Conference Room Booking Application using Flutter

Anagha Praveen, Krishna Nanda, Nayana Rajith, Niveda Giriraj, R.Radhika, Nidhin Mahesh, Vishnu K, Anjali T and Sarath S.

***Abstract*—Since there is a lot of ambiguity while booking a room at the last moment due to which we usually don't end up getting one. To avoid the occurrence of such a situation "Book The Room" app comes to your rescue. Through this app,[1] we can book the conference room well in advance based on the availability of the date and time that we have opted for. If the time limit exceeds a time span of 2 hours, then a request will be sent to the admin for necessary approval. Further to the approval, the conference room can be used. The queued requests are served on a first come first serve basis by the admin.**

***Index Terms*—Flutter, Mobile Application, Open Access and Android Development**

I. Introduction

BOOK THE ROOM is an application which makes booking the conference room an easy task [1]. To simplify the process of booking a conference room and also to avoid the real-time conflicts which could occur otherwise, [2] this application is being developed on a platform called flutter. Flutter is an open-source UI software development kit created by Google. It is used to develop applications for Android, iOS, Windows, Mac, Linux, Google Fuchsia and the web. The release versions of Flutter apps use the ahead-of-time (AOT) compilation on both Android and iOS thus making Flutter's high performance on mobile devices possible.

Flutter apps are written in the Dart language and make use of many of the language's more advanced features. Dart is an object-oriented, class defined, garbage-collected language using a C-style syntax that transcompiles optionally into JavaScript. It supports interfaces, mixins, abstract classes, reified generics, static typing, and a sound type system [3-5]. The application basically has two modules:

Admin Module: This module will be used by the admin and the admin can accept or decline the new request.

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User Module: This module will provide the user interface to the user to login and book a conference for entries. The division into two modules really makes it easy for the respective users. The backend of the application is linked using Firebase. The details of bookings and users using the application is stored and maintained using Firebase. It is made sure that the users who are authorized can only use the application. This application can reduce the time wastage and conflicts that can happen.

The rest of the paper is organized as follows. Section II, Section III and Section IV describes about the related works, proposed system and methodology of the work respectively. The advantages are listed in Section V. The results were discussed in Section VI. At last, Section VII concludes the paper with conclusion of the work.

II. Related Works

In the paper published by Mutake R.N, Gunjal T.H, Bhor .P.S and Gunjal V.S which was published in the IJAERD, they created an android app that was used for booking conference room which had video and audio options. They have used a schedule for a week view .they have used SMS booking and time to time notification features. They have multiple conference rooms for booking hence if they don't know which conference room to book they have an option to look whole database from the web-based. the admin can add, delete and edit. They can also cancel and also book any conference hall.

III. Proposed System

In order to overcome the hurdles of the booking the conference room, we created a flutter application which allows users to book a conference room according to the time slots available. If the booking is for less than 2 hours and the given time slot is available, booking is processed instantly and if the booking is for more than 2 hours then the admin will be notified and the user has to wait for the response shown in Fig. 1.

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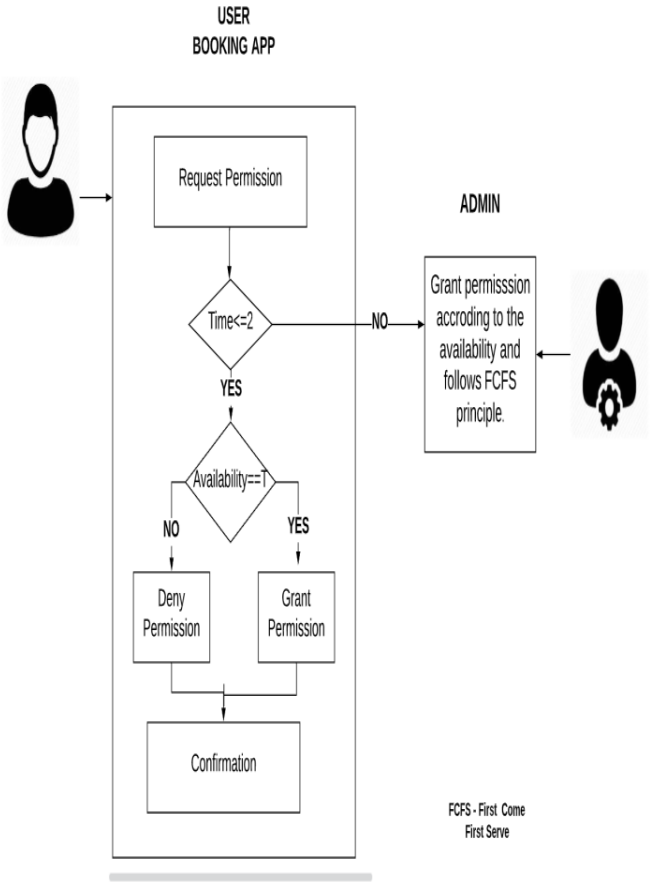

Fig. 1. Flowchart of the application.

IV. Methodology

The software used is flutter. Flutter includes ready-made widgets and development tools. These components work together to help design, build, test, and debug apps. Flutter framework also reduces code lines and makes it easy to build user interfaces that react smoothly to the app.

Firebase is a platform for creating the backend for a mobile application and also for web-based applications. In our conference booking application, it is used to store the booking details. It is also used to store the users that have been registered to the application. The data stored in the server is used to check whether a specific time is available or not. If available the user can book the slot and hence that slot is blocked. We have used first come first serve policy for booking the slot so that there is no problem while booking.

Fig. 2 provides the view of the login page where the user will be asked to enter their email id and using firebase verification is done. Fig. 3 shows the authentication mail is being sent to all the users who are signing up in the app. In Fig. 4, there will be a calendar highlighting the current date and the selected date is also highlighted with a different color. There is a floating button at the bottom of the page for new bookings. The user could select the date and time and schedule the booking.

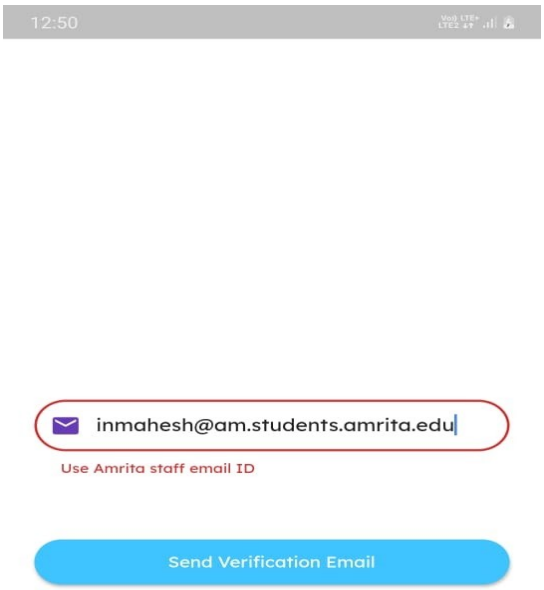

Fig. 2. Login Page

V. Advantages

- Reduces clashes in booking during rush hours.
- Spammers would be reduced as the app allows only verified users.
- A slot once booked cannot be rebooked by another user.

VI. Result

This conference Room booking app makes it easier for the users. As the admin and the user application are different there is an ease in using both. As the platform used to create this application is flutter it makes it usable for both the android and iOS users. This application can reduce the clash for conference room booking. This cost-effective project result is shown in Fig. 5 and using this we can also reduce time wastage.

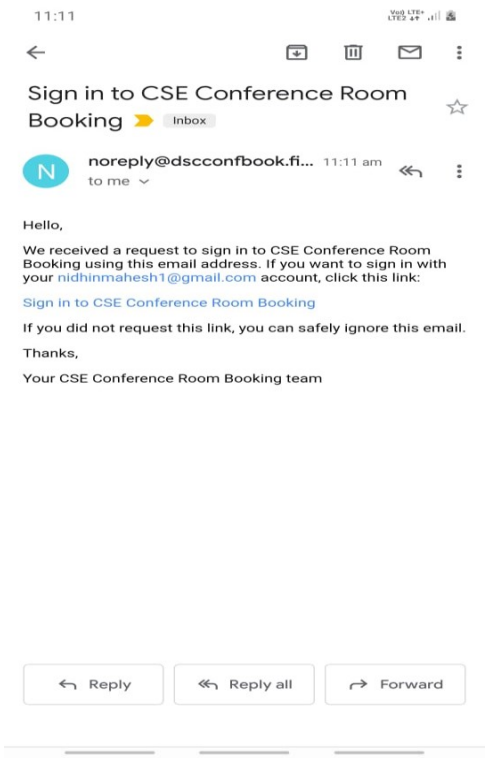

Fig. 3. Authentication mail is being sent to all the users who are signing up in the app.

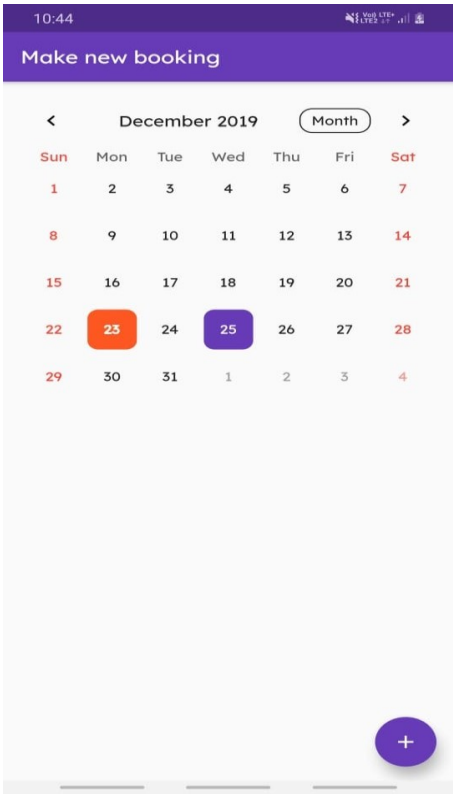

Fig. 4. From this page we can select the dates of booking.

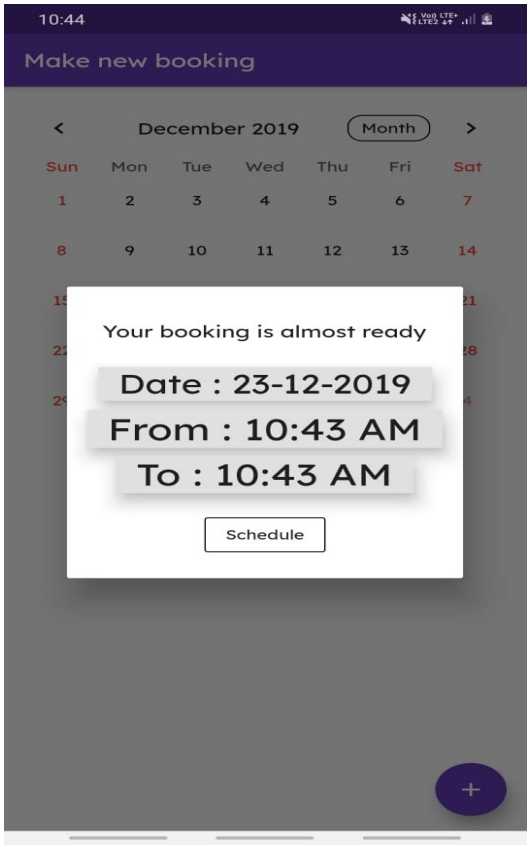

Fig. 5. This is a confirmation message for the booking user has requested.

VII. Conclusion

A cancellation facility for booked slots and the facility of receiving notifications if a wanted slot becomes available later on due to cancellation. We can extend the no of conference rooms i.e, the app can be extended for multiple rooms and prioritizing first-hand users will be included.A checklist can be provided for requirements within the conference room.

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