Level Of Detail techniques (shortly LOD) are well known in computer graphics, but they are applied also in complex simulations and virtual worlds (aka LOD AI ). On the same principle we can simplify the simulation of behavior in less important places for user and signi cantly decrease simulation complexity and system resources. In this thesis different ways of LOD AI techniques functioning in particular applications will be studied and then the formal de nitions of LOD AI techniques usage in simulations will be introduced. We will also outline common problems that LOD AI techniques implementations usually face and propose abstract algorithms for solution. We will also introduce additional LOD AI techniques of LOD in uences and LOD expirations with its concrete implementation in framework IVE and include appropriate observations of result quality.