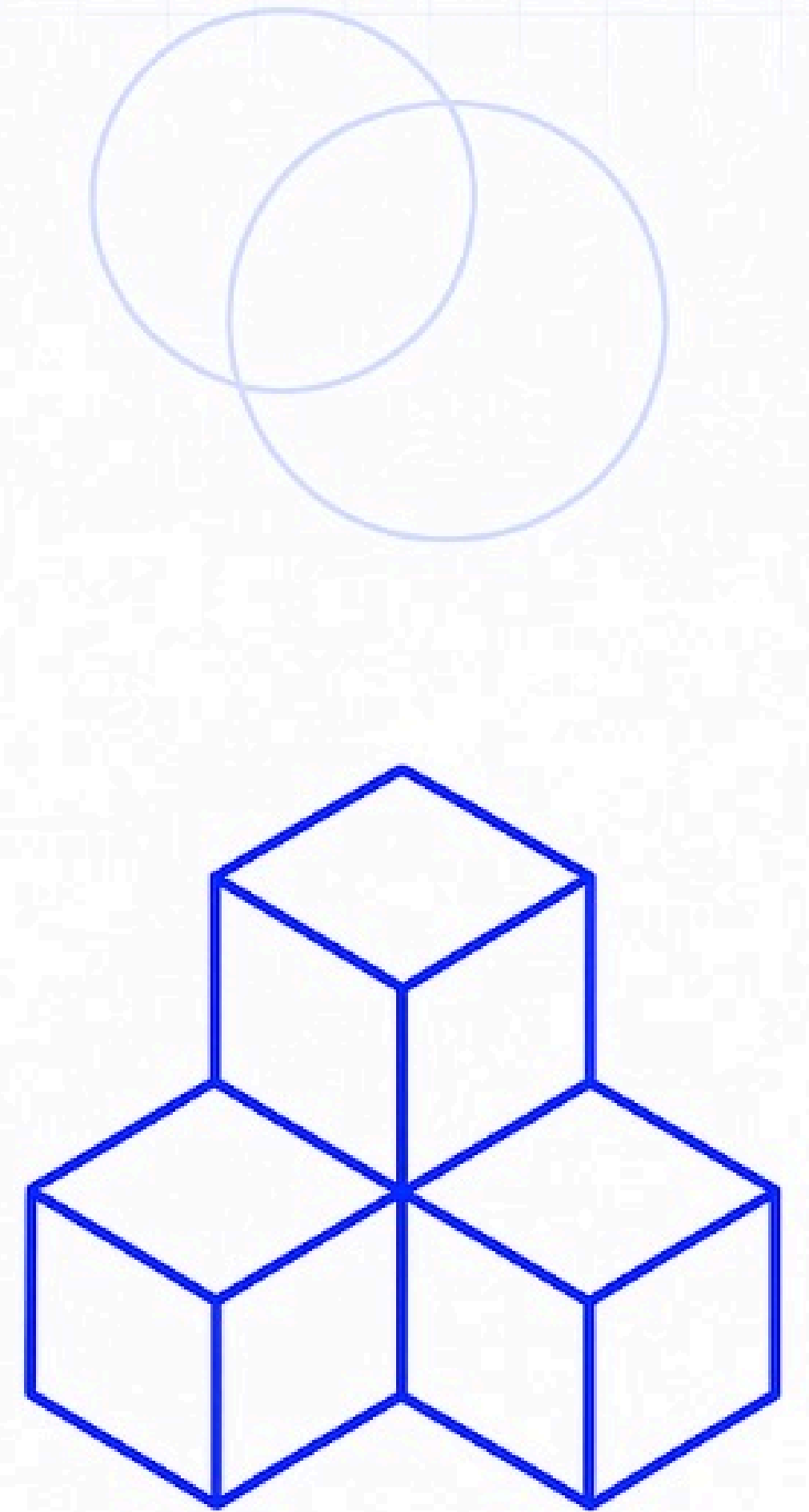


Product-Led AI Engineering Builder Patterns

Ozgur Guler, Digital Native AI Solutions Architect
June 25



AGENDA

- 1 AI Product-Led GTM
- 2 AI Products & AI UX
- 3 Product-Led Engineering
- 4 Engineering Design Patterns

BOEING MCAS DISASTER

An AI UX Failure

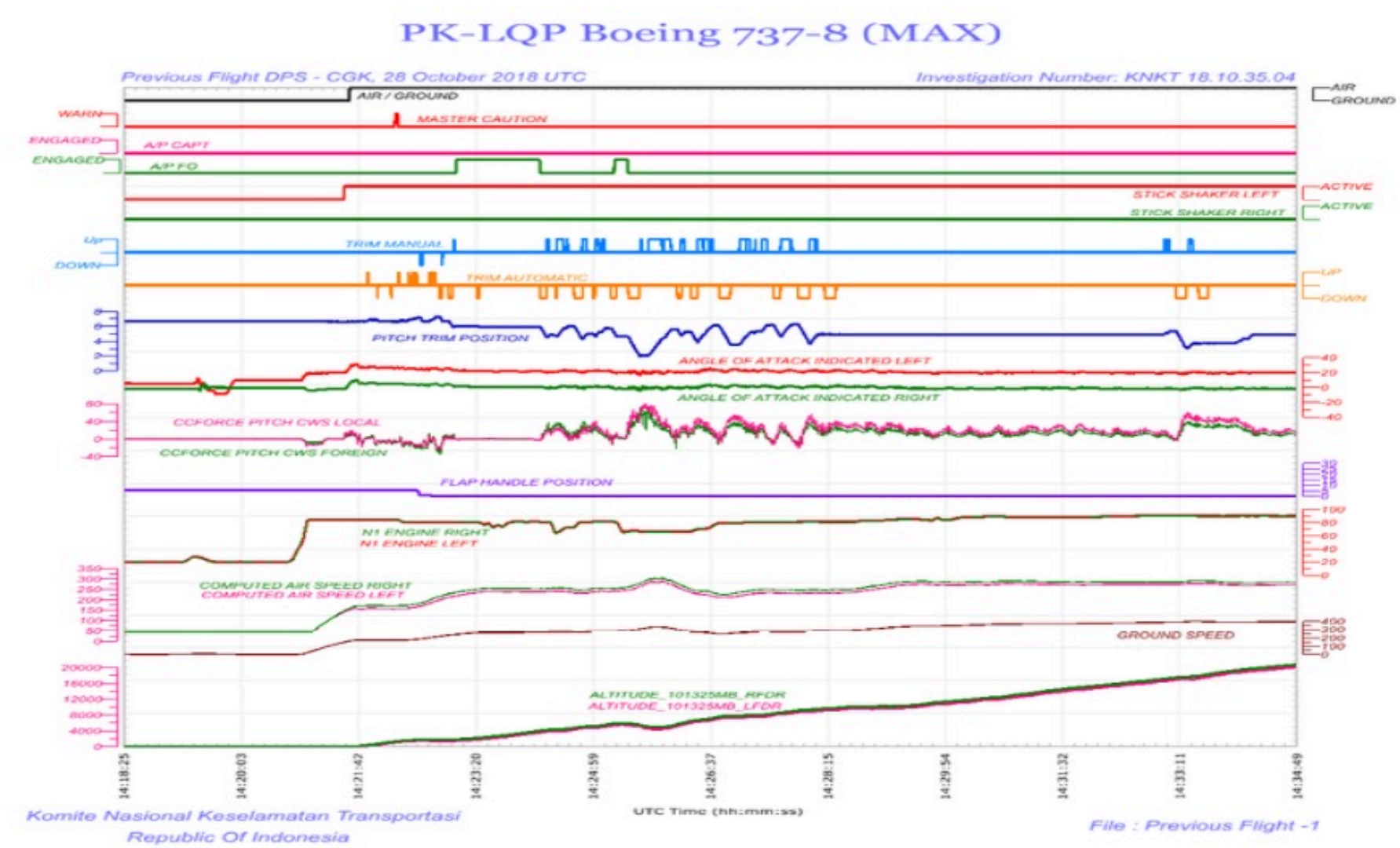
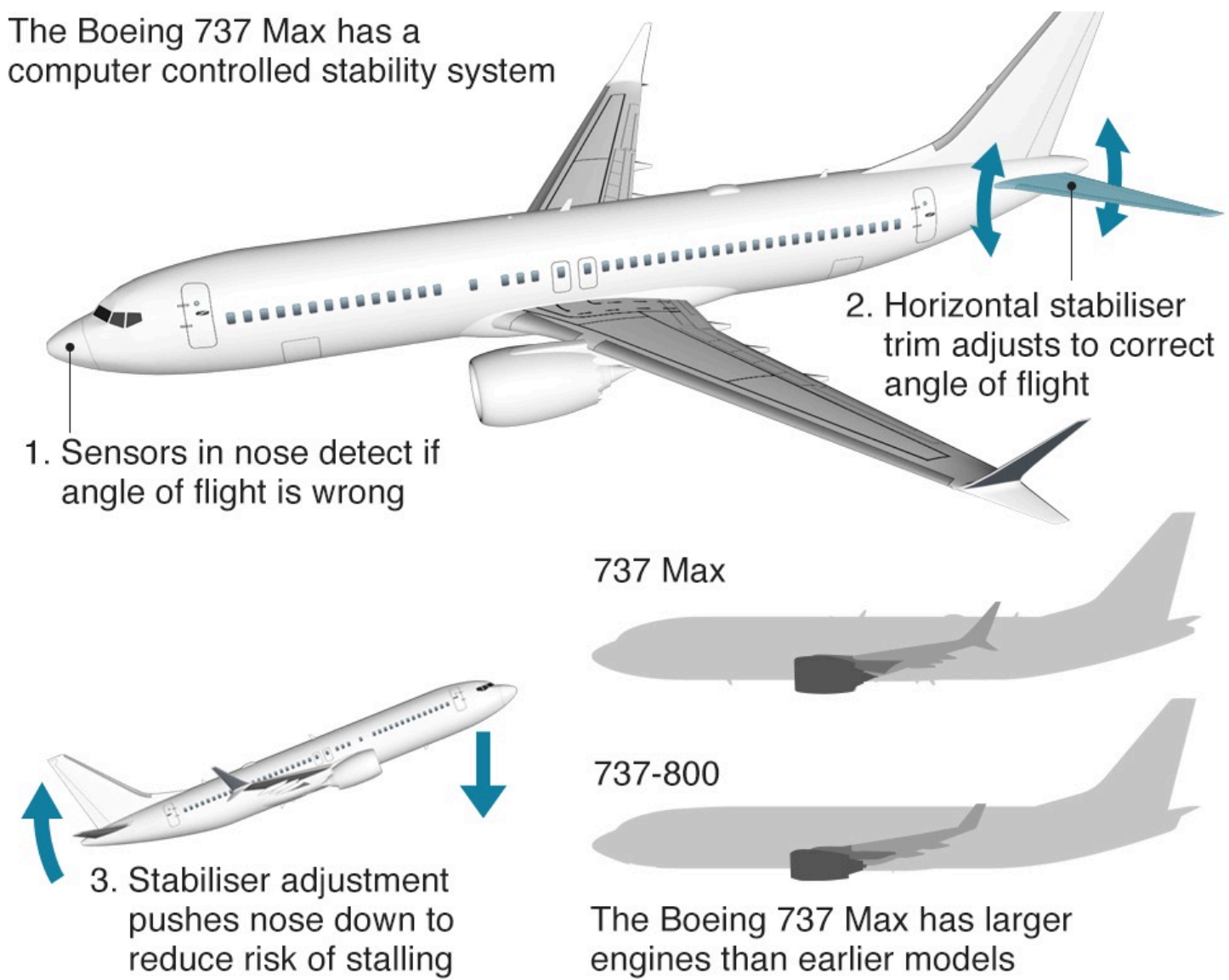


Figure 28: FDR parameters of the takeoff and climb out on the flight from Denpasar to Jakarta (DPS-1)

How the MCAS system works

The Boeing 737 Max has a computer controlled stability system



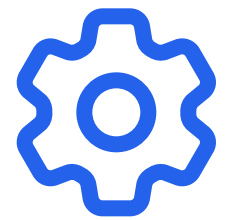
Source: Boeing, The Air Current

BBC

Assistive but unexplainable AI product → true collapse

AI UX Pillars

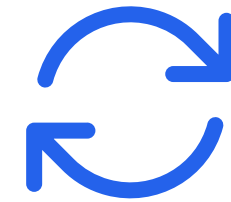
A perfect AI UX delivers value without friction— anticipating needs, adapting in real time, and guiding the user through natural, explainable interactions.



Assistive

- Reasons through tasks
- Decomposes tasks
- Calls tools

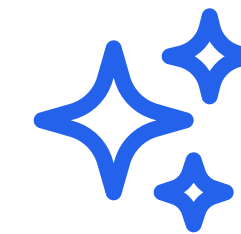
Lightens User workload



Adaptive

- Senses ambiguity, risk
- Adjusts initiative
- Improves with user interaction...

Learns & evolves with context



Explanatory

- Explains rationale
- Shows confidence level and provenance
- Instills trust in the user

**Surfaces logic & limitations &
Builds Trust**

Focusing on AI UX means users can delegate more work to AI with confidence.

Microsoft HAX Framework Guidelines for Human-AI Interaction



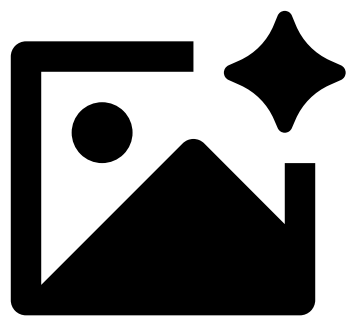
Good AI UX isn't flashy — it's seamless.

Pain: registering a brand and 10DLC campaign can take days of back-and-forth, form re-entry, and compliance guesswork.

Vertical slice: an AI assistant that, on Day 1, does only U.S. 10DLC but does it end-to-end:

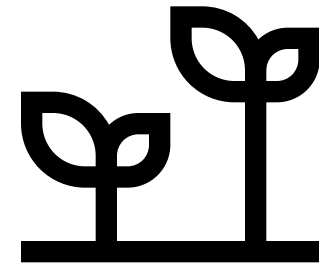
- 1. Autofill & validate** – pulls the legal entity data already captured during KYC, pre-populates The Campaign Registry (TCR) fields, and sanity-checks EIN/ZIP formats in real time .
- 2. Instant risk insight** – a lightweight GPT call predicts the likely TCR trust tier and flags gaps (e.g., missing opt-in language) before the user hits “Submit” .
- 3. One-click submit** – posts to TCR via API, streams the Brand ID / Campaign ID straight back to the UI, and shows a live status tracker instead of “email us in five days” .

AI Product-Led Growth



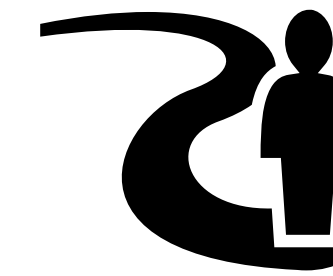
AI Products redefine SaaS

Instant utility → decision made in seconds (think GitHub Copilot)



Product experience becomes the growth engine

UX & trust drive growth

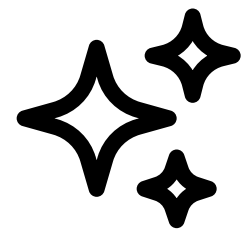


Every engineering decision serves to improve CX

- strip onboarding friction
- surface value fast
- learn & improve with every interaction

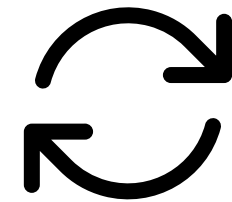
Product-Led Engineering Playbook

Key capabilities a product org must put in place for making AI useful, safe, and scalable...



User-Value First

Start from the job-to-be-done and prototype vertical & end-to-end slices that deliver real utility before scaling.



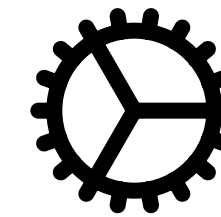
Iterate & Instrument

Ship small, measure everything (eval suites, online A/Bs, user telemetry) and treat development as an ongoing experiment.



Trust-by-Design

Bake in responsible-AI guardrails, transparency, and safety checks from day one—reliability and ethics are features, not afterthoughts.



Continuously Adaptive & Improving

Stream feedback into data pipelines, retrain or retune on a schedule, and keep models–UX–metrics in a virtuous loop of improvement.

Compounded improvement is the differentiator not the data...!

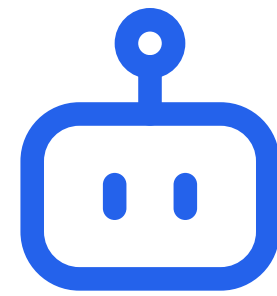
1. User-Value First → Seamless AI Automation

Find the friction. Collapse it with AI automation.



1. Spot the pain

- Ideation to surface UX friction



2. Collapse & Automate

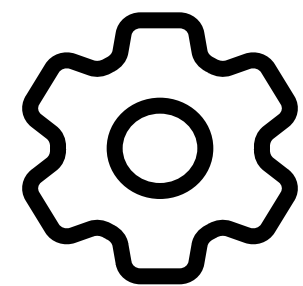
LLM/agent slashes 90 % steps



3. Streamlined UX

- Zero-friction workflows

Engineering AI Products, Not Workflow Automation



Classic Automation

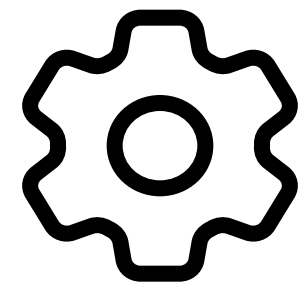
Treats LLMs as just another API to patch a task in a fixed flow.



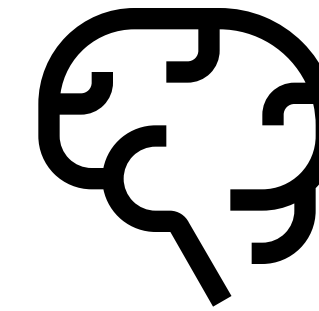
AI Native Product

Uses LLMs' context and reasoning to design intelligent journeys — assistive, adaptive, and explainable by default.

- Reasons with you and facilitates e.g. suggests next steps
- Conversational and flexible UI
- memory and personal context
- Multi-modal I/O
- Built-in error handling



Classic Flow



AI Orchestrated Flow

User Flow

User still fills the same long portal form → clicks a “☁️ AI-assist” button that calls GPT to rewrite opt-in text. Everything else (EIN entry, TCR upload, carrier status hunting) remains manual.

*User types: “I need to send OTPs to U.S. numbers.”
Re-uses KYC profile already verified at account signup.
Fetches latest TCR OpenAPI schema on the fly; always valid payloads.
Parallel: Brand vet + 10-digit number reservation + OTP campaign payload*

Value Timing

*Minor life: wording suggestions, 5 mins saved.
Decision cycle unchanged...*

Minutes to Brand ID / Campaign ID; user’s first production message can go out same day.

Engineering Focus

*“Wire an LLM API to an existing text box.”
No telemetry, no workflow orchestration, no DX rethink.*

Architecture, latency, trust, and feedback loops are the product surface; instrumented metrics drive next sprint.

Growth Impact

Experience is still paperwork-heavy → adoption hinges on sales & support.

Instant utility turns onboarding into a self-serve growth funnel; usage data fuels expansion pitches.

Scalability

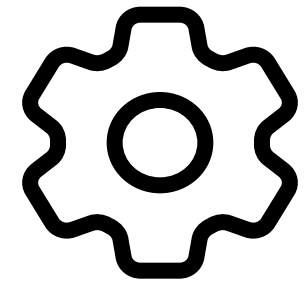
Each region/channel needs another ad-hoc prompt or form field.

Same slice template expands: plug in India DLT, UAE sender IDs, WhatsApp templates with minimal extra UI.

Learning Loop

*None, LLM call is stateless.
Team learns only from support tickets.*

*Every completion, edit, or rejection is logged
→ retrains validation models, improves prompts, and surfaces UX friction.*



Classic Automation

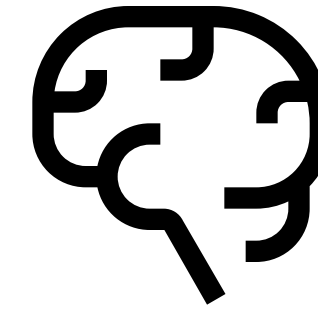
API workflow Orchestration

Disconnected Forms

Manual Edge-case handling

Static decision trees

Fixed flows with hard logic



AI Native Product

Intent-aware orchestration

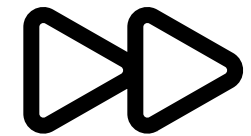
Guided, conversational onboarding AX

Assistive & Explainable AI

Context-aware interpretation

Adaptive, reasoning-driven journeys
(LLMs plan + act)

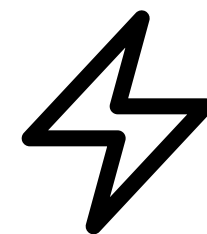
AX Drives Business Value in CPaaS Onboarding



Accelerated Activation

- Reasons through tasks
- Decomposes tasks
- Calls tools

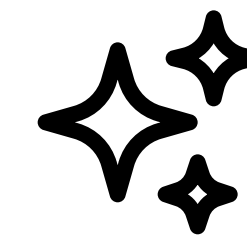
Faster Time-to-Value



Reduced Drop-off

- Handles ambiguous cases & guides users
- Smart error resolution avoids churn

Lower CAC, Higher Retention



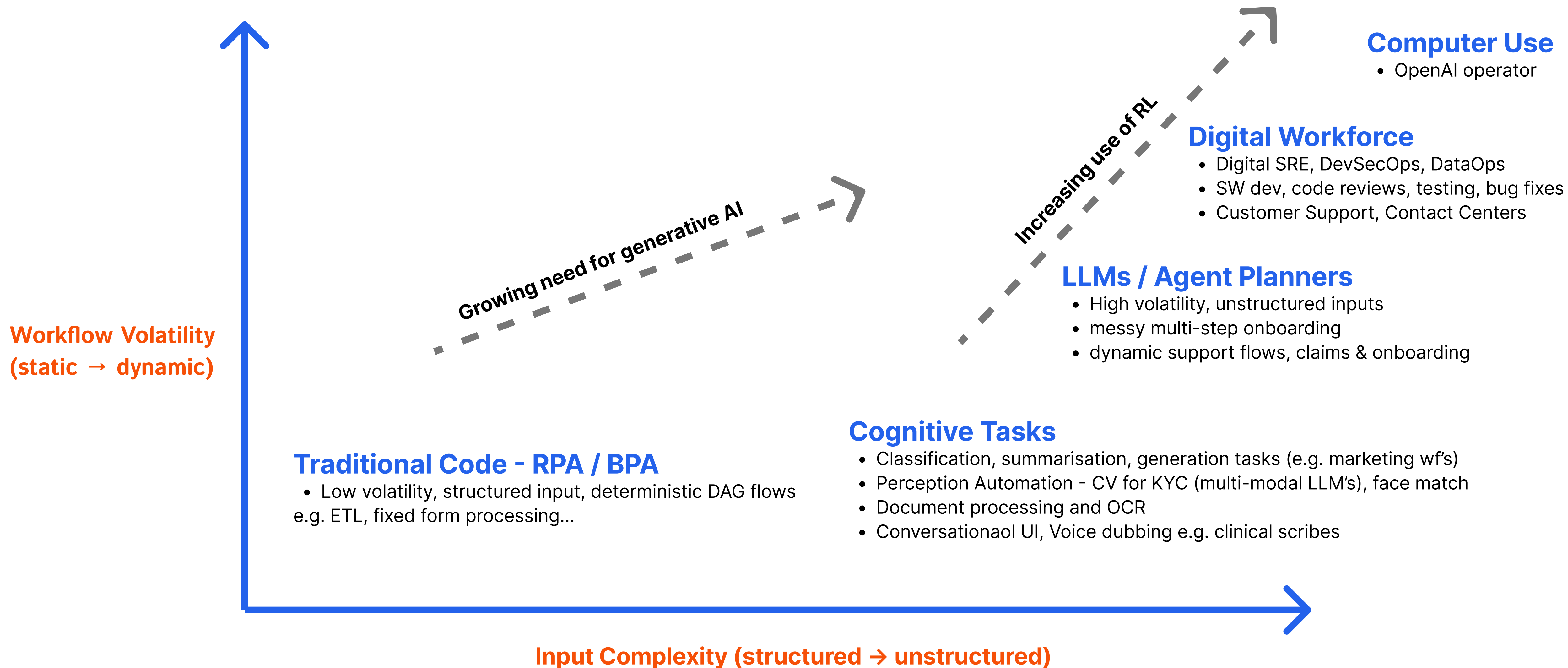
Improved Trust & Conversion

- Transparent explanations build trust
- Users complete onboarding with higher confidence

Higher Conversion to Paid Plans

Focusing on AX turns CPaaS onboarding into a frictionless growth engine.

1. AI Automation Landscape: From Static Workflows to LLM-Planners



Building AI Agents Today...

Planner LLM

- Reasoning
- Generalisation
- Causality
- Multi-hop reasoning
- Minimal context

Worker LLM

- Instruction following
- Function Calling
- SV Fine-tuning
- DPO

Tool Use Function Calling

- Structured outputs
- Consistent outputs
- multi-step FC
- Implicit parameter reasoning
- Handling user constraints
- Handling errors
- FC Ambiguity
- API Response Disambiguation
- Long-parameter filling
- Execution Efficiency

Context & Agent Memory

- Forming agent memory
- Context compilation
- Hierarchical memory
- Core memory
- Handling large contexts
- Long Horizon tasks
- Prioritization, reranking
- Knowledge Graphs

AI Automation Unicorns



wraps open LLMs with its own *vision-DOM bridge* and memory layer

A D E P T

multi-modal *action transformer* trained on trillions of UI tokens



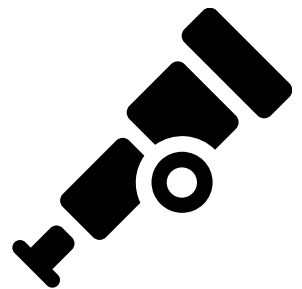
Tiny, cost-efficient LLM fine-tuned for sequential decision making



Large Action Model (LAM) tuned on corporate processes

2. Continuously Improving Adaptive Systems

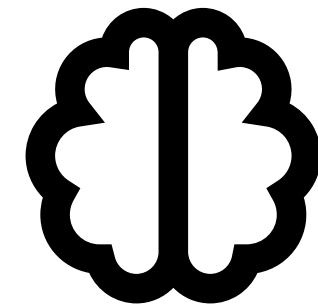
Every click or even not clicking makes the product smarter...



1. Instrument & Observe

Every click becomes telemetry...

- UI / UX events
- LLM prompts and generations
- thumbs up / down, “regenerate” clicks



2. Learn and Adopt

Turn telemetry into a data flywheel

- Stream, enrich, store...



3. Continual Training

Continuously train your model with telemetry from user interactions

2. Continuously Improving Adaptive Systems

Every click makes the product smarter...

Systems That Get Smarter With Use

 **Enterprise Search**

Helpful?' votes shape RAG retrieval.

 **perplexity**

Clicks rerank, follow-ups ground answers.



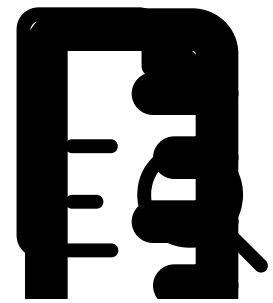
Explicit as well as implicit feedback to improve the model

 **Suno**

Skips & replays retune style embeddings

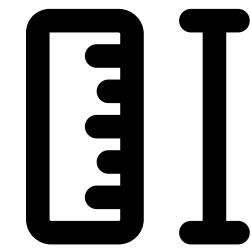
3. EvalOps - Experiment, Measure, Improve...

Embedding objective metrics in the lifecycle of probabilistic models



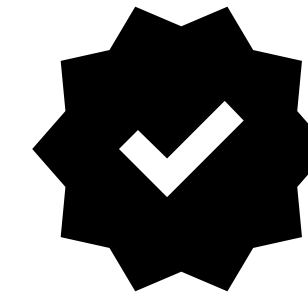
1. Define what good looks like...

- Set objective metrics per use-case
 - context precision
 - groundedness
 - answer accuracy
 - Intent match
 - coherence
- Create Golden datasets & simulators



2. Measure every change automatically

- Shadow Evals (silent)
- A/B testing pipelines
- Golden Set regression checks
- auto-populated scorecards

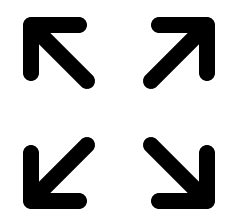


3. Release safely with control

- embed Evals into CI/CD (e.g. GitHub actions)
- Canary Deployments with Auto-Promotion Rules
- model registry with version labels & eval metadata
- live monitoring and drift detection

Ensure consistent model performance with faster rollout confidence

4. Trust-by-Design: Building AI Products That Inspire Confidence



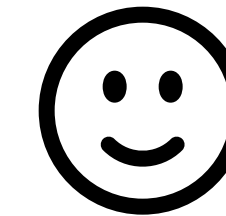
Explainability & Evidence

- Inline rationale tooltips / show steps
- Citations & source links
- Highlighted feature-importance
- Plain-language reason codes (Zest AI)



Confidence Transparency

- Confidence scores
- Visual uncertainty cues (fading text, glow strength)
- Side-by-side alternatives with delta-confidence
- Low-confidence banner that invites the user to re-prompt

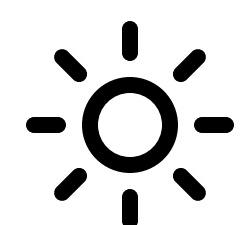


User Governance

- Thumbs up / down - Tell us why dialog
- one-click escalate to humans
- full audit-log & version history link
- settings panel: data-sharing toggles, safety level slider

Trust happens when 'Why', 'How sure', and 'What now' are obvious at a glance.

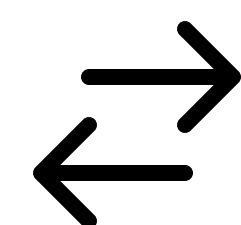
Key Patterns for the AI Product Led Builder



Surface Value Quickly

AI Automation

If users don't recognise the value fast and feel safe or understood, they won't stay. Great UX builds trust and fuels the product-led engine...



Adaptive Systems

Data Flywheels

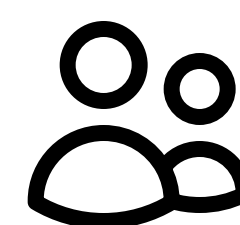
Data flywheels, evals, and adaptive models make the product smarter with use. Every click sharpens your edge. That's how you differentiate and build momentum.



Iterate & Instrument

EvalOps

Is building with discipline. You need to measure what works, catch what breaks, and improve every by design.



Trust by design

Trust UX Patterns

UX patterns that make AI systems feel transparent, controllable and reliable.

Thank you!
Q&A