Abstract: Cooperation is one of the most important human activities. Several researchers over the world showed that cooperation enhance learning. Cooperative learning is very important because it produces greater student achievement. In this paper, we present the architecture of an environment based hypermedia that supports cooperation between learners. We present also its implementation.

1. Introduction:

The application of cooperation principles in hypermedia environment is not a new idea. Many researchers had proved that providing cooperation opportunities to learners can reduce the problems of hypermedia, i.e., the lost in the hyperespace and the cognitive overloading.

In this paper, we present a architecture of an hypermedia that offers cooperation opportunities to learners.

2. Architecture of the system:

This hypermedia is composed of a set of human-machine interfaces, a tutor and some others modules.

2.1. Student interface:

It is through this interface that the learner navigates, request advice from the tutor or cooperate with their peers. Learners can exchange ideas, some points of view, suggestions, ... a.s.o. A dialogue model is under construction in order to facilitate the negotiation between learners.

2.2. Author interface:

The author creates the hypermedia (nodes, links, ...). The matter to be learned is divided into a set of educational objectives. So, the hypermedia contain a set of educational objectives related by «prerequest» relation. Each educational objective is represented by a set of nodes, so, two objectives can have the same node. For each objective, the author creates:

- the nodes of this objective,
- the «prerequest» objectives,
- the difficulty level.

For evaluate the student’s knowledge, the author creates exercises with their solutions and the score to add or to subtract.

2.3. Tutor:

It is used in order to propose an educational objective to the learner following the student’s knowledge state. It can give advice to learners or informations about the cooperation opportunities (Lafifi &
Bensebaa 2000). It uses a set of pedagogic strategies which are constituted by a set of pedagogic rules. Theses rules have the shape of a production rule:

If Condition Then Action.

3. Implementation and conclusion:

For implementing this architecture, we had used a Server/Client architecture. In the Server slide, we have the hypermedia, the tutor and the author interface.
In other hand, in the client side, we have a student interface, the student model of each student and its historic. For accessing in each interface, a passoword is used.

We presented the main features of the architecture of an hypermedia system that can offer cooperation possibilities to learners. Now, we try to implement this architecture in the Web.

References: