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PHASE 3-MVP IMPLEMENTATION

NEWS FEED APPLICATION

Project Setup :

- **Create a dedicated project folder**

Organize it with sub-folders for the main application files, styles, and a sample news-articles database or API configuration.

- **Set up the basic application structure**

Use **HTML** for the layout (header, category filters, and feed section), **CSS** for styling (responsive cards, light/dark mode), and **JavaScript** for interactive features such as fetching and displaying articles.

- **Design the news-feed interface**

Build a scrolling feed that shows one article card per entry with a headline, image, brief summary, source, and a “Read More” link.

- **Implement JavaScript functions**

Handle API calls or local data storage, dynamically render article cards, manage category or keyword filters, and support features like infinite scrolling or pagination.

- **Add extra features**

Include live refresh to pull the latest stories, user actions like “bookmark” or “like,” and optional personalization such as saving preferred categories.

- **Provide a highlights or results section**

Offer a “Top Stories” or “Trending” area that summarizes the most recent or most-read articles for quick access.

- **Test thoroughly**

Check for network errors, empty results, and responsiveness across devices to ensure a smooth, engaging reading experience.

CODE :

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8" />
  <meta name="viewport" content="width=device-width, initial-scale=1.0"/>
  <title>News Feed App</title>
  <link rel="stylesheet" href="styles.css" />
</head>
<body>
  <header class="header">
    <h1>Daily News Feed</h1>
    <nav class="filters">
      <button data-category="all" class="filter-btn active">All</button>
      <button data-category="world" class="filter-btn">World</button>
      <button data-category="technology" class="filter-
btn">Technology</button>
      <button data-category="sports" class="filter-btn">Sports</button>
      <button data-category="entertainment" class="filter-
btn">Entertainment</button>
    </nav>
  </header>

  <main class="news-container">
    <!-- Articles will be injected here dynamically -->
    <div id="news-list" class="news-list">
```

```
    <!-- Example of a single article card -->
    <!--
    <article class="news-card">
      <img src="image.jpg" alt="Headline image" />
      <div class="news-content">
        <h2 class="news-title">Headline goes here</h2>
        <p class="news-summary">Short description of the news story.</p>
        <a href="#" class="read-more" target="_blank">Read More</a>
      </div>
    </article>
    -->
  </div>
  <div class="loading" id="loading">Loading latest articles…</div>
 </main>

 <footer class="footer">
  <p>&copy; 2025 News Feed MVP</p>
 </footer>

 <script src="script.js"></script>
</body>
</html>
```

OUTPUT :

Daily News Feed

[All] [World] [Technology] [Sports] [Entertainment]

Loading latest articles…

CORE FEATURES IMPLEMENTATION :

- **Dynamic News Feed Interface**

Display articles as interactive cards with headline, image, summary, and a “Read More” link. Cards load automatically from an API or local data file.

- **Live Updates / Auto-Refresh**

Periodically fetch the latest stories so the feed stays current without manual reload.

- **Category & Keyword Filtering**

Allow users to filter by topics (e.g., World, Technology, Sports) or search for specific keywords.

- **User Engagement & Bookmarks**

Enable actions like “Like,” “Bookmark,” or “Save for Later,” with the state stored in local storage or a lightweight database.

- **Trending / Top Stories Section**

Highlight the most-read or most-liked articles for quick discovery.

- **Pagination or Infinite Scroll**

Support smooth navigation through large numbers of articles with “Load More” buttons or automatic infinite scrolling.

- **Responsive Design**

Ensure the layout adapts seamlessly to desktop, tablet, and mobile screens.

- **Error Handling & Offline Support**

Provide clear messages if the API fails or the user is offline, and optionally cache recent articles for offline reading.

Basic Implementation Overview :

1. News Feed Interface

- Display a list of news articles as interactive cards showing **headline, image, brief summary, source, and "Read More" link**.
- Highlight an article card when hovered or selected.
- Allow category filters (e.g., *World*, *Technology*, *Sports*) and keyword search.

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2. Live Updates / Refresh

- Implement a **refresh timer** or background polling to fetch the latest articles at regular intervals.
- Auto-insert new stories at the top of the feed when updates arrive.

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3. User Interaction & Tracking

- Maintain a **bookmark or "liked" list** so users can save articles.
- Optionally track read/unread status and update the UI in real time.

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4. Navigation & Flow

- Provide **infinite scrolling** or a **"Load More" button** to seamlessly load additional articles.
- Smoothly handle transitions when users switch categories or perform a new search.

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5. Highlights / Results Section

- Offer a **"Trending" or "Top Stories"** panel that summarizes the most-read or most-liked articles.
- Show a friendly message or fallback view if no articles are available (e.g., API failure or empty search).

CODE :

```
<!DOCTYPE html>

<html>

<body>

<h3>News: Paris Updates</h3>

<p>Paris has recently reopened several museums and tourist spots after renovations.</p>

<button onclick="bookmark('Paris News')">Bookmark</button>

<p id="feedback"></p>


<script>

function bookmark(articleTitle){

    // Display feedback when user bookmarks an article

    document.getElementById("feedback").textContent = `"${articleTitle}" added to your bookmarks!`;

}

</script>

</body>

</html>
```

OUTPUT :

News: Paris Updates

Paris has recently reopened several museums and tourist spots after renovations.

[Bookmark]

"Paris News" added to your bookmarks!

DATA STORAGE (LOCAL STATE / DATABASE) :

Local State / Local Storage

- Useful for storing **user preferences, bookmarked articles, read/unread status, and temporary app state**.
- Options include `localStorage` for web apps (simple key-value storage, up to ~5–10MB) or **AsyncStorage** for React Native.
- Not suitable for **large datasets or complex queries** like hundreds of full news articles.
- Ideal for **caching recently read articles, storing filter settings, or keeping user session data**.

Local Database

- For storing **large news article sets or offline content**, a lightweight local database like **SQLite** is recommended.
- Databases like **Realm** or **Isar** provide offline support, syncing, and fast queries.
- **IndexedDB** is a powerful local database for web apps, allowing storage of structured news data beyond localStorage limits.
- A local database allows **efficient search, category filtering, and sorting of hundreds or thousands of articles**.
- Keeping content fresh may require **syncing with a remote service** (e.g., Firebase, Supabase, or a custom backend).

Hybrid Approach

- Store the **main news dataset** in SQLite or another local database for fast access.
- Use **localStorage** for **transient user data** such as bookmarks, read/unread status, and last-read position.
- Sync the database periodically with the cloud to provide **updated articles** without requiring a full app reinstall.

TESTING CORE FEATURES :

. Functional Testing

- Verify that the news feed loads correctly, with articles appearing as expected.
- Check that user interactions are handled properly (e.g., clicking “Read More,” bookmarking articles, switching categories).
- Validate dynamic updates like auto-refresh or infinite scroll.
- Test core flows: opening the app, navigating between categories, applying search filters, and loading additional articles.
- Ensure optional features like user login, profile preferences, or saved bookmarks work correctly.

User Interface and Usability Testing

- Test UI elements such as buttons, filter controls, cards, and interactive components for responsiveness.
- Check layout consistency across devices, screen sizes, and orientations.
- Simulate real user gestures like tap, swipe, and scroll on mobile devices.

Compatibility Testing

- Test across different operating systems, browser versions, and device types.
- Validate performance under varied network conditions (slow connections, offline mode).

Automated Testing

- Use frameworks like **Selenium** or **Appium** to automate repetitive regression tests.
- Run tests on multiple devices simultaneously using cloud platforms like **BrowserStack** or **Sauce Labs**.

Beta Testing

- Release the app to a limited audience to capture real-world usage feedback.
- Identify device-specific or environment-related issues that were missed during controlled testing.

Performance Testing

- Ensure the app handles large news datasets efficiently and loads articles quickly.
- Monitor app behavior under concurrent users or high interaction (e.g., scrolling, filtering, bookmarking).

Error and Edge Case Testing

- Check app behavior with invalid inputs, empty searches, or missing article data.
- Validate offline functionality, data caching, and recovery after crashes or network interruptions.

Debugging and Logs

- Use logs, analytics, and crash reports to investigate issues and improve stability.
- Combining these strategies ensures the core features of the **interactive News Feed App** are thoroughly tested for a smooth, cross-platform user experience

VERSION CONTROL (GITHUB) :

Purpose

1. **Track changes** – GitHub allows you to monitor every change made to your news feed application code.
2. **Collaboration** – Multiple developers can work on different features simultaneously (e.g., adding bookmarks, implementing category filters).
3. **Backup** – Your app code is safely stored in a remote repository, reducing the risk of data loss.

GitHub Features

1. **Repositories** – Store and manage your News Feed app project in a repository.
2. **Commits** – Track changes to the codebase with commits, documenting new features like infinite scroll or API integration.
3. **Branches** – Work on separate branches for new features or bug fixes without affecting the main version.
4. **Pull Requests** – Review and merge changes from contributors, ensuring quality and consistency.

Best Practices

1. **Regular commits** – Make frequent commits to capture progress, especially when implementing critical features like offline caching or real-time updates.
2. **Clear commit messages** – Write descriptive commit messages (e.g., "Add category filter and bookmark feature").
3. **Branching strategy** – Use a branching strategy (e.g., `main` for stable code, `develop` for ongoing work, feature branches for individual features).

GitHub Tools

1. **Git** – Manage your local repository and synchronize changes with GitHub.
2. **GitHub Desktop** – Graphical interface for managing commits, branches, and pull requests.
3. **GitHub CLI** – Command-line tool for advanced GitHub interactions

CODE :

```
# short_news_feed.py


articles = {
   "Paris reopens museums after renovations":
"https://news.example.com/paris-museums",
   "Tech giant releases new AI tool":
"https://news.example.com/ai-tool"
}


bookmarked = []


print("=== Daily News Feed ===\n")


for title, link in articles.items():
   print(f"Headline: {title}")
   print(f"Read more: {link}")
   choice = input("Bookmark this article? (yes/no): ").strip().lower()
   if choice == "yes":
      bookmarked.append(title)
      print("✅ Bookmarked!\n")
   else:
      print("Skipped.\n")


print("=== Your Bookmarked Articles ===")
```

```
if bookmarked:
    for idx, article in enumerate(bookmarked, 1):
        print(f"{idx}. {article}")
else:
    print("No articles bookmarked.")
```

OUTPUT :

```
=== Daily News Feed ===


Headline: Paris reopens
museums after renovations

Read more:
https://news.example.com/
paris-museums

Bookmark this article?
(yes/no): no

Skipped.


Headline: Tech giant
releases new AI tool

Read more:
https://news.example.com/
ai-tool
```

Bookmark this article?

(yes/no): no

Skipped.

=== Your Bookmarked

Articles ===

No articles bookmarked.