**Fundamental Modeling Concept (FMC)**

**What is FMC?**

The Fundamental Modeling Concepts (FMC) primarily provide a framework for the comprehensive description of software-intensive systems. It is based on a precise terminology and supported by a graphical notation which can be easily understood.

**What is Software Intensive systems?**

Software-intensive systems are technical systems whose behaviour is strongly influenced by large software systems. As the functional and operational requirements on such systems are increasing, the complexity to create them is becoming a critical factor.

**A screenshot of a cell phone

Description automatically generated**

**A travel agency FMC**

Agents are drawn as rectangular nodes, whereas locations are symbolized as rounded nodes. In particular, channels are depicted as small circles and storages are illustrated as larger circles or rounded nodes. Directed arcs symbolize whether an agent can read or write information from or to a storage.

In the example, the arcs directed from the nodes labeled "travel organization" to the storage node labeled "travel information" symbolize that the travel organizations write the travel information. Correspondingly the arc directed from the storage node labeled "travel information" to the agent node labeled "information help desk" symbolizes that the help desk reads the travel information. If an agent can modify the contents of a storage regarding its previous contents, it is connected via a pair of opposed bound arcs, called modifying arcs. The access of the reservation system and the travel organization to the customer data storage is an example.

If communication is possible in both directions, the arcs connecting the agents via a channel may be undirected. Looking at the example, communication between the help desk and people interested in some information is visualized that way. A very special but common variant of this case is a request/response channel where a client requests a service from another agent and after a while gets its response. To express which side is requesting the service a small arrow, labeled "R" for request and pointing from client to server, is placed beside the node symbolizing the channel. Examples are the channels between the customers and the reservation system.

References

* [*http://www.fmc-modeling.org*](http://www.fmc-modeling.org) *(Basic Understanding)*
* [*http://www.f-m-c.org/quick-intro/*](http://www.f-m-c.org/quick-intro/) *(Explanation with use case)*