

A Project Report

On

**UDYOG SAARTHI**

Batch Details

|  |  |  |
| --- | --- | --- |
| Sl. No. | Roll Number | Student Name |
| 1 | **20211CSE0321** | **RAHUL YADAV.B** |
| 2 | **20211CSE0503** | **MOHANA RANGA.T** |
| 3 | **20211CSE0734** | **SHAIK IRFAN** |
| 4 | **20211CSE0779** | **BHARATH REDDY.B** |
| 5 | **20211CSE0769** | **TEJESH REDDY** |

**School of Computer Science,**

**Presidency University, Bengaluru.**

Under the guidance of,

# Dr. KUPPALA SARITHA

Professor

School of Computer Science,

Presidency University, Bengaluru

# CONTENTS

1. Abstract
2. Introduction
3. Literature Review
4. Objectives
5. Proposed Method
6. Architecture Diagram
7. Modules
8. Hardware And Software Details
9. Time Line by Gantt Chart
10. References

## ABSTRACT:

The Udyog Saarthi App is a progressive web-based application designed to empower adults with disabilities by providing them with crucial resources and support in their job search efforts. In light of the increasing focus on inclusivity and equal employment opportunities, this initiative specifically addresses the challenges faced by individuals seeking employment under the 4% reservation policy in institutions such as the National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD). This abstract outlines the app's objectives, features, significance, and potential impact on enhancing employability among persons with disabilities.

Despite advancements in legislation and policies aimed at promoting inclusivity, individuals with disabilities often encounter significant barriers in securing employment. The 4% reservation policy is a vital component of India's commitment to ensuring that persons with disabilities have access to government jobs. However, many potential candidates remain unaware of their rights and the resources available to them, leading to underutilization of these opportunities. The Udyog Saarthi App was developed in response to this critical need, providing a comprehensive platform that combines job coaching with information dissemination regarding available employment opportunities.

***Keywords:*** *Employment, Accessibility, Disabilities, Inclusion, Training, Awareness.*

## INTRODUCTION:

In recent years, the emphasis on inclusivity and equal opportunities for individuals with disabilities has gained significant momentum across various sectors. The Udyog Saarthi App emerges as a pivotal initiative aimed at empowering adults with disabilities by providing them with essential resources and support in their job search endeavors.

* Purpose: Designed to support adults undergoing job coaching for employment opportunities under the 4% reservation policy.
* Target Group: Focuses on individuals with disabilities, facilitating their access to job opportunities in various sectors.
* Platform: A progressive web-based application that is accessible across multiple devices, enhancing user engagement.
* Empowerment: Aims to empower users by providing essential resources and guidance for self-employment and job readiness.
* Recognition: Lauded for its innovative approach during the Smart India Hackathon 2023, highlighting its social impact.

## LITERATURE REVIEW:

* + - * + The employment landscape for individuals with disabilities has evolved significantly over the past few decades, driven by legislative reforms, social awareness, and technological advancements. Despite these positive changes, individuals with disabilities continue to face substantial barriers in securing meaningful employment. This literature survey aims to explore existing research, applications, and methodologies that address the challenges faced by this demographic in the job market.
        + **Employment Challenges for Individuals with Disabilities:**
        + Research indicates that individuals with disabilities often encounter systemic barriers that hinder their access to employment. These barriers include negative employer attitudes, lack of awareness about disability rights, inadequate training programs, and limited access to job opportunities.
        + **Reservation Policies and Their Impact:**
        + Reservation policies play a crucial role in promoting employment opportunities for individuals with disabilities. In India, the government has implemented various policies aimed at reserving a specific percentage of jobs for persons with disabilities in public sector employment. The Rights of Persons with Disabilities Act (2016) mandates a 4% reservation in government jobs for individuals with disabilities.
        + **Digital Applications as a Solution:**
        + The advent of digital technology has opened new avenues for supporting individuals with disabilities in their job search efforts. Various applications have been developed to provide resources, training, and networking opportunities tailored to this demographic. A review by Singh et al. (2023) explores several digital platforms designed to enhance employability among persons with disabilities.

## OBJECTIVES:

The Udyog Saarthi App aims to empower adults undergoing job coaching by providing a seamless and accessible platform for securing employment under the 4% reservation policy in NIEPMD and other institutions. This Progressive Web Application (PWA) is designed to enhance accessibility and inclusion, ensuring that individuals with multiple disabilities can easily navigate job opportunities, skill development programs, and application processes.

**Facilitate Job Coaching & Employment**

Provide structured job coaching for adults seeking employment under the 4% reservation in NIEPMD and other institutions.

**Enhance Accessibility & Inclusion**

Ensure that individuals with multiple disabilities can easily access job opportunities, training resources, and support services.

**Seamless Job Search & Application Process**

Enable users to search for jobs, apply online, and track their application status.

## 5.PROPOSED METHODS-DRAWBACKS:

The **Udyog Saarthi App**, as a **Progressive Web App (PWA)**, has several advantages, but it also comes with some **drawbacks** that should be considered when designing and implementing it. Here are the potential challenges:

**1. Limited Native Features Support**

* PWAs **lack full access** to device-specific features like **biometric authentication, Bluetooth, NFC, and advanced camera controls**, which could be useful for accessibility features.
* Certain OS restrictions (especially on iOS) **limit background processes** and push notifications, which could impact engagement.

**2. Performance Issues**

* **Offline functionality** is dependent on caching via Service Workers, and large-scale data handling can be **slower than native apps**.
* **Heavy animations or real-time features** (e.g., live video training) may not run as smoothly compared to a native application.

**3.Offline Mode Limitations**

* While PWAs support offline mode, **dynamic content like job listings or real-time chat support** may not function without an internet connection.
* Users in rural or low-network areas **may face accessibility issues** if caching is not properly optimized.

**4. iOS Restrictions**

* **Apple limits PWA functionality** by not supporting push notifications and background sync as effectively as Android.
* Limited **storage quota** for offline data, which may affect job coaching content availability.

**5. Security Concerns**

* PWAs run in web browsers, making them **more susceptible to security vulnerabilities** than native apps.
* Limited control over **device security features**, like secure storage and biometric authentication.

**6. Dependency on Browser Support**

* Different browsers may have **inconsistent PWA support** (especially on older versions).
* Some accessibility features **might not work optimally** across all browsers and devices.

**7. User Adoption and Awareness**

* Many users, especially those undergoing job coaching, **may not be familiar with PWAs**, leading to **low adoption rates** without proper training.
* Unlike native apps, **PWAs do not appear directly in major app stores** (except via workarounds like Google Play Trusted Web Activities).

## 6.ARCHITECTURE DIAGRAM:

## 

## 7.MODULES:

The methodology of the Udyog Saarthi App follows a structured and inclusive approach to facilitate job coaching and employment opportunities under the 4% reservation policy. The development process begins with requirement analysis, identifying the key challenges faced by individuals with disabilities in accessing job opportunities. Based on these insights, the app is designed as a Progressive Web Application (PWA) to ensure cross-platform accessibility, offline functionality, and assistive technology integration such as screen readers, voice navigation, and multilingual support.

**1. Requirement Analysis & Research**

Conduct surveys and interviews with job seekers, NIEPMD representatives, and employers to understand challenges in the current job search process.

Identify accessibility needs such as screen readers, voice navigation, and multilingual support.

**2. System Design & Architecture**

Develop a Progressive Web App (PWA) architecture to ensure cross-platform compatibility, offline access, and real-time updates.

Implement a user-friendly and accessible UI/UX designed for people with disabilities.

Design a centralized database for job postings, applications, and coaching resources.

**3. Development & Implementation**

Front-End Development: Build an interactive, responsive, and accessible PWA interface using modern web technologies.

Back-End Development: Implement secure databases, AI-powered job recommendations, and real-time job tracking.

Assistive Technology Integration: Ensure compatibility with screen readers, voice commands, text-to-speech, and easy navigation.

**4. Continuous Monitoring & Enhancement**

Collect user feedback and implement improvements for better usability.

Update job listings and skill training modules regularly.

Expand features like AI-driven career counseling, video interviews, and employer reviews.

## 8.HARDWARE AND SOFTWARE REQUIREMENTS:

* **Hardware Components**
* These are the essential physical components required to support the development, hosting, and usage of the **Udyog Saarthi App**.
* **Server Infrastructure:**
* Cloud-based servers (e.g., **AWS, Google Cloud, Microsoft Azure**) for hosting databases, APIs, and job listings.
* Load balancers to manage high traffic and ensure uptime.
* **User Devices:**
* Smartphones (Android) – Ensuring mobile accessibility.
* Laptops & Desktops – Supporting web-based access.
* Tablets – Optimized for users preferring larger screens.
* **Network Infrastructure:**
* Wi-Fi / Mobile Data – Stable internet connectivity for accessing job portals.
* Content Delivery Network (CDN) for faster app performance worldwide.

**Software Components**

These are the key technologies used to develop and run the **Udyog Saarthi Progressive Web Application**.

**Front-End Technologies (User Interface Development)**

* HTML5, CSS3, JavaScript (React.js, Angular, or Vue.js) – Responsive and accessible UI.
* Progressive Web App (PWA) Framework – Enabling offline mode and push notifications.
* Bootstrap / Tailwind CSS – For a mobile-friendly and visually appealing design.

**Back-End Technologies (Server & Database Management)**

* Python with Django – Backend logic and API development.
* Database (MongoDB) – Storing job listings, user profiles, and applications.

**Cloud & Hosting Services**

* AWS S3 / Firebase Storage – For storing resumes and job-related documents.
* Google Cloud / Azure App Services – Scalable cloud hosting for app deployment.
* Push Notification Service (Firebase Cloud Messaging) – Sending job alerts and updates.

**9. Time Line by Gantt Chart**

## 

**10.REFERENCES:**

* Ministry of Statistics and Programme Implementation (MoSPI), Government of India. (Latest Report on Persons with Disabilities in India)
* Provides statistical data on employment rates and challenges faced by PwDs in India.
* The Rights of Persons with Disabilities (RPwD) Act, 2016.
* Legal framework governing employment rights, reservations, and accessibility provisions for PwDs.
* Department of Empowerment of Persons with Disabilities (DEPwD), Government of India.
* Policies, job reservation schemes, and initiatives supporting PwD employment.
* National Institute for Empowerment of Persons with Multiple Disabilities (NIEPMD).
* Research, training programs, and job coaching services for PwDs in India.
* International Labour Organization (ILO) Reports on Disability and Employment.