# A study on the Blockchain-powered Research Data Repository with FAIR Principles

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- How we can ensure *integrity* of research project and *reproducibility* of research data?

- We propose a conceptual model for research data repository based on Hyperledger Fabric, a *permissioned* Blockchain solution.

- *Accessibility*

  - It can ensure that *metadata* is accessible in the repository, *despite the data is corrupted*.

  - The RESTful API involves user authentication procedures and it can be used to selectively provide information and to prevent unwanted information from being leaked.

- *Reusability*

  - Blockchain-based research can be used to track *data manipulation* and enable stakeholders to verify it.

  - If there is any data loss or corruption, researchers can figure out when it occurs.

  - The system also can provide data uploaders with trust, since each download is recorded in a Block with a timestamp.
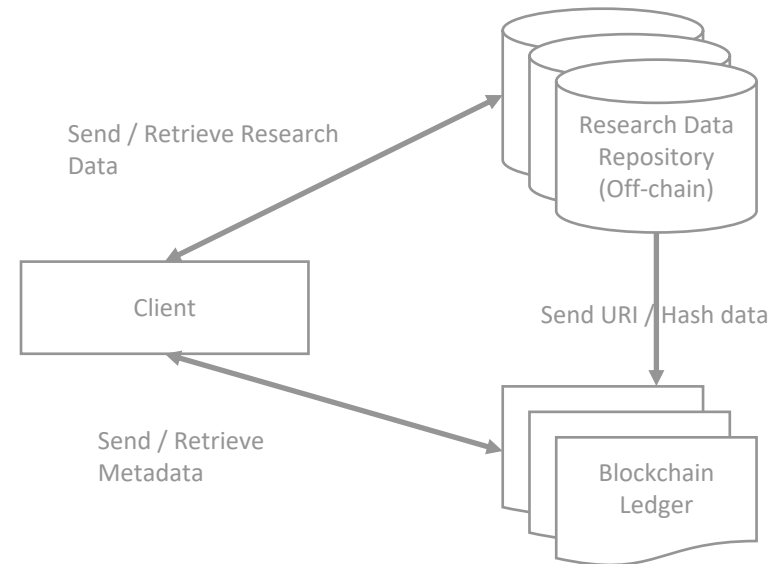


<Figure 1> Basic Architecture of Proposed Solution