

# Build a Chat Screen

## Native App Development

**Time:** 60 mins

## Introduction

In this class, the student(s) will learn to create chat functionality in the BriskMed app. Student(s) will also learn to create connections in the database between two users (*doctor and patient*). Student(s) will also learn to add navigation to the chat screen and also display the list of connections on a screen.

## New Commands Introduced

- `<Avatar>` The component used to display the profile picture of a user.
- `firebase.database.ref()` The method is used to create a reference in the database..
- `.update()` The method is used to update the values in the database.

## Vocabulary

- **Connections** : An association or relationship between two or more people or things.

## Learning Objectives

student(s) should be able to:

- **Recall** the concept booking an appointment in the briskmed app.
- **Demonstrate** how the chat functionality works.
- **Explain** how the logic for the chat functionality works .
- **Illustrate** how a user navigates to chat screen and how the connection is created in the database.

## Activities

1. **Class Narrative:** (2 mins)
  - Brief the student(s) that they will be exploring the chat functionality of the BriskMed app .
  - The connections in the database will be created based on the user type..
2. **Concept Introduction Activity:** (5 mins)
  - Let the student(s) explore the chat functionality in the BriskMed app.

- Make student(s) sign in as a Patient as well as a Doctor to understand the difference between the navigation to chat screen based on the user..
- Ask student(s) to observe how the navigation is done between the screens.
- Ask student(s) to notice how the doctor gets added to the list of doctors.
- Using the slides, explain that the student(s) will learn to:
  - Navigate to Chat Screen
  - Connect the User Chats
  - Display the Chat List

### 3. Activity 1: Navigate to Chat Screen: (12 mins)

#### Teacher Activity: (6 mins)

- Explain to the student(s) how the navigation works from Home screen to Chat room to Chat list.
- Demonstrate to the student(s) how to create the `redirectToChatScreen` function and navigate to the chat stack and open a screen from it and pass the required parameters to it .
- Explain how an object with 'screen' and 'params' can be passed as a parameter to the Chat Stack navigation.
- Demonstrate to the student(s) how to add the user profile image and name on the chat screen.
- Explain to the student how to use the Avatar component to display the user profile picture.

#### Student Activity: (6 mins)

- Facilitate the student(s) by explaining the expectations from this activity.
- Guide the student(s) to create the '`redirectToChatScreen()`' function to navigate to the chat stack and open the chat screen from it.
- Guide the student(s) to display the profile picture and user name on the chat screen.
- Guide the student(s) to navigate back to 'UserList' screen

### 4. Activity 2: Connect the User Chats: (12 mins)

#### Teacher Activity: (6 mins)

- Explain how the chat functionality works at the backend of the app.
- Explain how the chat reference is created in database to save the chats and push method is used to store the new chat message.
- Explain how every chat has an unique chat id to store the chats between two set of users as there are multiple users and chats should not mix up.
- Explain how the connections are created in the 'patients' collection using the `fellowUserId` (doctor's id) and chat id.
- Demonstrate to the student(s) to create the connection only when there are no connections for the user or no connection with the fellow user.
- Demonstrate to the student(s) how to update the chats quickly on the chat screen.

#### Student Activity: (6 mins)

- Guide the student(s) to create the connections in 'doctors' collection using userId (patient's id) and chat id.

### 5. Activity 3: Display the Chat List: (8 mins)

#### Student Activity: (8 mins)

- Inform the student(s) that all the users(*doctors*) are being displayed in the list.
- Guide the student(s) to add a condition to display only the users (doctors) who have connection with current user.
- Guide the student(s) how to update the chats quickly on the chat screen.

### 6. Introduce the Post class project: (2 min)

- Inform the student(s) that users are already created in the database.
- Student(s) need to debug the code to avoid multiple connections for same set of users.

### 7. Test and Summarize the class learnings: (5 mins)

- Check for understanding through quizzes and summarize learnings after the respective activities.
- Summarize the overall class learning towards the end of the class.

### 8. Additional activities:

- Encourage the student(s) to open the chat screen from the appointment screen.
- Encourage the student(s) to debug the app code to avoid creating connections for same set of users.

### 9. State the Next Class Objective: (1 min)

- We will enable chat feature and send the chat messages.

## U.S. Standards:

CSTA: 2-AP-11, 2-AP-12, 2-AP-13, 2-AP-14, 2-AP-19

Links Table		
Activity	Activity Name	Link
Class Presentation	Build a Chat Screen	<a href="https://s3-whjr-curriculum-uploads.whjr.online/52c5bd41-0088-4076-90cb-3c678d7d68f5.html">https://s3-whjr-curriculum-uploads.whjr.online/52c5bd41-0088-4076-90cb-3c678d7d68f5.html</a>
Explore Activity	Build a Chat Screen	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-sa3-display-the-chat-list?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-sa3-display-the-chat-list?platform=web</a>
Teacher Activity 1	Navigate to Chat Screen	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-ta1-navigate-to-chat-screen">https://snack.expo.dev/@procodingclass/wad-402-c62-ta1-navigate-to-chat-screen</a>

		<a href="#">een?platform=web</a>
Teacher Activity 1 Solution	Navigate to Chat Screen	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-ta1-navigate-to-chat-screen---solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-ta1-navigate-to-chat-screen---solution?platform=web</a>
Student Activity 1	Navigate to Chat Screen	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-sa1-navigate-to-chat-screen?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-sa1-navigate-to-chat-screen?platform=web</a>
Teacher Reference: Student Activity 1 Solution	Navigate to Chat Screen	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-sa1-navigate-to-chat-screen---solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-sa1-navigate-to-chat-screen---solution?platform=web</a>
Teacher Activity 2	Connect the User Chats	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_1-connect-the-user-chats?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_1-connect-the-user-chats?platform=web</a>
Teacher Activity 2 Solution	Connect the User Chats	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_1-connect-the-user-chats--solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_1-connect-the-user-chats--solution?platform=web</a>
Student Activity 2.1	Connect the User Chats	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-sa2_1-connect-the-user-chats?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-sa2_1-connect-the-user-chats?platform=web</a>
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Student Activity 2.2	Connect the User Chats	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_2-connect-the-user-chats?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_2-connect-the-user-chats?platform=web</a>
Teacher Reference: Student Activity 2.2 Solution	Connect the User Chats	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_2-connect-the-user-chats--solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-ta2_2-connect-the-user-chats--solution?platform=web</a>
Student Activity 3	Display the Chat List	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-sa3-display-the-chat-list?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-sa3-display-the-chat-list?platform=web</a>
Teacher Reference: Student Activity 3 Solution	Display the Chat List	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-sa3-display-the-chat-list--solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-sa3-display-the-chat-list--solution?platform=web</a>
Student's Additional Activity 1	Doctor Initiate Chat from the Appointments	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-aa1-doctor-initiate-chat-from-the-appointments?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-aa1-doctor-initiate-chat-from-the-appointments?platform=web</a>
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Student's Additional Activity 2	Debug Multiple Connection Creation	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-aa2-debug-multiple-connection-creation?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-aa2-debug-multiple-connection-creation?platform=web</a>
Teacher Reference: Student's Additional Activity 2 Solution	Debug Multiple Connection Creation	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-aa2-debug-multiple-connection-creation--solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-aa2-debug-multiple-connection-creation--solution?platform=web</a>

Post Class Project	Debug Multiple Connection Creation	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-pcp-debug-multiple-connection-creation?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-pcp-debug-multiple-connection-creation?platform=web</a>
Teacher Reference: Post Class Project Solution	Debug Multiple Connection Creation	<a href="https://snack.expo.dev/@procodingclass/wad-402-c62-pcp-debug-multiple-connection-creation---solution?platform=web">https://snack.expo.dev/@procodingclass/wad-402-c62-pcp-debug-multiple-connection-creation---solution?platform=web</a>