

Experiment 5

- **Aim:-** To apply navigation, routing and gestures in Flutter App
- **Theory:-**

1. Navigation Enhancements

① Named Routes (pushNamed)

Implemented in main.dart to handle navigation cleanly.

Example:

dart

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```
Navigator.pushNamed(context, '/booking', arguments: turfDetails);
```

Used for:

Navigating from Home Screen → Booking Screen

Navigating back to Home Screen after booking completion.

② Standard Navigation (push & pop)

Used in TurfCard.dart and BookingScreen.dart.

Example:

dart

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```
Navigator.push(  
  context,  
  MaterialPageRoute(  
    builder: (context) => BookingScreen(turfDetails: turf),  
  ),  
);
```

2. Gesture-Based Interactions

1 Tap Gesture (onTap)

- Home Screen → Booking Screen:
 - Users tap on a TurfCard to navigate to the Booking Screen.
- Full-Screen Image View:
 - Users tap on the image to expand it in full-screen mode.

2 Double-Tap Gesture (onDoubleTap)

- Implemented in Turf Card & Full-Screen Image View.
- On Turf Card: Adds turf to favorites (shows snackbar).

On Image: Simulates "Save Image to Gallery" feature with feedback.

```
dart
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onDoubleTap: () {
  ScaffoldMessenger.of(context).showSnackBar(
    SnackBar(content: Text('Saved to gallery! 📷')),
  );
}
```

3 Long Press Gesture (onLongPress)

- Used in Turf Card to show additional details via a pop-up dialog.

Users can view more details before deciding to book.

```
dart
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onLongPress: () {
  showDialog(
    context: context,
    builder: (context) => AlertDialog(
      title: Text('Details'),
      content: Text('Turf: $name\nLocation: $location\nPrice: ₹$price/hour'),
      actions: [
        TextButton(onPressed: () => Navigator.pop(context), child: Text('Close')),
        TextButton(onPressed: onBook, child: Text('Book Now')),
      ],
    ),
  );
}
```

④ Swipe Gesture (onHorizontalDragEnd)

Swipe Right to go back from Booking Screen.

dart

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```
onHorizontalDragEnd: (details) {  
  if (details.primaryVelocity! > 0) {  
    Navigator.pop(context);  
  }  
}
```

3. Routing & UI Flow

① Main Routing (main.dart)

Declared named routes:

dart

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```
routes: {  
  '/': (context) => HomeScreen(),  
  '/booking': (context) => BookingScreen(  
    turfDetails: ModalRoute.of(context)!.settings.arguments as Map<String, String>,  
  ),  
}
```

- All screens are accessible via named routes, keeping the navigation structured.

② Booking Confirmation Dialog

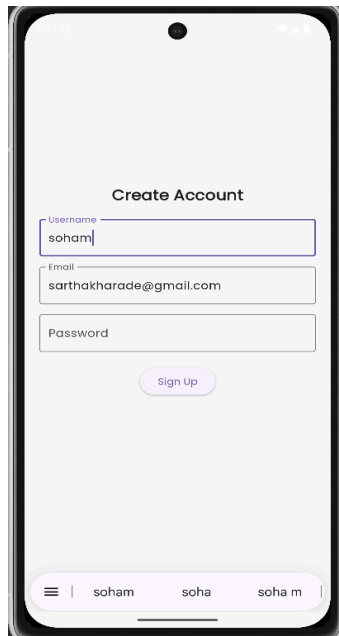
Before finalizing a booking, a pop-up confirmation appears:

dart

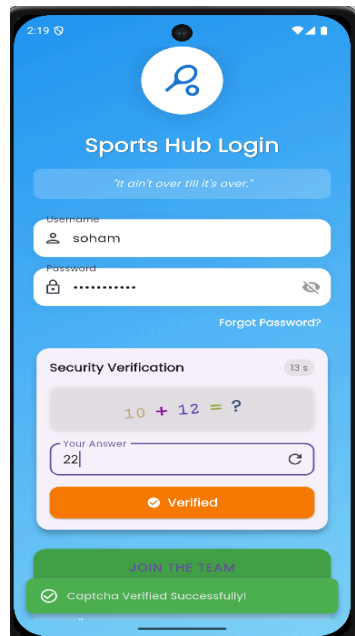
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```
showDialog(  
  context: context,  
  builder: (context) => AlertDialog(  
    title: Text('Confirm Booking'),  
    content: Text('Turf: ${widget.turfDetails['name']}'),  
    actions: [  
      TextButton(onPressed: () => Navigator.pop(context), child: Text('Cancel')),  
      TextButton(  
        onPressed: () {  
          Navigator.pop(context);  
          ScaffoldMessenger.of(context).showSnackBar(SnackBar(content: Text('Booking  
confirmed! 🎉')));  
          Navigator.pop(context);  
        },  
        child: Text('Confirm'),  
      ),  
    ],  
  ),  
)
```

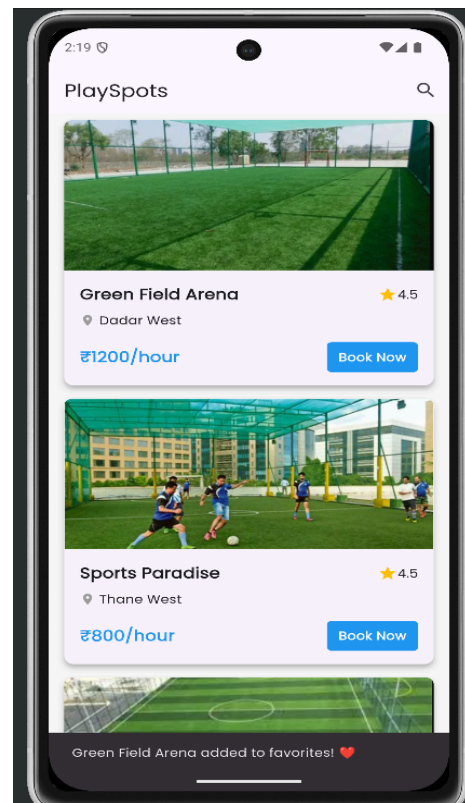
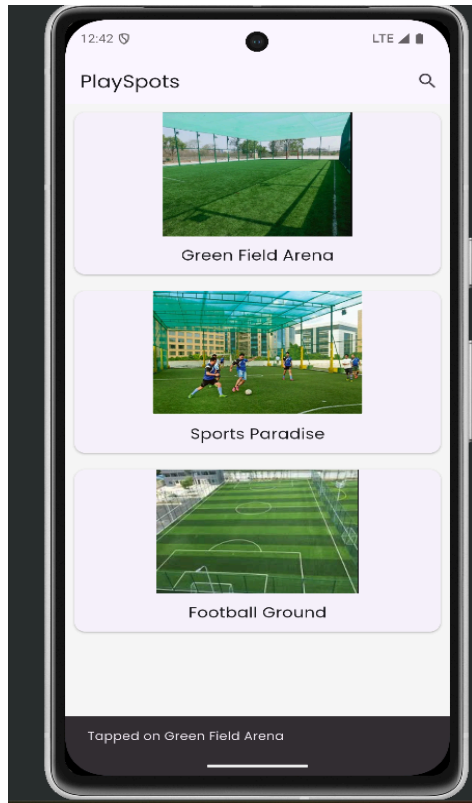
```
],  
)  
);  
//Ensures users verify their booking details before confirming.
```

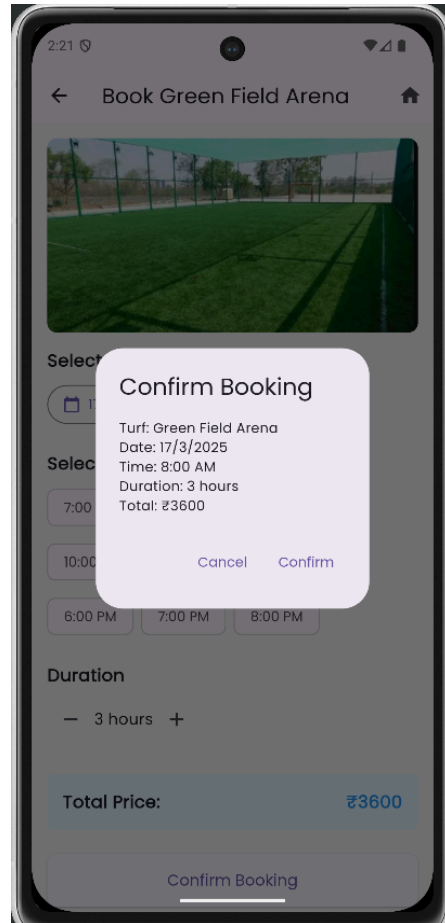
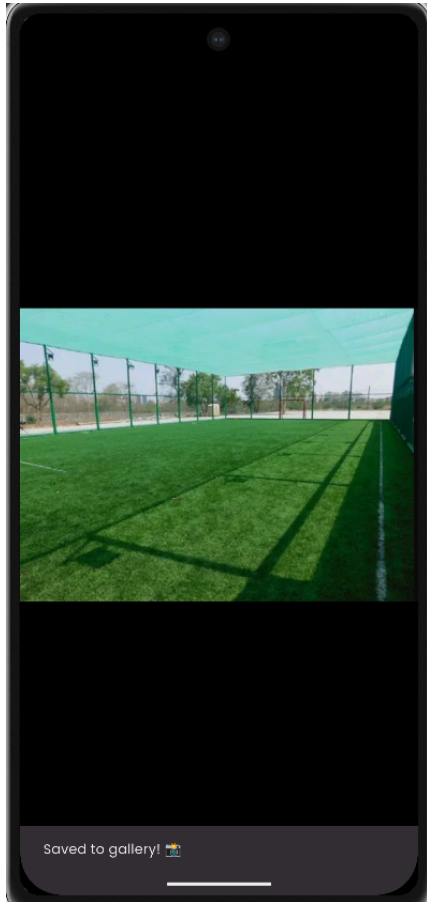


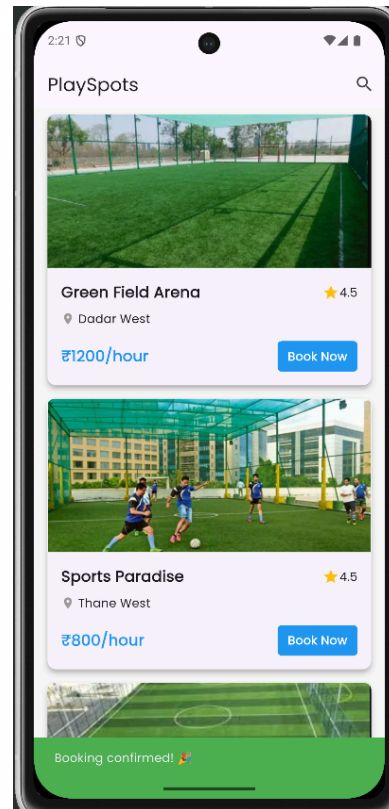
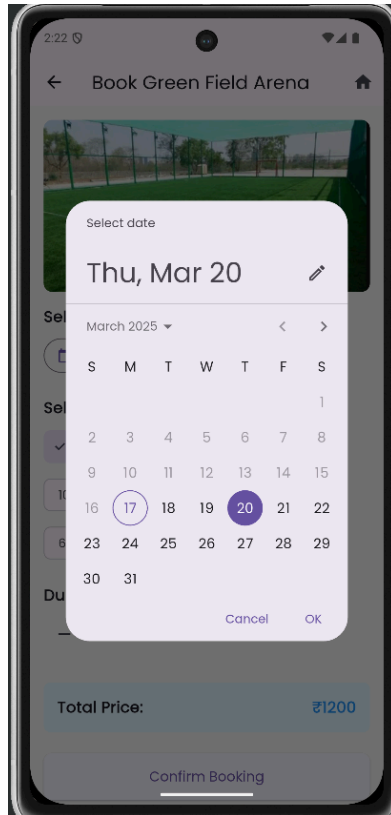
The image shows a mobile app screen titled "Create Account". It features three input fields: "Username" with the text "soham", "Email" with the text "sarthakharade@gmail.com", and "Password". Below these fields is a purple "Sign Up" button. At the bottom of the screen, there is a navigation bar with a hamburger menu icon on the left and three text items: "soham", "soha", and "soha m".



The image shows a mobile app screen titled "Sports Hub Login". It features a blue header with a magnifying glass icon. Below the header is a quote: "It ain't over till it's over." There are two input fields: "Username" with the text "soham" and "Password" with masked text "*****". A "Forgot Password?" link is next to the password field. Below these is a "Security Verification" section with a timer "13 s" and a math problem "10 + 12 = ?". There is a "Your Answer" input field with the text "22" and a refresh icon. Below the answer field is an orange "Verified" button. At the bottom, there is a green button labeled "Join the team" and a green banner that says "Captcha Verified Successfully!".







- **Conclusion:-**

This experiment successfully **integrated navigation, routing, and gestures** into the **TurfiT booking app**, enhancing the user experience. **Structured navigation** using **named routes** improved app organization, while **gesture-based interactions** made the app **more dynamic and engaging**. The **combination of intuitive UI, smooth transitions, and interactive gestures** resulted in a **seamless booking process**, making the app more **user-friendly, responsive, and efficient**.