

Collabo- The Team Connector

A Project Work

Submitted in the partial fulfilment for the award of the degree of

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IN

COMPUTER SCIENCE & ENGINEERING

WITH SPECIALIZATION

IN

MOBILE COMPUTING

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**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING APEX
INSTITUTE OF TECHNOLOGY**

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DECLARATION

I, **‘Anand Svarup Bhatia’**, student of **‘Bachelor of Engineering in Computer Science and Engineering with specialization in Mobile Computing’**, session: **2019-2023**, Department of Computer Science and Engineering, Apex Institute of Technology, Chandigarh University, Punjab, hereby declare that the work presented in this Project Work entitled **‘Collabo- The Team Connector’** is the outcome of our own bona fide work and is correct to the best of our knowledge and this work has been undertaken taking care of Engineering Ethics. It contains no material previously published or written by another person nor material which has been accepted for the award of any other degree or diploma of the university or other institute of higher learning, except where due acknowledgment has been made in the text.

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Place: Chandigarh University

ABSTRACT

Collabo is a tool that helps people to collaborate in this world of post pandemic where all team members and people are working from home. This helps in making that teamwork easy where teams can share a common canvas for collaboration for their daily work and also helps common people for making shareable lists and staying connected without any type of subscription or adware. Collabo is free and open source where people can come and contribute or check for privacy. This app aim to serve as a collaborative tool for both personal and professional use.

ACKNOWLEDGEMENT

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organizations. I would like to extend my sincere thanks to all of them.

I am highly indebted to **Ms. Leeza Sharma** for their guidance and constant supervision as well as for providing necessary information regarding the project & also for their support in completing the project.

I would like to express my gratitude towards my parents and my department for their kind cooperation and encouragement which help me in completion of this project.

THANKS AGAIN TO ALL WHO HELPED

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Timeline

1. **18th August:** Setting Up the Splash screen.
2. **20th August:** Setting Up the Intro Screen.
3. **22nd August:** Designing the Sign-Up Activity.
4. **24th August:** Challenge - Setting Up the Sign-In Activity.
5. **26th August:** Setting Up the Base Activity.
6. **28th August:** Preparing the Signup Feature in Firebase and in the app.
7. **30th August:** Registering the User Via Email in Firebase for Signing in the user.
8. **1st September:** Using the Fire Store Database to Store the User Details.
9. **3rd September:** Signing in And Getting the User Data.
10. **5th September:** Auto Login.
11. **7th September:** Preparing the XML For the Drawer and Navigation.
12. **9th September:** Adding the Drawer Functionality in Code.
13. **11th September:** Loading the Image and Username to display it in the Drawer.
14. **13th September:** Preparing the Profile Screen.
15. **15th September:** Populating the Profile Activity with User Data.
16. **17th September:** Image Chooser for the Profile Image.
17. **19th September:** Uploading an Image to Storage.
18. **21st September:** Updating the User Data via HashMap in the Fire Store Database.
19. **23rd September:** Updating the Main Activity Profile Details via Activity for Result.
20. **25th September:** The Create Board Activity.
21. **27th September:** Select a Board Image.
22. **29th September:** Creating a Board Image.
23. **1st October:** Creating a Board.
24. **3rd October:** Creating the Board in the Fire Store Database.
25. **5th October:** Preparing the Boards Recycler view Adapter and UI Elements.
26. **7th October:** Loading the Boards into the Recycler view.

- 27. 9th October:** Updating the Boards List after Creating a New Board.
- 28. 11th October:** The Task list Activity.
- 29. 13th October:** Loading the Board in The Task List Activity.
- 30. 15th October:** Preparing the Task list Adapter.
- 31. 17th October:** Creating Lists inside a Board.
- 32. 18th October:** Creating a List inside a Board Part 2.
- 33. 20th October:** Editing and Deleting Lists.
- 34. 21st October:** Adding the Cards to Lists.
- 35. 22nd October:** Displaying the Cards.
- 36. 24th October:** Preparing the Members Activity.
- 37. 25th October:** Creating the Member Item and the Toolbar.
- 38. 27th October:** Fetching and Displaying the Members of a Board.
- 39. 28th October:** Adding New Members – UI.
- 40. 29th October:** Adding a New Member to a Board – Logic.
- 41. 30th October:** Reloading the Board Details on Change.
- 42. 31st October:** Adding a Detail Screen for Cards and Loading Card Details to Set the Title of the Card.
- 43. 1st November:** Adding the Delete Card Menu Icon and Populating the Edit Text of The Card.
- 44. 2nd November:** Deleting Cards and Preparing the Cards Color Dialog and Adapter.
- 45. 3rd November:** Selecting the Color and Updating the Card and Adding Color to our Cards.
- 46. 4th November:** Passing the Members list to the Card and Preparing & Displaying the Card Members Dialog.
- 47. 5th November:** Prepare the Add Members Feature & Finishing the Add Members Feature.
- 48. 6th November:** Displaying the Assigned Users Per Card on the List Level.
- 49. 7th November:** Adding a Due Date to The App.
- 50. 8th November:** Adding the Drag and Drop Feature.
- 51. 9th November:** Preparing the Notification Feature.
- 52. 10th November:** Adding the Token to the DB.
- 53. 11th November:** Adding the Notifications Part 1.
- 54. 13th November:** Final Steps for the Notification Feature.

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1. INTRODUCTION

1.1.Problem Definition: While searching for a good collaboration tool we came across few apps such as Trello, teams, jam board but all of these were having adware or subscription model or less than desired features.

1.2.Project Overview/Specification:

- The application is based on a collaboration like platform where people can collaborate on a specific task by creating groups called as boards. The backend is designed through firebase which supports latest API and is also scalable.
- The application supports latest API of the android framework which provide a very memory efficient design on the operating system level along with support of android native theme engine.
- The application is Ad Free and has no trackers so that users can do their work smoothly while also maintaining the privacy policies. The User Interface is non cluttered and user friendly so that new users can quickly get used to the app.

1.3.Software Specification:

- **Windows / Mac OS**
 - 2 GB RAM minimum, 4 GB RAM recommended.
 - 400 MB hard disk space plus at least 1 GB for Android SDK, emulator system images, and caches.
 - Java Development Kit (JDK) 8.
 - Java Runtime Environment (JRE) 8.
 - Optional for accelerated emulator: Intel processor with support for Intel VTx, Intel EM64T (Intel 64), and Execute Disable (XD) Bit functionality.
- **Linux**
 - 2 GB RAM minimum, 4 GB RAM recommended.
 - 400 MB hard disk space plus at least 1 GB for Android SDK, emulator system images, and caches.
 - Oracle Java Development Kit (JDK) 8.
 - GNU C Library (glibc) 2.11 or later.

2. LITERATURE REVIEW

2.1. Existing System: In Existing Systems-Trello is Cluttered and feature less UI which is less user intuitive:

- Boring Design.
- Limited Number of Member addition.
- Contains Ads.
- Most Features available for paid users only.

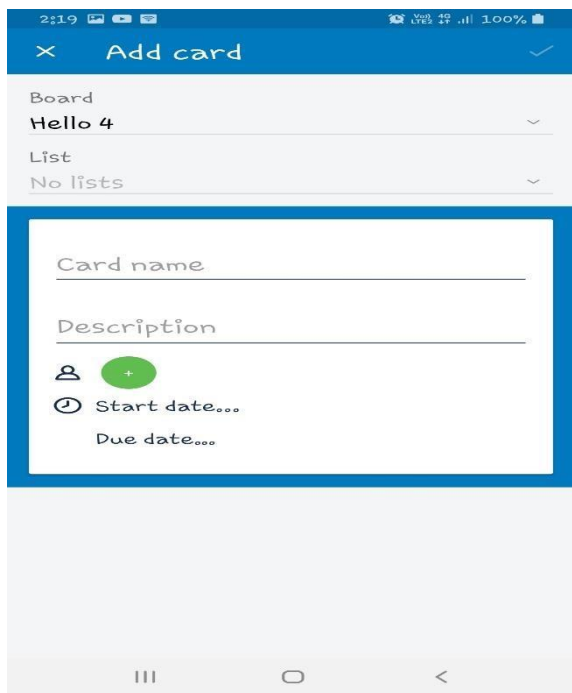


Fig. 1

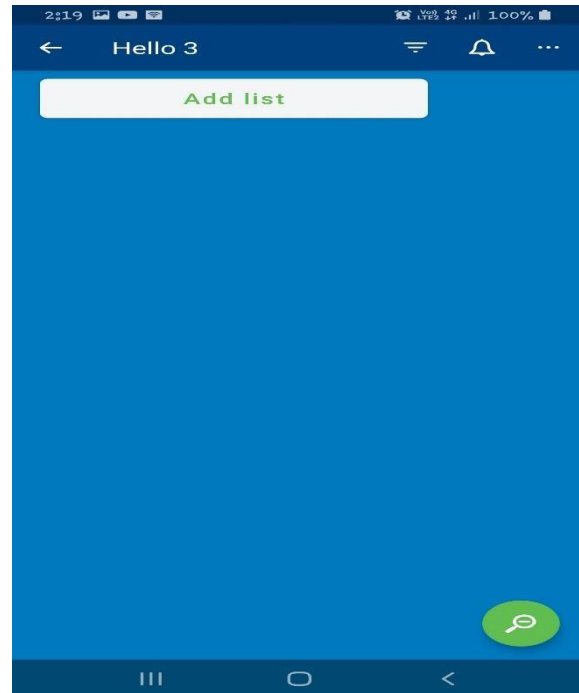


Fig. 2

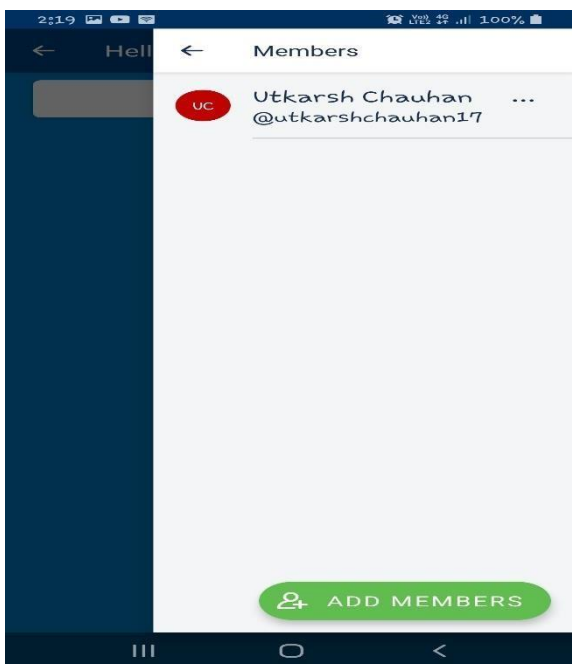


Fig. 3

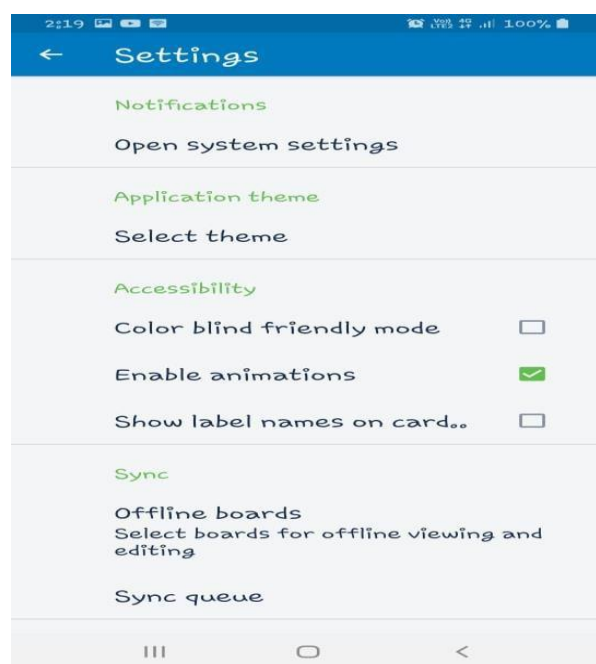


Fig. 4

2.2. Proposed System: With the proposed system we were able to bring functional and mature designs as follows:

- Clutter free design.
- Easy to use Interface.
- No Ads.
- No Subscription models.
- Unlimited Number of members can be added.

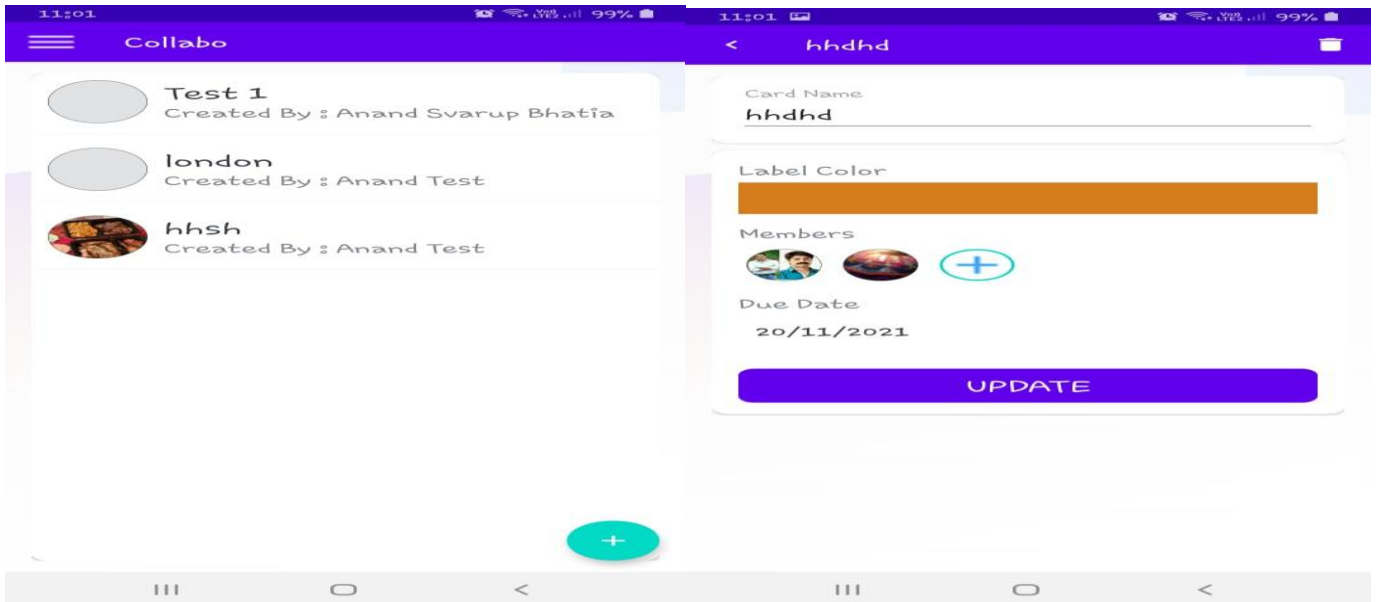


Fig. 1

Fig. 2

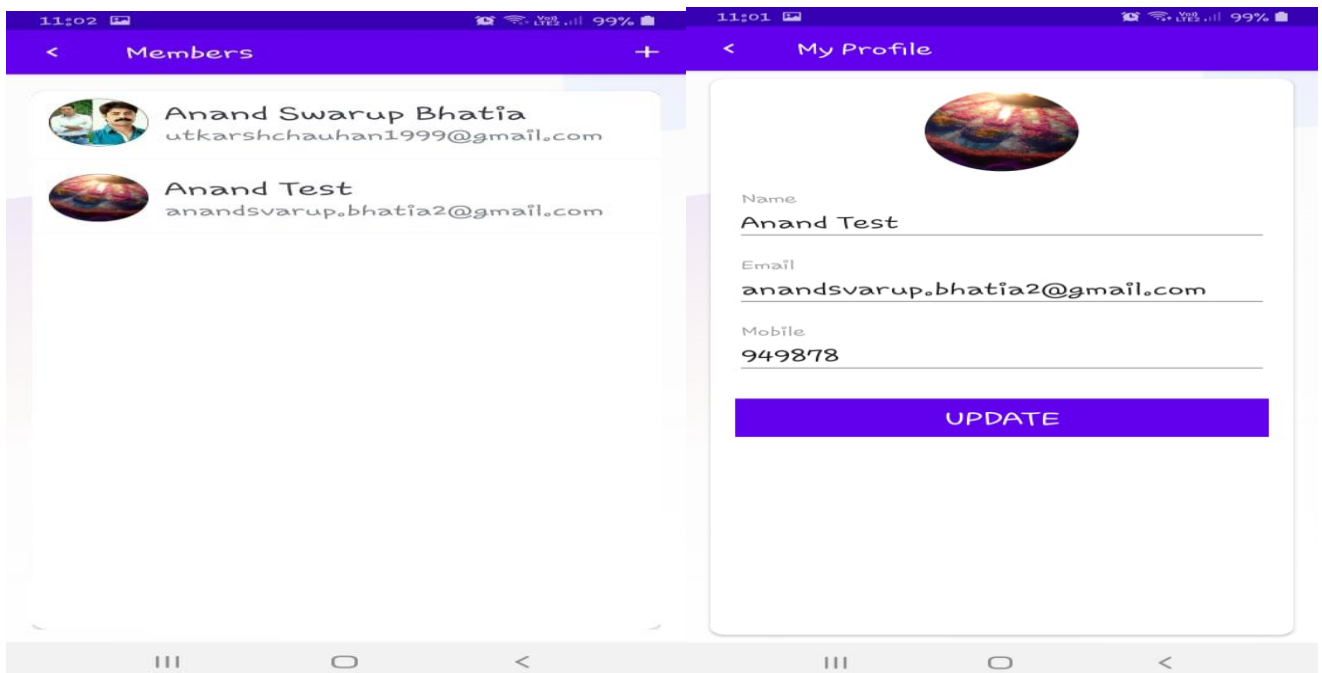


Fig. 3

Fig. 4

3. PROBLEM FORMULATION

During software development, the main problem with existing app is

1. It lacked features for free version.
2. It had expensive subscription fees.
3. Basic collaboration tools were limited in premium version too.
4. App took a lot of space in phone.
5. Cluttered UI.

The Problems were tackled by:

1. App made will be totally free.
2. No subscription fees or Ad-ware in the app.
3. Unlimited Members can be added to a board.
4. No limit on Number of active boards per user.
5. Easy to use clutter free UI

4. RESEARCH OBJECTIVES

The proposed research is aimed to carry out work leading to the development of an approach for the collaborative tool which is aimed at mobile user for team collaboration. The proposed aim will be achieved by dividing the work into following objectives:

- 1.** Since this pandemic many corporates have allowed work from home, there was mismanagement of work due to lack of coordination.
- 2.** This app aims to lessen the impact of this by making dynamic boards which can be used by companies to make division of work between the team easy.
- 3.** The Existing solution had limitation and subscription fees which makes it not access able to a common man.
- 4.** The main aim of collabo is to give collaboration tool in hand of common man free of cost.
- 5.** This tool can not only be used by big companies but also can be used in households like grocery or vegetable list making etc.

5. METHODOLOGY

The following methodology will be followed to achieve the objectives defined for proposed research work:

1. Detailed study of various collaboration systems will be done.
2. Installation and hand on experience on existing approaches of collaboration systems will be done.
Relative pros and cons will be identified.
3. Various parameters will be identified to evaluate the proposed system.
4. Comparison of new implemented approach with existing approaches will be done.
5. Feedback will be taken from research.
6. New ideas will be implemented to eliminate cons.
7. New features will be implemented to enhance user experience.

6. RESULT & CONCLUSION

By implementing a basic UI and applying app smoothening the product turned out to be very light and easy to use, no adware or subscriptions make it more access able. The tester is satisfied with the workout and gives very positive feedback.

As one can observe that the app is very much ready for daily usage incorporates and families. few features that can be added to make it more productive are:

1. Company calendar integration which automatically imports deadlines of things.
2. Audio call/ video call between people who are sharing a board.
3. Export the board as PNG/JPEG file.
4. Setting a viewer only mode where i person can only see what is happening without interrupting.
5. Chat option between team members.

7. REFERENCES

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