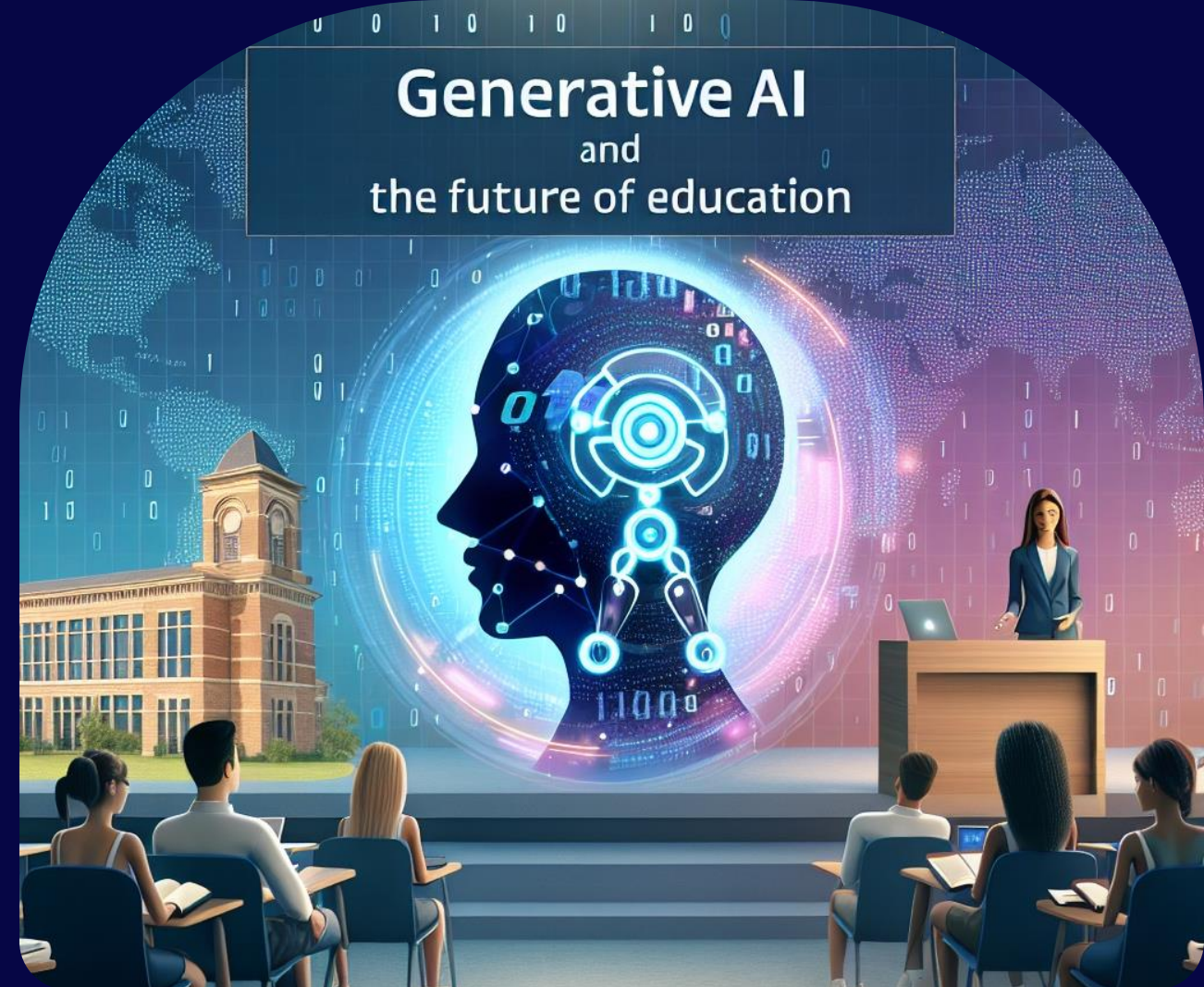


Life Events as a Basis for PKG Agent Friendly Registries

Aisling Third and John
Domingue, KMi, The Open
University

@johndmk

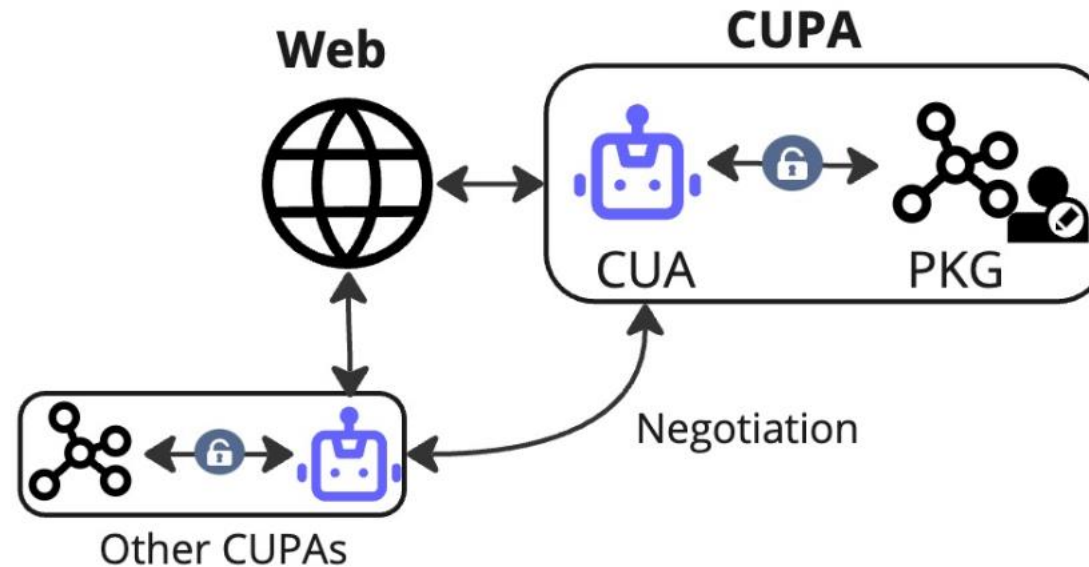
@johndmk.bsky.social
people.kmi.open.ac.uk/domingue/
genai.kmi.open.ac.uk



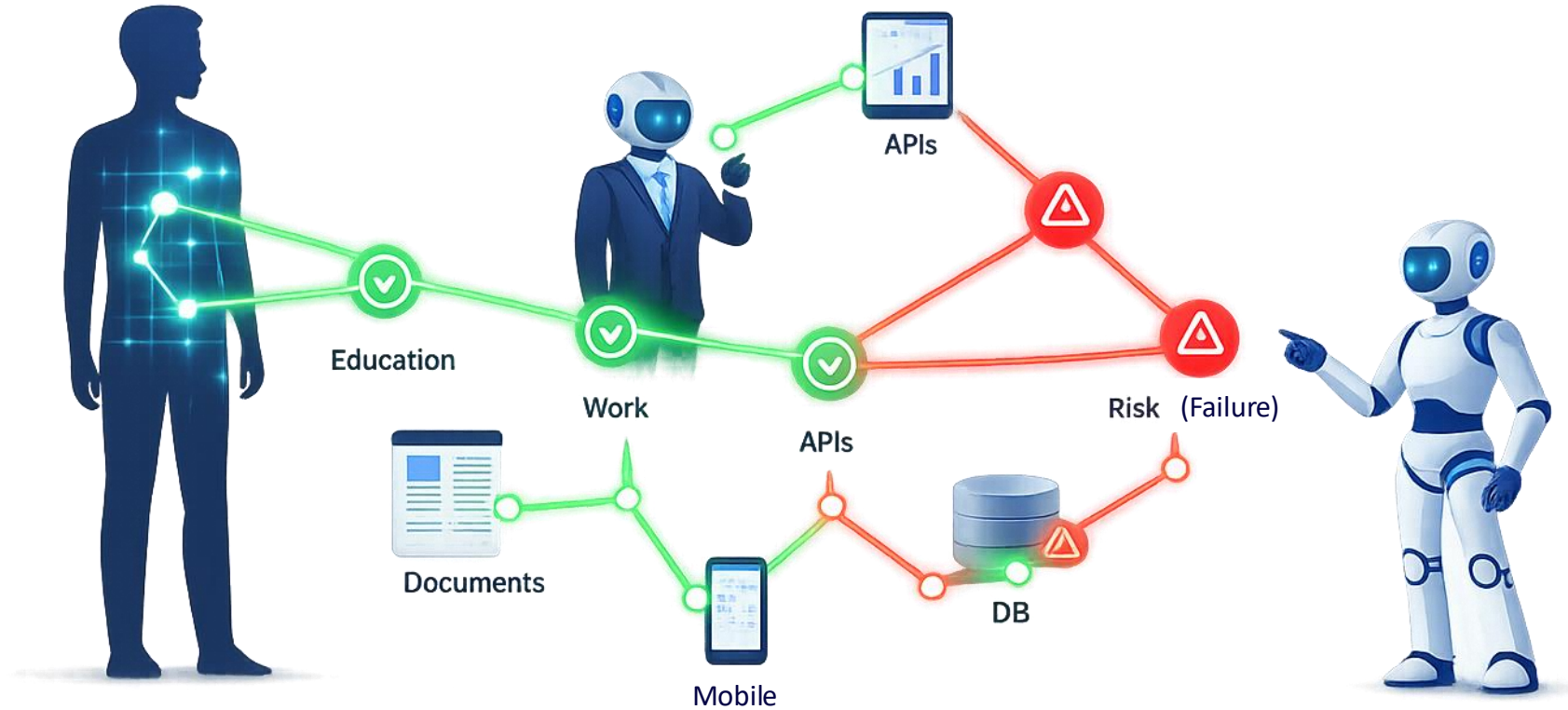
Motivation



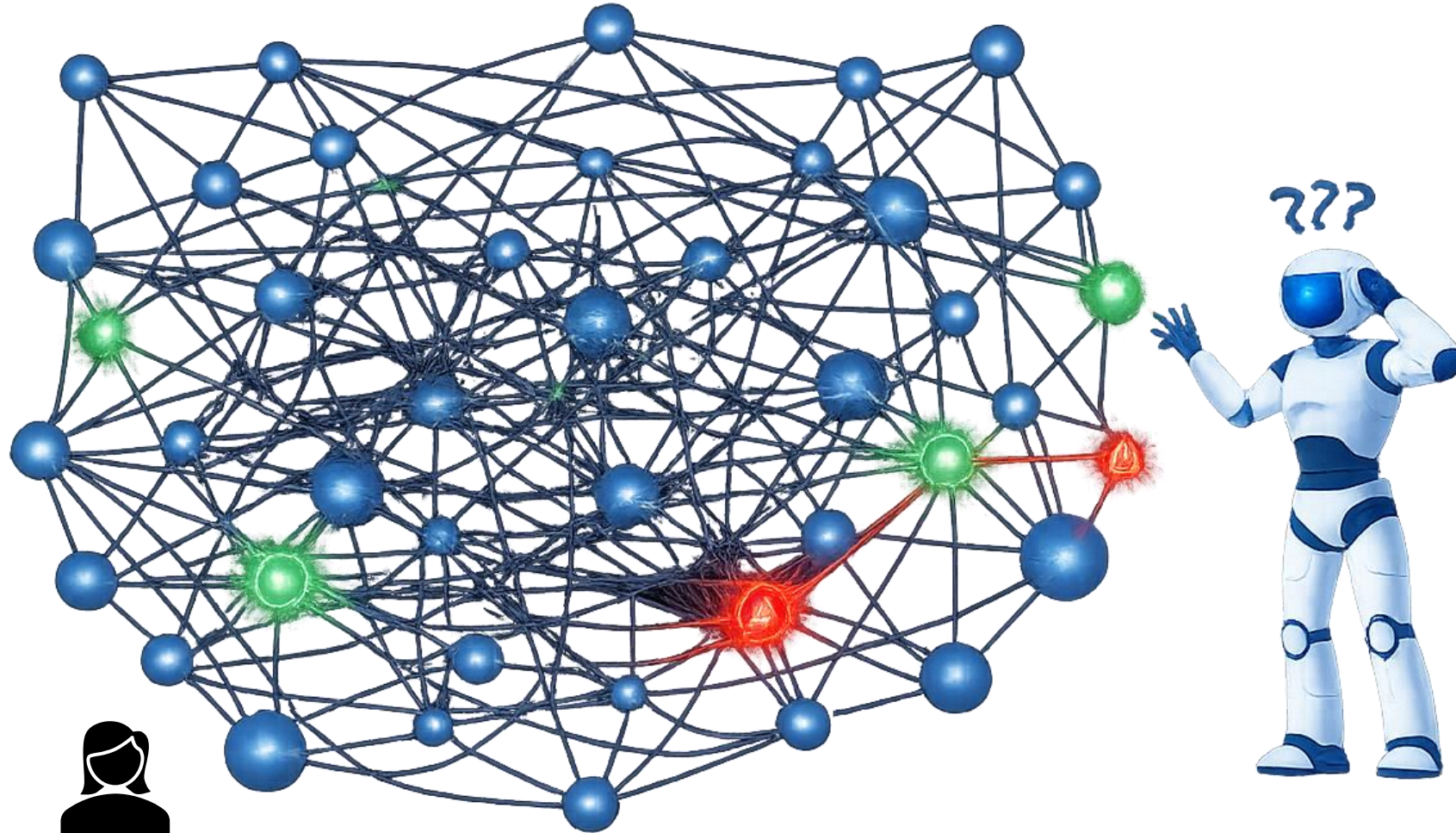
PKGs and Personal Knowledge Graphs



Multiple Agents Collaborating in an Open Environment



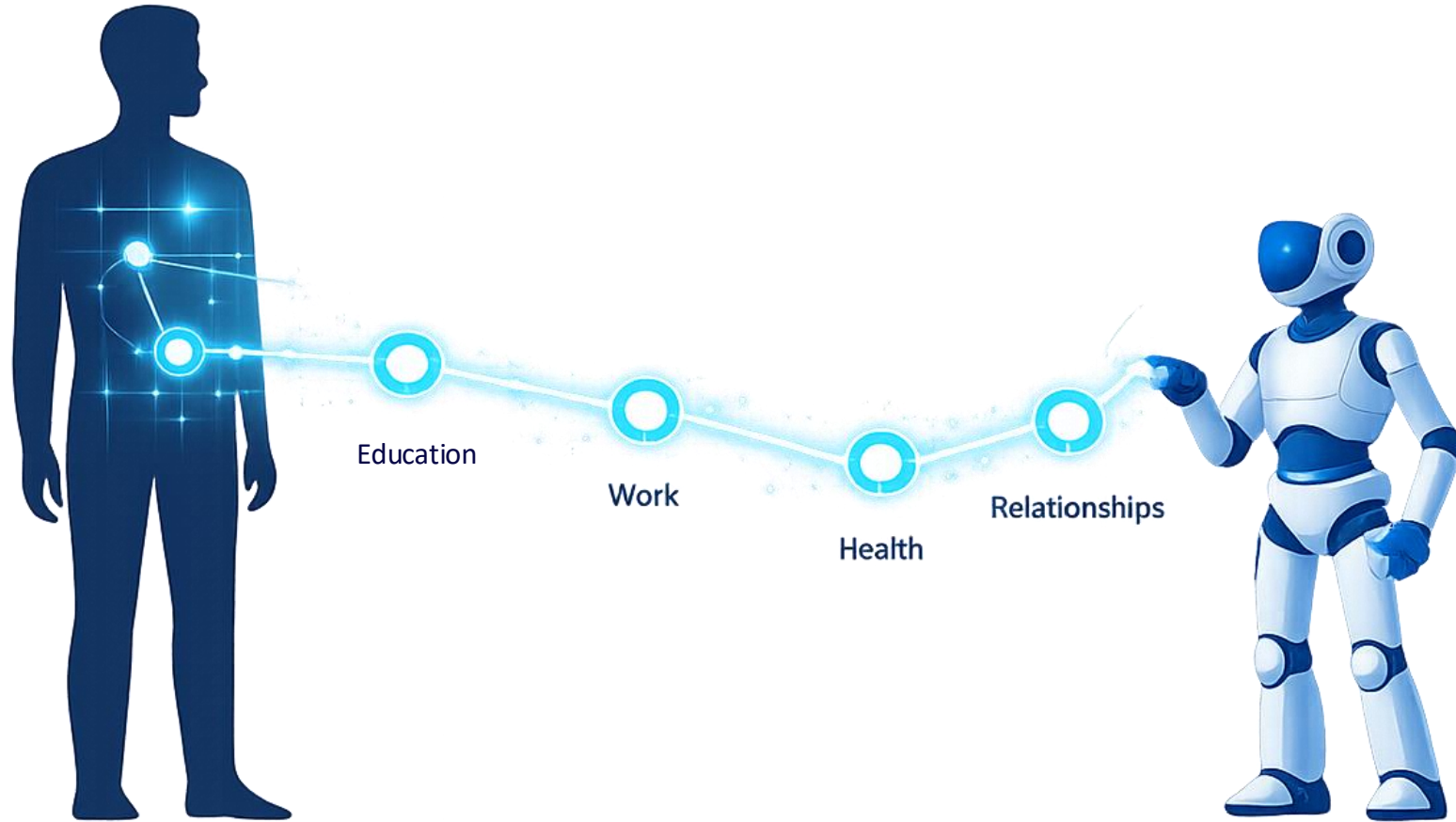
Agents Need to Navigate PKGs



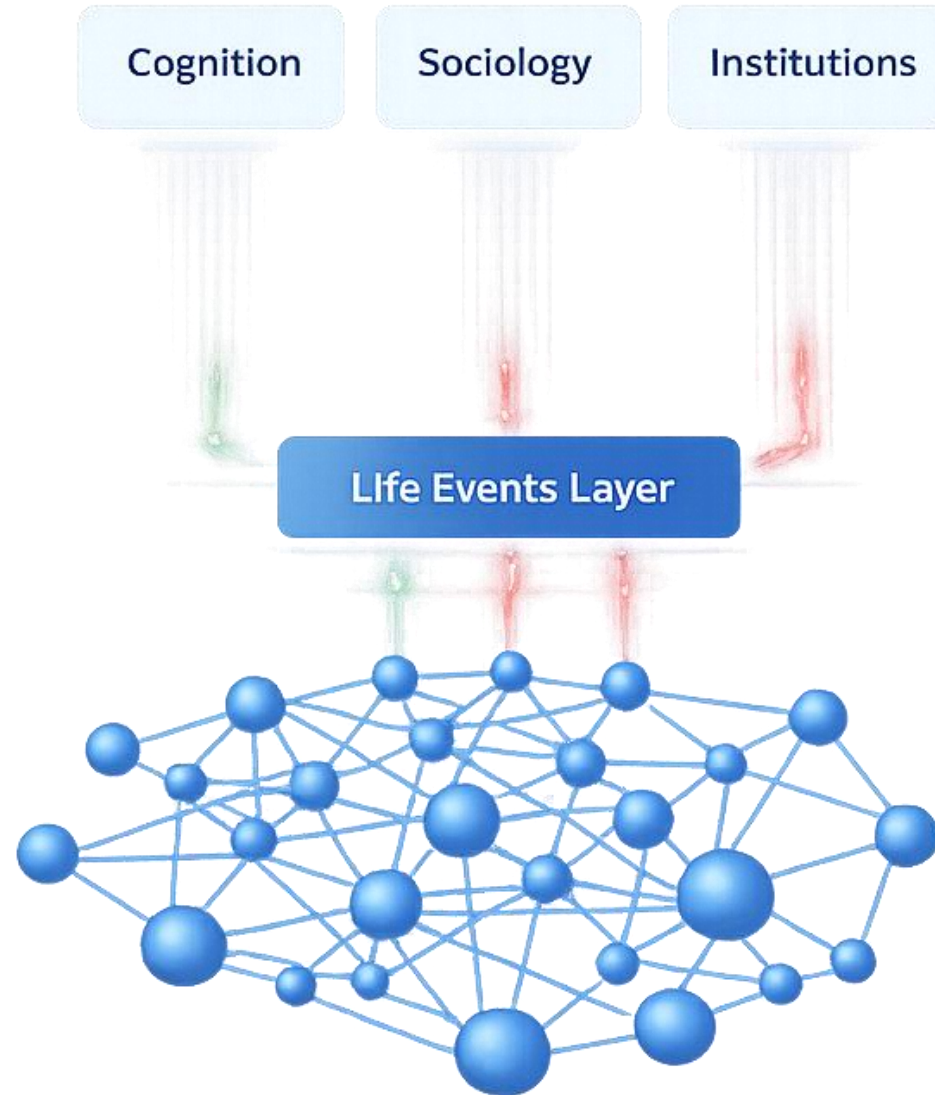
Approach



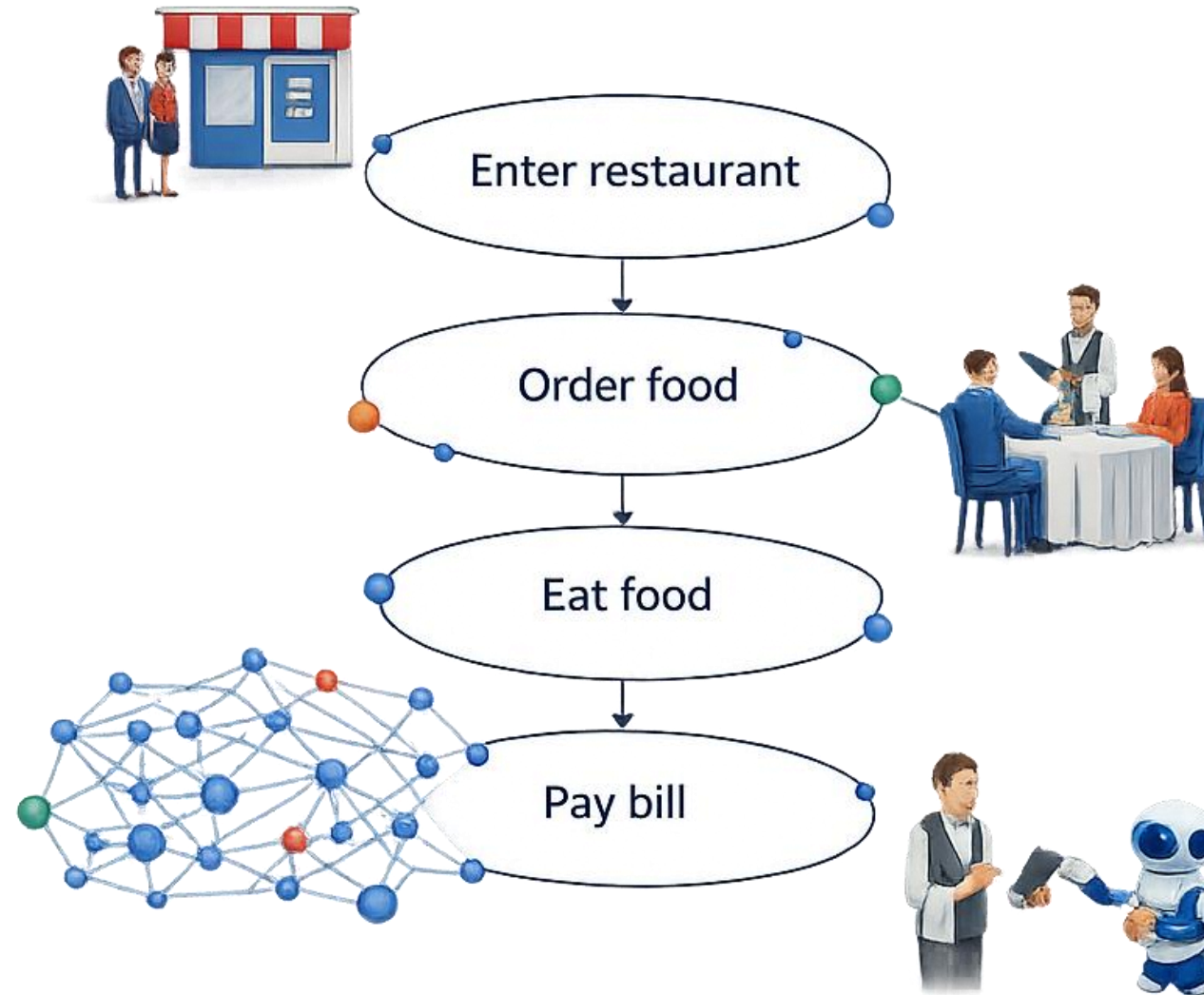
Citizens Organise According to Life Events



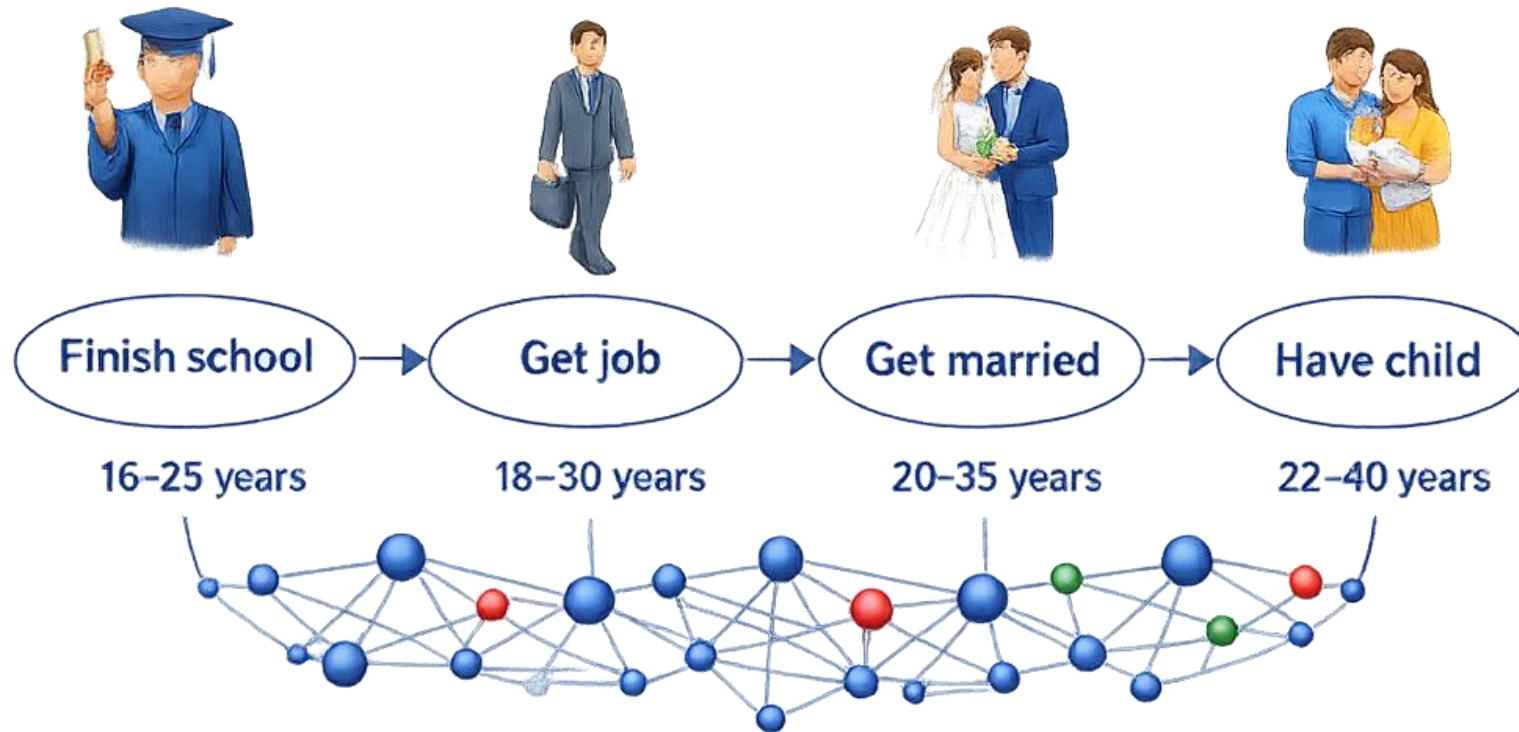
Life Events for Agents



Scripts



Autobiographical Life Scripts



Life Course Theory and Institutional Life Domains

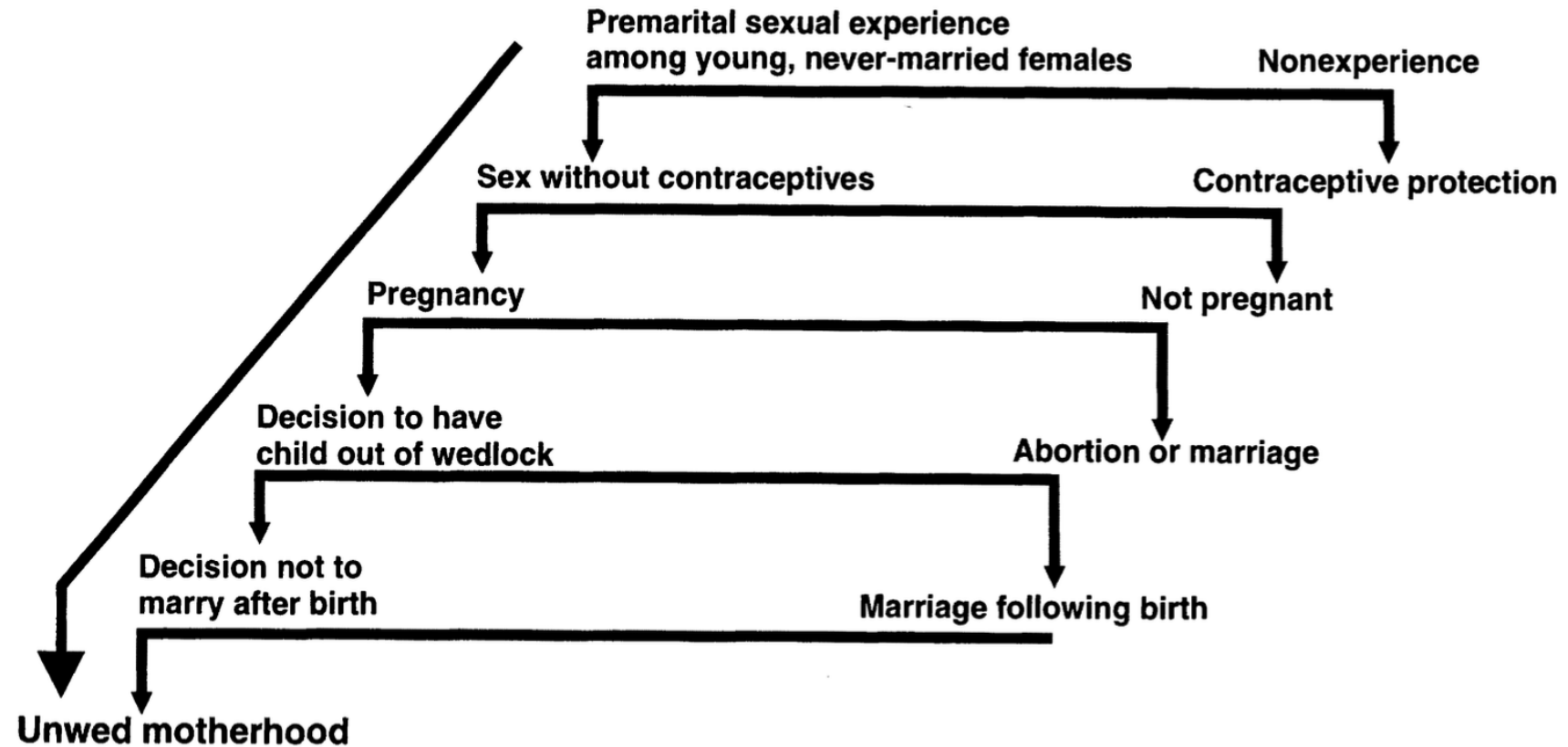
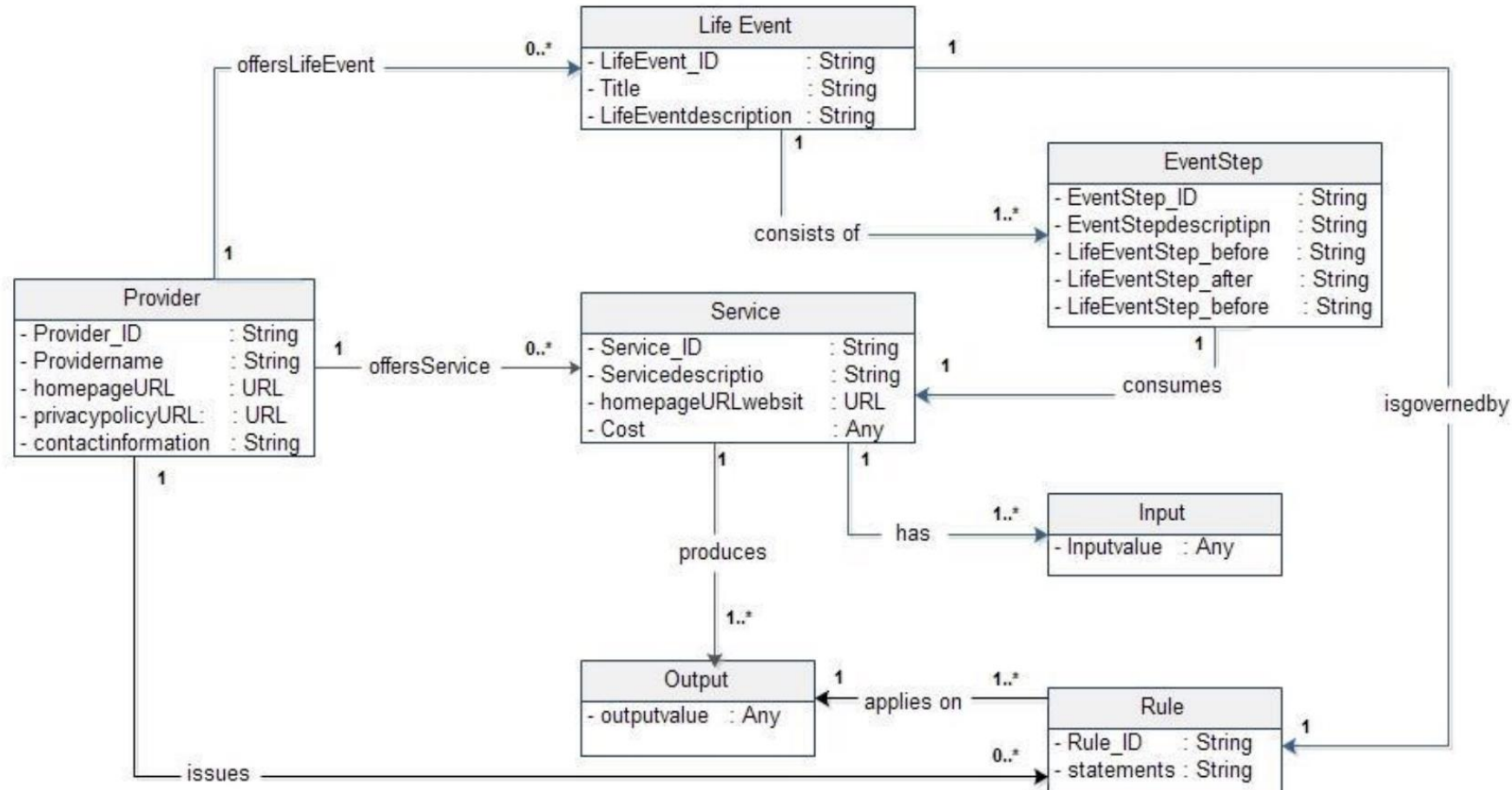


Figure 2 The life course of unwed motherhood

Life Events in eGovernment

Fig. 1: THE RELATIONSHIP BETWEEN THE ENTITIES IN THE LIFE EVENT ONTOLOGY



Life Events for PKG Registry: Epistemology



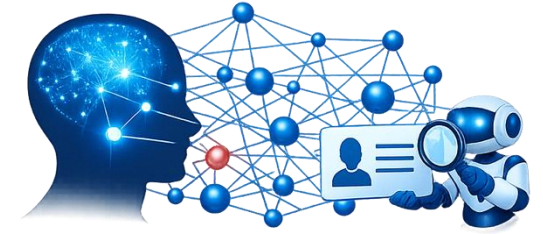
Life Events for PKGs Epistemology

Lightweight

Data minimisation via conceptual abstraction

Category	Foundation
Identity	Autobiographical memory; identity theory
Health	Life course theory; institutional domains; e-government
Education	Cultural life scripts; transitions
Finance	Life course sociology; role transitions
Relationships	Linked lives; autobiographical memory
Location	Migration; life transitions; e-government framing
Values & Belief	Identity theory; privacy; sensitive attributes

Identity



Relevant External Vocabularies

- DIDS
- Verifiable Credentials
- FOAF
- Schema.org – Role, Role, Occupation
- LOD – Event

Autobiographical Knowledge Base

Lifetime Periods

General Events

Event-Specific Knowledge

Directs Retrieval

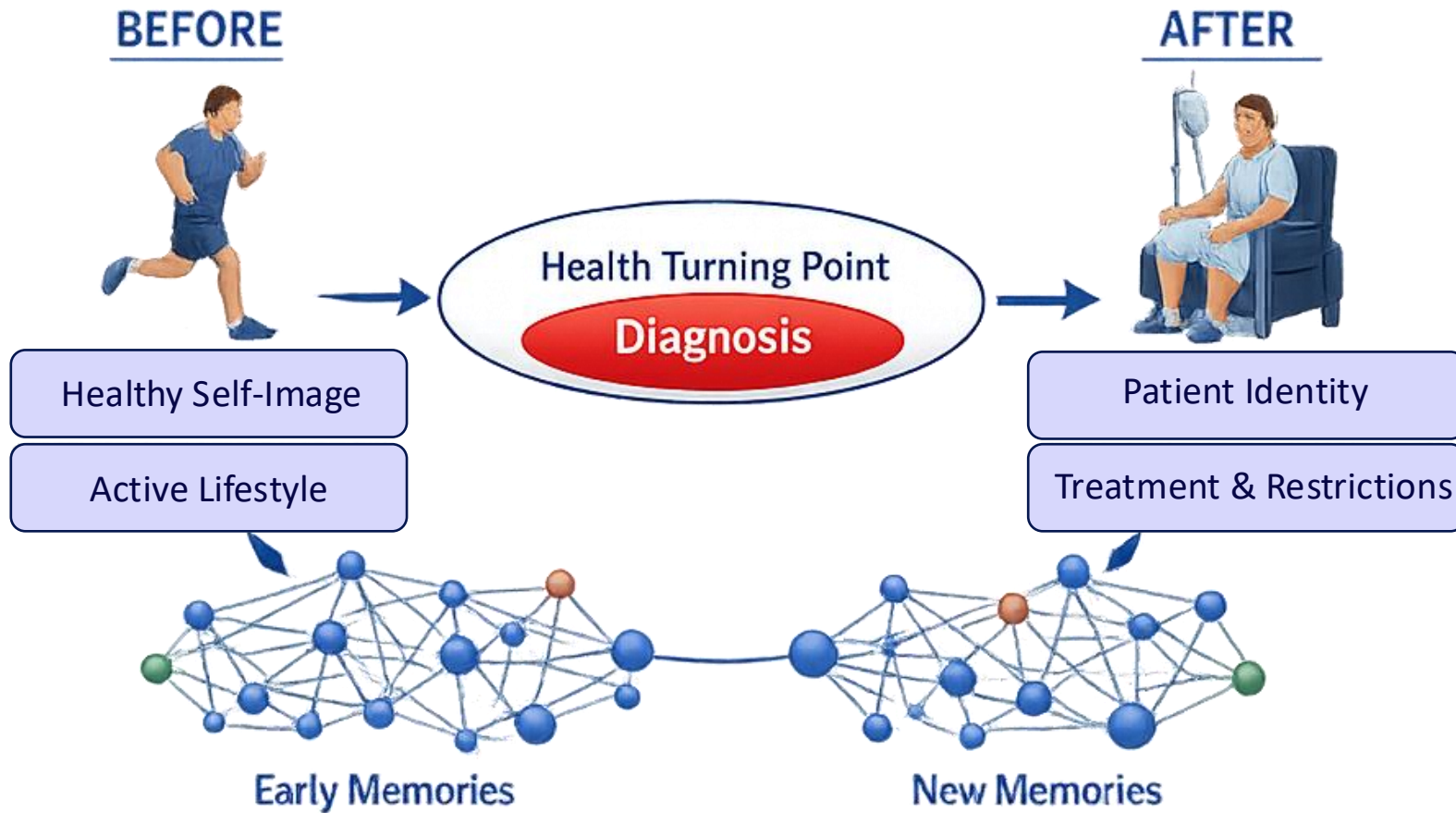
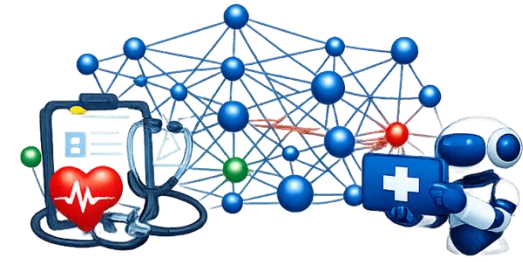
Shapes Identity

Working Self

Goals & Self-Image

Goal Driven Memory Construction

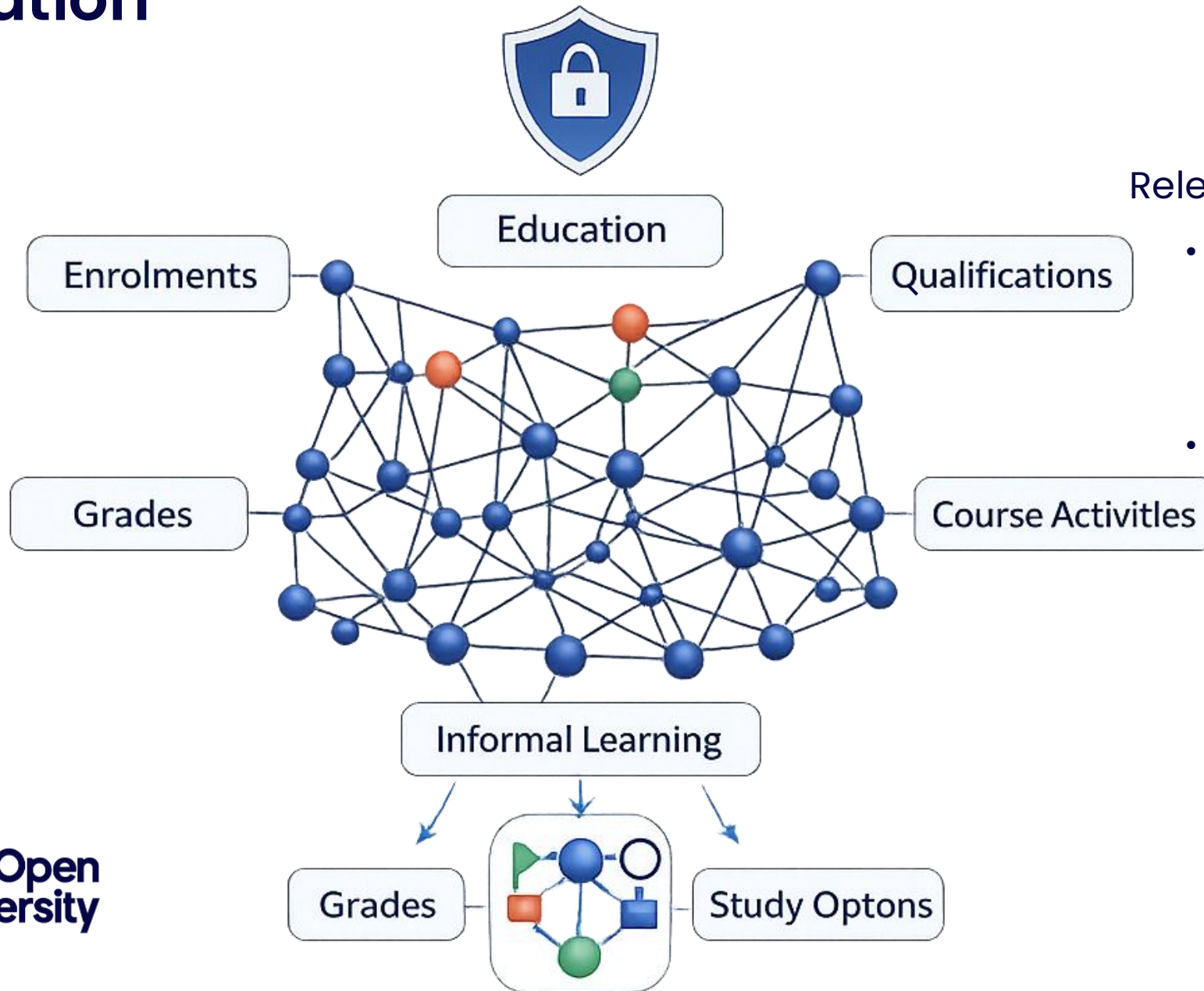
Health



Relevant External Vocabularies

- Schema.org - MedicalEvent, MedicalCondition, MedicalProcedure
- HL7 FHIR resources - Condition, Observation, Procedure SNOMED CT

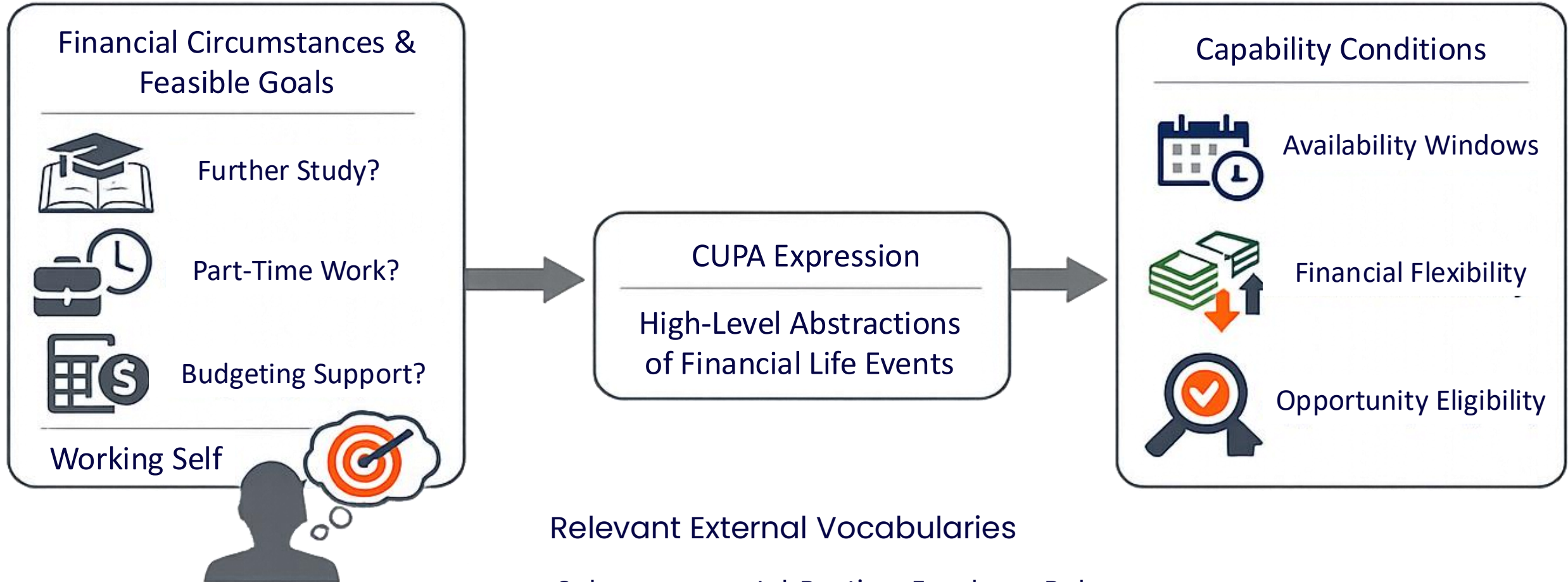
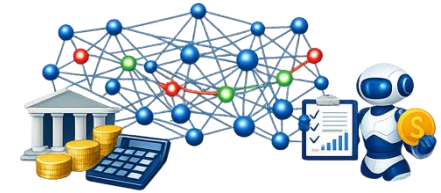
Education



Relevant External Vocabularies

- European Learning Model – Accreditation, Awarding Body, Qualification, Learning Entitlement
- Verifiable Credentials

Finance



Relevant External Vocabularies

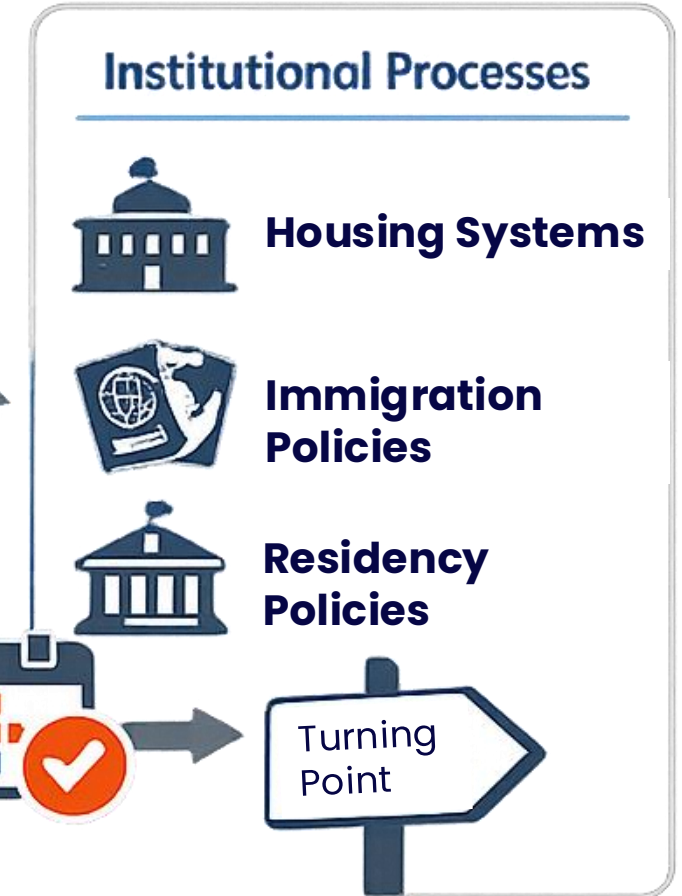
- Schema.org - JobPosting, EmployeeRole, MonetaryAmount
- W3C Financial Industry Business Ontology (FIBO)

Location

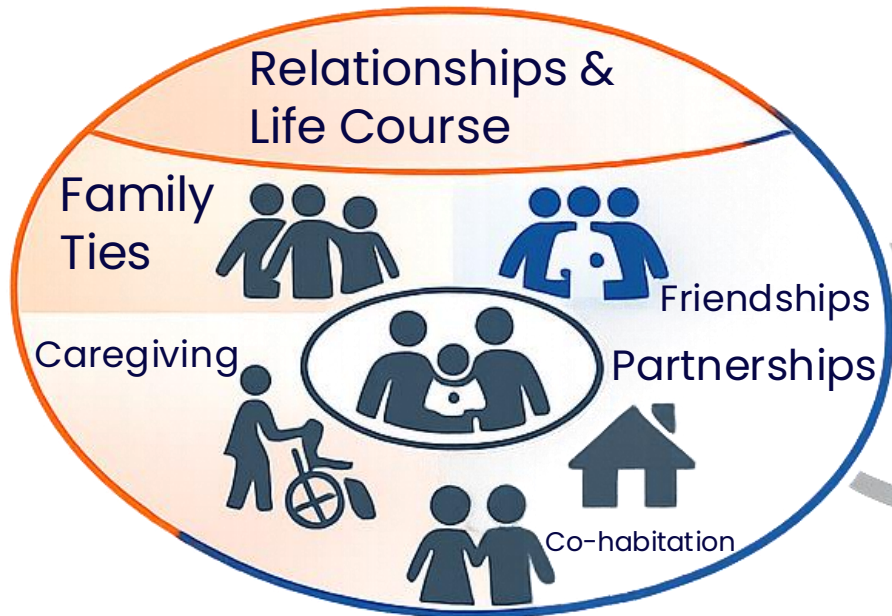
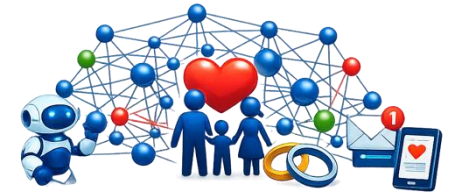


Relevant External Vocabularies

- Schema.org - Place
- Geo - SpatialThing
- Locn - Geometry

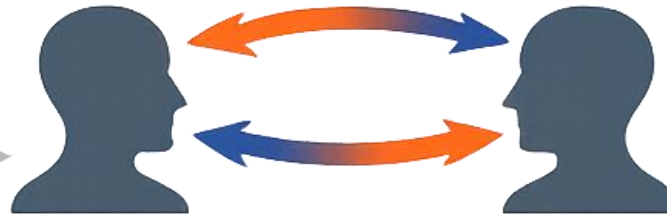


Relationships

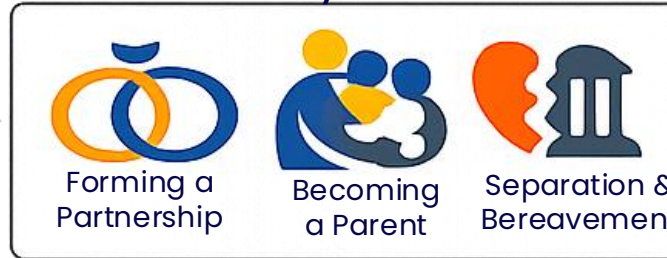


Linked Lives

Interdependent Trajectories

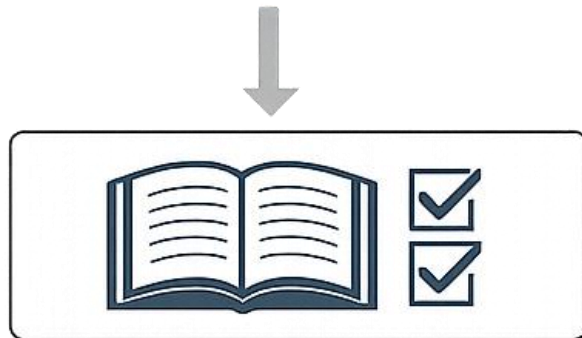


Memory Anchors



Relevant External Vocabularies

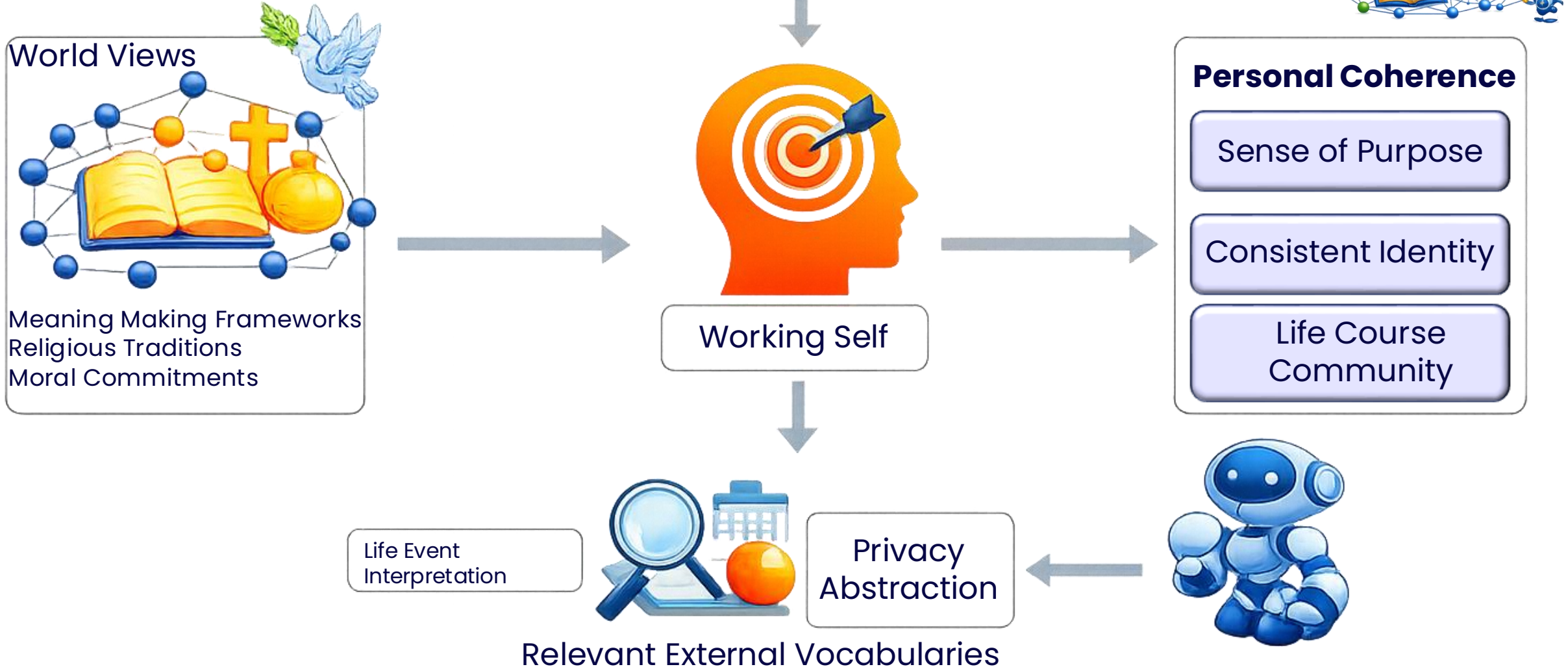
- Relationship - Relationship
- FOAF - Person
- Schema.org - parent, children, spouse
- LOD - Event for relational turning points.



Cultural Expectations



Values and Beliefs



Conclusions



Conclusion

- Problem addressed – How can an agent explore and use a PKG in a meaningful, efficient way whilst preserving privacy?’
- Solution – **shared epistemology** instantiated as a **toplevel lightweight ontology**
- **Life events** are our starting point

Life events are a natural, cognitively grounded, socially recognised, and institutionally meaningful unit for structuring personal information.