

## PROPOSAL

# Design & Development of Mobile APP based system for Exchange of Assistive Devices

**XAD**



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### **XAD: Exchange of Assistive Devices**

Most of the Assistive disease or trauma related disabilities are temporary and are reversible. Such patients may require assistive devices (AD) for short period. Once the condition is managed successfully, such AD may not be required. This becomes redundant and useless for the patient. On the other hand, there may be other patients who might require such devices.

In order to facilitate the donor as well as the recipient, and easier process of equipment transfers, there is a need to make available a standard platform easily accessible.

The XAD is one such platform being envisaged to address the needs of both the donors and recipients. The XAD is a web based system, supported by mobile apps which facilitate easier locating of Donor/Recipient location, availability of different types of Assistive Devices, and a strong supply chain and inventory management system.

The XAD will also act as knowledgebase for various types of disabilities with inputs from various patients and Doctors.

### **How it works**

1. Patient is diagnosed with a certain type of disability which is reversible.
2. The patient is required to use an Assistive device till he is fully recovered
3. The patient purchases the Assistive device
4. Once the patient has recovered from the disability, the assistive device is of no further use.
5. Instead of throwing the device in junk, the patient wants to give the device to someone needy but wants to be sure that the device reaches the actual needy person.
6. He communicates it to our center either through our call center, website or mobile app or directly comes to any of the donation centers established across religious places and donates the device.
7. The recipient searches for devices and nearby available locations.
8. The recipient registers his request and is allotted a date/time to collect the device.
9. Alternatively, the device can also be sent through courier to the recipient

## Proposed Features

### 1. User Management:

The user management module of the app shall have the following core features

#### 1. User Registration:

- a. Create new Login ID and Password
- b. Phone Number as ID and OTP as password

#### 2. User Profile:

The following Donor/Patient Demographic Information shall also be captured in the user profile section. These details shall not be shared with any third party and shall only be used for tracking and data analysis purposes.

- a. Name
- b. Gender
- c. Contact No
- d. Aadhar No/PAN Card
- e. Contact Details
- f. Current Address Proof

#### 3. User Login

- a. Login using ID/Password
- b. Login using Gmail/ Facebook Login credentials

#### 4. Forgot/Reset Password

- a. Reset password using OTP
- b. Reset password using link forwarded on Email

### 2. Products Panel:

The Product panel shall display the various Assistive devices one can donate/ receive. These products will be displayed as per following criteria

1. Product Classification: e. Hearing Aids, Walking Aids etc
2. Alphabetical
3. Search Product

#### Type of Products Proposed in Pilot

- Crutches
- Walking Stick
- Walker
- Wheel Chairs

- Empty Oxygen Cylinder
- Belts – Back/Neck
- Optical Glasses
- Pot Chair
- Hearing Aids
- Instruments & Equipments

**3. Donor Panel:** A donor may be defined as an user who wish to donate one or more Assistive devices

The Donor panel shall have the following features

- a. View Products currently available with the Donor
- b. Add a new Product:
  - i. Product Name/ Make
  - ii. Basic Information about the product based on a set of questions
  - iii. Current Condition – Working/Non-Working
  - iv. Photograph
- c. Remove Product
- d. Mark Product for donation
- e. Observations/Remarks/ Suggestions on certain type of disability faced by the Donor and how he managed to address issued faced during the treatment.
- f. Locate nearest Donation facilitation center
- g. Request Product Pickup
- h. Option to contact Receiver
- i. Option to contact Donation Center

**4. Receiver Panel:** A receiver may be defined as an user who is looking for an assistive device for his use. The receiver panel shall have the following features:

- Brief Profile: Brief details about the patients' condition, Doctors prescription etc.
- View Products currently available with the Receiver
- Alerts to user when the device return date is nearing.
- Search for Products Required
- Submit Request for product required
- View Requests submitted
- Mark Request as fulfilled. Hold, Cancel etc
- Option to contact Donor
- Option to contact Donation Center

## General

The system shall be developed to address various concerns of the donor as well as the receiver such as

- What to Donate: Kind of AD's devices that can be donated
- Where to Donate: Location, Drop Points
- How To donate: Process to be followed for donating the items e.g. walkin to a center, Pickup, courier

### 1. Mode of Exchange

- Collection Agent
- Courier
- Self

### 2. Storage of AD's

**The devices would require separate area for easy receipt, storage and issue. These locations shall also be used as delivery / Pickup point for the devices**

- Mandir
- Gurdwara
- Arya Samaj Mandir
- Church
- Masjid
- Health Centre
- Courier -
- Others

### 3. Type of Donation

1. Financial
  - a. Cash
  - b. Cheque
  - c. DD
  - d. E-Pay
2. Product
3. Services
  - a. Volunteers
  - b. Others

### 4. Product Details

1. Name
2. Photo
3. Used/Unused/New
4. Product Condition (Eg Working/Repairable)
5. Issue/Return Date Time

## 5. Delivery/Pickup Point

- Mandir
- Gurdwara
- Arya Samaj Mandir
- Church
- Masjid
- Health Centre
- Courier -
- Others

## 6. Search Item

- a. By Name
- b. By Availability locations

## 7. Notifications

## 8. QR Code:

## 9. Inventory Management

## 10. Security:

In order to safeguard the interests of all the stakeholders, a detailed policy shall be enforced so as to safeguard the Donors, Receivers and the product. Some safeguard measures to be inbuilt in the system are as follows

1. Limit single item to be issued to a beneficiary at a time. Aadhar based verification (Offline) to be used to ensure same receiver does not receive multiple products
2. Limit the issue period to 3 months per device

## Technology Overview:

**The complete system shall comprise of 3 integrated systems**

1. Android App:
  2. Web Based Data Management & Reporting system
  3. Inventory & Supply Chain Management
- Mobile APP: Android Studio, for Android based devices
  - Database: SQL Server 2016 R2, SQLite for Android devices
  - Web Based Data Management & Reporting system: Asp.net/VB.net , php

**Delivery Time:**

- Mobile App: 2 Weeks
- Web Based Data Management System: 3 Weeks
- Testing: 1 Week

SNo	Details	D	D+7	D+14	D+21	D+30
1	System Study					
2	System Design					
3	System Development					
4	System Testing					
5	GO Live					

**Budget Required**

I. Software Development					
SNo	Details	Nos	Total Man-day	Cost per Man-day (Rs.)	Total Amount (Rs.)
		(A)	(B)	(C)	(A*B*C)
1	Project Manager	1	30	10000	3,00,000/-
2	Software Developer	5	30	4000	6,00,000/-
3	Database Manager	1	30	4000	1,20,000/-
4	Technical Architect	1	20	4000	80,000/-
5	Data Analyst	2	30	4000	2,40,000/-
6	Android App Developer	2	30	4000	2,40,000/-
				<b>Sub Total</b>	<b>15,80,000/-</b>

<b>II. Web Hosting Services &amp; Domain Registration charges</b>			
<b>SNo</b>	<b>Details</b>	<b>Cost per Year (Rs.)</b>	<b>Total Amount (Rs.)</b>
1	Domain Registration including mail services for one year	10000	10,000/-
2	Web Hosting for 1 Year including Domain Hosting, Site Hosting and Database Hosting	40000	40,000/-
		<b>Sub Total</b>	<b>50,000/-</b>

<b>III. Other Expenses</b>		
<b>SNo</b>	<b>Details</b>	<b>Total Amount (Rs.)</b>
1	Maintenance of Application for error free operation for a period of one year @ Rs. 30,000/- per month	3,60,000/-
2	Administrative Overheads @ 5%	95,000/-
	<b>Sub Total</b>	<b>4,55,000/-</b>

#### **COST SUMMARY**

<b>SNO.</b>	<b>Cost Summary</b>	<b>Amount (Rs.)</b>
<b>I</b>	Software Development	15,80,000/-
<b>II</b>	Web Hosting Services & Domain Registration charges	50,000/-
<b>III</b>	Other Expenses	4,55,000/-
	<b>G. Total</b>	<b>20,85,000/-</b>

**GST Extra as applicable**