

# CLX (College Online Exchange) - Mobile Application using Flutter

M. Lalitha<sup>1</sup>, Divya Suvvada<sup>2</sup>, Sreehitha Thatwadi<sup>3</sup>

<sup>1</sup>Assistant Professor, CSE, GNITS, Hyderabad, India

<sup>2</sup>Student, CSE, GNITS, Hyderabad, India

<sup>3</sup>Student, CSE, GNITS, Hyderabad, India

**Abstract**—The ever-expanding technology, peculiarly in field of e-market have huge applications in the recent years. The applications of e-market in the field of educational institutes is demandable. Selling and buying of books, laptops in educational institutes is too frequent. In this contemporary era digitizing this process using a cross-platform (Android and iOS) to supplement business in educational campuses could give us an appreciable opportunity to start a business over it. A mobile application for college online exchange that encourages online market for sales (on products that are used in educational institutes like books, laptops, drafters, etc.) in educational institutes will expose considerable scope for e-business. This kind of e-market applications have not yet emerged in market, although similar application such as- Olx (Online Exchange) exist but it is generalized and not personalized to a single college. Hence, couldn't compete with the benefits of the proposed application which focus on a single educational institute. College Online Exchange application is built using Google Flutter, developed by google which serves as optimal open-source UI tool kit for natively compiled applications for mobile, web, and desktop from a single codebase. College Online Exchange application assures precise information and authentication with trustful identifications from students as it works autonomously in the campus.

**Keywords**—*Online exchange; mobile application; flutter; cross-platform application; e-business.*

## I. INTRODUCTION

There are many existing e-market applications such as olx, quicker, e-bay, etc., which focuses on selling and buying both used and new products around the world. But none of these applications primarily focus on educational purposes. We can neither verify that the other party is a fraud nor a genuine user. Hence, the risk of using the application persists. The application of e-market in the field of educational institutes is demandable. Selling and buying of books, laptops in educational institutes is too frequent. A mobile application for student online exchange that encourages online market for sales (on products that are used in educational institutes like books, laptops, drafters, etc.) will expose considerable scope for e-business and meet the student general needs.

There exist many online purchasing applications in the market but none of them is related to educational purposes. The current e-market is not centrally focused on educational institutes. They are commercial general-purpose applications.

An application system which meets student's needs as well contains high security is highly in demand. An application which is student centric at educational institutes that allows students to buy, sell and exchange items at their own college

with high security is the problem of our project. The application allows to buy, sell and exchange those items that are related to educational purposes like textbooks, notebooks, drafters, laptops, calculators and etc. There exists, only these categories where a seller can sell his item. Security is considered as one of the biggest challenges for the CLX application. Because as its sole purpose is not to commercialize and look for student centric, security is the important aspect. We maintain security in the application by maintaining a database containing the students' details from the college. Any user after creating their own account can sell items once the user has approved by that he/she is a real person and selling some valid items only.

## II. LITERATURE SURVEY

The CLX app's sole goal is to provide non-commercial e-business of education related products only to the colleges. CLX app is unique from other online sell, purchase & exchange apps. They can reuse the product. They can check product and buy they can see if there is any fault or not. It has option only for buying and selling of educational purpose products like books, drafters, calculators, laptops. We did survey in other colleges also they are related apps but not similar app. There is no app that sells the textbook, drafter, apron etc. This app helps to buy textbook, drafter etc. A practical survey conducted in college have shown in the fig.2.1 that how much the students are interested in using the app and also suggested on additional features. Student's comments and reviews included that they can reuse the products and earn money out of their previous year books.

A practical survey conducted in college (GNITS) have shown in the fig. 1. In the survey we asked few questions like are they willing to buy or sell the items that are already used by them or by others like calculators, aprons, drafters, books etc., and their response got recorded. We can see in the below fig. 1 that how much the students are interested in using the application. And they think it is beneficiary for students.

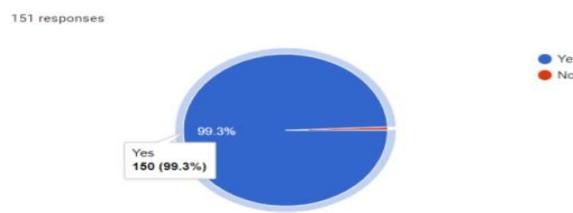


Fig. 1. Survey Report

This study of 'Advertisement Effect of OLX and Quikr for Used Product on Consumer of Northern India'[1] regarding advertisement effect of second-hand products on consumer behavior was conducted among 300 respondents. These respondents were of various age groups starting from 20-25 to 36-40. Out of these sampling units 171 were male respondents and 129 female respondents as shown in fig. 2.

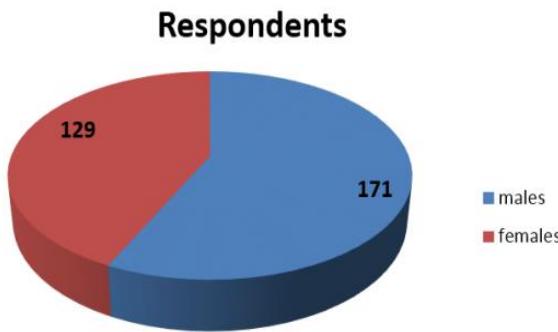


Fig. 2. Respondents

From the below figure. 3, we observe the effect of entertaining advertisement on opinion for second hand products. According to the survey, 16% people strongly agree in support of second hand products, while only 2% strongly disagree with the same and majority 50% people are in agreement. And also we observe the effect on consumer behavior due to Advertising from fig. 3, here, majority of 65% people agree that advertising has a positive effect on consumer behavior.

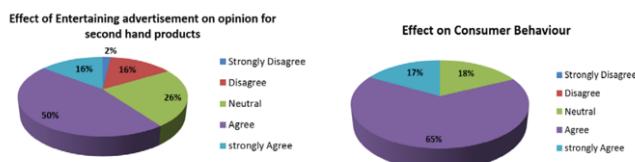


Fig. 3. Effect of entertaining ads on opinion for second hand products & Effect on consumer Behavior

The study 'OLX: A usability case study' [2] was conducted for OLX Indonesia. It was done through doing research by looking at several competitors, analysing UI / UX of their applications, observing User flow of their application, and reviews to identify problems. Some local competitors according to OLX Indonesia are listed: Jualo and Carousell. The problems related to the regional OLX app which were most commonly observed and ranked higher in the survey conducted on the users of the application was listed as following: The search column in the application for filtering or finding specific items or products the user wants to purchase is found missing, Difficulty while creating ads and Difficulty interacting or communicating with the seller, Functional issues.

The figure 4 shows the flow of the current system of buying a product in OLX app Indonesia. The changes that were incorporated into the current system are User Interface must be improved and create solutions based on the data

obtained. No chat function available, so, it is difficult to communicate between the user and the seller. And review function is also unavailable on the seller to increase the user's confidence to buy a product. By doing the following changes, the user experience was observed to be greatly improved.



Fig. 4. Flow of Buying the product for OLX Indonesia

### III. ONLINE EXCHANGE APPLICATION

Proposed system consists of two modules: Admin and User. Admin and user are first served with a Welcome page (Splash Screen) followed by sign up/login options. While the admin has another application and admin can login and add new users and can logout after adding the users. Any existing user after signing up can create their account by uploading their Display Picture and can start buying and selling. When an item is posted by the user, it gets displayed on the app once the admin approved it. Until then it will not get posted on the app's main page. This provides users to not sell any unrelated item in the app. While uploading the user will be asked all the necessary details like cost, quantity, description and address, phone number of the seller. The posted item can also be deleted by the user if it gets sold. To a maximum of 5 pictures can be uploaded by the user. The selected items can be added to the cart and viewed later. The admin has special features than a normal user. Admin can block any user if he found doing any illegal activities in the app.

The user and admin can log out easily from the app and can re-login without any loss of information. All the data is safely stored in firebase database and can easily accessed by the Database administrator and admin. The passwords for the accounts of the user are encrypted in the database.

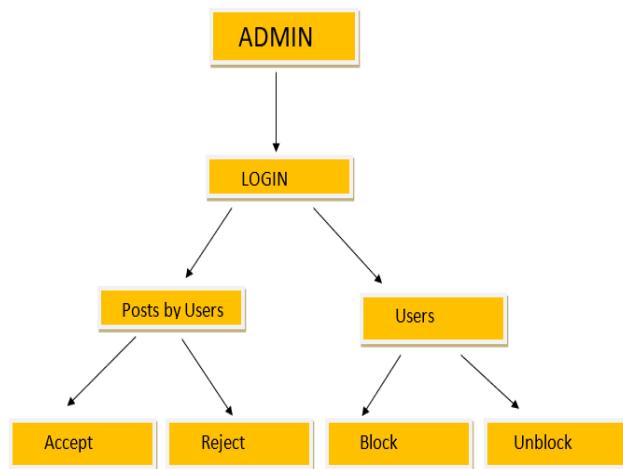


Fig. 5. Admin Proposed model architecture

The above figure 5 describes the architecture model with respect to the admin. After the admin logins to his/her account he/she can accept or reject the posts/ads posted by various users by checking and verifying the products and also the admin can block or unblock the blocked users.

The below figure 6 describes the architecture model with respect to the user. The new user can sign in to the application and the old user can login to his/her account and is then directed to the home page. Now if the user wants to purchase a product, he/she can view the details of the seller and add the item to the cart and buy. And if the user wants to sell a product, they can do so by posting the item and its related details on the application. And when user wishes he/she can logout from their account.

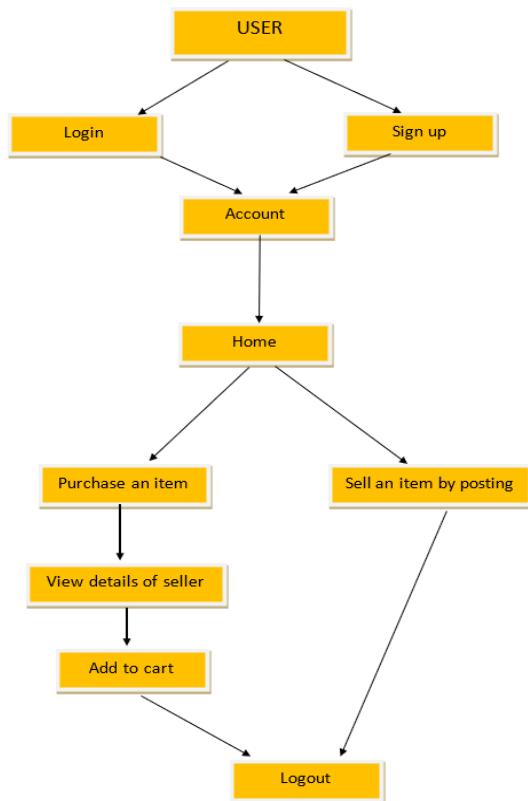


Fig. 6. User Proposed model architecture

#### IV. RESULTS

The CLX application created many benefits to the students of the college. Students started buying and selling books, drafters, calculators, laptops in the application. It is a safe and secure application as it includes users only within the college. It increased the reusability of the products.



Fig. 7. Splash Screen

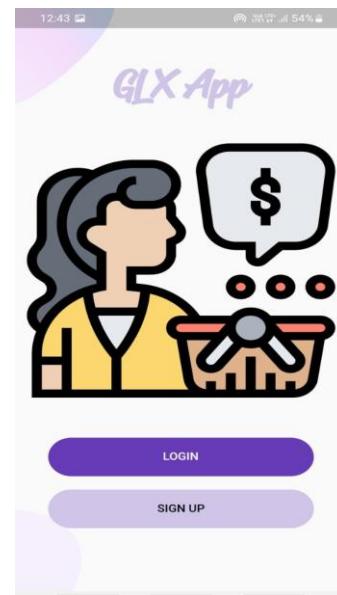


Fig. 8. Login/Signup

The figure 7 shows the splash screen seen by the user while opening the application. The figure 8 shows the login/signup page shown immediately after loading the splash screen.

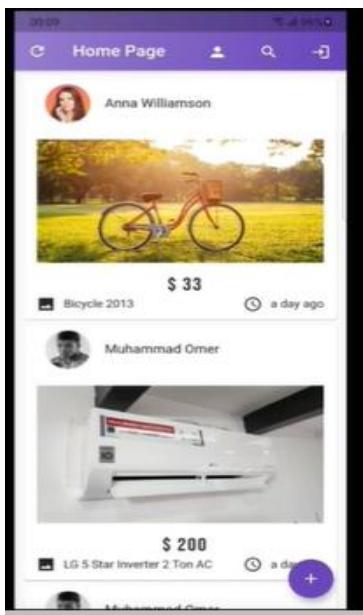


Fig. 9. Home page

The figures 9 shows the home-screen of a user with various ads or posts. The figure 10 shows the screen the user observes when he/she tries to upload the images of the item he/she wants to sell onto the application.

The figures 11 shows the screen the user would be observing while he/she wishes to buy a particular item posted by other users on the application it shows the images of the item, description of the item and seller details. The figure 12 shows the screen observed by the user after he/she places an order or buys an item and the tracking of the user location is shown.

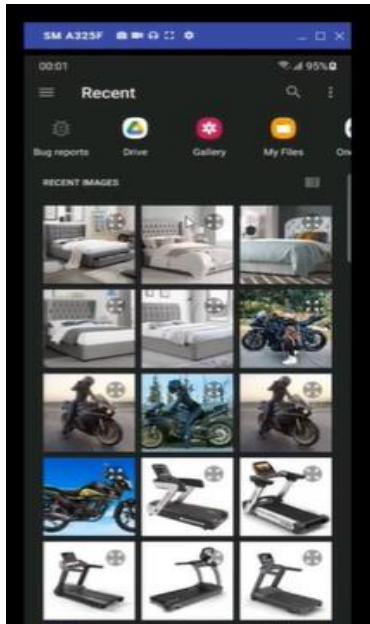


Fig. 10. User choosing images of the item to upload

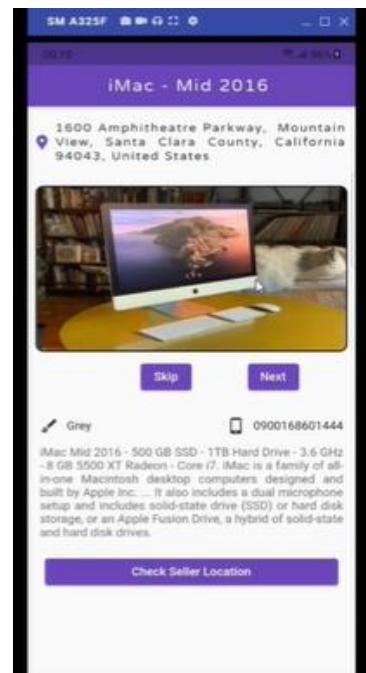


Fig. 11. Screen displaying a product and details

The below figure 13 shows the screen of the admin account when he/she wants to approve the ads posted by the users. And the below figure 14 shows the screen of the admin account while displaying the details of all the active accounts. The figure 15 shows the screen of the admin account while displaying the details of all the blocked accounts.

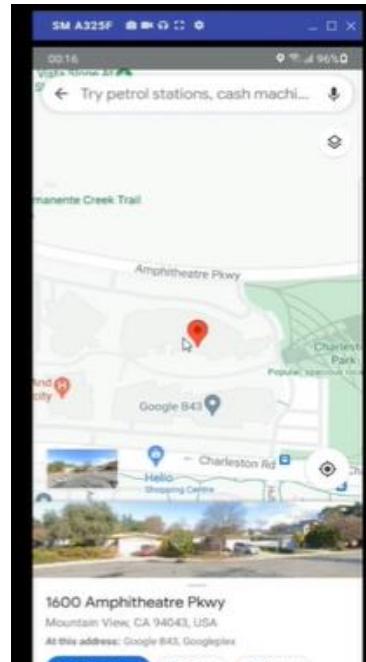


Fig. 12. Address of the seller displayed in Google maps.

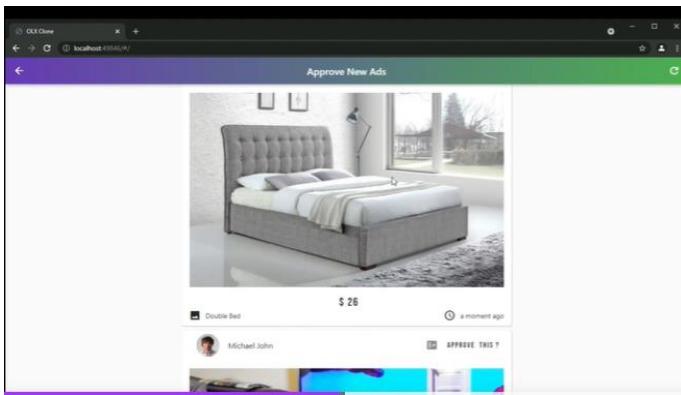


Fig. 13. Ads to be approved by Admin

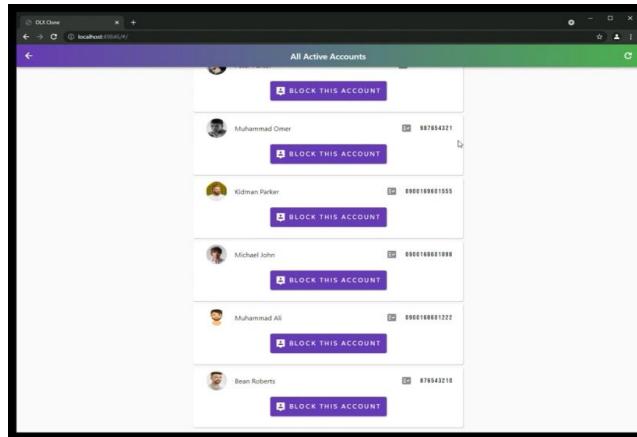


Fig. 14. List of active users displayed in admin app

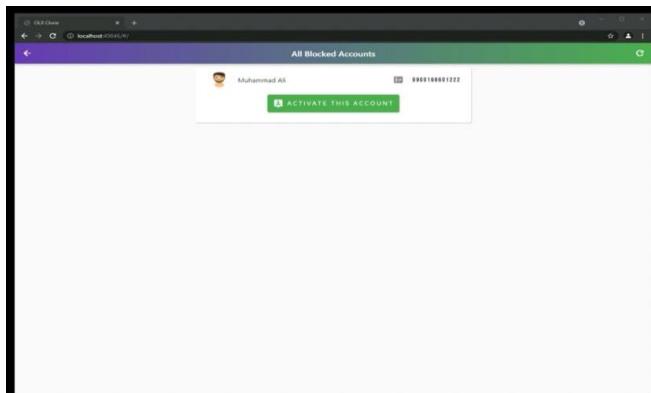


Fig. 15. List of blocked users displayed in admin app

## V. CONCLUSION

This new system identifies student's needs and provide a platform for communication and sales. This system enhances the security features of online marketing for educational purposes at college level. The application uses the latest technology and is suitable for all android devices having above 4.0 android configuration. The flutter code base developed can be easily adapted for iOS and other devices as well. The application can provide high security by adding additional feature of scanning the college ID card bar code which contains the student details and directly sending the OTP for verification to the college registered mobile number. The application can further be integrated with chat options within the mobile app, to have better user experience. It can be developed to support hosting of important college related information and also developed to be used as a college-level social media app for all purposes.

## REFERENCES

- [1] Yogesh Kumar, Raj Kumar Gautam. Advertisement Effect of OLX and Quikr for Used Product on Consumer of Northern India; 2015; 2(10): 346-351
- [2] <https://medium.muz.li/olx-a-usability-case-study-1399571ad861>
- [3] Shwetha Saxena, Anupama Sehgal. E-commerce OLX.COM. Amity University; 2013; 2(1):1-34
- [4] Bansal M, Gupta S. Impact of Newspaper Advertisement on Consumer Behavior. Global Journal of Finance and Management, 2014; 6(7): 669-674
- [5] Venugopal K, Worku HA, Alemayehu HB, Second Hand: A Hand in Hand for Indian Customers – A Study on the Customer Priorities on Different Used Products. International Journal of Innovative Research and Practices, 2014; 2(12): 1-7
- [6] Mohammed AB, Alkubise M. How do Online Advertisements Affects Consumer Purchasing Intention: Empirical Evidence from a Developing Country. European Journal of Business and Management, 2012; 4(7):208-218
- [7] <https://www.assocham.org/>
- [8] <https://www.olx.in/>
- [9] <https://www.quikr.com/>