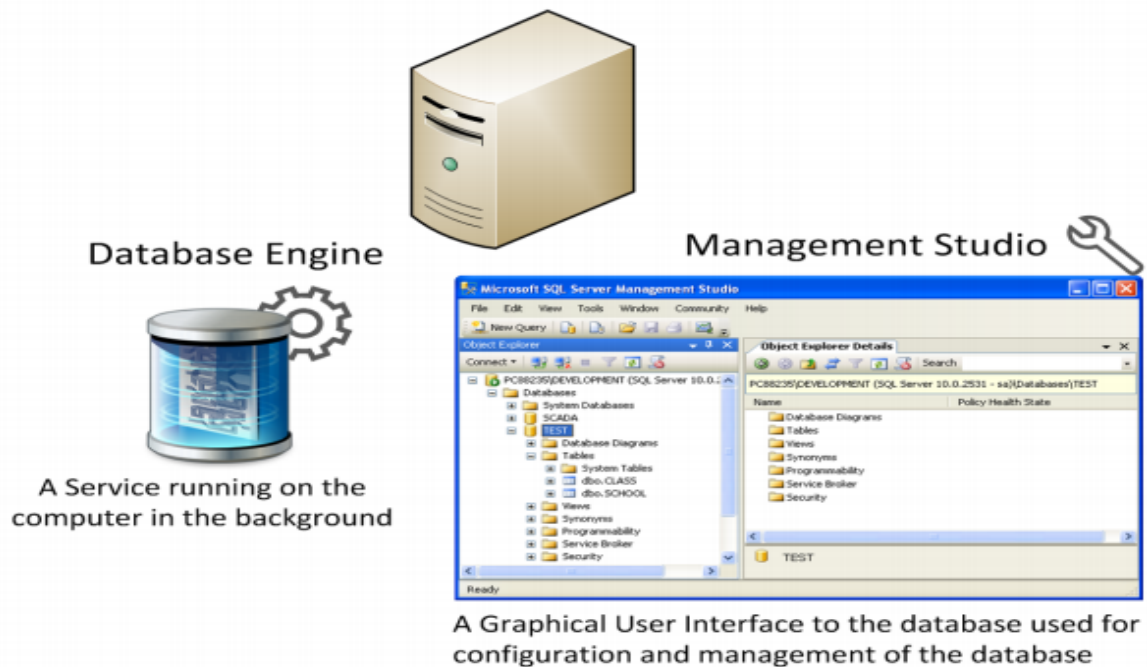


Fig: 3.16 Working Database Engine

3.8.2.1 SQL Server management studio

SQL Server Management Studio is a GUI tool included with SQL Server for configuring, managing, and administering all components within Microsoft SQL Server. The tool includes both script editors and graphical tools that work with objects and features of the server. As mentioned earlier, version of SQL Server Management Studio is also available for SQL Server Express Edition, for which it is known as SQL Server Management Studio Express. A central feature of SQL Server Management Studio is the Object Explorer, which allows the user to browse, select, and act upon any of the objects within the server. It can be used to visually observe and analyze query plans and optimize the database performance, among others. SQL Server Management Studio can also be used to create a new database, alter any existing database schema by adding or modifying tables and indexes, or analyze performance. It includes the query windows which provide a GUI based interface to write and execute queries.

When creating SQL commands and queries, the “Query Editor” (select “New Query” from the Toolbar) is used (shown in the figure above). With SQL and the “Query Editor” we can do almost everything with code, but sometimes it is also a good idea to use the different Designer tools in SQL to help us do the work without coding (so much).

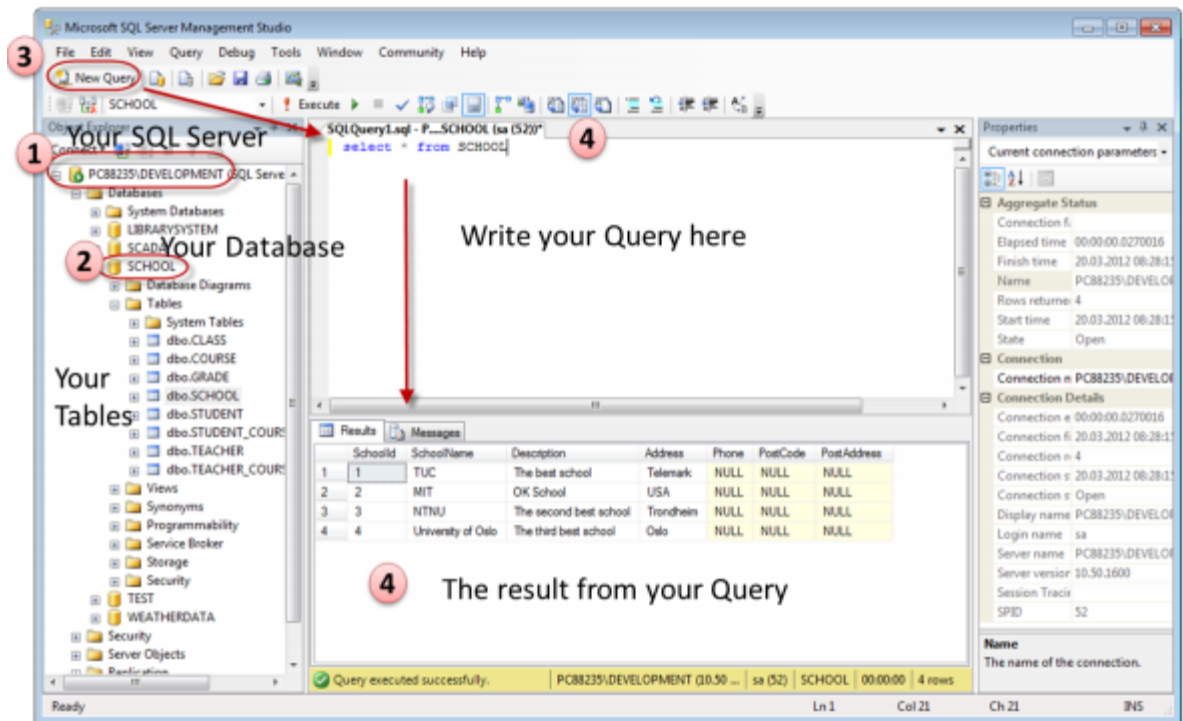


Fig: 3.17 SQL Server management studio

3.8.2.2 Create a new Database

It is quite simple to create a new database in Microsoft SQL Server. Just right-click on the “Databases” node and select “New Database...”

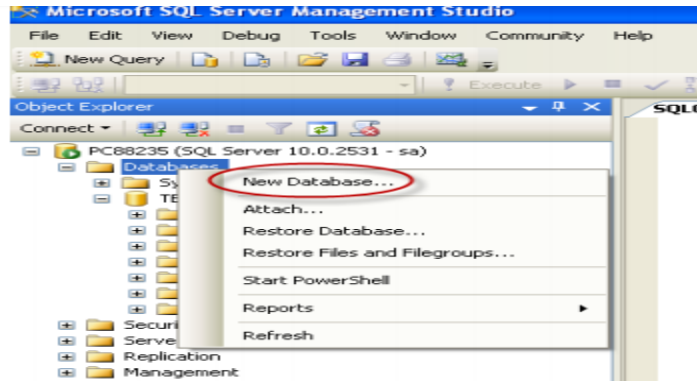


Fig: 3.18 Creating a new DB

The OLAP Services feature available in SQL Server version 7.0 is now called SQL Server 2000 Analysis Services. The term OLAP Services has been replaced with the term Analysis Services. Analysis Services also includes a new data mining component. The Repository component available in SQL Server version 7.0 is now called Microsoft SQL Server 2000 Meta Data Services. References to the component now use the term Meta Data Services. The term repository is used only in reference to the repository engine within Meta Data Services.

SQL- SERVER database consist of six types of objects:-

They are:

1. TABLE
2. QUERY
3. FORM
4. REPORT
5. MACRO

Table

A database is a collection of data about a specific topic.

Views of Table

We can work with a table in two types:

1. Design View
2. Datasheet View

Design View

To build or modify the structure of a table we work in the table design view. We can specify what kind of data will be hold.

Datasheet View

To add, edit or analyses the data itself we work in tables datasheet view mode.

Query

A query is a question that has to be asked the data. Access gathers data that answers the question from one or more table. The data that make up the answer is either dataset (if you edit it) or a snapshot (it cannot be edited). Each time we run query, we get latest information in the dataset. Access either displays the dataset or snapshot for us to view or perform an action on it, such as deleting or updating.

3.8.3 NET BEANS

Net Beans IDE is the official IDE for Java 8. With its editors, code analyzers, and converters, you can quickly and smoothly upgrade your applications to use new Java 8 language constructs, such as lambdas, functional operations, and method references. Batch analyzers and converters are provided to search through multiple applications at the same time, matching patterns for conversion to new Java 8 language constructs. With its constantly improving Java Editor, many rich features and an extensive range of tools, templates and samples, Net Beans IDE sets the standard for developing with cutting edge technologies out of the box.

3.8.4 JAVA NETWORKING

The term network programming refers to writing programs that execute across multiple devices (computers), in which the devices are all connected to each other using a network. The java.net package provides support for the two common network protocols:-

- **TCP:** TCP stands for Transmission Control Protocol, which allows for reliable communication between two applications. TCP is typically used over the Internet Protocol, which is referred to as TCP/IP.
- **UDP:** UDP stands for User Datagram Protocol, a connection-less protocol that allows for packets of data to be transmitted between applications.

This tutorial gives good understanding on the following two subjects:

- **Socket Programming:** This is most widely used concept in Networking and it has been explained in very detail.
- **URL Processing:** This would be covered separately. [Click here](#) to learn about URL Processing in Java language.

CHAPTER 4

RESULTS AND DISCUSSIONS

As we are gathering the precise subtleties of the client before the enrollment fruition measure we can send the plans just that meet the qualification rules of the clients and furthermore that are proper to him. Since the administrator is fully informed regarding the information on the information on the public authority plans he routinely refreshes them to our framework subsequently no plan goes unnoticed and arrives at all our certified the clients. It is a computerized framework and all cycles are mechanized, consequently eventually it saves the chance to both client and the administrator. To give that plans to pertinent client first we necessitated that clients all data to check each condition notice above, for that we gather client's data utilizing client enrollment measure after that we can convey the specific plan to that specific material individual or client. Utilizing it client can get advantage from that administration plot. The articulate viability and efficacy of an

RFID based system as a cell phone anti-lost and anti-theft measure. The system comprises of a smart phone equipped with a low power RFID Reader that interrogates a body-worn passive tag to determine a private space which resides within 10 feet of the tagged owner. Besides, the cell phone can also function like a low-cost mobile RFID terminal. Moreover, the appealing results of current design show that our system can be referenced for academic learning and further experimentations on RFID-based communications.

CHAPTER 5

CONCLUSION AND FUTURE WORK

In this venture, we built up a protected cloud-based EHR structure that ensures the security and protection of clinical information put away in the cloud, depending on progressive and multi-authority CP-ABE to uphold access control arrangements. The created plans can be received by any administration that has a distributed computing framework and gives treatment administrations to most of resident patients. The work what we have done in this project is adequate to make it benefit to individuals and they can know handily got to absent a lot of exertion. The created task can be as yet altered and simplified a lot and simpler to get to, this can likewise be gotten with profoundly

cryptal approval that assists with being careful the EHR. In the current work the current plans must be erased or refreshed by the administrator as it were. While later on work we will have a go at doing an extemporized application that self-robotizes itself. The actual application will actually want to erase, or make changes in the current plan without including any outsider. There are part of danger factors in developing such an application, disregarding those danger factors application can be worked to make it benefit to everybody. Future work incorporates actualizing and assessing the proposed conspire in a genuine climate. An Improvised work of this venture can be helpful to the people in the future as it will be considerably less complex than the present created Project.

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APPENDICES

A. SAMPLE CODE

Andhra Pradesh Schemes code

```
import java.util.Arrays;
import java.util.List;

import com.vaadin.flow.component.UI;
import com.vaadin.flow.component.dependency.CssImport;
import com.vaadin.flow.component.dependency.JsModule;
import com.vaadin.flow.component.grid.Grid;
import com.vaadin.flow.component.grid.GridVariant;
import com.vaadin.flow.component.html.Div;
import com.vaadin.flow.component.html.Image;
import com.vaadin.flow.component.html.Span;
import com.vaadin.flow.component.icon.IronIcon;
import com.vaadin.flow.component.orderedlayout.HorizontalLayout;
import com.vaadin.flow.component.orderedlayout.VerticalLayout;
import com.vaadin.flow.router.AfterNavigationEvent;
import com.vaadin.flow.router.AfterNavigationObserver;
import com.vaadin.flow.router.Route;
import com.vaadin.flow.router.PageTitle;
import com.example.application.views.Scheme;
import com.example.application.views.SchemeView;
import com.example.application.views.main.MainView;
import com.vaadin.flow.router.RouteAlias;

@CssImport("./views/andhrapradeshschemes/andhra-pradesh-schemes-view.css")
@PageTitle("Andhra Pradesh Schemes")
public class AndhraPradeshSchemesView extends Div implements
AfterNavigationObserver {

    Grid<Scheme> grid = new Grid<>();

    public AndhraPradeshSchemesView() {
        addClassName("andhra-pradesh-schemes-view");
        setSizeFull();
        grid.setHeight("100%");
        grid.addThemeVariants(GridVariant.LUMO_NO_BORDER,
GridVariant.LUMO_NO_ROW_BORDERS);
        grid.addComponentColumn(person -> createCard(person));
        add(grid);
    }

    private HorizontalLayout createCard(Scheme scheme) {
        HorizontalLayout card = new HorizontalLayout();
```

```

card.setOnClickListener(l -> {
    UI.getCurrent().getSession().setAttribute("scheme", scheme);
    UI.getCurrent().navigate(SchemeView.class);
});

card.addClassName("card");
card.setSpacing(false);
card.getThemeList().add("spacing-s");

Image image = new Image();
image.setSrc(scheme.getImage());
VerticalLayout description = new VerticalLayout();
description.addClassName("description");
description.setSpacing(false);
description.setPadding(false);

HorizontalLayout header = new HorizontalLayout();
header.addClassName("header");
header.setSpacing(false);
header.getThemeList().add("spacing-s");

Span name = new Span(scheme.getName());
name.addClassName("name");
Span date = new Span(scheme.getDate());
date.addClassName("date");
header.add(name, date);

Span post = new Span(scheme.getPost());
post.addClassName("post");

description.add(header, post);
card.add(image, description);
return card;
}

```

```

@Override
public void afterNavigation(AfterNavigationEvent event) {

```

```

    // Set some data when this view is displayed.
    List<Scheme> persons = Arrays.asList( //

```

```

        createScheme(

```

```

        "https://mc.webpcache.epapr.in/mcms.php?size=large&in=https://mcmscache.epapr.in/post_images/website_274/post_11386784/full.jpg",

```

"Amma Vodi", "March 6th 2021",
 "Jaganna Amma Vodi Scheme is one of the welfare
 schemes among "
 government called as "Navratanalu". "
 the election manifesto of "
 the state. It was introduced "
 Mohan Reddy on 10th June 2019. "
 is scheduled to be done on " + "9th January 2020.",
 card. "
 child should belong to a below poverty line family. "
 Aadhaar Card or a Voter ID Card. "
 must be citizens of Andhra Pradesh."
),

- + "the nine schemes of YSRCP
- + "Amma Vodi Scheme was the part of
- + "the present YSRCP government of
- + "by the Chief Minister YSR Jagan
- + "The implementation of the scheme
- "The family should have a white ration
- + "The mother and the guardian of the
- + "The family should own either a valid
- + "Both the parent and the children

createScheme(
 "https://www.thenewsminute.com/sites/default/files/styles/news_detail/public/Jagan_Ryth
 u_Bharosa_Launch_750.jpg?itok=_UZrpsgn",
 "YSR Rythu Bharosa", "March 6th 2021",
 "The Government of Andhra Pradesh is
 implementing, "YSR RYTHU "
 to provide financial "
 including tenant farmers "
 farmer family per year to "
 the investment during the "
 them to "
 services for higher " + "crop productivity.",
 Andhra Pradesh. "

- + "BHAROSA" from 15th October 2019
- + "assistance to the farmer families
- + "across the state @ Rs.12,500/- per
- + "support the cultivators in meeting
- + "crop season with a view to enable
- + "timely sourcing of quality inputs and
- "Permanent residents of the state of

```

sector. A small, marginal, "
cultivated 5 acres of land."
    ),
    createScheme(
        "https://ystheleader.files.wordpress.com/2011/02/fees2.jpg",
        "Fee Reimbursement", "March 6th 2021",
        "Fee Reimbursement Scheme (also called as
Post-matric "
        + "Scholarship Scheme) is a student
education sponsorship Programme "
        + "by Government of Andhra Pradesh.
It supports students belonging to "
        + "economically weaker sections in the
state. In 2012-13, more than 600,000 students "
        + "in professional colleges were
covered under the scheme, including around "
        + "150,000 students in engineering
colleges. From 2013 to 2014, "
        + "the government has made Aadhaar
number mandatory for students availing the "
        + "scholarship.",
        "Annual income for SC, ST students
should not exceed 2 lakh and for BC it "
        + "should not exceed 1 lakh. Without
consideration of rank for SC, "
        + "ST students all are eligible for this
Fee reimbursement scheme. "
        + "And BC students below 10,000 "
        + "rank are beneficiaries for this
scheme (total fee will be paid by govt).")
    ),
    // NTR VAIDHYA SEVA
    createScheme(
        "images/Dr-NTR-Vaidya-Seva-Trust-AP.png",
        "NTR VAIDHYA SEVA", "March 6th 2021",
        "Dr.Nandamuri Taraka Rama Rao Vaidya Seva
Health Insurance Scheme "
        + "(Dr NTR Vaidya Seva Health Insurance Scheme)
is sponsored by Govt. "
        + "of AP."
    )

```

Health Insurance "

patients and "

under secondary "

providers from "

coverage for BPL "

protection or "

having White Ration Card linked "

+ "This scheme is implemented in PPP model of

+ "and is shaped basing on the health needs of poor

+ "provides cashless services for identified diseases

+ "and tertiary care through a network of service

+ "Government and private sector."

+ "Towards achievement of universal health

+ "families whether defined in terms of financial

+ "access to and effective use of health care.",

"Members of Below Poverty Line (BPL) families'

+ "with Adhar card and available in Civil Supplies "

+ "Department database will fall under this scheme."

),

createScheme(

"images/wjhs.jpeg",

"Working journalists scheme", "March 6th 2021",

"The Working Journalist Health Scheme, or WJHS

as it is popularly referred to, "

Government Working Journalists. "

family members that are "

this scheme in case of listed "

hospital or a network hospital to "

Journalist Health Scheme AP, "

term – working journalist. "

working journalist as a person whose "

full-time. "

sub-editor, feature writer, etc. "

+ "is a cashless treatment scheme for all State

+ "It is not just for the individuals but also for their

+ "dependent on them. Journalists can benefit from

+ "therapies. They have to approach an empanelled

+ "avail the benefits associated with the scheme.",

"To understand the eligibility criteria for the Working

+ "it is essential to have a basic awareness of the

+ "The Working Journalist Act 1955 mentions a

+ "vocation is that of a journalist, either part-time or

+ "The person can function in the role of an editor,

role or perform managerial functions. "

Fundamental Rules."

```
),
// Rajiv arogyasri
createScheme(
    "images/rahis.jpeg",
    "Rajiv arogyasri", "March 6th 2021",
    "The Rajiv Aarogyasri Community Health Insurance
(RACHI) in Andhra Pradesh (AP) "
    + "has been very popular social insurance scheme
with a private public partnership "
    + "model to deal with the problems of catastrophic
medical expenditures at "
    + "tertiary level care for the poor households. A brief
analysis of the RACHI scheme "
    + "based on officially available data and media
reports has been undertaken from a "
    + "public health perspective to understand the nature
and financing of partnership "
    + "and the lessons it provides. The analysis of the
annual budget spent on the surgeries "
    + "in private hospitals compared to tertiary public
hospitals shows that the current "
    + "scheme is not sustainable and pose huge burden
on the state exchequers. "
    + "The private hospital association's in AP, further
acts as pressure groups to "
    + "increase the budget or threaten to withdraw
services. "
    + "Thus, profits are privatized and losses are
socialized.",
    "The beneficiaries of the scheme, the members of
Below Poverty Line (BPL) families, "
    + "as enumerated and photographed in "
    + "BPL Ration Card and available in Civil Supplies
Department database."
```

```
),
// Aarogyaraksha
createScheme(
    "images/rk.jpeg",
    "Aarogya Raksha", "March 6th 2021",
```

launched by Andhra Pradesh " "Aarogyaraksha is a health insurance scheme
 January 2017. " + "Chief Minister N Chandrababu Naidu on 1st
 health insurance coverage " + "The aim of NTR Aarogya Raksha is to provide
 Line and Above Poverty Line families.", + "for everyone. Thus, "
 Line (BPL) families belonging to " + "Aarogya Raksha covers both – Below Poverty
 health scheme. " "All Above Poverty Line (APL) and Below Poverty
 of a family." + "Andhra Pradesh are eligible to enrol under this
 + "There are no criteria set on the minimum income
),
 // AP YSR Aarogyasri Scheme
 createScheme(
 "images/ysr.jpeg",
 "AP YSR Aarogyasri Scheme", "March 6th 2021",
 "The YSR Aarogyasri scheme was launched by the
 Chief Minister of Andhra " + "Pradesh state in the year of 2017 and since then
 the scheme has been " + "providing financial funds to all of the people of the
 state, mainly " + "who are poor and are basically below the poverty
 line. Through the " + "implementation of this scheme, many benefits
 have provided to all of " + "the beneficiaries in Andhra Pradesh state. One of
 the main benefits of " + "the scheme was the cashless treatment in most of
 the government hospitals " + "of Andhra Pradesh state.",
 land, including wet and dry land. " "The applicant must only have less than 35 acres of
 + "The applicant must have municipal property
 tax-paying families for less than 3000 SFT (334 sq. Yds). "
 + "Outsourcing, contract, part-time employees and
 sanitation workers with an annual income of over Rs 5 lakh are also eligible. "
 + "The applicant can also be Honorary remuneration
 employees and private sector employees working in the public sector. "

```

are not eligible for the scheme. "
also eligible."
        + "If the applicant has more than one car then they
        + "The Families filing income tax up to Rs 5 lakh are
    )

    );

    grid.setItems(persons);
}

private static Scheme createScheme(String image,
    String name, String date, String post, String eligibility) {
    Scheme p = new Scheme();
    p.setImage(image);
    p.setName(name);
    p.setDate(date);
    p.setPost(post);
    p.setEligibility(eligibility);

    return p;
}
}

```

Tamil Nadu Schemes code

```

import java.util.Arrays;
import java.util.List;

import com.vaadin.flow.component.UI;
import com.vaadin.flow.component.dependency.CssImport;
import com.vaadin.flow.component.dependency.JsModule;
import com.vaadin.flow.component.grid.Grid;
import com.vaadin.flow.component.grid.GridVariant;
import com.vaadin.flow.component.html.Div;
import com.vaadin.flow.component.html.Image;
import com.vaadin.flow.component.html.Span;
import com.vaadin.flow.component.icon.IronIcon;
import com.vaadin.flow.component.orderedlayout.HorizontalLayout;
import com.vaadin.flow.component.orderedlayout.VerticalLayout;
import com.vaadin.flow.router.AfterNavigationEvent;
import com.vaadin.flow.router.AfterNavigationObserver;
import com.vaadin.flow.router.Route;
import com.vaadin.flow.router.PageTitle;

```

```

import com.example.application.views.Scheme;
import com.example.application.views.SchemeView;
import com.example.application.views.main.MainView;

@CssImport("./views/tamilnaduschemes/tamil-nadu-schemes-view.css")
@PageTitle("Tamil Nadu Schemes")
public class TamilNaduSchemesView extends Div implements AfterNavigationObserver {

    Grid<Scheme> grid = new Grid<>();

    public TamilNaduSchemesView() {
        addClassName("tamil-nadu-schemes-view");
        setSizeFull();
        grid.setHeight("100%");
        grid.addThemeVariants(GridVariant.LUMO_NO_BORDER,
GridVariant.LUMO_NO_ROW_BORDERS);
        grid.addComponentColumn(scheme -> createCard(scheme));
        add(grid);
    }

    private HorizontalLayout createCard(Scheme scheme) {
        HorizontalLayout card = new HorizontalLayout();
        card.addClassName("card");
        card.setSpacing(false);
        card.getThemeList().add("spacing-s");

        card.addClickListener(l -> {
            UI.getCurrent().getSession().setAttribute("scheme", scheme);
            UI.getCurrent().navigate(SchemeView.class);
        });

        Image image = new Image();
        image.setSrc(scheme.getImage());
        VerticalLayout description = new VerticalLayout();
        description.addClassName("description");
        description.setSpacing(false);
        description.setPadding(false);

        HorizontalLayout header = new HorizontalLayout();
        header.addClassName("header");
        header.setSpacing(false);
        header.getThemeList().add("spacing-s");

        Span name = new Span(scheme.getName());
        name.addClassName("name");
    }

```

```

Span date = new Span(scheme.getDate());
date.addClassName("date");
header.add(name, date);

Span post = new Span(scheme.getPost());
post.addClassName("post");

HorizontalLayout actions = new HorizontalLayout();
actions.addClassName("actions");
actions.setSpacing(false);
actions.getThemeList().add("spacing-s");

description.add(header, post);
card.add(image, description);
return card;
}

@Override
public void afterNavigation(AfterNavigationEvent event) {

    // Set some data when this view is displayed.
    List<Scheme> persons = Arrays.asList( //

        createScheme(

            "https://www.acko.com/wp-content/uploads/2020/05/chief-minister-comprehensive-health
            -insurance-scheme.png",
            "Chief Minister's Comprehensive Health Insurance
            Scheme", "January 11th 2012",
            "Quality healthcare comes at a cost that is
            unaffordable for the economically "
            + "weaker sections of society. One way
            to address this is to provide free healthcare "
            + "in Government hospitals. But
            sometimes treatment is not possible at district "
            + "and sub-district hospitals.
            Furthermore, the demand for advanced healthcare "
            + "leads to long waitlists for emergency
            and life saving surgeries. "
            + "To address these challenges and
            ensure availability of advanced healthcare, "
            + "the Government of Tamilnadu
            introduced a scheme called the "Chief Minister "
            + "Kalaigamar Insurance Scheme for life
            saving treatments" on 23rd July 2009. "

```

poor/low income/unorganised groups who " + "This scheme is for the poorest of the
supplementary facility for getting free " + "cannot afford costly treatment, as a
hospitals for such serious ailments.", + "treatment in "
+ "empanelled Government and private
Tamil Nadu. Annual income should be less than " "The family should be residents of
+ "Rs. 72, 000/- per annum. "
+ "The member should be mentioned
in the ration card of the family."

),
createScheme(
"https://tnuhp.org/images/gallery/formal-inauguration.jpg",
"March 6th 2021", "TNUHP - Tamil Nadu Urban Health Care Project",
Government of Tamil Nadu " "The Health and Family Welfare Department of the
project named Tamil Nadu " + "is in the process of implementing a new health
with the funding support " + "Urban Health Care Project in the health sector
(JICA). The goal of the project is " + "from Japan International Cooperation Agency
Tamil Nadu especially the poor " + "to improve the health outcomes of the people of
medical institutions in the urban areas. " + "and disadvantaged accessing Government
resources, SIPCOT has created " + "To ensure a good impact with the available limited
located in Twenty One places and " + "Industrial Complexes and Parks, strategically
+ "Twelve Districts, "
+ "which occupy a place of pride in the State's
industrial map.",
"Applicable for all"
),

createScheme(
"images/TNHSRP.jpeg",
Program", "March 6th 2021", "TNHSRP - Tamil Nadu Health System Reform

care, strengthening the " injuries, and reducing the " services in the State. " outcomes in healthcare " improve the quality of care, " non-communicable diseases (NCD) and injuries, and " health services in the State. " crore, of which ₹1,999.902 crore " activities under the Programme " health institutions, " in primary, secondary " quality accreditation of select " interventions for screening, diagnosis, " improved mental health programme, reduction " strengthening of reproductive and " less, members of unorganised " and d" rural areas are eligible."

"The programme aims at improving the quality of
 + "management of non-communicable diseases and
 + "inequities in reproductive and child health
 + "The Programme aims at achieving result-oriented
 + "delivery and over a five-year period, aims to
 + "strengthen the management of
 + "reduce the inequities in reproductive and child
 + "The total cost of the programme is ₹2,857.003
 + "is being funded by the World Bank. The proposed
 + "include improving quality of care in all government
 + "including interventions to address quality of care
 + "and tertiary-level facilities, NQAS and NABH
 + "hospitals and primary health centres,
 + "treatment and management of NCDs, an
 + "of deaths due to road traffic accidents and
 + "child health programmes.",
 "Any family whose annual income is Rs. 72,000/- or
 + "labour welfare boards, and the spouse, children
 + "ependent parents of such members in urban and
),

createScheme(

"images/Muthulakshmi-Reddy-Maternity-Benefit-Scheme-MRMBS-TamilNadu.jpg",
 "Dr. Muthulakshmi Maternity Benefit Scheme",
 "March 6th 2021",

enhanced the financial assistance "

Rs.18000. This scheme is "

reduce MMR and IMR. This "

pregnant and lactating women "

pregnancy.",

of age. "

for Two deliveries only. "

installments on certain conditions. "

"Health and Family welfare Department has

+ "to poor pregnant mothers from Rs. 12000 to

+ "strengthened with Nutrition kit with a view to

+ "scheme aims to provide optimal nutrition for

+ "and compensates the wage loss during

"The pregnant mother should have completed 19 yrs

+ "The eligible mother will receive all 5 Installments

+ "HOB and Migrant mothers will receive 1st and 5th

),

createScheme(

"https://medicaldialogues.in/wp-content/uploads/2018/02/Non-communicable-diseases.jpg",

"Population Based Non Communicable Diseases Screening Programme", "March 6th 2021",

"Normally Non Communicable disease control programme provides screening of hypertension diabetes, cervical cancer and breast cancer for anyone aged 30 years and above attending PHC/GH but the fact is that only 30 to 40 % of the population attend public health facilities the remaining population are outside concerned then there are need to do health sub centre (HSC) based population based screening for hypertension /diabetes/cervical and breast cancer. This is to be done by making house visits in the HSC area to screen individuals. "

+ "Population based Non-Communicable diseases Screening programme was initiated in krishngiri district as pilot programme along with two other districts (Pudukkottai and Perambalur)from Nov-2017.Each HSC in the block area have assigned to one field level functionary. Out of 238 HSC's in krishnagiri districts 164 women health volunteers have appointed through TNCDW (Mahalir thittam) and for remaining 74 HSC'S Pre-Existing ASHA have included in this programme. "

+ "In this programme, each field functionary visits house by house and done screening for Hypertension /Diabetes above 30 years population by using electronic BP Appar and Glucometer and they will refer the individuals who are having abnormal values of BP and RBS and also they will refer all women who are above 30 years to hereby PHC's for cervical cancer &breast cancer screening. "

+ "They will follow-up all know cases of Hypertension /Diabetes cervical cancer and breast cancer for their regular treatment. ",

```

        "Aged above 30 years of Population"),

        createScheme(

            "https://www.unicef.org/sites/default/files/styles/hero_mobile/public/UN0303568_0.jpg?itok=bmTdZVam",

            "Immunization", "March 6th 2021",
            "Under the Universal Immunisation Programme all
            Pregnant mothers and their children are immunized at free of cost.\n"
            + "All Pregnant mothers and their new born are
            protected against vaccine preventable diseases. This programme aims to reduce
            mortality and morbidity give to Vaccine preventable diseases.(VPI). "
            + "On every Wednesday routine immunization clinic
            is conducted in all rural and urban all Primary Health Centres and all Government
            Hospitals. "
            + "On every month first Wednesday routine
            immunization clinic is conducted in all Health Sub Centres (HSC) and during the
            subsequent Wednesday the immunization clinic is conducted in all Rural and Urban ICDS
            centres belonging to the HSCs. ",
            "All Pregnant mothers and their children"
        )

    );

    grid.setItems(persons);
}

private static Scheme createScheme(String image,
    String name, String date, String post, String eligibility) {
    Scheme p = new Scheme();
    p.setImage(image);
    p.setName(name);
    p.setDate(date);
    p.setPost(post);
    p.setEligibility(eligibility);
    return p;
}
}

```

B. SCREEN SHOTS

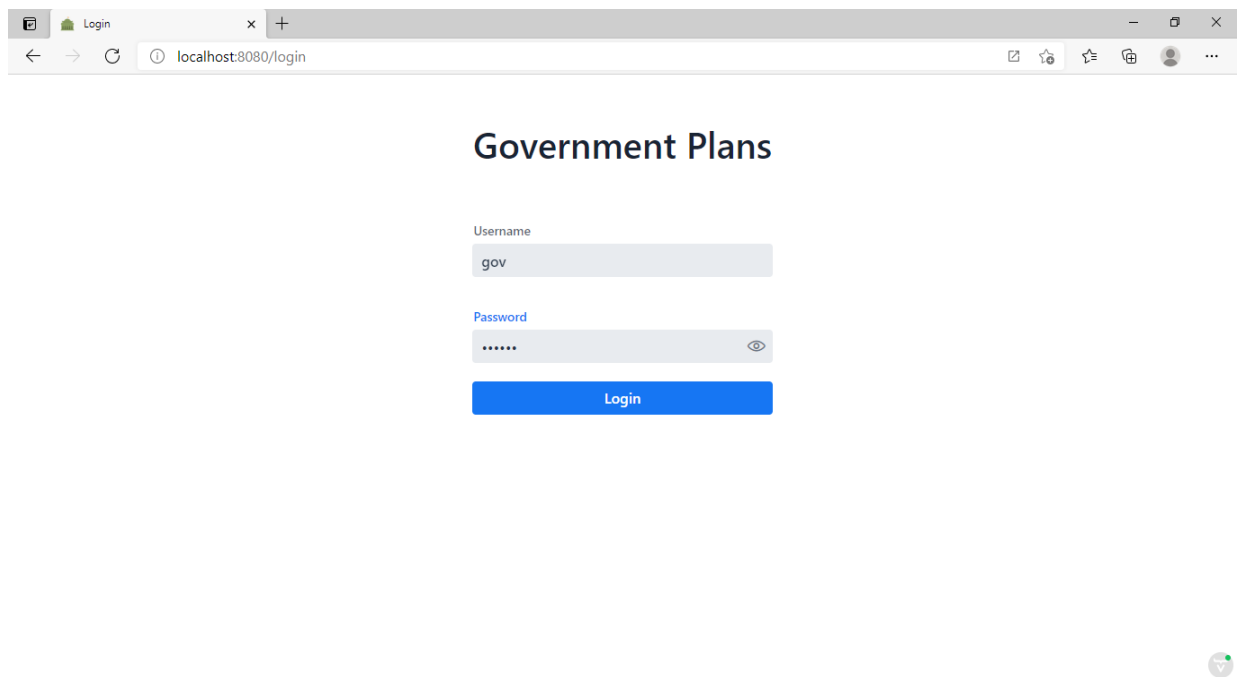


Fig: Login Page

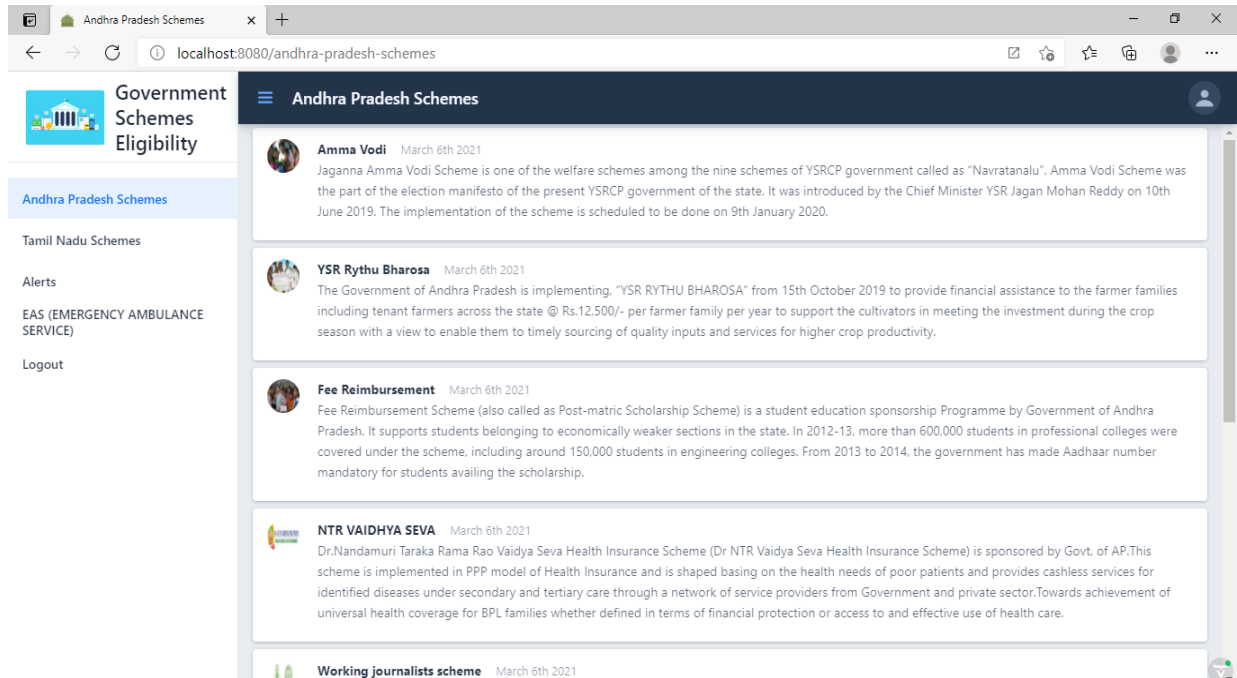


Fig: UI after giving login credentials

ANDHRA PRADESH SCHEME

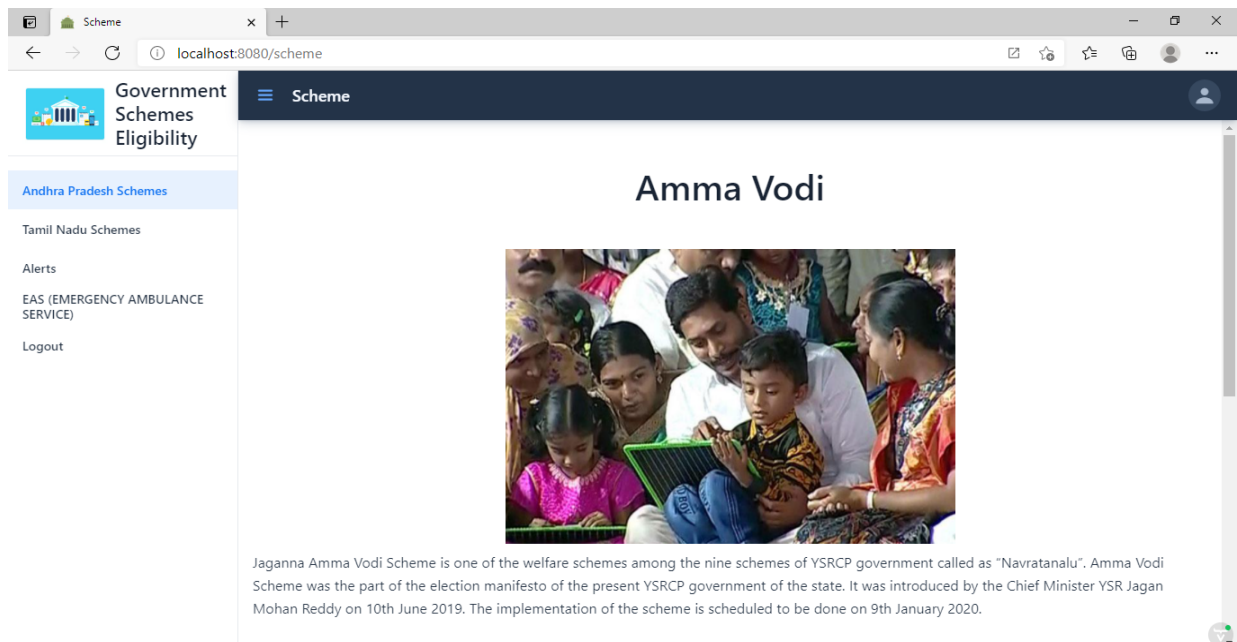


Fig: Scheme Description Page

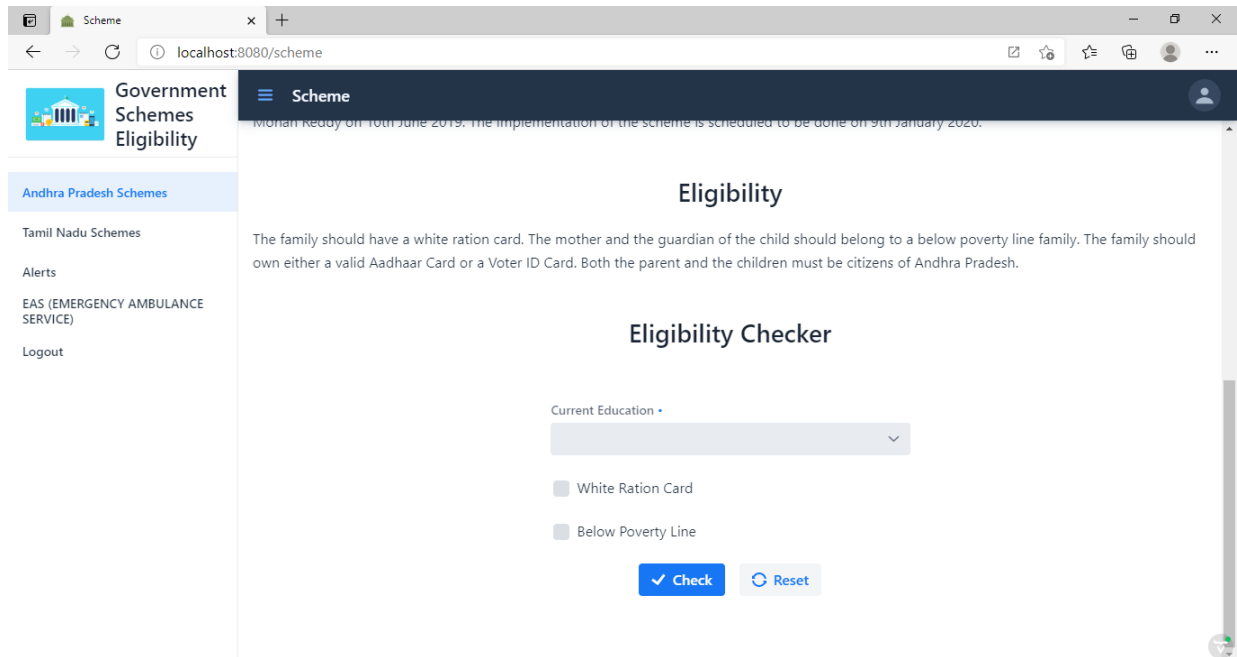


Fig: Eligibility and Eligibility Checker Page

TAMIL NADU SCHEME



Fig: Scheme Description Page

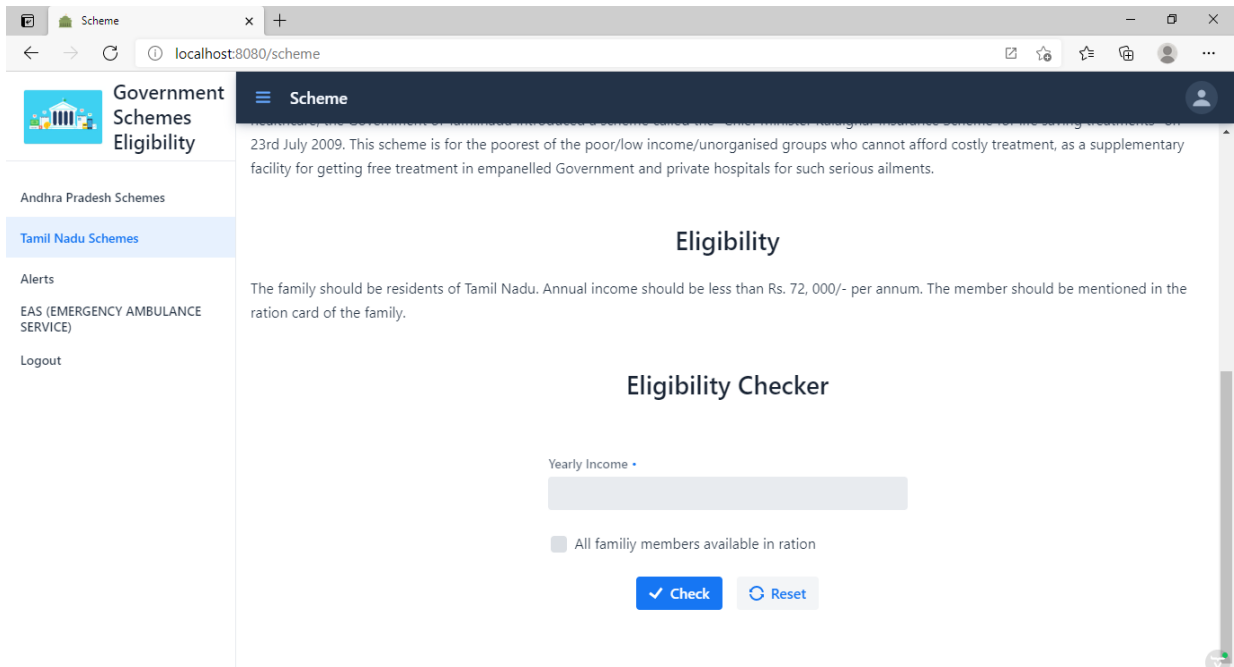


Fig: Eligibility and Eligibility Checker Page

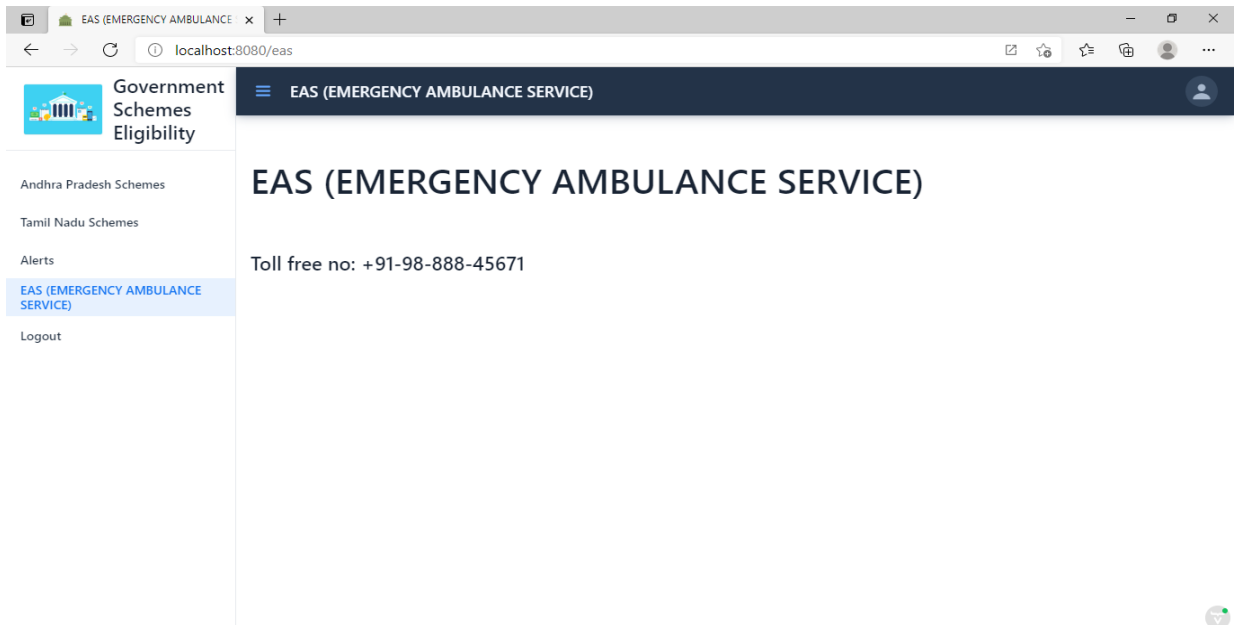


Fig: EAS Page

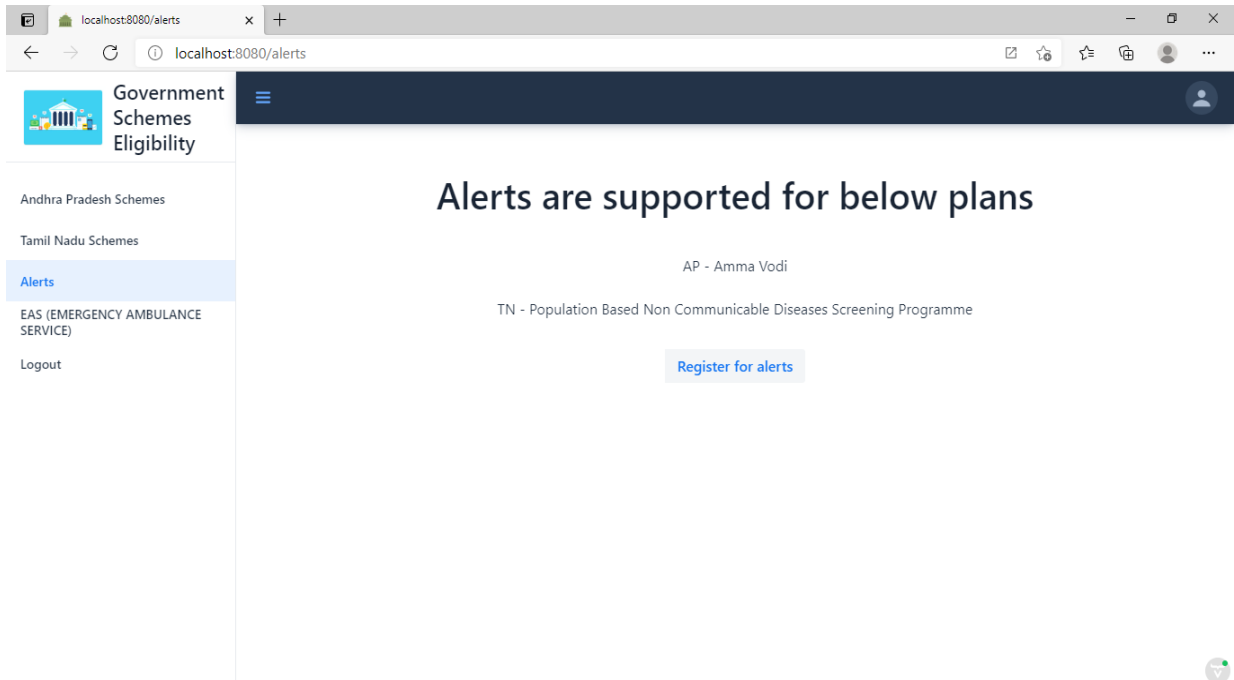


Fig: Alerts Page

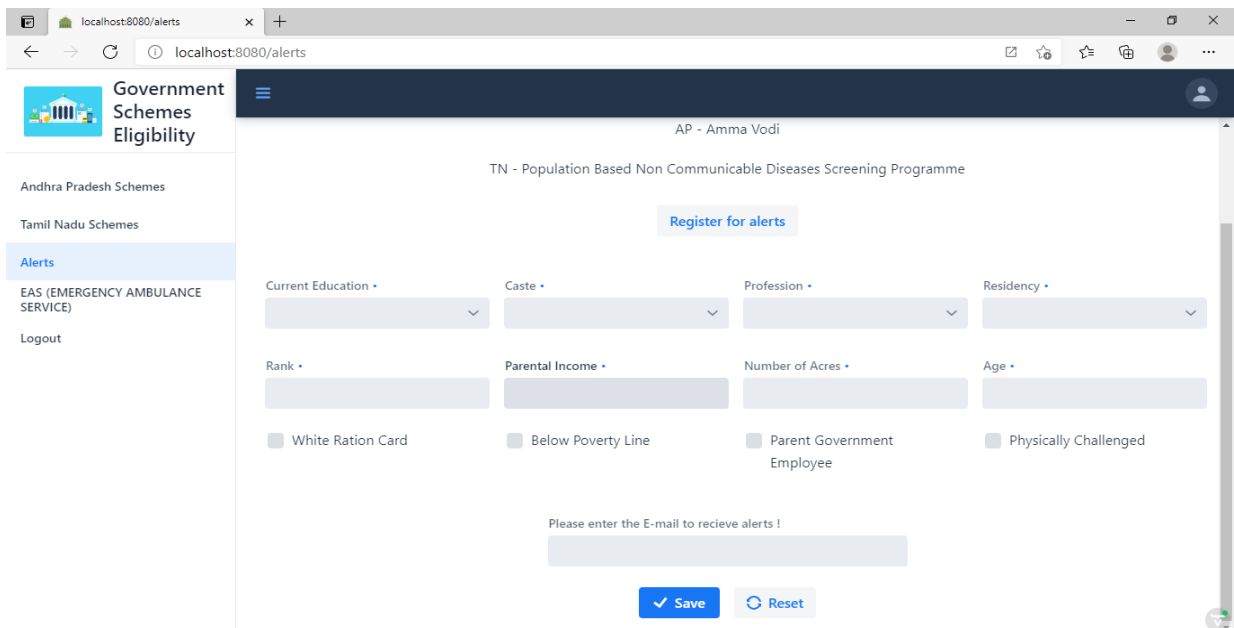


Fig: Registering for Alerts

Government Schemes Eligibility

AP - Amma Vodi

TN - Population Based Non Communicable Diseases Screening Programme

[Register for alerts](#)

Current Education	Caste	Profession	Residency
School	BC	Agriculture	Tamil Nadu
Rank	Parental Income	Number of Acres	Age
430	50000	9	45
☒ White Ration Card	☒ Below Poverty Line	☐ Parent Government Employee	☐ Physically Challenged

Please enter the E-mail to receive alerts !

ramyakrishna@gmail.com

[Save](#) [Reset](#)

Alert saved successfully

Fig: Alert Saved

C. PUBLICATION WITH PLAGIARISM REPORT