SHRI GURU GOBIND SINGHJI INSTITUTE OF

ENGINEERING & TECHNOLOGY, NANDED (431606)

M.S. INDIA

Department of Computer Science and Engineering

ACADEMIC YEAR 2023-2024

Project Report

On

Poshan Abhiyan: Poshan Tracker

Submitted by

T.Y. Computer Science & Engineering

Team Member:

Durgeshwari Sanap (2021BCS031, A15)

Under the guidance of

Mrs. Misha Nihalani
Mr. Rupesh Sonkamble

CERTIFICATE

Certified that this is bona fide record pdf project work titled.

Poshan Abhiyan: Poshan Tracker

Done By:

Durgeshwari Khushal Sanap(2021BCS031) (A15)

IN PARTIAL FULFILLMENT FOR THE REQUIREMENT OF THIRD YEAR, PROJECT,

Mr. Rupesh Sonkamble
(Project Guide)

Mrs. Misha Nihalani
(Class Coordinator)

ACKNOWLEDGMENT

I express my sincere gratitude to my esteemed faculty for presenting me with the opportunity to undertake this project. Their guidance, support, and encouragement have been invaluable throughout the entire journey of conceptualizing, developing, and completing this project.

This endeavor would not have been possible without the unwavering support and expertise provided by Faculties. Their insightful feedback and constructive criticism have been instrumental in shaping the project into its final form.

I extend my appreciation to the SGGSIE&T Nanded community for fostering an environment of learning and innovation. The resources and facilities provided have significantly contributed to the successful execution of this project.

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ABSTRACT

The project, "**Poshan Tracker**," emerges against the backdrop of significant malnutrition prevalent among children, pregnant women, and lactating mothers in India. Despite the inception of the Poshan Abhiyan by the Ministry of Women and Child Development to tackle this issue, the absence of an effective real-time monitoring system has impeded the management and tracking of nutritional programs.

The project sought to address this gap by focusing on the development and implementation of the Poshan Tracker—an ICT-enabled platform designed to revolutionize the monitoring of Integrated Child Development Services (ICDS) primarily at Anganwadi's. Led by guidance from **Misha Nihalani** and **Rupesh Sonkamble**, the endeavor aimed to enhance the identification, targeting, and monitoring of nutritional services in real time.

The key elements of the Poshan Tracker included its role in facilitating last-mile delivery of nutritional services, establishing a feedback loop for frontline functionaries, and acting as a precursor for targeted investments in healthcare for women and children. The system's significance was evident through its widespread adoption by Anganwadi workers across all states and Union territories, enabling real-time monitoring of over 50% of the country's children and verifying 94% of beneficiaries through Aadhar.

However, challenges arose regarding data quality, limited data utilization windows, user feedback integration, sustainability, and the necessity for essential service investments upon detecting malnutrition. The project's findings emphasized the critical need for continual updates, user feedback incorporation, and sustained investments to fortify the Poshan Tracker's effectiveness.

The project's conclusion highlighted the pivotal role of the Poshan Tracker in addressing malnutrition while acknowledging persistent challenges. It stressed the necessity for ongoing improvements and strategic interventions to maximize its potential impact and ensure sustained progress in combating nutritional deficiencies across the country.

PROBLEM STATEMENT

Despite the significant prevalence of malnutrition among children, pregnant women, and lactating mothers in India, the effective management and monitoring of nutritional programs remain challenging. The implementation of the Poshan Abhiyan (Nutrition Mission) by the Ministry of Women and Child Development aimed to address these issues. However, the existing challenges in tracking and improving nutritional outcomes persist due to a lack of a robust real-time monitoring system.

The absence of an efficient and comprehensive monitoring mechanism, especially at Anganwadi's, hampers the timely identification, targeting, and monitoring of Integrated Child Development Services (ICDS). The need for such a system led to the development of the Poshan Tracker, an ICT-enabled platform.

However, key challenges have emerged in the successful deployment and utilization of the Poshan Tracker. These include concerns about data quality, limited windows of data utilization, and the necessity for continual updates and user feedback incorporation. Furthermore, ensuring the sustainability of this monitoring system and making adequate investments in essential services upon detecting malnutrition remain critical concerns.

Therefore, the problem at hand revolves around the need to effectively leverage the Poshan Tracker to overcome the persisting challenges in monitoring and improving nutritional services delivered at Anganwadi's. This includes addressing data quality issues, enhancing the system's user-friendliness, ensuring sustained updates, and securing necessary investments for effective response and intervention upon detecting malnutrition. Solving these challenges is crucial for maximizing the impact of the Poshan Tracker and ensuring sustained progress in combating malnutrition across the country.

CHAPTER 01

INTRODUCTION

The prevalence of malnutrition among children, pregnant women, and lactating mothers in India poses a significant challenge despite initiatives like the Poshan Abhiyan launched by the Ministry of Women and Child Development. A lack of a robust real-time monitoring system has hindered the effective management and tracking of nutritional programs, particularly at Anganwadi's, impeding timely identification, targeting, and monitoring of Integrated Child Development Services (ICDS). To address these challenges, the Poshan Tracker, an ICT-enabled platform, was developed.

1.1 Purpose

The primary objective of the Poshan Tracker is to facilitate efficient and comprehensive monitoring of nutritional services delivered at Anganwadi's under the ICDS. It aims to enhance the identification, targeting, and monitoring of nutritional services in real time, ensuring timely intervention and response strategies upon detecting malnutrition among beneficiaries.

1.2 Scope

The scope of the Poshan Tracker encompasses the implementation of a centralized ICT-enabled platform aimed at improving the last-mile delivery of nutritional services across all states and Union territories. It seeks to monitor and manage Anganwadi infrastructure, nutritional outcomes, and service delivery for children, pregnant women, and lactating mothers.

1.3 Definitions, Acronyms, and Abbreviations

To ensure clarity throughout this document, a set of definitions, acronyms, and abbreviations have been provided in the glossary. This aids in understanding the specialized terminology used in the context of this project.

--Poshan Abhiyan: Also known as the Nutrition Mission, a government initiative to address malnutrition.

--ICDS: Integrated Child Development Services, a government welfare program for children's development.

--Anganwadi: Rural childcare centers under the ICDS providing various services.

1.4 Overview

The Poshan Tracker represents an innovative approach to address the persistent challenges in monitoring and improving nutritional outcomes in India. It is designed to be a centralized, real-time monitoring system that enables the tracking and enhancement of services delivered at Anganwadi’s. However, despite its potential, challenges related to data quality, limited data utilization windows, user feedback incorporation, sustainability, and essential service investments need urgent attention for the system to maximize its impact in combating malnutrition.

1.5 Software tools used.

The development of this platform involved the utilization of several software tools, each serving a specific purpose in the project's lifecycle:

- Figma: Employed for UI/UX design to enhance the platform's visual appeal and user experience.

- Canva: Utilized for crafting compelling presentations, ensuring effective communication.

- CSS: Applied for styling the website, ensuring a visually pleasing and cohesive design.

- HTML: Used to provide the structural framework of the website.

- Nodejs: Employed for backend integration, facilitating seamless communication between the front end and the database.

- SQL: Implemented for database integration, ensuring efficient storage and retrieval of data.

- Express: Implemented for backend integration, and API handling.

1.6 Technology Stack

The technology stack adopted for this project reflects a strategic choice to leverage tools that collectively contribute to the platform's functionality and performance. The stack includes:

- Frontend: Focused on HTML, CSS, JS, Bootstrap for building a responsive and interactive user interface.

- Backend: Powered by Node.js and expressJS to handle server-side logic and facilitate communication between the frontend and the database.

- Database: Utilizing SQL for efficient data storage, retrieval, and management.

This technology stack is carefully curated to ensure the platform's scalability, responsiveness, and overall effectiveness in meeting user needs.

CHAPTER 02

LITERATURE SURVEY

2.1 History

The Ministry of Women and Child Development has proposed the **Poshan Abhiyan or Nutrition Mission** approved by the Union Cabinet in November 2017 with a financial outlay of **Rs 9000 crore** for three years. Government officials have cited privacy concerns as a reason for keeping the data under lock and key, but experts say it can easily be anonymised as is the case with data for several other government schemes.

More than a third of the children under five face stunting and wasting and 40% aged between one and four are anaemic. Over 50% of pregnant and other women were found to be anaemic, said the national Family health Survey 4 released in 2016.

The programme seeks to improve nutritional outcomes for children, pregnant women and lactating mothers. The Poshan tracker, known as the **ICDS-CAS(Integrated Child Development Services-Common Application Software)** in its earlier avatar, was set up with the aim of tracking and improving various services delivered at Anganwadi's and to ensure nutritional management of beneficiaries. The real-time monitoring system is one of the key pillars of Poshan Abhiyan or Nutrition Mission.

2.2 How your idea is different?

The innovative approach of our project lies in its commitment to bridging the historical gaps in the Tracking of Anganwadi centers and addressing the exclusive perception surrounding health and welfare.

Comprehensive Analysis: Your review delves into various aspects of the Poshan Tracker, covering its features, significance, challenges, and proposed solutions. This thorough analysis provides a holistic understanding of the initiative.

Focus on Technological Intervention: The project emphasizes the significance of technology (ICT-enabled platform) in revolutionizing nutritional service delivery, highlighting the real-time monitoring capabilities and the utilization of this technology for accurate data collection and analysis.

Highlighting Achievements: Your review showcases the successes and positive outcomes of the Poshan Tracker, such as its widespread adoption, scale of operation, detailed data collection, and accuracy in monitoring nutritional levels based on WHO growth charts.

Identifying Challenges: It identifies pertinent challenges, notably data quality concerns and the issue of limited data utilization, offering specific suggestions to address these hurdles.

Recommendations for Improvement: The project doesn't just stop at identifying challenges but also offers concrete recommendations for improvement, stressing the need for continual updates, user feedback incorporation, sustainability measures, and increased investments in essential services.

Reference Utilization: You've drawn on a variety of sources, including government reports, analysis from reputable news sources, and academic papers, showcasing a well-researched and credible foundation for your review.

CHAPTER 03

SYSTEM DESIGN

3.1 System Design

The system will consist of a front-end application, a backend API, and a database. The frontend application will allow users to enter the data of Anganwadi in various Portfolio. The backend API will provide the necessary data and functionality for the frontend application. The database will store all of the data for the platform, including user information, department information and the information of all portfolios.

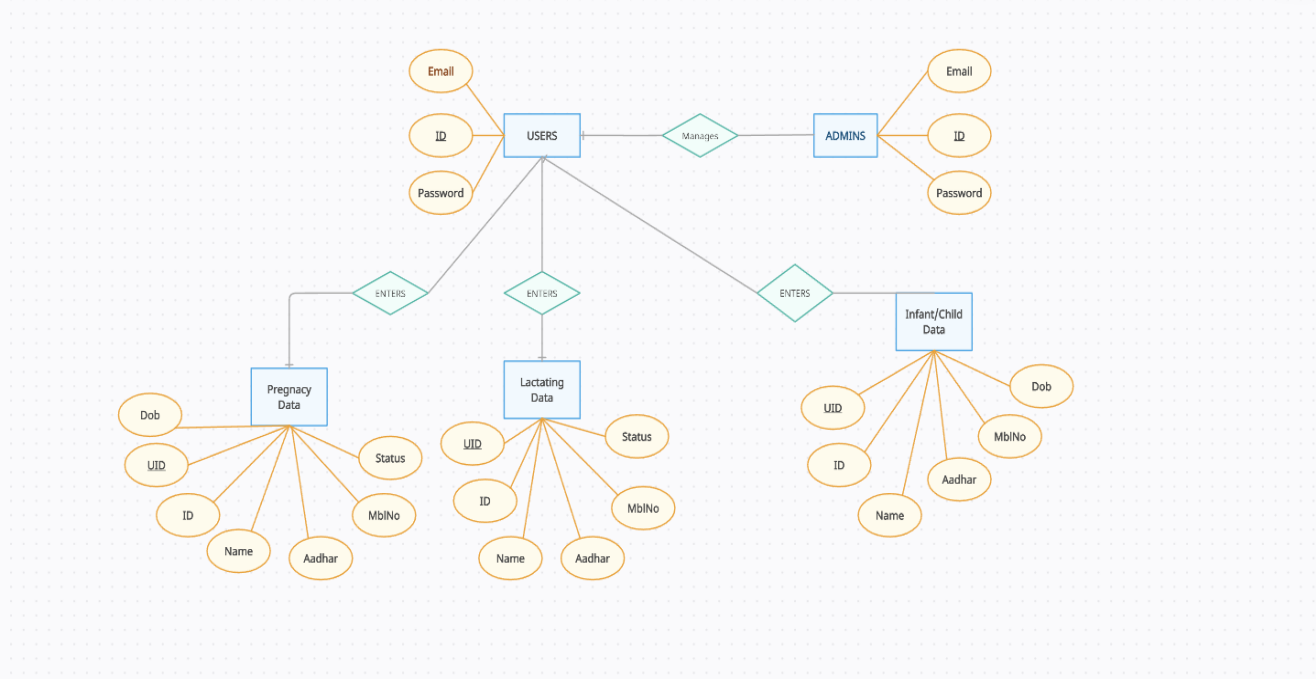
Components

-Frontend Application: HTML, JavaScript, CSS, Bootstrap
-Backend API: Nodejs, ExpressJs, Cookie-Parser, Twilio.
-Database: MySQL

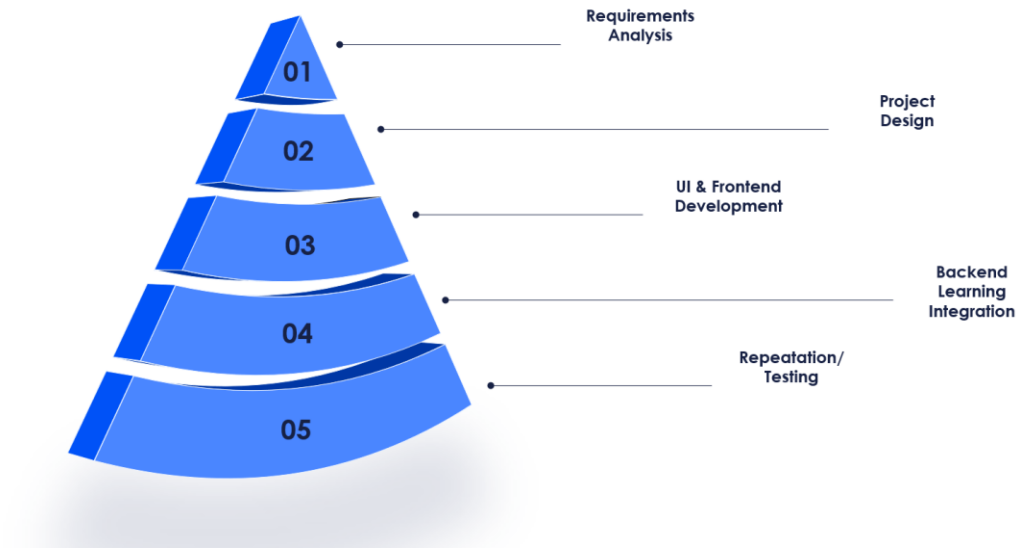
Data Flow

- User/Admin Registration: A user registers for an account on the platform.
- User Login: A user logs in to their account.
- Data Entry: The user can enter the data in various portfolios.
- Data Analysis: The user can analysis the data through dashboards.
- Admin Login: The department logs into their account.
- Admin Dashboard: The admin can analysis the district wise data through the admin dashboard.

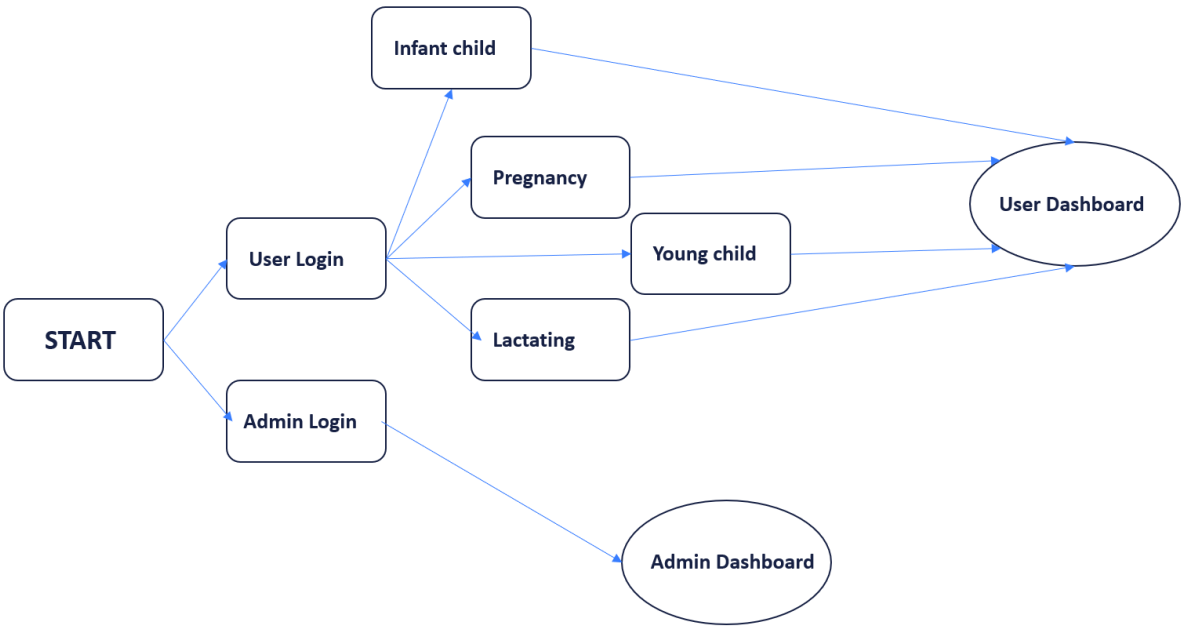
3.2 ER Diagram



3.3 Flow Chart



3.4 Use case Diagram



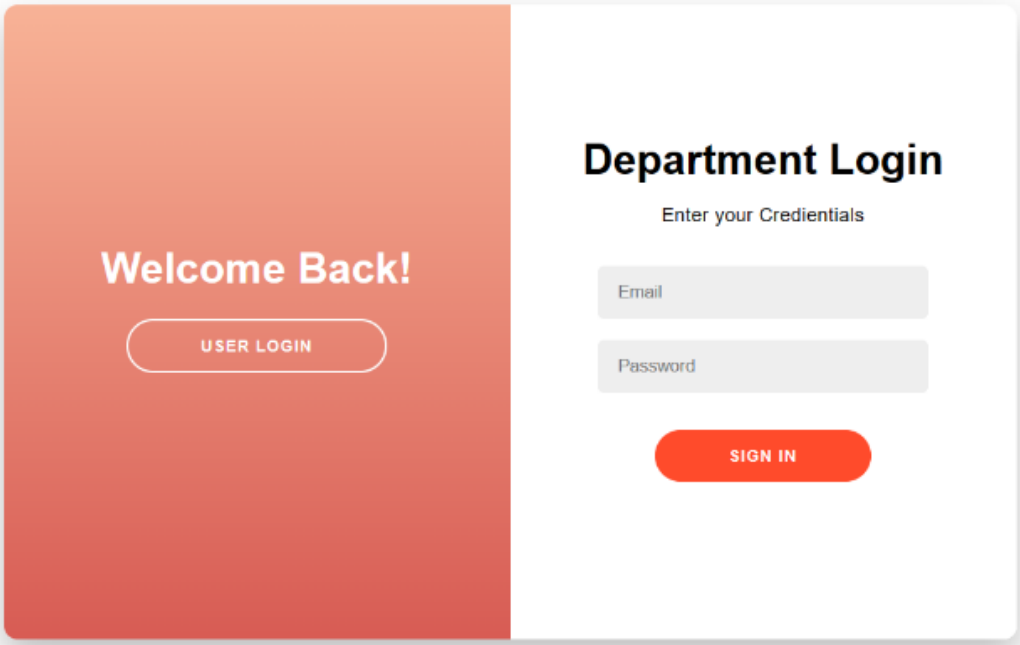
CHAPTER 04

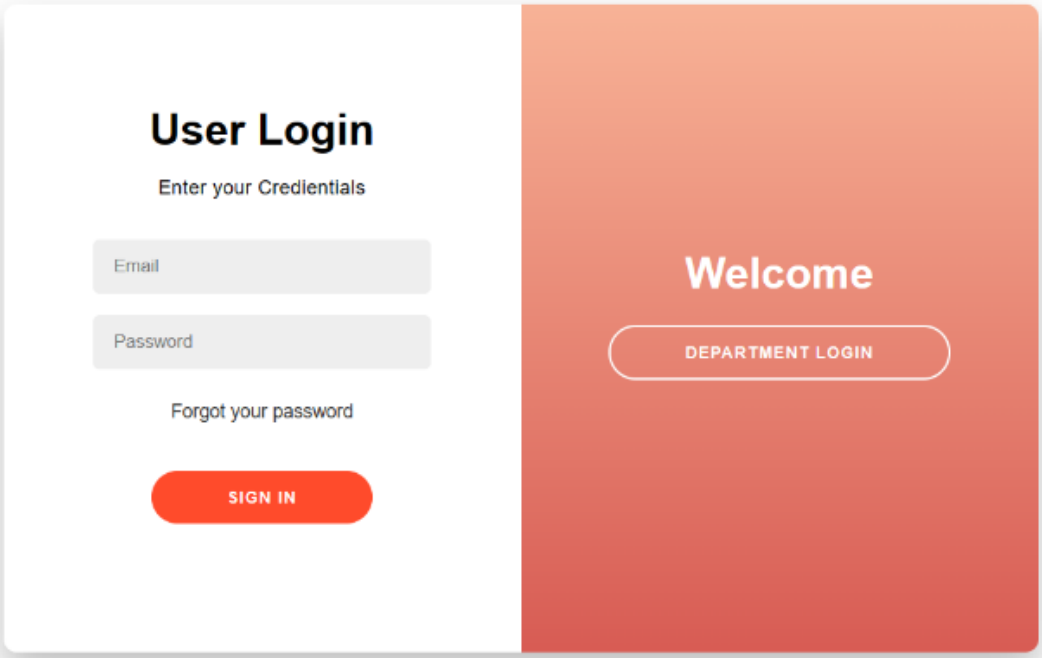
SYSTEM IMPLEMENTATION

4.1 Screenshots

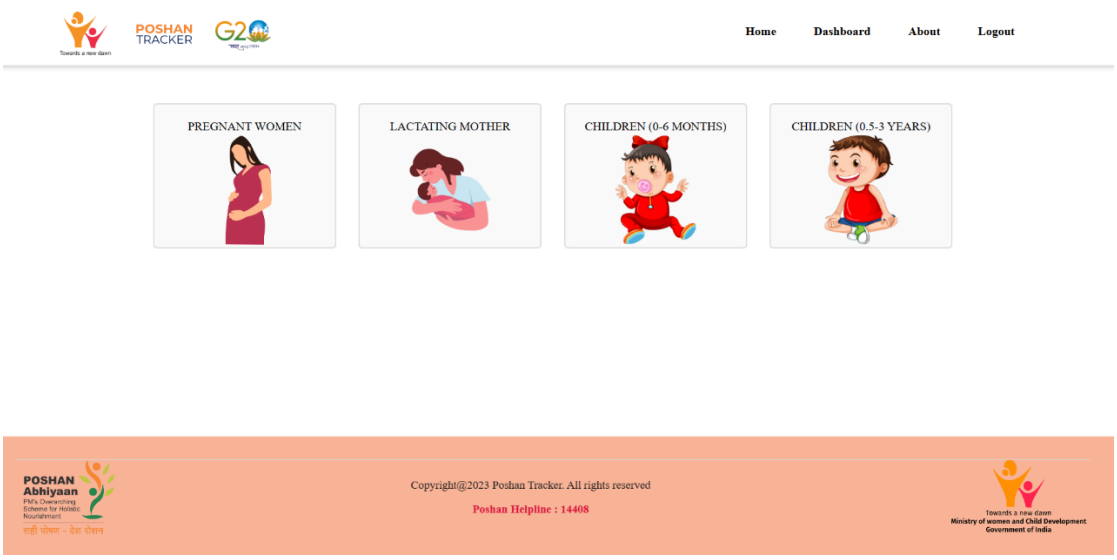
1) Frontend

Login page

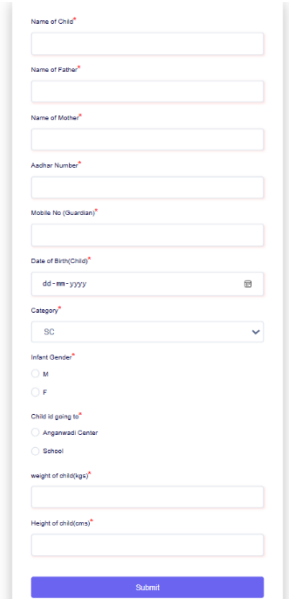


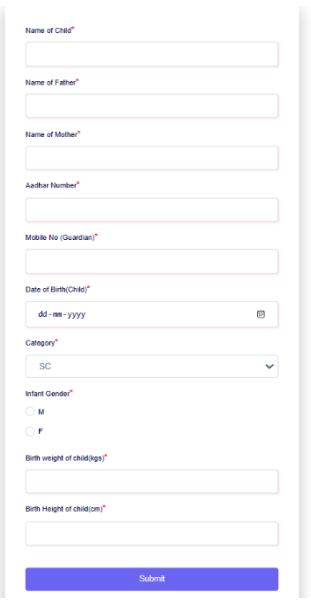

User Login
Enter your Credientials
Email
Password
Forgot your password
SIGN IN
Welcome
DEPARTMENT LOGIN

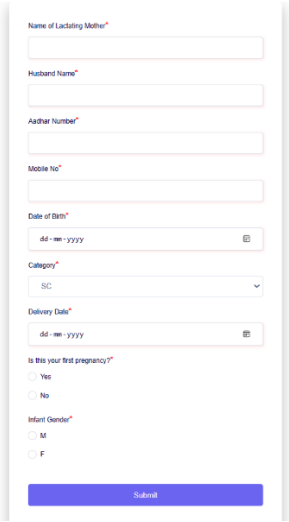
Home page

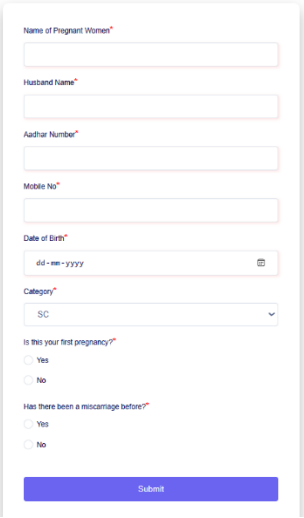

POSHAN TRACKER
Home
Dashboard
About
Logout
PREGNANT WOMEN
LACTATING MOTHER
CHILDREN (0-6 MONTHS)
CHILDREN (0.5-3 YEARS)
POSHAN Abhiyaan
Copyright@2023 Poshan Tracker. All rights reserved
Poshan Helpline : 14408
Towards a new dawn
Ministry of women and Child Development
Government of India

Portfolios

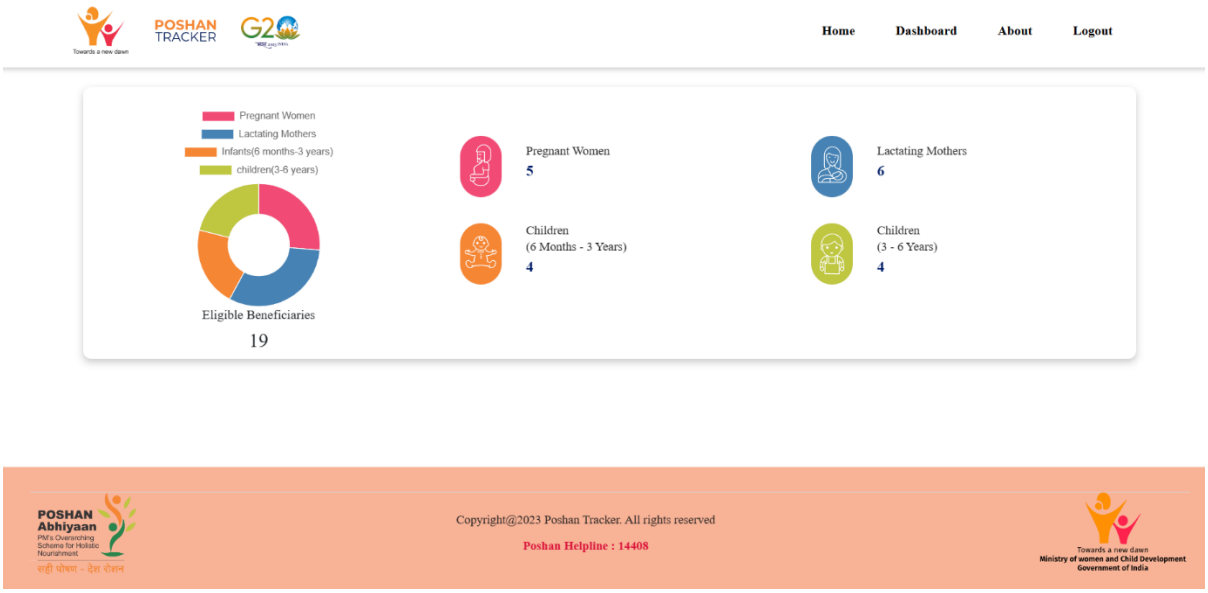

Name of Child*
Name of Father*
Name of Mother*
Aadhar Number*
Mobile No (Guardian)*
Date of Birth(Child)*
dd - mm - yyyy
Category*
SC
Infant Gender*
M
F
Child id going to*
Anganwadi Center
School
weight of child(kgs)*
Height of child(cms)*
Submit


Name of Child*
Name of Father*
Name of Mother*
Aadhar Number*
Mobile No (Guardian)*
Date of Birth(Child)*
dd - mm - yyyy
Category*
SC
Infant Gender*
M
F
Birth weight of child(kgs)*
Birth Height of child(cm)*
Submit

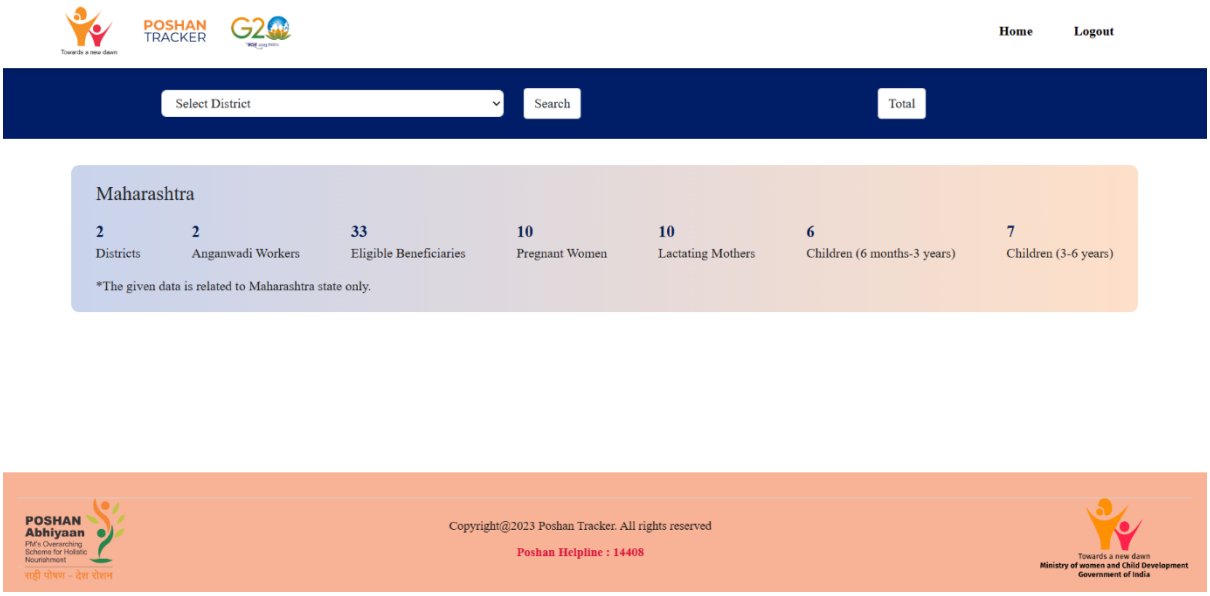

Name of Lactating Mother*
Husband Name*
Aadhar Number*
Mobile No*
Date of Birth*
dd - mm - yyyy
Category*
SC
Delivery Date*
dd - mm - yyyy
Is this your first pregnancy?*
Yes
No
Infant Gender*
M
F
Submit


Name of Pregnant Women*
Husband Name*
Aadhar Number*
Mobile No*
Date of Birth*
dd - mm - yyyy
Category*
SC
Is this your first pregnancy?*
Yes
No
Has there been a miscarriage before?*
Yes
No
Submit

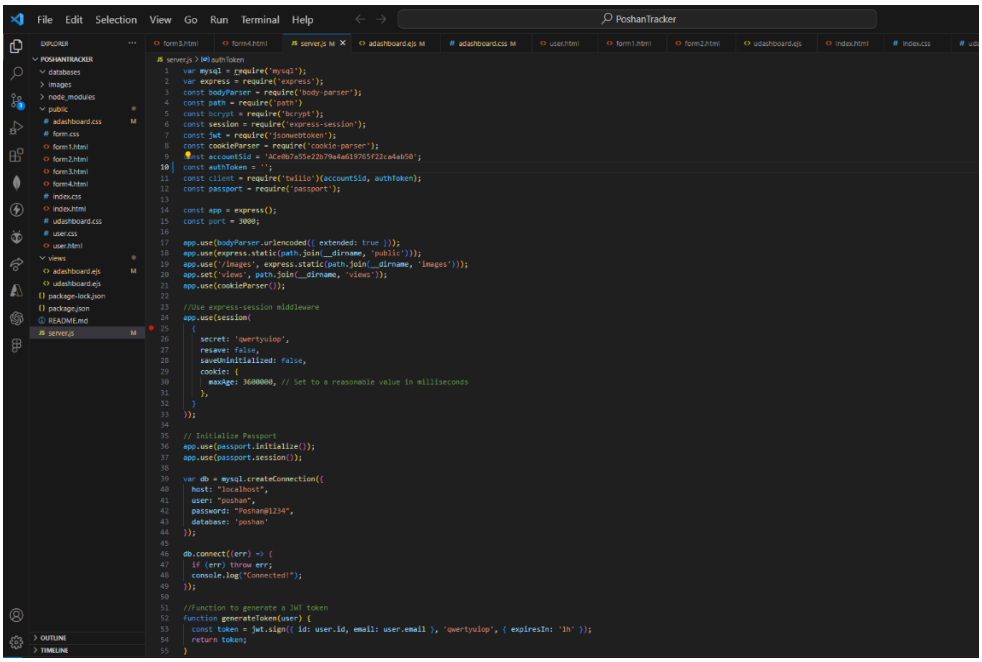
User Dashboard page



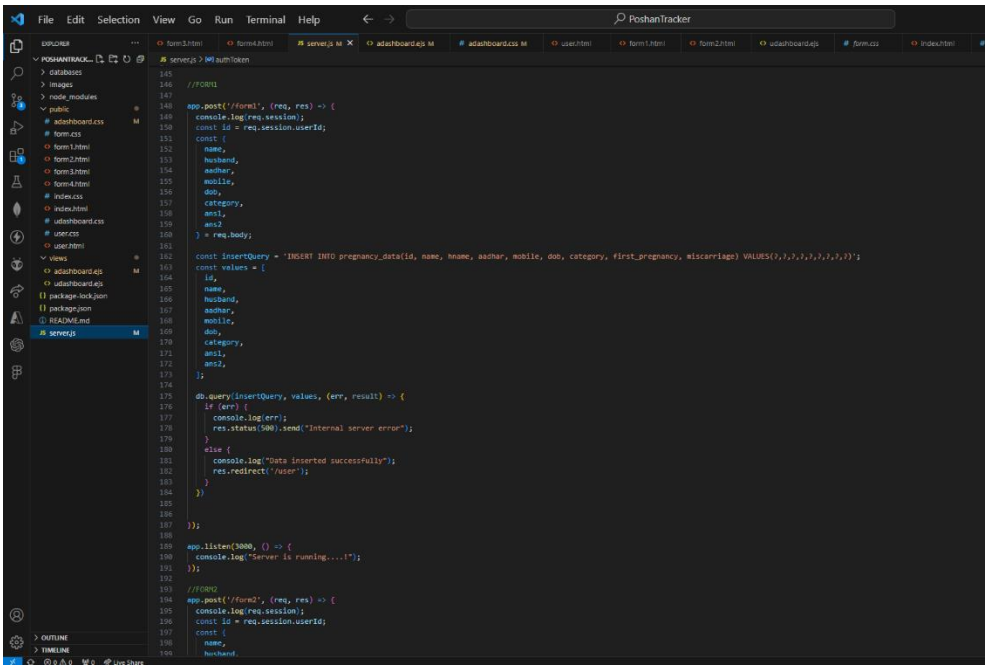
Admin Dashboard



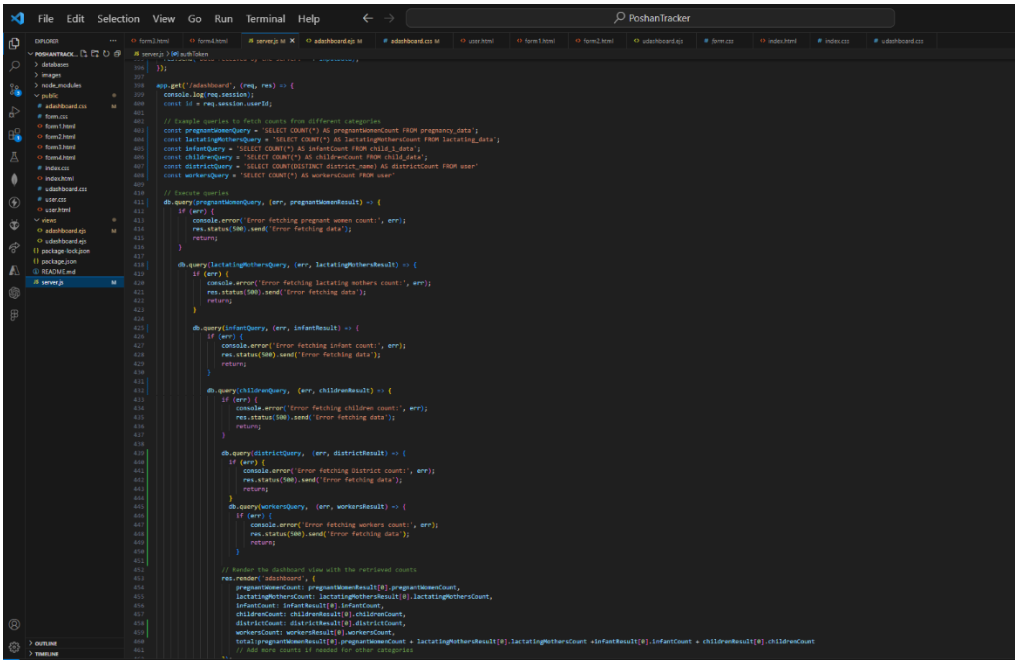
2) Backend

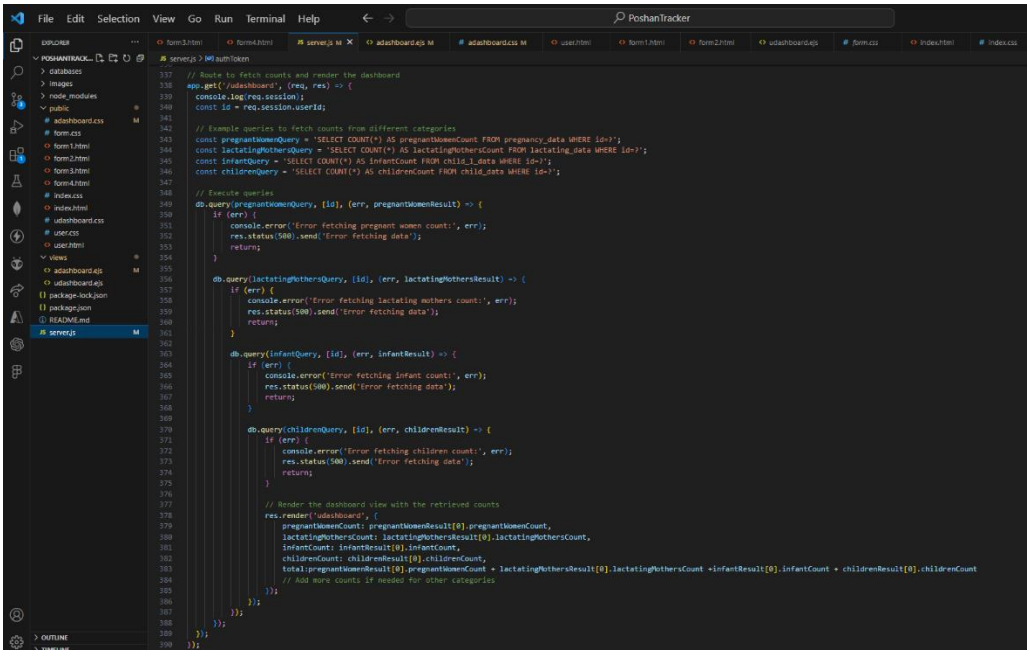


```
var mysql = require('mysql');
var express = require('express');
const bodyParser = require('body-parser');
const path = require('path')
const bcrypt = require('bcrypt');
const session = require('express-session');
const jwt = require('jsonwebtoken');
const cookieParser = require('cookie-parser');
const accountSid = 'ACe0b7a55e22b79a4e619765f22ce4eb50';
const authToken = '';
const client = require('twilio')(accountSid, authToken);
const passport = require('passport');

const app = express();
const port = 3000;

app.use(bodyParser.urlencoded({ extended: true }));
app.use(express.static(path.join(__dirname, 'public')));
app.use('/images', express.static(path.join(__dirname, 'images')));
app.set('views', path.join(__dirname, 'views'));
app.use(cookieParser());

//Use express-session middleware
app.use(session(
  {
    secret: 'qwertyuiop',
    resave: false,
    saveUninitialized: false,
    cookie: {
      maxAge: 3600000, // Set to a reasonable value in milliseconds
    },
  }
));

// Initialize Passport
app.use(passport.initialize());
app.use(passport.session());

var db = mysql.createConnection({
  host: "localhost",
  user: "poshan",
  password: "Poshan@1234",
  database: 'poshan'
});

db.connect((err) => {
  if (err) throw err;
  console.log("Connected!");
});

//Function to generate a JWT token
function generateToken(user) {
  const token = jwt.sign({ id: user.id, email: user.email }, 'qwertyuiop', { expiresIn: '1h' });
  return token;
}
```



```
//FORM1
app.post('/form1', (req, res) => {
  console.log(req.session);
  const id = req.session.userId;
  const {
    name,
    husband,
    aadhar,
    mobile,
    dob,
    category,
    ans1,
    ans2
  } = req.body;

  const insertQuery = 'INSERT INTO pregnancy_data(id, name, hname, aadhar, mobile, dob, category, first_pregnancy, miscarriage) VALUES(?,?,?,?,?,?,?,?,?)';
  const values = [
    id,
    name,
    husband,
    aadhar,
    mobile,
    dob,
    category,
    ans1,
    ans2,
  ];

  db.query(insertQuery, values, (err, result) => {
    if (err) {
      console.log(err);
      res.status(500).send("Internal server error");
    }
    else {
      console.log("Data inserted successfully");
      res.redirect('/user');
    }
  })


});

app.listen(3000, () => {
  console.log("Server is running....!");
});

//FORM2
app.post('/form2', (req, res) => {
  console.log(req.session);
  const id = req.session.userId;
  const {
    name,
    husband,
```


File Edit Selection View Go Run Terminal Help
PoshanTracker


File Edit Selection View Go Run Terminal Help
PoshanTracker

SQL database

uid	id	name	hname	aadhar	mobile	dob	category	first_pregnancy	miscarriage
1	101	Pallavi Sharma	Rahul	224731570452	9067951440	2004-06-22	SC	Yes	No
2	102	Shruti Verma	Ramesh	2247315704265	913096412	1996-07-16	GENERAL	Yes	No
3	102	vaishnavi tilak	marothi	224731570452	9067951440	1997-02-22	OPEN	No	No
4	102	rani chintanwar	raju	224304532945	9130964112	1994-02-09	SC	No	Yes
5	101	Vaishnavi Dhuware	Ramesh	224731570452	9078654321	1992-04-23	ST	No	Yes
6	102	Mrunal Ghughe	Jitu	224731560465	9130964222	2000-05-02	SC	No	No
7	101	Shruti Sharma	Yash	224477458897	9876543213	2001-06-03	ST	yes	No
8	101	Sakshi Kulkarni	Ayush	232456879078	9067951444	1999-07-05	OPEN	yes	No
9	101	Rucha Meghare	Bahdur	234587654536	9203756487	1996-05-04	GENERAL	No	Yes
10	102	Sharayu Narwade	Yadnesh	4567364514	9067951432	1995-04-03	ST	No	Yes

uid	id	name	father	mother	aadhar	mobile	dob	category	infant_gender	studying	weight	height
1	101	Ranveer Kapoor	Rajiv	Rema	235467546751	91302847556	2019-03-02	SC	M	Anganwadi	67	8
2	101	Ranveer singh	Ramesh	Rani	235467897656	9067945637	2017-04-03	OPEN	M	Anganwadi	62	6
3	101	Alia Bhatt	Jitesh	Jindi	35467364567	9465784756	2016-04-02	ST	M	School	76	8
4	101	Jay	jan	janu	435647567465	8576784657	2018-07-04	OPEN	F	School	87	8
5	102	Rajesh Sharma	Shidar	Shidina	467364564746	9028475678	2016-03-02	GENERAL	M	Anganwadi	56	9
6	102	Jani	Jindal	Jindila	46578394747	785938374	2015-04-03	ST	F	Anganwadi	56	8

Export recordset to an external file

uid	id	name	father	mother	aadhar	mobile	dob	category	infant_gender	weight	height
1	101	Sahil Chitnawar	Bhumeshwar	rani	224731570452	9067951440	2022-02-08	GENERAL	M	2	58
2	101	Omsai Mutyalwar	Santosh	Usha	224731570452	9130964112	2003-10-11	GENERAL	M	2	45
3	101	Aman Gajbhiye	Rajiv	Shreya	345678239184	9876543234	2022-10-02	OPEN	M	3	54
4	102	Mohit Singh	Sanjiv	Saloni	342385764635	9087678576	2023-02-04	SC	M	3	46
5	102	Alia Bhatt	Mahesh	Shreya	346578937412	9130678543	2023-03-02	ST	F	4	65
6	101	Kareena Kapoor	Jay	Kima	235478567183	9184756273	2023-03-01	SC	F	4	62
7	102	Mohini Yema	Shindar	Shindini	213465789345	9123457603	2021-04-03	OPEN	F	4	56

uid	id	name	hname	aadhar	mobile	delivery	category	first_pregnancy	infant_gender
1	101	Anushka Agrawal	Raju	224731570452	9067951440	2000-06-14	SC	on	on
2	102	rani chintanwar	raju	224731570352	9130964112	2002-01-29	SC	on	on
3	101	rajini parshawar	suresh	224731570444	9067951440	2002-02-05	GENERAL	on	on
4	101	srivalli taambdi	madan	445715425656	9423701051	2000-06-06	ST	on	on
5	101	srivalli taambdi	madan	445715425656	9423701051	2023-11-01	OPEN	on	on
6	101	srivalli taambdi	madan	445715425656	9067951440	2009-02-01	GENERAL	on	on
7	101	srivalli taambdi	madan	445715425656	9067951440	2020-02-04	SC	on	on
8	102	Sharayu Waghmare	Rahul	827375643823	9130964335	1999-03-02	GENERAL	on	on
9	102	Sakshi Kulkarni	Jitesh	346578672635	9067856334	1997-02-01	SC	on	on
10	102	Pallavi Zambre	Piyush	214367589345	9102436758	1999-01-03	OPEN	on	on

CHAPTER 05

CONCLUSION

In conclusion, the Poshan Tracker stands as a pivotal initiative under the Poshan Abhiyan, striving to address the critical issue of malnutrition among children, pregnant women, and lactating mothers in India. By harnessing technology through its centralized ICT-enabled platform, it has demonstrated remarkable progress in real-time monitoring, ensuring the last-mile delivery of nutritional services and promoting transparency in service delivery.

Despite its substantial achievements in universal uptake, scale, coverage, detailed data collection, and accuracy, challenges persist. Concerns regarding data quality and the limited window of data utilization remain significant hurdles that need urgent attention. To fortify the effectiveness of the Poshan Tracker, continual updates, user feedback incorporation, sustainability measures, and adequate investments in essential services are imperative.

The Poshan Tracker represents a significant leap toward combating malnutrition, yet ongoing improvements and strategic interventions are indispensable for maximizing its potential impact and ensuring sustained progress in addressing nutritional deficiencies across the country.

5.1 FUTURE SCOPE

The envisioned future of our platform holds exciting possibilities, building upon the foundation laid during its development. The commitment to continuous improvement and adaptation to emerging trends is evident in the following areas:

1. **Automatic Emailing System for Reports:** Develop an automated email system within the Poshan Tracker to generate and dispatch detailed reports to stakeholders, ensuring timely dissemination of information and analysis.

2. **Daily Attendance Monitoring**: Expand the system's capabilities to include daily attendance tracking of beneficiaries and workers at Anganwadi's, facilitating better resource allocation and management.

3. **Ration Tracking and Distribution**: Integrate a module for tracking ration distribution, ensuring efficient supply chain management and proper utilization of resources for nutritional programs.

4. **Birth Certificate Enrollment**: Incorporate a feature enabling the enrollment and tracking of birth certificates for newborns through Anganwadi's, promoting vital documentation and access to government schemes.

5. **Ordering Register for Vaccines and Nutrients**: Implement a module enabling the streamlined ordering and management of vaccines, supplements, and other essential nutrients based on real-time data.

6. **Automated Weight and Height Calculator**: Enhance the Poshan Tracker with an automated calculator that measures and records the weight and height of beneficiaries, aiding in precise growth monitoring.

7. **Comprehensive Health Checkup Module**: Expand the system to include a comprehensive health checkup feature, enabling tracking and scheduling of various health assessments for beneficiaries.

8. **Integration of Mental Health Services**: Introduce a utility that connects beneficiaries with mental health services and resources, addressing holistic well-being concerns.

9. **Daily Nutritional Meal Tracking**: Enhance the system to allow for the daily tracking and analysis of nutritional meals provided at Anganwadi's, ensuring compliance with dietary standards.

10. **Enhanced Data Analytics for Predictive Analysis**: Develop advanced data analytics tools within the Poshan Tracker to enable predictive analysis, identifying trends and patterns for proactive intervention strategies.

These enhancements can further bolster the Poshan Tracker's capabilities, making it a more comprehensive and dynamic tool for addressing malnutrition and improving the overall health and well-being of beneficiaries.

REFERENCES

The development and conceptualization of this project have been enriched by a diverse array of resources spanning various platforms and mediums. The comprehensive understanding and insights gained are attributed to the following references:

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Search keys : Anganwadi, Poshan Abhiyan, Nutrition Mission, ICDS, etc.

These are references to building this project.

Thank You!