

AN OPEN OFFER · ISANG BUKAS NA ALOK

Manila Flood Monitor

A working flood early-warning app, ready to be taken further in the Philippines.

Babala sa baha, mula sa opisyal na datos.

Justin James · The Possible · October 2026 · Experimental — not an official warning service

PROJECT SUMMARY

A working flood warning app, offered to the Philippines

Manila Flood Monitor is a flood early-warning app built for the Marikina watershed by The Possible. It reads official river, dam and rainfall data, works out which homes are affected, and sends a warning in English or Filipino to iPhone and Android, always labelled official or app-derived.

It is free, has no accounts and no ads, and runs on Amazon Web Services for under ₱2,000 a month. The apps are in beta.

This deck offers a copy of the code to a sponsor in the Philippines, government or private, to fork, rebrand and run beyond the pilot. The ask is a small credit and four promises to the people who use it.

CONTENTS

Why it matters	3
The offer in short	4
What it does and how it works	5
Hosting and what it costs	8
Manila: how it behaves	10
Where it stands	14
Bulacan and Cagayan Valley	16
Taking it further	18
Who could take it on	21
Terms and support	22
About	24

WHY IT MATTERS

At least 43 people died in the Philippines' August 2026 storms and monsoon floods.

More than 8.8 million people were affected. Closer to home, the water reached my mother-in-law and her neighbourhood. No app can promise it would have saved anyone. A warning that reaches the right phone earlier might.

One life saved, and an app and its sponsor have made a difference to someone's mother or father, son or daughter, wife or husband.

Source: NDRRMC figures, reported 7 September 2026 (43 dead) and 31 August 2026 (8.8 million affected).

THE SHORT VERSION

Take a copy of the code, fork it, and run it as your own.

In return: a small credit to the team that built it, and a few promises to the people who use it.

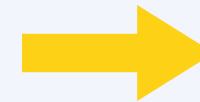
THE PROBLEM

The data is public. What it means for your street is not.

WHAT THE BULLETIN SAYS

247.42 m³ / s

Spill rate at Upper Wawa dam, published as a number in a government post.



WHAT A RESIDENT NEEDS AT 3 A.M.

What happened?

Where?

Does it affect me?

What do I do now?

WHAT IT DOES

From a government reading to a warning on the right phone

01

Collect

Polls official river gauges, dam bulletins and rainfall every 5–15 minutes. Every raw response is archived unchanged.

02

Derive

Turns readings into events: thresholds crossed, rapid rises, dam gates opening, sources going quiet.

03

Resolve

Works out which saved homes sit downstream, from the watershed map. Nobody has to know their river basin.

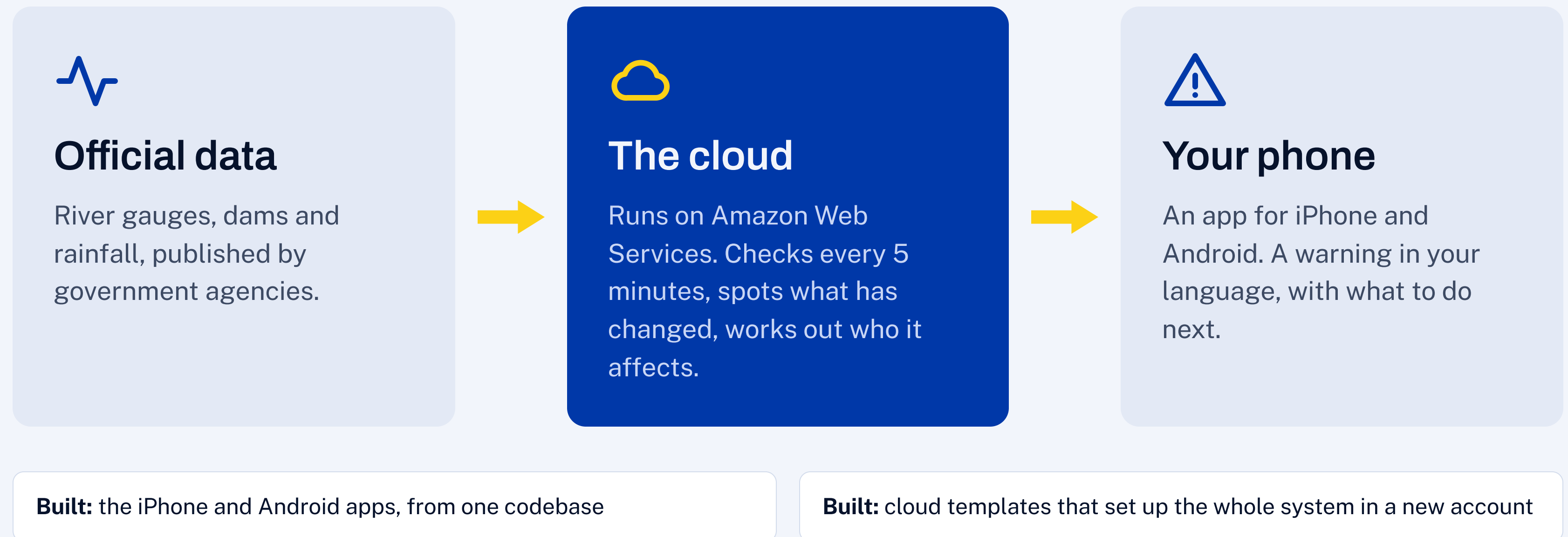
04

Alert

Pushes a bilingual warning, always labelled as official or app-derived, with a link to the source.

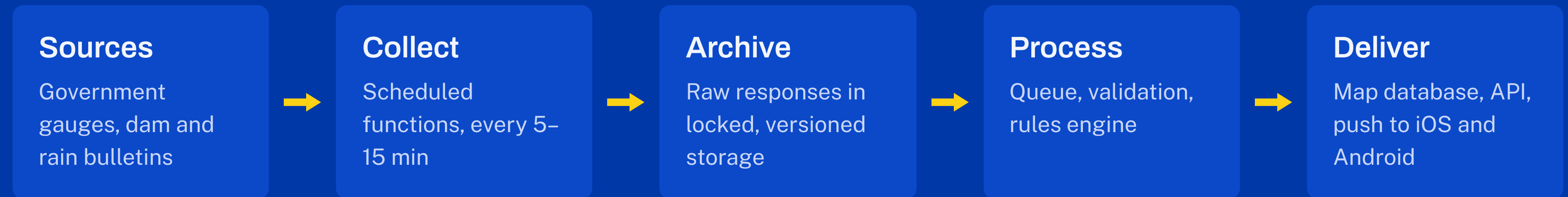
HOW IT WORKS

Three parts, in plain terms



HOW IT IS HOSTED

Serverless, cheap to run, defined as code



AWS, Singapore

The nearest full AWS region to Manila.

About ₱500–1,600 a month

US\$8–25 at current scale. No servers to patch.

One codebase for the apps

Expo builds iOS, Android and web. The public site is on Cloudflare Pages.

Infrastructure as code

AWS CDK in TypeScript; redeploys into a new account from the repo.

WHAT IT COSTS A SPONSOR

Your name on a public safety service, from about ₱3,100 a month

Pilot

up to 1,000 users



₱1,600–3,100 a month
US\$25–50

City

around 50,000 users



₱6,300–12,500 a month
US\$100–200

Metro

around 500,000 users



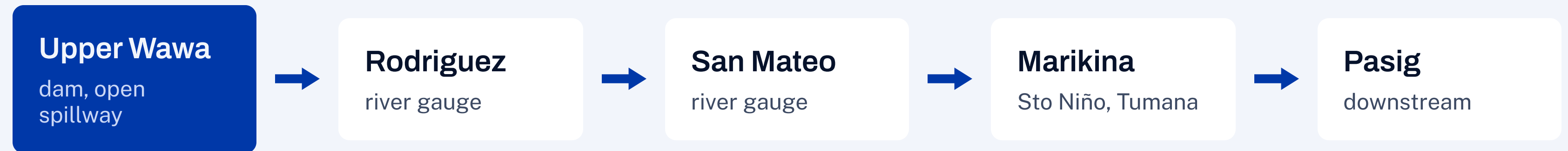
₱31,000–63,000 a month
US\$500–1,000

At city scale that is about 20 centavos per user a month. Push notifications to iPhone and Android cost nothing to send.

Estimates at AWS list prices, at about ₱62.5 to the US dollar. Hosting only; excludes people's time and app-store fees (Apple ₱6,200 a year, Google ₱1,600 once). · 9

EXAMPLE: MANILA

One river, read from upstream to downstream



EACH GAUGE AGAINST ITS OWN PUBLISHED LEVELS · ILLUSTRATIVE



Thresholds are scraped from PAGASA's own table and stored as versioned rows, never hardcoded. A reading near Critical looks the same at every station.

Early signals, before a threshold is crossed

Rate of rise

A rise of 0.5 m in 30 minutes, measured from the low point, raises a warning while the river is still below Alert.

Upstream first

A dam releasing or a gauge climbing upstream reaches downstream homes before the water does.

Spill trend

Dam spill rate is tracked over a sustained window, so a single noisy reading does not set anything off.

Forecasting is deliberately not switched on yet. Every reading is archived, so travel times between gauges can be measured from real storms and added later, presented as history rather than prediction.

SAFETY RULES

Rules it will not break

Never downgrade an official warning

What is shown is the higher of the official status and the app's own reading. Never the lower.

Silence is a signal

If data stops, the app says so: “latest official reading is 43 minutes old”. No reassuring green screen.

A frozen reading is not a reading

On 9 August 2026 two Manila gauges were frozen above Critical. The app recognised them and sent no false alarm.

Official and app-derived, always labelled

Every notification and screen says which is which, and links to the source.

Fast to warn, slow to stand down

Delays and confirmations apply only to all-clears. An escalation goes out at once.

No AI originates a warning

Rules and official thresholds decide. Residents' reports can confirm, never trigger.

WHERE IT SITS

Beside the national alerting system, not in place of it

	National alerting	This app
Issued by	Government: NDRRMC, PAGASA, the LGU	Relays and labels official warnings
Scope	A province or district	A saved home and its river
Says	The instruction: prepare, evacuate	The reading behind it, the trend, upstream
Reaches	Every phone in an area	People who install it and save a place

It never issues an evacuation order of its own and always points back to the official source first.

WHERE IT STANDS

Built, deployed and in beta

410

automated tests

16

river gauges read live

9

dams tracked

2

languages, English and
Filipino

IOS

TestFlight public beta

ANDROID

Google Play internal
testing

BACKEND

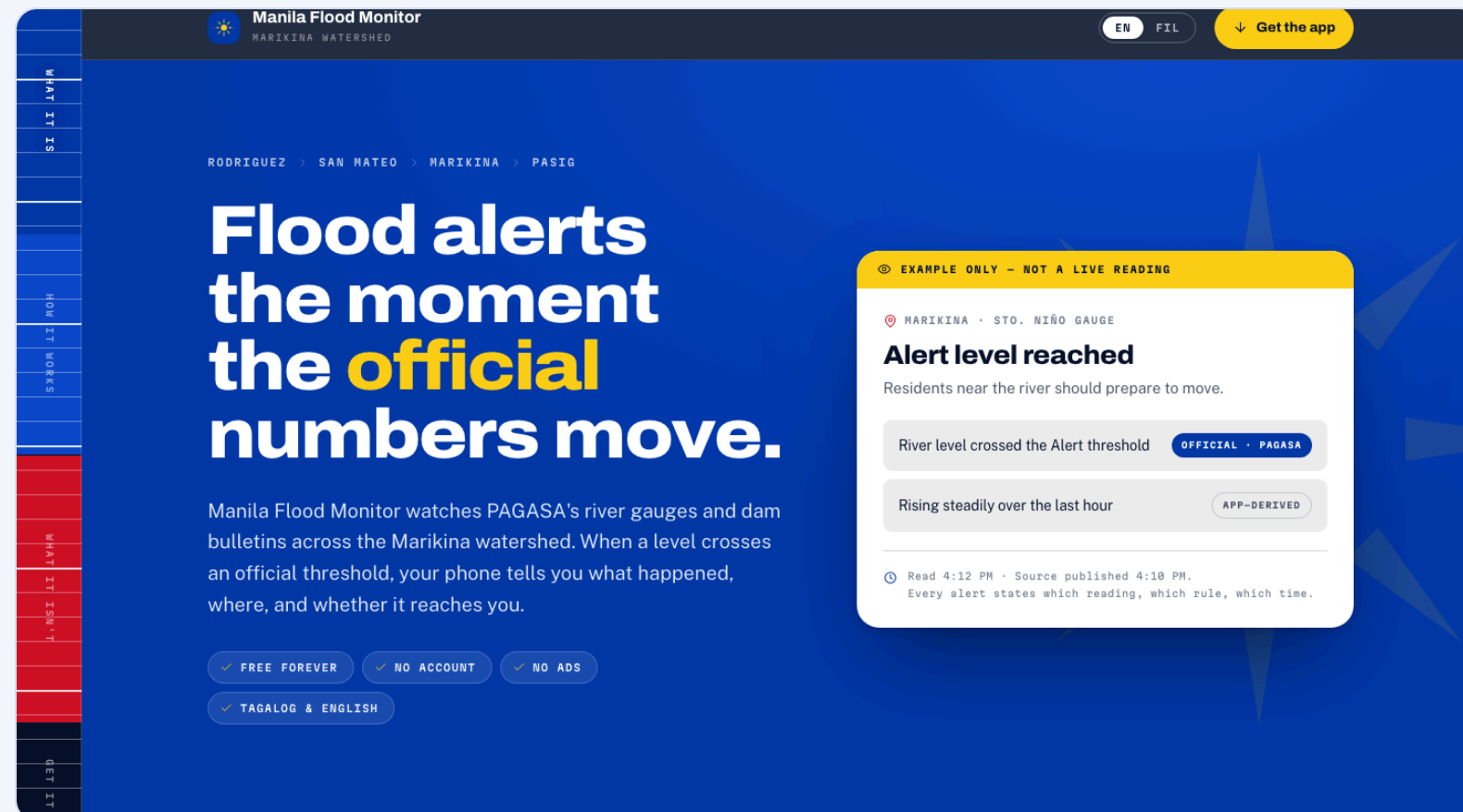
Live on AWS, polling every
5 minutes

PUSH

Switched on; first handset
delivery not yet confirmed

SEE IT FOR YOURSELF

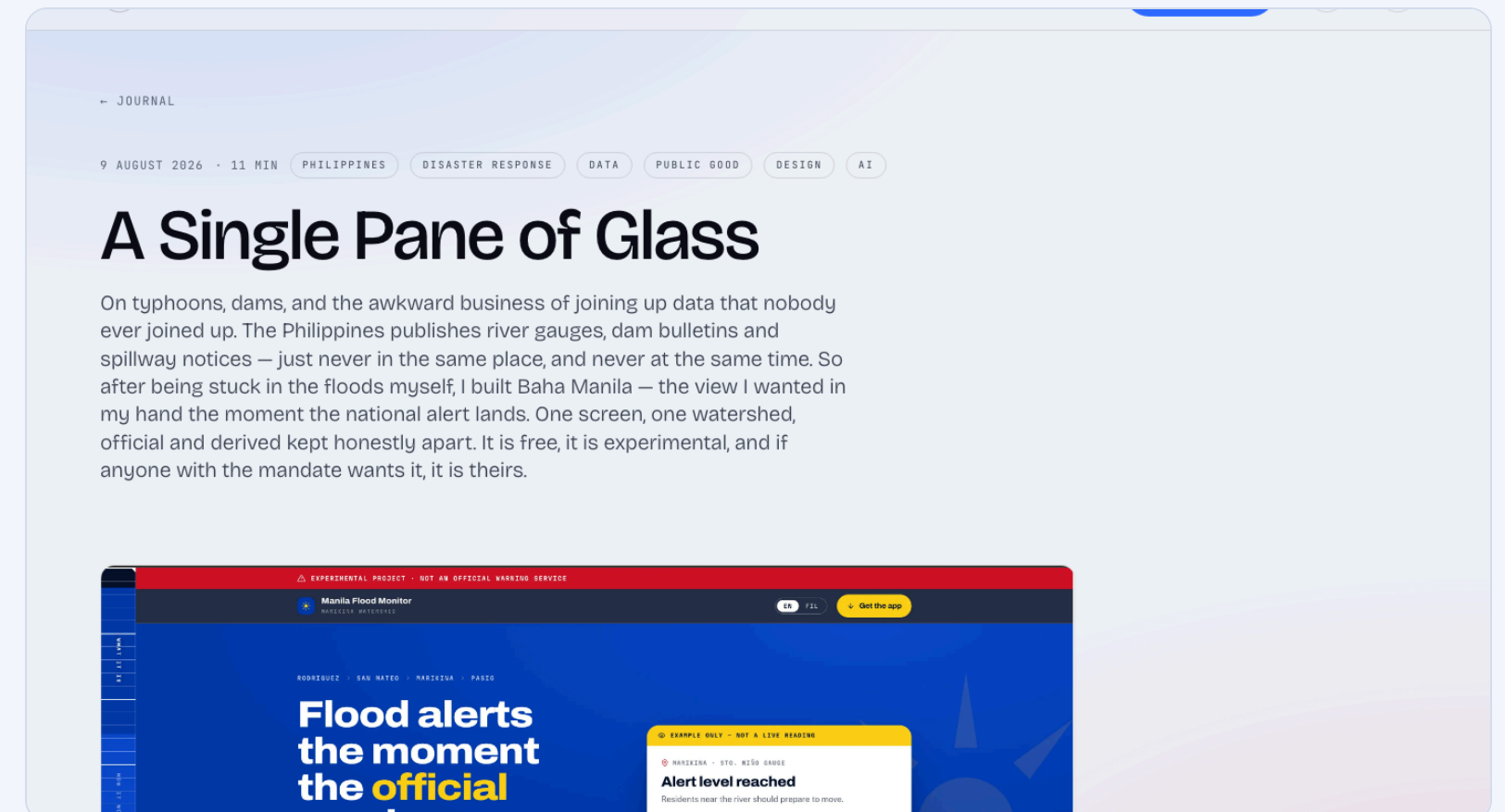
The original site, and why it was built



Manila Flood Monitor

The public site for the Philippine pilot, in English and Filipino.

www.agrisphere.asia



A Single Pane of Glass

Why it was built: “It is free, it is experimental, and if anyone with the mandate wants it, it is theirs.”

justinjames.agencie.io/journal

EXAMPLE: BULACAN AND PAMPANGA

A gated dam above Metro Manila's water supply, and towns below it

- **Angat Dam**
Norzagaray; gated spillway
- **Ipo Dam**
diverts water to Metro Manila
- **Bustos Dam**
Angat River, mid-reach
- **Calumpit and Hagonoy**
where the Angat meets the Pampanga

Already read today

Angat is one of the nine dams the app reads from PAGASA's bulletin, gates and outflow included.

A gate opening upstream reaches the lowland towns hours later. The app passes it down the river to every saved home in its path.

[Sponsor] Flood

FIL | EN

Not an official warning

Angat Dam has opened its gates. Water is being released downstream.

Home · Calumpit

ALARM · OFFICIAL

Angat releasing; river rising downstream

UPSTREAM

Angat Dam · 2 gates open

Ipo Dam · spilling

Rain here · heavy, 3 h

● Data current · 4 min old

EXAMPLE: CAGAYAN VALLEY

The country's longest river, fed by a dam that releases in typhoons

- **Magat Dam**
Isabela; gated spillway
- **Magat River**
to the Cagayan
- **Cagayan River**
flows north through the valley
- **Tuguegarao**
Buntun Bridge reference gauge

November 2020

After Typhoon Ulysses, Cagayan and Isabela saw their worst flooding in decades while Magat was releasing water.

Knowing when a dam opens, and what that means downstream, is exactly what the app is for.

[Sponsor] Flood

FIL | EN

Not an official warning

Magat Dam has opened its gates wider. More water is coming downstream.

Home · Tuguegarao

CRITICAL · OFFICIAL

Cagayan at Buntun Bridge above critical

UPSTREAM

Magat Dam · gates opened wider

Cagayan River · rising quickly

Rain here · heavy, 3 h

- Data current · 4 min old

Illustrative mock-up — not a live reading. Cagayan basin adapter and thresholds to confirm with PAGASA.

TAKING IT FURTHER

Beyond Marikina, most of it is already built

Already in place

- Rules engine and safety rules
- All nine PAGASA-monitored dams
- PAGASA warnings and rainfall
- API, apps and push, in English and Filipino
- Infrastructure code

Still to add

- Adapters for other PAGASA river basins
- Real catchment maps, from NOAH or GeoRiskPH
- LGU evacuation notices
- Regional languages
- The sponsor's name and logo

INTEGRATION POINTS

Philippine sources, one adapter each

Source	Provides	Status
PAGASA Pasig–Marikina–Tullahan gauges	River levels, thresholds, declared status	Built, verified live
PAGASA dam bulletins	Nine dams: level, gates open, outflow	Built
PAGASA rainfall stations	25 stations, six time windows	Built
PAGASA warning posts	Official Alert, Alarm, Critical	Built
OCD CALABARZON bulletins	Upper Wawa spill status and rate	Built; no live feed
Other PAGASA basin centres	Pampanga, Cagayan, Agno, Bicol	Planned
NOAH and GeoRiskPH	Hazard maps and catchments	Planned
LGU notices	Evacuation orders	Planned

An unverified source runs below full confidence and can never originate a critical warning. The unofficial PAGASA Marikina API is never used.

LANGUAGE

English and Filipino, from day one

ENGLISH

Marikina is rising quickly

The river rose 0.6 m in 30 minutes. This is our own reading of official gauges, not an official warning.

FILIPINO

Mabilis na tumataas ang Marikina

Tumaas ang ilog ng 0.6 m sa loob ng 30 minuto. Ito ay sarili naming pagbasa ng opisyal na gauge, hindi opisyal na babala.

NEXT

Cebuano, Ilocano, Hiligaynon

Each is another column in the same catalogue. Safety copy is reviewed by a native speaker, never shipped from machine translation.

One shared catalogue feeds the app, the site and every push. The build fails if a string is missing in any language.

WHO COULD TAKE IT ON

A public service under your name

Government

NDRRMC or OCD, MMDA, a provincial DRRM office, or an LGU such as Marikina.

Street-level context beside the national alerts, owned outright and run under your name.

Private sector

A telco, bank, insurer, utility, property developer or corporate foundation.

A free safety app carrying your name and logo, and nobody else's. Useful to residents, good for your reputation.

THE OFFER

What you get, and the conditions

You get

- A full copy of the codebase: backend, rules engine, iOS and Android apps, website, infrastructure code, tests and docs
- Your own fork, to host, rebrand, change and extend as you like
- A handover walkthrough [scope to agree]; further help is on the next slide

The conditions

- A credit to The Possible, however small, in the app or on your site
- Never chargeable to the people who use it
- No surveillance of users
- The only advertising is from the sponsors, government or private, who host and maintain the fork
- No third party earns revenue from it

SUPPORT

The code is free. Only our time is charged.

YOU HAVE YOUR OWN ENGINEERS

No charge

The code, docs and tests are yours, and the handover walkthrough is included. Your team takes it from there.

YOU WANT OUR HELP

[Day rate]

Specific customisation and ongoing support are charged, because they come out of someone's time.

Sponsors can be government or private sector, or both together.

ABOUT

Who built it, and why

Justin James CO-FOUNDER, THE POSSIBLE

I am British. My wife is Filipino, and our son is both Filipino and British. This is my way of saying thank you for the generosity of the people I have met and worked with in the Philippines.

British deep-tech architect, 25 years across silicon, banking, defence and marketing technology. Founded Agencie.io Labs in 2022.

linkedin.com/in/justinjj · thepossible.agencie.io/founders · justin@agencie.io

The Possible

A not-for-profit build and innovation lab for startups, founders and investors.

thepossible.agencie.io

NEXT STEP

Salamat po · Thank you

Let's talk about taking it further in the Philippines.

Justin James

Co-founder, The Possible · justin@agence.io