

## Epic UFC-145: Offline First

The following document will describe a design that could be used to convert uFins to an offline-first/offline-only application.

### Acceptance Criteria

For reference, the following are the acceptance criteria for this epic (it will be split up into individual stories later):

- i. I want to be able to use the app without having an active (or reliable) internet connection.
- ii. I want to be able to create/update/delete accounts/transactions/etc offline and have my changes automatically saved to the backend when I come back online.
- iii. If any of my changes failed to be synced to the backend (even after retries), I want to be notified of which change failed, and that the change has been rolled back.
- iv. I want the ability to either discard or retry again when any of my changes fail to be synced to the backend. If I choose to discard the change, then the change is reversed client-side and the change is discarded. If I choose to retry again, then it retries until fails or succeeds; if it fails, go back to start of this criteria.
- v. I want to be able to refresh the page while offline and still have a usable app.
- vi. I want to be warned that any changes I made while offline will be lost when I log out (if I actually made any changes).
- vii. I want to know when my changes are being synced to the backend.
- viii. I want to be able to manually trigger a sync of my changes to the backend.
- ix. I want to know how many changes I have that need to be synced to the backend (if any).
- x. I want to be able to 'login'/'sign up' without having a user account, so that I can use the app fully offline without an account.
- xi. I want to be notified that the app can work offline (e.g. when I login).
- xii. I want to know whenever there is a new version of the app and that I can manually refresh to get the new changes.
- xiii. I want to know when the app thinks it is offline.

- xiv. If I am using the app without an account, I don't want to know anything about data being synced to the backend.
- xv. I want to be able to manually check for app updates.
- xvi. I want to be able to sign up for an account and migrate my data after having used the app without an account.
- xvii. I want to be able to use a demo user account (with dummy accounts/transactions) when using the app without an account.

**NOTE:** For this epic, two way sync and real-time sync are out of scope; this only concerns the one-way app-to-backend data pushing.

## Phases

Since this is an Epic (and a rather large one at that), the rest of this document will focus on addressing each of these acceptance criteria through a set of phases (i.e. each phase could be one or more criteria which in turn could be one or more user stories). Each phase will have its own set of designs and tasks.

Each phase is documented separately. They are as follows:

- [Phase 1: Transparent Offline First](#)
- [Phase 2: Introducing Service Workers](#)
- [Phase 3: Letting the User Know](#)
- [Phase 4: Going Fully Offline](#)

### Update [December 4, 2020]:

- I've just wrapped up with implementing Phase 2, so the app works completely offline now.
- However, I want to skip over Phase 3 to Phase 4 to implement the ability to use the app without a user account. I think this will be a strong selling point/call-to-action for the marketing site, so "in the name of traction", it is getting prioritized higher than Phase 3 (Letting the User Know).