

Vidya App Analysis & Change Blueprint

Extracted File Structure & Overview

- Total Dart files: 60
- Core: main.dart, firebase_options.dart, app/vidya_app.dart, app/theme.dart
- UI Screens: settings_screen.dart, global_catalog_screen.dart, reader_screen.dart, library_screen.dart, main_screen.dart, import_web_book_screen.dart
- Widgets: neon_bar.dart
- Core Utilities: hashing.dart, storage.dart, debouncer.dart, prefs.dart
- Auth: auth.dart
- TTS: tts_controller.dart, tts_controller_web.dart, tts_controller_mobile.dart, tts_factory.dart

Developer's Map (Classes, Functions, Lines)

- firebase_options.dart → DefaultFirebaseOptions (85 lines)
- main.dart → App entry point (15 lines)
- app/vidya_app.dart → VidyaApp, _VidyaAppState (93 lines)
- app/theme.dart → themeFor, accentColor, switch (127 lines)
- settings_screen.dart → SettingsScreen, _SettingsScreenState (210 lines)
- global_catalog_screen.dart → GlobalCatalogScreen (82 lines)
- reader_screen.dart → ReaderScreen, _ReaderScreenState (524 lines)
- library_screen.dart → LibraryScreen (133 lines)
- main_screen.dart → MainScreen, _MainScreenState (464 lines)
- import_web_book_screen.dart → ImportWebBookScreen, _ImportWebBookScreenState (216 lines)
- neon_bar.dart → NeonBar (24 lines)
- hashing.dart → fnv32x2Hash (31 lines)
- storage.dart → Storage (67 lines)
- debouncer.dart → Debouncer (34 lines)
- prefs.dart → (82 lines)

Deep Dive Summary (Purpose & Change Points)

settings_screen.dart

- Purpose: Theme, accent, font size, line height, serif toggle.
- Change Points: Night mode toggle, TTS speed slider, font family dropdown.

global_catalog_screen.dart

- Purpose: Display Firestore global book catalog.
- Change Points: Thumbnails, filter/sort, infinite scroll.

reader_screen.dart

- Purpose: Main reading UI, TTS integration, bookmarks, highlighting.
- Change Points: Night mode, page turn animations, improved highlights, bookmark bar.

library_screen.dart

- Purpose: User's personal library.
- Change Points: Grid/list toggle, search bar, sort menu.

main_screen.dart

- Purpose: Navigation hub.
- Change Points: Bottom navigation bar, quick settings, FAB for import.

import_web_book_screen.dart

- Purpose: Import from web via scraping.
- Change Points: Progress bar, preview panel, retry button.

neon_bar.dart

- Purpose: Gradient app bar background.
- Change Points: Animated gradient, optional image.

theme.dart

- Purpose: App theming.
- Change Points: Night mode theme data, multiple accents.

Change Blueprint (Targeted Implementation)

1. Settings Screen

Lines: ~60–210

- Add `SwitchListTile` for night mode.
- Add `Slider` for TTS speed.
- Replace serif toggle with font family dropdown.

2. Global Catalog

Lines: ~35–82

- Show book covers.
- Add filter/sort buttons.
- Implement infinite scroll.

3. Reader Screen

Lines: ~50–100, ~350–524

- Apply night mode.
- Page turn animation.
- Styled highlights.
- Quick bookmark bar.

4. Library Screen

Lines: ~40–133

- Grid/list view toggle.
- Search bar.
- Sort menu.

5. Main Screen

Lines: ~100–250

- Bottom navigation.
- Persistent settings icon.
- FAB for import.

6. Import Web Book

Lines: ~50–150

- Progress bar.
- Preview fetched data.
- Retry button.

7. Neon Bar

- Animated gradient.
- Optional image background.

8. Theme

- Add dark theme variant.
- Multiple accent colors.