

Proposal

For

UNNATHI- JALAKAM

**Kerala Development of Innovation and Strategic Council
(K-DISC)**



CONTENTS

1	ORGANIZATION/COMPANY PROFILE	3
2	INTRODUCTION	3
2.1	NEED OF THE PROJECT	3
2.2	SUMMARY OF THE PROPOSAL	5
3	PROJECT OBJECTIVES.....	5
4	SCOPE OF THE PROJECT	5
5	IMPLEMENTATION STRATEGY.....	11
5.1	TECHNICAL APPROACH	11
5.2	RESPONSIBILITIES OF DEPARTMENT	11
6	DELIVERABLES	11
7	KEY BENEFITS TO BE ACHIEVED.....	11
8	CONCLUSION	12

[List of Figures](#)

Figure 1:	Percentage of non-availability of information	4
Figure 2:	Percentage of lack of awareness about the schemes	4
Figure 3:	Action Centre Executive interface	9
Figure 4:	Action Centre Administrator interface	10
Figure 5:	Sample UI of the Mobile Application.....	10
Figure 6:	System Architecture	11

1 Organization/Company Profile

Kerala Development and Innovation Strategic Council (K-DISC) is a strategic think-tank and advisory body constituted by the Government of Kerala. It aims at bringing out path-breaking strategic plans that reflect new directions in technology, product and process innovations, social shaping of technology, and creating a healthy and conducive ecosystem for fostering innovations in the State. In the sphere of development, K- DISC is promoting and initiating new projects in Emerging Technologies such as Blockchain, Internet of Things, Machine Learning, Artificial Intelligence, Robotics, and soon that would enable transparent and cognitive advances in various departments of the state Government and deliver the ultimate benefit to the citizens. K-DISC would facilitate with different government departments that may need any of these technological advances to solve their critical problems and to arrive at the proof of concepts stage with adequate technical and financial resources to promote innovation. Also, K-DISC will ease the implementation by overseeing the same.

2 Introduction

2.1 Need of the Project

Today, the benefits and welfare schemes designed for the SC community are not fully transparent to them. The Scheduled Caste community in Kerala consists of around 30 Lakhs of people. But the total number of people availing the benefits for one year is very much less when considering the population size. Below table shows the total number of people who availed of the schemes in the financial year 2021-2022 which is less compared to the population size.

2021-2022 സാമ്പത്തിക വർഷം വകുപ്പ് കൈവരിച്ച പ്രധാന നേട്ടങ്ങൾ		
SL. No	Name of scheme	Total No. of people availed the schemes
1	ഭൂരിഹിത പുനരധിവാസ പദ്ധതി	4020
2	ഏക വരുമാനദായക ധനസഹായം	1592
3	വിവാഹ ധനസഹായം	11024
4	മിശ്ര വിവാഹം	2650
5	T-Grants	10879
6	പഠന മുറി	5000
7	അതിക്രമത്തിന് ഇരയായവർക്കുള്ള ആശ്വാസ ധനസഹായം	983
8	ദുർബല വിഭാഗങ്ങൾക്കുള്ള പുനരധിവാസ പദ്ധതി	
	Agricultural land	144
	Study Room	139
	Land	165
	House Construction	90
	House reconstruction	19
	Total	557
	Grand Total	36,705

Figure 1 depicts the percentage of non-availability of information about the schemes to the community whereas Figure 2 depicts the percentage of the lack of awareness about the schemes.

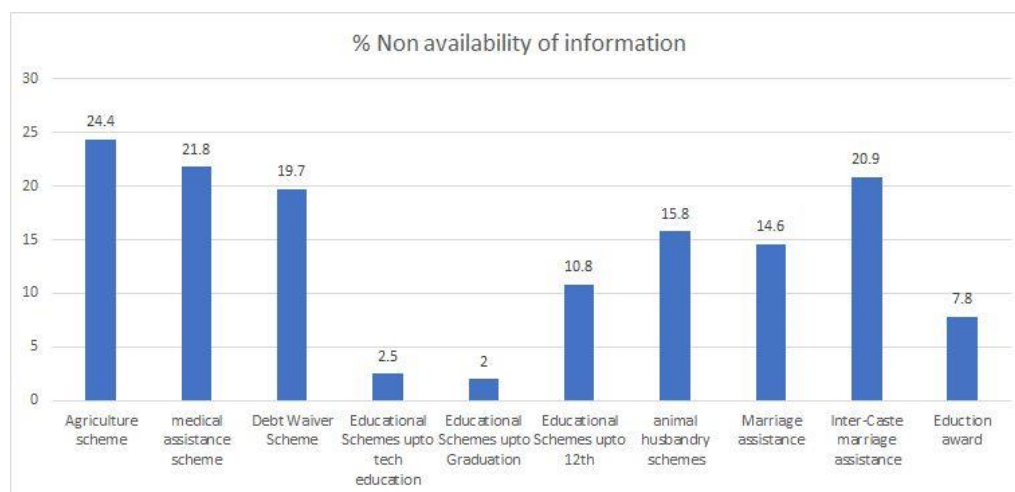


Figure 1: Percentage of non-availability of information

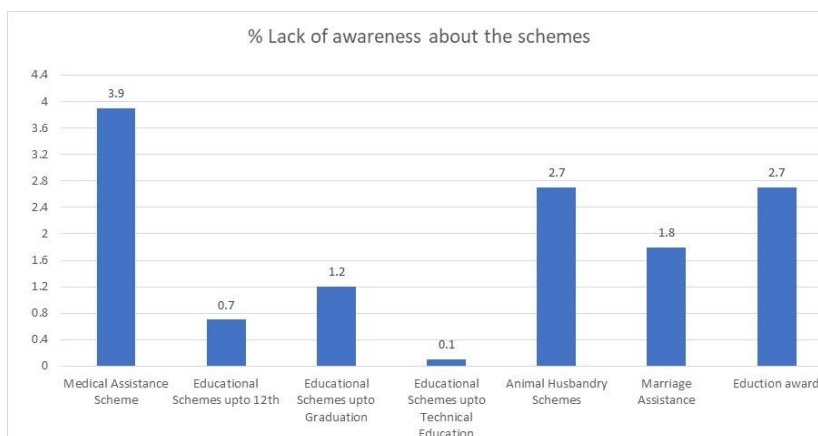


Figure 2: Percentage of lack of awareness about the schemes

Source of information regarding the figure 1 & figure 2 - Gulati Institute of Finance and Taxation (GIFT)- Household primary sample survey of Scheduled caste in Kerala- Report 9 dated December 2020, submitted to Scheduled Caste Development Department, Kerala.

Thus, there is a need to address current void in information dissemination about ongoing welfare schemes and programs of Government and to provide easy access for immediate assistance to the SC community.

2.2 Summary of the Proposal

The project “Unnathi – Jalakam” envisages addressing the problems and grievances of The Scheduled Castes and to improve the livelihoods through Science and Technological Intervention. It has been observed that the proposals are driven by the inquisitiveness of the implementing agencies/investigators rather than taking into consideration the actual needs of the people, requirements in terms of innovative approaches, S&T components, and implementation mechanisms that enhance and create sustainable livelihoods for SC communities on a large scale with visible impact. The project is designed to address the current void in information dissemination about ongoing welfare schemes and programs of Government and ensuring timely assistance to needy at their doorstep. Tailor-made and customized programs which suit the real and felt needs of each individual and family will be made possible through Unnathi-Jalakam and the community can reach to Action Centre via a mobile app called ASK and their needs will be addressed with the help of Action Center and Door Delivery Service Providers. The Action Centres would be used to obtain feedback on the impact of existing schemes so that these can be finetuned and used while launching new schemes.

The SC community may have the inhibition to make queries regarding the welfare schemes for which they are eligible. It is envisaged to provide an intelligent Chatbot which can give precise information for queries raised.

3 Project Objectives

The project “Unnathi-Jalakam” aims to: -

1. Provide easy access to relevant details of current schemes, create wide awareness and provide precise, actionable information ON-THE-GO about the current schemes to the beneficiaries.
2. Design Special out-reach mechanisms to obtain direct feedback on the schemes from beneficiaries to offer timely assistance.
3. Fine tune existing schemes for optimal benefit as well as to launch new schemes.

4 Scope of the Project

The scope of the pilot project involves the following.

a. A progressive web application (PWA) with AI enabled contextual chatbot

The web application has all the information for the end users and the Action centre/department has the provision for the overall management of the platform and information dissemination to the end users. Separate logins for different stakeholders will also be available.

Following are functionalities of the web application: -

- a. Administrator Functions
 - i. Provision to review and approve posts created by action centre agents.
 - ii. Provision to create/modify department logins.
 - iii. Provision to upload schemes, resources, etc.
- b. Scheme details
 - i. All the schemes provided by the Department will be listed under this module.
 - ii. The information on each scheme provided by the Department will be uploaded into the portal and it will be available in the mobile application also.
 - iii. When the apply button near each scheme is clicked, it will be redirected to Unnathi portal where all schemes related to SC Department will be listed with provision for applying the scheme.

Landing page URLs-

 - 1. Development schemes
https://unnathy.kerala.gov.in//Welcome/development_schemes
 - 2. Educational schemes
https://unnathy.kerala.gov.in//Welcome/educational_schemes
- c. Resources
 - i. Newsletters/bulletins
 - ii. Career Guidance Module- The user while clicking on Career Guidance reaches to Action Center Agent via call. They seek guidance to select courses and institutions. Subject experts should be a part of the Action Center. Action Center Agents to be recruited by the department.
 - iii. Job information- Available Jobs will be listed down as eligible for the SC community. The end user can click on the links which will redirect to the job portal. A consolidated list of jobs should be prepared by the Action Center Team from various sources.
 - iv. Contact Module -Contact details of Department officials (SC promoters, SC Development officers, District officers, Deputy directors, Directors, Secretariate, Minister's office, SC/ST Commission) and contacts of educational institutions under the Department will be listed. It should be searchable according to the location of the user.
- d. Department Login- Provision for the department to review and resolve the escalated service requests.

- e. Action Centre Agent Functions: -
 - i. Provision to handle different service requests from the community via toll-free number, speak button, AI chatbot and service requests.
 - ii. Provision for action centre agents to create notifications for ASK App, job notifications, and service provider verification.
- f. Speak Module Service Requests – This is a facility for the community to reach out to the Action Center Agents through a voice message from the Speck Module. A ticket number will be issued against each Speck Module request in the Web portal and the status of the request will be known in the Notification module of the mobile application.
- g. Dashboard - Key Achievements of Schemes along with statistics and analytics which will help to finetune the schemes.
- h. Feedback module- To collect feedback from the beneficiaries regarding the SCDD schemes based on the service requests received at the Action centre. The data from feedback of citizens will help the department to finetune the existing schemes as well as in launching new schemes.
- i. Beneficiary Login
 - i. Register/Login
 - ii. Request/complaint registration
 - iii. Notifications

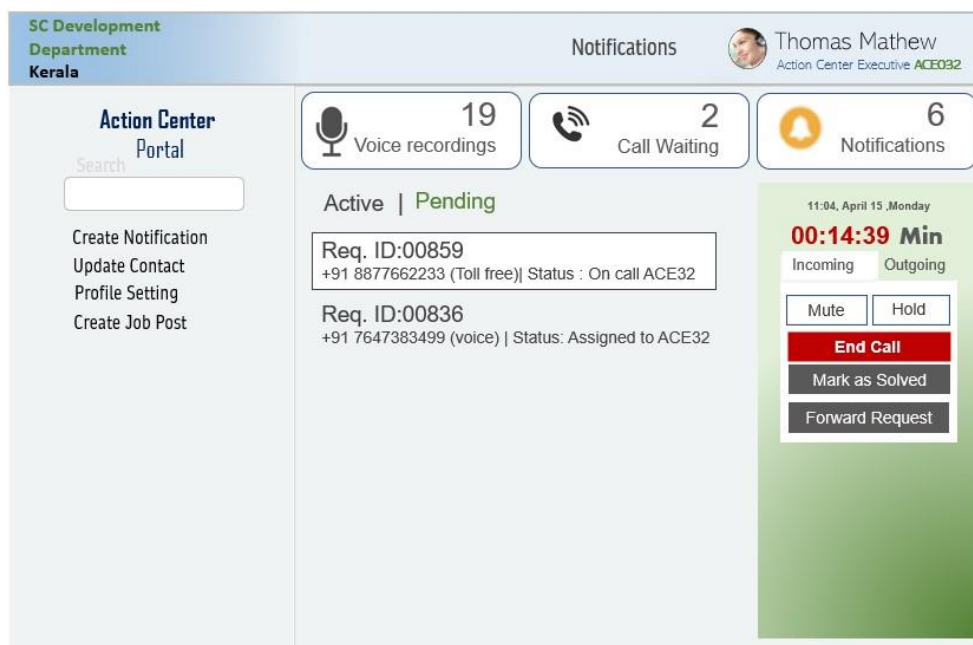


Figure 3: Action Centre Executive interface

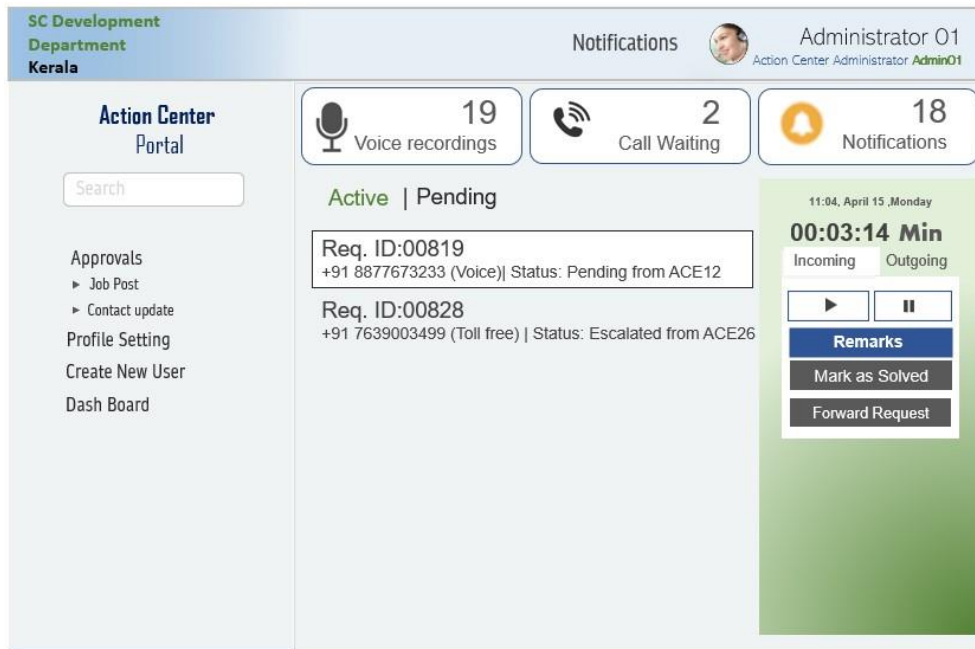


Figure 4: Action Centre Administrator interface

- b. AI enabled contextual Chatbot** – The chatbot will be available in both the web portal and the mobile application named as ‘ASK’.

The AI-enabled contextual chatbot will be equipped with Natural Language Processing (NLP). It will help the user to easily access information regarding schemes, and Contacts details and also provide details of job information and career guidance with the user’s educational qualification. The chatbot will have following features:

- i. The intelligent chatbot will be trained with the context, in this case, information related to the available schemes uploaded into the Unnathi portal. It will then deliver precise answers to queries by searching through Malayalam and English documents (pdf files, word files, etc.) in the Unnathi portal. The AI chatbot will support English and Malayalam texts and voice/speech as input.
- ii. The chatbot will be programmed to simulate human-like conversation and it will be able to answer follow-up questions.
- iii. The language model will be created with the purpose of engaging a conversation with the end user. It can also suggest possible scenarios (Like schemes, contacts etc.) by understanding the user’s requirements.
- iv. Sample Chat conversation is captured below where the Chabot is trained with the information provided.

Educational Development Programmes The prime concern of Scheduled Caste Development Department is the progress in education. Educational programmes are being carried out on the basis that the everlasting growth of any society is possible only with its educational developments. Nursery Schools There are 86 nursery schools being run by the Department, for primary education. We follow the LKG, UKG system. The department provide daily feeding charges and learning materials including the uniforms. They are provided Rs. 30/- per daily as feeding charges, Rs. 600/- for uniforms and Rs. 190/- as lump sum grant for each student. Each school has a strength of 30 students. Out of this 25% seats are reserved for children belonging to the general category. Pre-Matric Education (up to 10th std) Lump sum grant: The lump sum grant is given to SC, OEC students studying in Government, aided and approved unaided schools through the headmistress of the schools within 15 days of starting of the academic year. Lump sum grant rates * Nursery school - Rs. 190/- * 1st to 4th STD - Rs. 320/- * 5th to 7th - Rs. 630/- * 8th to 10th - Rs. 940/- * Half the rate of the above is given to failed students Stipend. The stipend given to the students belonging to Vulnerable Communities (Vedan, Arunthathiyar, Chakkiliyan, Kalladi and Navadi communities) are as follows: - * L.P - Rs. 130/- * U.P - Rs. 160/- * HS - Rs. 190/-

When the chatbot is provided with the sample questions the response received is given below.

What is stipend for LP

According to the information provided, the stipend given to students belonging to vulnerable communities who are studying in lower primary (LP) schools is Rs. 130/-. This stipend is intended to support the education of students from vulnerable communities and help them cover the costs associated with their studies. The amount of the stipend may vary depending on the specific programme or scheme offering it.

What is the stipend for UP

According to the information provided, the stipend given to students belonging to vulnerable communities who are studying in upper primary (UP) schools is Rs. 160/-. This stipend is intended to support the education of students from vulnerable communities and help them cover the costs associated with their studies. The amount of the stipend may vary depending on the specific programme or scheme offering it.

Stipend is given to whom all

According to the information provided, stipends are given to students belonging to vulnerable communities who are studying in lower primary (LP), upper primary (UP), and higher secondary (HS) schools. These stipends are intended to support the education of students from vulnerable communities and help them cover the costs associated with their studies. The amount of the stipend may vary depending on the student's grade level and community. Overall, these stipends aim to provide support and opportunities for education to students from vulnerable communities and promote the progress of society through education.

Name the vulnerable communities

According to the information provided, the vulnerable communities for which stipends are provided include vedan, Arunthathiyar, Chakkiliyan, kalladi, and navadi. These communities are considered vulnerable due to various social and economic factors, and the stipends are intended to support their education and promote their progress. The specific criteria for identifying these communities and providing stipends may vary depending on the programme or scheme offering the support.

c. Mobile Application (with AI-enabled contextual Chatbot)

A mobile application for end users which will act as a source of information on the SCDD schemes, and a grievance redressal platform with an AI-enabled chatbot.

The mobile application will consist of all the relevant functionalities from the web platform.

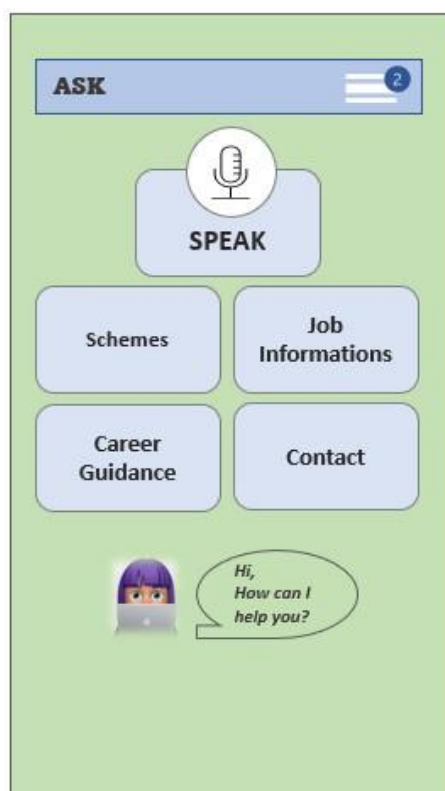


Figure 5:Sample UI of the Mobile Application

d. Pilot Location for the project

Pilot the project in the Paravur/ Angamaly block panchayaths in Ernakulam district.

5 Implementation Strategy

5.1 Technical Approach

Below picture depicts the system architecture of the proposed project – Unnathi Jalakam.

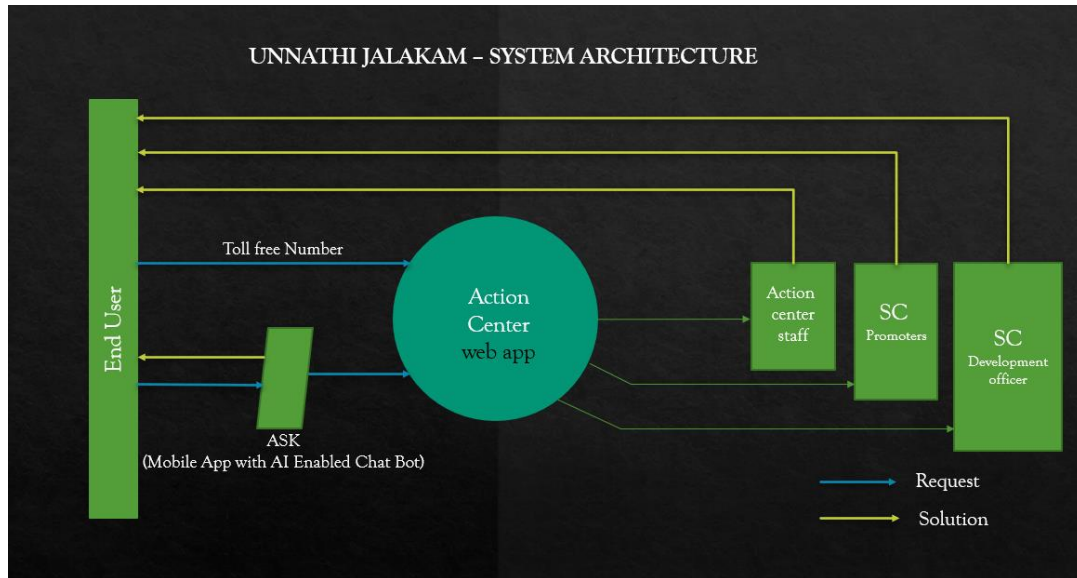


Figure 6: System Architecture

5.2 Responsibilities of Department

The responsibilities of the end user department are: -

1. Setup the Action Center at state level and deploy resources who will use the webportal of Unnathi Jalakam.
2. Training and management of Action Center Agents

6 Deliverables

Following modules will be delivered as a part of the project: -

1. Progressive web application (PWA) with AI enabled contextual Chatbot for the end users and the Action Centre Agents/department
2. A mobile application for end users

7 Key Benefits to be achieved

Following are the key benefits expected to be achieved: -

1. Various schemes and welfare programs are implemented by the Scheduled Caste Development Department for SC community, but the outreach is limited. The proposed system will help to empower the community with information.

2. The system ensures transparency to the welfare programs for SC community, thus providing financial and social empowerment of the community.
3. Helps in getting easily connected to beneficiary – oriented and privilege schemes.
4. Helps in skill upgradation of educated section.
5. In totality, the economic, educational, and social upliftment of the SC community is aimed.

8 Conclusion

Tailor-made and customized programs which suit the real and felt needs of each individual and family will be made possible through Unnathi- Jalakam and the community can reach concerned authorities via a mobile app and the problems and grievances of the Scheduled Castes can be addressed.