Flutter News Reader App

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Problem Statement

Develop a **Flutter-based News Reader App** for Android that provides users with the latest news articles in an engaging and user-friendly interface. The app should integrate **real-time news API fetching, bookmarking functionality, theming, localization, Firebase integration, and a structured UI/UX.**

Project Modules

- UI Components (Widgets, Styling, Theming)

- Navigation & Gestures

- API Integration (News API)

- Database (Firebase for Bookmarks)

- Localization Support

Widgets in Flutter

- Widgets are the building blocks of a Flutter app. Types include:

- StatelessWidget: Static UI components.

- StatefulWidget: Dynamic UI components that change state.

- Common Widgets: Text, Buttons, Lists, Images, etc.
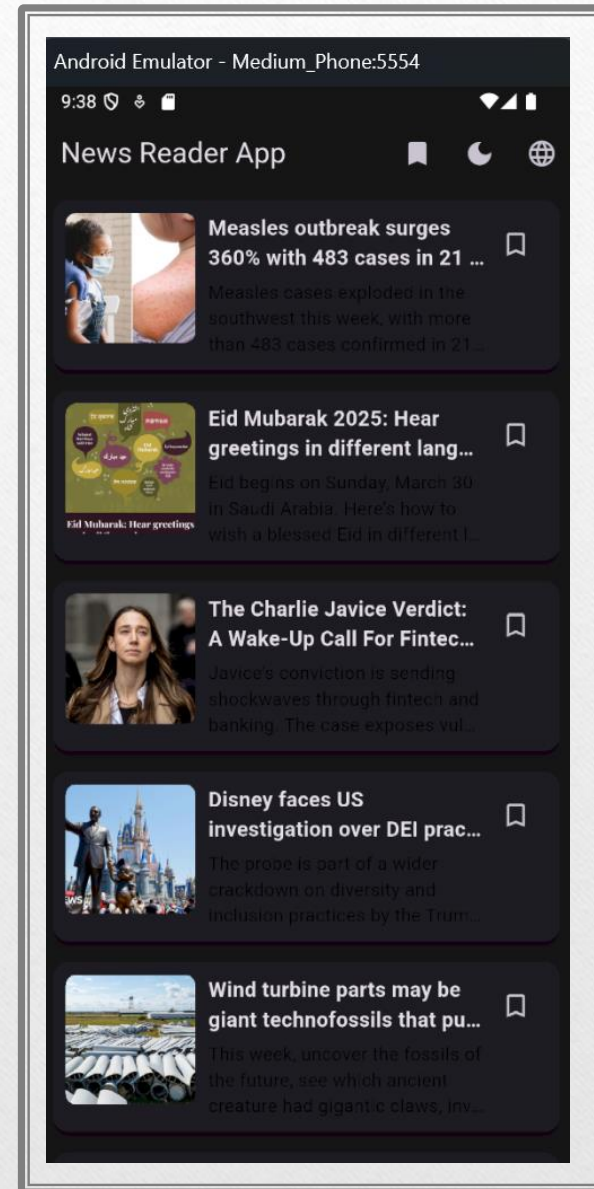
Stateless vs Stateful Widgets

- Stateless Widgets: Do not change once built

    ->Text

    ->Icons

- Stateful Widgets: Can change dynamically based on user input

    -> Dark mode switch

    -> News list refresh

Styling & Theming

Uses ThemeData for global styling.
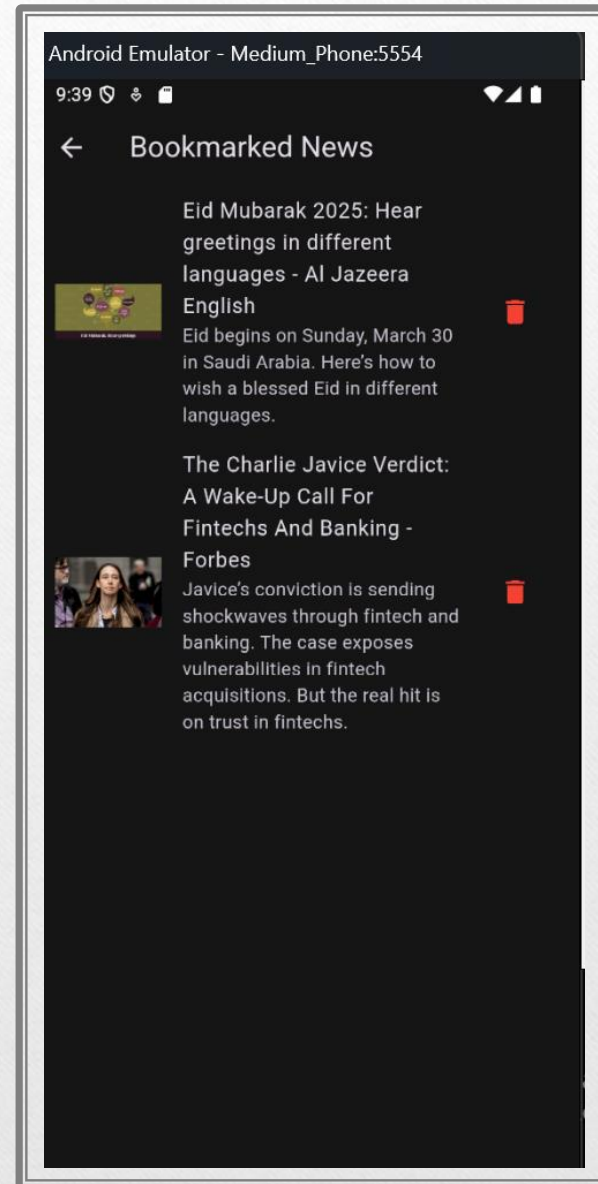
Supports Light & Dark themes.

Custom fonts, colors, and typography.

Layouts & Views

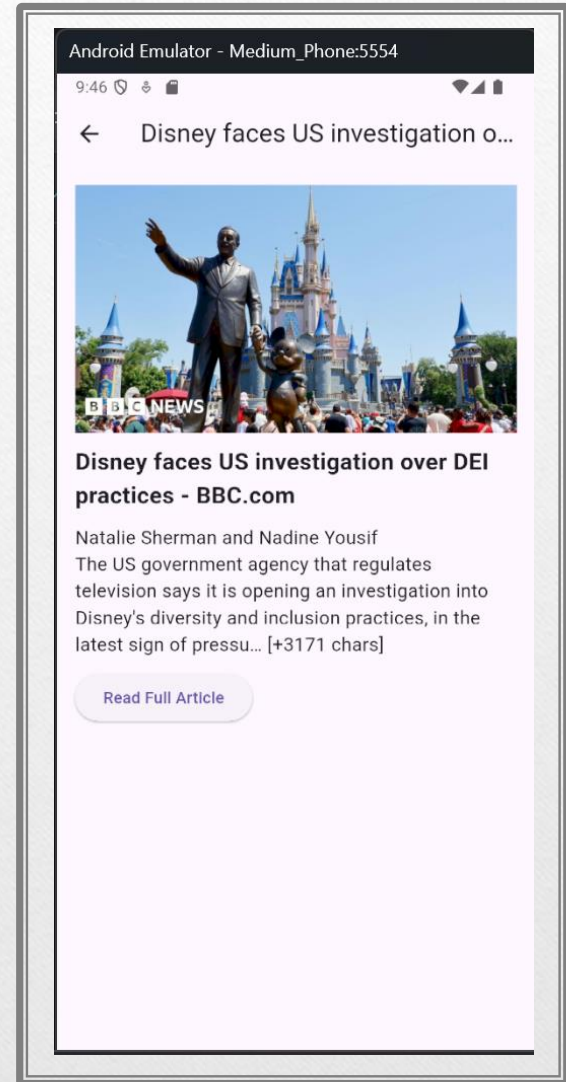Flutter uses Widgets for layout (Column, Row, Stack, GridView).

Adaptive UI for different screen sizes.

Navigation & Routing

Uses Navigator.push() and Navigator.pop() for page transitions.

Named routes for better management.
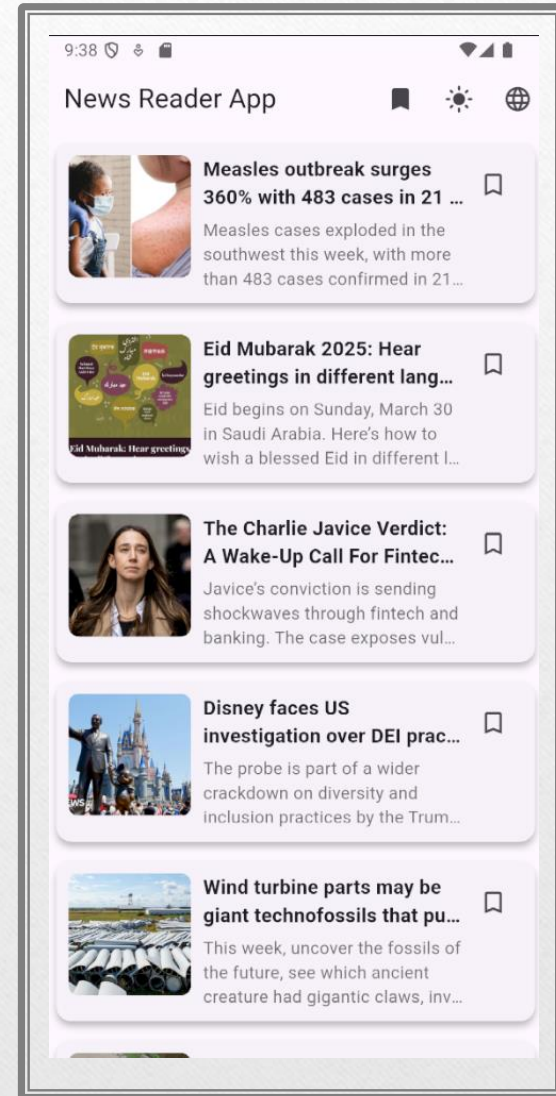
Gestures & User Interaction

- Supports taps, swipes, and long presses.
- GestureDetector widget for custom interactions.

API Integration (News API)

Uses HTTP package for API calls.
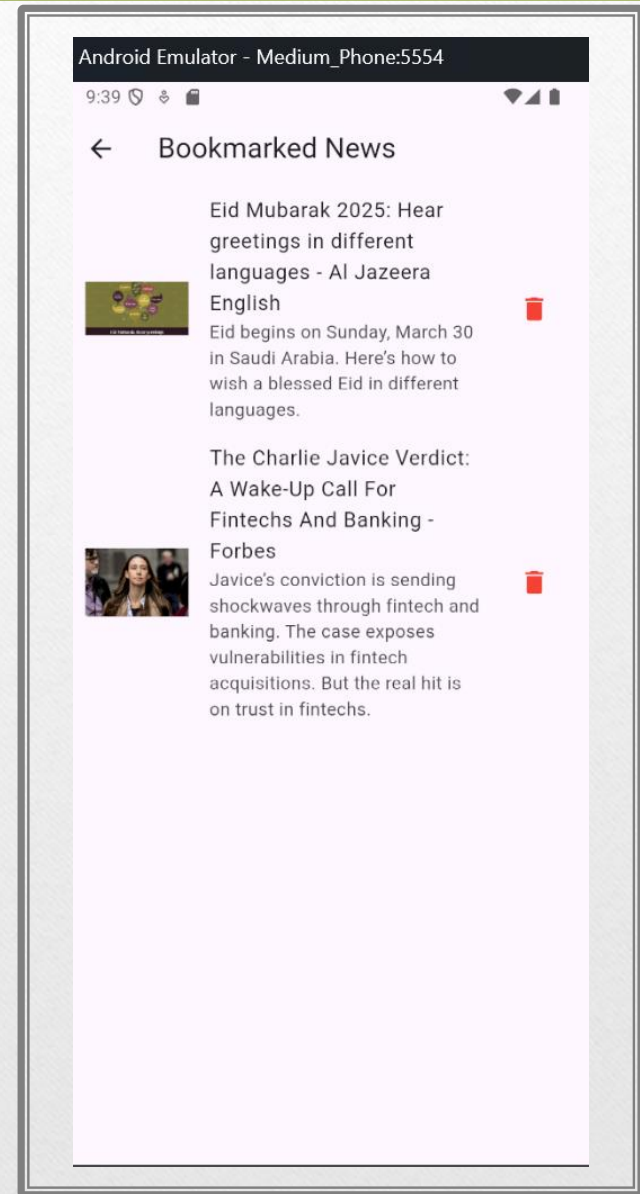
Fetches latest news from NewsAPI.

Displays news articles dynamically.

Database & Firebase

Firebase Firestore used for storing bookmarks.

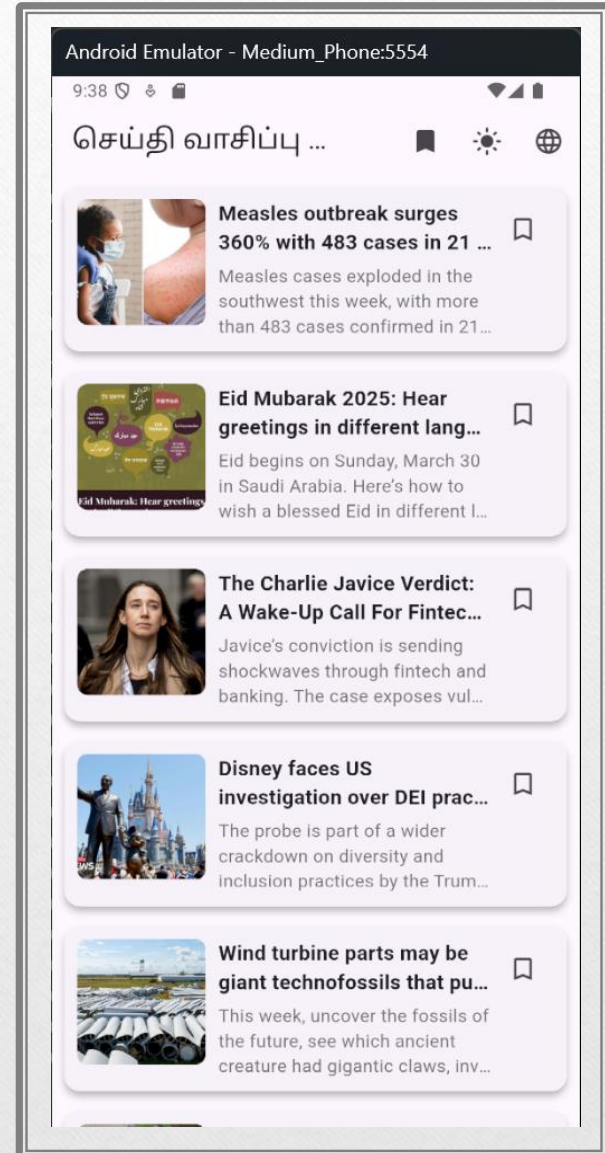Firestore integration for persistent data.

Localization Support

Supports multiple languages (English & Tamil).

Uses Flutter Intl package.

Stores translations in .arb files.

Conclusion

- The Flutter News Reader App integrates modern UI, API, Firebase, and Localization techniques to create a feature-rich and scalable application.