Connect Both **Needy** and **Volunteer** Together in Disaster Situation

Case Study

Table of Contet

Project Overview

While one cannot do much to alter a natural calamity, humanity usually wins over any disaster. People go out of the way to help each other, organizations take up rescue and rebuilding work, doctors provide free help, so on and so forth.

In situations like this, on one side there are several people who face life-threatening challenges like shortage of food, medical emergencies, hygiene issues; on the other side there are groups of volunteers ready to help the people in need. In the wake of Chennai floods disaster of 2015, we want to come up with a way to connect the needy with a volunteer for any natural disaster emergencies in future.

Business Requirement

The idea is to come up with an app/platform that can connect people in a disaster situation with people who can provide help.

Stakeholders

Help Seeker and Help Provider.

Design Parameters

Consider on-boarding, how will the service originate, or initiate, and how will it work?

Delivery

Paper sketches and/or digital designs.

Background

What is Disaster

A serious disruption of the functioning of a community or society which involves widespread human, material, economic or environmental impact.

Types of Disasters

- Natural disasters (Earthquakes, hurricanes, tsunami, floods, bushfire etc)
- Man made disasters (Hazardous materials, chemical threat, cyber attacks,etc)
- Pandemic emergency (Corona virus, ebola, plague etc)

Effects of Disasters

- Injury or loss of life
- People displacement
- Damage to property and crops
- Disruption of transport, communication and lifestyle
- Shortage of food resources
- Spreading of diseases
- National economic loss

How to Control

- Mitigation - Minimizing the effects of disaster
- Preparedness - Planning how to respond
- Response - Efforts to minimize the hazards
- Recovery - Returning the community to normal

Use Case - Urban Flooding

As part of my research studies I understood that floods are the major calamity in recent past. I studied how it impacted community, economy and life style. So I want to take this opportunity and propose an UX case study about 'Urban Floods'.

Reason for Urban Flooding

A lot of the sewerage and drainage network is old and its condition is unknown. They are overburdened with the intense rainfall, high volume of water, blocked by rubbish or by non-biodegradable plastic. Other reasons include...

- Improper or inadequate drainage system
- Improper or no waste management
- Continued development or re development to higher density land-uses
- Loss of natural storages.
- Attitude of people

Who will Impact more

- Daily wage workers
- Small scale industries
- Coastal residents
- Employees
- Students

What they need

- Food and water
- Shelter
- First aid kit
- Torch and battery radio
- Blankets / clothes

Where do they expect support

- Government
- NGO
- National Disaster Management
- Volunteers
- Neighbors

How do they communicate

- Walkie talkie
- Satellite phone / cell phone
- Landline phone
- Social media
- Web / Mobile apps

*Though this app will have a vast scope to add services and features for **Help Seekers** and **Help Providers**, I wanted to comeup with an MVP version for mobile platform.*

Proposed Solution

A hybrid web/native application serves both help seekers and help providers to connect in disaster situation.

The AI based application understands Help Seeker requirement and assign to the nearest Help Provider for better service. It also routed the request to other person incase the Help Provider 'Rejected' the incoming request.

Services offer to HS

- Food and water
- Medical care
- Child care
- Shelter
- Emergency kit

Services provide to HP

- Food and water
- Medical care
- Child care
- Shelter
- Emergency kit

Help Seeker (Needy or victim)

They need to 'Register' themselves with basic details such as personal and address details then create an account to access the application.

After login they can access the above mentioned services and submit. it will be notified to the nearest Help Provider to accept. Once the Help Provider accept the request, a confirmation alert will be sent to Help Seeker. He can also call, chat or track the person from the app effectively.

Incase if the Help Provider is Reject the service then the system will assign to other nearest Help Provider.

Other features includes live streaming, posting photos, video and offline chat etc.

Help Provider (Volunteer)

Similarly Help Provider needs to register and login to use the app. He will get incoming request from needy then he will take forward to assist. They have a provision to view the list of requests nearby location that they can choose manually incase nothing is assigned.

He can chat/call to Help Seeker to assist. Once he completed the assistance, he needs to Close the request through app.

Design Process

I follow user-centered design approach to problem solving. My approach for this project as below.

Plan

Activities

- Understand business goals
- Competitor analysis

Output

- User profile
- Task profile
- Environmental profile

Research

Activities

- Desk research
- Understand insights
- Persona development

Output

- Ecosystem mapping
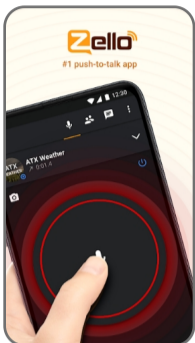- Persona

Design

Activities

- User flow mapping
- Concept design

Output

- Task flow
- Mid-fi Wireframes

Inspirations

There are good no of apps around the globe to help when natural disaster occurs. Here I have listed down few of the apps serves user needs effectively.

Zello is the highest rated push-to-talk app, connecting 140 Million users globally, empowering frontline workers, teams, and communities through instant and crystal-clear voice messaging.
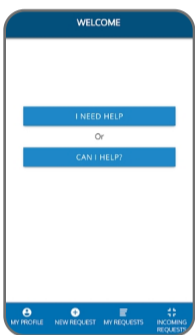
Helping hands is an app designed to help society getting in touch with the needy person and help them
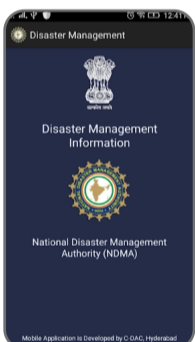
Disaster Management app can be used as a user guide to know about natural disasters, man made disasters, disaster management life cycle, emergency kit etc. It includes details of help line centres with in-built calling feature. Mobile app also provides information related to earthquakes, floods, landslides, cyclones, tsunamis, urban floods and heat wave etc.
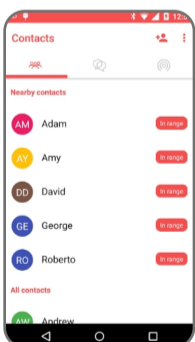
Bridgefy is an offline messaging app that lets you communicate with friends and family when you don't have access to Internet, by simply turning on your Bluetooth antenna. Ideal for music festivals, sports stadiums, rural communities, natural disasters, traveling abroad, and much more.

bSafe is the most advanced and reliable personal safety app that allow you to create your own security network and take care of each other.

Profiles

Profiles describe the design strategy with who is doing what and where. For each user group there are 3 profiles identified. 1) user, 2) Task and 3) Environmental. Lets first look at the user group (also called as market segment) for **Help Seeker** and **Help Provider.**

Help Seeker User Group

- Daily wage workers
- Shop keepers
- Coastal residents
- Farmers

Help Provider User Group

- Any one who wants to help

User profile

- **Age:**
  18 - 65

- **Language:**
  Any regional language +
  English

- **Education:**
  Min high school

- **Mobile App:**
  Mid - High

Task profile

- Register

- Login

- Preference check

- New request

- Request status

- Complete request

Environmental

- **Location:**
  Indoor / outdoor

- **Geography:**
  Urban cities

- **Workspace:**
- Closed / open area

- **Device:**
- Desktop / mobile

Ecosystem Mapping

It helps to understand **Help Seeker** pain points and identifying existing gaps.

Food & Water

Channel

School

Employment

Medical

Infrastructure
(Roads, Bridges)

Shelter

Communication
(Telecom, power)

HELP SEEKER

Self Wealth

Clothes
(Sheets, Blankets)

Transportation
(Bus, train)

Institutions
(NDM, NGO)

◯ Directly related   ◯ Indirectly related
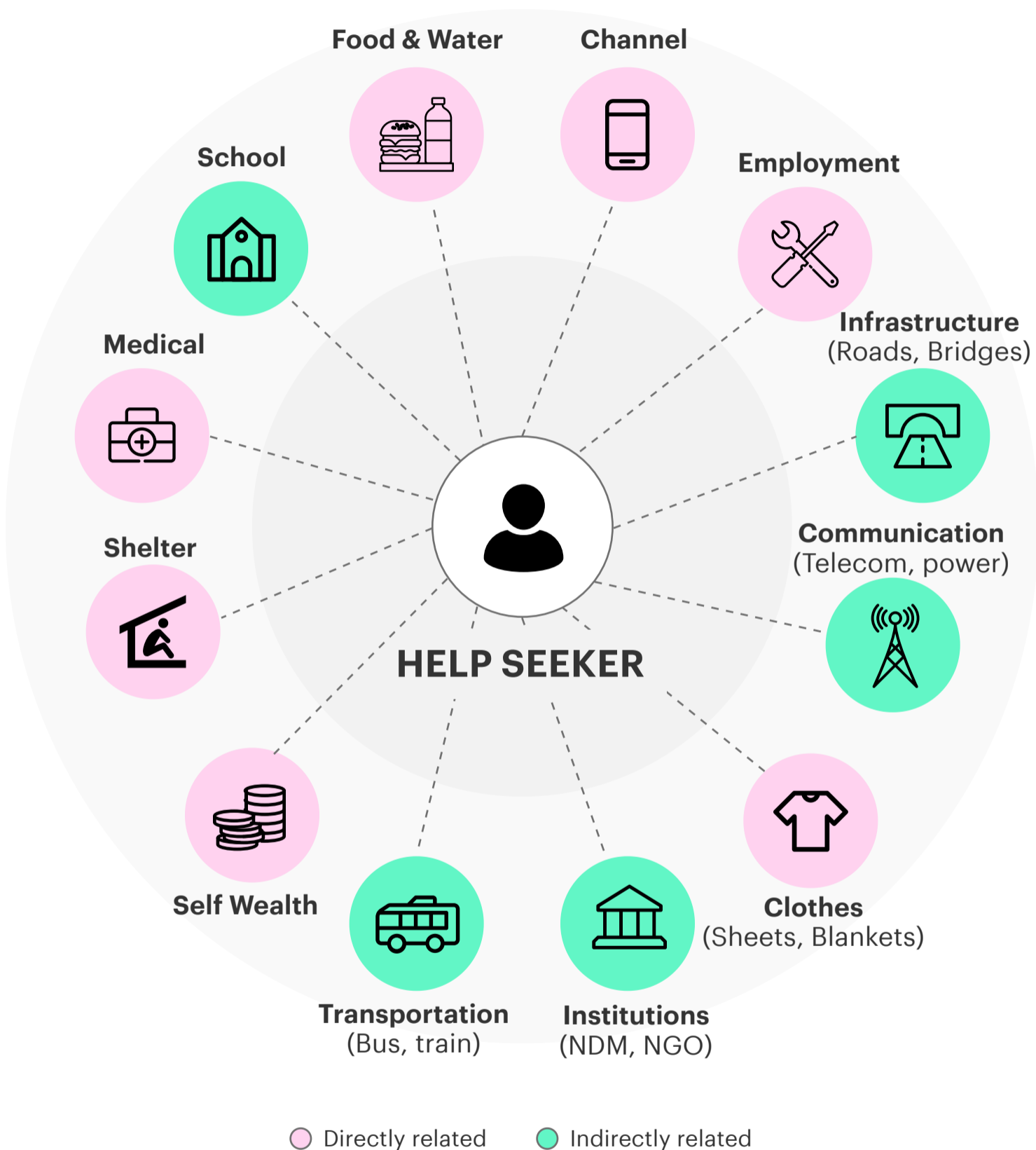
Persona - Help Seeker

To describe **Help Seeker** goals, pain points, behaviors, motivations and their background information.

Laxman Das, 48 M

Location: **Mumbai**
Education: **+2**
Occupation: **Employee**

Background:
Laxman Das, a 48 yrs old migrant from Bihar is settled in Mumbai. He has a family with 2 kids studying at school.

He works in a pharmaceutical company located at outside of city and he needs to travel 40 km daily to do the job.

Due to recent floods in Mumbai, most of the areas were affected and he stays in one of the affected area. There is a series of damage across city such as bridges, roads, transport and communication.

People are suffering with food scarcity and diseases. He wanted to explain the current situation to the rest of the world and seeking for help.

Tech

Internet
Social media
Smart phone
Messaging

Behavior

- Less active in social media
- Use smart phone than desktop

Pain points

- Food scarcity
- Power outage
- Kids are effecting with diseases
- Flood water flowing inside the house

Desires

- Seeking immediate help from Government, NGOs etc
- Expecting a way to communicate offline
- Current situation updates
- Service status

Persona - Help Provider

To describe **Help Provider** goals, pain points, behaviors, motivations and their background information.

Reshma, 21 F
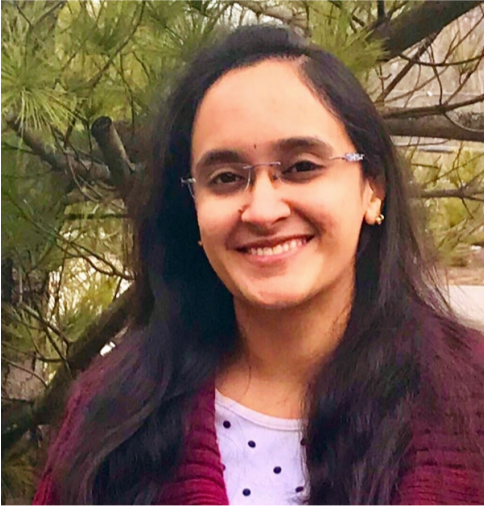
Location: **Mumbai**
Education: **MBA**
Occupation: **Student**

Background:
Reshma pursuing her MBA in Thane, Mumbai. She is very passionate about what she is doing and always think to give back something to the society.

She actively involves in college events, blood donation campaigns and other initiatives.

She heard the news about flood victims in social media and she realized that she will be part of volunteering the needy.

Tech

Internet
Social media
Smart phone
Messaging

Behavior

- Check social media frequently
- Active participation in social activities

Pain points

- Hard to find volunteer opportunities
- Outdated information in websites
- No guidance from family and friends

Desires

- Want tp know how many are affected
- What services that the needy is expecting
- Way to connect needy prior to the job
- Able to help needy indirectly

Task Profile

The task summary table helps to identify to analyze and design based on target users

Task	Help Seeker	Help Provider
Add personal details	✓	✓
Add address details	✓	✓
Create account	✓	✓
Login	✓	✓
Help Seeker or Help Provider preference	✓	✓
Help Seeker Dashboard	✓	
Help Provider Dashboard		✓
New service request	✓	
Accept or Reject incoming request		✓
View request details	✓	✓
Edit request details	✓	
Confirmation alert/notification	✓	
Change request status		✓
Close request		✓

Proposing some essential features to strongly connect

- Offline chat via bluetooth
- Live streaming and live recording by Help Seeker
- Post photos, videos by Help Seeker
- Group chat / individual chat, voice calls through app.

High Level Task Flow

Onboarding Flow

The flow is same for both **Help Seeker** and **Help Provider**.

```
Welcome  --Getting started-->  Personal Details  -->  Address Details  -->  Create Passcode
```

- Personal Details: - Name, phone
- Address Details: - Area, Landmark, Pincode / - Access location
- Create Passcode: - Passcode / - Re-enter

Welcome --Skip--> Login

Login --> Preference

- Login: - Mobile / - Passcode
- Preference: - I Need Help / - I will Help
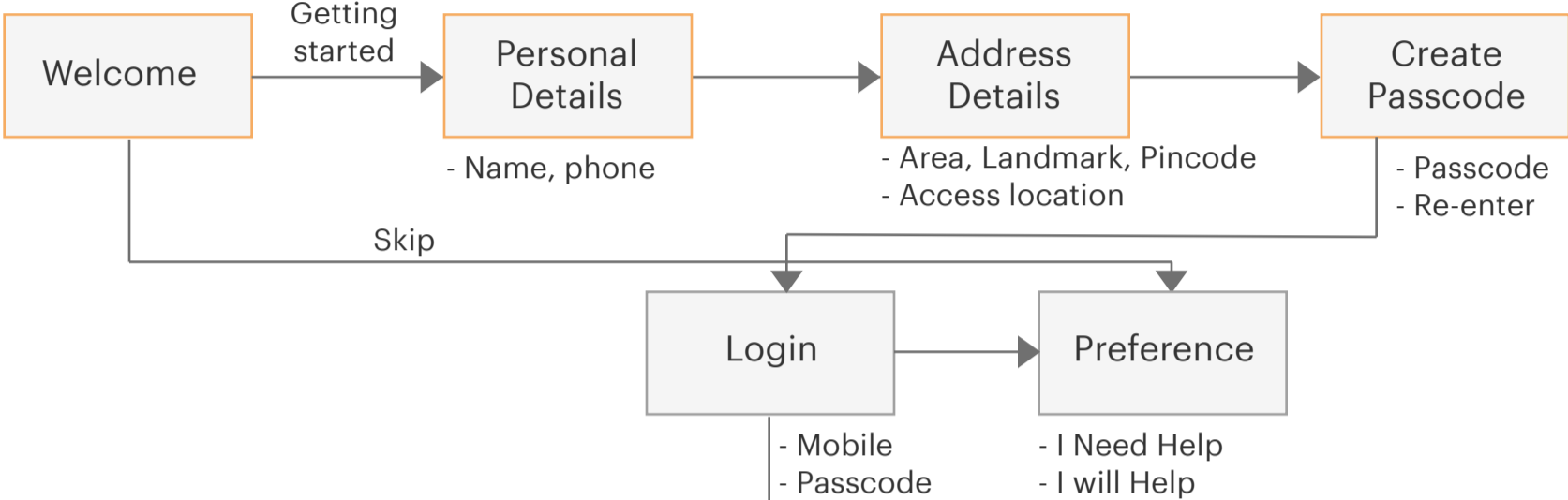
Services

There are 2 separate interfaces for **Help Seeker** and **Help Provider**.

Login --> Dashboard

Dashboard --> Help Seeker / Help Provider

Help Seeker

New Service Request
- Food
- Medical
- Blankets
- Water Pumping

Chat/ Call
- Videos
- Live streaming
- Photos

Post (Video, Photo)
- Videos
- Live streaming
- Photos

Live Tracking
- Help Provider traking

Other
- Alerts / Notifications
- Offline chat
- Profile (View/Edit, My requests, Change preference)

Help Provider

Services Provide
- Food
- Medical
- Blankets
- Water Pumping

Incoming Requests
- Food
- Medical
- Blankets
- Pumping

Live Updates
Get updates from HS
- Photos
- Videos

Other
- Alerts / Notifications
- Profile (View/Edit, Accepted, requests, Change preference)

Onboarding Wireframes

Onboarding Screens

Both Help Seeker and Help Provider needs to complete this process before they use the services.

English ▼
_____

Welcome

Simple way to connect
Needy with **Volunteer**
for better society

How?

● ● ● ●

Lets Start | Skip

Personal Details

Full Name

Phone

● ● ● ●

← | Next

Address

Area, Landmark

Pincode

Access My Location

● ● ● ●

← | Next

Create PIN

Enter 4 Digit PIN

Re-enter PIN

● ● ● ●

← | Submit

Login

Phone

PIN

Forgot PIN   New User

Login

For emergency help, Dial
1800 234 234

Preference

I Need Help | I will Help

☐ Save my preference

Next

Help Seeker Wireframes

Scenario

Ranjith stays near Church Gate, Mumbai. He is effected with heavy rains and food shortage. He has been using the app since a while and wants to order food for 10 people.
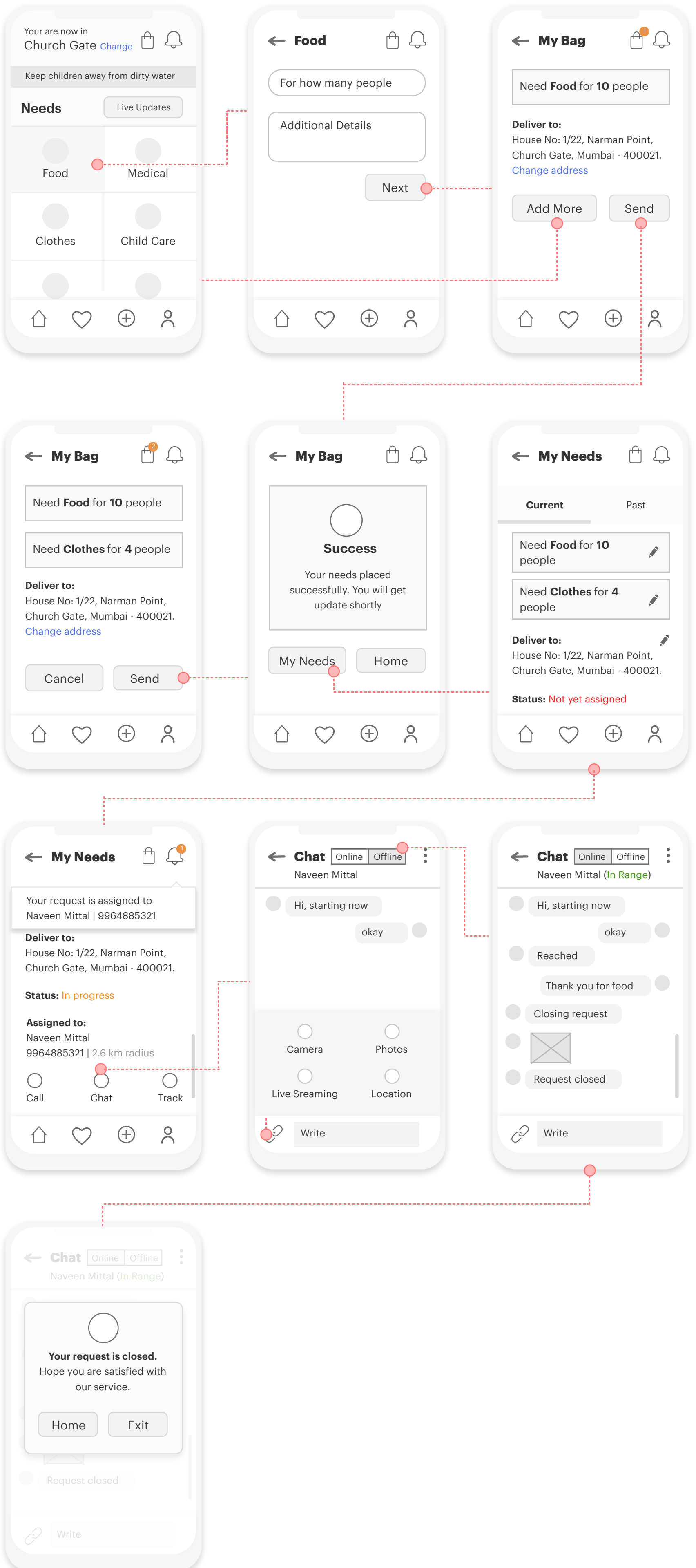
Help Provider Wireframes

Scenario

Sonakshi watching news and saw that few flood victims are suffering with food shortage and seeking for help nearby area. She wants to volunteer by using this app.

Screen 1

Your are now in
Church Gate Change

Keep children away from dirty water

12	44
Requests accepted	People benefited

Incoming Request
Need **Food** for **10** people at **Narman Point**

Services   Live Updates

Screen 2

← **Incoming Req...**
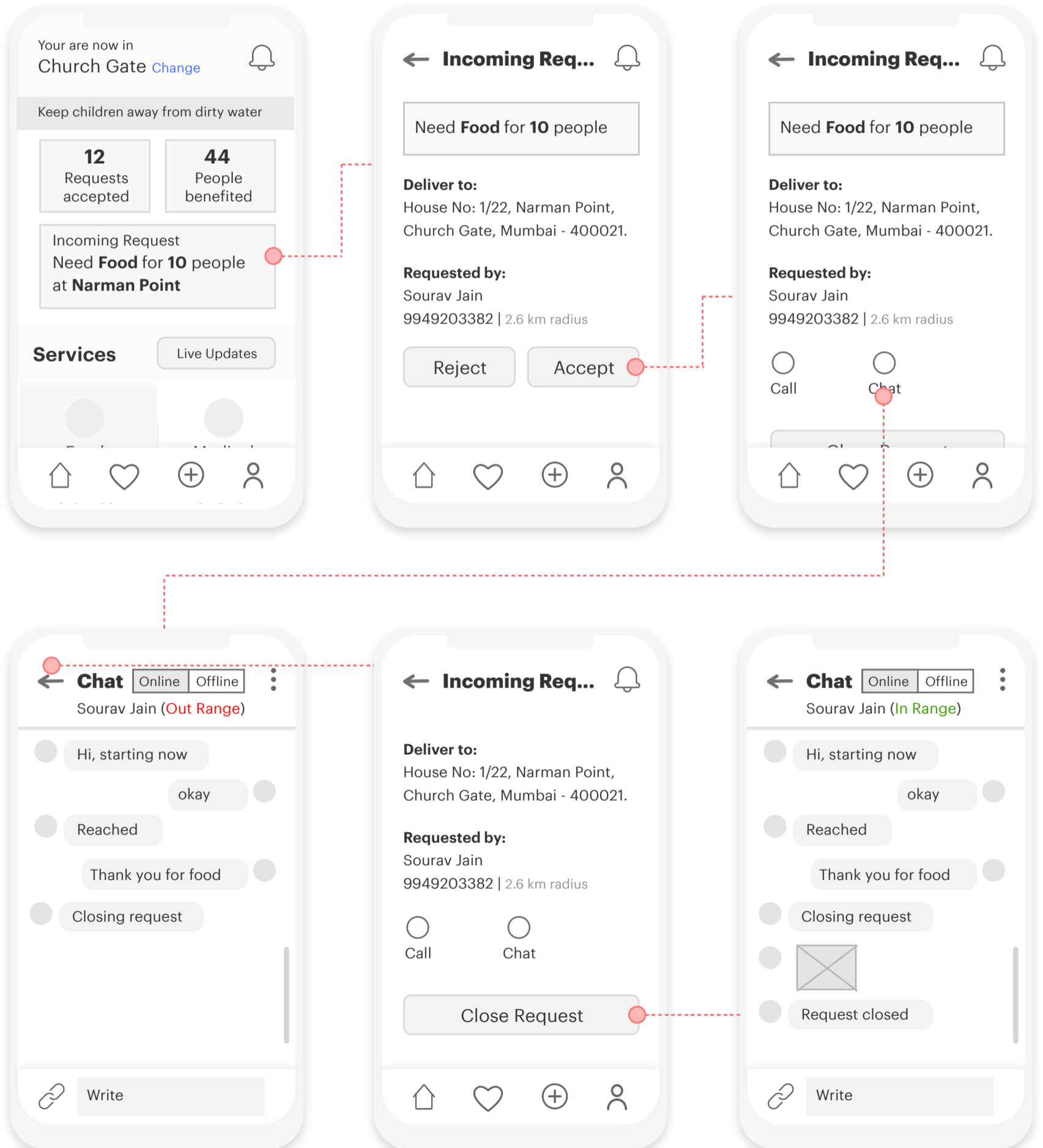
Need **Food** for **10** people

Deliver to:
House No: 1/22, Narman Point,
Church Gate, Mumbai - 400021.

Requested by:
Sourav Jain
9949203382 | 2.6 km radius

Reject   Accept

Screen 3

← **Incoming Req...**

Need **Food** for **10** people

Deliver to:
House No: 1/22, Narman Point,
Church Gate, Mumbai - 400021.

Requested by:
Sourav Jain
9949203382 | 2.6 km radius

Call   Chat

Screen 4

← **Chat** Online | Offline
Sourav Jain (Out Range)

Hi, starting now

okay

Reached

Thank you for food

Closing request

🔗 Write

Screen 5

← **Incoming Req...**

Deliver to:
House No: 1/22, Narman Point,
Church Gate, Mumbai - 400021.

Requested by:
Sourav Jain
9949203382 | 2.6 km radius

Call   Chat

Close Request

Screen 6

← **Chat** Online | Offline
Sourav Jain (In Range)

Hi, starting now

okay

Reached

Thank you for food

Closing request

Request closed

🔗 Write

Business Outcome

Help Seeker and **Help Provider** can connect easily through app and get their job done. Essential services that we proposed for MVP to serve basic needs (such as food, medical, clothes etc) effectively in disaster situations.

Features include

- Offline chat via bluetooth
- Live streaming and live recording by Help Seeker
- Post photos, videos by Help Seeker to explain current situation
- Group chat / individual chat, voice calls through app
- GPS tracking to Help Seeker to know the status of requested service.

Critical Success Factor

- Connect and communicate easily
- Build trust
- Minimize risk

What I learned

In disaster situations, opportunities are very less to the needy for seeking help. We understand their psychology and behavior on this situation, empathize their pain points and provide appropriate solutions. First target for basic needs they want and keep adding new features to serve them better.

Thanks,
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