

Demo Abstract: Real-time Heterogeneous Edge Computing System for Social Sensing Applications

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Social Sensing based Edge Computing (SSEC)

- **Edge computing** pushes applications, data and computing power (services) **away from centralized servers** (e.g., cloud) by performing data processing **at the edge** of the network, **where social sensing occurs (near the sources of data)**.

Advantages:

- Low latency and high responsiveness
- Low requirement on the network bandwidth

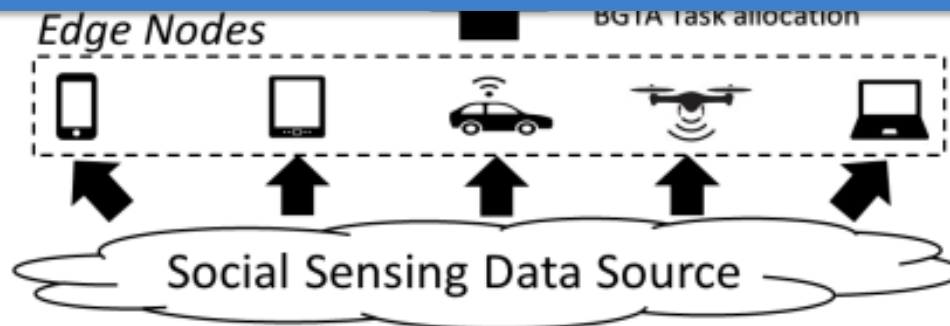


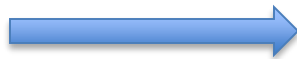
Fig. 1. Overview of SSEC

Application Task Allocation in SSEC

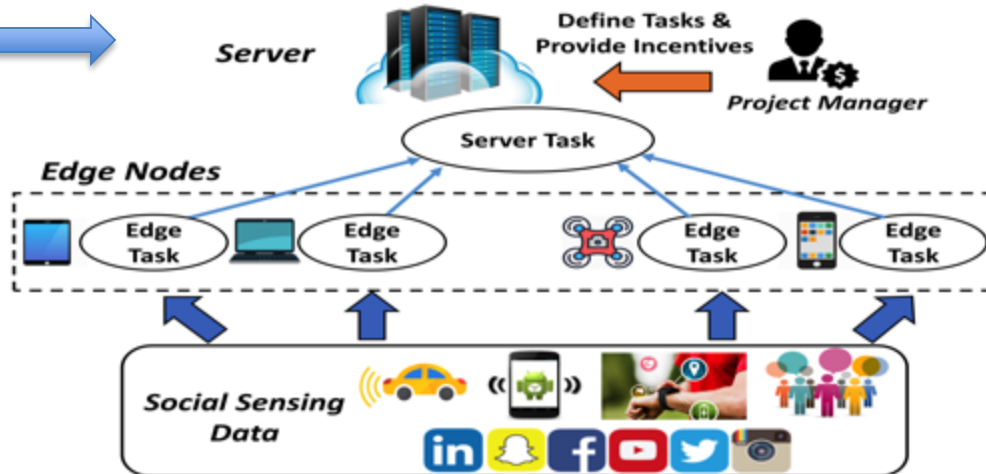
When and Where should computation tasks be executed?

	Cooperative-ness	Latency	Bandwidth Consumption	Computing power	Power Supply
Backend Server	Fully cooperative	High	High	Powerful	Power line
Edge Device	Non-cooperative	Low	Low	Limited	Battery

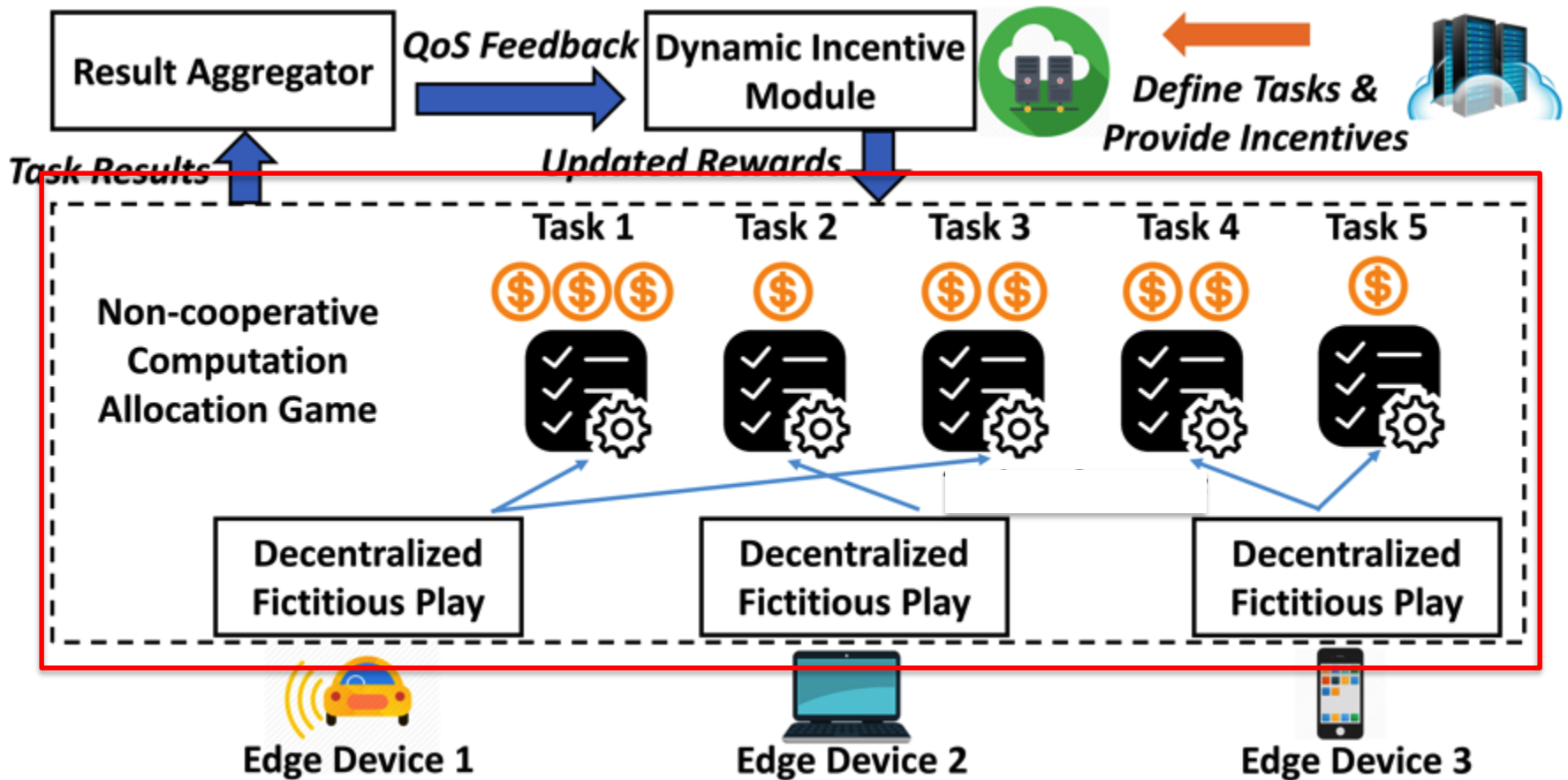
Backend



Edge

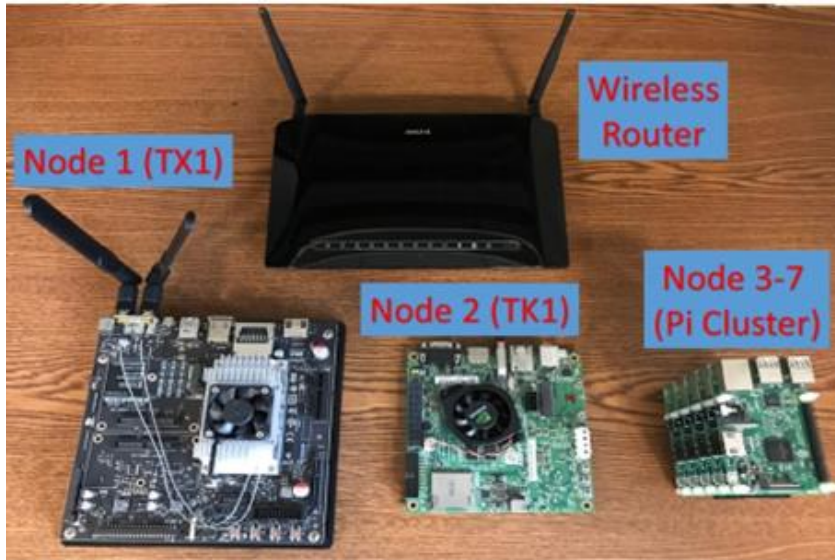
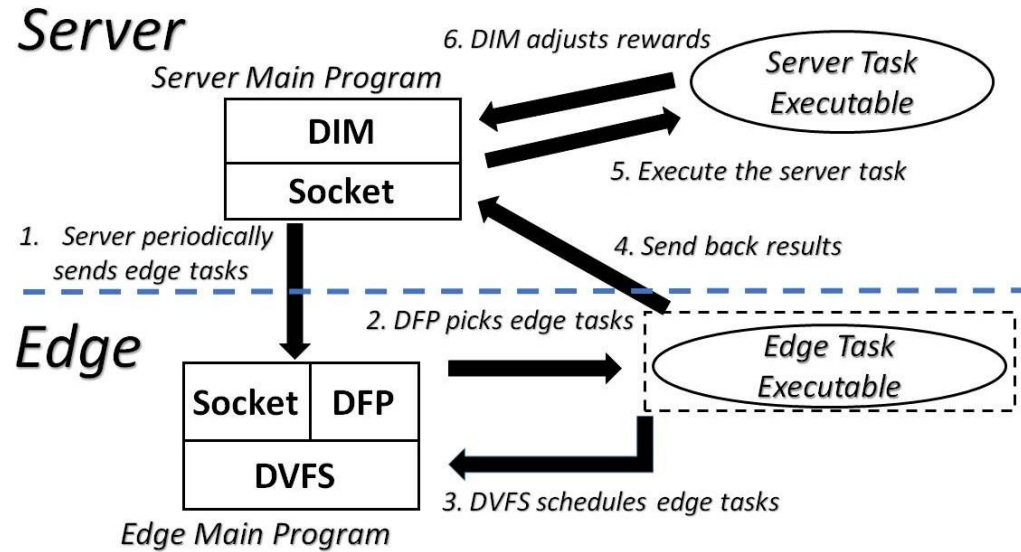


Bottom-up Game-theoretic Task Allocation



Demo: Heterogenous Edge Computing Platform

Module Diagram



Hardware Setup

Thank You!
Question?