User Story #1: Sync Updates

ID: US001 (Mavito Project)

Title: Automatic Synchronization of Downloaded Lexicon Data

As a: Mavito application user (e.g., language enthusiast, NLP researcher, student) who has downloaded lexicon data for offline use,

I want: the application to automatically check for and apply updates to my downloaded lexicon data whenever I am online,

So that: I can be confident that I am always working with the most current and accurate version of the linguistic information without needing to manually re-download or check for updates.

Acceptance Criteria:

1. **Automatic Update Check:**

   - **Given** I have previously downloaded lexicon data,
   - **And** I open the Mavito application with an active internet connection,
   - **Then** the application automatically initiates a check for updates to my downloaded data against the central repository in the background.

2. **Notification of Available Updates (Recommended):**

   - **Given** updates are available for my downloaded data,
   - **Then** the application clearly notifies me that updates are available (e.g., via a subtle in-app notification, a badge on a settings icon).
   - **And** the notification provides an option to view details about the updates (e.g., number of terms changed, lexicon version).

3. **Update Process:**

   - **Given** updates are available and I have an active internet connection,
   - **Then** the application allows me to initiate the download and application of these updates (or this happens automatically, depending on user settings or application design).
   - **And** the application provides clear feedback on the progress of the update (e.g., download progress bar, installation status).
   - **And** the update process is efficient and minimizes data usage (e.g., by only downloading changes/deltas if possible, rather than the entire dataset, for future enhancements).

4. **Successful Update:**

   - **Given** the update process completes successfully,
   - **Then** my locally stored lexicon data reflects the latest version from the central repository.
   - **And** I receive a confirmation message that the data has been updated.

5. **Handling No Updates:**

- **Given** I am online and no updates are available for my downloaded data,
- **Then** the application does not interrupt my workflow with unnecessary notifications (or provides a subtle indication that data is "up-to-date").

6. **Offline State Post-Sync:**

- **Given** my data has been successfully synced,
- **Then** the newly updated data is fully accessible offline.

7. **Error Handling - Interrupted Connection:**

- **Given** an update is in progress and my internet connection is lost,
- **Then** the application gracefully pauses or stops the update process.
- **And** I am notified of the interruption.
- **And** the application attempts to resume the update when the connection is re-established, or allows me to manually retry.
- **And** my previously downloaded (pre-update attempt) data remains intact and usable.

8. **Error Handling - Sync Conflict (Advanced Consideration for Future):**

- **Given** a conflict occurs during synchronization (e.g., if local modifications were possible vs. server changes),
- **Then** the system has a defined strategy for conflict resolution (e.g., prioritizes server version for this project's scope, notifies user if manual intervention were ever needed). *(Note: Current project scope implies local data is a read-only cache of server data, simplifying this).*

9. **User Control (Optional Enhancement):**

- **Given** I am a user concerned about data usage or update timing,
- **Then** I may have an option in settings to control sync behavior (e.g., sync only on Wi-Fi, schedule syncs, manual sync only).

Notes/Assumptions:

- This user story assumes that users primarily download data for offline reading and searching. Contributions and comments are made while online and sent to a central repository (as per Functional Requirement FR4.3).
- The complexity of "only downloading changes/deltas" (Acceptance Criterion 3.4) can be significant. For an initial implementation, syncing entire updated files might be a simpler starting point, with delta updates as a future enhancement.
- Conflict resolution (Acceptance Criterion 8) is likely simplified if the local data is treated as a read-only cache that gets overwritten by server updates, which aligns with the current understanding of the Mavito project.