Integrity-Preserving Framework for Crowdsourcing Trust Information

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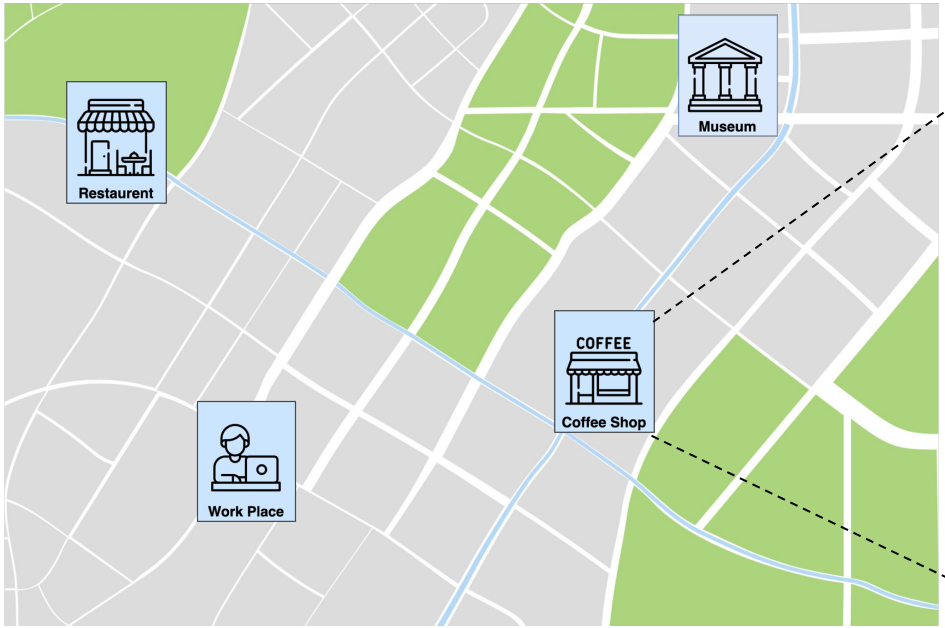
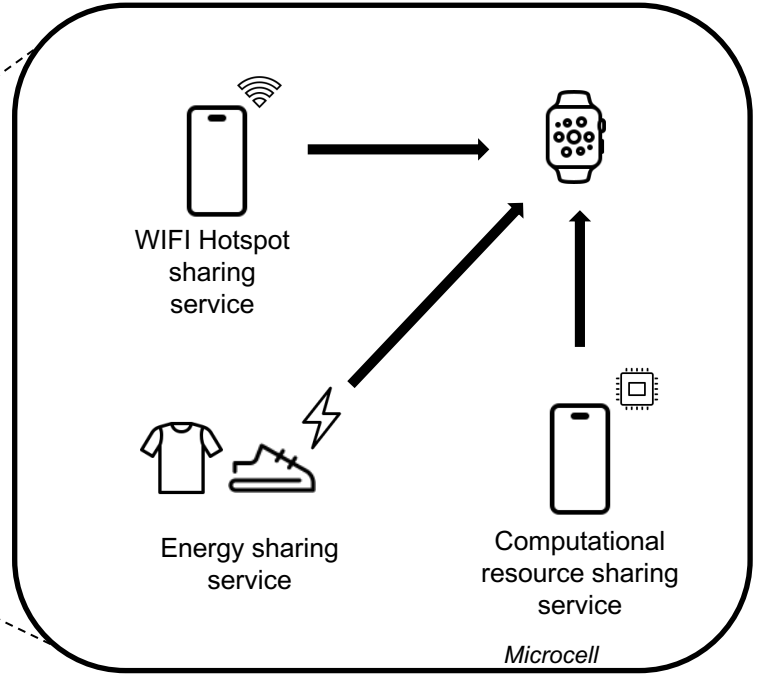
1.0 Motivation - Background

4 key components

IoT | Crowdsourcing services | Trust | Trust information



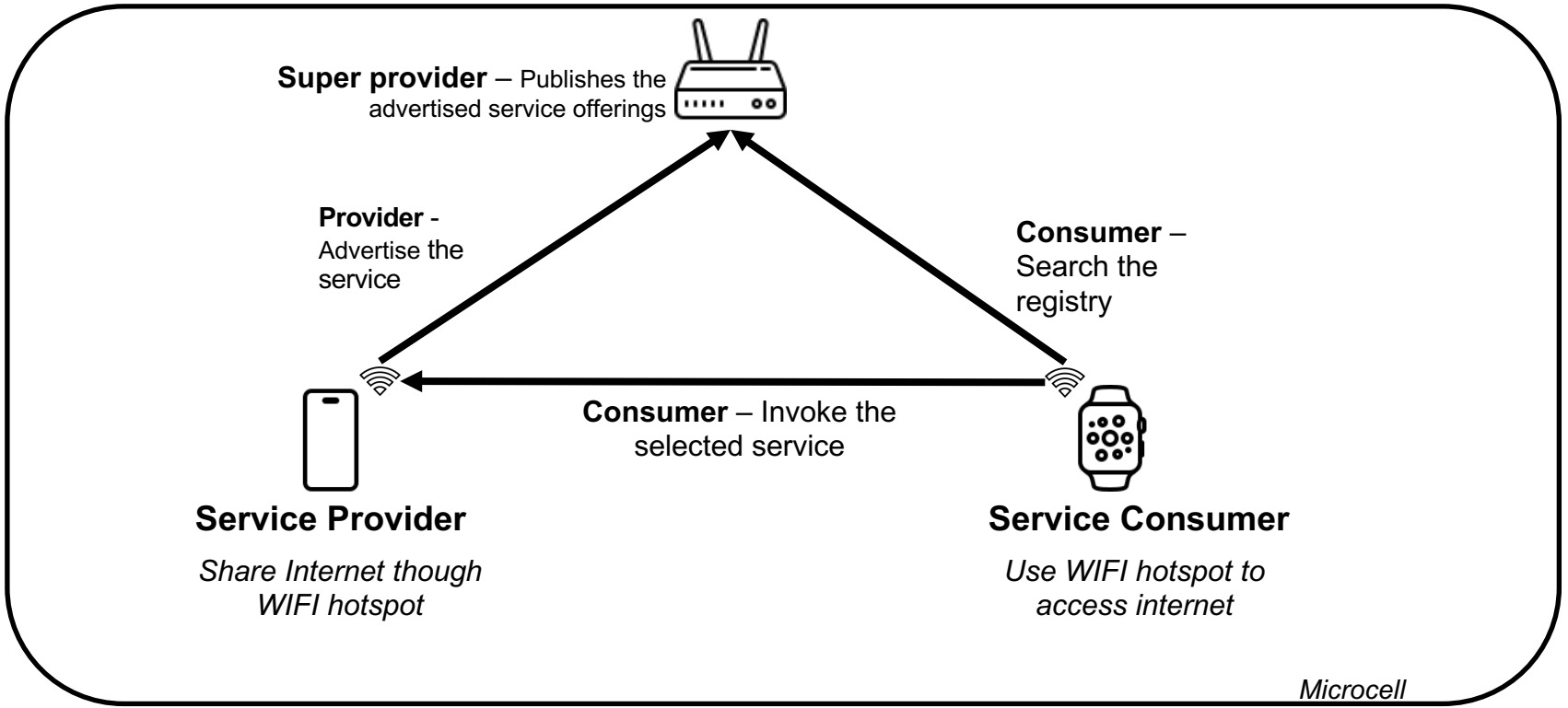


Service providers and consumers who congregate and move across microcell boundaries.

1.0 Motivation - Background

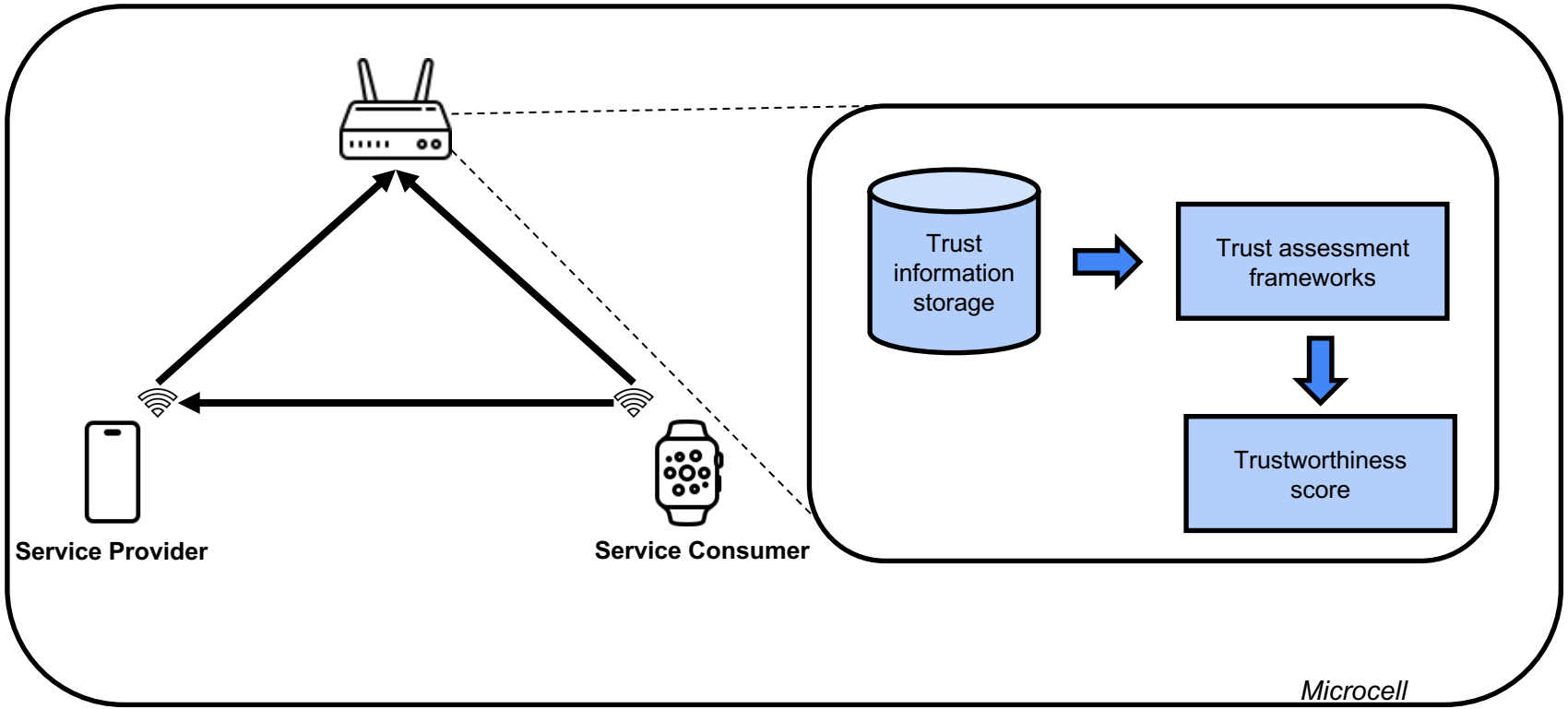
IoT devices may use the services inappropriately or maliciously.

Trust assessment is fundamental for the deployment of a crowdsourced IoT environment



1.0 Motivation - Background

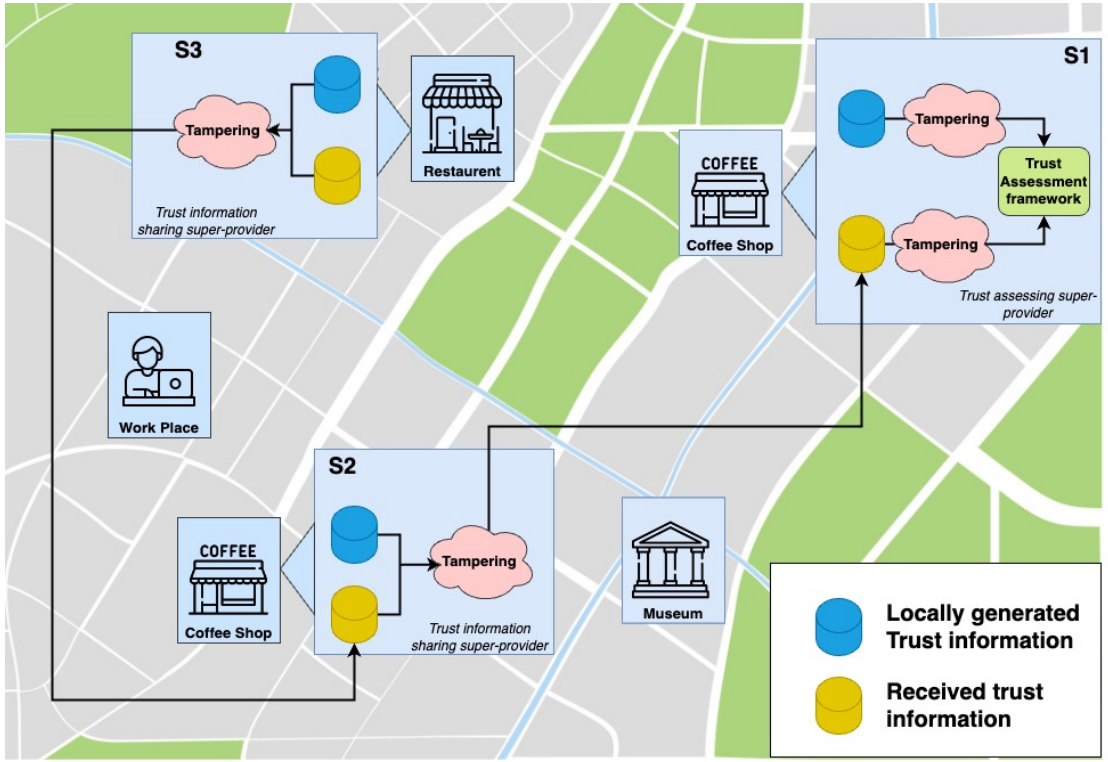
Trust assessment frameworks are proposed in the existing research to address trust assessment in IoT crowdsourced environments.



1.1 Motivational scenario

Obtaining trust information from super-providers raises two challenges:

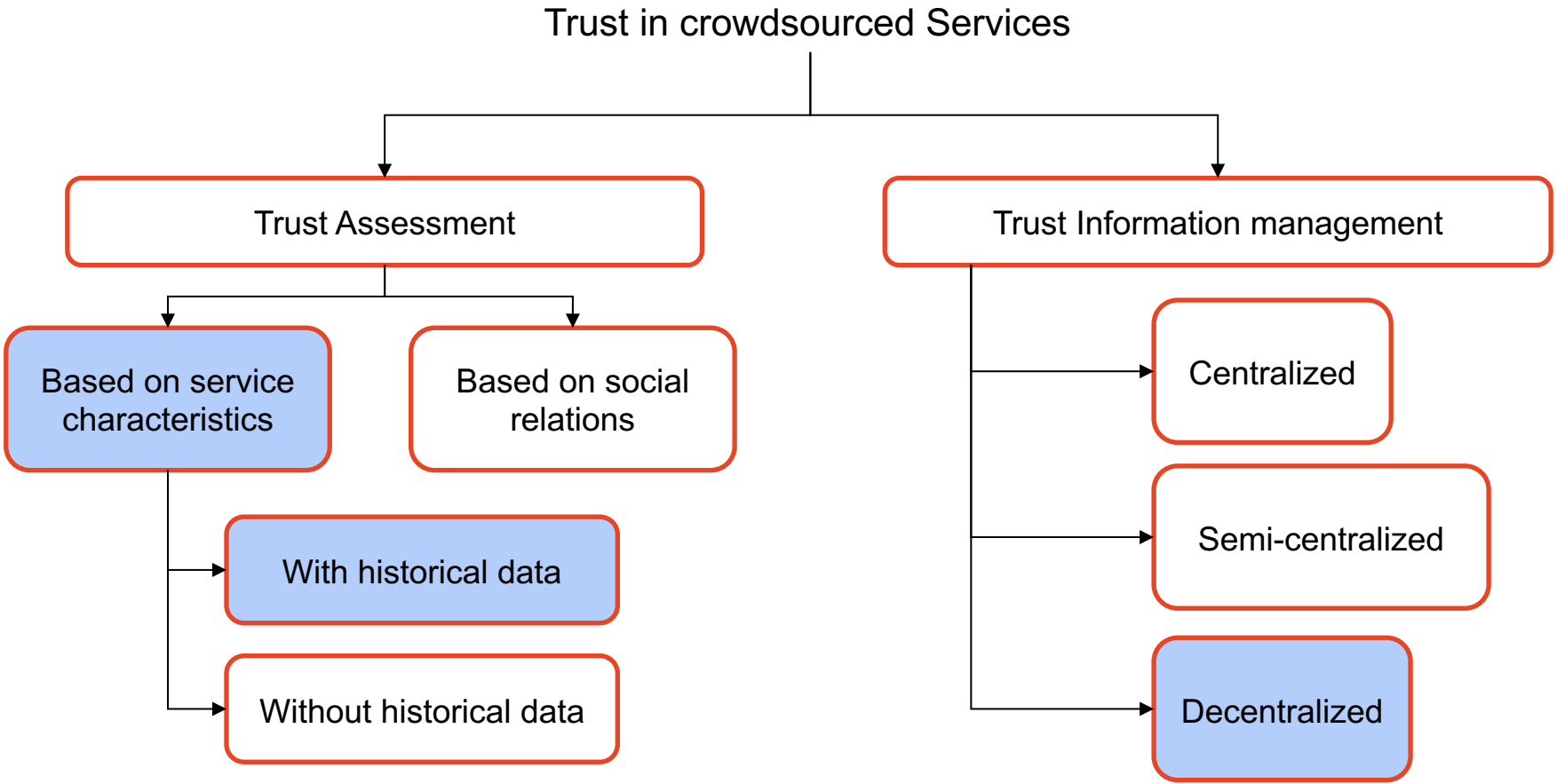
1. **trustworthiness of the trust information (Integrity)**
2. while ensuring prompt **availability**.



2.0 Research questions

1. What is the best **trust assessment** approach?
2. How can we efficiently **manage** the trust information?
    1. **Integrity**
        - How to preserve the **integrity** of trust information?
    2. **Availability**
        - How to guarantee timely **availability** of data when needed?

3.0 Literature Review



4.0 Research Method

1. Formulate a formal **model** for trust information.
2. Select/improve a suitable **trust assessment framework**.
3. Design and development of:
    - An approach to preserve the **integrity** of trust information.
    - An approach to guarantee the **availability** of trust information.
4. Trust data **management framework** with data integrity and availability preserving capabilities.
5. Collect real datasets and conduct experiments to test the approaches mentioned above.

5.0 Research Timeline

Task	Year 1		Year 2		Year 3		Year 4	
	S1	S2	S1	S2	S1	S2	S1	S2
Literature review (Trust assessment/ Trust information management).								
Trust information model formulation.								
Adaptation/Modification of **trust assessment framework**.								
Literature review (Integrity and availability preserving methods across different domains.)								
Development of trust information **integrity** preserving framework.								
Development of approaches to guarantee trust information **availability**.								
Design and development **trust data management framework** (with integrity and availability preserving capabilities).								
Data collection and evaluation of framework.								
Thesis Writing.								

Thank you !

Any Questions ?