HIERARCHIES IN BEHAVIORAL MODELS

1. INADEQUACIES OF SINGLE LEVEL SYSTEM MODELS:

- missing overview
- too many details at one time
- the structure of the system in question is not mirrored adequately

2. EXAMPLES OF HIERARCHICAL MODELLING LANGUAGES:

- SADT and IDEF (D.A.Marca, C.L.McGowan: SADT, McGraw- Hill, New York, 1988)
- Yourdon's data flow diagrams (E.Yourdon, Managing the System Life Cycle, Yourdon Press, 1982)
- D.Harel: Statecharts: A Visual Formalism for complex Systems. In: Science of Computer Programming, vol.8, North-Holland, 1987, pp.231-274.

3. POSITIVE FEATURES OF THE ABOVE MODELS:

- hiding of details in a consistent way
- separation into well defined components
- reusable components
- support of both top down and bottom up development strategies
- strong graphical expressive capabilities.

4. ADDITIONAL MODEL QUALITY REQUIRED:

- executability
- modelling language must support the notion of behavior for its components in a precise and consistent way
- modelling language must make it possible to observe the execution of large, complex system models at different levels of detail.