Department of Science & Technology
Government of Rajasthan Jaipur
Student Project Program (2023-24)

Project Name

“Prihub – Support for cognitive Disabilities”

Arya College of Engineering & Information Technology

SP-42, RIICO Industrial Area, Delhi Road, Kukas, Jaipur - 302028

Submitted By Students:

Pranjal Khandelwal (7th sem. 4th year)
Ketan Chowdhury (7th sem. 4th year)
Pelheiba Khangembam (7th sem. 4th year)
Vishakha Tomar (7th sem. 4th year)

Project guide:

Dr. Vishal Shrivastava (Professor)

Form A

Form No....
(For official use only)

Application Format of Student Project Program

1. Title of the Project: **"Prihub: A Full Stack Platform for Individuals with Cognitive Disabilities"**

2. Discipline/ Subject Area: **Healthcare**

3. Region (Regional Office area of jurisdiction:- Ajmer/Kota/Jodhpur/Bikaner/Udaipur):**Ajmer**

4. Designation & Address of the Person, in whose name, Demand Draft/Bankers Cheque of grant is to be sent. (Head of Institution/Director/Registrar/ Comptroller/ Principal/Dean) Tick the relevant)

Prof. (Dr.) Arun Kumar Arya

(Principal)

Arya College of Engineering & I.T. SP-42, RIICO Industrial Area, Delhi Road, Kukas, Jaipur - 302028

5. Name & Class/Year of the Students (indicate clearly the semester in case of semester system):

S.No.	Name of the Students	Class/Year	Semester
1.	Pranjal Khandelwal	CSE/ 4th year	7th sem.
2.	Ketan Chowdhury	CSE/ 4th year	7th sem.
3.	Pelheiba Khangembam	CSE/ 4th year	7th sem.
4.	Vishakha Tomar	CSE/ 4th year	7th sem.

6. Whether belongs to SC/ST. (attach certified for Group Leader)

S.No.	Name of the Students	Role	Category (Gen/Sc/St/Obc)	Proof Attached
1.	Pranjal Khandelwal	Leader	GEN	NO
2.	Ketan Chowdhury	Member	SC	NO
3.	Pelheiba Khangembam	Member	OBC	NO
4.	Vishakha Tomar	Member	OBC	NO

7. Address of the Students (Institutional & Correspondence Address with E-mail ID & Fax, Mobile No.)

a. Address of the Students:

S.No.	Name of the Students	Correspondence Address	Email	Mobile No.
1.	Pranjal Khandelwal	Veer Tejaji Mandir, Jaisinghpura Khor, Jaipur (302036)	pranjalgurdawasi@gmail.com	9680211602
2.	Ketan Chowdhury	Suleman Barrack, GNB Road, Doom Dooma, District-Tinsukia, Assam (786151)	ketanchowdhury63@gmail.com	6002074432
3.	Pelheiba Khangembam	Kumbi bazar, Manipur (795126)	bolaikh12@gmail.com	7489101727
4.	Vishakha Tomar	Pisawa Aligarh, U.P (202155)	vishakhatomar28@gmail.com	8267811480

b. **Institutional Address: Arya College of Engineering & I.T.**
SP-42, RIICO Industrial Area, Delhi Road, Kukas, Jaipur – 302028
Email: principal@aryacollege.in
Fax: +91-1426-227177
Phone No: +91-141-2621967

8. Bank Account No. of one of the students of the Group**.**

S.No.	Name of the Student	Account No.	Bank and Branch	IFSC Code
1.	Pranjal Khandelwal	22598100014627	Mandawar, Rajasthan	BARB0PAKHAR

9. a) Name & Designation of the Supervisor/Guide: **Dr.Vishal Shrivastava (Professor)**

b) Institutional & Correspondence Address of the Guide with Telephone No. E-mail ID & Fax, Mobile No.

Arya College of Engineering & I.T.
SP-42, RIICO Industrial Area, Delhi Road, Kukas, Jaipur – 302028
Email: vishalshrivastava.cs@aryacollege.in
Fax: +91-1426-227177
Mobile No: +91-9214052386

S.No.	Name of the Guide	Designation	Institutional Address	Correspondence Address	Mobile Number	E-Mail ID
1.	Dr. Vishal Shrivastava	Professor	SP-42, RIICO Industrial Area, Delhi Road, Kukas, Jaipur – 302028	SP-42, RIICO Industrial Area, Delhi Road, Kukas, Jaipur – 302028	9214052386	vishal500371@yahoo.co.in

10. Whether certified from Plan Department (attach document).* **Yes**

S.No.	Name of the Students	Fax. No.	Mobile Number	E-Mail ID	Signature
1.	Pranjal Khandelwal	**+91-1426-227177**	9680211602	pranjalgurdawasi@gmail.com	
2.	Ketan Chowdhury	**+91-1426-227177**	6002074432	ketanchowdhury63@gmail.com	
3.	Pelheiba Khangembam	**+91-1426-227177**	7489101727	bolaikh12@gmail.com	
4.	Vishakha Tomar	**+91-1426-227177**	8267811480	vishakhatomar28@gmail.com	

Signature of guide of the project

Form B

Form No....
(For official use only)

Title of the Project: "Prihub: A Full Stack Platform for Individuals with Cognitive Disabilities"

Project Summary:

PriHub is an accessibility-first web platform designed to support individuals with cognitive and visual impairments by providing an inclusive, easy-to-use, and community-driven digital environment. The platform integrates **assistive tools** such as screen reader compatibility, text-to-speech, high-contrast mode, dyslexia-friendly fonts, and keyboard navigation.

It also features an **AI-powered chatbot** for real-time support, reminders, and onboarding help. Users can access curated educational resources, upcoming peer forums, and professional therapist booking options. The platform's backend uses **Node.js with Firebase** for secure authentication and real-time data handling.

PriHub follows **SDLC best practices** for quality, scalability, and maintainability, ensuring it can serve NGOs, schools, healthcare providers, and caregivers. Its primary goal is to empower users to navigate online platforms independently, improve daily task management, and foster social inclusion.

Technical details of the Projects:

The user of our application will log in to the platform through secure authentication using their email or phone number, with **Firebase Authentication** ensuring verified access. Once logged in, individuals with cognitive or visual impairments can access all assistive features, including text-to-speech, high-contrast mode, and chatbot assistance.

For application development, the **frontend** will be built using **HTML, CSS, JavaScript, and React.js** for responsive, accessible, and device-friendly UI/UX. The **backend** will be implemented in **Node.js with Express.js**, while **Firebase Realtime Database** will be used for efficient and instant data management. Real-time updates (e.g., chatbot responses, reminders) will be enabled

through **WebSockets or Firebase's real-time capabilities**, while customization options will be facilitated by flexible data models.

The **AI chatbot** will be integrated via API to assist with guided navigation, query resolution, and onboarding. Accessibility features such as **screen reader compatibility, OCR-based text-to-speech, and keyboard navigation** will be integrated directly into the frontend.

Origin of the proposal:

This proposal is originated by seen the Individuals with cognitive and visual impairments and their significant barriers when accessing online platforms due to poor accessibility design, lack of inclusive features, and limited community support.

Definition of the problem

Existing platforms typically fail to provide clear communication, accessible resources, or interactive tools tailored to their needs. This leads to reduced engagement, shorter session durations, and exclusion from digital communities. There is a need for a web platform that empowers these users by integrating accessibility-first design (including screen reader support), a conversational chatbot for guided navigation, and community features—developed within SDLC guidelines to ensure quality, maintainability, and scalability.

Objectives:

The primary objective of this project is to design and develop an accessible full-stack web platform that caters specifically to individuals with cognitive and visual impairments. The platform aims to:

• Provide accessible digital resources
• Offer interactive support
• Foster a sense of community
• Enhance user engagement and retention
• Follow SDLC best practices

Work plan in stages:

- Stage 1: Undergo the process of requirement.
- Stage 2: Undergo the Market Analysis, feedback collection from local areas and Survey of Existing Solutions.

- Stage 3: Understand the common problems in their projects and Identify the uniqueness with key features of the project.
- Stage 4: Undergo the process design of Application. This includes both Front-end & Back-end of the project with their architectural design.
- Stage 5: Implementation of the project will be done it is a realization of a technical specification or algorithm through computer programming and deployment.
- Stage 6: The integration, testing of the outcomes of the project will be done.
- Stage 7: In this stage, we will complete project Cost Estimation and Project Report Writing.

Methodology:

- **Software Designing**:
  In this we will carry out the software designing which involve coding in different languages and we will also set up the server.
- **Implementation:**
  After completing the designing part the implementation will be carry out.
- **Project Testing:**
  In this process we will do related testing, integration and evaluation of these.
- **Report Writing:**
  After successfully implementing we will make report of our project.

Organization of work element:

- We will design the software part for this project in our college, after that we will connect to the concern Authorities, Doctors, NGOs & related medical groups.
- We will do testing and evaluation of the outcomes in our near by areas using the available facilities.

Time schedule:

Stages	Month 1	Month 2	Month 3	Month 4	Month 5
Stage 1					
Stage 2					
Stage 3					
Stage 4					
Stage 5					
Stage 6					
Stage 7					

Proposed outcome/findings:

In the initial phase of our project, the platform will be implemented as a responsive web application, providing individuals with cognitive and visual impairments access to inclusive tools such as AI chatbot assistance, accessibility features, and community resources.

In later stages, we plan to introduce a **freelancer integration module** within PriHub, allowing caregivers, therapists, educators, and accessibility content creators to offer personalized services directly on the platform. This will make it easier for both users and organizations to access custom-made accessible content, resources, and guidance, creating a self-sustaining ecosystem that benefits the community while supporting professional contributors.

Details of facilities to be provided by the Institution:

The college will provide access to development facilities and computer labs equipped with the necessary hardware and software resources, along with guidance from faculty members in all areas of project development. Various testing facilities and server setup support will be arranged by the college as required during the entire project development period. Additionally, relevant study

materials will be made available on demand for reference purposes, including access to technical information and resources from the college library.

Budget Estimates: Total Budget – **Rs.15, 000/-**

Title of Equipment	Title of Equipment Cost in Indian Rupees
Software Development	Rs.3000/- approx.
Mobile Phone	Rs.1000/- approx.
Project Documentation, PPT:	Rs.800/- approx.
Consumable	Rs.1500/- approx.
Report writing	Rs.700/- approx.
Domain name	Rs.3000/- approx.
Grand Total	**Rs.10000/-**

Utilization of the outcome of the project:

The outcome of this project will enhance the earning potential and audience reach of both new and existing persons by providing them with accessible tools, community engagement features, and support resources. New persons will gain increased opportunities to monetize their work, while existing creators will benefit from improved visibility, collaborations, and user engagement—ultimately fostering sustainable growth in both income and follower base.