

Book an Appointment

Native App Development

Time: 60 mins

Introduction

In this class, students will learn to add a feature that enables patients to book an appointment with a selected doctor. Student/s design a personal appointment booking screen for the BriskMed app users. In addition they also learn to store the appointment details into a database and retrieve them to display a list of appointments on the patients' and doctors' appointment screen.

React Native Commands and Components Introduced

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| • <code><Calendar/></code> | Adds a traditional calendar element that supports month navigation |
| • <code><SelectDropdown/></code> | Adds a a customizable dropdown component |
| • <code>firebase.database.ServerValue.TIMESTAMP</code> | A placeholder for the actual time on the server and will be replaced when the server receives and writes the data. |
| • <code>.orderByChild('timeStamp')</code> | Generates a new query which orders the data received based on the key timeStamps. |
| • <code>.on('value', (snapshot) => {})</code> | Listens for any data changes at a particular location. |

Vocabulary

- **Logical OR operator (||):** Returns the boolean value true if one or more operands is true and returns false otherwise.

Learning Objectives

Student/s should be able to:

- **Recall** the React Native components and Firebase database concept used to develop an app in React Native.
- **Explain** how to add a calendar to manage dates and drop down list with options to the app screen.
- **Demonstrate** how to book an appointment with a selected doctor and save the appointment details into the Firebase database.
- **Illustrate** the method to fetch all user appointments from the database and filter them based on user id and user type. Also display a list of appointments scheduled on the user's screen in a chronological order.

Activities

1. Class Narrative: (2 mins)

- Brief the student/s that they will be adding a book appointment feature to the BriskMed app. Using this feature a patient can schedule an appointment with a doctor of their choice on a chosen day, and time. Further, they will also display all the appointments list on the user's screen.

2. Concept Introduction Activity: (5 mins)

- Let the student/s explore-activity and observe the fields on Book an Appointment screen.
- Guide the students to explore the working of the calendar and drop down list.
- Guide the student/s to schedule an appointment from their account as a patient and click on confirm button. Ask them to observe the cumulated appointment list on profile screen while they login as the patient who booked an appointment as well as the doctor with whom the appointment was scheduled.
- Using the slides, explain how:
 - They can add calendar and drop down components to a React Native app.
 - a patient can schedule an appointment with a selected doctor.
 - a list of scheduled appointments can be displayed on the Appointments screen based on user type in a chronological order.

3. Activity 1: Add an Appointment Booking Screen (16 mins)

Teacher Activity: (7 mins)

- Explain to the student/s about the React-calendar that helps to manipulate and manage date.
- Demonstrate how to add a calendar to the app screen with `<Calendar>` component and customize its functionality and appearance using its props.
- Demonstrate how to add a drop down list to the app screen with `<SelectDropdown>` component and customize its functionality and appearance using its props.

Student Activity: (9 mins)

- Guide the student/s to add a calendar to choose a date, a drop down list to pick a time slot for the appointment and a text field to leave a note to the doctor.

4. Activity 2:: Book an Appointment (11 mins)

Teacher Activity: (5 mins)

- Explain to the student/s the use of logical OR operator, to verify if all the mandatory inputs are given by the patient before booking an appointment or else display an alert message.
- Demonstrate how we can schedule an appointment using the function `bookAppointment()`.
- Illustrate how the appointment details can be pushed to the appointment database on Firebase by showing the database window on Firebase.

Student Activity: (6 mins)

- Guide the student/s to schedule an appointment and store all the appointment related details into the appointment database on Firebase.
- Ask the students to open their account on Firebase and see how the user appointment data is added to the appointment database.

5. Activity 3: Display Appointments (18 mins)

Teacher Activity: (5 mins)

- Explain the fact that once an appointment is scheduled by a patient, all the appointments booked so far must be visible to the user on their Appointments screen.
- Mention that appointments screen should differ for patients and doctors and needs to be fetched from the database classifying with respect to user IDs.
- Explain that the list of appointments can be arranged in a chronological order using timestamp.
- Explain that the appointments are requested and need to be approved/rejected to update appointment status on both users' screens.

Student Activity: (13 mins)

- Guide the student/s to display the scheduled appointments list on patient and doctor's appointment screens.
- Guide the student/s to update appointment status into the Firebase database.

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

- Add a panic button to ask for help from the campus security officer.

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

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

8. Additional activities:

- Encourage the student/s to add an alert to confirm the booking when clicked on the Confirm button.
- Encourage the student/s to add a dropdown to select an age of the patient while booking an appointment.

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

- We will learn to create the UI for the chat screen that let's patients chat with their doctor for any medical advice.

U.S. Standards:

CSTA: 2-AP-13, 2-AP-16, 2-AP-19

Links Table		
Activity	Activity Name	Link
Class Presentation	Book an Appointment	https://s3-whjr-curriculum-uploads.whjr.online/eff6f60d-c4d6-44b4-afe3-1bf76543dc24.html
Explore Activity	Book an Appointment	https://snack.expo.dev/@procodingclass/wad-402-c61-sa3_2-confirm-appointments--solution?platform=web

Teacher Activity 1.1	Add a Calendar	https://snack.expo.dev/@procodingclass/wad-402-c61-ta1-1-add-a-calendar?platform=web
Teacher Activity 1.1 Solution	Add a Calendar	https://snack.expo.dev/@procodingclass/wad-402-c61-ta1-1-add-a-calendar---solution?platform=web
Student Activity 1.1	Add a Calendar	https://snack.expo.dev/@procodingclass/wad-402-c61-sa1-1-add-a-calendar?platform=web
Teacher Reference: Student Activity 1.1 Solution	Add a Calendar	https://snack.expo.dev/@procodingclass/wad-402-c61-sa1-1-add-a-calendar---solution?platform=web
Teacher Activity 1.2	Add Time Slots	https://snack.expo.dev/@procodingclass/wad-402-c61-ta1-2-add-time-slots?platform=web
Teacher Activity 1.2 Solution	Add Time Slots	https://snack.expo.dev/@procodingclass/wad-402-c61-ta1-2-add-time-slots---solution?platform=web
Student Activity 1.2	Add Time Slots	https://snack.expo.dev/@procodingclass/wad-402-c61-sa1-2-add-time-slots?platform=web
Teacher Reference: Student Activity 1.2 Solution	Add Time Slots	https://snack.expo.dev/@procodingclass/wad-402-c61-sa1-2-add-time-slots---solution?platform=web
Teacher Activity 2	Book An Appointment	https://snack.expo.dev/@procodingclass/wad-402-c61-ta2-book-an-appointment?platform=web
Teacher Activity 2 Solution	Book An Appointment	https://snack.expo.dev/@procodingclass/wad-402-c61-ta2-book-an-appointment---solution?platform=web
Student Activity 2	Book An Appointment	https://snack.expo.dev/@procodingclass/wad-402-c61-sa2-book-an-appointment?platform=web
Teacher Reference: Student Activity 2 Solution	Book An Appointment	https://snack.expo.dev/@procodingclass/wad-402-c61-sa2-book-an-appointment---solution?platform=web
Teacher Activity 3	Display User Appointments	https://snack.expo.dev/@procodingclass/wad-402-c61-ta3_1-display-user-appointments?platform=web
Teacher Activity 3 Solution	Display User Appointments	https://snack.expo.dev/@procodingclass/wad-402-c61-ta3_1-display-user-appointments---solution?platform=web
Student Activity 3.1	Display User Appointments	https://snack.expo.dev/@procodingclass/wad-402-c61-sa3_1-display-user-appointments?platform=web
Teacher Reference: Student Activity 3.1 Solution	Display User Appointments	https://snack.expo.dev/@procodingclass/wad-402-c61-sa3_1-display-user-appointments---solution?platform=w

Student Activity 3.2	Confirm Appointments	https://snack.expo.dev/@procodingclass/wad-402-c61-sa3_2-confirm-appointments
Teacher Reference: Student Activity 3.2 Solution	Confirm Appointments	https://snack.expo.dev/@procodingclass/wad-402-c61-sa3_2-confirm-appointments--solution?platform=web
Student's Additional Activity 1	Confirm an Appointment before Booking	https://snack.expo.dev/@procodingclass/wad-402-c61-aa1-confirm-an-appointment-before-booking?platform=web
Teacher Reference: Student's Additional Activity 1 Solution	Confirm an Appointment before Booking	https://snack.expo.dev/@procodingclass/wad-402-c61-aa1-confirm-an-appointment-before-booking--solution?platform=web
Student's Additional Activity 2	Add Dropdown for Patient Age	https://snack.expo.dev/@procodingclass/wad-402-c61-aa2-add-dropdown-for-patient-age?platform=web
Teacher Reference: Student's Additional Activity 2 Solution	Add Dropdown for Patient Age	https://snack.expo.dev/@procodingclass/wad-402-c61-aa2-add-dropdown-for-patient-age--solution?platform=web
Post Class Project	Add a Help Me Button	https://snack.expo.dev/@procodingclass/wad-402-c61-pcp-add-a-help-me-button?platform=web
Teacher Reference: Post Class Project Solution	Add a Help Me Button	https://snack.expo.dev/@procodingclass/wad-402-c61-pcp-add-a-help-me-button-solution?platform=web