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Molotov Cocktail | Houdini, Mantra, Nuke

Responsible for all aspects except HDR used for lighting, shot by Nate Usiak.

The slow-motion, true stereoscopy of many interacting simulations was the main challenge. Scratch built heat distortion solver and surface tension wetmap solver. Bottle fractured using a rounded edges technique and then clustered by hand to get a precisely sought break. Environment and assets modeled but all fine detail is displaced.

Row Boat | Houdini, Mantra, Nuke

Responsible for all aspects except boat & plant models, and all textures. Textured by Natalie Greenhill, boat modeled by Rachel Start and plants modeled by Kate Kirby-O'Connell.

Rope and dock are procedurally modeled. Only sim is a wire sim for the rope. Water uses HOT. Lillypads procedurally float on water but never move further than their stems would allow.

Water Tower Collapse | Houdini, Mantra, Nuke

Responsible for all aspects.

Controlled and directed break and fall of tower. FLIP and RBD feedback forces do not work well on this type of geometry, so I made my own system to have the FLIP and RBD's mutually effect each-other's motion. Particle spray is driven by FLIP simulation. Ground is projected but has an invisible fur system so the water can interact with the grass. Procedural fence and rock assets allowed for rapid building of the scene.

Burning House | Houdini, Mantra, Nuke, Speedtree

Responsible for all aspects except source photograph, taken by James Saley and base house model, by Turbosquid user "Pumper".

Tool made to automatically generate accurate studs for interior of house. Fire and smoke are shaded using point-cloud based scattered emission. Environment is projected on to simple geometry with displacements for detail. Trees were modeled in Speedtree.