

EMBC Insight

Simplifying meter operations through a centralized monitoring and analytics experience.

A utility-management solution for meter-reading operations, gateway monitoring and billing-system integration.

Role UX Designer	Client Secure Meter Ltd - Internal	Year 2021
Focus Research · IA · User flows	Design Wireframes · Dashboard UX	Domain Utility monitoring



Complex systems were creating complex workflows.

Users needed to work across meter information, gateway connectivity, firmware, monitoring data and billing-related processes. The design challenge was to turn that technical complexity into a clear operational experience.

What is happening? → Where is the problem? → What can I do about it?

High information density

Large volumes of meter and gateway data could overwhelm routine monitoring.

Different responsibilities

Supervisors and executives needed related information at different levels of detail.

Actionable system health

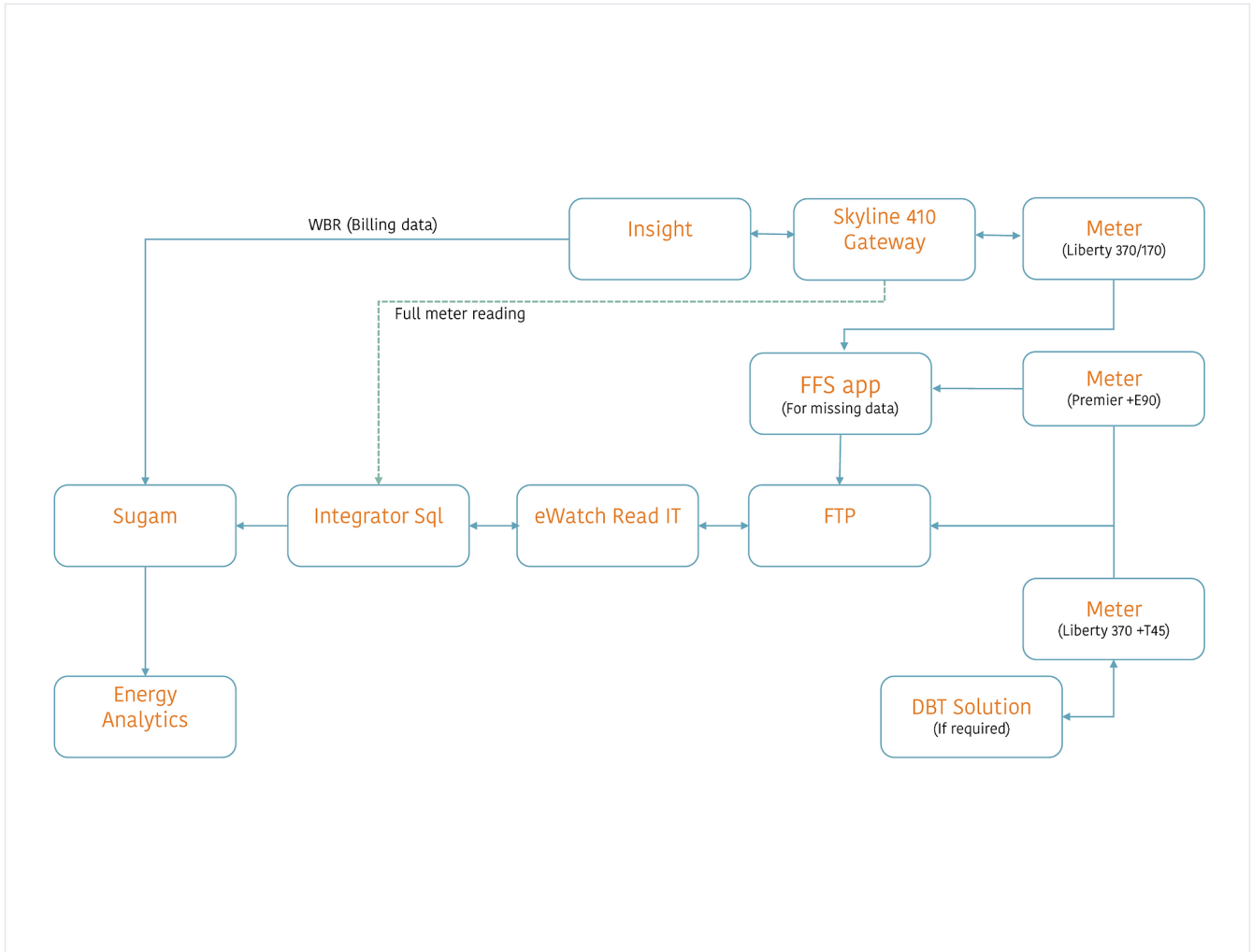
Warnings needed to lead naturally to investigation and operational action.

Technical dependencies

The experience had to simplify gateways, meters, firmware and billing-system relationships.

Understand the ecosystem before designing the interface.

I mapped how Insight, gateways, meters, the FFS application, FTP, SQL integration and Sugam interacted. This helped separate backend complexity from the user-facing navigation.



Design implication: system architecture informed the experience, but it did not become the navigation. User tasks determined what was shown first and what appeared only after drill-down.

Two roles. Different priorities. One connected system.

The personas helped clarify operational responsibilities, daily activities, needs and frustrations before the interface structure was defined.

Billing Supervisor, Bhilwara



Aakash singh

Modern | Married, lives in PG

Basic info

Age: 35

Education: Diploma

Experience: 8 years

Hometown: Bhilwara

Focused

Helpful

Expert

Casual

Easy Going

Professional

TECHNOLOGY



Sugam, Jira, FFS, SQL for report and email







General use of android smart-phone
Internet browsing
Tickets
Social Media

Typical day at work







Meter reading scheduling

Task assignment

Data validation

Send for Billing

Billing Generation

Work related needs

- Error less meter data
- More efficiency in system
- Data validation by system can be rewrite

Life goals

- Wants to
- Starting s
- Wants to travel abroad

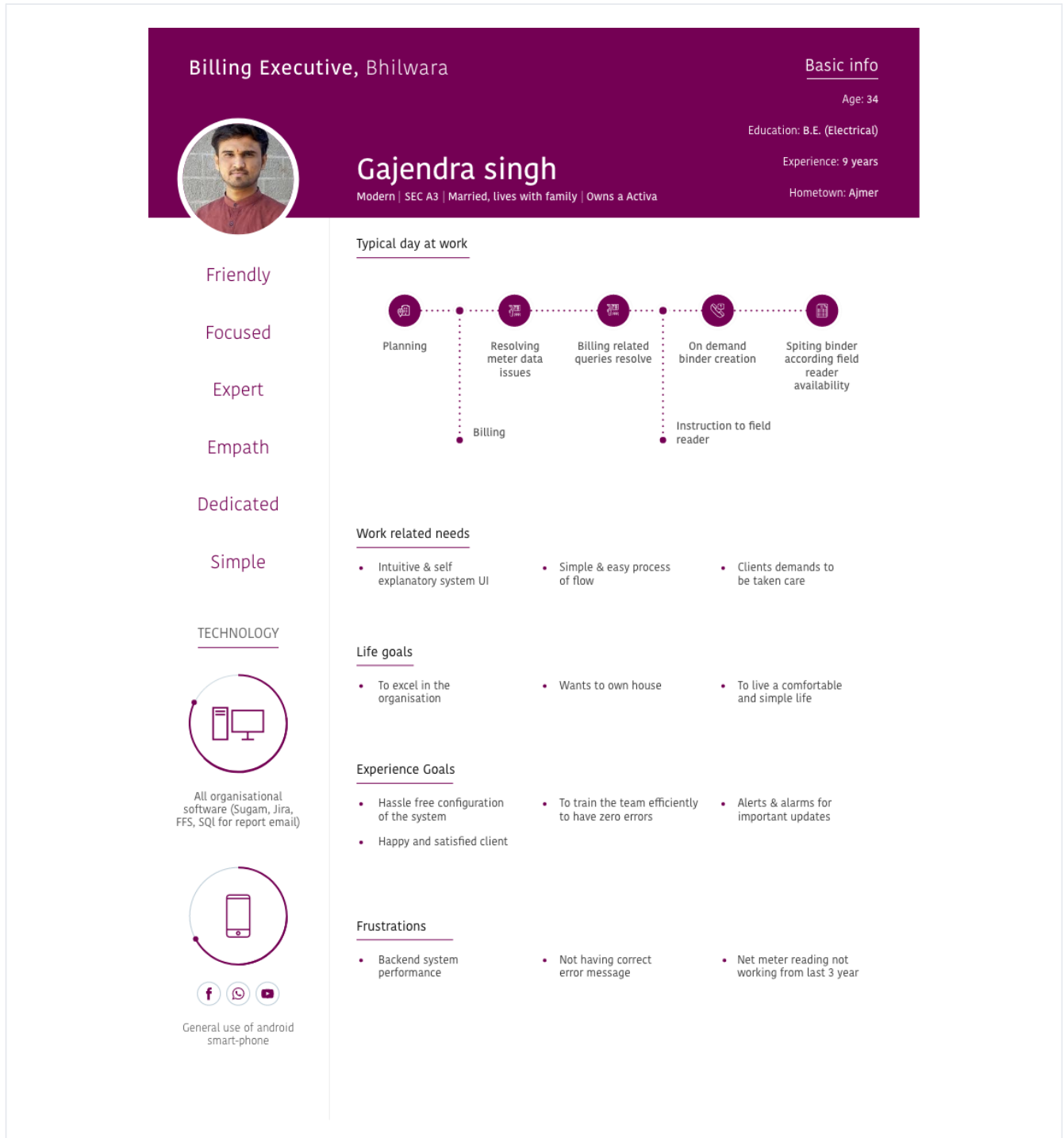
Experience Goals

- Better system performance
- Machin data validation

Frustrations

- Tedious and time consuming data validation
- Lots of manual process
- Inter departmental & follow ups

Operational users needed speed, clarity and dependable feedback.



UX takeaway: the product needed to support both broad supervisory visibility and task-level operational work without creating separate, disconnected experiences.

[illegible]

EMBC Insight - UX Case Study

Decisions that shaped the experience.

01 — Overview before detail

Start with gateway connectivity, meter-reading status and critical events, then allow deeper investigation.

02 — Make health actionable

Pair system status with workflows that help users investigate gateway problems and take relevant actions.

03 — Progressive disclosure

Keep technical detail available without putting every metric at the same hierarchy level.

04 — Reusable enterprise patterns

Use consistent patterns for repeated workflows such as user management and firmware upgrades.

05 — Task-oriented navigation

Organize the experience around monitoring, configuration and meter-reading work rather than backend components.

One operational view instead of disconnected information.

The dashboard prioritizes gateway connectivity, meter-reading status and critical events so users can understand system health before moving into details.



01 Connectivity overview	02 Meter-reading health	03 Critical events	04 Scan-first hierarchy
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From architecture to interaction.

The wireframing stage focused on information hierarchy, scanning, drill-down behavior and keeping operational actions close to the context in which they are needed.

Interactive Adobe XD wireframe

[Open the prototype →](#)

Scan

Make overall status understandable without requiring users to inspect every record.

Drill down

Move from aggregate system health into specific gateway or meter information.

Act

Keep relevant maintenance and operational actions close to the problem context.

The interactive prototype is linked rather than recreated, so the original wireframe behavior remains intact.

A clearer way to monitor, investigate and act.

The solution brought meter and gateway information into a more unified operational experience while supporting monitoring, maintenance and billing-related workflows.

Centralized monitoring

Gateway connectivity, meter-reading status and critical events are surfaced in one operational view.

Better visibility

Users can move from high-level status toward the information needed to investigate issues.

Simplified maintenance

Firmware and gateway-management workflows are structured as clear operational tasks.

Reusable UX

Repeated enterprise capabilities follow more consistent patterns.

System-aware, user-led

Technical architecture informs the product without dictating the navigation.

Designing enterprise UX means reducing complexity - not removing capability.

What I learned.

This project strengthened my approach to data-heavy enterprise UX. The key lesson was to prioritize the information needed for the current decision, reveal deeper technical detail progressively, and make sure status information leads naturally to the next useful action.

Hierarchy over density

Prioritize decision-critical information before deeper technical detail.

Status should lead to action

Monitoring is more useful when users understand what they can do next.

Backend structure is not user structure

Architecture should inform the experience, while user tasks define it.

EMBC Insight

Making complex utility operations easier to understand, monitor and manage.

UX Designer · Research · Personas · Information Architecture · User Flows · Wireframes · Enterprise UX