A Sketch of
A Distributed Architectural Design System

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• The system is composed of design agents acting on the object-to-be-designed model. The system has no central control. Problem-solving is performed at the local level. The most important agents at present are: ARCH: A Generator, OYSTER: An Evaluator and PDP-AAM Interpreter, PDP-AAM: A Neural-Net-Based Evaluator and Generator.

• The typical system performance types in design of single two-storey family houses in 3 x 3 modular grid (1 M = 4.20 m):

Input represents the user-specified rooms and relations. Possible solutions are generated by ARCH. Variety of solutions is reduced by OYSTER-based expert systems. ROOF-MAKER is designing all possible roofs.

During design process, PDP-AAM utilizes the learned designer's (or user's) preferences and produces semantic differentials for the proposed solutions. OYSTER compares the obtained house images with the required ones.

PDP-AAM designs the house alternatives with the required semantic differential. The solutions are likely be "novel".

• At present, designer is the decision-maker. In future, design agents shall negotiate among themselves the order of their application to model transformations. Modes of communications between the agents, and between the object-to-be-designed and the agents are being developed.