

Schema and Relationships

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1 Entities Representation

1.1 User Account

| Entity | Attribute | Description |
|-------------------|-------------------|---|
| foaf:Person | foaf:name | The name of the person. |
| | foaf:mbox | The email address of the person. |
| foaf:holdsAccount | schema:identifier | The account name of the person in the blockchain. |
| | schema:roleName | The role of the person in the platform. |
| | schema:publicKey | The cryptographic public key of the account in the blockchain. |
| foaf:Organization | foaf:name | The name of the organization the person belongs to. |
| schema:identifier | propertyID | The type of identifier is ORCID (Open Researcher and Contributor ID). |
| | value | The actual ORCID value for the person. |

1.2 Project Account

| Entity | Attribute | Description |
|-------------------|-------------------|---|
| foaf:Person | foaf:name | The name of the person. |
| | foaf:mbox | The email address of the person. |
| | foaf:holdsAccount | Links the person to an account. |
| foaf:Organization | foaf:name | The name of the organization. |
| | foaf:location | The physical or digital location of the organization. |
| schema:identifier | propertyID | The type of identifier (e.g., ORCID). |
| | value | The actual identifier value. |

2 Entity-Relationship Diagram

The diagram below represents the relationships between various entities extracted from the given JSON-LD data. The main entities in the diagram include:

- **foaf:Person** – Represents an individual, identified by attributes such as name, email, and affiliation.
- **foaf:Organization** – Represents an institution or organization to which a person is affiliated.
- **foaf:holdsAccount** – Represents an individual’s digital account, containing an identifier, role, and public key.
- **schema:identifier** – Represents a unique identifier (such as an ORCID) assigned to a person.
- **schema:linked_project** – Represents a research project associated with a specific individual.

Each **foaf:Person** entity is associated with an **foaf:Organization**, has a **foaf:holdsAccount**, and a unique **schema:identifier**. The entity "Upbeat Neumann" also has an additional relationship linking them to a specific research project.

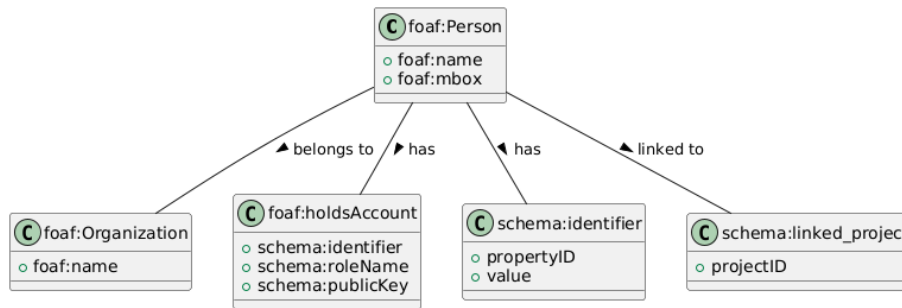


Figure 1: Entity-Relationship Diagram for the user account.