Application for Donation Centers

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ABSTRACT

The aim of this application was to look at of how donations work and the way small-NGOs are adapting in terms of technology and also the growing crisis around Covid-19 and the way it's affected them adversely. The cross-platform application can facilitate NGOs to publish their desires and what has to be provided to the poor on pressing basis and also the donor will simply select based on their ability to present food, garments or commodities that they will present to those in want. The manual posts can facilitate the users select what they need to present rather than restricted selections. the appliance would be a linking bridge between unaware donors and NGOs searching for bound donors that may profit the necessitous.

Keywords: *Donation, Cross-platform, NGOs, Donors*

1. INTRODUCTION

It is a centralized donation application for Android platform which will help the NGO's and donors by acting as a connecting bridge between the two. During the current pandemic situation, the main underlying issue of lack of awareness among donors. Several families have lost their livelihoods. This has resulted in daily wagers, in particular, face acute poverty and lack of everyday resources. There has been and always will be a need for donations in this world. Though there are a lot of people who are keen to donate things. But due to occupied life schedule the task of donating, reaching an institution for donating can be arduous for them. Books, Clothes, Food, etc. all such things reaching the needy is a necessity. NGOs perform this task with no hassles whatsoever.

2. LITERATURE REVIEW

The main task was to review which platform would be better for development of the application. After reviewing the feasibility and ease of development, we chose Flutter. Google Flutter is an open-source framework developed by Google. It can be used to develop mobile applications for iOS and Android (in future also for desktops and the web) with a code base. This means that development does not take place on a platform-specific basis, but in a programming language and in a programming specific environment.[1]

The author explains that the world today faces a major goal to eliminate the food waste by reusing the available food sources within available communities which consists of remains from restaurants, shops and food distribution centers that are close to expiration dates. Such methods are very much needed during the times of COVID-19 pandemic. Thus, SeVa application is driven towards it. [2]

The author Nancy N. Hodges states that the primary idea for the participants to donate clothes is to make space for new clothes in their closet. The threat feeling of guilt plays a role to motivate donations to whether they should donate or throw away the clothes. Such values and emotions played a role to whether future donations would be motivated or not. [3]

The author mentions that there are various factors that go on into affecting the decision of whether to donate or not are high income of the donor, previous experiences with donations, how authentic the NGO is, the references from friends and families who have donated before, who are the beneficiaries of the donations and so on. These multitude of factors help the donor determine what exactly to donate and when to donate. [4]

3. IMPLEMENTATION

The old system of having manual entries and offline storage of data of donations is an issue for long term. To overcome the inflexible system, we are proposing a new system. The application will be developed using Flutter and development language as DART with cloud storage being used is Firebase. Firebase has direct integration with Flutter to provide better functionality and live updates in the application to provide better functionality. Flutter is a growing platform for cross-platform application development which will be very useful for further usage and development. The widgets within flutter are used to develop the GUI. DART is very flexible for developing the GUI.

Application for Donation Centers is a cross-platform software which will be beneficial to NGOs and donors who want to donate with the flexibility of their home during the times of pandemic or during the busy schedule of work by creating posts of the commodity they want to donate. It consists of cross-platform development which will help the end-users with no fear of missing out on Android or iOS users.

There are two modules in this application:
(a) NGO Login Module: This module is made for the staff from NGO who will manage the donations received from the donors. After the login, they can choose to accept donation posts created by the donors. Once, the donation is accepted the staff can contact them with the available chat option and confirm further details. A receipt will be generated for the donor.
(b) Donor Login Module: This module is built for the donors who will choose to donate their commodities with the ease of creating a post which will be visible for other donors and the NGOs to see and accept. The chat option will be available for the donor as well.
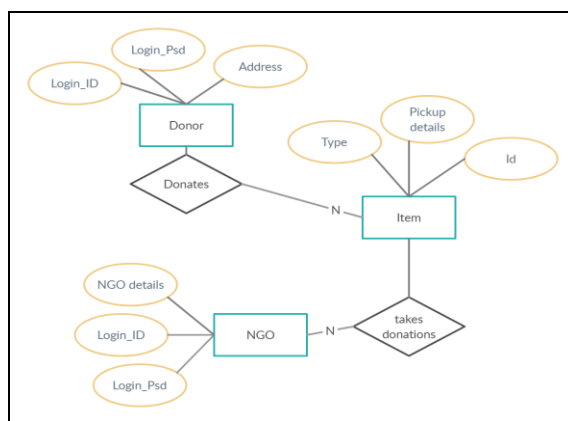
Fig. 1: Entity Relationship Diagram

4. SYSTEM DESIGN
The walkthrough of each module is as follows-
A. NGO Login Module
   a. The staff member logs into the module with the registered username and password to access the home page.
   b. They can then choose to accept donations from the timeline of 'posts' made by the donors.
   c. Once the donation is accepted on the basis of description and photo, the staff can then initiate the chat with donor and complete the further process. The post will then be transferred to the history tab.
   d. A receipt will then be generated for the same.

B. Donor Login Module
   a. The donor logs into the module with the registered username and password to access the home page.
   b. If the donor is not registered, the donor can register with their details to access the home page.
   c. The donor can then create a post with description of the commodity to donate and add a photograph of it as well.
   d. The chat will then be initiated once when the donation is accepted.
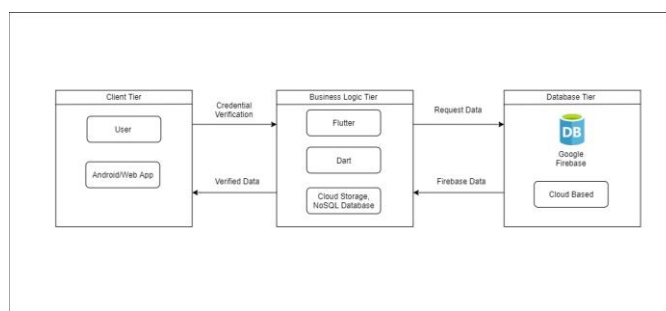
Fig 2: System Design

The client tier consists of the User and its UI from where the donor/NGO can interact with the application. The application tier is made up of Flutter, Dart and local app data which then connects to the Google Firebase to the application. The requested data is then returned to the application and is viewed by the user.

5. ANALYSIS AND RESULTS

5.1 Drawbacks of Current System

1. Manual work being conducted in NGOs.
2. Non-flexible work environment for both the parties.
3. Lack of access for users across platforms.

5.2 Proposed System

1. Cross-platform application development.
2. Flexible posts instead of limited options.
3. Live timeline and former posts for both modules.
4. Custom description on posts for better knowledge before accepting donations.

The developed application is as follows:

1. Login Page
2. Timeline for posts.
3. Creating Post.
4. Accepting Donation
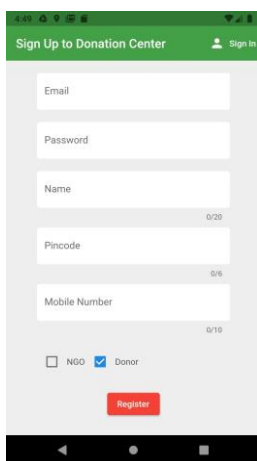
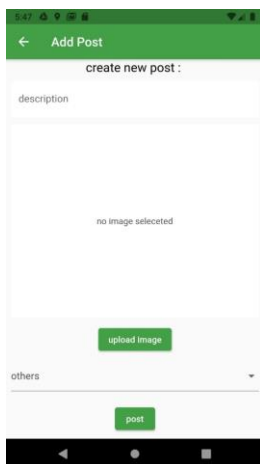**Fig 3: Login page**   **Fig 4: Timeline for Posts**
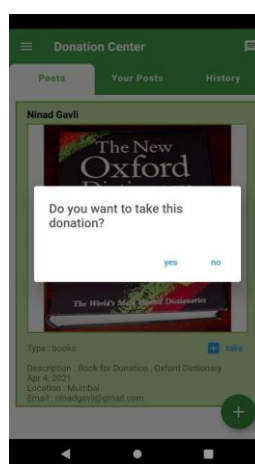

Fig 5: Creating Post   Fig 6: Accepting Donation

The major development that can be further done is when access is possible to an Apple environment to test the cross-platform application even further and check through further regression testing. The testing was delayed due to pandemic and availability for the same. The emulators were not enough to determine if they are ready to be published in public.

6. FUTURE SCOPE

Application for Donation Centers will have multiple further features that can be added in the future. These include:

1. DonoCoins to reward donors with rewards to further motivate donations.
2. Live cloud storage could be shifted from Firebase to another platform if the project expands.
3. Image Verification of each post to avoid any misuse of the application.
4. Actively recruiting NGOs after they accept the efficiency of the application with live reviews.

7. CONCLUSION

Our project will help people to donate food, clothes or any other accessories to the needy people. Anyone can login and select items for donation and these items or food would be checked and collected by the NGOs and then will be donated to the

poor/needy people. This project can be used commercially too, to increase the flow of donations from companies with extra commodities to help out the poor/needy people.

8. ACKNOWLEDGEMENT

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