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D15B-36

Experiment 5: Navigation, Routing, and Gestures in Smart Study App

Objective:

To implement **navigation, routing, and gestures** in the StoryVerse App using Flutter.

Theory:

Flutter provides a robust navigation system that allows smooth transitions between different screens using **Navigator** and **Routes**. Gesture detection enhances user interaction by recognizing various touch patterns.

1. Navigation & Routing:

- **Navigator.push()**: Moves to a new screen.
- **Navigator.pop()**: Returns to the previous screen.
- **Named Routes**: Defines structured navigation between multiple screens.
- **onGenerateRoute**: Dynamically generates routes.

2. Gesture Detection:

Flutter supports touch gestures like tapping, swiping, and long pressing using **GestureDetector** and **InkWell**.

Implementation:

1. Navigation in Smart Study App

Step 1: Define Routes in main.dart

```
void main() {   runApp(MaterialApp(
    initialRoute: '/',
routes: {
      '/': (context) => HomeScreen(),
      '/subjects': (context) => SubjectsScreen(),
      '/tasks': (context) => TasksScreen(),
    },
  ));
}
```

Step 2: Navigating to a New Screen

```
ElevatedButton(
onPressed: () {
    Navigator.pushNamed(context, '/subjects');
  },
  child: Text("Go to Subjects"),
);
```

Step 3: Returning to Previous Screen

```
ElevatedButton(
onPressed: () {
    Navigator.pop(context);
  },
  child: Text("Back"),
);
```

---

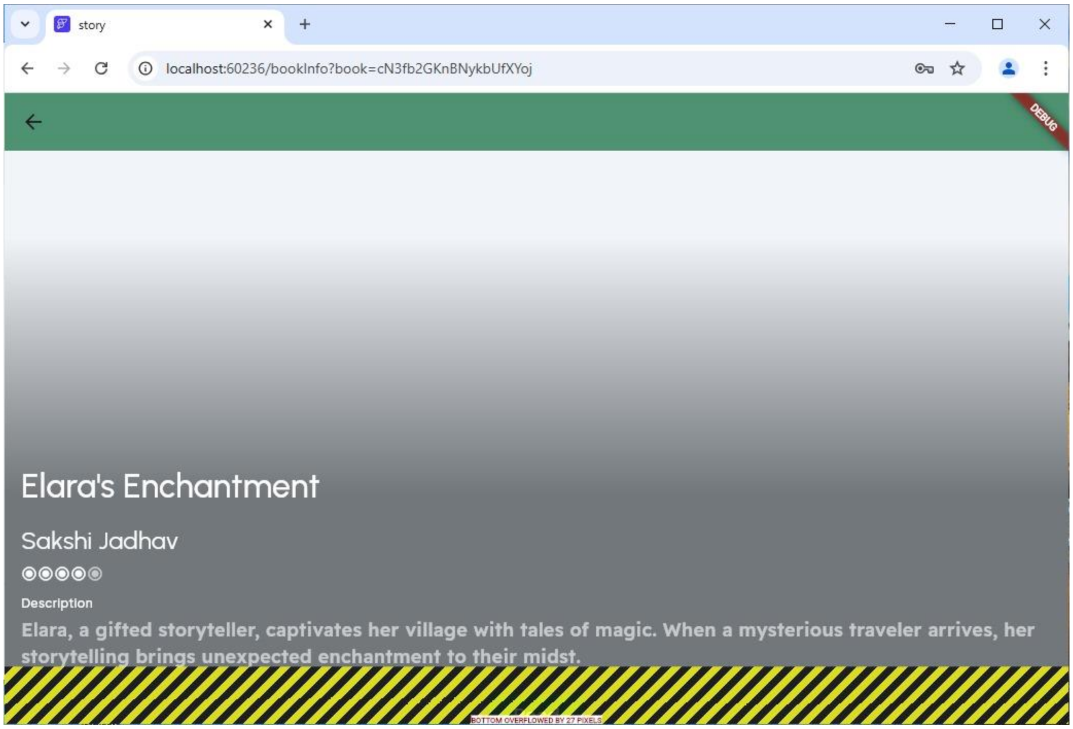
2. Gesture Implementation

Step 1: Using GestureDetector

```
GestureDetector(
onTap: () {
    print("Card tapped!");
  },
  child: Card(
child: Padding(
padding:
EdgeInsets.all(16.
0),       child:
Text("Tap Me"),
    ),
  ),
);
```

Step 2: Adding Swipe Gesture

```
GestureDetector(
onHorizontalDragEnd: (details) {
if (details.primaryVelocity! > 0) {
print("Swiped Right");
    } else {
print("Swiped Left");
    }
  },
  child: Container(
color: Colors.blue,
height: 100,      width:
100,
  ),
);
```



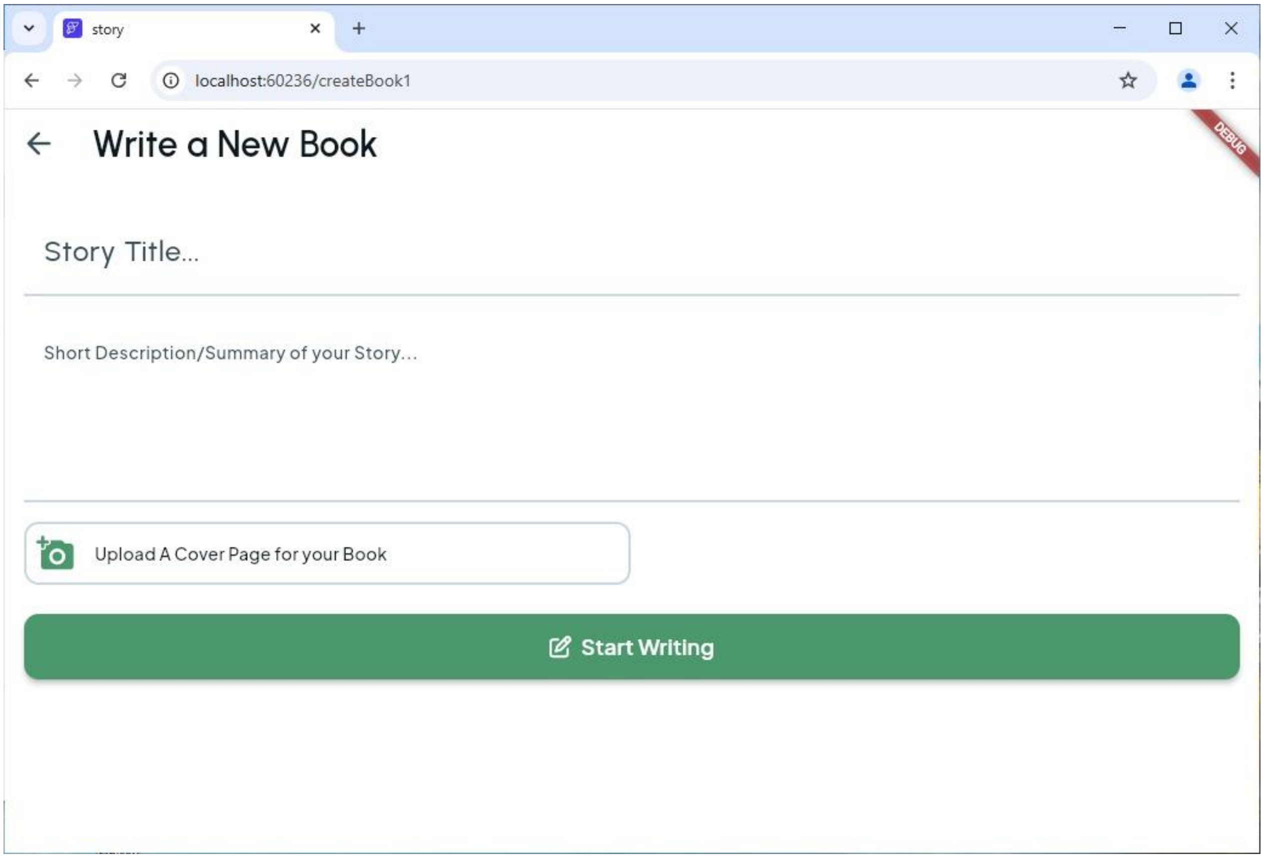
Elara's Enchantment

Sakshi Jadhav

Description

Elara, a gifted storyteller, captivates her village with tales of magic. When a mysterious traveler arrives, her storytelling brings unexpected enchantment to their midst.

BOTTOM OVERFLOWED BY 27 PIXELS


story
localhost:60236/createBook1
DEBUG
Write a New Book
Story Title...
Short Description/Summary of your Story...
Upload A Cover Page for your Book
Start Writing

Conclusion:

In this experiment, we successfully implemented **navigation, routing, and gesture detection** in the **Smart Study App**. Users can navigate between screens and interact with UI elements using tap and swipe gestures.

Key Learnings:

1. Implemented **Navigator** for screen transitions.
2. Used **named routes** for structured navigation.
3. Applied **GestureDetector** for touch-based interactions.

This enhances the **StoryVerse** by improving user experience and accessibility.