

Offline-capable Webmailer

Proof of concept

Part A: UI & Features

Overview & Considerations

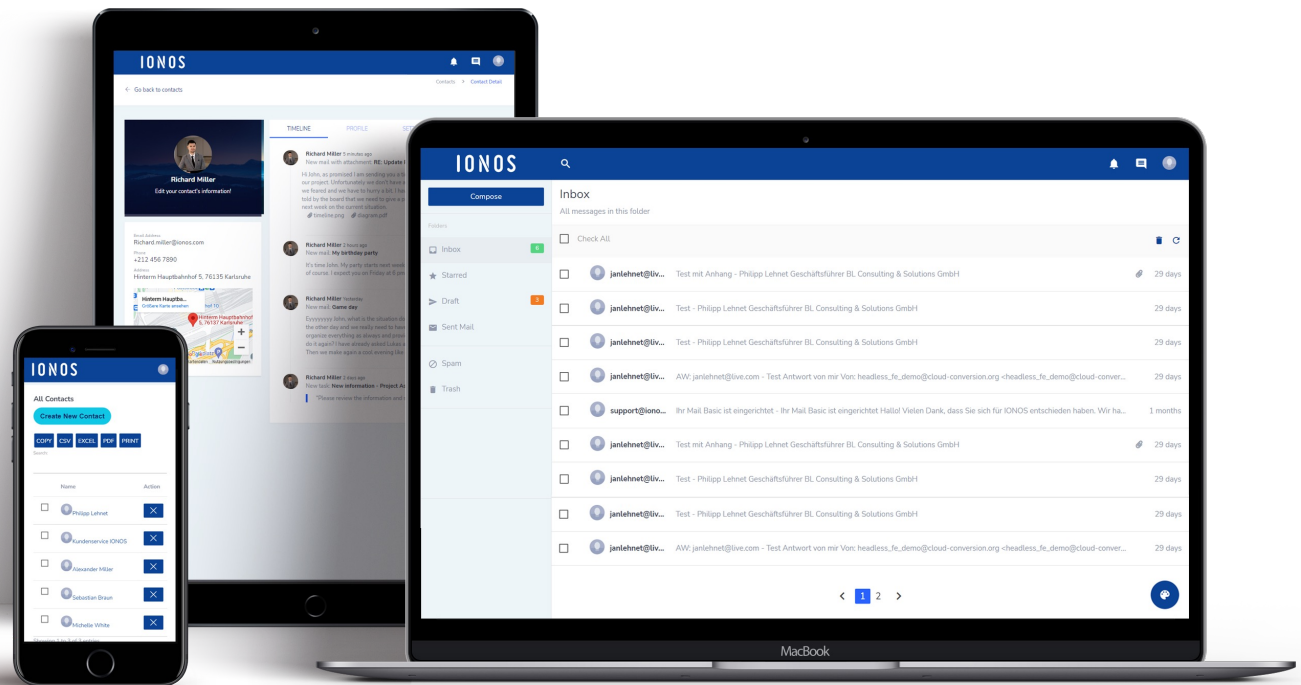
Presenter: Philipp Lehnert



Modern responsive design

Overview

- Responsive on any device
- Clean, practical, simple
- Modern CI

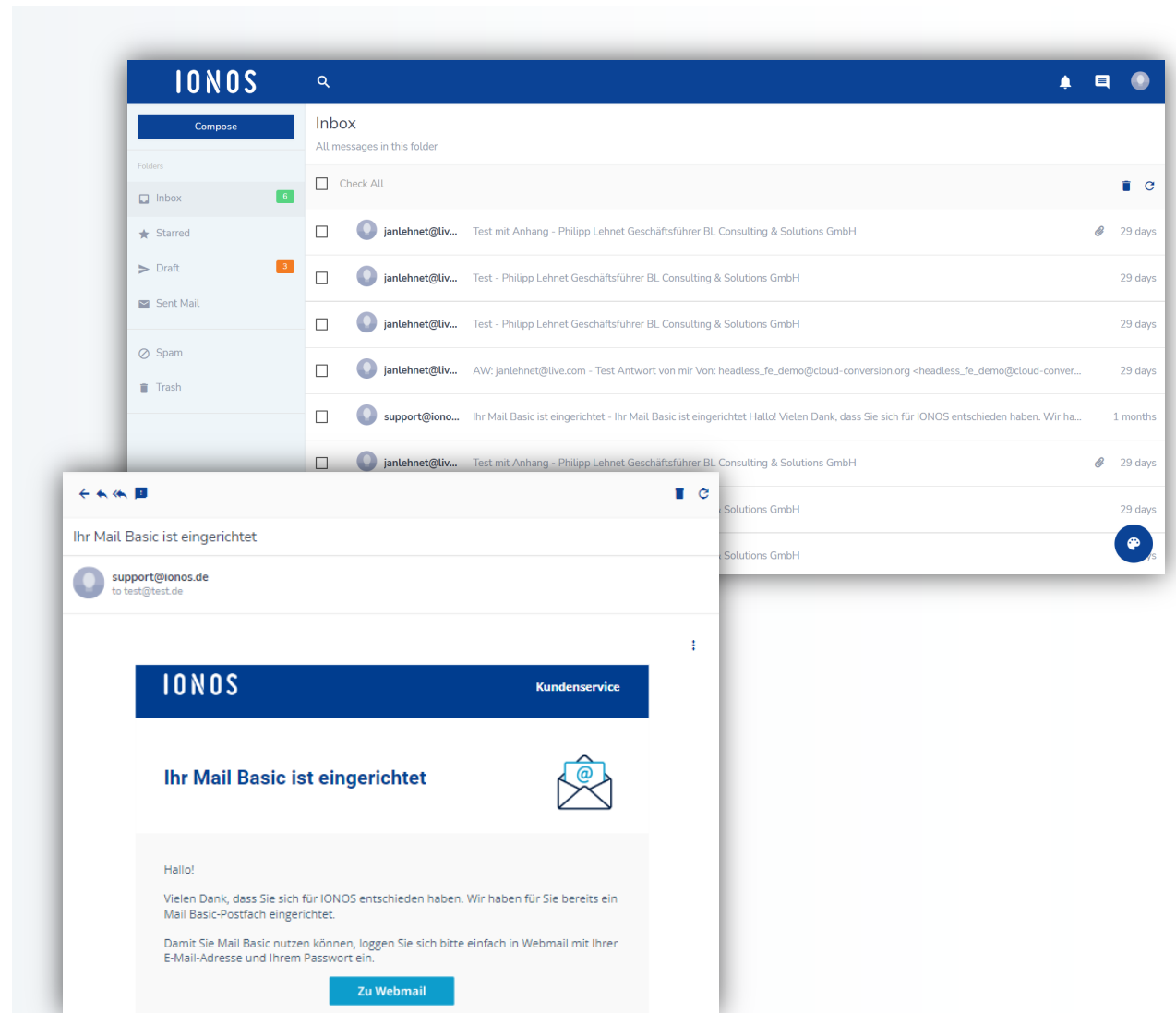


Design concept

Inbox

Modern design and everything accessible with fewer clicks.

- Accessible even without internet
- Intelligent spam filter
- Message preview with different views

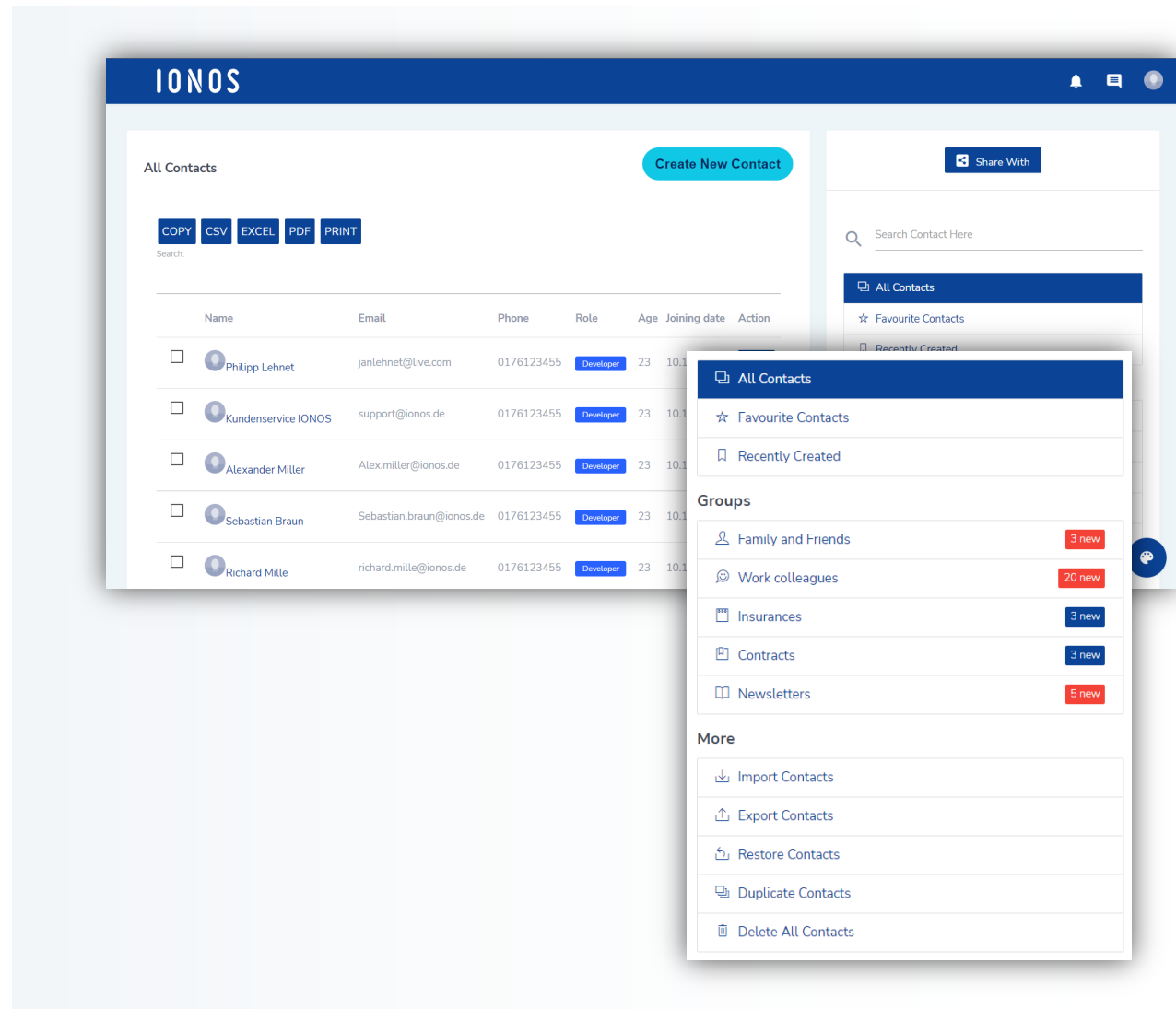


Design concept

Features

Contact book to personalize the email experience

- Automatic synchronization from the emails
- Set your own categories to prefetch messages
- Import or export for other accounts

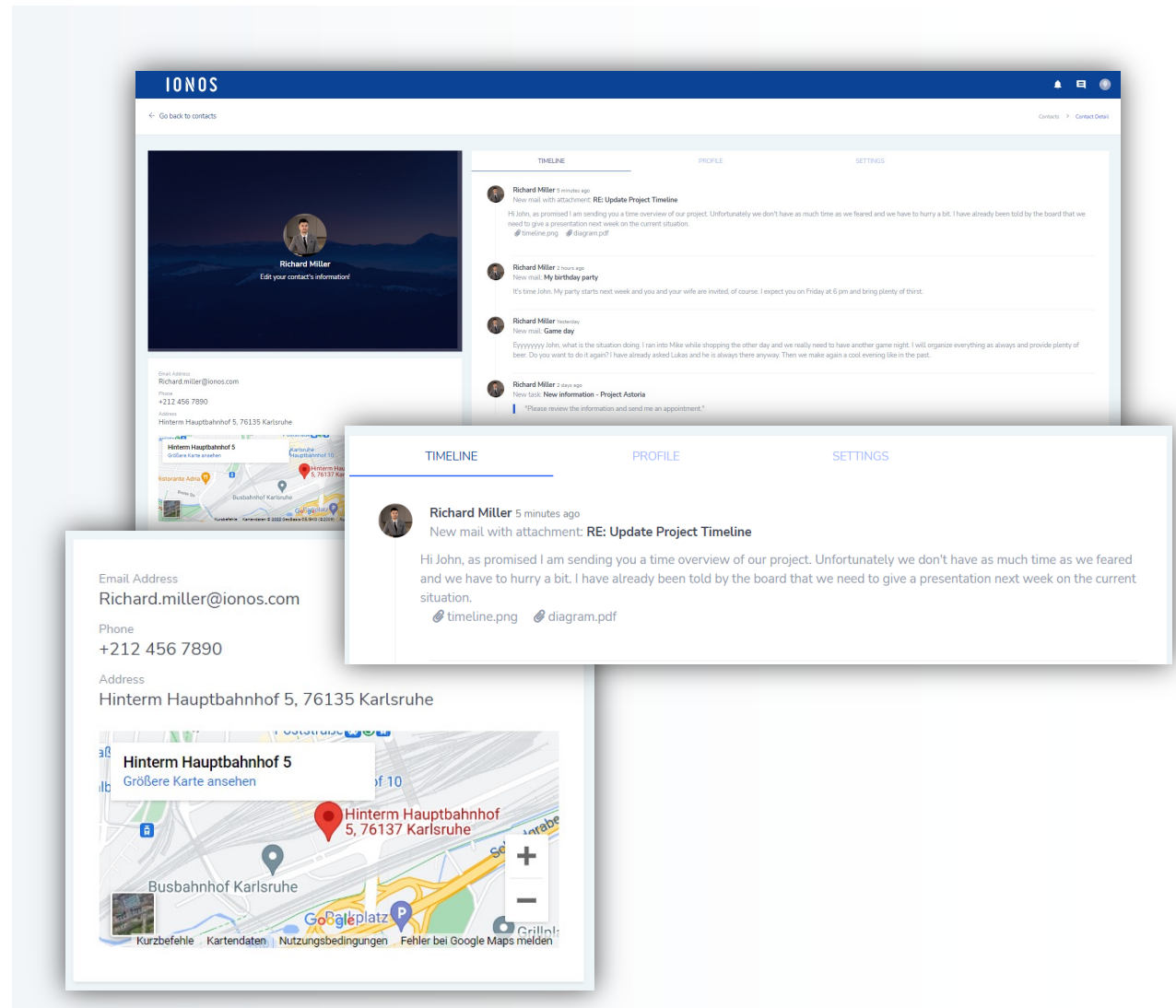


Design concept

Features

Custom profiles with automatic summary of the most important information.

- Simple contact details
- Own timeline with summary
- Integration of social media with mails



Part B: Architecture

Caching, Hosting & more

Presenter: Philipp Lehnet



Offline capabilities – Overview

Introduction to the chosen approach

Advantages over current solution

- Distribution via CDN
 - „Headless“
- Advanced caching: Use WebApp even when browser starts in offline-mode
- Used JavaScript APIs are enabled by default in most modern browsers
 - Tested: Safari, Firefox, Chromium
- Preloading of multiple apps possible when any out of the collection is accessed

Limitations

- Caching of very large mail-collections may effect browser performance
- Resolving sync conflicts becomes more difficult
- Accurate cache management is mandatory
- Offline changes cannot sync in the background (meaning the WebApp must be used in an active browser tab)

POC Offline Features

POC Website has to be opened at least one time when online

- Open WebApp w/o internet access
- Offline login (securely cached password)
- Basic Mail Features (Open, Compose, Delete, Search, ...)
 - Will be synced on next online session
- Instant offline sync between different WebApps
 - Offline Cross-Domain not possible
 - Exception: Child Browser Tabs → Relation between Apps mandatory
- Reload previous session data even after Tab/Browser has been closed

Go2Live: To-Do

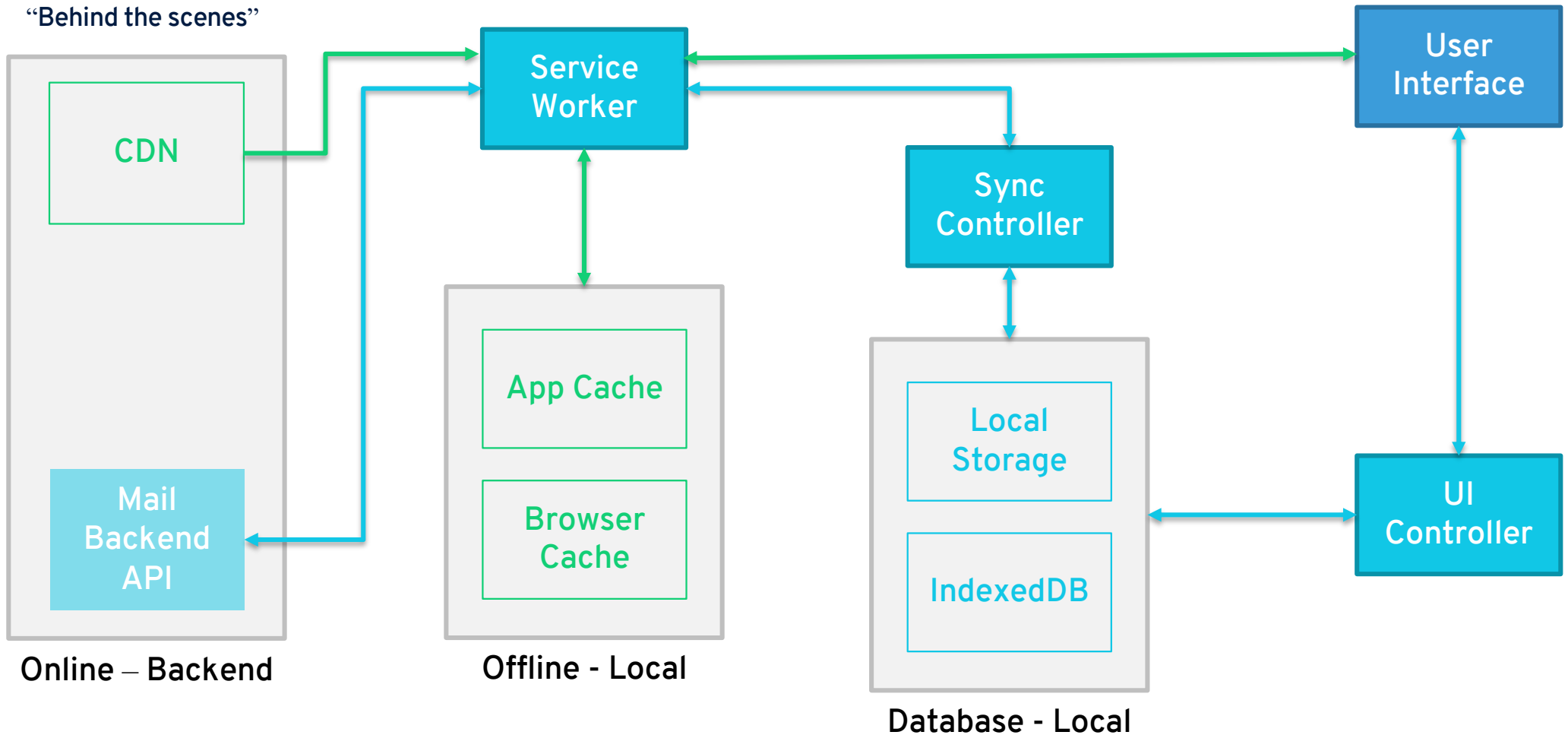
What's missing?

Following tasks need to be completed to reach release candidate state:

- Fixing UI issues
- Create middleware for REST-API access (mail-api)
- Implement missing mail features
- Implement account features
- Implement dynamic caching for attachments
- Migrate inbox storage from LocalStorage to IndexedDB
- QA

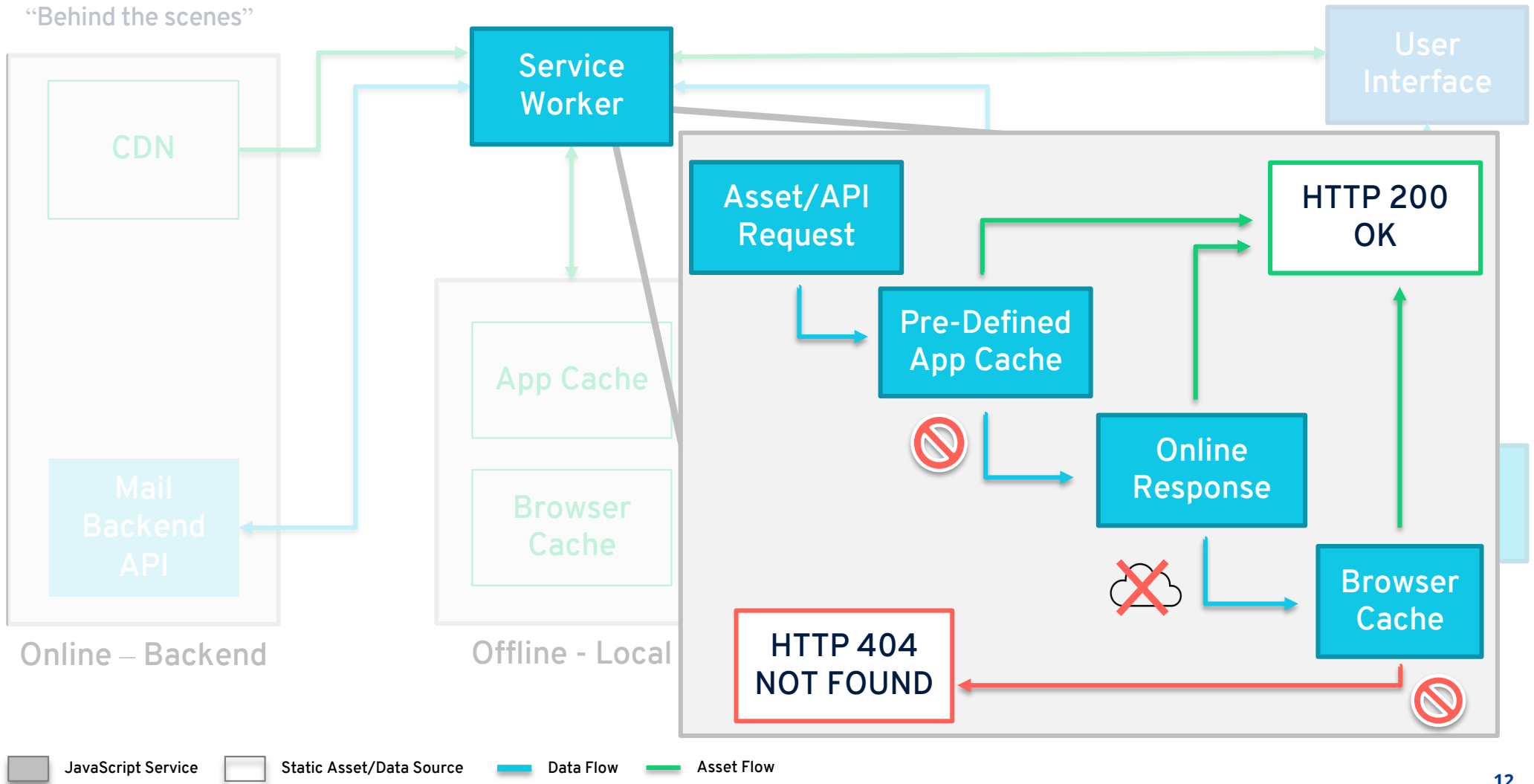
Caching Algorithm

“Behind the scenes”



Caching Algorithm

“Behind the scenes”



Q & A

DEMO & DISCUSSION