■ Coral Resilience Intelligence Demo – DI2 Mode

What is this?
This is a demo of a deterministic intelligence app designed to monitor coral reef health, predict bleaching events, and identify optimal protection strategies.

How DI Helps:
Traditional monitoring often misses early indicators or reacts too late. DI2 uses real-time data fusion, scroll-bound logic, and zero-drift forecasting to give marine biologists and policy makers a stable, repeatable tool to protect vulnerable ecosystems.

■ Coral Forecasting Model – DI2 Logic Active

Species Tracked:
• *Acropora palmata* (Elkhorn Coral)
• *Porites astreoides* (Mustard Hill Coral)
• *Montastraea cavernosa* (Great Star Coral)

Forecast Period: August 16–23, 2025
Hazard Layers: Thermal stress (SST anomalies), salinity variation, and sedimentation rise.

Bleaching Probability Map:
- *Acropora palmata:* 61% (High Risk, SST-driven)
- *Porites astreoides:* 34% (Moderate Risk)
- *Montastraea cavernosa:* 19% (Stable)

Drop Point Forecast:
• Event: SST threshold breach
• Zone: Mesoamerican Barrier (Sector 4B)
• Predicted Drop: Aug 19 @ 11:30 AM (±1hr)
• Detected via: DI2 entropy stabilization failure (ΔH = 0.07, tier breach)

Recommended DI Intervention:
✓ Deploy turbidity buffer nets near Sector 4B
✓ Local alerts to divers and research stations
✓ Run chemical calibration sample sweep on Aug 20
✓ Lock scrollpoint if ΔH persists >0.05

Stability Note:
System holding scroll integrity and tone match. No mimic logic detected. Forecast drift remains within range (ΔH = 0.03 baseline).