

#Overview

Implemented a full local notification system for assignment deadlines using Expo Notifications, integrated with Supabase-backed assignment data.

#CoreFeatures

#LocalNotifications

- * Integrated 'expo-notifications' for scheduling local device notifications
- * Configured notification handler for:
 - * banner display
 - * sound
 - * badge updates
- * Notifications trigger even when:
 - * app is in background
 - * app is fully closed

#DeadlineReminderLogic

- * Implemented reminder scheduling based on assignment deadlines
- * Default behavior:
 - * notify **24 hours before deadline**
- * Prevented invalid scheduling:
 - * skip if reminder time is in the past
 - * validate deadline input before scheduling

#AssignmentIntegration

- * Notifications tied directly to assignment lifecycle:

On Create:

- * Insert assignment into Supabase
- * Retrieve inserted assignment ('aId')
- * Schedule reminder if not completed

On Edit:

- * Cancel existing scheduled notification
- * Update assignment in Supabase
- * Schedule new reminder if still active

On Delete:

- * Cancel scheduled notification
- * Remove stored notification reference

#NotificationPersistence

- * Stored notification IDs locally using AsyncStorage
- * Structure:
 - * 'assignmentId â notificationId'
- * Enables:
 - * precise cancellation

- * avoiding duplicate notifications

#NotificationCancellation

- * Implemented cancellation flow using:

- * ‘Notifications.cancelScheduledNotificationAsync(notificationId)’

- * Ensures:

- * no duplicate reminders on edit
- * no orphan notifications after deletion

#NotificationRouting

- * Implemented navigation on notification tap

- * Uses:

- * ‘Notifications.addNotificationResponseReceivedListener’

- * ‘Notifications.getLastNotificationResponse()’

Behavior:

- * Works when:

- * app is open
- * app is in background
- * app is launched from notification

Routing:

- * Extract ‘ald’ from ‘notification.content.data’

- * Navigate using Expo Router:

```
““ts
router.push({
  pathname: "/assignment/viewDetailsAssignment",
  params: { ald }
});
““
```

#AuthIntegration

- * Notification observer only runs when user session exists
- * Prevents routing into protected screens when unauthenticated

#ArchitectureDecisions

#LocalVsBackend

- * Chose **local notifications only**
- * No backend push notifications used
- * Rationale:
 - * single-user reminders
 - * simpler implementation
 - * no need for push tokens or server logic

#DataSeparation

- * Supabase:

- * stores assignment data (source of truth)

- * Device (AsyncStorage):

- * stores notification IDs (device-specific state)

#RoutingApproach

- * Used existing static route:

- * ‘/assignment/viewDetailsAssignment’

- * Passed ‘ald’ via params instead of dynamic route ‘[ald].tsx’

- * Keeps current structure intact

#Summary

A complete local notification system has been implemented with:

- * deadline-based scheduling

- * lifecycle-aware updates (create/edit/delete)

- * duplicate prevention

- * device-level persistence

- * deep-link style navigation on tap

This provides a solid, production-ready foundation for assignment reminders within the app.

Interesting sources:

<https://docs.expo.dev/versions/latest/sdk/async-storage/>

<https://docs.expo.dev/versions/latest/sdk/securestore/>

<https://docs.expo.dev/versions/latest/sdk/notifications/>