stateDiagram-v2  
 title Pro Mood Tracker - Application State Diagram  
  
 [\*] --> AppInitializing  
   
 state AppInitializing {  
 [\*] --> CheckingDependencies  
 CheckingDependencies --> LoadingConfiguration  
 LoadingConfiguration --> CheckingAuthStatus  
 }  
   
 AppInitializing --> Unauthenticated : No valid session  
 AppInitializing --> Authenticated : Valid session exists  
   
 state Unauthenticated {  
 [\*] --> LoginScreen  
   
 state LoginScreen {  
 [\*] --> AwaitingCredentials  
 AwaitingCredentials --> ProcessingLogin : Submit login  
 ProcessingLogin --> AwaitingCredentials : Login failed  
 }  
   
 LoginScreen --> RegisterScreen : Switch to register  
   
 state RegisterScreen {  
 [\*] --> CollectingUserInfo  
 CollectingUserInfo --> CreatingAccount : Submit registration  
 CreatingAccount --> CollectingUserInfo : Registration failed  
 }  
   
 RegisterScreen --> LoginScreen : Switch to login  
   
 state ResetPasswordScreen {  
 [\*] --> EnteringEmail  
 EnteringEmail --> SendingResetLink : Submit email  
 SendingResetLink --> ResetLinkSent : Success  
 SendingResetLink --> EnteringEmail : Failed  
 }  
   
 LoginScreen --> ResetPasswordScreen : Forgot password  
 ResetPasswordScreen --> LoginScreen : Back to login  
 }  
   
 Unauthenticated --> Authenticated : Successful authentication  
 Authenticated --> Unauthenticated : Logout  
   
 state Authenticated {  
 [\*] --> LoadingUserData  
   
 LoadingUserData --> FirstTimeSetup : First login  
 LoadingUserData --> Dashboard : Data loaded  
   
 state FirstTimeSetup {  
 [\*] --> OnboardingTutorial  
 OnboardingTutorial --> PreferencesSetup  
 PreferencesSetup --> NotificationSetup  
 NotificationSetup --> InitialMoodEntry  
 InitialMoodEntry --> Dashboard  
 }  
   
 state Dashboard {  
 [\*] --> ViewingSummary  
 ViewingSummary --> ViewingHistory : Navigate to history  
 ViewingHistory --> ViewingSummary : Back to summary  
 ViewingSummary --> ViewingInsights : Navigate to insights  
 ViewingInsights --> ViewingSummary : Back to summary  
 }  
   
 Dashboard --> MoodEntryFlow : Add new entry  
 MoodEntryFlow --> Dashboard : Entry completed  
   
 state MoodEntryFlow {  
 [\*] --> SelectingMood  
 SelectingMood --> SelectingFactors : Next step  
 SelectingFactors --> AddingContext : Next step  
 AddingContext --> EnteringNotes : Next step  
 EnteringNotes --> AttachingMedia : Add media  
 EnteringNotes --> ReviewingEntry : Skip media  
 AttachingMedia --> ReviewingEntry : Next step  
 ReviewingEntry --> SavingEntry : Submit entry  
   
 SavingEntry --> EntrySuccess : Saved successfully  
 SavingEntry --> EntrySaveError : Save failed  
 EntrySaveError --> ReviewingEntry : Try again  
   
 SelectingMood --> Dashboard : Cancel  
 SelectingFactors --> Dashboard : Cancel  
 AddingContext --> Dashboard : Cancel  
 EnteringNotes --> Dashboard : Cancel  
 AttachingMedia --> Dashboard : Cancel  
 ReviewingEntry --> Dashboard : Cancel  
 }  
   
 Dashboard --> InsightsFlow : View insights  
 InsightsFlow --> Dashboard : Back to dashboard  
   
 state InsightsFlow {  
 [\*] --> LoadingInsightsData  
 LoadingInsightsData --> ViewingTrends : Data loaded  
 ViewingTrends --> ViewingPatterns : Change view  
 ViewingPatterns --> ViewingTrends : Change view  
 ViewingTrends --> FilteringInsights : Apply filter  
 ViewingPatterns --> FilteringInsights : Apply filter  
 FilteringInsights --> ViewingTrends : Update view  
 FilteringInsights --> ViewingPatterns : Update view  
 }  
   
 Dashboard --> SettingsFlow : Open settings  
 SettingsFlow --> Dashboard : Back to dashboard  
   
 state SettingsFlow {  
 [\*] --> ViewingSettings  
 ViewingSettings --> EditingProfile : Edit profile  
 ViewingSettings --> ManagingNotifications : Manage notifications  
 ViewingSettings --> ConfiguringPrivacy : Configure privacy  
 ViewingSettings --> ManagingData : Manage data  
   
 EditingProfile --> SavingSettings : Save changes  
 ManagingNotifications --> SavingSettings : Save changes  
 ConfiguringPrivacy --> SavingSettings : Save changes  
 ManagingData --> SavingSettings : Save changes  
   
 SavingSettings --> ViewingSettings : Changes saved  
 SavingSettings --> SettingsSaveError : Save failed  
 SettingsSaveError --> ViewingSettings : Try again  
 }  
 }  
   
 state NetworkState <<fork>>  
 Authenticated --> NetworkState  
 NetworkState --> Online : Connected  
 NetworkState --> Offline : No connection  
   
 state Online {  
 [\*] --> SyncingData  
 SyncingData --> SyncComplete : Sync successful  
 SyncingData --> SyncError : Sync failed  
 SyncError --> SyncingData : Retry sync  
 }  
   
 state Offline {  
 [\*] --> UsingLocalData  
 UsingLocalData --> WaitingForConnection : Detect network  
 }  
   
 Online --> Offline : Connection lost  
 Offline --> Online : Connection restored  
   
 state AppTerminating {  
 [\*] --> SavingApplicationState  
 SavingApplicationState --> CleaningUpResources  
 }  
   
 Authenticated --> AppTerminating : Exit app  
 Unauthenticated --> AppTerminating : Exit app  
 AppTerminating --> [\*]

## Figure 4.18: State Diagram - Pro Mood Tracker Application

This state diagram illustrates the main states and transitions in the Pro Mood Tracker application, showing how the application progresses through different states as users interact with it.

### Key State Groups:

#### 1. Application Lifecycle States

* **App Initializing**: Startup sequence including dependency checks, configuration loading, and authentication status verification.
* **App Terminating**: Graceful shutdown sequence saving application state and cleaning up resources.

#### 2. Authentication States

* **Unauthenticated**: States related to user authentication, including login, registration, and password reset.
* **Authenticated**: States available after successful authentication, including the main application functionality.

#### 3. Core Functionality States

* **Dashboard**: The main hub showing mood summaries, history, and access to other features.
* **Mood Entry Flow**: The sequence of states for recording a new mood entry.
* **Insights Flow**: States related to viewing and analyzing mood data.
* **Settings Flow**: States for managing user preferences and application configuration.

#### 4. Network-Related States

* **Online**: States when the application has internet connectivity.
* **Offline**: States when the application operates without internet connectivity.

### Key Transitions and Behaviors:

1. **Authentication Transitions**: The application starts by checking authentication status and transitions to either Unauthenticated or Authenticated states accordingly.
2. **First-Time User Experience**: New users go through a special onboarding flow to set up preferences and learn the application.
3. **Mood Recording Process**: The mood entry flow follows a step-by-step process, allowing users to cancel at any point.
4. **Network Adaptability**: The application smoothly transitions between online and offline states, maintaining functionality in both modes.
5. **Error Handling**: Various error states (EntrySaveError, SettingsSaveError, SyncError) provide paths for recovery and retrying operations.
6. **Navigation Patterns**: The diagram shows how users can navigate between different sections of the application while maintaining context.

This state diagram demonstrates the Pro Mood Tracker’s comprehensive approach to managing application state, ensuring a consistent user experience across different scenarios and conditions. The design accounts for various user journeys, error conditions, and network states, providing a robust foundation for the application’s behavior.