

TENDER SUBMISSION · NATIONAL ARTS COUNCIL

21-31 JANUARY 2027

Singapore Art Week 2027

Digital Event Solution — Working Prototype

● Live today at saw2027.skubbsmate.com

Skubbs Pte Ltd

UEN 201327767Z

October 2026

SUMMARY

A working system, not a mock-up

To support this proposal we have built a working prototype of the SAW 2027 digital event solution. It is live on the internet today, and evaluators can use it on their own phone or computer. Every screen in this document is a screenshot of the live system, not a design mock-up.

The prototype is loaded with the SAW 2027 dates (21–31 January 2027), 20 representative programmes and 13 real venues grouped into six arts districts. A presenter **festival clock** makes the whole system behave as if it were any moment of the festival. The screenshots in this document were taken with the clock set to the **Night Festival, Saturday 23 January, 7pm**, with a captioned talk in progress.

SAW Visitor App

For festival-goers, on any phone browser: the programme, a personal agenda, a venue map, an AI Companion in four languages, a stamp passport and live captions for talks.

NAC Admin Portal

For NAC staff: live operations, a big-screen display, programme management, live translation, AI session reports, analytics, passport management and a rehearsal mode.

SAW API

One backend serving both, with live speech-to-text, translation and AI services behind it. Any change staff make reaches visitors at once.

4

official languages for captions and the Companion

13

real venues across six arts districts

~2.5s

from a visitor's QR scan to the big screen

170

automated tests, run on every change

~US\$0.80

to caption an 8-minute talk into three languages

Try it yourself

Visitor app	https://saw2027.skubbsmate.com
Admin portal	https://saw2027-admin.skubbsmate.com
Visitor sign-in	demo@saw2027.sg / saw2027
NAC staff sign-in	admin@nac.gov.sg / saw2027

Contents

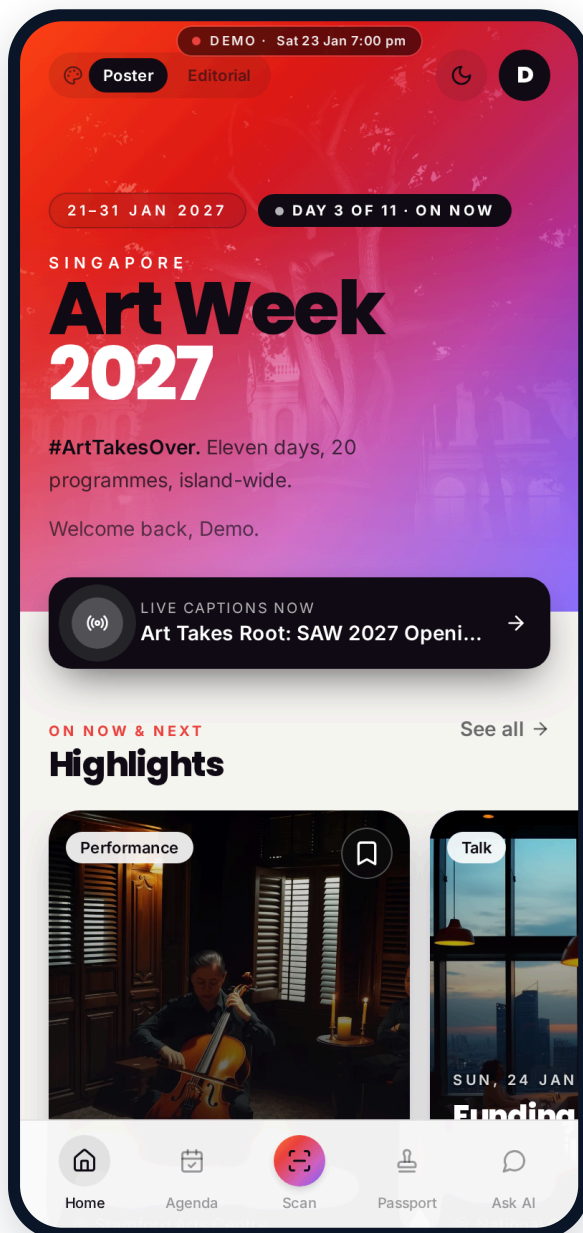
1. Visitor App — Discover and Plan	3	9. Live Translation and AI Reports	12
2. Venue Map	5	10. Analytics	13
3. SAW Companion	6	11. Event Passport Management	14
4. Event Passport	7	12. Demo Mode	15
5. Live Captions	8	13. Artificial Intelligence, Used Responsibly	16
6. Live Operations Dashboard	9	14. Built for the Real Event	17
7. Big-Screen Display	10	15. From Prototype to Production	18
8. Programme Management	11		

The SAW Visitor App

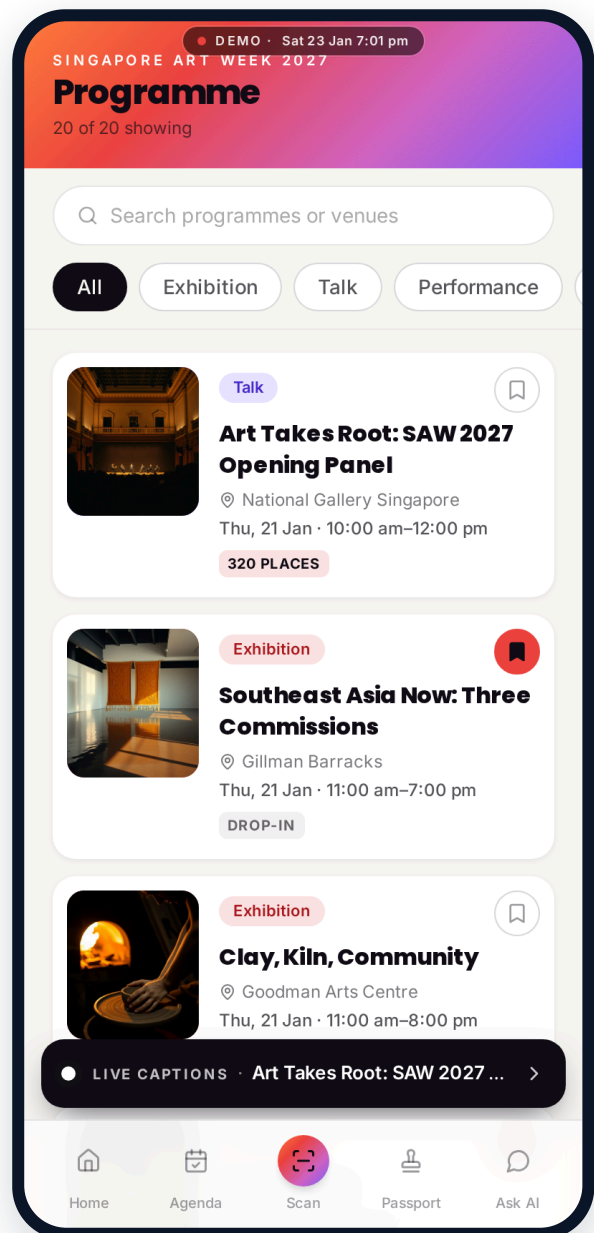
A mobile-first app for festival-goers. It runs in any phone browser, with nothing to download, and can be added to the home screen.

1. Visitor App — Discover and Plan

Festival-goers open the SAW Visitor App in any phone browser, with nothing to download. Home changes with the festival. Before SAW opens it shows a countdown and a short welcome. During the festival it shows what is on now, a **Tonight** rail, a day strip across the eleven days and, whenever a talk is being captioned, a card that takes visitors straight to the live captions.



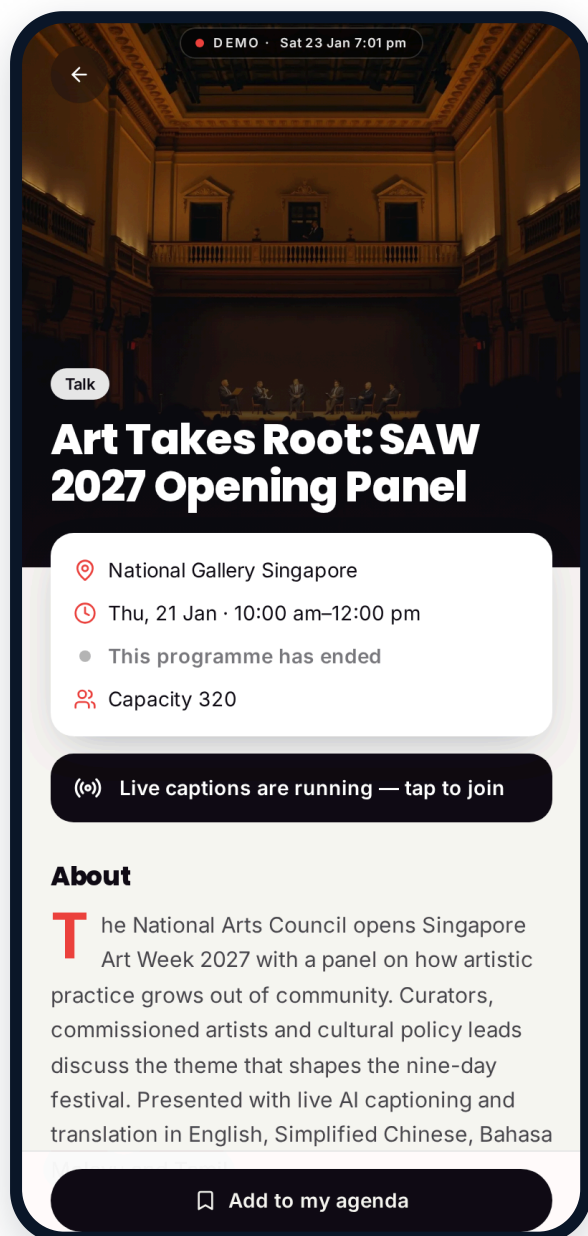
Home during the Night Festival. It shows the festival day ("Day 3 of 11"), the talk being captioned now, and the highlights on now and next.



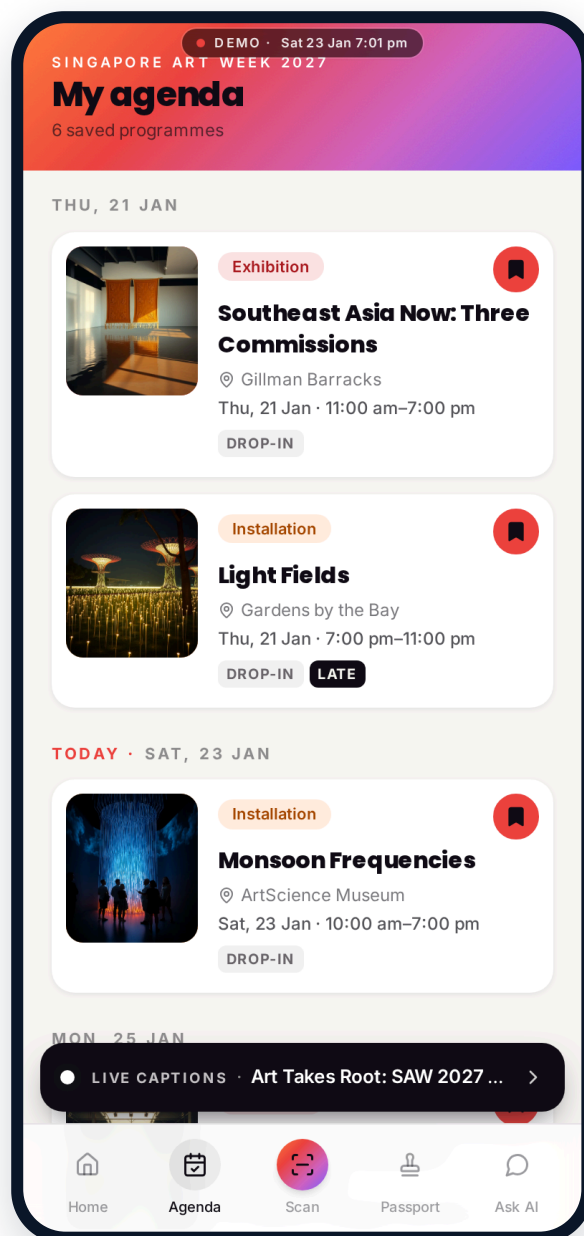
Programme. Search, and filter by format, venue and day. Every listing has its own artwork, and a live-captions bar follows visitors around the app.

1. Discover and Plan (continued)

Every programme has its own page with artwork, venue, times and capacity, and one tap saves it to **My Agenda**. The agenda is kept on the server, so it follows the visitor from phone to laptop, and it is grouped by festival day so visitors can see their SAW at a glance.



Programme detail. Venue, times and capacity, a live-captions link while the talk is running, and one tap to add it to the agenda.



My Agenda. Saved programmes grouped by festival day, with today marked, and each programme's venue and times.

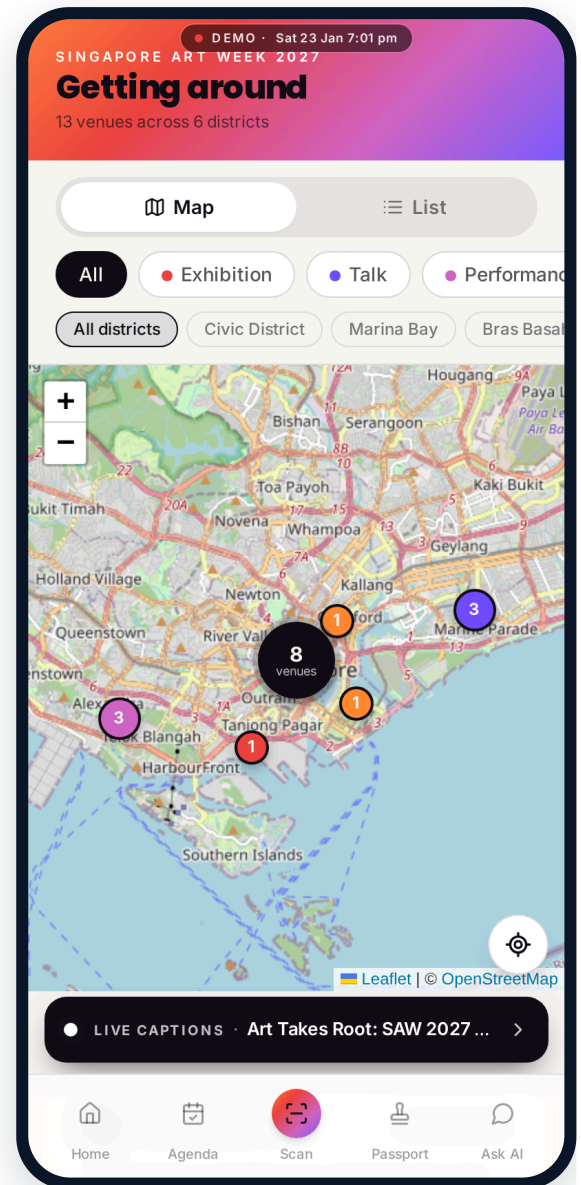
The prototype carries 20 representative programmes. The same screens are designed for the full SAW 2027 programme, which in production would be imported from NAC's own systems.

2. Venue Map

All 13 SAW venues appear on an interactive map of Singapore, colour-coded by programme type. Tapping a venue opens a sheet with its programmes and one-tap directions. A list view groups the venues by arts district.

What visitors get

- **Colour-coded pins** for exhibitions, talks, performances and installations, with filters by type and by district.
- **Readable at city scale.** Nearby venues merge into a count bubble. Tapping the bubble zooms in until the venues separate.
- **A sheet for every venue** with its photograph, what is on there and directions in the phone's own maps app.
- **A list view by arts district**, each district with its own artwork, for visitors who would rather browse than pan a map.
- **Getting between districts.** A free-shuttle card helps visitors move across the city.
- **Joined up with the Companion.** A programme the Companion recommends, or a whole day plan, opens on the map as a numbered route.



Getting around. 13 venues across six districts. Venues close together in the city centre merge into one bubble, which separates as the visitor zooms in.

3. SAW Companion — an AI Guide in Four Languages

Visitors can ask anything about the festival in English, Mandarin, Bahasa Melayu or Tamil, typed or spoken. The Companion answers from the live programme database and returns its recommendations as cards with artwork, time and venue, and an **Add to agenda** button. It cannot recommend a programme that does not exist.

Speaks Singapore's four official languages

Visitors can speak in any of the four languages and the Companion replies in the language they used, or they can pick a language with one tap. **Listen** reads each answer aloud in a matching voice, which helps older visitors and people with low vision.

Plan my day

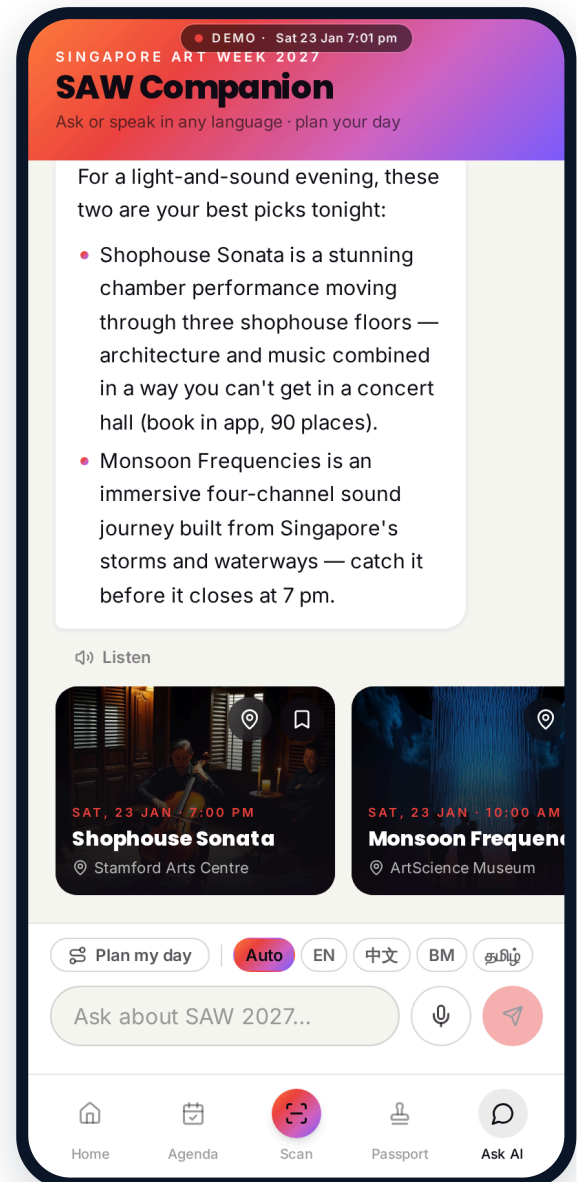
A visitor picks a festival day and says what they enjoy. The Companion returns a timed route through that day with a reason for each stop. The timings are laid out by the system, not by the AI, so a plan can never double-book. The whole day can be added to the agenda in one tap, shown as a route on the map, or shared as a story-sized "My SAW day" image.

Grounded, not invented

Every programme the Companion names is checked against the live database before it is shown. A programme that staff add or change in the portal is in the Companion's answers straight away.

Always usable

If the microphone is blocked, unsupported or offline, visitors see a clear message and can type instead.



"What should I see tonight? I love light and sound." The Companion follows the festival clock, so "tonight" means Saturday 23 January, and it returns tappable picks.

4. Event Passport

Visitors scan a QR code at each venue to collect a stamp. The passport is presented as a booklet with a page for each arts district and ticket-stub rewards: **Arts Explorer** at 3 stamps and **SAW Champion** at 6. Completing a district plays a full-screen celebration. Visitors can share their passport as an image.

Why it matters to NAC

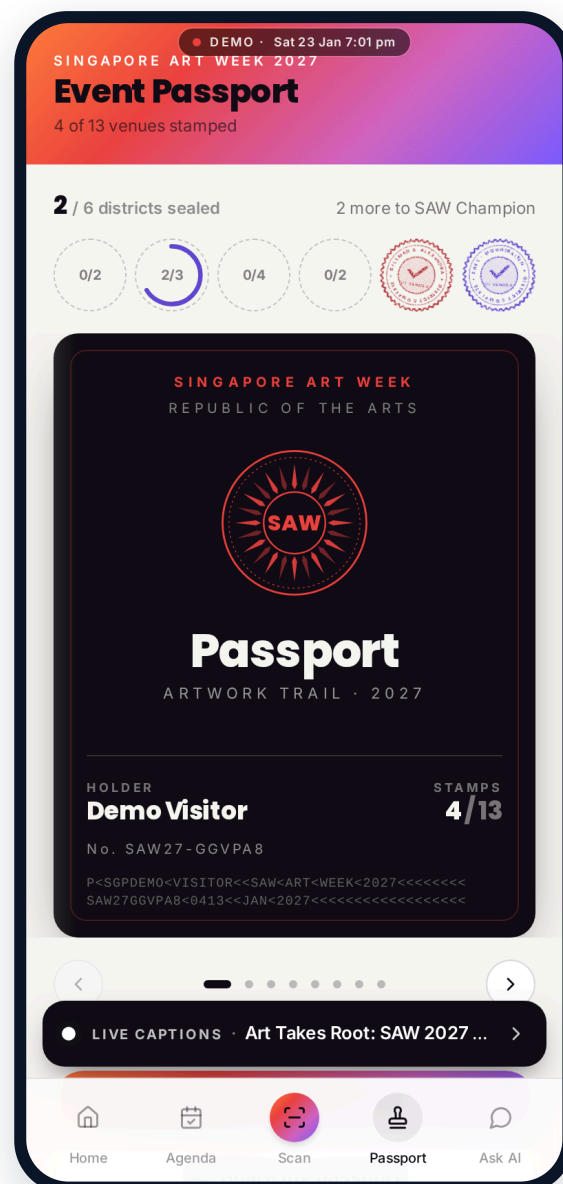
The passport gives visitors a reason to go beyond the landmark venues to the smaller galleries and arts centres around the city. Every stamp is also a footfall measure that NAC can report on (see sections 10 and 11).

How it feels

- **A stamp-and-ink animation** each time a QR code is scanned.
- **District seals.** Each district has its own seal, inked when all of its venues have been visited, with a full-screen moment and confetti.
- **A grand finale** when the whole trail is complete: all 13 venues across the six districts.
- **"My SAW Passport"** can be shared as an image, which turns taking part into word-of-mouth for the festival.
- **Respects accessibility settings.** On phones set to *reduce motion*, celebrations appear without animation.

On the big screen too

A scan at a venue appears on the festival hub's big screen within a few seconds (section 7), which links what a visitor does on their phone to what everyone in the room can see.



The passport booklet. Four venues stamped, two districts sealed, and progress shown towards SAW Champion.

5. Live Captions

Any talk can be captioned live on visitors' own phones in English, Simplified Chinese, Bahasa Melayu or Tamil. No hardware is needed at the venue. English appears as it is spoken, and each completed sentence is translated and shown a few seconds later. Visitors do not need to sign in to follow a talk.

Designed for reading, not just for showing text

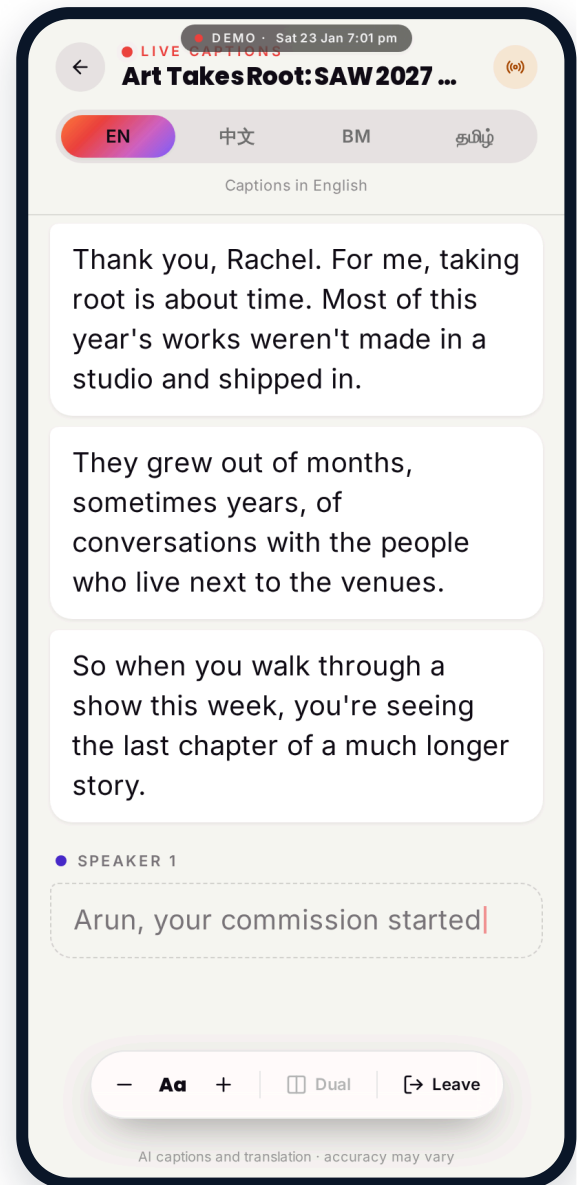
- **Speaker by speaker.** Speakers are told apart, so a panel reads like a conversation.
- **One-tap language switch** between English, 中文, Bahasa Melayu and தமிழ்.
- **Adjustable text size**, and a **dual view** that shows English and the chosen language together.
- **No sentence ever disappears while it is being translated.** The English stays on screen until its translation replaces it, which is standard live-subtitle behaviour.
- **Readers stay in control.** Scrolling back pauses the auto-scroll, so a visitor can re-read a point without being pulled away.
- **An on-screen accuracy notice** says that the captions are AI-generated.

Survives venue Wi-Fi

If a phone drops its connection, it reconnects by itself and fills in anything said while it was away. Visitors never need to reload the page.

Accessibility and inclusion

Live captions serve Deaf and hard-of-hearing visitors, and visitors who are more at home in Chinese, Malay or Tamil than in English. That widens who can attend SAW's talks and panels.



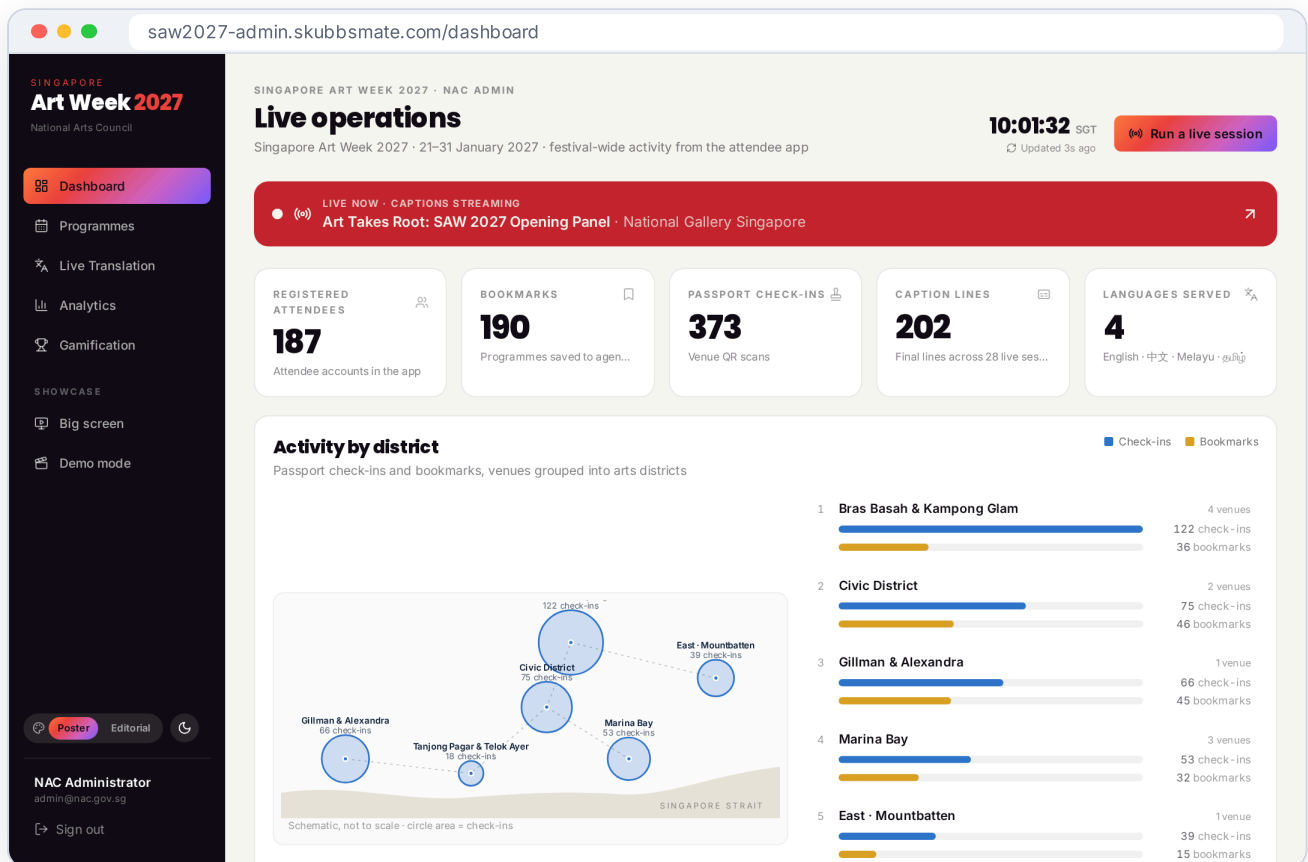
The opening panel, captioned live, with each speaker's lines grouped and the language picker at the top.

The NAC Admin Portal

From one sign-in, NAC staff publish the programme, caption talks in four languages, produce bilingual reports minutes after a talk, and follow the festival across the city as it happens.

6. Live Operations Dashboard

The home screen of the portal is a live picture of the festival, refreshed every 15 seconds. Headline counters show registered attendees, bookmarked programmes, passport check-ins, caption lines delivered and languages served. Activity is shown by arts district and over time. A live-session banner tells staff when a captioned talk is running.



Live operations during the Night Festival, with the opening panel being captioned.

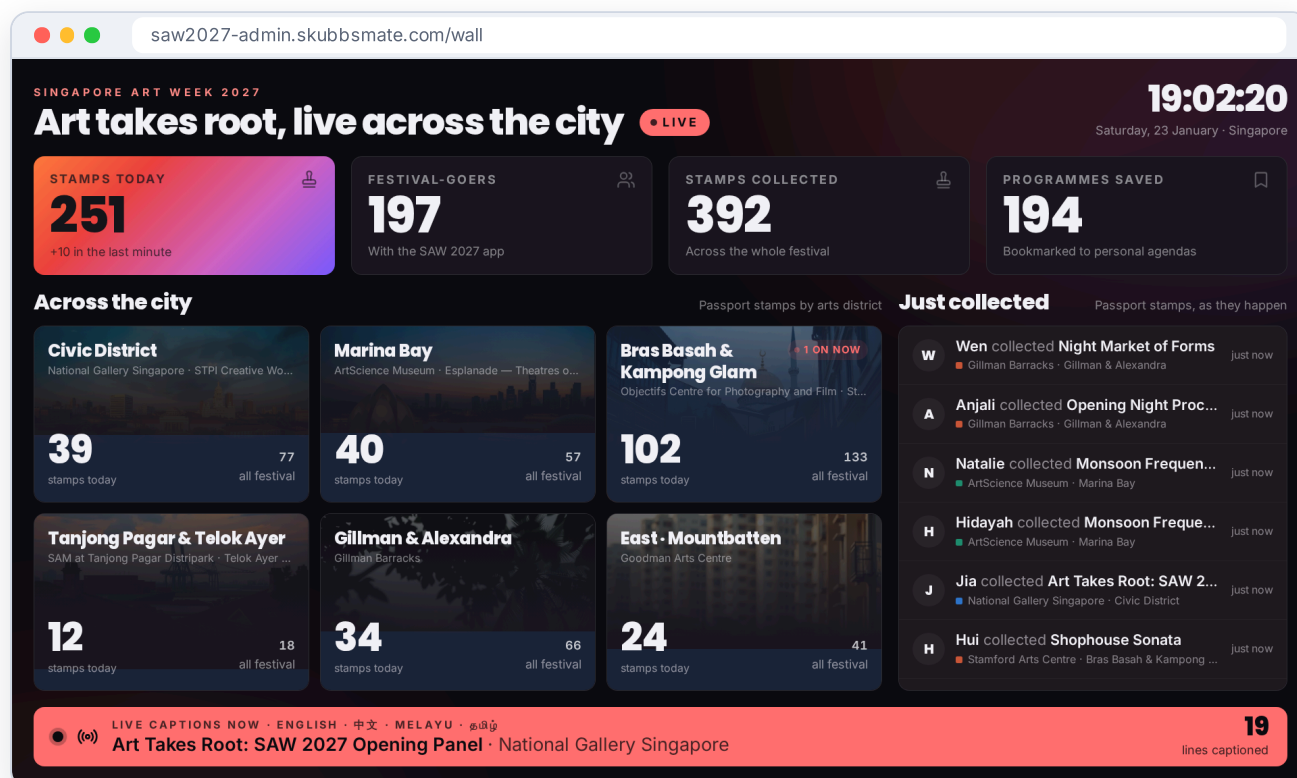
- **Catches a muted microphone.** The session banner shows whether audio is actually arriving, not just whether a session is open.
- **Where the city is busy.** A ranked list and a schematic map of the six districts, each circle sized by check-ins.
- **Busiest day and peak hour** are picked out on the timeline, which can also be read as a table (for screen readers and for reports).
- **Safe to show on a shared screen.** The live feed shows attendees by their initials only.

HOW NAC WOULD USE IT

In the festival command centre, or on a duty manager's laptop: see where visitors are going, spot an unexpectedly busy venue early, and check that every captioned talk is actually streaming.

7. Big-Screen Display

A full-screen view designed for a projector or media wall at a festival hub. Six district tiles each show the stamps collected today and across the festival, and flash "+1" when a stamp lands. A running feed shows stamps as visitors collect them. When a visitor scans a venue QR code, the screen celebrates it full-screen within about two and a half seconds.



"Art takes root, live across the city." Counters, the six districts on their own artwork, the "Just collected" feed and the live-talk banner, shown here at 1920 × 1080.

On the wall

- **Large counters** for stamps today, festival-goers, all stamps and programmes saved, which count up as activity arrives.
- **Festival favourites:** a ticker of the most-stamped programmes.
- **A live-talk banner** whenever a talk is being captioned.

Built to run unattended

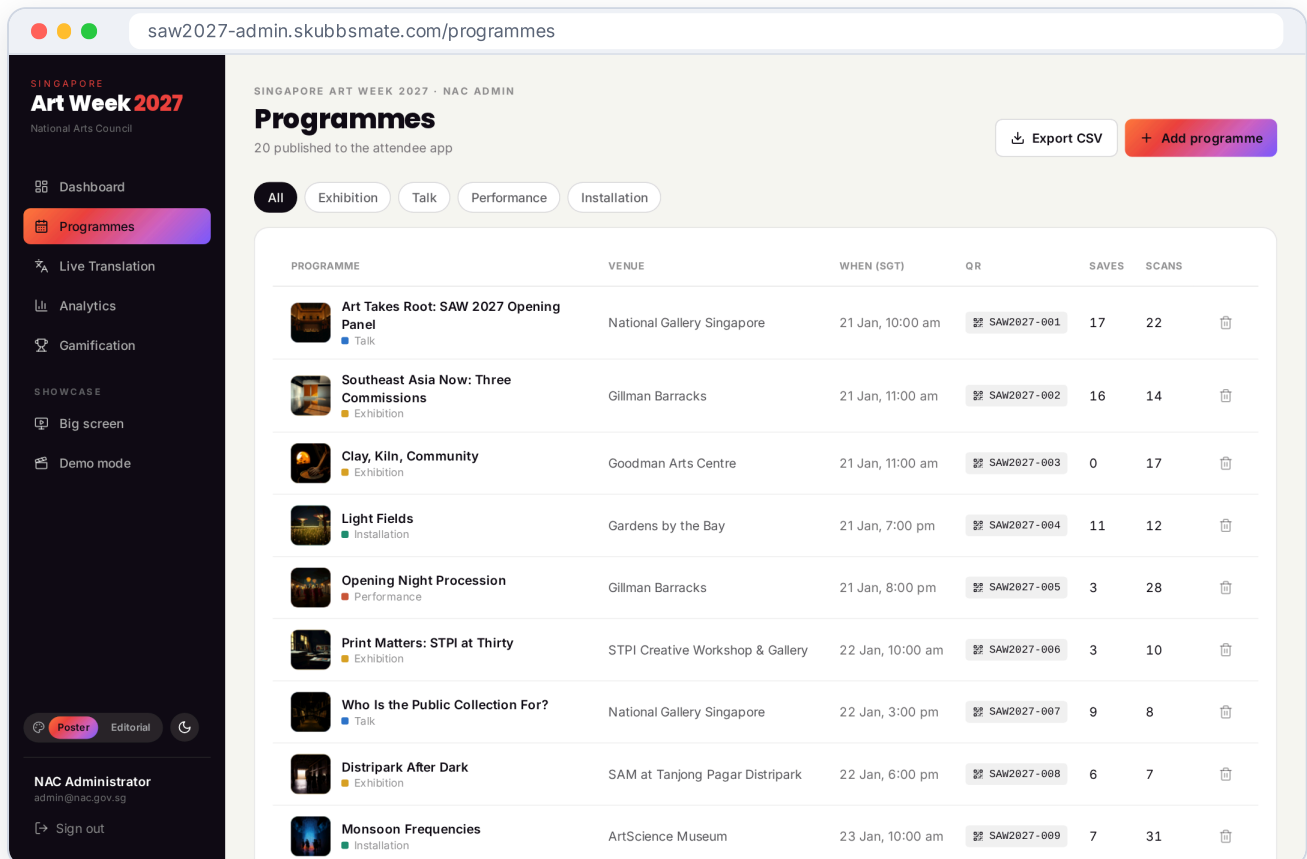
- **Updates by itself** and shows the current Singapore date and time.
- **Scales to any 16:9 screen**, with keyboard shortcuts for full screen and a control bar that can be hidden.
- **First names only.** The wall never shows a surname or an email address.

HOW NAC WOULD USE IT

On a screen at the festival hub, in a venue foyer or on a media wall during the Night Festival. Visitors see their own scan celebrated on the big screen, which encourages the next person to join in.

8. Programme Management

Staff create and edit programmes directly in the portal, and what they save is what visitors see. Each listing shows its **saves** (bookmarks) and **scans** (passport check-ins), so staff can see visitor interest while editing. AI cover artwork can be generated for any programme with one click. The full programme can be exported to CSV.



Programmes, with venue, times in Singapore time, each venue's passport QR code, and live saves and scans.

Everything a listing needs

- **Title, description, venue and format** (exhibition, talk, performance or installation).
- **Start and end times in SGT**, whatever time zone the staff member's computer is in.
- **Capacity** (0 for drop-in) and the venue's **passport QR code**.
- **Safe deletion**: staff confirm, knowing bookmarks and stamps go with it.

Artwork from day one

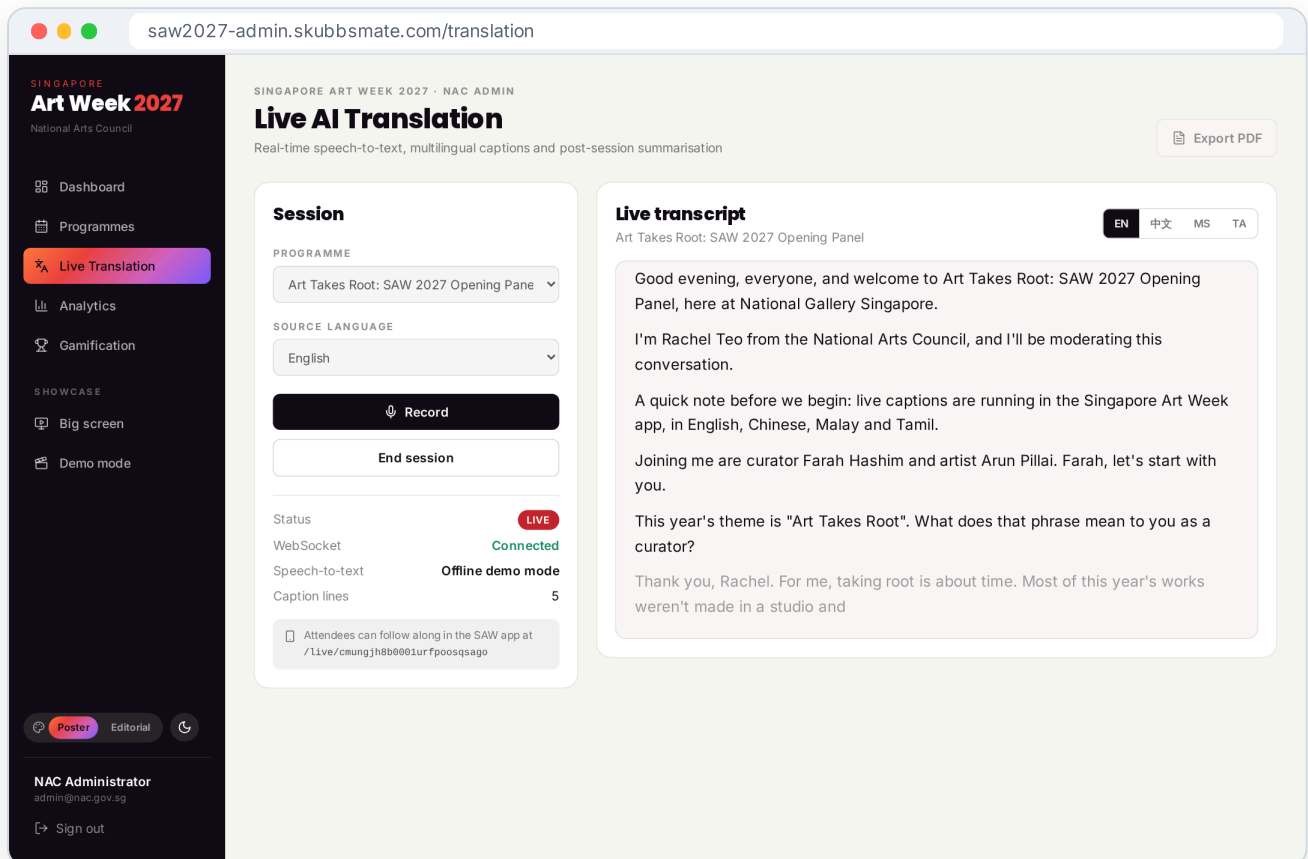
- **One-click AI covers**, with optional art direction such as "dancers in red silk on a dark stage".
- **New programmes get a cover automatically**, so no listing is ever published without one.
- **One shared art direction**, so the programme reads as one festival rather than a collection of stock photos.

HOW NAC WOULD USE IT

Late changes, such as a new time, a new venue or a sold-out session, are made once and reach the app, the map and the Companion straight away. Nothing needs to be reprinted and no second system needs updating.

9. Live Translation Console and AI Reports

Staff start a live caption session for any talk. Speech is transcribed in real time by Deepgram, with speakers told apart. The console shows the live transcript and lets staff switch to the translations in Simplified Chinese, Bahasa Melayu and Tamil. Visitors' phones update within seconds. If the connection drops, the console and visitors' phones reconnect by themselves.



The console following the opening panel. Session status, connection, speech-to-text and caption count on the left; the live transcript with language tabs on the right.

Built for real venues

- Only signed-in staff can send audio into a session; visitors can only receive.
- Three-tier translation: DeepL, then a large language model, then a SAW glossary. An outage degrades the captions instead of stopping them.
- A SAW glossary keeps artist names, venues and festival terms consistent, including the official Chinese names of Singapore venues.

Bilingual reports, minutes after the talk

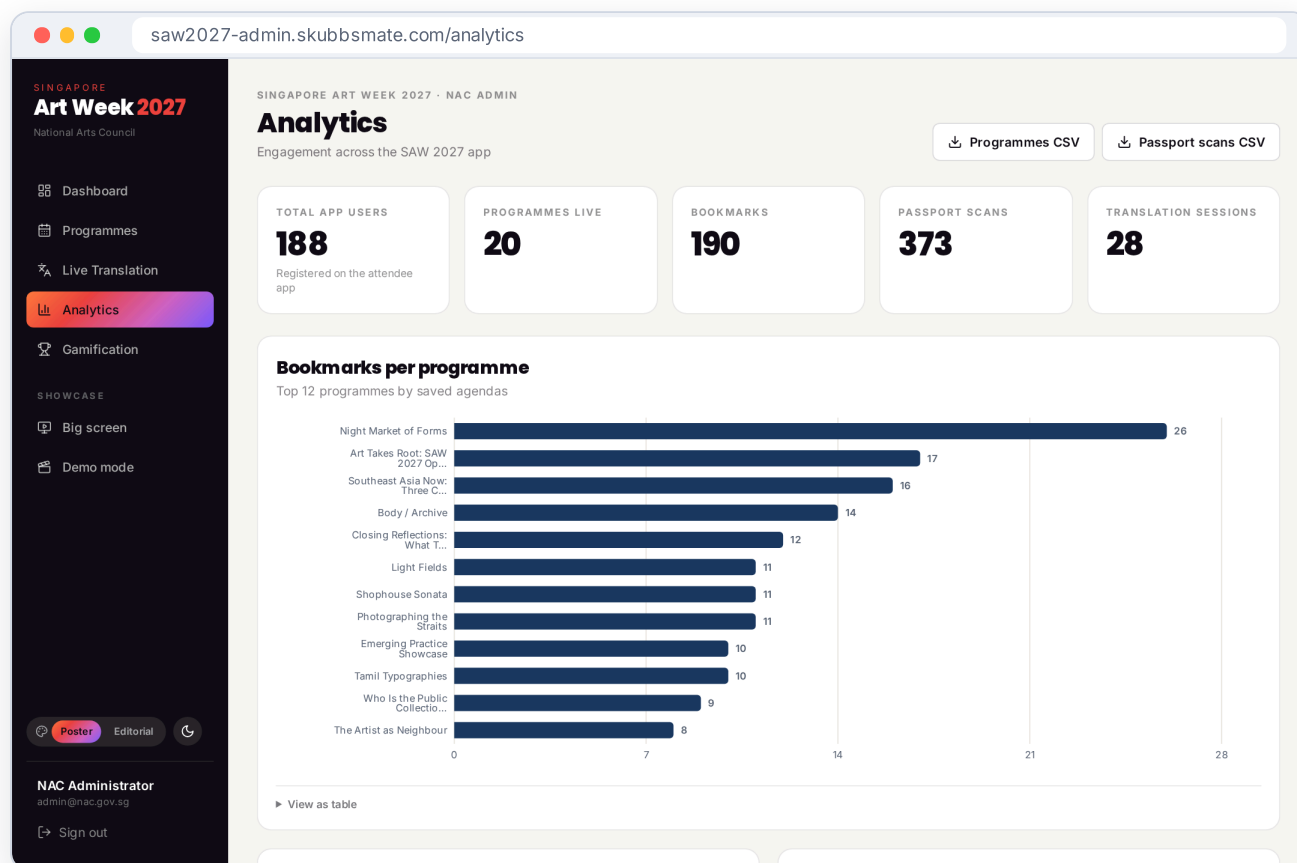
- One click produces key takeaways and a 250–300 word executive summary, in English and Simplified Chinese side by side, for staff to review.
- A branded PDF report and the full transcript as CSV, with a time and a language for every line.

HOW NAC WOULD USE IT

A staff member or volunteer starts the session on a laptop connected to the venue's sound desk. After the talk, the bilingual summary is reviewed and can be published the same day, not weeks later.

10. Analytics

The Analytics page tracks cumulative registrations, bookmarks per programme, interest by programme type, passport scans per venue and every captioned session. One-click downloads give NAC a PDF report and a CSV transcript for each session. The full programme and all passport activity can be exported as CSV at any time.



Analytics. Headline figures and bookmarks per programme, with CSV exports at the top right.

Questions it answers

- **Is the app being taken up?** Cumulative registrations before and during the festival.
- **What do visitors want to see?** Bookmarks per programme and interest by format, which also inform future programming.
- **Where did the app send people?** Passport scans per venue, as a footfall measure.

Ready for NAC's own reporting

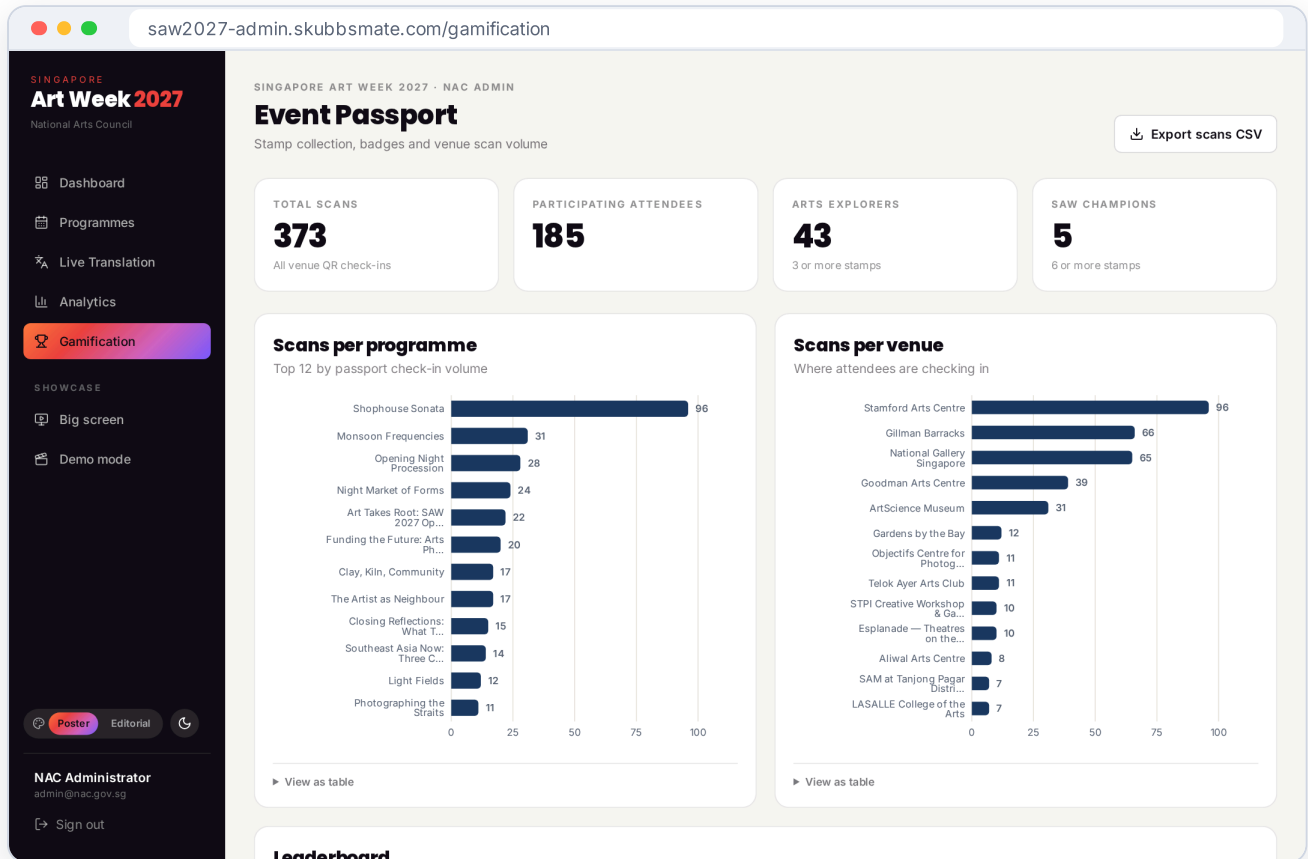
- **Every captioned session** is listed with its start time, number of lines and summary status.
- **PDF and CSV per session**, and CSV of the programme and passport activity.
- **Charts can be read as tables**, for screen readers and for copying into post-event evaluation reports.

HOW NAC WOULD USE IT

Daily check-ins during the festival and the post-event report to stakeholders, with figures exported directly instead of compiled by hand.

11. Event Passport Management

Staff follow stamp collection across the festival: headline figures, scans per venue and per programme, and a leaderboard of the most engaged visitors ranked by stamps. The leaderboard can be used for prize draws or to recognise visitors. All passport activity can be exported to CSV.



Event Passport. Total scans, participating attendees, Arts Explorers and SAW Champions, with scans per programme and per venue.

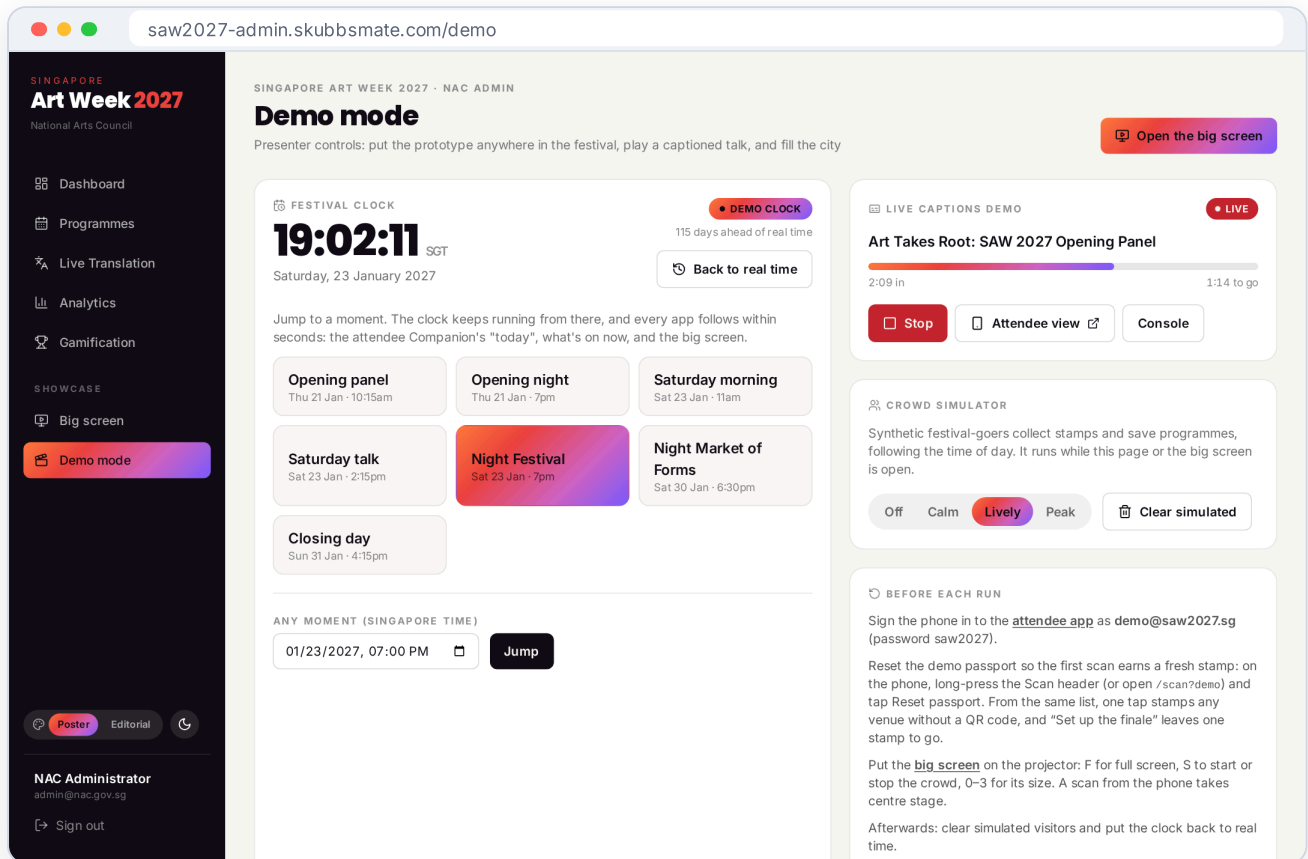
- **Badge counts at a glance:** how many visitors have reached Arts Explorer (3 stamps) and SAW Champion (6 stamps).
- **Which venues the passport is sending people to,** so NAC can see whether smaller venues are benefiting.
- **A leaderboard** with each visitor's stamps, bookmarks and badges, for prize draws and recognition.
- **Staff-only, enforced on the server.** The leaderboard and exports refuse any non-staff account.

HOW NAC WOULD USE IT

Prize draws among SAW Champions, and a clear picture of which smaller venues the trail is bringing new audiences to.

12. Demo Mode — Rehearsal and Training

A festival cannot be tested for real until it opens. Demo mode lets NAC rehearse and train staff beforehand. One tap sets the whole system to a named moment of SAW 2027, such as the opening panel, opening night or the Night Festival, or to any date and time. A crowd simulator fills the dashboard with synthetic visitors for command-centre training. All simulated data is labelled and can be cleared with one tap.



Demo mode with the clock at the Night Festival, a scripted panel being captioned and a lively simulated crowd.

- **Festival clock.** The visitor app, the Companion's "today" and "what's on now", and the big screen all follow it within seconds.
- **A scripted captioned talk** runs through the real captioning and translation pipeline, so the captions can be shown without a live speaker.
- **Crowd simulator** at four levels (Off, Calm, Lively, Peak), to test the displays at peak festival activity.
- **One-tap clean-up** removes simulated visitors and returns the clock to real time. In production, rehearsal data is kept apart from real visitor data.

HOW NAC WOULD USE IT

A full dress rehearsal of the Night Festival before opening, and training for staff and volunteers on the real screens, without waiting for real crowds.

13. Artificial Intelligence, Used Responsibly

AI does real work in this solution: it captions and translates talks, guides visitors in four languages, writes session reports and produces artwork. We have designed each use so that it is grounded in NAC's own data, can be checked by staff, and can be changed without rebuilding the apps.

Capability	Technology in the prototype
Live speech-to-text for talks	Deepgram, streamed in real time, with speakers told apart
Spoken questions to the Companion	OpenAI Whisper on Cloudflare Workers AI, with Deepgram as automatic backup
Translation	DeepL for Chinese; a large language model for Malay and Tamil, which DeepL does not offer; a SAW glossary as the last fallback
Companion, day planning, session summaries	Anthropic Claude, through a gateway that lets the model be changed without changing the apps
Programme and venue artwork	Flux (Black Forest Labs) on Cloudflare Workers AI

Grounded, not invented

The Companion answers only from the live programme database. Any programme it names is checked against the database before it is shown, and day plans are timed by the system, not the AI.

Human in the loop

Captions carry an on-screen accuracy notice. Session summaries are reviewed by staff before publication, and can be regenerated.

No lock-in

Every AI provider sits behind an interface and can be swapped without changing the apps. Each has a fallback, so an outage degrades a feature instead of stopping it.

Measured cost

Measured on the live service: about US\$0.01 to caption one sentence into three languages, US\$0.80 for an eight-minute talk, US\$0.02 for a session summary, and US\$0.01 for a Companion question.

Public AI features are rate-limited, so they cannot be abused to run up costs. With no AI provider available at all, every screen still works in a clearly labelled offline mode.

14. Built for the Real Event

Reliability

- **Captions survive poor venue Wi-Fi.** Phones and the console reconnect with back-off and catch up on anything missed. A watchdog detects silently dropped connections.
- **The speech-to-text stream is kept warm** and reopened automatically if it drops.
- **Graceful degradation.** Every AI feature has a fallback.
- **Scales out.** Each captioned talk runs in its own isolated room on Cloudflare's edge network.

Accessibility

- Live captions in four languages, with adjustable text size and a dual-language view.
- Answers read aloud; spoken questions in four languages.
- Respects *reduce motion*; readable text sizes; colour contrast reviewed in every skin and mode.
- Charts in the portal can also be read as tables.

Look and feel

- Two visual identities: **Poster**, which echoes the official SAW 2027 identity, and **Editorial**, a quieter navy and gold. Each has a light and a dark mode.
- Set up for native iOS and Android packaging with Capacitor, where the QR scanner uses the camera directly.

Security and data protection

- **Staff-only actions are enforced on the server**, not just hidden in the portal. A visitor account is refused with "NAC staff only".
- **Only staff can send audio** into a live caption session.
- **Passwords are never stored**, only salted PBKDF2 hashes, compared in constant time.
- **Minimal personal data on shared screens:** initials on the dashboard, first names on the wall.
- The prototype has had a **security review**, and every issue it found was fixed.

Data residency

The database is hosted in Singapore (AWS ap-southeast-1). The prototype's API runs on Cloudflare's global edge. Where NAC requires all processing to stay in Singapore, the same API runs unchanged as a Node.js service on Singapore-hosted infrastructure. That is a deployment choice, not a rewrite.

Quality assurance

- **170 automated tests** cover what is costly to get wrong: passwords, translation fallback, caption ordering, stream recovery, rate limiting, the Companion, passport progress and demo mode.
- **Continuous integration** type-checks, tests and builds all three parts on every change.
- **An end-to-end check** runs the real pipeline against the live service, from sign-in to the exported PDF report.

15. From Prototype to Production

The prototype shows our capability and approach. It is built on the same architecture we would take into production, so the path to the live festival is one of scale and hardening, not a rebuild.

Area	Prototype	Production
Programme data	20 representative programmes, 13 venues	The full SAW 2027 programme, imported from NAC's source systems
Sign-in	Email and password	Government single sign-on for staff, with roles and an audit log; passwordless sign-in for visitors
Live captions	Laptop microphone, or a scripted talk in Demo mode	Venue audio feeds at each captioned talk
Big-screen activity	Real scans, plus the optional crowd simulator	Real visitor activity only
Hosting	Cloudflare edge, database in Singapore	Singapore-hosted where required, with agreed availability targets
Mobile	Web app, set up for native packaging	Published to the App Store and Google Play
Assurance	Internal security review	NAC's required security assessment and PDPA review

A five-minute walkthrough for evaluators

- 1. On a phone**, open saw2027.skubbsmate.com and sign in as demo@saw2027.sg / [saw2027](https://saw2027.sg).
- 2. Ask the Companion** "What's on tonight?", by voice in any of the four languages, and add a pick to your agenda.
- 3. Tap Plan my day** and see the route on the map.

- 4. On a computer**, open saw2027-admin.skubbsmate.com and sign in as admin@nac.gov.sg / [saw2027](https://saw2027.sg).
- 5. In Demo mode**, tap Night Festival and Start live captions. Follow the talk on the phone in 中文, BM or தமிழ்.
- 6. Open the big screen**, then collect a passport stamp on the phone and watch it land.

At the evaluation presentation we can demonstrate the system end to end: publish a programme, caption a talk into four languages, produce the bilingual report, and watch a visitor's QR scan appear on the big screen.

SEE IT LIVE

Singapore Art Week 2027 Working Prototype

Visitor app	https://saw2027.skubbsmate.com
Admin portal	https://saw2027-admin.skubbsmate.com
Demo visitor login	demo@saw2027.sg / saw2027
Demo admin login	admin@nac.gov.sg / saw2027

Submitted by

Skubbs Pte Ltd | UEN 201327767Z

114 Lavender Street #10-72 Singapore 338729

zave@skubbs.com | +65 9783 7452