Campus Cart - A Campus Trading Mobile Application

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Abstract: *Sharing is an act that is equal to caring. This is very true in how people build and function within our social relationships. In everyday life, people have items that they no longer use and that can be perfectly shareable with someone who needs it. When people share the things that they have with others, it showcases a sense of humility and empathy for those in need. Campus Cart is an android-based application exclusively for college campuses. Through this project, customers are able to connect with each other and trade the product. With this proposed system a community is built that encourages reducing the wastage of products and improving resource utilization.*

Keywords: Mobile Application, React Native, Firebase, Node JS, Campus Cart.

I. INTRODUCTION

The development of hardware technologies and the reduced cost bring the popularity of smartphones and tablet devices, and more and more people begin to use mobile devices for working and living. Lots of people may have unused items, especially students in colleges where they might be graduating and are left with textbooks or stationery that still can be utilized by others who are still pursuing their degrees.These unused items cannot be reasonably utilized. In order to change this situation, second-hand trading is a relatively good solution to make idle items for better use. It could not only make the idle items re-use, and the owner also can obtain certain economic benefits. It could achieve a "win-win" between the owner and the buyer. The Android platform is one of the popular mobile device platforms for smartphones and tablet PCs, and so on. Android is an open-source platform that allows other companies or individuals to develop applications based on the source codes. Therefore, more and more manufacturers and technical personnel have joined Android development and promotion. Currently, according to the latest data released by Google I/O 2016, Android shares 80.7percent in the market, and Apple's iOS shares 17.7 percent. Therefore, from the actual needs of idle items treatment, utilized the convenient technologies of the booming mobile Internet to design and implement a second-hand items trading application based on the Android platform. It provides a trading and exchange platform for the owner and buyer of idle items called Campus cart. Campus Cart is an Android Application that helps students and faculty connect and help each other and share what they have with a college. With this application users can list the items they wish to share and people who are in need can search for them and get them. Increasing wastage of resources is a prevailing global issue and every individual should be responsible from their side. Resource utilization is the only existing solution.Campus Cart is a one-stop solution for those who are in need of something, and also for those who are willing to offer what they have shared with each other to reduce wastage.

II. WRITING AUDIT

Campus Cart has been introduced in many countries, especially for campuses around the world. Below are a few research papers that discuss the existing campus cart systems around the globe.

The Campus Second-Hand Musical Instrument Trading Platform: Conceptualization and implementation An application developed on Java [1] permits front-end users to publish their own second-hand musical instruments and purchase other people's unused commodities, while the back-end administrator oversees users, products, and website data. The website is being developed primarily using Java as the primary programming language, the MySQL database as the primary data storage, the MVC mode as the primary technical support, and the JSP page technology.

Design and Implementation of an Android-based second-hand item trading platform [2] provide instructions on how to develop an Android-based Second-Hand Item Trading Platform.They focused on the needs of market demand to analyze and design the system's functions.

Web application on demand home service system [3] has proposed a system that provides house services with one click. This paper discusses web home services and the method of ordering and delivery of services. On-demand, home services systems are accessed by registered users to seek for household services through a web application.

Campus Second Hand Trading Application design and implementation [4] According to their university conditions, the students usually generate plenty of spare items such as books, clothes, or comedies. Especially for graduate students who are leaving soon. Their quilt, 2 pillows, mattress, washbasin, kettles, and so on are inconvenient to move back home. Just throwing them away is not only a big waste of money but also wastes resources. Freshmen, the exact people who need these items, could buy these second-hand items. Therefore, an appropriate way to deal with these things is needed.

OnCampus: a mobile platform for a smart campus [5] OnCampus can significantly contribute in the following ways: by establishing social networks based on interest mining, giving educational advice based on emotion analysis, acting as a platform for knowledge exchange, and creating a secondary trading platform, the best use of campus resources may be made ,built using a client-server architecture with XMPP protocol for instant messaging which helps the seller to send his or her location to the buyer via messages.

In the architectural design of a campus second-hand commodity trading [6], this paper analyses the significance of building a campus secondary market trading system using a C2C business format built with ASP.NET and MySQL as a database.

How counterfactual reference prices stimulate the selling willingness for Second-hand products [7] talks about how they conducted three experimental studies with electronic products to let the customers be well informed of future prices of their belongings and that they can significantly increase consumers' intention to sell.

Campus Second-Hand Goods Trading Platform Design Based on B/S [8] talk about how they developed a second-hand goods trading platform for the campus transaction market using Java Beans as the business logic and JSP, HTML, and JS for view logic with MySQL as the database. It is practical, has simple operations, and has a friendly interface. It lets the campus people who need to buy and sell share the same access to information and implements the online and offline interaction between the buyers and sellers.

III. SYSTEM ANALYSIS AND DESIGN

3.1 Proposed System

To implement the Campus CartReact Native was used at the front end, NodeJS at the back end, and Firebase as the database. After referring to the research papers the following are the finalized technologies to design the project. Below mentioned is the Proposed Design of the project explained in detail.
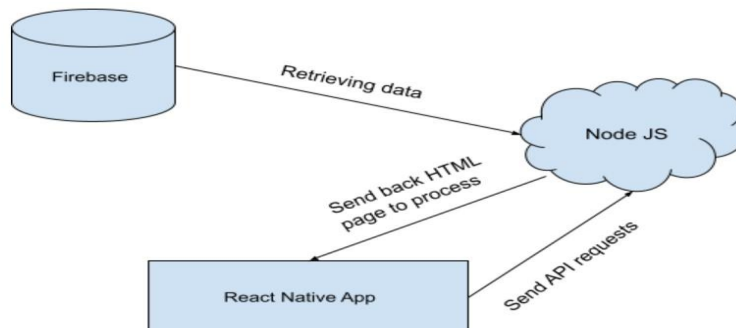

Fig 3.1 Proposed system

Software architecture design is an important design process to determine the completeness, reusability, and stability of a software system. A structure of a good software project is in characteristics of the level of packaging, better interface and functional development, and lower degree of module coupling. Modules are important to have a precise overview

of the development of the project process so that while execution clarity of the next step is maintained. Campus Cart has the following modules.

1. **Authentication:** If a customer is a first-time user then they have to register in Campus Cart and then can log into the application. Users holding respective college campus mail IDs are only permitted to use the application.
2. **Seller Module:** The user who wants to sell any of their products like stationary, textbooks, etc can post the details of the item like price, images, and description and they will be displayed on the feed for the buyer to choose from the many items available.
3. **Buyer Module:** The buyer will choose from the posts on the feed according to the items she is looking for and can also search for the items and then connect with the seller to negotiate the price.
4. **Chat Module:** The buyer and the seller can text each other using the chat module feature to discuss the item, price, and location for where the item can be taken.
5. **Payment Module:** The buyer can pay the money to the seller through the Phonepeoption or in person as payment.
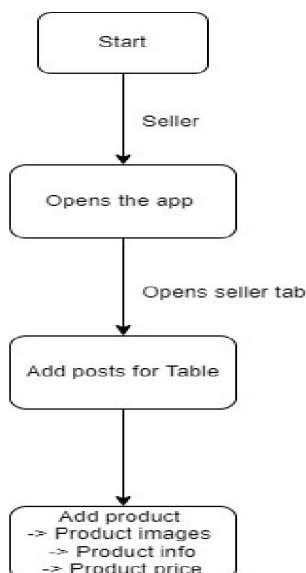
3.2 Architecture Design

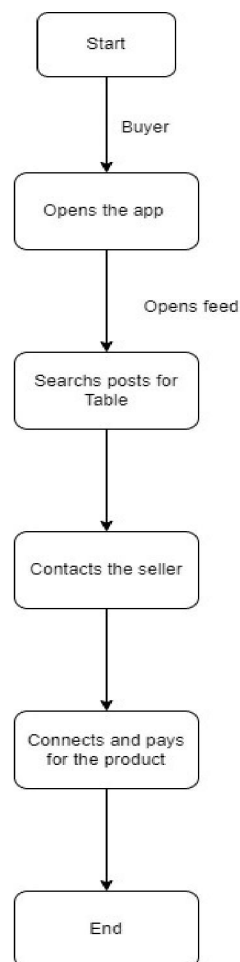

Fig 3.2 Architecture Design Seller Side

Fig 3.3 Architecture Design Buyer side

The seller puts their product giving the price and required details for the product. Every information is clearly visible in the feed for the buyer to be able to instantly buy the product. The seller can login in to the application using their college email ID and will be approved upon receiving a verified email to their campus IDs.

The seller lists her orders/posts it on the feed to be visible for the buyer by categorizing their product under the various available categories. The seller can set a price through which the buyer can filter according to their choice. The buyer and seller connect with each other through a platform where they are able to connect with each other and negotiate and make the payment. Through this architecture stability, flexibility and efficiency is achieved and the user is able to swiftly browse through the application and buy their desired products for a cheaper price.

IV. IMPLEMENTATION
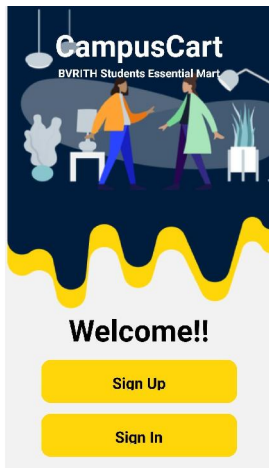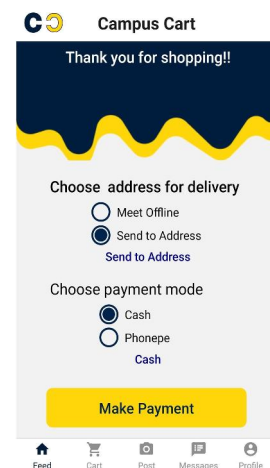
Fig 4.1 Splash Screen
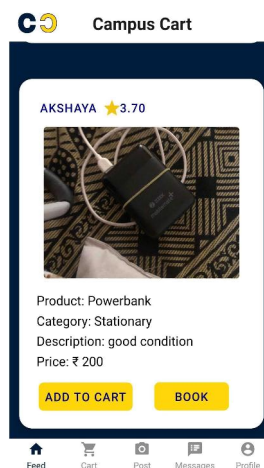
Fig 4.2 Feed Screen

Fig 4.3 Payment Screen

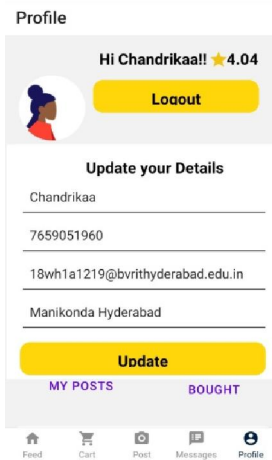Fig 4.4 Account Screen

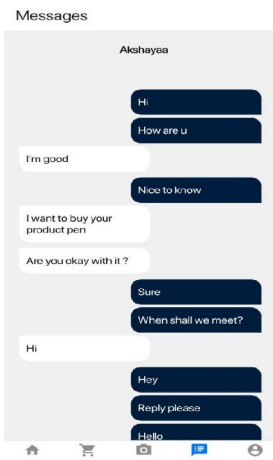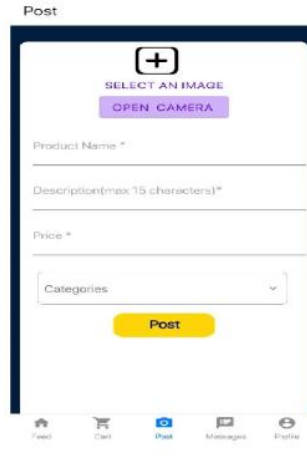Fig 4.5 Chat screen

Fig 4.6 Upload Screen

Application Link: https://play.google.com/store/apps/details?id=com.tires

V. CONCLUSION

This paper mainly described how to complete a second-hand items trading platform based on the Android platform. Campus Cart which is exclusive for college campuses will help many students across the campus to put a good utilization of their commodities by trading them with their friends/juniors. This application can also be introduced to many other colleges across India and help many college students to earn money and also help get commodities they need for a reasonable price. In the design of system architecture, we adopted React Native to improve the maintainability and stability of the software and completed a second-hand item trading platform to provide convenient service for on-campus users.

VI. ACKNOWLEDGEMENT

REFERENCES

[1]. Y. Xu, "Design and Realization of the Campus Second-hand Musical Instrument Trading Platform Based on Java," 2021 International Conference on Electronic Information Engineering and Computer Science (EIECS), 2021

[2]. Huang W., Li Z., Wang Y., Tang Y. (2021) Architectural Design of a Campus Second-Hand Commodity Trading Platform. In: Atiquzzaman M., Yen N., Xu Z. (eds) Big Data Analytics for Cyber-Physical Systems in Smart City. BDCPS 2020. Advances in Intelligent Systems and Computing, vol 1303

[3]. XiaohanYang,"Campus Second Hand Trading Application design and implementation" 2018

[4]. Jin Zhang, Rong Chen, XiaobingXu,How Do Counterfactual Reference Prices Stimulate the Selling Willingness for Secondhand Products, 2018

[5]. J. Huo and H. Qu, "Design and implementation of a second-hand items trading platform based on Android," 2016 5th International Conference on Computer Science and Network Technology (ICCSNT), 2016

[6]. Dong, X., Kong, X., Zhang, F. et al. OnCampus: a mobile platform towards a smart campus. SpringerPlus 5, 974 (2016)

[7]. Z. Hai-Tao, "Campus Second-Hand Goods Trading Platform Design Based on BS," 2015 8th International Conference on Intelligent Computation Technology and Automation (ICICTA), 2015

[8]. AndreJulianIrawan, "Implementation of Gamification Octalysis Method at Design and Build a React Native Framework Learning Application" 20216thInternationalConferenceonNewMediaStudies (CONMEDIA), 2021

[9]. AnikAnifatul, "Exploration of React Native Framework in designing a Rule-Based Application for healthy lifestyle education" 20211stInternationalConferenceonComputerScienceandArtificial Intelligence (ICCSAI), 2021

[10]. P.M. Ebin, "An Android Application for Smart Parking with Efficient Space Management" 2018 International Conference on Emerging Trends and Innovations In Engineering And Technological Research (ICETIMETV), 2021