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Sommario/riassunto	Simulation of natural phenomena, such as water and smoke, is a very important topic to increase real time scene realism in video-games. Besides the graphical aspect, in order to achieve realism, it is necessary to correctly simulate and solve its complex governing equations, requiring an intense computational work.Fluid simulation is achieved by solving the Navier-Stokes set of equations, using a numerical method in CPU or GPU, independently, as these equations do not have an analytical solution. The real time simulacraon also requires the simulation of interaction of the particles with objects in the scene, requiring many collision and contact forces calculation, which may drastically increase the computational time. In this paper we propose an heterogeneous multicore CPU and GPU hybrid architecture for fluid simulation with two-ways of interaction between them, and with a fine granularity control over rigid body's shape collision. We also show the impact of this heterogeneous architecture over GPU and CPU bounded simulations, which is commonly used for this kind of application. The heterogeneous architecture developed in this work is developed to best fit the Single Instruction Multiple Thread (SIMT) model used by GPUs in all simulation stages, allowing a high level performance increase.