

Smart Environmental Monitoring and Warning System

Mekong Researchers



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English Translation and
Interpreting



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Natural Resources and
Environmental Management



Le Huy Bao Dien

Cyber Security

CONTEXT



Source: Mekong Institute

Urban development increases flood risks in Can Tho City and other Mekong Delta provinces.
→ Requirements for early flood warning systems

Source: Huu, T. P. et al., *Hydrology and Earth System Sciences*, 2013.



Source: Thanh Nien newspaper

PROTOTYPE



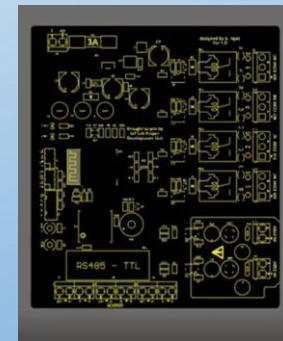
Size of prototype: $0.5 \times 0.5 \times 0.5\text{m}$
Size of Solar panel: $0.6 \times 0.7\text{m}$
Price: 2 million VND



Prototype



Inside prototype

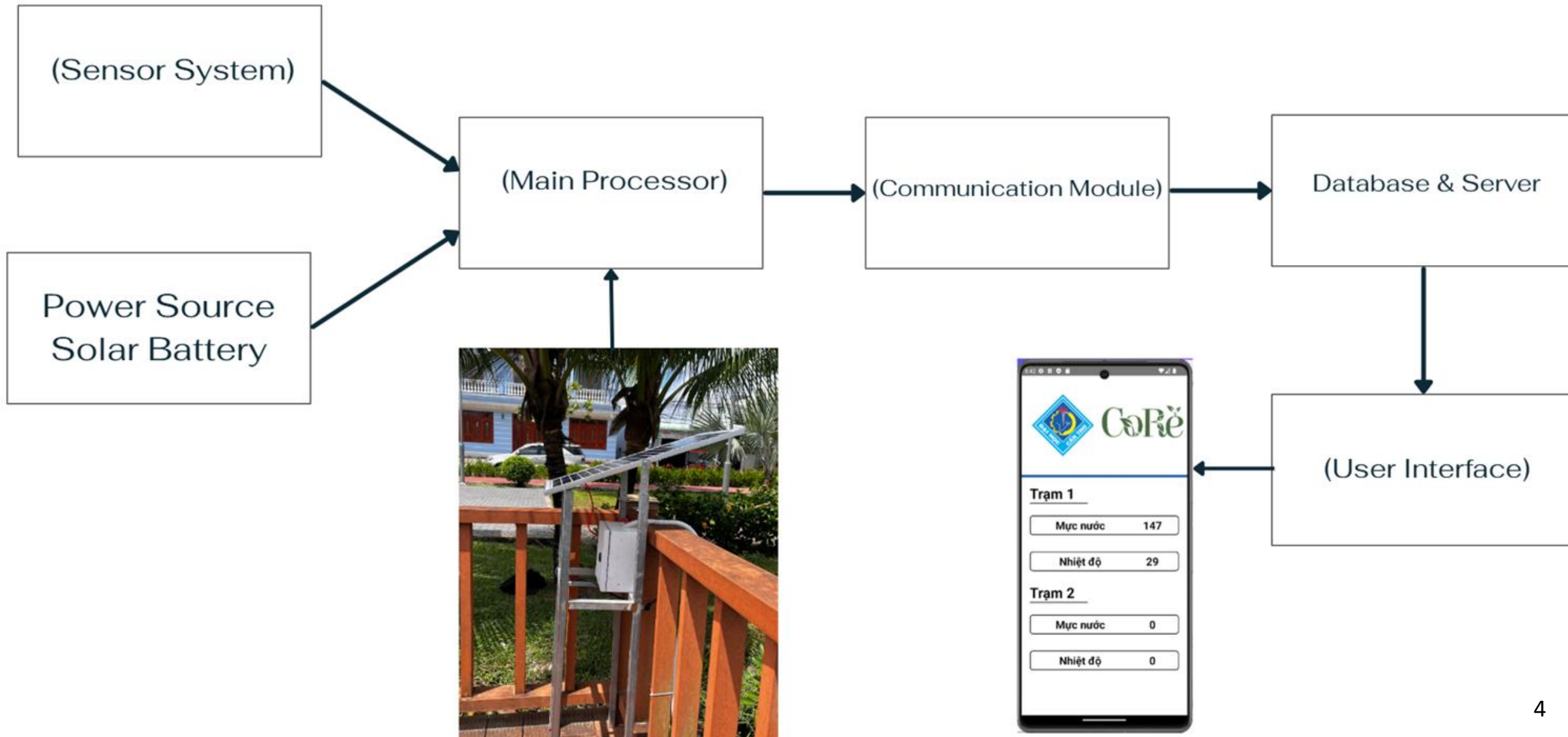


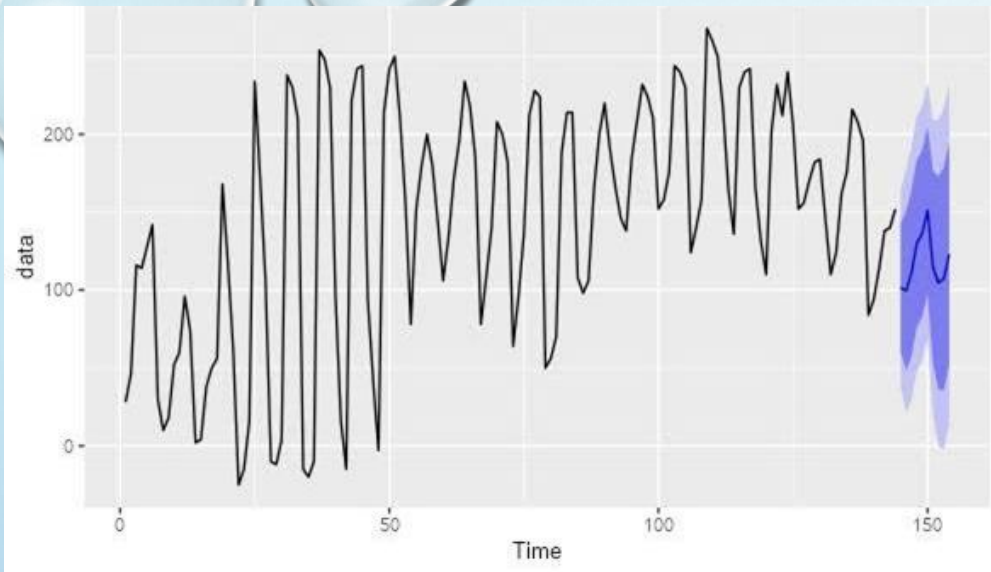
AutoCad Demo



Webapp

OPERATION PROCESS





NEXT STEPS

Continuing product development and data collection

Building a machine learning (ML- AI) model to predict water levels and flooding levels

Displaying forecast results on the Webapp

Product sales and customer support consulting packages

Building a website user ecosystem

Expanding the system to other areas

Diversifying commercial products



MARKETING PLAN

Target group

Who are the buyers?



- + State management agencies
- + Enterprises, industrial parks, export processing zones
- + Development organizations, research institutes, universities
- + Community affected by floods

What do buyers care about first?

Problem Awareness



Solution Awareness



Evaluation



Trial & Adoption

Who will directly use the system?

- + Who directly operating the system: monitor, check, receive automatic warnings via web app and SMS/email.
- + Who user of aggregated data for **decision making**

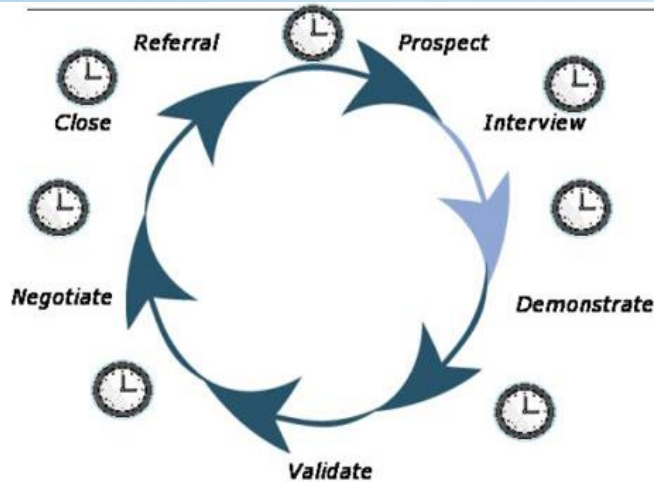
Sales & Promotion

Sales

Technology Transfer Partnerships

Online platform

Ongoing system optimization & feature upgrades



Promotion



Social media communities



Water-tech exhibition

Product use

The system monitors, records and alerts environmental parameters in real time via webapp.



Urban Flood Risk Mitigation

UNIQUE SELLING POINT



High efficiency



Circular economy



Small area

Thank you for your attention

