

Announcing: Mobile Apps for IBM i that function without a network

Interest in LongRange, our mobile application development tool, has been extremely high. However, a number of customers told us, "For the most part, as soon as I lose connectivity, my mobile apps are useless." They asked that apps developed with LongRange be able to operate without or without a network connection.

We've listened to their requests. LongRange now includes the ability to operate when not connected to a network as well as providing access to local data storage on mobile devices.

Mobile apps simplify data collection and data validation and reduce the time lag between data capture and saving it in a corporate database. Before the advent of mobile apps, data was collected on paper or by using built-for-purpose hardware devices, such as scanners, which were often far more expensive than mobile devices are now. The data was then re-keyed by data-entry staff or downloaded from the hardware device to a computer in the corporate office.

Collecting data on paper doesn't need a network connection, but data collection on mobile devices is more productive and accurate. For a mobile data collection app to be reliable it requires the ability to operate whether connected to a network or not.

It is an overly optimistic design choice to assume the presence of a reliable network connection at all times. Design your apps with local use in mind and use a network connection as and when required – then the apps will operate whether connected to a network or not.

Let's look at what you need in a 'sometimes-connected' mobile business app and how easy it is to develop this type of app with LongRange. The requirements are:

- Local storage
- Ability to operate without a network connection
- Ability to operate when connected
- Data transfer between a mobile device and a server

Storage options are folders and documents, files with data stored as key-value pairs, a local database or a combination of storage options.

LongRange provides local storage using a relational database (SQLite), which contains the tables and data that the app requires to operate offline.

The local (offline) forms allow users to interact with the app when no network connection is available. The forms define how to display, collect, alter or delete data in the local database. Developers can use local forms to create solutions that deliver the best performance and user experience, even when reliable network access is not available. LongRange apps can operate in three modes:

1. always local
2. local with data transfer
3. both local and online

Developers should choose the architecture for their apps that is most appropriate.

Always Local

Apps that operate in 'Always local' mode use and store data on the device without ever needing a network connection. Typically, these apps are self-contained and the local data is the only data needed.

We have very few customer examples of 'always local', as most mobile business apps require a regular exchange of data.

One of our customers uses LongRange in a semi 'Always Local' scenario. Product catalogs are uploaded to the mobile devices periodically, providing sales staff with a convenient way of looking up product information while on the road, including images, prices and standard delivery times. When actual inventory levels or delivery times are required, the sales rep needs to find a network connection and start a different app to work online.

Local with Data Transfer

Apps that work 'Local with data transfer' operate offline and include features for downloading and uploading data that are initiated by the app user. Data required by the app resides on the device.

One of our customers, the vehicle repair division of an insurance company, uses a

mobile app to manage delivery and return of replacement vehicles for customers whose cars are in for repair. The app manages the registration of fuel levels, mileage, bodywork damage and driving licence, and includes signature capture upon customer acceptance. Most staff download their delivery assignments in the mornings and they upload car rental details and customer signatures in the evenings.

Both Local and Online

'Both Local and Online' means that the app uses data from the server when a connection is available, or locally stored data when unavailable. The app brings data down from the server and stores it locally as required. The data transfer is initiated automatically by the app, there is no need for the user to take action.

One of our customers, a grain grower, has provided its quality inspectors with a mobile app that works both offline and online. The quality inspectors visit the fields where the crops grow and use the app to register the grain redness and other quality details. Some of the growing areas have no internet connection. When a connection is available, the app validates the inspection details against the data stored in the corporate ERP system and saves the inspection results to the ERP system. When no connection is available, the data is only checked against locally stored validation rules and the inspection results are stored locally. When a connection becomes available again, the app synchronizes locally stored inspection results with the ERP system, at which point the data is validated against the ERP system.

Finally, here's the advertisement: LongRange provides IBM i developers with the tools to quickly build mobile apps for both iOS and Android devices from a single code base, without having to learn HTML5, CSS3, PHP, JavaScript, Java, or Objective-C. LongRange developed apps can operate online or offline.

Find the documentation and tutorials at www.longrangemobile.com/documentation.htm

