Microsoft Azure Women Hackathon

TEAM
Hack Overflow

TEAM MEMBERS

1. Harshini. K
2. Nagarathe Malavika
3. Vipanchi Samindla
4. Rajeshwari Chapparad

PROBLEM STATEMENT

India has one of the lowest shares of women employment. Statistics shows that Indian women contribute only 17% to the GDP, which is far below the average 37%. The reason for this low participation of women, especially rural and underprivileged women, would be the lack of awareness and skill set. They often have limitations to search for jobs within their region of stay and lack of resources that would help them to connect with potential employers. Minimum pay, unsafe working conditions and risks of discrimination are also deterring factors.

Most rural women participate in agricultural activity and informal jobs. With growing household expenses, women have been more actively pursuing employment and involving themselves in their family's financial matters.

The need for reskilling, stable wage jobs and safe working conditions for women is high.

Recent Articles On Women Employment!

So in 2019, Ms Bhuniya snuck out of her isolated village in eastern India. She took a train hundreds of miles south to the city of Bengaluru and found work in a garment factory earning $120 a month. The job liberated her. "I ran away," she said. "That's the only way I was able to go."

That life of financial freedom ended abruptly with the arrival of COVID-19. In 2020, Prime Minister Narendra Modi declared a nationwide lockdown to curb infections, shutting almost all businesses. Within a few weeks, more than 100 million Indians lost their jobs, including Sanchuri Bhuniya, who was forced to return to her village and never found another stable employer.

SOLUTION PRESENTED

SHERO - The Job platform for Women

Due to increasing Inflation many women are looking for employment to support their family. At the same time, Many women have lost their jobs due to the pandemic and are struggling to find a stable employment. The gender gap in employment is still high in many fields like Logistics and other non-technical jobs where there are less resources for women to look for employment. SHERO app aims to bridge in the gaps between such women and potential employers.

We are bringing in unique features that will help address and resolve problems faced by rural and underprivileged women.

Technology Stack

Plugins Used: Flutter and Dart

Software IDE : Android studio

Azure services

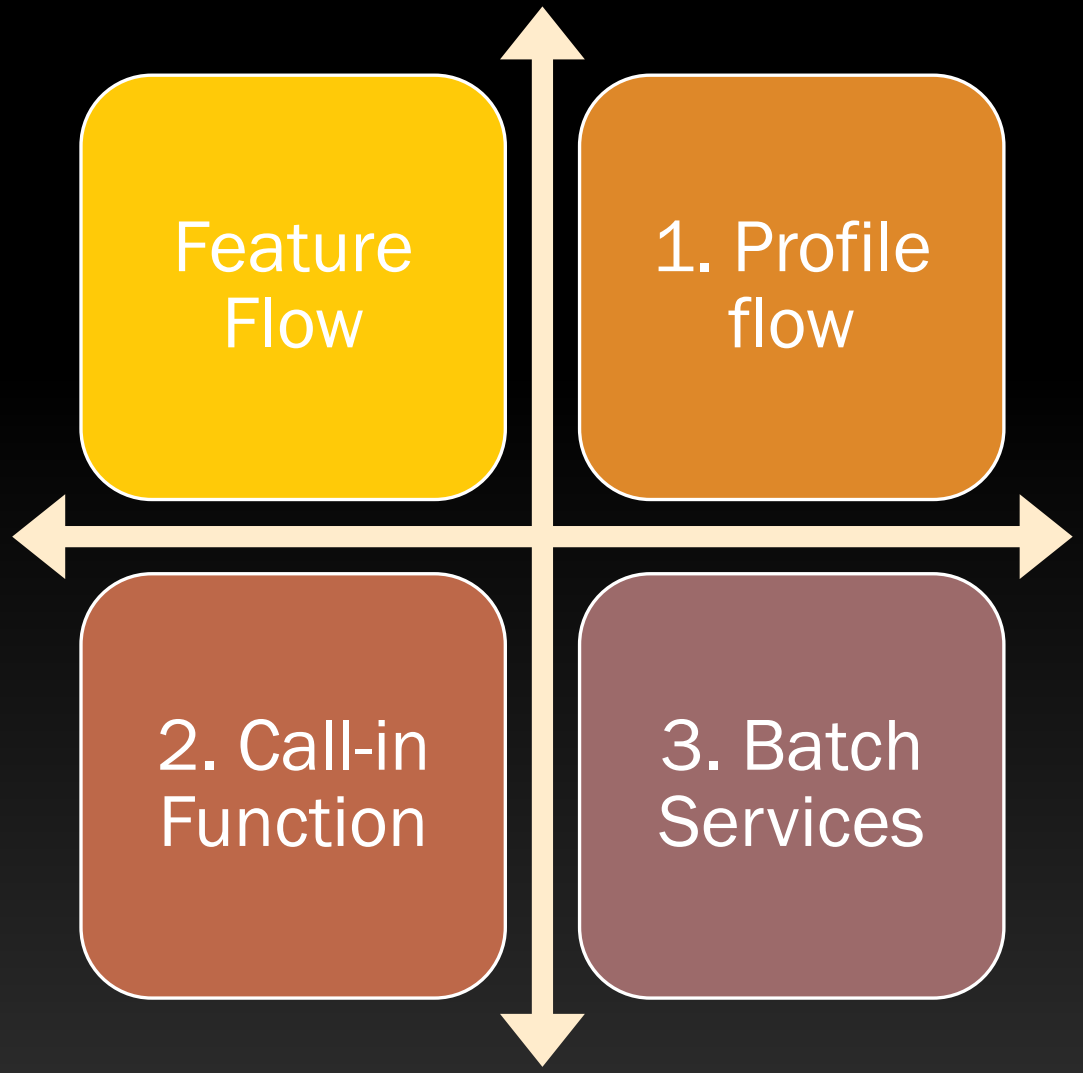
Machine Learning & Natural Language Processing

AZURE SERVICES

Services	Description	Usage in our Application
Azure Cosmos DB	Build modern apps at any scale using a fast NoSQL database with open APIs.	To store the basic Information in database
Speech Translation	Integrate real-time speech translation into your app	To translate Audio profile message of user.
Blob Storage	Use massively scalable object storage for any type of unstructured data	To store the Gallery of the user profile, etc.
Cognitive Search	Include a cloud search service in your web and mobile application.	To help the User in relevant searching for Events and Jobs.
App Services	Quickly create powerful apps for any platform or device using your choice of tools	Hosting of mobile Flutter app.
Functions	Process events with a serverless code architecture.	Grievance call handling and will raise a ticket after processing the call.
Immersive Reader	Embed text reading and comprehension capabilities into applications.	For users with visual impairment or difficulty understanding the context.
Machine Learning	Develop and run R and Python models on your platform of choice.	Used in creating a Job and Interest based Recommendation system

Reference: https://azure.Microsoft.com/en-in/free/

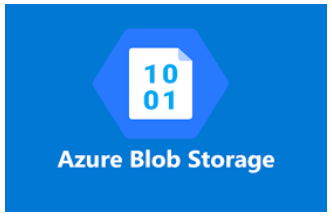
HIGH-LEVEL FEATURE FLOW



PROFILE FLOW

Shero Profile Creation

- Profile Information
- Profile Picture
- Gallery Pictures
- Resume PDF



Audio Resume is processed with Azure Speech Translation Service.
This translate the audio resume from regional language and creates English transcript.

Azure Cosmos DB

Grievance Call-In Feature Flow

Call-In

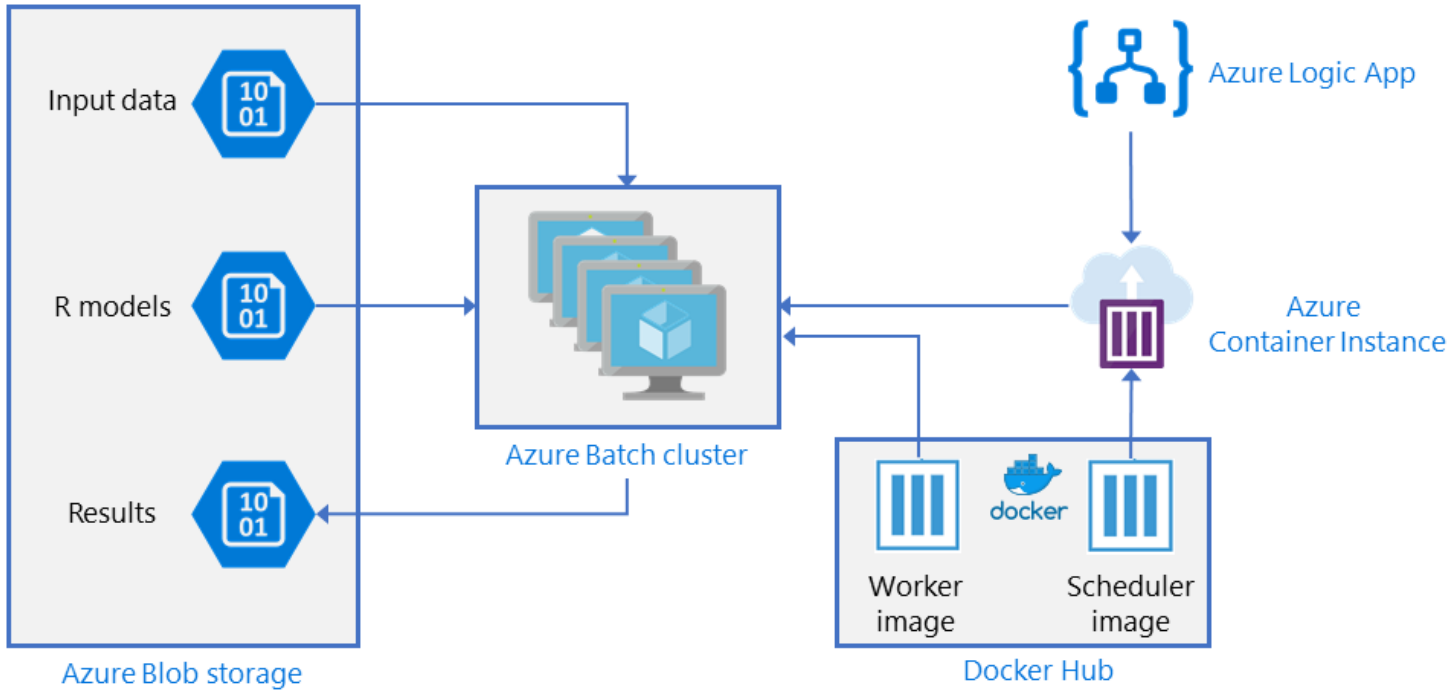
- Users can call in the grievance phone number for speedy action against scams.
- Azure Bot Services, Bot – Telephony Framework

Ticket Processing

- Shero app would process the call and raise a ticket for scam addressal
- Azure Functions, Azure DB

Action on Grievance

- Ticket raised will be sent to the appropriate officer for action
- Flutter UI



Azure ML Batch Service for recommending jobs

Ref : Batch scoring with R models to forecast sales - Azure Architecture Center

Features

- **Regional Language Support**

Rural Women would be more well versed in their regional language than English. So, Shero app will not only make the app interface user friendly, but additional job or event related posts will also be translated to the user's language chosen.

- **Job Recommendation based on Azure Machine Learning**

Women have constraints such as location, timings and their own skill level while looking for jobs. The Shero app will use Machine Learning that would enable it to smartly recommend the most suitable jobs.

- **Events and Groups**

There are many workshop for women reskilling conducted by private/government/NGOs. Shero's Events page shows relevant events to the user based on interests and locations.

Shero also has a group page. Women can join groups to meet likeminded individuals, here they can learn more and know the true value of their work.

Features

❑ Grievance Platform

One of the main concerns, unethical or unsafe workspace and underpayment. They are many instance of scam jobs, that do not pay after work. Shero offers a grievance page that would allow women to anonymously alert relevant officials about the issue.

Additionally, a Call-in Function would be available for Women to have speedy action for their issues.

❑ Smart Profiles

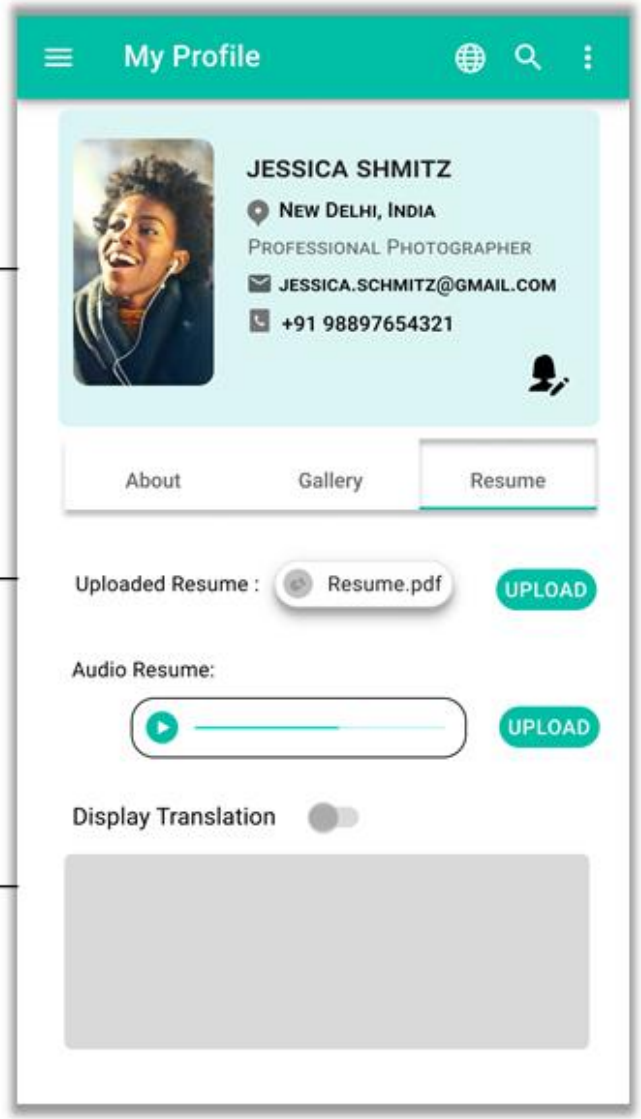
Shero app is an app for all women, It does not matter whether they are illiterate, do not have smartphones, or have a disability.

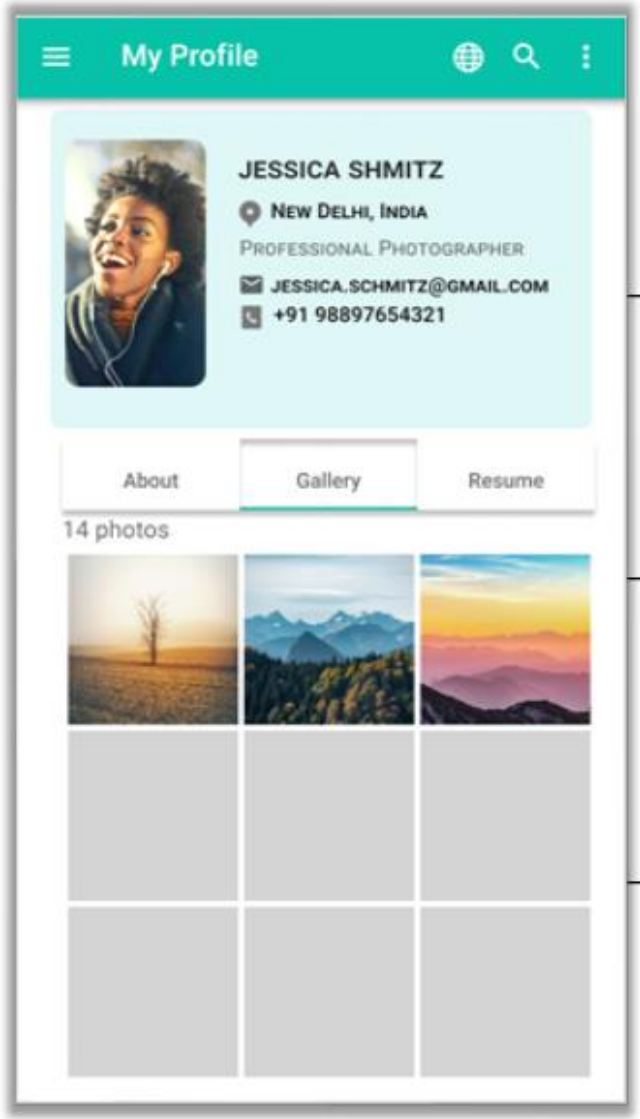
Shero profiles enable women to add in a written resume. They can give an audio resume in their regional language if they are illiterate. If they cannot explain their experience in words, we have a gallery where they can put in picture of their work. Smart skill tagging will draw in potential employers to their page.

Resume files can also be uploaded.
Data privacy measures will be taken.

People with Visual impairments and people who find it difficult to type can use this feature to present their profile.

Translation of the Audio resume can be derived. This translation data is also used to create skills for Recommendation purposes.



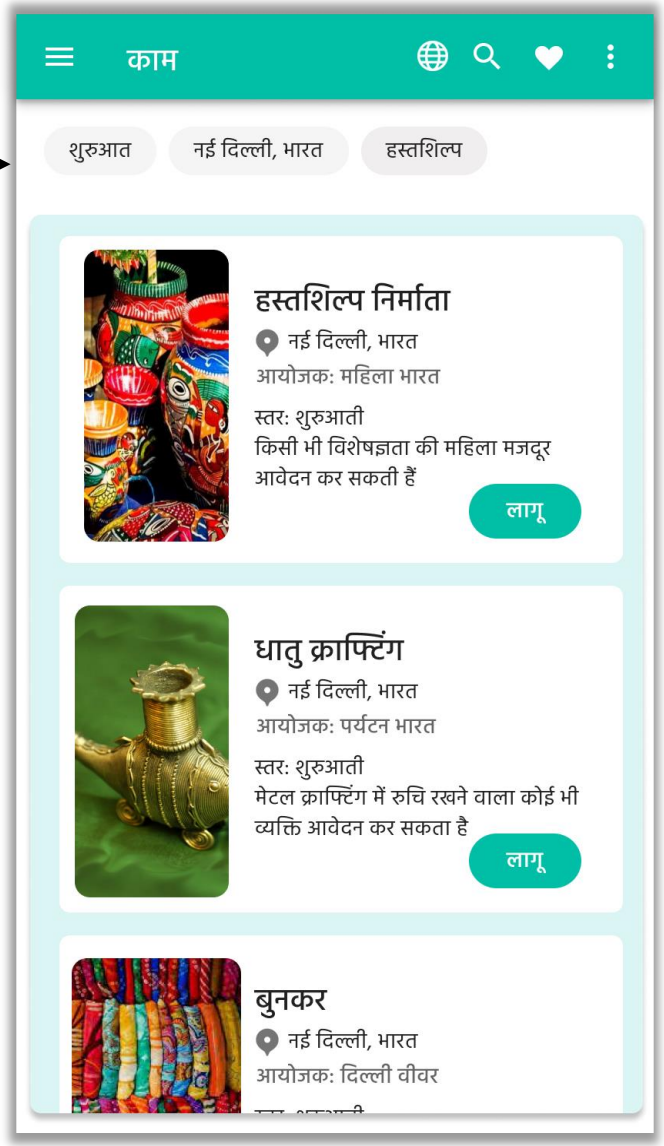


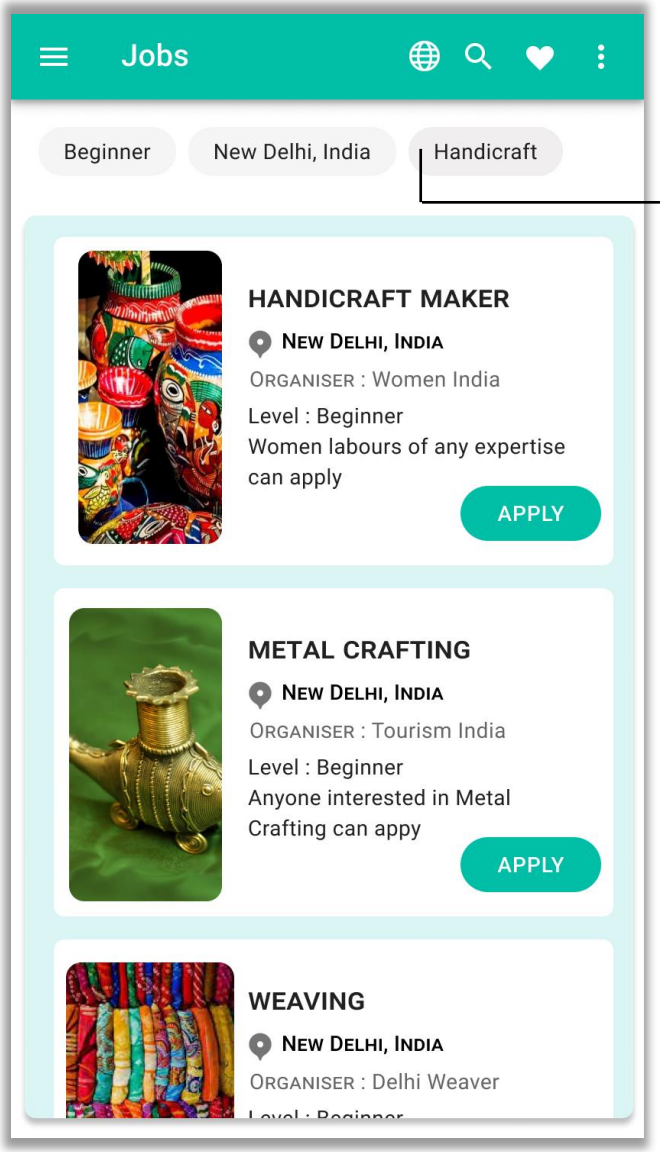
Ease of Access. Even people with disabilities and people who find it difficult to type can showcase their skills

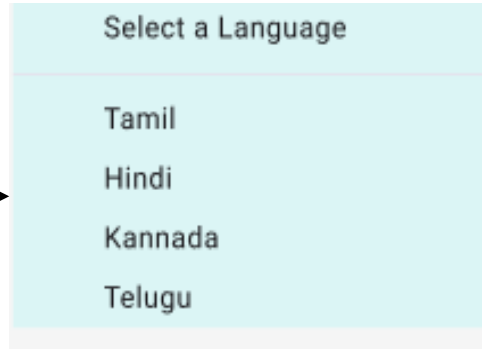
Screenshot prevention so the user doesn't have to worry about their data being stolen.

Gallery Option for people in Art & Crafts like Handicrafts, Pottery can showcase their portfolio

The App Interface and Posts are translated to the User's preferred Language

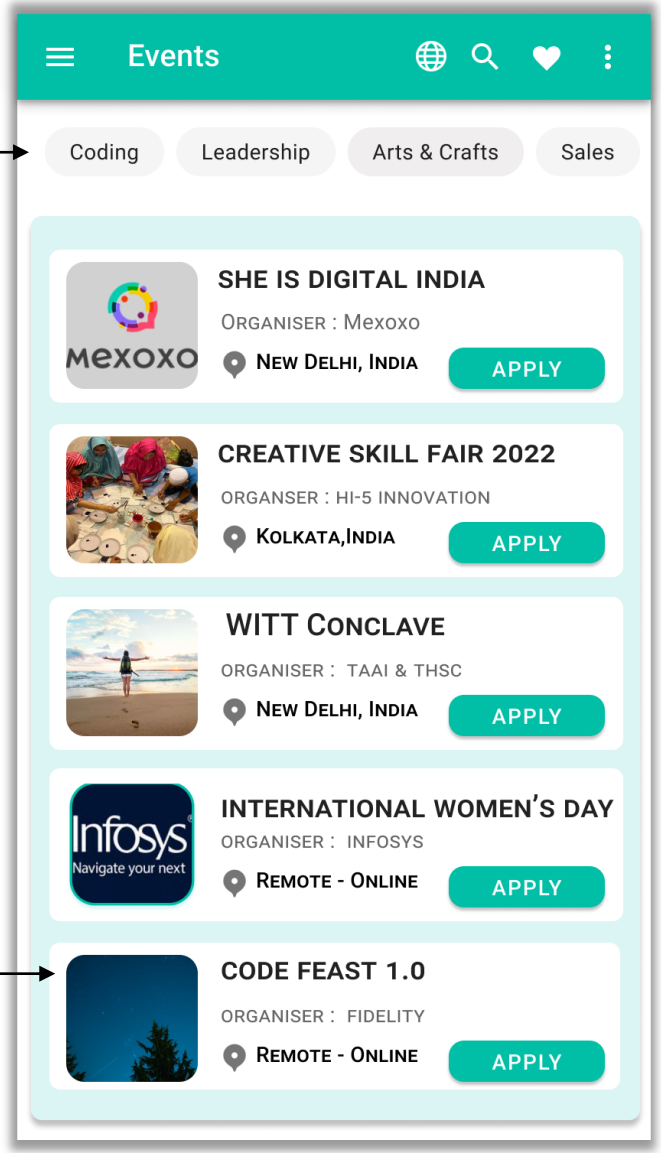


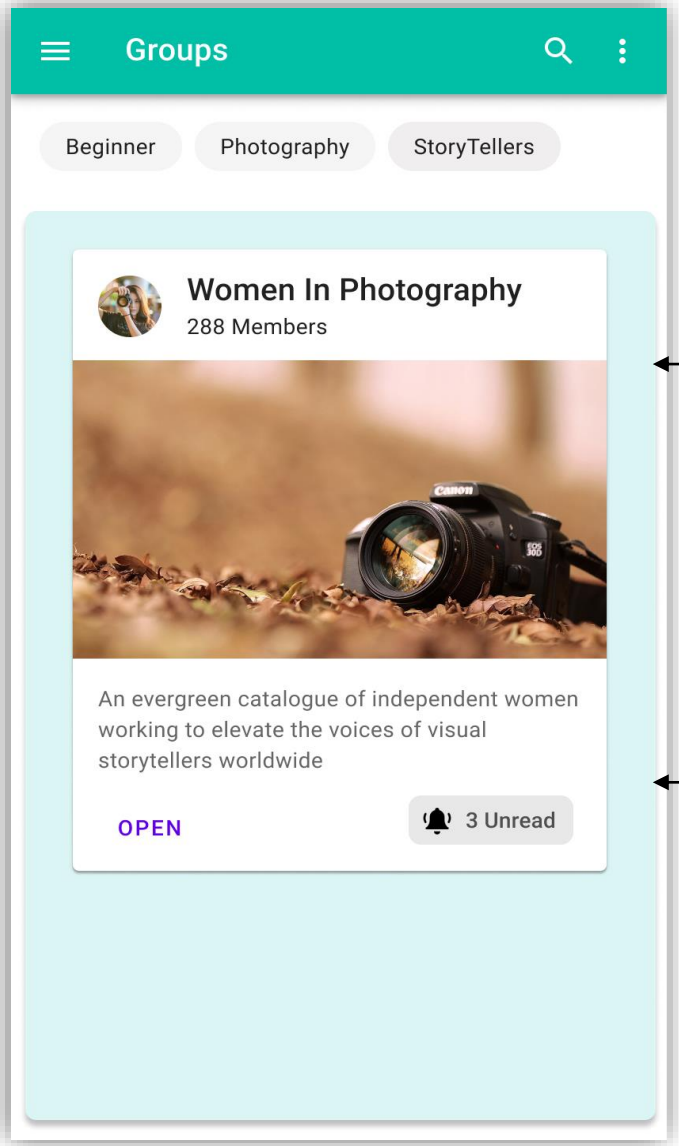




User can pick the Regional Language they prefer from the Dropdown

User can select the events based on interested category.





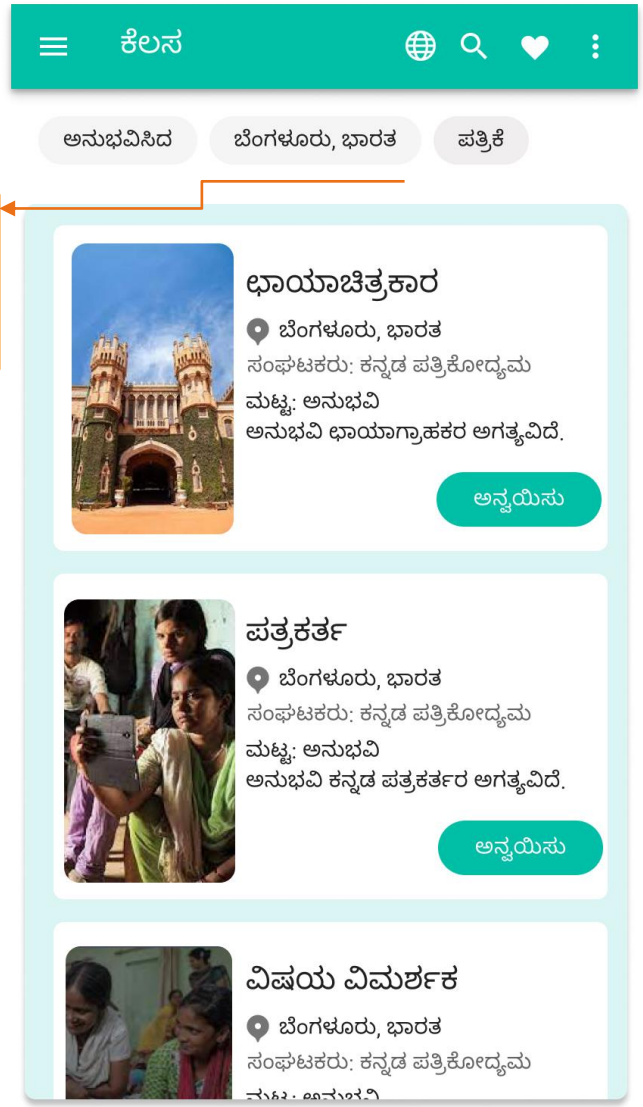
User can join Groups to find people with similar interests and Interact with them.

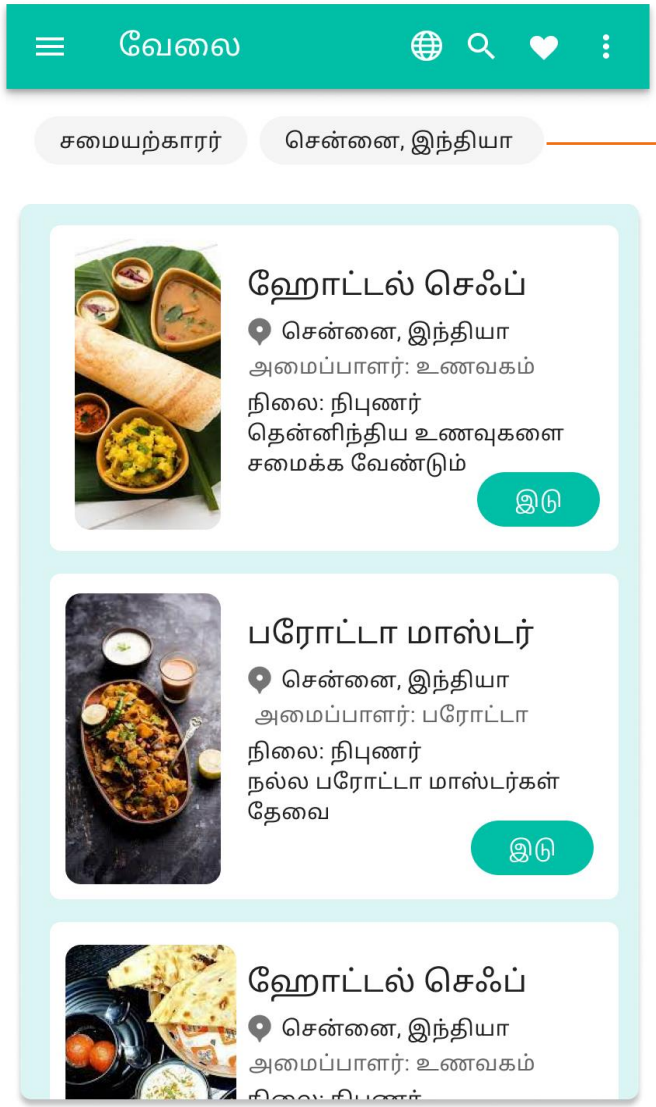
People who contribute and help the fellow members of the group are provided with rewards and gifts

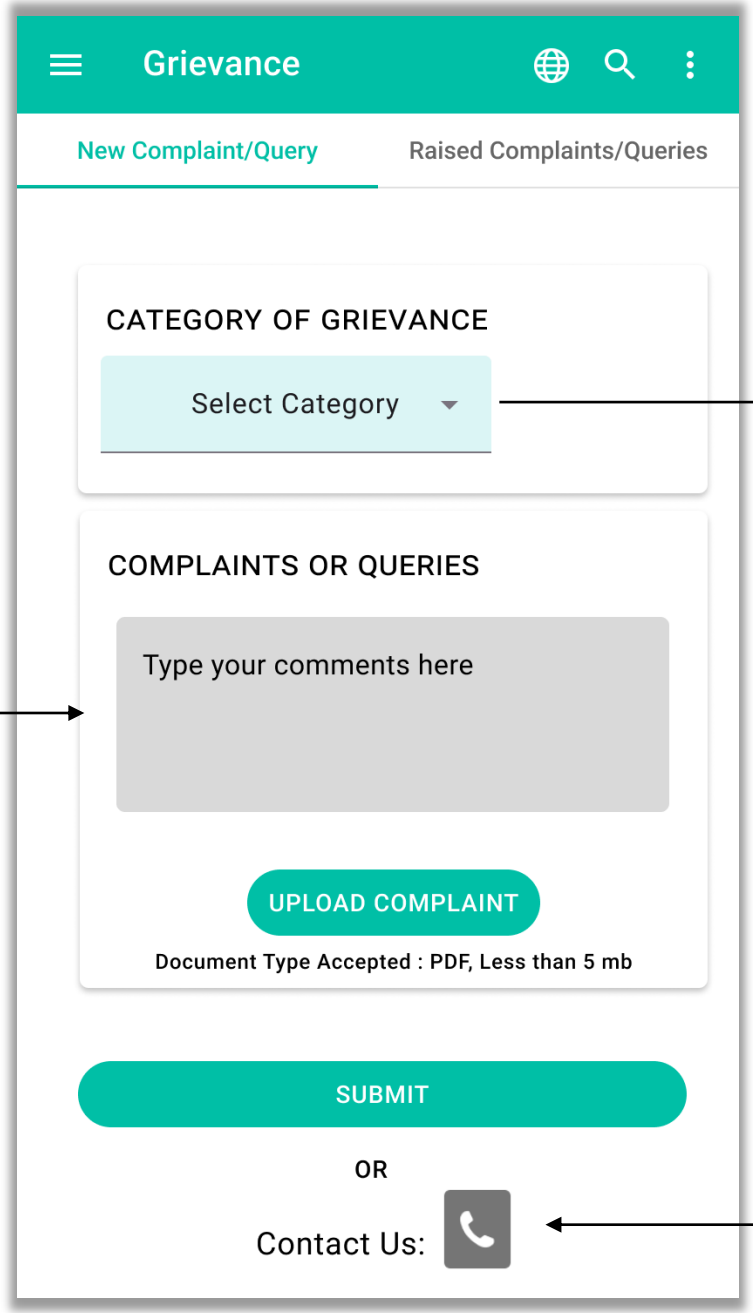
Events based on Locations and Interests are Recommended

Skill-set and Interest Based Recommendation

Location based Recommendation







Select a category

Technical Issues

Report Scam

Missing Details

Wrong Information

Different Types of issues are addressed by the grievance platform.

Grievance or Queries can be submitted via the app. Shero will raise a ticket and submit it to an officer.

Grievance can also be submitted via a Call-in.
The Phone number for the Call In is linked here.

FUTURE SCOPE

❑ Job Recommendation via Calls

Women can easily make an account and update a profile on Shero if then had smartphones.

But we want to be able to reach interested women with relevant jobs, even if they don't have smart phones.

Those who don't have a smart phone should be able to make a profile in the nearest E-center and opt for a **"Call ME"** service.

This one-time effort will let our Job recommendation System know about her profile and we can automate Weekly calls or messages directly sent to her mobile phone.

❑ Reward System for Group Participants

We want Women to actively participate in their local groups. We want to create a group leaderboard system where they can rank up and earn badges. They earn **SHERO point** for actively participating in group events, creating helpful content for the community and individually helping out peers.

This helps in keeping the community active and friendly. The short-term benefits includes ranking up rewards and exclusive titles, and Long-term benefits include recognition and better job opportunities.

FUTURE SCOPE

Mentors and Online Web Events

Our app is not just meant for searching jobs but also for reskilling. We want our platform to be the gateway for volunteers who would like to mentor and organize web events.

Groups should be able to organize and record web events. They should be able to create and provide relevant courses on platform that will greatly boost skills and benefit their members.

They can pick out workers to mentor individually by selecting active group members or member from the leader board.

Sponsor and Grants

We provide access directly to women to apply for grants to learn something new.

NGO's and Corporate Social Responsibility groups can choose to sponsor groups or individuals as they see fit.

Groups benefit from sponsorship by hosting more events and expanding their reach. Companies and NGO get recognition and better talent from groups.

Furthermore, individuals progress can be tracked via their profile. By looking at their achievements and new skill tags.

TWO PIPELINES

USER PIPELINE - People looking for Jobs and Upskilling

- Searching Job Requirements
- Participating Workshops and Upskilling programs based on Interest.
- Location and Interest based Recommendation
- Grievance Platform for addressing scams and resolving conflicts.

RECRUITERS PIPELINE - People Posting Jobs and Workshops

- Post Job Profiles and Description.
- Post Workshops and Upskilling programs

CRITICALITY

- *Translation and Recommendation Systems* are efficient and provide ease of access but do have limitations in certain cases, which can be tweaked and improved by using the data populated by day-to-day engagement.
- *Regional Language Support* for User Input depends on the Keyboard or Input Support of the user. But providing translation after the content is posted would help resolve this issue. This will also help connect wide range of people.

ENGAGEMENT

- Providing *Rewards and Gifts* for people who engage more on the platform and contribute to mentoring or sharing knowledge to fellow users and members of the group. Users can set a target of the reward they want to achieve and start contributing on the platform.

NOVELTY

- Audio Resume for People who are unable to type. This feature would be helpful for illiterates and people with visual impairments.
- Immersive Reader feature would be helpful for people with visual impairments.
- Presenting Application in Regional Languages would be useful in choosing the language they are comfortable with.

SCALABILITY

- The Application is developed using Flutter and Dart which enables the service to be available for both **android and iOS** users.
- Providing a Feature to choose from one of the following : Freshers, Working professionals or Women who are taking a break or need assistance coming back to work. Based on the choice, job recommendations and assistance can be delivered.

The Project Timeline