



2023 Edge-Native AI Hackathon @ OCP SUMMIT

Project Sheikah Tower

"The AI Tower"

By Team Sheikah
Oct 15, 2023

On-Site Real-time Virtual Assistant



Languages barriers

e.g. Traveling



Domain-specific knowledge & Acronyms

e.g. Hospital



Local Time-sensitive Information

e.g. Summit, Event



Ambiguity, misinterpreted, cognitive biases, accents

The Idea - Information Gains by Location Context

The probability of a language's intention increases by specifying location and time,

$$p(x|\text{loc}, t) > p(x)$$

Enhanced Usefulness, Accuracy & Relevance

AI Powered by Locals

On-site & Real-life
Experience

Our Solution - About Sheikah-Tower



A Platform, Framework & Ecosystem

For Local Service Providers (e.g. museums, event host, airport...)

Open-source, Easy-build, Reliable and Secure



Sheikah Towers - Local AI Assistant Applications

We are Solution Provider

Locally generated and hosted vector database + customized prompts

Multi-format User Interfaces



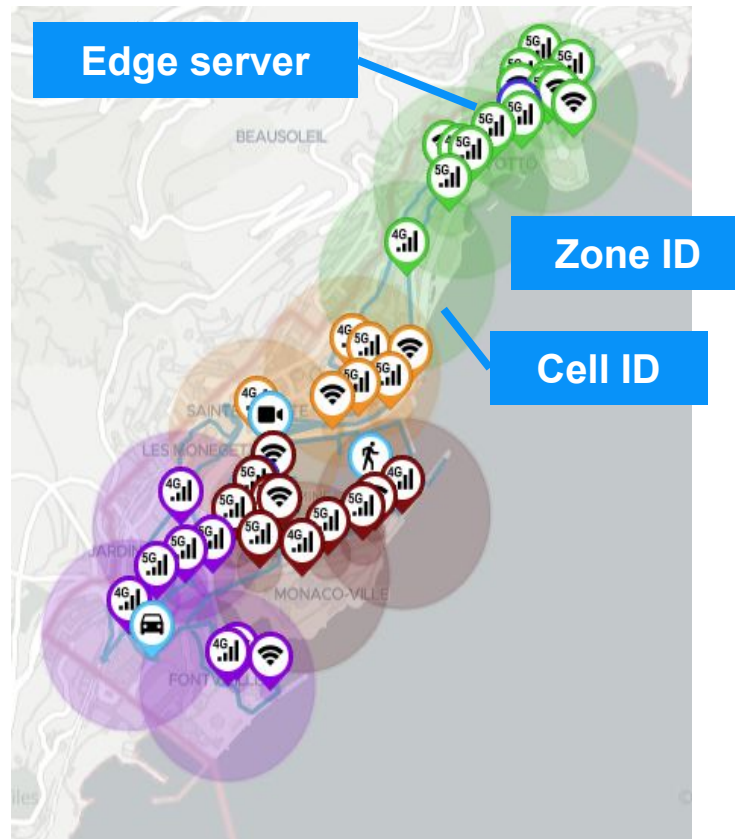
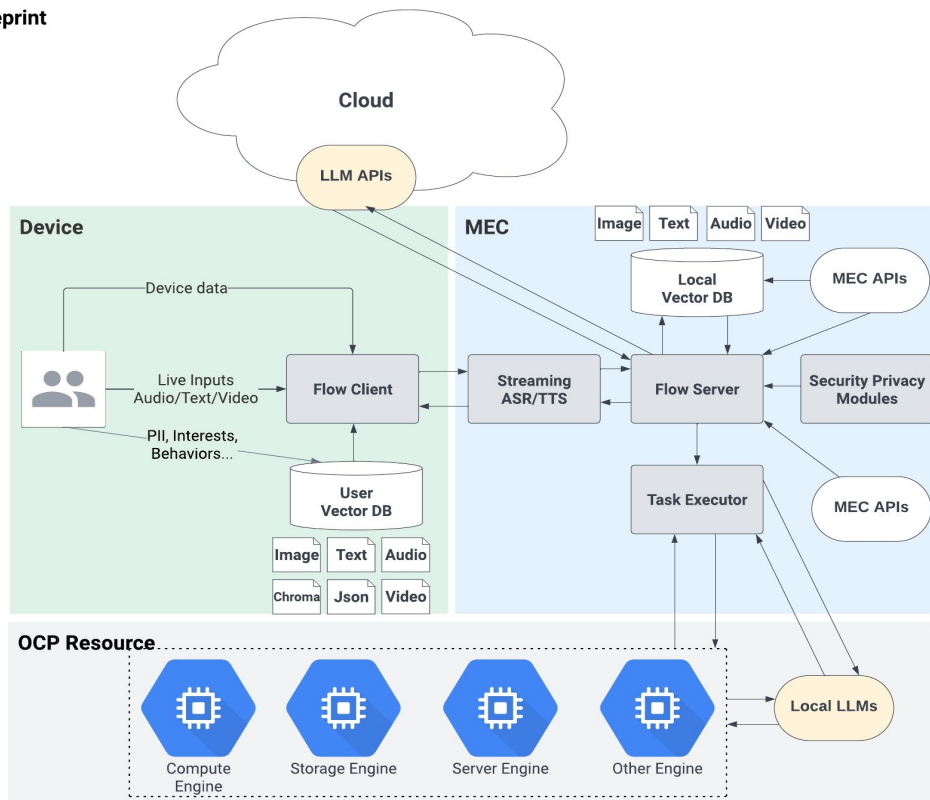
Powered by MEC / OCP Standards and Resources

Edge servers by Mobile Network Operators (e.g. AT&T, WiFi)

Natively closer to the users, distributed, efficient ...

Implementation

Blueprint



Demo

Video Record: <https://www.youtube.com/watch?v=r2GfqvbA0hk&t=360s>

“
**Monaco
in MEC
Sandbox**”

“
**2023 OCP
Global
Summit**”

More...

Technical Barriers

- **NLP Search Algorithm (e.g. keyword search)**

1. User experience (context-aware, speed and latency)
2. Infinite memory
3. Cost efficient (optimized tokens)

- **Knowledge Graph Data Structure / Database Infrastructure**

1. No user private data like photo/user profiles sent to the cloud
2. Personal database run on-device
3. Memory cache

Benefits and Beneficiaries of Our Solutions

• Superior User Experience

1. Self-maintainable customized fact-checked database by service providers like Museum, events host, ...
2. Customized prompt design

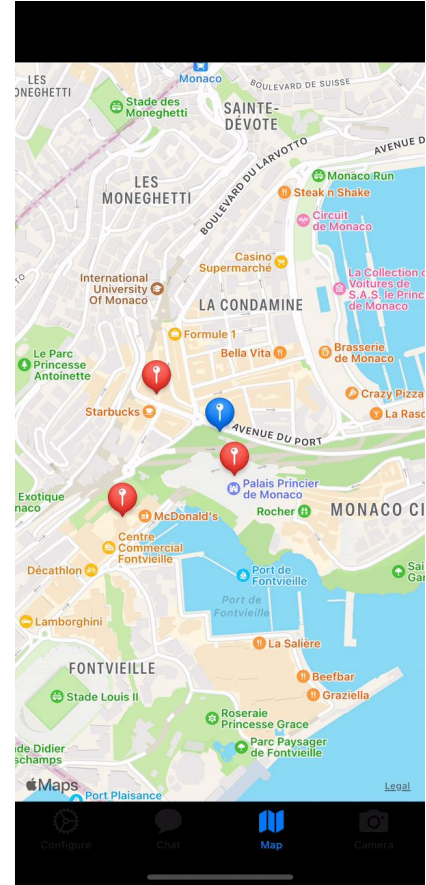
• Improved Security and Privacy

1. No user private data like photo/user profiles sent to the cloud
2. Personal database run on-device



• Edge Optimization

1. Optimized Latency (network and computing)
2. Smaller database, faster query



Sheikah Folks



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Thank you!