

defined from A to B preserve I-ontology algebras iff defined by HA-homomorphisms. □

Theorem 2.2 Let A and B be I-algebras with the signature I containing KL agents. The AII with KL morphisms preserve I-ontology algebras iff defined by KL-homomorphisms. □

DKB mappings are specific AII's were the ontology algebra operations are the same at source and target. the DKB mappings are proved AIIOPP consistent.

3. Mediators and Ontologies

A *mediator* is a software module that exploits encoded knowledge about certain sets or subsets of data to create information for a higher layer of applications. and the definition goes on to state 'It should be small and simple, so that it can be maintained by one expert or, at most, a small and coherent group of experts' Mediator instantiation is to populate a domain-independent service or tool with domain-specific knowledge. We define *Mediator Specifications* with agent ontologies consisting of a tuple engine agent-based computing system $\langle A, F \rangle := \langle \text{Design_Agents}, \text{CoAgents} \rangle$, consisting of $\text{Design_Agents} := \langle O, A, \text{RNA} \rangle$ and $\text{CoAgents} := \langle O, F, \text{RFA} \rangle$. The design is depicted by the following figure. RNA are normal actions and RFA the faults, exceptions, and remedial functions.

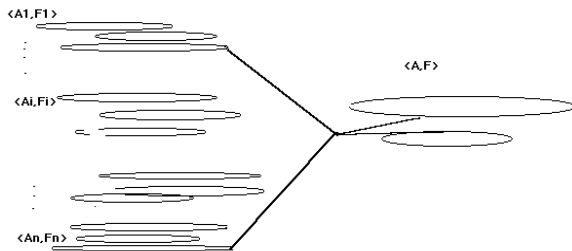


Figure 1-The pairs $\langle A_i, F_i \rangle$ are modules composed to define $\langle A, F \rangle$.

The modules are defined from multiple objects. Actions could be in form of operations or message communication from one object to another. A set of computing agents forms *Design_Agents* and a dual set forms *CoAgents*. *CoAgents* are agents running parallel checking faults and unplanned events presenting alternatives. The algebras $\text{Alg}[A]$ and $\text{Alg}[F]$ define wrappers for the mediators as functions for interacting with resources. A wrapper is a tool to access known resources and translate their objects. The *Design_Agents* corresponds to an algebra $\text{Alg}[A]$ of Normal Activities and *CoAgents* to an algebra $\text{Alg}[F]$ for unplanned events, computing faults recovery.

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